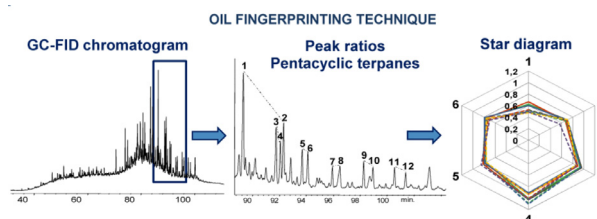


- 1263 Terpanos pentacíclicos como indicadores de heterogeneidade composicionais em reservatório de petróleo biodegradado

Laercio L. Martins, Gabriel C. Franklin, Eliane S. de Souza e Georgiana F. da Cruz

Graphical Abstract

Oil fingerprinting technique employed to assess reservoir continuity in tar sand reservoirs. This work recommends the use of pentacyclic terpanes instead of lower molecular weight compounds to calculate peak ratios in order to plot star diagrams.

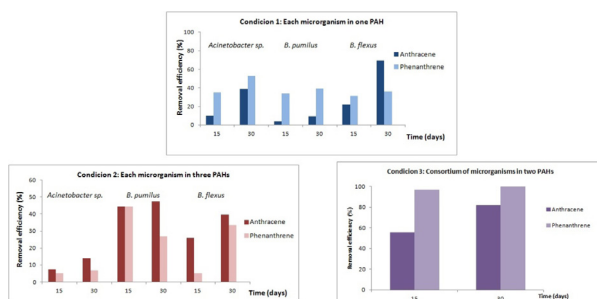


- 1269 Avaliação da eficiência de degradação de hidrocarbonetos aromáticos por bactérias provenientes de estação de tratamento de efluente de refinaria de petróleo

Fernanda R. Pinhati, Eduardo M. Del Aguila, Ana P. R. Tôrres, Maíra P. de Sousa, Vânia M^a J. Santiago, Joab T. Silva e Vânia M. F. Paschoalin

Graphical Abstract

In this study, three bacteria from a wastewater treatment system were isolated and sequenced, demonstrating high efficiency in degrading polycyclic aromatic hydrocarbons.

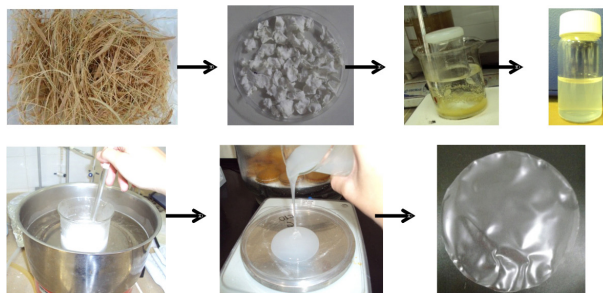


- 1275 Obtenção de nanocelulose da fibra de coco verde e incorporação em filmes biodegradáveis de amido plastificados com glicerol

Bruna A. S. Machado, João H. O. Reis, Jania B. da Silva, Lindaiá S. Cruz, Itaciara L. Nunes, Fabiano V. Pereira e Janice I. Druzian

Graphical Abstract

Obtention of cellulose nanocrystals from coconut fiber by acidic hydrolysis (H_2SO_4 64% at 50°C). The nanocrystals were incorporated into a starch film solution to further obtain films with improved properties.

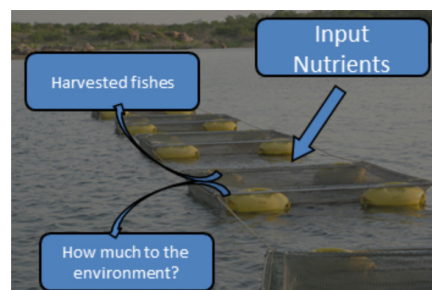


- 1283 Sedimentação de nutrientes e material particulado em reservatório sob influência de atividades de piscicultura no semiárido do Rio Grande do Norte

Rodrigo S. T. de Moura, Yuri V. de A. Lopes e Gustavo G. Henry-Silva

Graphical Abstract

A proportion of the nutrients used in cage fish farming is lost to the environment and their sedimentation rates must be known to enable appropriate management of the system and protection of water resources.

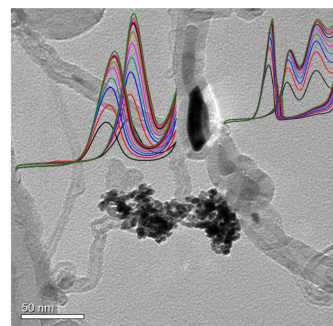


- 1289 Nanocompósitos entre nanotubos de carbono e nanopartículas de platina: preparação, caracterização e aplicação em eletro-oxidação de álcoois

Adir H. Kalinke e Aldo J. G. Zarbin

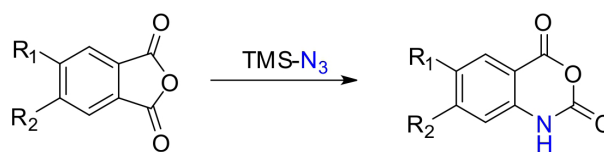
Graphical Abstract

Glassy carbon electrodes modified with platinum nanoparticle/carbon nanotube nanocomposites exhibit high performance for the oxidation of methanol and ethanol.



- 1297 Synthesis of 1*H*-benzoxazine-2,4-diones from heterocyclic anhydrides: evaluation of antioxidant and antimicrobial activities

Juan I. Sarmiento-Sánchez, Julio Montes-Avila, Adrián Ochoa-Terán, Francisco Delgado-Vargas, Victor Wilson-Corral, Sylvia P. Díaz-Camacho, Fernando García-Pérez and Pedro Bastidas-Bastidas

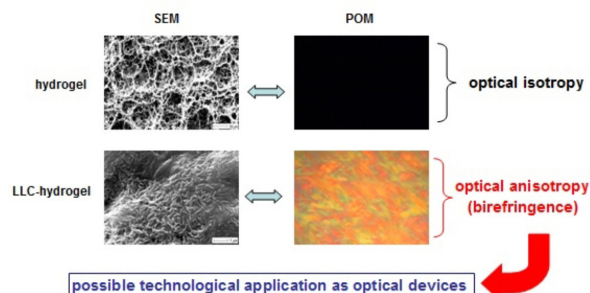


Graphical Abstract

In this work we reported the synthesis of benzoxazine-2,4-diones derivatives and their evaluation of antioxidant and antimicrobial activities.

- 1302 Caracterização mecânica e estrutural de um dispositivo PDLC baseado em hidrogéis de PAAm e cristal líquido liotrópico LP/DeOH/H₂O

Fauze A. Aouada, Marcia R. de Moura, Paulo R. G. Fernandes, Adley F. Rubira e Edvani C. Muniz

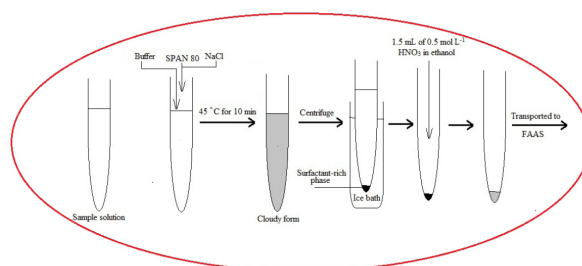


Graphical Abstract

The presence of LLC caused optical anisotropy in the polymeric hydrogels, a useful property for technological applications.

- 1308 Ligandless cloud point extraction of trace amounts of palladium and rhodium in road dust samples using Span 80 prior to their determination by flame atomic absorption spectrometry

Mahmoud Roushani, Yar M. Baghelani, Shahryar Abbasi and Sayed Z. Mohammadi



Graphical Abstract

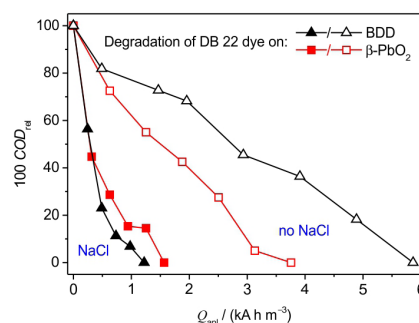
A ligandless cloud point extraction procedure was developed for the separation and preconcentration of trace amounts of Pd(II) and Rh(III) ions in water samples using Span 80 prior to their determination by flame atomic absorption spectrometry.

- 1312 Influence of chloride-mediated oxidation on the electrochemical degradation of the Direct Black 22 dye using boron-doped diamond and β -PbO₂ anodes

Douglas A. C. Coledam, José M. Aquino, Romeu C. Rocha-Filho, Nerilso Bocchi and Sonia R. Biaggio

Graphical Abstract

For the degradation of the DB 22 dye (30 mA cm⁻², 25 °C, and pH 7), COD removal is greatly accelerated in the presence of NaCl. In its absence, the β -PbO₂ anode is more efficient for COD removal than the BDD anode, which suggests that distinct oxidation pathways take place on the surface of those anodes.

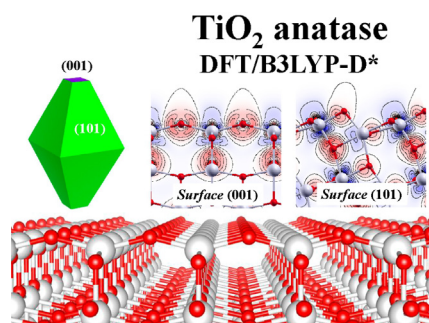


- 1318 Propriedades estruturais e eletrônicas de nanofilmes de TiO₂ anatase: cálculos B3LYP-D* em sistemas periódicos bidimensionais

Anderson R. Albuquerque, Iêda M. G. Santos e Júlio R. Sambrano

Graphical Abstract

Wulff construction of single crystal TiO₂ anatase at the B3LYP-D* level of theory, where the (001) and (101) surfaces are the exposed facets. Charge density maps are shown below for each surface.

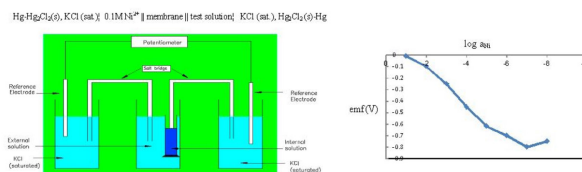


- 1324 Potentiometric determination of nickel (II) ion using 2-hydroxy-1-naphthylidene-N-cyanoacetohydrazone as electroactive material

Harish K. Sharma, Pernita Dogra, Akhilesh K. Gupta and Fardad Koohyar

Graphical Abstract

Scheme of nickel selective potentiometric cell assembly and calibration curve for Ni(II) obtained using a selective electrode based on Schiff's base.

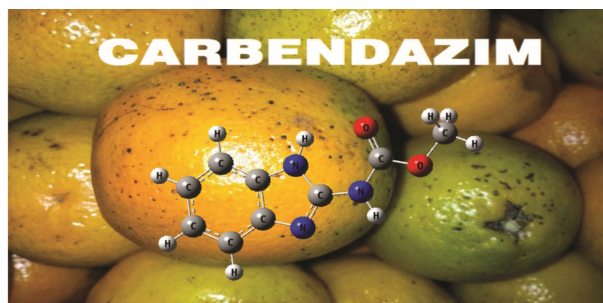


- 1329 Carcinogenicidade do carbendazim e seus metabólitos

Renato C. Silva, Karina A. Barros e Antonio C. Pavão

Graphical Abstract

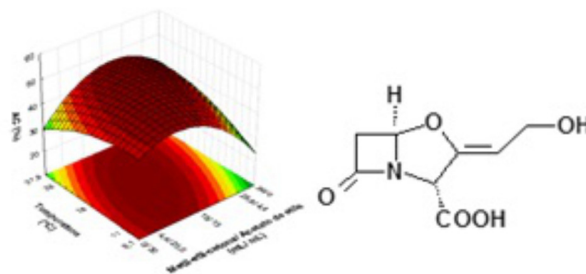
Used to control the pest *Guignardia citricarpa* (early blight), a common fungus in oranges. This study however, demonstrates its carcinogenic potential.



- 1335 Otimização da etapa de extração do ácido clavulânico presente no caldo de fermentação utilizando misturas de solventes
Mariane de A. Mancilha, Gabriela C. Guimarães, João Cláudio S. de C. Nardi, Jaine H. H. L. de Oliveira e Daniela B. Hirata

Graphical Abstract

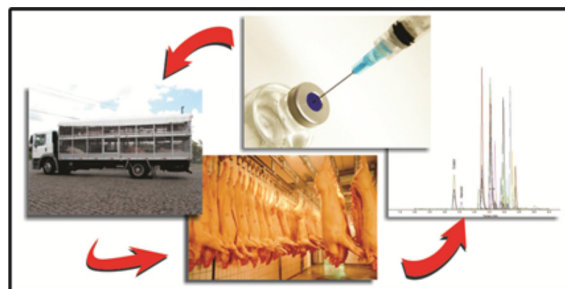
Four different solvent mixtures were studied intended to increase the yield of the extraction stage of clavulanic acid from fermentation broth. Response surface methodology was used to optimize the liquid-liquid extraction.



- 1342 Desenvolvimento de procedimento de extração para análise de sedativos e β -bloqueadores em rim suíno
Lenise G. de Oliveira, Marcia H. S. Kurz, Fábio F. Gonçalves, Fabiano Barreto, Gabriel Rübensam e Rodrigo Hoff

Graphical Abstract

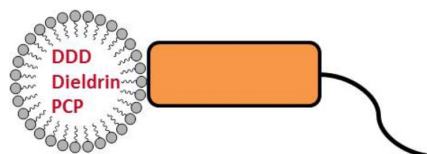
Sedatives and beta blockers are used in swine to reduce stress during transport to the slaughterhouse. These residues can remain in foods. Therefore, the monitoring of these compounds should be performed to ensure food safety.



- 1351 Biodegradação bacteriana de compostos organoclorados
Mariana C. Kasemodel, André L. M. Porto e Marcia Nitschke

Graphical Abstract

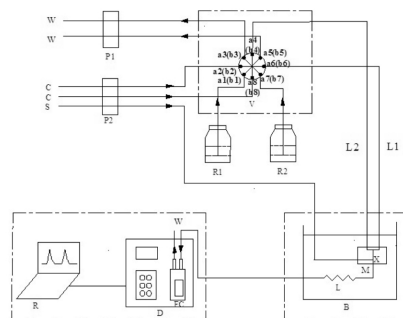
A selected *Pseudomonas aeruginosa* strain was able to degrade DDD, dieldrin and PCP in liquid medium and the presence of rhamnolipid biosurfactant increased biodegradation of the organochlorides.



- 1357 Determination of sulfate in the wet-process of phosphoric acid by reverse flow injection
Wenhui Shi, Lin Yang, Qunjun Fu, Zhiye Zhang and Xinlong Wang

Graphical Abstract

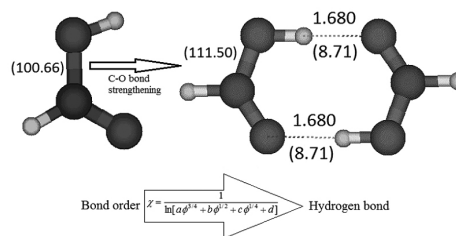
Reverse-flow injection analysis system used for sulfate concentration determination in wet-process of phosphoric acid (WPA).



- 1365 Exploración estocástica de las superficies de energía potencial de dímeros *cis-trans* y *trans-trans* del ácido fórmico
Said F. Figueredo, Adolfo E. Ensuncho y Jesús M. López

Graphical Abstract

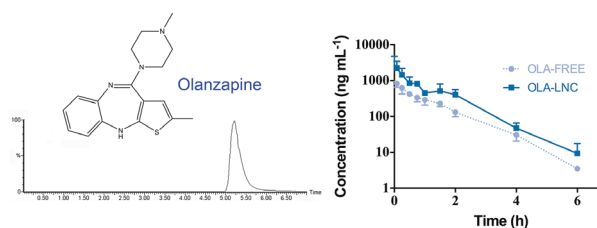
Using a stochastic method, new conformations were found on the potential energy surface of formic acid dimers. B3LYP/6-311++G(3df,2p) calculations show strengthening or weakening of chemical bonds.



- 1371 LC-MS/MS method applied to preclinical pharmacokinetic investigation of olanzapine-loaded lipid-core nanocapsules
Frantiescoli A. Dimer, Maiara C. Pigatto, Adriana R. Pohlmann, Teresa Dalla Costa and Silvia S. Guterres

Graphical Abstract

A method for determining olanzapine in rat plasma was developed. Low plasma sample volumes (100 μ L) were used. The method was applied in the pharmacokinetic study of olanzapine nanocapsules.

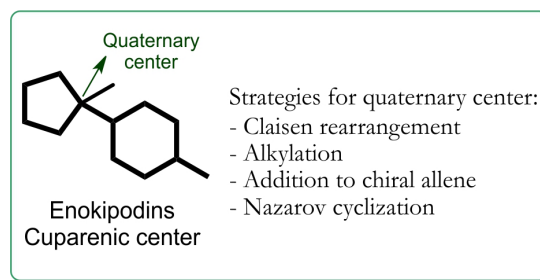


Revisão

- 1377 Sínteses totais das enoquipodinas
Camila B. Nascimento e Fernando Macedo Jr.

Graphical Abstract

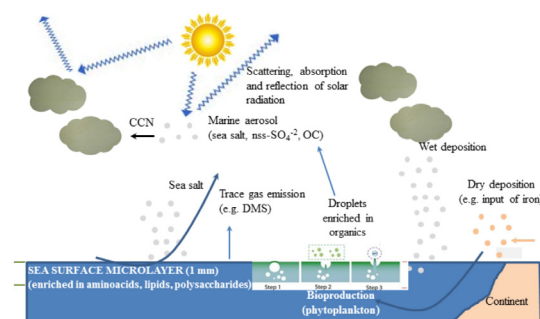
Enokipodins A-J are attractive synthetic targets due to either their biological potential or their structural characteristics, particularly concerning to the presence of a benzylic quaternary center for which different synthetic approaches have been used.



- 1382 Química entre a microcamada superficial oceânica e os aerossóis marinhos
Célia A. Alves

Graphical Abstract

The sea surface microlayer controls interactions between the ocean and the atmosphere. Organic material from seawater is directly introduced into the atmosphere by bubbles bursting at the sea surface, which affects biogeochemical processes and climate.

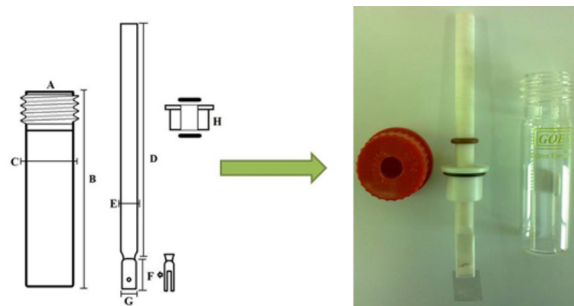


Nota Técnica

- 1401 Desenvolvimento de reator tipo “dip catalyst” para filmes poliméricos contendo nanopartículas de metais de transição
Deyvid G. M. Oliveira, Glademir Alvarenga, Carla W. Scheeren e Gilber R. Rosa

Graphical Abstract

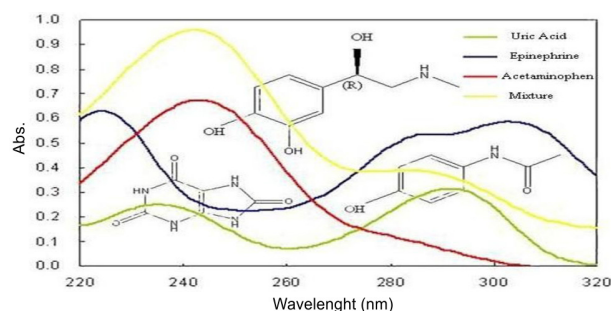
Low-cost reactor-type “dip catalyst” developed and tested in Suzuki-Miyaura cross-coupling.



- 1404 UV determination of epinephrine, uric acid, and acetaminophen in pharmaceutical formulations and some human body fluids using multivariate calibration
Hanieh Montaseri, Habibollah Khajehsharifi and Saeed Yousefinejad

Graphical Abstract

The simultaneous determination of EP, UA, and AC is difficult due to spectral overlap in the ultraviolet region. Therefore, multivariate calibration methods were used for the construction of calibration sets.

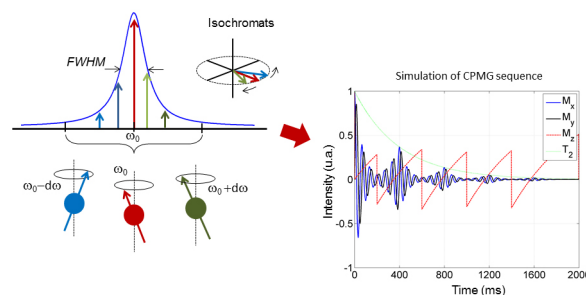


Educação

- 1410 Simulação de sinais de RMN através das equações de Bloch
Tiago B. Moraes e Luiz A. Colnago

Graphical Abstract

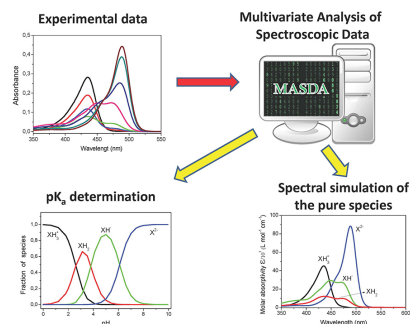
The aim of this paper was to present a simple and fast way of simulating Nuclear Magnetic Resonance signals using the Bloch equations. Through the formalism of sum of isochromats, simulations of Single Pulse, Inversion Recovery, Spin Echo and CPMG sequences are presented.



- 1417 A quimiometria nos cursos de graduação em química: proposta do uso da análise multivariada na determinação de pK_a
Paulo C. de S. Pereira, Camila F. de Freitas, Cristiane S. Chaves, Bianca M. Estevão, Diogo S. Pellosi, André L. Tessaro, Vagner R. Batistela, Ieda S. Scarminio, Wilker Caetano e Noboru Hioka

Graphical Abstract

Using chemometric multivariate analysis methodology in the treatment of spectroscopic data it is possible to extract the maximum information from the experimental data, leading to an accurate determination of pK_a values as well as simulation of the spectra of pure species.



Correção

- 1426 Physicochemical properties of lecithin-based nanoemulsions obtained by spontaneous emulsification or high-pressure homogenization
Roselena S. Schuh, Fernanda Bruxel and Helder F. Teixeira