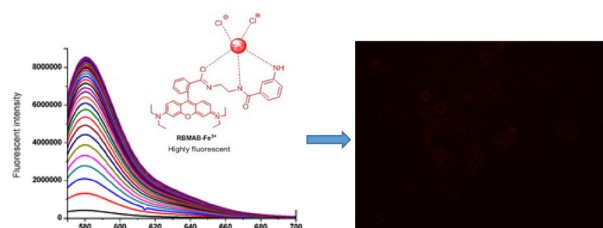


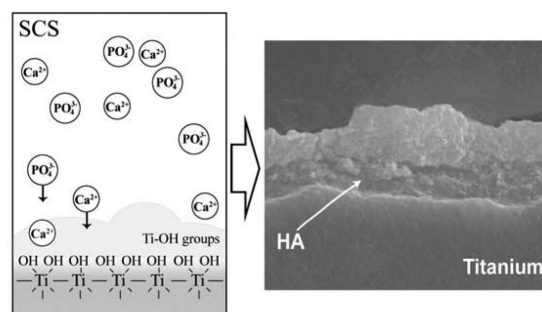
- 1151 A new rhodamine B derivative RBMAB as a highly selective and sensitive chemosensor for Fe^{3+} with low detection limit
Wei Shen, Lin Wang, Min Chen and Hongfei Lu

A new Rhodamine B derivative RBMAB exhibits high selectivity toward Fe^{3+} among many other metal cations with a low detection limit of $0.021 \mu\text{M}$. Fluorescence microscopy experiments demonstrate that it can be used as a fluorescent probe to detect Fe^{3+} in living cells (L-02).



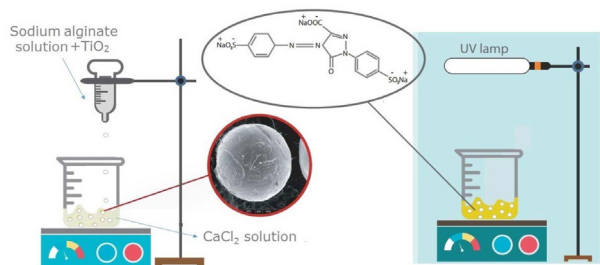
- 1159 Manufacture of nanosized apatite coatings on titanium with different surface treatments using a supersaturated calcification solution
Adrian P. Ramos, Gabriel O. Ybarra, Leonardo M. Pazos, María B. Parodi, Laura Rodríguez, Mónica L. Hernández and Jesús E. G. Ruiz

The biomimetic method allows the formation of bone-like apatite on titanium when using a solution containing calcium and phosphate ions. The titanol groups formed at the titanium surface ensure the chemical bonding and subsequently growth of the bioactive coating.



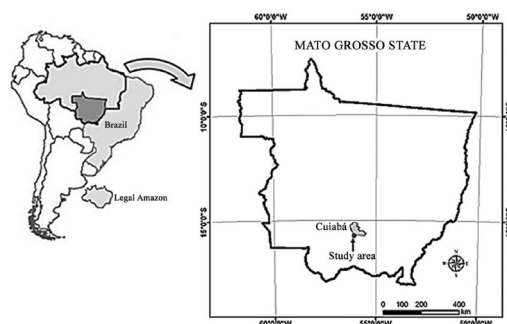
- 1165 Degradação fotocatalítica de tartrazina com TiO_2 imobilizado em esferas de alginato
Ithiara Dalponte, Alvaro L. Mathias, Regina M. M. Jorge e Regina Weinschutz

Production and characterization of alginate beads with TiO_2 immobilized applied in the photocatalysis of the azo dye tartrazine.



- 1170 Elemental composition of PM_{10} and $\text{PM}_{2.5}$ for a savanna (Cerrado) region of Southern Amazonia
Franciele B. Santanna, Edilberto O. de Almeida Filho, George L. Vourlitis, Paulo H. Z. de Arruda, Rafael da S. Palácios and José de S. Nogueira

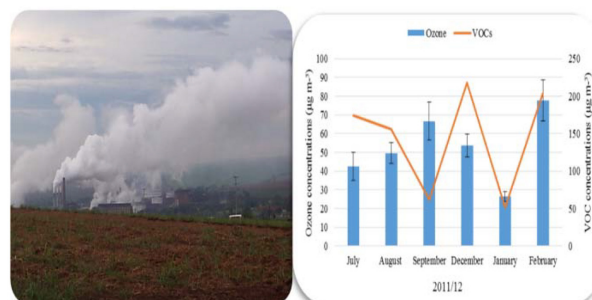
Map of Brazil depicting the State of Mato Grosso highlighted in dark grey to the centre of the map, in the southern part of the Legal Amazon Basin. Inset: Map of Mato Grosso with location of sampling site indicated by red dot.



- 1177 Ozônio troposférico e compostos orgânicos voláteis em região impactada pela agroindústria canavieira

Ana P. Francisco, Débora de S. Alvim, Luciana V. Gatti, Célia R. Pesquero e João V. de Assunção

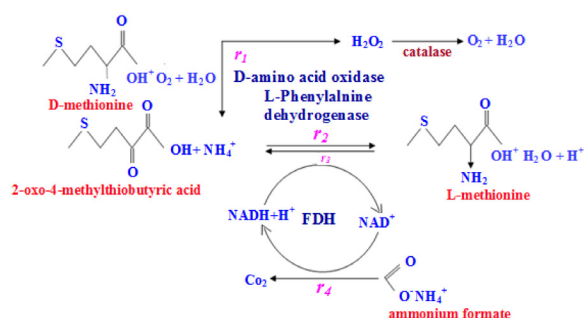
Tropospheric ozone and Volatile Organic Compound (VOC) concentrations during and after sugarcane emissions at an urban area.



- 1184 Enzyme kinetic modelling and analytical solution of non-linear rate equation in the transformation of D-methionine into L-methionine in batch reactor using the new homotopy perturbation method

Pavithra Sivasamy, Jansi R. P. Ganapathy, Iswarya Thinakaran and Rajendran Lakshmanan

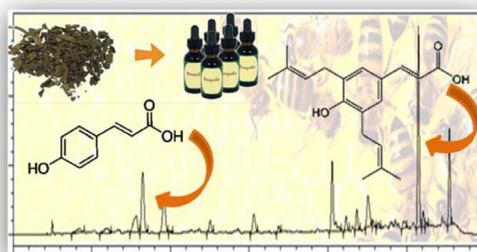
Kinetic scheme of D-AAO, L-PheDH, FDH and Coupled system of D - methionine bioconversion into L-methionine.



- 1192 Comparação entre a composição química e capacidade antioxidante de diferentes extratos de própolis verde

Fernanda B. Salgueiro e Rosane N. Castro

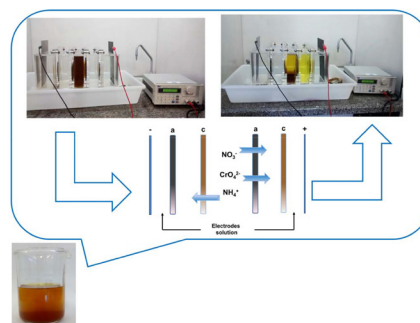
A multivariate analysis of chemical composition of commercial and *in natura* Brazilian green propolis.



- 1200 Aplicação da técnica de eletrodialise no tratamento de efluentes de tingimento de gemas contendo íons nitrato e cromo

Maria de L. M. Magalhães, Verônica R. Machado, Eduardo M. Ethur e Simone Stülp

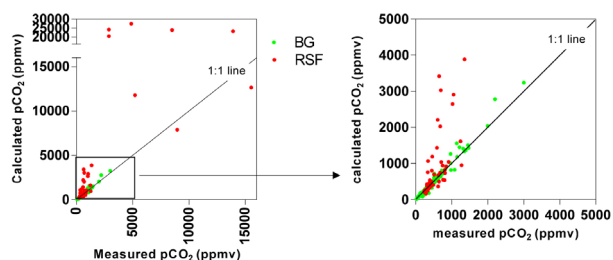
The dyeing agate employs large quantities of potentially harmful wastewater to the environment, for example, metal ions. This paper showed that electrodialysis is an effective method for treating effluents containing chromium and nitrate, and reuse was investigated.



- 1206 Comparações entre medições em tempo real da $p\text{CO}_2$ aquática com estimativas indiretas em dois estuários tropicais contrastantes: o estuário eutrofizado da Baía de Guanabara (RJ) e o estuário oligotrófico do Rio São Francisco (AL)

Luiz C. Cotovicz Jr., Bruno G. Libardoni, Nilva Brandini, Bastiaan A. Knoppers e Gwenaél Abril

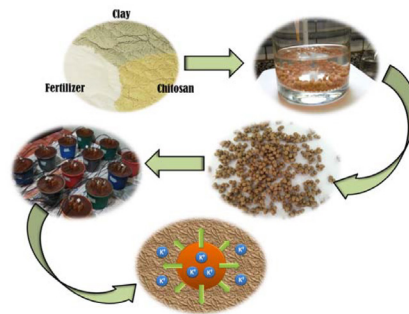
We present a methodology for direct measurements of $p\text{CO}_2$ in surface waters of two tropical Brazilian estuaries. Despite the good agreement between calculated and measured $p\text{CO}_2$ in Guanabara Bay (GB), the São Francisco River Estuary (RSF) presented calculated overestimations.



- 1215 Híbridos de quitosana-argila para encapsulamento e liberação sustentada do fertilizante nitrato de potássio

Lucas L. Messa, José D. Froes, Claudinei F. Souza e Roselena Faez

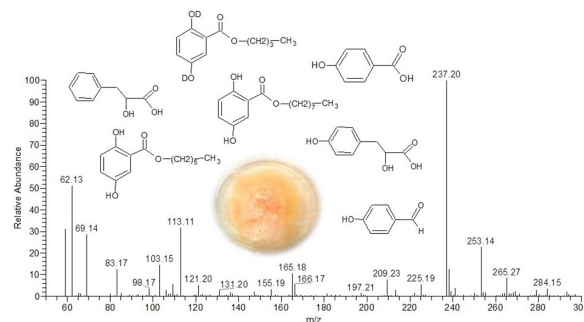
Chitosan microspheres were prepared as controlled release fertilizer; chitosan-clay hybrid demonstrate to be an efficient system to potassium fertilizer in a desorption process; in situ, the electromagnetic technique was used for determination of the potassium content in soil.



- 1221 One Strain-Many Compounds (OSMAC) method for production of phenolic compounds using *Camarops* sp., an endophytic fungus from *Alibertia macrophylla* (Rubiaceae)

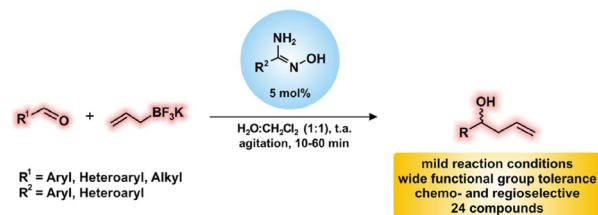
Juliana R. Gubiani, Thomas R. Habeck, Vanessa M. Chapla, Geraldo H. Silva, Vanderlan S. Bolzani, and Angela R. Araujo

Endophytic fungus *Camarops* sp. isolated from the leaves of *Alibertia macrophylla*, was used to produce seven phenolic derivatives through the one strain-many compounds (OSMAC) approach and identified by 2D NMR and HRESIMS spectra.



- 1225 Aplicação de amidoximas como catalisadores da reação de alilação por aliltrifluoroborato de potássio em meio bifásico

Dmístocles de Andrade, João R. de Freitas Filho e Juliano C. R. Freitas



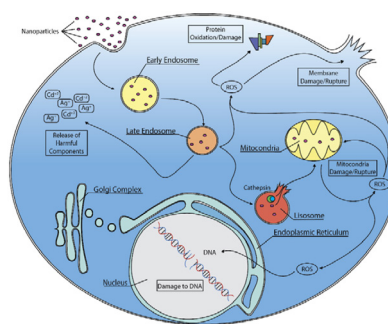
We describe the application of an amidoxime as catalyst in the synthesis of homoallylic alcohols from the allylation reaction of aldehydes with different features using potassium allyltrifluoroborate.

Revisão

- 1236 Como estudar interações entre nanopartículas e sistemas biológicos

Allan Radaic, Gustavo O. Pugliese, Guilherme C. Campese, Francisco B. T. Pessine e Marcelo B. de Jesus

Cytotoxic effects of nanoparticles in eukaryotic cells. Amongst the major cytotoxic effects we can highlight the generation of Reactive Oxygen Species (ROS), and the damage to the membrane, proteins, mitochondria and DNA that could lead to cell death.

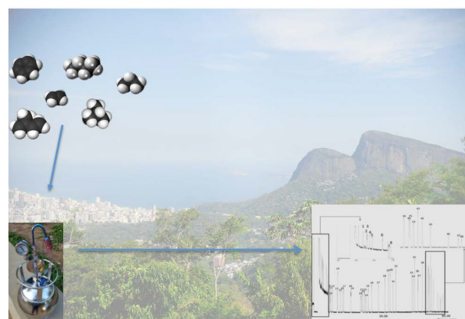


Nota Técnica

- 1245 Avaliação da eficiência do método TO-15 para determinação de compostos orgânicos voláteis em condições típicas de ambiente urbano

Cleyton M. da Silva, Elaine C. C. A. Souza, Luane L. da Silva, Rafael L. Oliveira, Graciela Arbilla e Sergio M. Corrêa

Determination of isoprene and anthropogenic volatile organic compounds in the city of Rio de Janeiro.

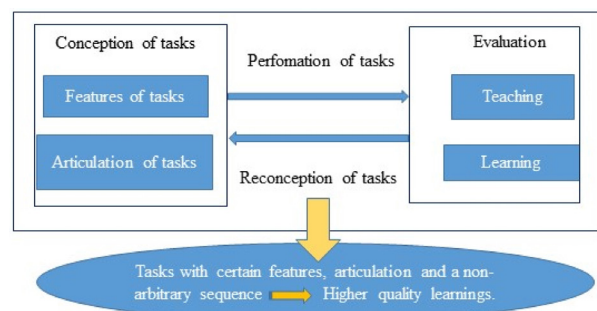


Educação

- 1254 Influência das características e da articulação das tarefas na qualidade das aprendizagens de Química no Ensino Superior

Cristina M. C. Marques, Joaquim B. Lopes e Maria J. Carvalho

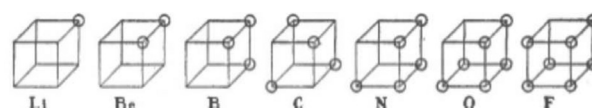
Evaluation of teaching and learning determines what features and sequences of tasks are relevant to the promotion of quality learnings.



Assuntos Gerais

- 1262 Gilbert Lewis e o centenário da teoria de ligação por par de elétrons

Carlos A. L. Filgueiras



A distribuição dos elétrons nos vértices de um cubo, do lítio ao flúor, como foi descrita pela primeira vez no artigo de Lewis de 1916, The Atom and the Molecule.