

Editorial

1139 O olhar de Janus

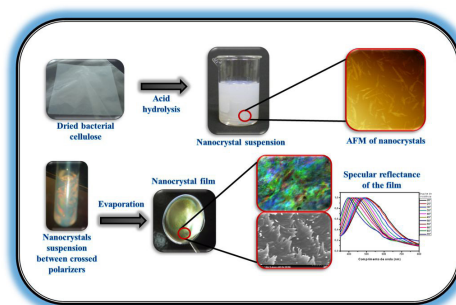
Adriano D. Andricopulo e Jailson B. de Andrade

Artigo

1140 Nanocristais de celulose a partir de celulose bacteriana

Lais R. Lima, Daniele B. Santos, Molíria V. Santos, Hernane S. Barud, Mariana A. Henrique, Daniel Pasquini, Edison Pecoraro e Sidney J. L. Ribeiro

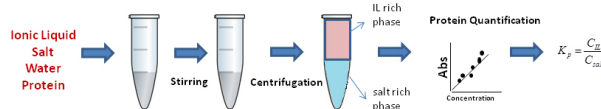
A suspension of nanocrystals was obtained by acid hydrolysis of bacterial cellulose. After evaporation of water, nanocrystals films were formed with iridescent characteristics.



1148 Partição de proteínas de soro de leite em sistemas aquosos bifásicos baseados em líquidos iônicos

Benôit Michel, Mateus T. Neves, Rita de C. S. de Sousa, Marcelo M. das Chagas, Bruna A. Martins e Jane S. dos R. Coimbra

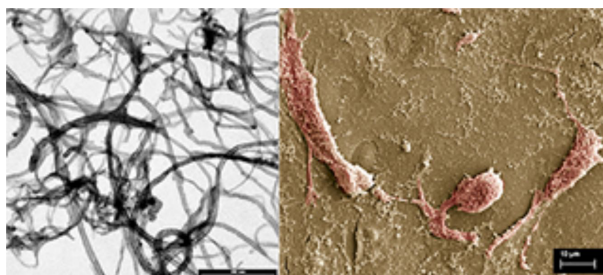
Protein partition using aqueous two-phase systems (ATPS) composed of ionic liquids and potassium phosphate. Four ionic liquids were evaluated for their ability to form ATPS and to partition whey proteins.



1153 Caracterização e avaliação *in vitro* de nanocompósitos de poli (L-ácido láctico) e nanotubos de carbono de paredes múltiplas purificados

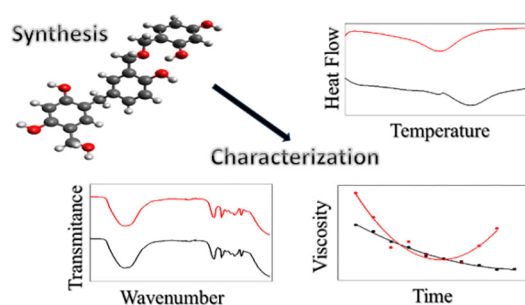
Claudenete V. Leal, Diego S. T. Martinez, Andréa R. Espósito, Bruna A. Más, Ana C. M. Moraes, Oswaldo L. Alves e Eliana A. R. de Duek

Multiwalled carbon nanotubes were purified and characterized for use in biomedical applications. Cell cultures were performed on the nanocomposite of poly (L-lactic acid) and purified carbon nanotubes to evaluate their cytocompatibility.



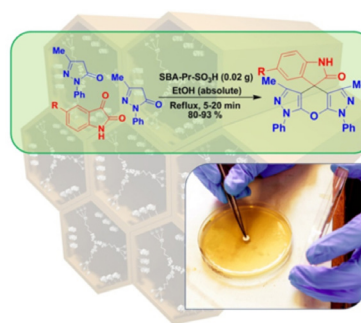
- 1162 Influência do catalisador em soluções poliméricas para o preparo de géis orgânicos de resorcinol-formaldeído
Thalita S. Taiariol, Elizabete Y. Kawachi e Luiz C. Pardini

Viscosity measurements and differential scanning calorimetry were used to characterize polymeric solutions. Fourier transform infrared spectroscopy was used to characterize the formed gels.



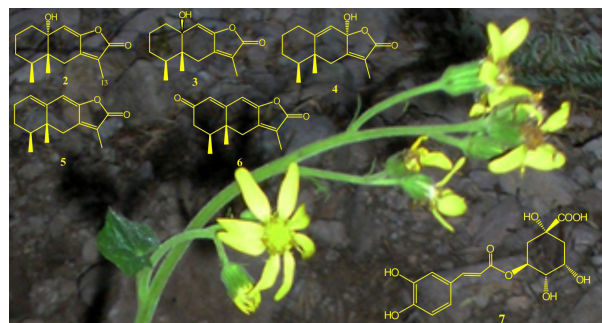
- 1167 synthesis and biological evaluation of spiro[indoline-3,4'-pyrano[2,3-*c*:6,5-*c'*]dipyrzole]-2-ones in the presence of SBA-Pr-SO₃H as a nanocatalyst
Ghodsi M. Ziarani, Razieh Moradi, Negar Lashgari, Alireza Badii and Ali A. Soorki

Sulfonic acid functionalized SBA-15 nanoporous material (SBA-Pr-SO₃H) with a pore size of 6 nm was applied as an efficient heterogeneous nanoporous acid catalyst in the reaction of isatin with pyrazolones under mild reaction conditions.



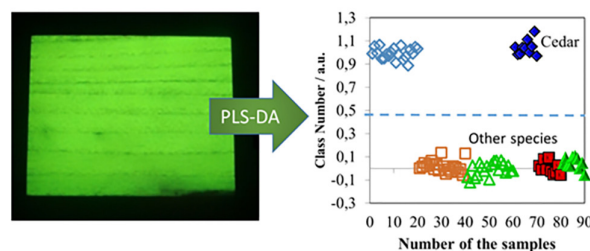
- 1172 Chemical composition and anti-inflammatory activity of *Roldana platanifolia*
Amira Arciniegas, Ana L. Pérez-Castorena, Antonio Nieto-Camacho, Jhon I. Maldonado, José L. Villaseñor and Alfonso R. de Viver

Eremophilanolide compounds (2-6) and chlorogenic acid (7) were isolated from *Roldana platanifolia*. The acetone and methanol extracts showed dose dependent activities with ID₅₀ 0.21 and 0.32 mg/ear, respectively, on the TPA model of induced acute inflammation.



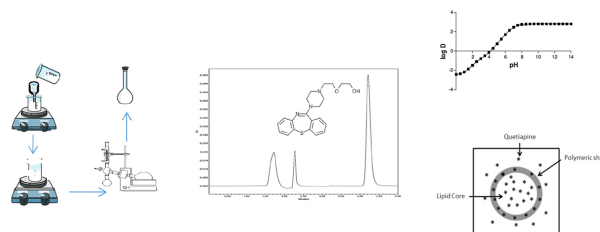
- 1176 Discriminação de madeiras similares por fluorescência molecular e mínimos quadrados parciais
Elían M. Oliveira, Jez W. B. Braga e Alexandre F. da Costa

Direct measurements of molecular fluorescence and PLS-DA data analysis as an efficient method for discriminating between similar woods.



- 1181 Characterizing the mechanism of quetiapine distribution in lipid-core nanocapsules pseudo-phases using a validated LC/UV method

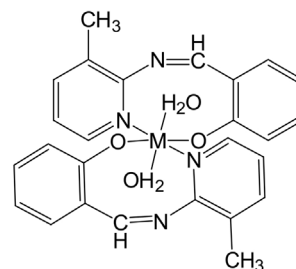
Fernando Carreño, Karina Paese, Carolina de M. Silva, Sílvia S. Guterres and Teresa Dalla Costa



Quetiapine lipid-core nanocapsules were prepared and using an HPLC/UV method, it was possible to determine the distribution of the drug in the pseudo-phases of the colloidal formulation.

- 1187 Ni(II), Cu(II), and Zn(II) complexes derived from a new Schiff base 2-((z)-(3-methylpyridin-2-yleimino)methyl) phenol and synthesis of nano sized metal oxide particles from these compounds

Masoumeh Orojloo, Fereshteh Nourian, Raziye Arabahmadi and Saeid Amani

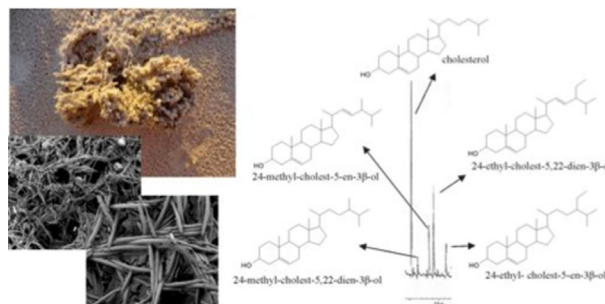


Three new complexes of Ni(II), Cu(II), and Zn(II) cations are described. All three compounds have the general formula $[M(L)_2(H_2O)_2]$. All complexes have been synthesized in a one-step synthesis and characterized by spectroscopy.

- 1192 Esteróis e constituintes voláteis da esponja dulcícola *Trochospongilla paulula* (Bowerbank)

Iuri B. de Barros, Cecília V. Ribeiro e Valdir F. da Veiga Junior

The presence of volatile compounds (mainly hexadecanol, 51.6%) and cholesterol in the Amazonian freshwater sponge *Trochospongilla paulula* (Spongillidae) contributes to the "smell" of the river, and reinforces previous observations of the chemotaxonomic importance of chemical studies of these organisms.

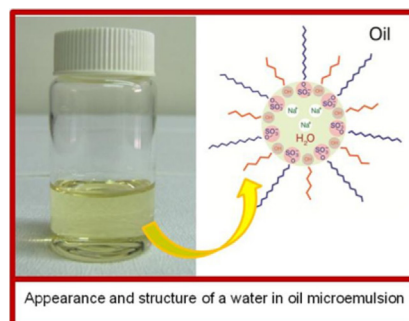


Revisão

- 1196 Microemulsões: componentes, características, potencialidades em química de alimentos e outras aplicações

José D. F. da Silva, Yara P. da Silva, Clarisse M. S. Piatnicki, Wolmir J. Böckel e Carla R. B. Mendonça

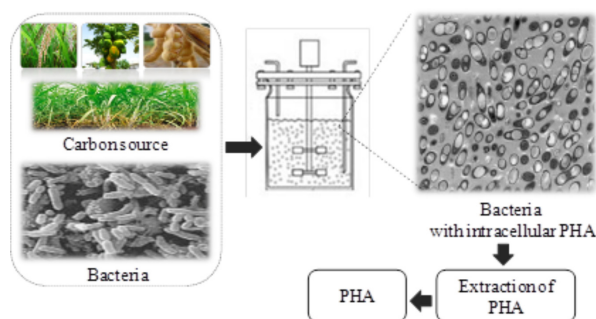
Microemulsions are optically transparent, isotropic, and thermodynamically stable microheterogeneous dispersions of immiscible liquids. The transparency is a consequence of the small cross-sectional size of the dispersed droplets.



- 1207 Métodos de extração de poli-hidroxialcanoatos a partir de biomassa bacteriana

Luci K. M. Quines, Méloidi Schmidt, Kellen Zanfonato, Willibaldo Schmidell e Gláucia M. F. Aragão

Processes for extracting polyhydroxyalkanoates (PHAs), which are biopolymers stored as an intracellular energy and reserve source in bacterial biomass, are described.

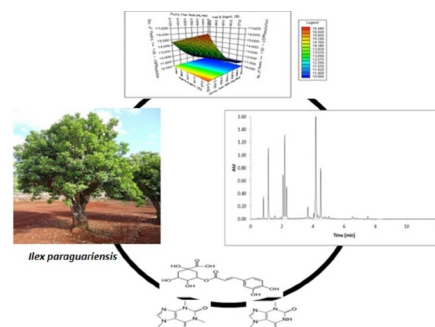


Nota Técnica

- 1219 Detection and quantification of phytochemical markers of *Ilex paraguariensis* by liquid chromatography

Rodrigo M. C. Pinto, Bruna M. Lemes, Acácio A. F. Zielinski, Traudi Klein, Fernando de Paula, Airton Kist, Anna S. F. Marques, Alessandro Nogueira, Ivo M. Demiate and Flávio L. Beltrame

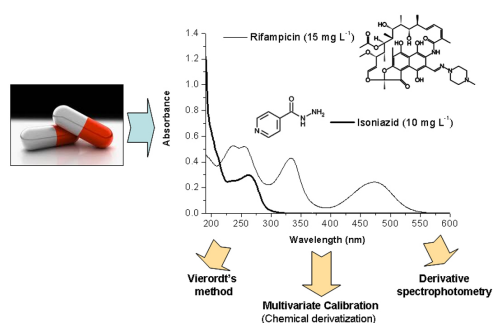
Quality by design model, multivariate study, UHPLC-MS, and HPLC-DAD were used to develop and optimize the quality control method for the main phytochemical markers of *Ilex paraguariensis*.



- 1226 Sistemas alternativos de calibração para determinação espectrofotométrica simultânea de espécies com interferência espectral

Sandra Stets, Barbara D. da Silva, Talita M^a Tavares, Gilcélia A. Cordeiro, Noemi Nagata, Christiana A. Pessoa e Patricio Peralta-Zamora

Alternative calibration methods, including multivariate calibration routines, increase the potentiality of electronic spectroscopy, facilitating its use in the simultaneous determination of mutually interfered species.

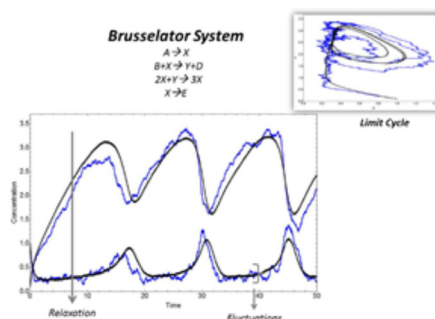


Educação

- 1232 Practical stochastic model for chemical kinetics

Leonardo Silva-Dias and Alejandro López-Castillo

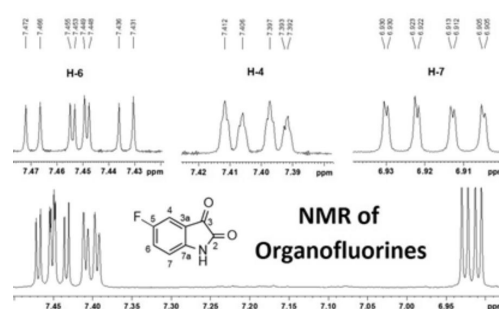
Brusselator results were obtained from the Practical Stochastic Model for $N=100$ (blue) and $N=10^4$ (black), with $[A] = 0.5$, $[B] = 1.4$ and initial conditions of $[X]_0 = 1$ and $[Y]_0 = 0.1$.



1237 Ressonância magnética nuclear de substâncias organofluoradas: um desafio no ensino de espectroscopia

Frederico S. C. Branco, Bárbara V. Silva, Gabriel F. do Rio, Mábio J. Santana, Luiz H. K. Queiroz Júnior, Angelo C. Pinto, Núbia Boechat e Luciano M. Lião

Nuclear magnetic resonance of organofluorine compounds: a challenge in the teaching of spectroscopy.



Assuntos Gerais

1247 Treatment of waste from atomic emission spectrometric techniques and reuse in undergraduate lab classes for qualitative analysis

Francisco L. F. da Silva, Thalita O. A. Duarte, Allan N. S. Dantas, Gisele S. Lopes, Sandro T. Gouveia and Wladiana O. Matos

Treatment of laboratory trace element analysis wastes for reuse in qualitative analysis in undergraduate course.

