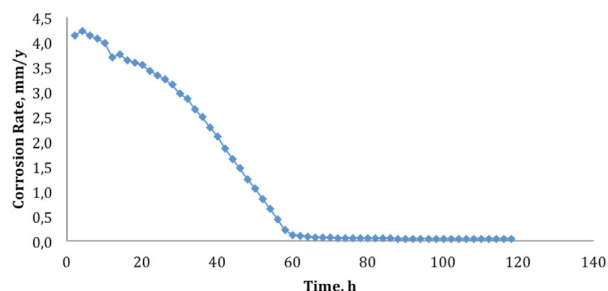


- 1027 A formação da camada protetora de FeCO_3 e o controle da corrosão por CO_2 em condições de fluxo turbulento

Lilian R. M. Ferreira, Simone M. Klok, Haroldo de A. Ponte e Fernando Farelis

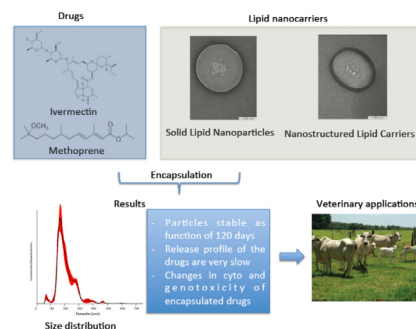
The formation of solid iron carbonate, FeCO_3 , as a corrosion product upon of the steel, under turbulent flow conditions in a laboratory experiments.



- 1034 Sistemas carreadores lipídicos nanoestruturados para ivermectina e metopreno visando controle de parasitas

Diego F. Cola, Tatiane Pasquoto, Mariana Guilger, Renata de Lima, Camila M. G. da Silva e Leonardo F. Fraceto

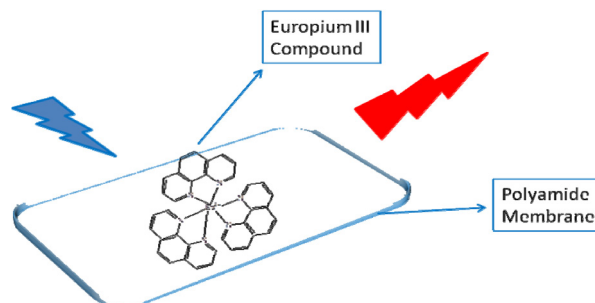
Encapsulation of Ivermectin and Methoprene in lipid nanocarriers open perspectives for use in veterinary.



- 1044 Modificação de membrana de poliamida via sol-gel e incorporação de composto de európio (III) luminescente

Érica A. de Souza, Beatriz M. de Campos, Lucas A. Rocha, Emerson H. de Faria, Katia J. Ciuffi, Eduardo J. Nassar, Jorge V. L. Silva, Marcelo F. Oliveira e Izaque A. Maia

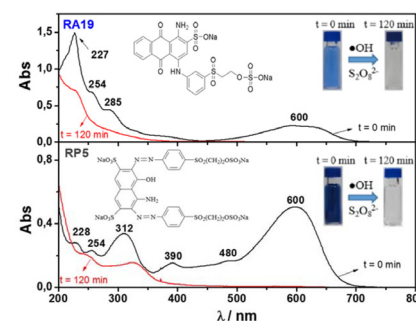
The sol-gel methodology has been applied to incorporate several molecules and/or systems into solid substrates. Lanthanide compounds present special properties for use in emission devices, and their incorporation into systems obtained by additive manufacturing opens the opportunity for application in cancer treatment by photodynamic therapy.



- 1051 Oxidação eletroquímica dos corantes reativos Preto 5 e Azul 19 utilizando um eletrodo de diamante dopado com boro não comercial

Vanessa M. Vasconcelos, Fernanda de L. Souza, Thais T. Guaraldo, Fernanda L. Migliorini, Maurício R. Baldan, Neidenê G. Ferreira e Marcos R. de V. Lanza

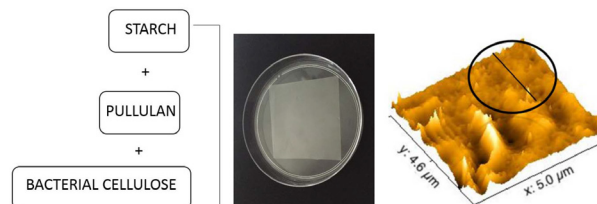
Reactive Blue (RA19) and Black (RP5) dyes were satisfactorily removed using a non commercial highly Boron Doped Diamond electrode supported on titanium.



1059 Filmes biodegradáveis de amido de mandioca, pululana e celulose bacteriana

Ana C. Sueiro, Paula C. S. Faria-Tischer, Audrey A. S. G. Lonni e Suzana Mali

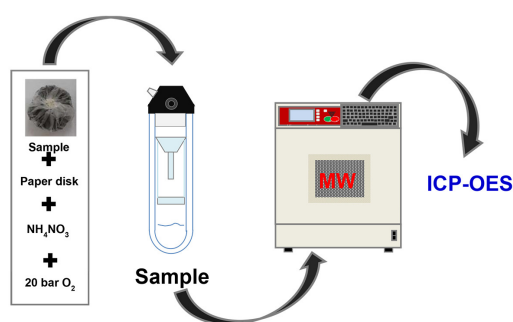
Cassava starch films were produced with addition of two microbial biopolymers, pullulan and bacterial cellulose, resulting in films with lower solubility and water vapor permeability, and higher thermal stability when compared to pure starch films.



1065 Determinação simultânea de metais e enxofre por ICP-OES em resíduos de destilação de petróleo

Gabriel T. Druzian, Cristiano K. Giesbrecht, Francisco C. Rosa, Regina C. L. Guimarães, Ricardo A. Guarnieri, Paola A. Mello e Érico M. M. Flores

Digestion of crude oil distillation residues is proposed for further simultaneous determination of metals and sulfur by inductively coupled plasma optical emission spectrometry. High digestion efficiency, low detection limits and the possibility of using diluted acids are the main advantages of the proposed method.



1071 The use of a novel aldehyde-functionalized chitosan hydrogel to prepare porous tubular scaffolds for vascular tissue engineering application

Eduardo P. Azevedo and Vijay Kumar

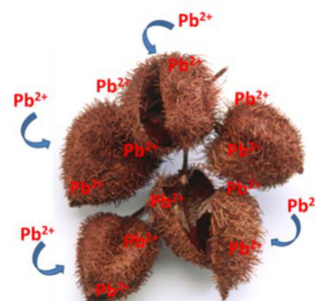
Tubular scaffolds have been developed for vascular tissue engineering applications. Such constructs should be prepared in a way that originates a porous structure with interconnected pores, which are essential for the growth and differentiation of vascular cells.



1078 Biossorção de Pb(II) por casca de urucum (*Bixa orellana*) em soluções aquosas: estudo cinético, equilíbrio e termodinâmico

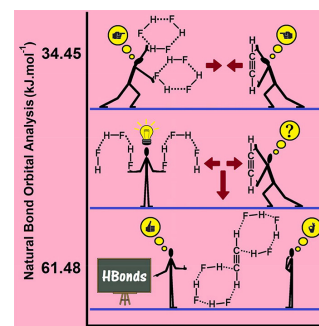
Klaiani B. Fontana, Eduardo S. Chaves, Jefferson D. S. Sanchez, Erica R. L. R. Watanabe, Juliana M. T. A. Pietrobelli and Giane G. Lenzi

Shell of *Bixa orellana* as low cost biosorbent for Pb(II) removal from aqueous solutions. An alternative biomass as a potential biosorbent.



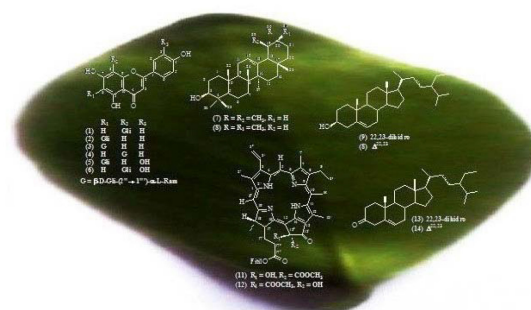
- 1085 O paradigma da estrutura do doador de próton na formação de ligações de hidrogênio: complexo $C_2H_2 \cdots 6(HF)$
Denize S. Silva e Boaz G. Oliveira

The structure of HF trimer is modified upon the complexation with acetylene



- 1093 Constituintes químicos e atividade antioxidante *in vivo* de flavonoides isolados de *Clusia lanceolata* (Clusiaceae)
Rafaela O. Ferreira, Almir R. de Carvalho Junior, Cristiano J. Riger, Rosane N. Castro, Tania M. S. da Silva e Mário G. de Carvalho

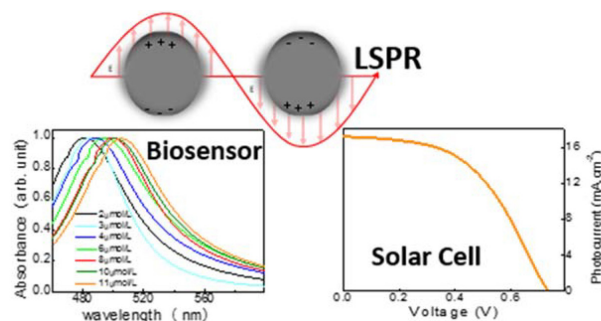
Flavonoid C-glycosides and phaeophytins from *Clusia lanceolata*. Vitexin derivatives with *in vivo* antioxidant activity.



Revisão

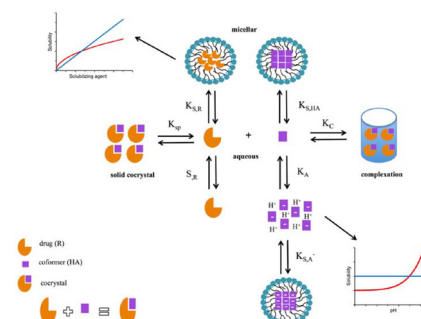
- 1098 Ressonância de plasmon de superfície localizado e aplicação em biossensores e células solares
Jacqueline F. L. Santos, Marcos J. L. Santos, Anderson Thesing, Fabiele Tavares, Jordana Griep e Marcos R. F. Rodrigues

Application of Localized Surface Plasmon Resonance to improve sensitivity and detection limit of biosensors and to enhance the efficiency of solar cells.



- 1112 Cocristais: uma estratégia promissora na área farmacêutica
Alanny B. O. Rocha, Gislaïne Kuminek, Tatiane C. Machado, Juliana Rosa, Gabriela S. Rauber, Paola A. A. Borba, Sana Siedler, Hellen K. Stulzer, Silvia L. Cuffini, Naír Rodríguez-Hornedo e Simone G. Cardoso

Cocrystal solubility can be modulated due to the molecular interactions of its components in solution by complexation, ionization or micellar solubilization.

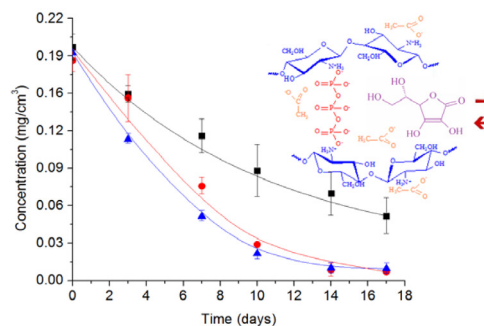


Nota Técnica

1126 Analysis of thermal and aqueous suspension stabilities of chitosan based nanoencapsulated vitamins

Douglas de Britto, Flávia G. Pinola, Luiz H. C. Mattoso and Odílio B. G. Assis

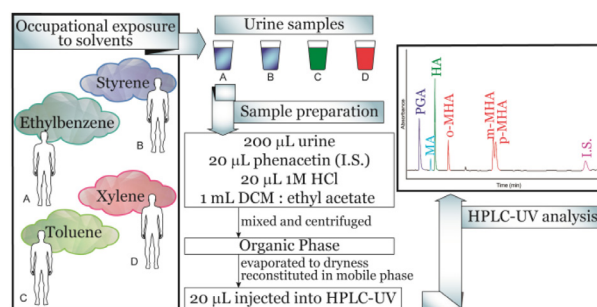
Nanoencapsulated vitamin C shows greater stability in aqueous suspension in comparison with non-encapsulated vitamins C in deionized water or 1% acetic acid solution.



1131 Análise simultânea dos indicadores biológicos de exposição aos solventes etilbenzeno, estireno, tolueno e xileno na urina por CLAE-UV

Priscila A. Yamamoto, Natália V. de Moraes, Vinicius P. Silva e José S. Lepera

This work presents a HPLC-UV method able to analyze the occupational exposure to ethylbenzene, styrene, toluene and xylene through the quantification of their metabolites (PGA, MA, HA, o-MHA, m-MHA and p-MHA) in urine.

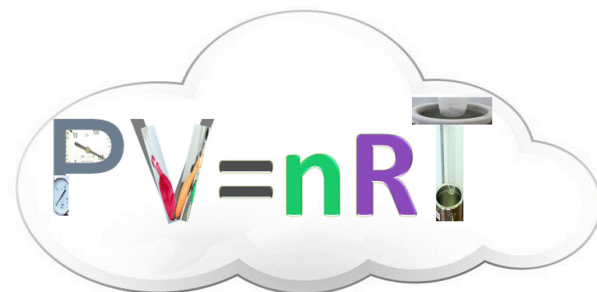


Educação

1136 Com ar - respirar e ensinar

M^a Fernanda N. N. Carvalho, José A. L. da Silva e Hermínio P. Diogo

Experiments based on phase change of the main components of air promoted by temperature variation. Insight into the relationship between volume, pressure, temperature and intermolecular forces.



Assuntos Gerais

1141 A química dos povos indígenas da América do Sul

Jens Soentgen e Klaus Hilbert

The purpose of this essay is to show that mainly in the area of chemical practices the indigenous people competence was considerable and has led to inventions profitable nowadays to millions of people.



(Gravura de: Crévaux, J. *Voyages dans l'Amérique du Sud*, 1883)