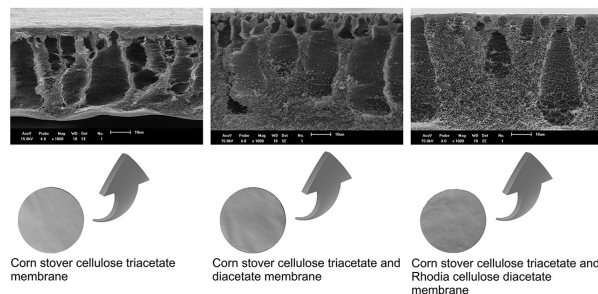


385 Caracterização de membranas assimétricas de acetato de celulose produzidas a partir do aproveitamento do resíduo da palha de milho para uso em ultrafiltração

Elaine A. M. Ribeiro, Guimes Rodrigues Filho, Júlia G. Vieira, Raquel M^a F. de Sousa, Rosana M^a N. de Assunção, Carla da S. Meireles, Jocenei Duarte e Mara Zeni

Graphical Abstract

Corn stover was used as a source of cellulose for the production of cellulose acetate membranes. The membranes were characterized and tested for application in ultrafiltration processes.

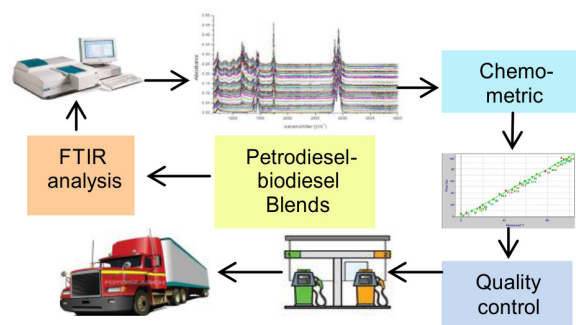


392 Fourier transform infrared-attenuated total reflectance (FTIR-ATR) spectroscopy and chemometric techniques for the determination of adulteration in petrodiesel/biodiesel blends

Armando G. Peña, Francisco A. Franeschi, Mepivoseh C. Estrada, Victorino M. Ramos, Reyes G. Zarracino, José C. Z. Loría and Atl V. Córdova Quiroz

Graphical Abstract

Predictive models were constructed using FTIR spectroscopy and chemometric tools. The PLS model was efficient predicting the concentration of the palm oil in the petrodiesel/biodiesel blends. The technique proposes could be used for quality control of biodiesel blends.

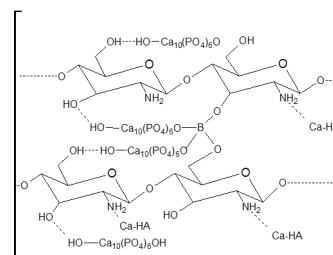


398 Obtenção e caracterização de matriz apropriada para sistemas de liberação prolongada – estudos de liberação dos herbicidas atrazina e diuron

Eunice F. S. Vieira, Antonio R. Cestari, Renata A. Chagas e Gracy K. da R. Cortes

Graphical Abstract

Spheres based on chitosan and fish scale were obtained and crosslinked with sodium tetraborate. The release times of the herbicides diuron and atrazine were 6 and 9 days, respectively.

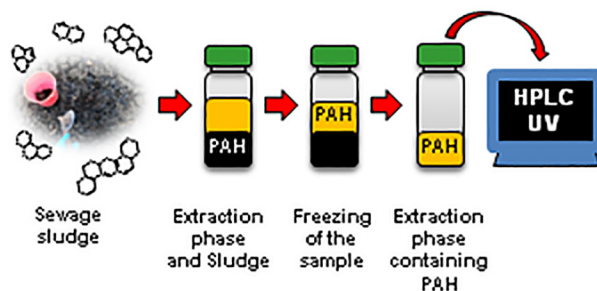


404 Otimização e validação da extração sólido-líquido e purificação em baixa temperatura de HPAs em lodo de esgoto

Érica S. Barbosa, Gabriela F. Evangelista, Emanuella M. Pimenta, Flaviano O. Silvério e Gevany P. de Pinho

Graphical Abstract

SLE-PLT of PAHs in sewage sludge is based up on the partitioning of analytes between the sample and organic phase at -20 °C resulting from a difference in the freezing point and then analyzed by HPLC-UV.

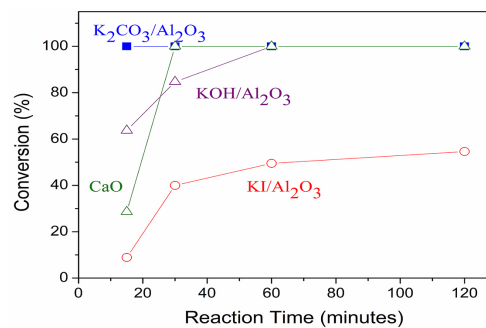


411 Use of heterogeneous catalysts in methylic biodiesel production induced by microwave irradiation

Evandro L. Dall'Oglio, Paulo T. de Sousa Jr., Pedro T. de J. Oliveira, Leonardo G. de Vasconcelos, Carlos A. Parizotto and Carlos A. Kuhnen

Graphical Abstract

Biodiesel conversion against reaction times for each catalyst employing 10% of mass catalyst concentration using methanol-sunflower oil molar ratio of 16:1.

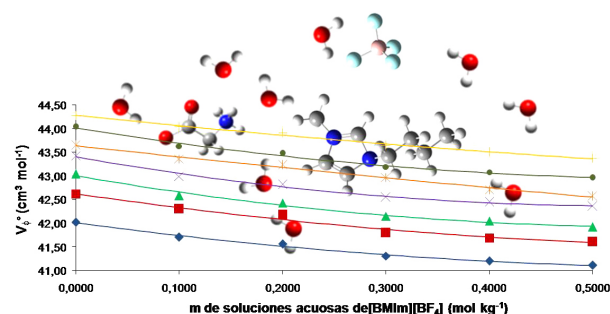


418 Interacciones de la glicina en soluciones acuosas de tetrafluoroborato de 1-butil, 3-metilimidazolio a diferentes temperaturas

Francisco P. Arias, Manuel P. Meza y Alfonso P. Lamadrid

Graphical Abstract

Graph of the apparent molar volumes at infinite dilution in different temperatures, together with the structures of the substances involved in the study.

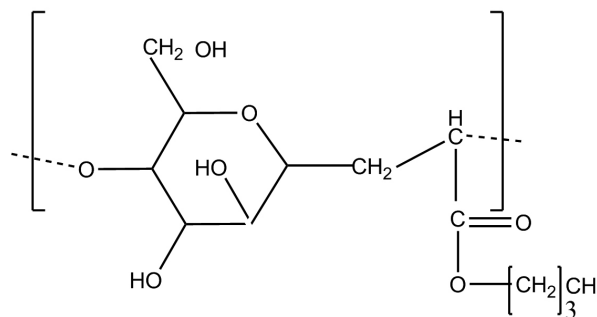


426 Estudio de copolimerización injerto del acrilato de butilo sobre almidón empleando sistema iniciador redox

Alfredo C. Martínez-Arellano, Jose L. Rivera-Armenta, Ana M^a Mendoza-Martínez, Nancy P. Díaz-Zavala, Jose G. S. Robles y Ernestina E. Banda-Cruz

Graphical Abstract

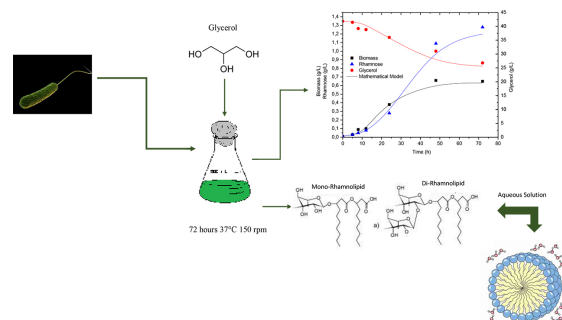
Chemical structure of starch grafted with buthyl acrylate obtained by redox copolymerization.

431 Cinética e caracterização de ramnolípídeos produzidos por *Pseudomonas aeruginosa* MSIC02 utilizando glicerol como fonte de carbono

Juliana R. Sousa, Jéssyca A. C. Correia, Vânia M. M. Melo, Luciana R. B. Gonçalves e Antonio J. G. Cruz

Graphical Abstract

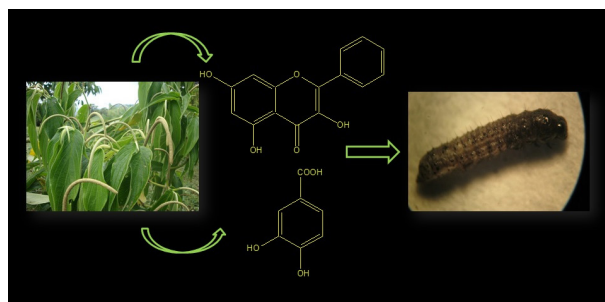
Glycerol was used as a substrate for production of rhamnolipids by *P. aeruginosa* MSIC02. The productivity and its excellent surface-active properties indicated its potential for application in bioremediation of saline environments and tertiary oil recovery.



- 442 Actividad insecticida sobre *Spodoptera frugiperda* (Lepidoptera: Noctuidae) de los compuestos aislados de la parte aérea de *Piper septuplinervium* (Miq.) C. DC. y las inflorescencias de *Piper subtomentosum* Trel. & Yunck. (Piperaceae)
Mónica C. A. Murillo, Luis E. C. Suarez y Jairo A. C. Salamanca

Graphical Abstract

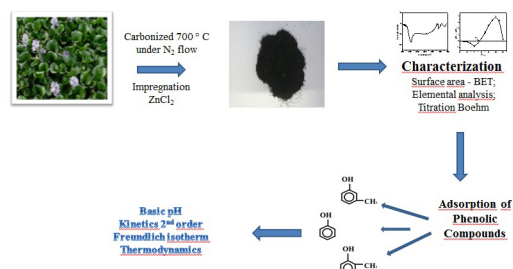
Flavonoids and phenolic compounds, isolated from two species of Piper collected from Colombia, were tested against *Spodoptera frugiperda* larvae to determine the effects of these compounds on the mortality. Thus determined, which type phenols catechol and flavonols occur most noticeable effects.



- 447 Remoção de compostos fenólicos de soluções aquosas utilizando carvão ativado preparado a partir do aguapé (*Eichhornia crassipes*): estudo cinético e de equilíbrio termodinâmico
Charles S. Barbosa, Sirlane A. A. Santana, Cícero W. B. Bezerra e Hildo A. dos S. Silva

Graphical Abstract

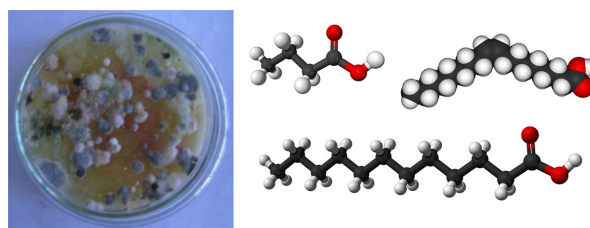
With this study, it can be observed the importance of using alternative materials that can be found in the natural environment, for the production of activated carbons with low cost, good capacity and potential in the removal of phenolic compounds in aqueous medium.



- 454 Produção de lipases de *Aspergillus niger* e *Aspergillus fumigatus* através de fermentação em estado sólido, avaliação da especificidade do substrato e seu uso em reações de esterificação e alcoólise
Christian O. Reinehr, Juliana Rizzardi, Marcell F. Silva, Débora de Oliveira, Helen Treichel e Luciane M^a Colla

Graphical Abstract

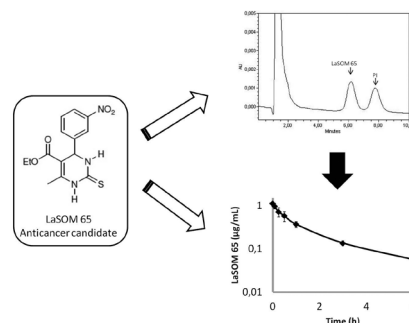
Lipases produced by *Aspergillus niger* under solid state fermentation esterified oleic and butyric acids in the presence of ethanol, while enzymes produced by *Aspergillus fumigatus* demonstrated no esterification activity toward lauric acid. Agroindustrial residues make possible the production of enzymes by filamentous fungi with different applications.



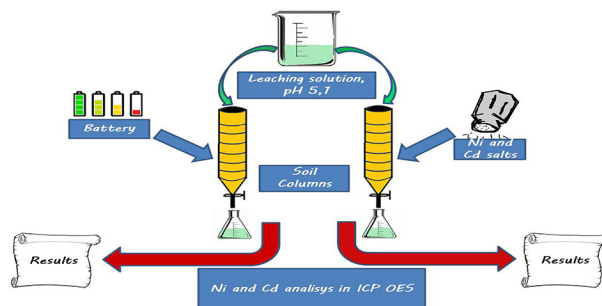
- 461 Bioanalytical method for the quantification of the monastrol derivative anticancer candidate LaSOM 65 in pre-clinical pharmacokinetic investigations
Bruna G. S. Torres, Flávia D. T. Uchôa, Rômulo F. S. Canto, Allan Crestani, Vera Eifler-Lima and Teresa Dalla Costa

Graphical Abstract

A HPLC method with UV detection was validated for quantifying LaSOM 65, an anticancer candidate, in rat plasma. The method was applied for a preliminary pre-clinical pharmacokinetics study and showed enough sensibility to allow the determination of the new chemical entity pharmacokinetic parameters.



- 465 Avaliação da lixiviação do cádmio e níquel provenientes da degradação de baterias níquel-cádmio em uma coluna de solo
 Armando C. Martinelli, Renan V. Barrada, Sandra A. D. Ferreira, Marcos B. J. G. de Freitas e M^a de Fátima F. Lelis



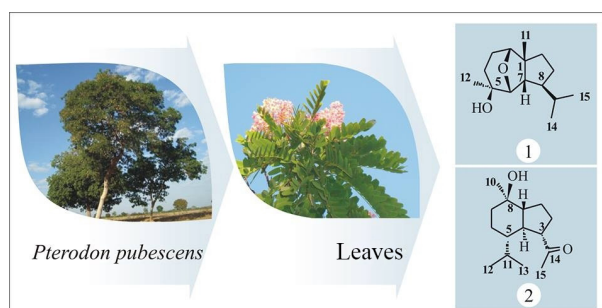
Graphical Abstract

We present here a study of soil contamination due to improper disposal of a spent Ni-Cd battery and salts of cadmium and nickel submitted to a leaching process with water solution pH 5.1.

- 473 Sesquiterpenos e outros constituintes das folhas de *Pterodon pubescens* Benth (Leguminosae)
 Mayker L. D. Miranda, Fernanda R. Garcez, Alfredo R. Abot e Waldir S. Garcez

Graphical Abstract

Sixteen substances were isolated from leaves of *Pterodon pubescens*, among which are (rel)-2 β ,6 β -epoxy-5 β -hydroxy-isodaucane, that corresponds to the correct structure of homalomenol D, and oplopanone, which is being reported for the first time in this genus.



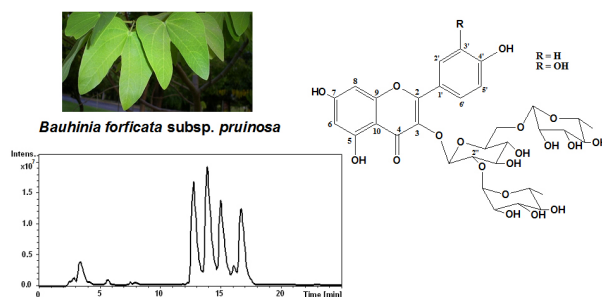
- 477 Constituintes químicos e atividade antioxidante de folhas e galhos de *Eugenia copacabanensis* Kiaersk (Myrtaceae)
 Almir R. de Carvalho Junior, Geovany A. Gomes, Rafaela O. Ferreira e Mário G. de Carvalho

Graphical Abstract

Eugenia copacabanensis (Myrtaceae) is a popular specie in Brazil, and is known as "princesinha de Copacabana". This first phytochemical investigation allowed to isolation and identification of flavonoids, triterpenes, sesquiterpenes and mixture of coumaroyl esters.



- 483 LC/ESI-MS method applied to characterization of flavonoids glycosides in *B. forficata* subsp. *pruinosa*
 Lidiane da S. Farias and Andreas S. L. Mendez



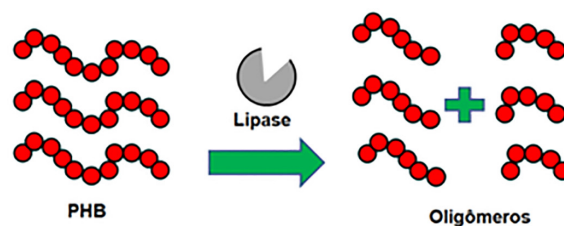
Graphical Abstract

Chemical constituents based on quercetin and kaempferol derivatives in *Bauhinia forficata* subsp. *pruinosa* were defined using LC-ESI-MS.

- 487 Glicólise do poli(3-hidroxi-butarato) por via enzimática
 Everton L. de Paula, Tiago F. Campos e Valdir Mano

Graphical Abstract

Glycolysis of PHB aims to produce smaller end-functionalized chains to overcome its high crystallinity, a limiting factor in many applications. In this work, this process was carried out using the lipase Amano PS (*Pseudomonas cepacia*) with ethane-1,2-diol as the functionalizing agent.

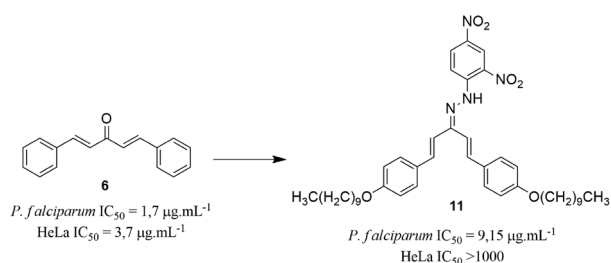


- 492 Síntese e avaliação da atividade antimalárica de compostos derivados da curcumina

Patrícia R. Gomes, Fábio B. Miguel, Michael É. de Oliveira, Vanessa V. Ferreira, Daniel S. M. Guimarães, Aline B. de Lima, Camila de S. Barbosa, Mariana A. de Oliveira, Mauro V. de Almeida, Gustavo H. R. Viana, Mara R. C. Couri e Fernando de P. Varotti

Graphical Abstract

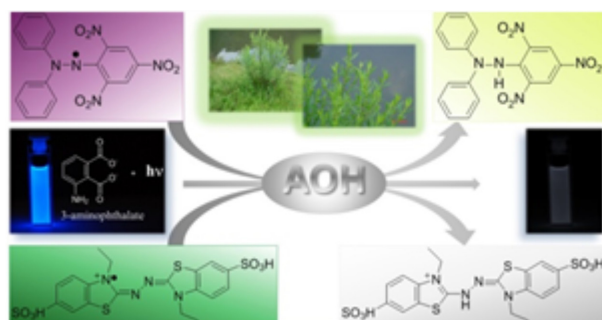
A substitution of the carbonyl group by a 2,4-dinitrophenylhydrazone group has increased the antimalarial selective index of the compound.



- 497 Evaluation of antiradical assays used in determining the antioxidant capacity of pure compounds and plant extracts
 Sandro de Oliveira, Gláucia A. de Souza, Camila R. Eckert, Thuany A. Silva, Edmar S. Sobral, Oriana A. Fávero, Marcelo J. P. Ferreira, Paulete Romoff and Wilhelm J. Baader

Graphical Abstract

Antiradical assays based on luminol chemiluminescence and colorimetric methods based on color loss of stable DPPH[•] and ABTS^{•+} radicals proved to be suitable for the evaluation of the antiradical capacity of pure compounds and plant extracts from the genus *Baccharis*.



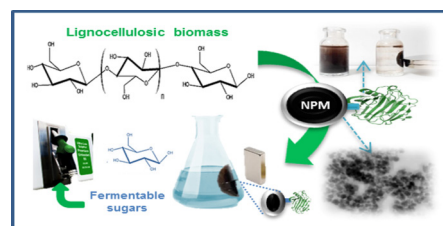
Revisão

- 504 Inmovilización de enzimas lignocelulolíticas en nanopartículas magnéticas

Jaquelina Sánchez-Ramírez, José L. Martínez-Hernández, Elda P. Segura-Ceniceros, Juan C. Contreras-Esquivel, Miguel A. Medina-Morales, Cristobal N. Aguilar y Anna Iliná

Graphical Abstract

Nowadays, magnetic nanoparticles constitute a promising system for the immobilization of enzymes, with potential applications in the production of lignocellulosic bioethanol.

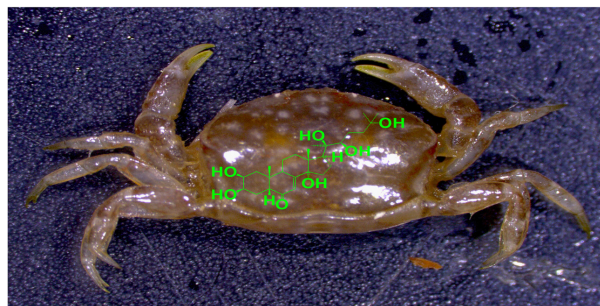


513 Química de Productos Naturales aplicada a la acuicultura:
una revisión interdisciplinar

Roberto Mioso, Francisco J. T. Marante, Irma H. B. de Laguna y Martín Bessonart

Graphical Abstract

Crustecdisono, a natural ecdysteroide modulator of crustacean metamorphosis.

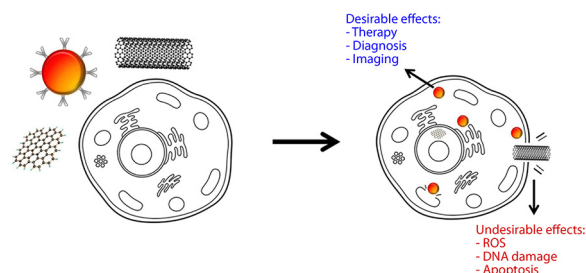


521 Nanotecnologia em medicina: aspectos fundamentais e
principais preocupações

Juliana Cancino, Valéria S. Marangoni e Valtencir Zucolotto

Graphical Abstract

Novel strategies to investigate the desirable and/or undesirable effects of nanomaterials for medical applications.

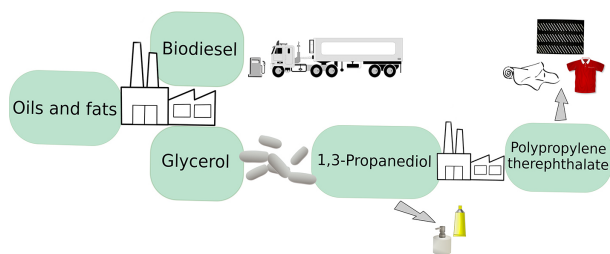


527 1,3-Propanediol: produção, aplicações e potencial biotecnológico

Gervásio P. da Silva, Jonas Contiero, Paulo M. Ávila Neto e Cristian J. B. de Lima

Graphical Abstract

1,3-propanediol, obtained from the fermentation of glycerol, is utilized in cosmetics and in the production of polypropylene terephthalate, which has various industrial applications.



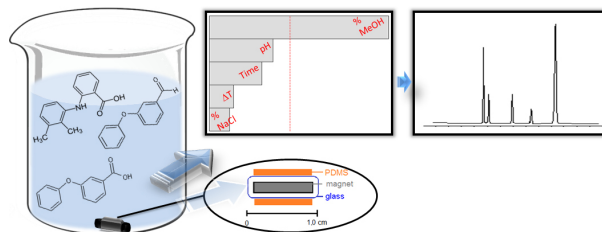
Nota Técnica

535 Análise dos produtos de degradação do esfenvalerato por
SBSE/CLAE-UV/DAD utilizando planejamento fatorial
fracionário

Renata Colombo, Janete H. Yariwake e Marcos R. V. Lanza

Graphical Abstract

Fractional factorial design was applied to optimization method for analysis of esfenvalerate and degradation products by stir bar liquid desorption and high-performance liquid chromatography with ultraviolet detection (SBSE-LC/UV).

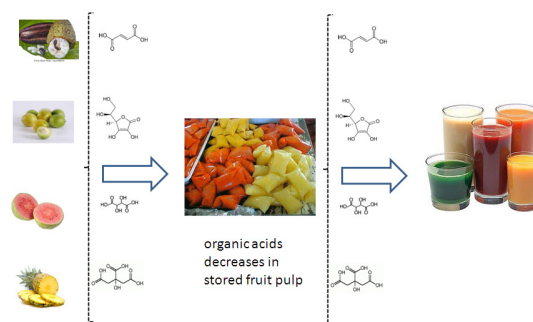


- 540 Validação de um método para determinação simultânea de quatro ácidos orgânicos por cromatografia líquida de alta eficiência em polpas de frutas congeladas

José S. dos Santos, M^a Lúcia P. dos Santos e Alana dos S. Azevedo

Graphical Abstract

The Figure used as GA shows that the concentration of organic acids generally decreases in fruit pulp under study with the increase in storage time. Amongst all the organic acids under investigation minimum stability is shown by ascorbic.

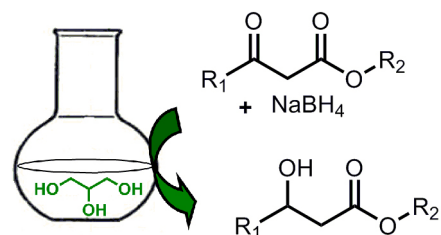


- 545 Glicerol como solvente verde em eficiente obtenção de beta-hidroxiésteres

Simone S. de S. Oliveira, Sorele B. Fiaux, Igor R. L. Barreto, Estela M. F. Muri, M^a da Conceição K. V. Ramos, Francisco R. de Aquino Neto e Luiza R. S. Dias

Graphical Abstract

Glycerol as a reactional medium in selective reduction of β -ketoesters compounds to the corresponding β -hydroxyesters: a viable alternative, efficient and environmentally preferable.



Educação

- 549 Questões ambientais na voz dos formadores de professores de Química em disciplinas de cunho ambiental

Franciani B. Roloff e Carlos A. Marques

Graphical Abstract

The article presents the Environment Issues perspectives identified from a survey to the courses of the Chemistry's bachelor degree at nine institutions of higher education in the south and southeast of the country.

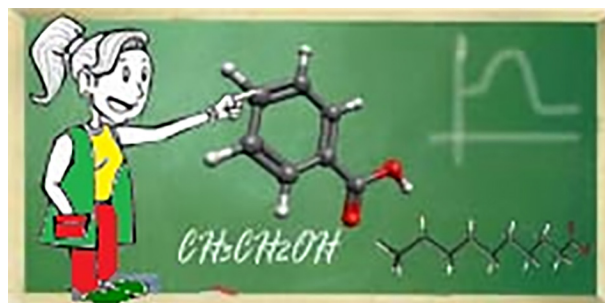


- 556 Concepções de licenciandos em Química sobre visualizações no ensino de ciências em dois países: Brasil e Portugal

Mauritz G. de Vries, Celeste Ferreira e Agnaldo Arroio

Graphical Abstract

This graphical abstract point out the principal elements which based the research, the pre-service teacher, learning-teaching activities and visualizations. The pre-service teacher colors represents Brazil and Portugal.

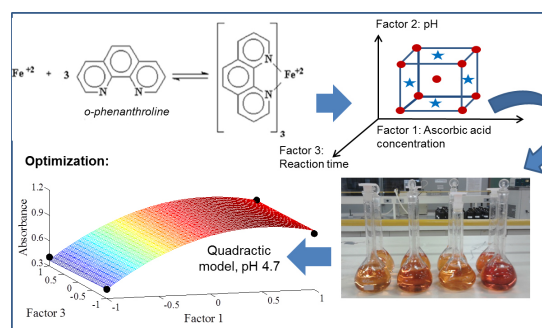


- 564 Experimento didático de quimiometria para planejamento de experimentos: avaliação das condições experimentais na determinação espectrofotométrica de ferro II com *o*-fenantrolina. Um tutorial, parte III

Márcia C. Breitreitz, André M. de Souza e Ronei J. Poppi

Graphical Abstract

The classic reaction of Fe (II) with *o*-phenanthroline was used as a didactic experiment to introduce the concepts of Design of Experiments (DOE) to ungraduated students of Chemistry and related areas. Calculations were carried out in Matlab® environment as a tutorial.



Assuntos Gerais

- 574 Alfred Werner e Heinrich Rheinboldt: genealogia e legado científico

Henrique E. Toma



Graphical Abstract

Alfred Werner signature, from his first scientific work, in 1885.