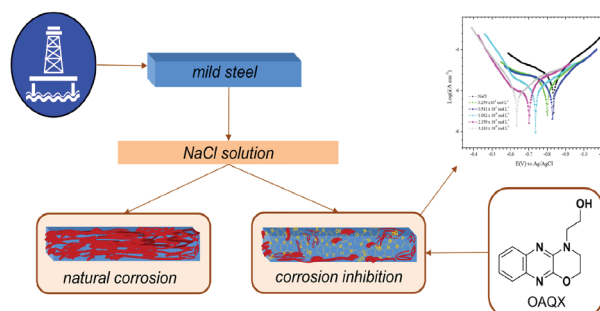
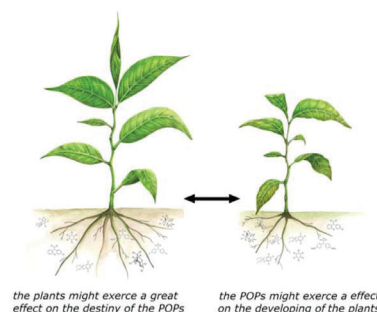


- 243 Experimental and theoretical analysis of an oxazinoquinoxaline derivative for corrosion inhibition of AISI 1018 steel
Joherbson D. dos S. Pereira, Jannyely M. Neri, Denise P. Emerenciano, Gutto R. S. de Freitas, M^a Beatriz M. C. Felipe, Miguel A. F. de Souza, Fabrício G. Menezes and M^a Aparecida M. Maciel



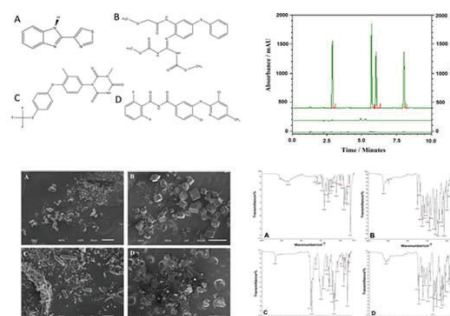
An oxazinoquinoxaline as corrosion inhibitor for mild steel in saline medium.

- 251 *In vitro* phytoremediation of persistent organic pollutants by *Helianthus annuus* L. plants
Marcos V. de Almeida, Sandra R. Rissato, Mário S. Galhiane, João R. Fernandes, Paulo C. Lodi and Marcelo C. de Campos



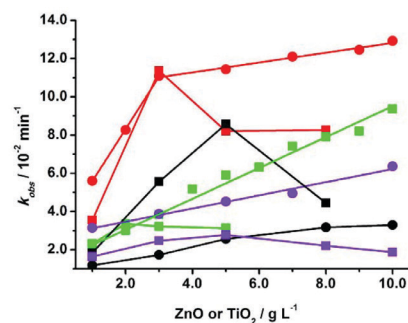
The importance of the *in vitro* phytoremediation method study to evaluate the process of removal of pollutants.

- 258 Fourier transform infrared spectroscopy, thermogravimetric analysis, scanning electron microscopy as supporting tools in quality control of antiparasitics
Michelli dos S. Silva, Karla L. Gonring, Ricky C. S. da Silva, Matheus C. Fonseca, Marcella M. C. Borges, Otalibio C. Nunes, Moacir R. Forim, Keyller B. Borges and Warley de S. Borges



A new RP-HPLC method was developed and validated for the simultaneous determination of antiparasitics. In addition, FTIR (experimental and theoretical), TGA, and SEM were useful to identify the raw materials.

- 268 Kinetic behavior of some azo dyes decolorization by variation of zinc oxide and titanium dioxide concentrations
Wallace J. C. da Silva, Natalia M. Monezi, Vanildo S. Leão Neto and Keiko Takashima

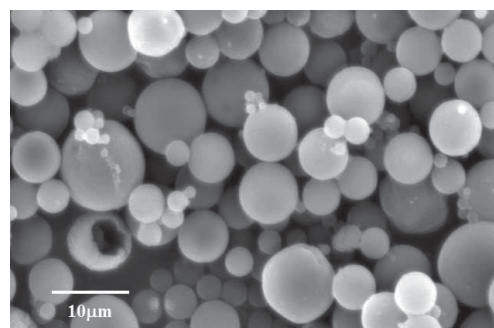


Photocatalytic behavior of ZnO (○) and TiO₂ (□) in the decolorization rate constant, k_{obs} , of methyl orange (—); acid orange 7 (—); direct orange 34 (—); and direct yellow 86 (—) at 30 °C.

273 Influence of cardanol encapsulated on the properties of poly(lactic acid) microparticles

Jaciene J. F. Cardoso, Eduardo Ricci-Júnior, Denise Gentili, Luciana S. Spinelli and Elizabete F. Lucas

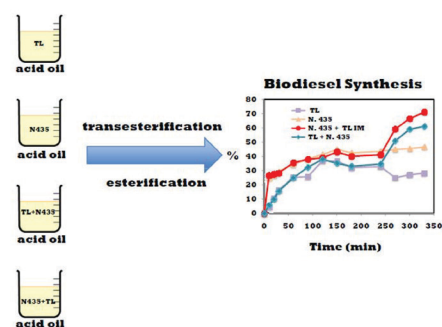
Microparticles of PLA100 containing 0.75 wt/v% of PVA with cardanol encapsulated.



284 Enzymatic biodiesel synthesis from acid oil using a lipase mixture

Kelly C. N. R. Pedro, Juliana M. Parreira, Igor N. Correia, Cristiane A. Henriques and Marta A. P. Langone

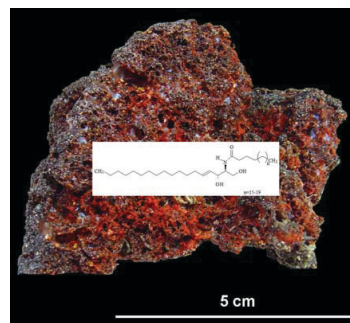
The biodiesel yield doubled using lipase mixture in ethanolysis of acid oil. The blend of Lipozyme TL and Novozym was the best option considering cost and yield. Lipases can be used to produce biodiesel from oils high levels acidity oils.



292 Chemical constituents derived from the canaries marine sponge *Myxilla* sp.

Pere F. Bunyola, Francisco J. T. Marante, Juan F. L. Oyola, Ignacio B. Martín, Rayco G. Alonso and José J. S. Rodríguez

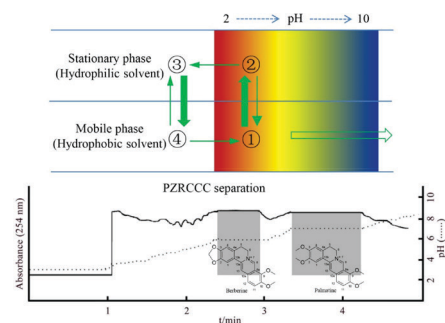
Marine sponges synthesize several metabolites with potential biological activities. The large pharmaceutical companies have initiated programs for the application of these metabolites in medicine.



297 Preparative separation of isoquinoline alkaloids from Phellodendri Cortex by pH-Zone-Refining Counter-Current Chromatography

Daijie Wang, Shanming Tian, Li Cui, Huijiao Yan, Xiangyuan Song, Yuguang Liu, Fei Xu and Junjian Ma

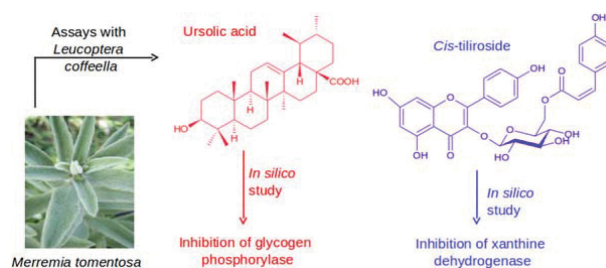
Isoquinoline alkaloids with high polarity from Phellodendri Cortex, were successfully separated by PZRCCC with a two-phase solvent system chloroform/methanol/water (4:2:2, v/v).



- 302 Ursolic acid and *cis*-tiliroside produced by *Merremia tomentosa* affect oviposition of *Leucoptera coffeella* on coffee plants

Helvécio M. Santos Júnior, Karina C. Lopes, Deiane S. Alves, Geraldo A. Carvalho and Denilson F. Oliveira

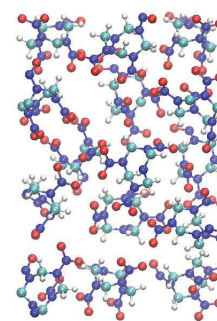
Oviposition of *Leucoptera coffeella* was prevented by the extract of *Merremia tomentosa* and two of its components, ursolic acid and *cis*-tiliroside. *In silico* studies suggest that these substances act against the insect by inhibiting the enzymes glycogen phosphorylase and xanthine dehydrogenase.



- 310 Emprego de química computacional na verificação e validação da pressão de detonação de explosivo plástico-PBX

Fausto B. Mendonça, Rene F. B. Gonçalves, Girum S. Urgessa, Koshun Iha, Marcela Domingues e José A. F. F. Rocco

Molecular representation of solid HMX unit cell, with molecules distributed inside the boundaries, prior to the material ignition.

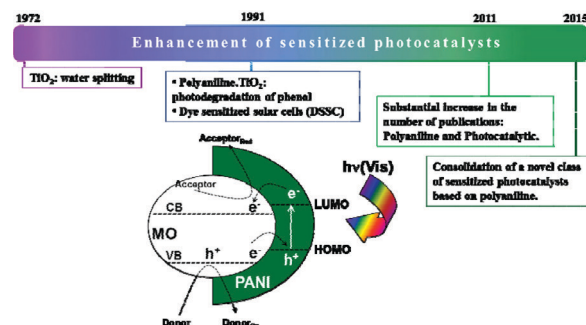


Revisão

- 315 A polianilina no cenário ambiental: uma abordagem sobre fotocatalise heterogênea

Vanessa M. M. Vargas, Carla Dalmolin, Sérgio H. Pezzin, Marcela M. Oliveira e Patricio Peralta-Zamora

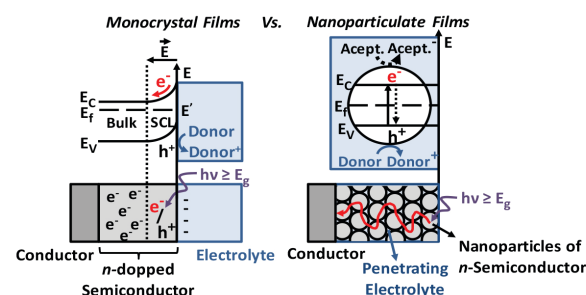
Since 1991 sensitized photocatalysts has been a hot topic in many research fields, especially in heterogeneous photocatalysis. In the last five years, conducting polymers has been consolidated as a novel class of photosensitizers.



- 326 Fotoeletrocatalise em semicondutores: dos princípios básicos até sua conformação à nanoescala

Alexandre L. B. Baccaro e Ivano G. R. Gutz

Comparison between monocrystal n-doped and nanoparticle semiconductor electrodes and their respective band diagrams both under a positive biasing potential ($V_{\text{bias}} > V_{\text{FB}}$). The model considered for the space-charge layer (SCL) is the depletion layer and the Flat Band.

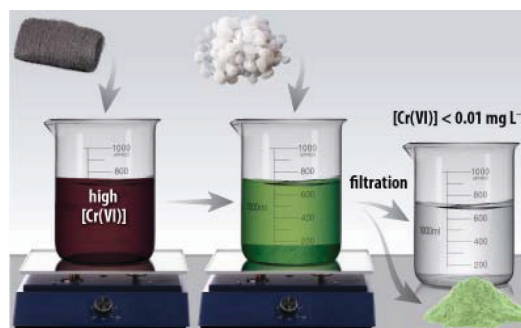


Nota Técnica

- 340 Uso de palha de aço comercial para o tratamento de efluentes contendo cromo hexavalente provenientes de processos de eletrocoloração de aços inoxidáveis

Kallyni Irikura, Marcelo B. B. Guerra, Nerilso Bocchi, Romeu C. Rocha-Filho, Elaine Kikuti e Sonia R. Biaggio

Treatment of a Cr(VI) residual solution with a given amount of commercial steel wool pads followed by chemical precipitation with NaOH up to pH 10-11 and separation by filtration under reduced pressure. The produced solid residue is predominantly $\text{Cr}(\text{OH})_3$ and $\text{Fe}(\text{OH})_3$.

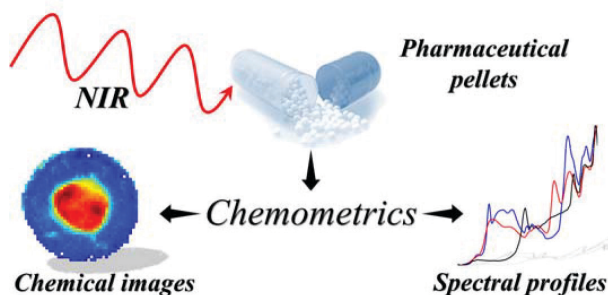


Educação

- 345 Experimento didático de quimiometria para o mapeamento de *pellets* farmacêuticos utilizando espectroscopia de imagem na região do infravermelho próximo e resolução multivariada de curvas com mínimos quadrados alternantes: um tutorial, parte IV

José A. Da-Col, Willian F. C. Dantas e Ronei J. Poppi

Didactic experiment based on the combination of Near Infrared Spectroscopy and Multivariate Curve Resolution to create a chemical imaging of pharmaceutical pellets to obtained the special distribution and spectral profile of each component in the system.



- 355 Extração do R-(+)-limoneno a partir das cascas de laranja: avaliação e otimização da verduza dos processos de extração tradicionais

Tânia C. M. Pires, M^a Gabriela T. C. Ribeiro e Adélio A. S. C. Machado

For extraction of limonene, the steam distillation presents better overall greenness (green star metric) and higher *throughput*, but some other specific metrics indicate that extraction by solvents is greener.

