

Editorial

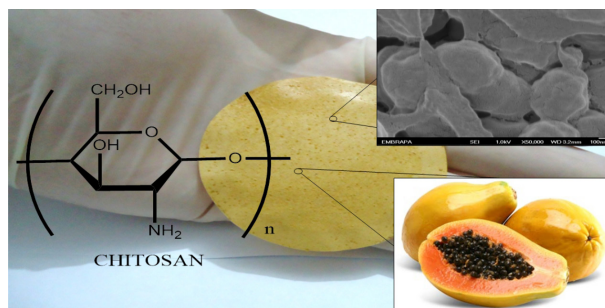
- 929 37ª Reunião Anual da Sociedade Brasileira de Química
Aldo J. G. Zarbin

Artigo

- 931 Nanocompósito de polpa de mamão e nanopartículas de quitosana para aplicação em embalagens
Marcos V. Lorevice, Marcia R. de Moura e Luiz H. C. Mattoso

Graphical Abstract

Novel packagings produced with polysaccharides and papaya's puree, improved with chitosan nanoparticles. A way to decrease environmental impact caused by disposal packaging that are difficult to degrade.



- 937 Starch/poly (butylene adipate-co-terephthalate)/montmorillonite films produced by blow extrusion
Rodrigo A. L. Santos, Carmen M. O. Muller, Maria V. E. Grossmann, Suzana Mali and Fabio Yamashita

Graphical Abstract

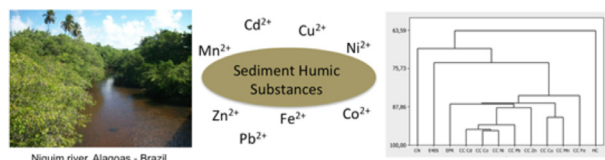
Biodegradable films produced by blow-extrusion of starch, PBAT, and nanoclay. The blended materials were initially pelletized in a single-screw pilot extruder, followed by subsequent extrusion of the pellets to form films.



- 943 Influência das substâncias húmicas de sedimentos na biodisponibilidade de metais para o sistema aquático
Wander G. Botero, Shenia de O. Souza, Oseas S. Santos, Luciana C. de Oliveira e Cristine B. do Amarante

Graphical Abstract

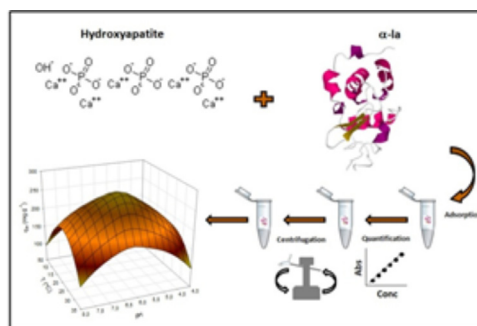
The sediment humic substances showed influences the complexation of metals by influencing their bioavailability for the aquatic environment.



- 950 Adsorção de alfa-lactalbumina do soro de leite em hidroxiapatita: efeito do pH e da temperatura e análise termodinâmica
 Rita de C. S. de Sousa, Jane S. dos R. Coimbra, Liliana de L. X. Augusto e Leomir S. T. Reis

Graphical Abstract

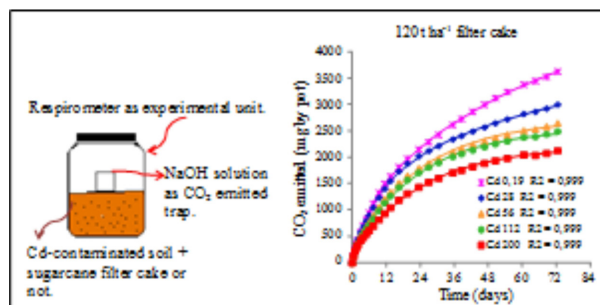
Steps for obtaining the adsorption isotherms of α -la in hydroxyapatite and their values of q_m as a function of different pH and temperature values.



- 956 Solo contaminado com cádmio: extratibilidade do metal e cinética química de degradação da matéria orgânica de torta de filtro
 Lucia P. Firme, Felipe C. A. Villanueva e Antonio A. Rodella

Graphical Abstract

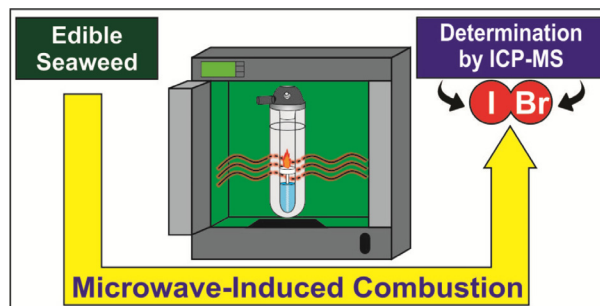
The chemical kinetics of sugarcane filter cake (FC) organic matter degradation in soil with different levels of cadmium (Cd) contamination was studied by quantifying CO_2 emitted during 72 days of incubation. The total CO_2 emitted from FC decreased with Cd contamination.



- 964 Determinação de bromo e iodo em alga marinha comestível por ICP-MS após decomposição por combustão iniciada por micro-ondas
 Marcia F. Mesko, Isis G. Toralles, Marcelo G. Crizel, Vanize C. Costa, Natanael R. X. Pires, Claudio M. P. de Pereira, Rochele S. Picoloto e Paola A. Mello

Graphical Abstract

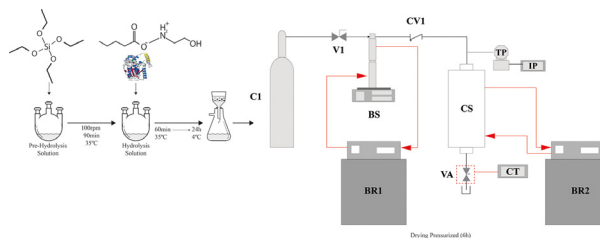
A method based on microwave-induced combustion (MIC) was applied for decomposition of different edible seaweed for subsequent determination of bromine and iodine by inductively coupled plasma mass spectrometry (ICP-MS).



- 969 Imobilização de lipase por encapsulação em sílica aerogel
 Anderson dos S. Barbosa, Matheus A. de O. Silva, Nayara B. Carvalho, Silvana Mattedi, Miguel A. Iglesias, Alini T. Fricks, Álvaro S. Lima, Elton Franceschi e Cleide M. F. Soares

Graphical Abstract

Lipase from *Burkholderia cepacia* immobilized by encapsulation in silica matrix modified with protic ionic liquid and dried in pressurized media (aerogel) shows attractive potential for industrial applications in the hydrolysis of vegetable oils.

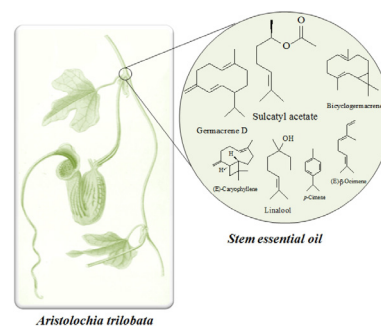


- 977 Volatile constituents of *Aristolochia trilobata* L. (*Aristolochiaceae*): a rich source of sulcatyl acetate

Darlisson de A. Santos, Pércles B. Alves, Emmanoel V. Costa, Clovis R. P. Franco, Angelita Nepel and Andersson Barison

Graphical Abstract

Sulcatyl acetate (6-methyl-5-hepten-2-yl acetate) was isolated for the first time from *Aristolochia trilobata* and identified as the major component of volatile compounds.

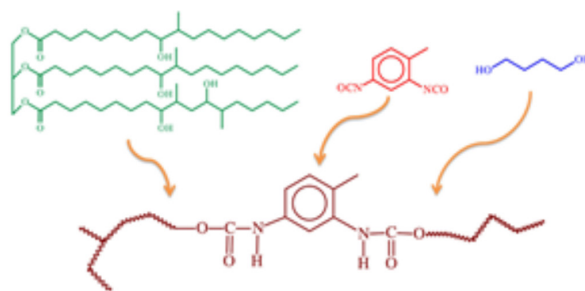


- 982 Desenvolvimento de tecnologia de pré-polímeros na síntese de poliuretanos empregados em combustíveis sólidos

Marcelo Clemente, Roberta J. Rocha, Koshun Iha e José A. F. F. Rocco

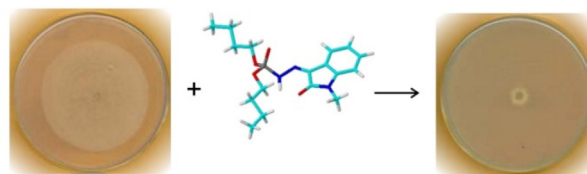
Graphical Abstract

Polyurethane pre-polymer technology applied in the aerospace area. Used as a binder like a solid fuel in hybrid propulsion. Soybean-based polyol was the best starting raw material in the synthesis of polyurethane network.



- 989 Synthesis, characterization, and biological activity of a new class of dialkylphosphorylhydrazone derivatives of isatin

Letícia S. Zampirulli, Marcela J. de Lemos, Vinícius T. Gonçalves, Marco A. A. de Souza, Sonia R. de Souza, Victor M. Rumjanek and João B. N. DaCosta



Graphical Abstract

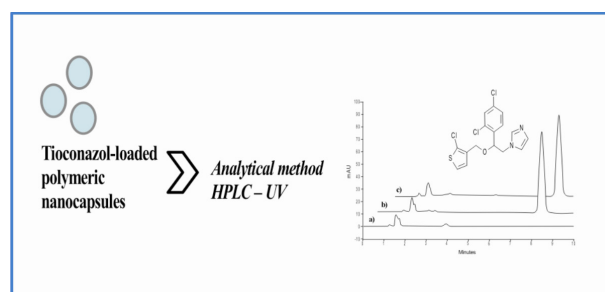
This figure shows the growth inhibition of *Rhizoctonia solani* by phosphorohydrazidic acid *N*'-[1,2-dihydro-1-methyl-2-oxo-3H-indol-3-ylidene]-dibutyl ester (12).

- 996 Desenvolvimento de um método para a determinação de tioconazol associado a nanocápsulas poliméricas por cromatografia líquida

Andréia P. G. Härter, Mariana H. Motta, Júlia G. de Barros, Roseane F. Ribeiro, Andréa I. H. Adams, Scheila R. Schaffazick e Cristiane de B. da Silva

Graphical Abstract

In this work, a rapid and simple HPLC method has been developed and validated for the assay of tioconazol in polymeric nanocapsule suspensions. The method showed good results with respect to specificity, linearity, precision, accuracy, and robustness.

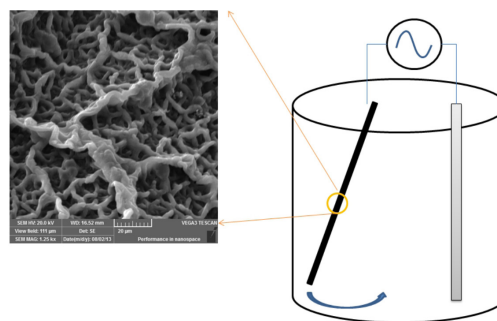


1000 Simple method for mass production of polypyrrole/carbon nanotubes hybrid artificial muscle

Marcelo R. dos Santos and Helinando P. de Oliveira

Graphical Abstract

Interfacial polymerization represents a simple and low cost technique for the preparation of electromechanical actuators based on polypyrrole-carbon nanotubes composite.

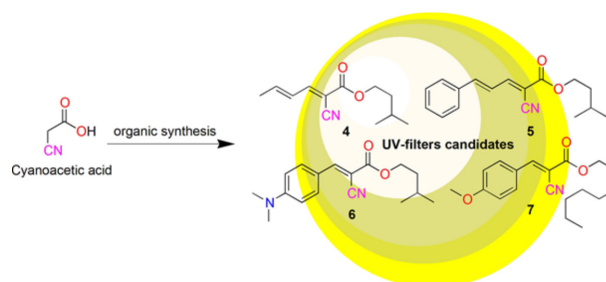


1004 Synthesis and evaluation of octocrylene-inspired compounds for UV-filter activity

Hudson C. Polonini, Rosângela S. Lopes, Adilson Beatriz, Roberto S. Gomes, Adriano O. Silva, Ricardo V. de Lima, Gláucia. A. Nunes, Marcos A. F. Brandão, Nádia R. B. Raposo and Dênis P. de Lima

Graphical Abstract

Compounds 4, 5, and 7 showed the best protection against UVB sunrays, while compounds 5, 6, and 7 presented the best results for protection from UVA, so compound 7 had the most balanced protection.

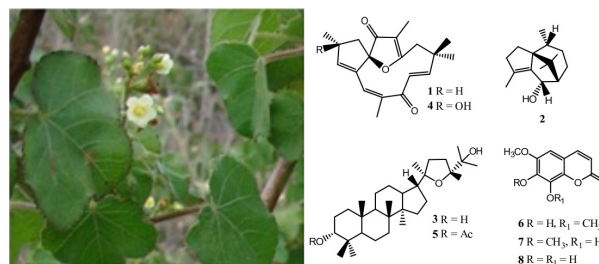


1010 Terpenoides e cumarinas de *Jatropha ribifolia* (Pohl) Baill

Pedro H. J. Batista, José R. M. de Andrade, Taynara S. Matos, Thiciana da S. Sousa, Francisco das C. L. Pinto, Edilberto R. Silveira, M^a Iracema B. Loiola e Otilia D. L. Pessoa

Graphical Abstract

Eight compounds, including terpenoids (jatrophone, hydroxyjatrophone, 6-hydroxycyperene, cabraleadiol monoacetyl, and cabraleadiol) and coumarins (fraxetin, fraxidin, and isofraxidin), were isolated from *Jatropha ribifolia* (Euphorbiaceae).



1015 In vitro radical-scavenging activity, toxicity against *A. salina*, and NMR profiles of extracts of lichens collected from Brazil and Antarctica

Luciana M. Ravaglia, Kerolayne Gonçalves, Nathália M. Oyama, Roberta G. Coelho, Adriano A. Spielmann and Neli K. Honda

Graphical Abstract

Extracts of lichens collected from Brazil and Antarctica were evaluated for their 2,2'-diphenyl-1-picrylhydrazyl (DPPH) free-radical scavenging activity and for their toxicity in *Artemia salina* bioassay. The composition of the extracts was determined using TLC and NMR, leading to the identification of nine compounds.

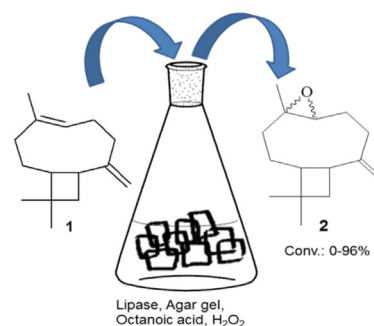


- 1022 Epoxidação do β -cariofileno com lipases imobilizadas em gel de ágar

Jaqueline M. R. da Silva e M^a da Graça Nascimento

Graphical Abstract

Lipases from various sources were immobilized in agar gel and the system used as a catalyst in the chemo-enzymatic epoxidation of β -caryophyllene under mild reaction



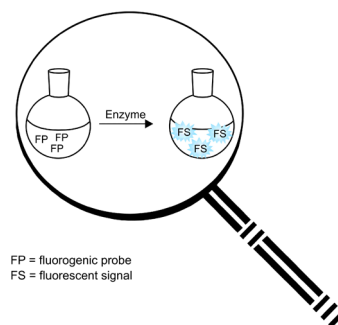
Revisão

- 1028 Monitorando atividades enzimáticas com sondas fluorogênicas

Caroline da C. S. Gonçalves e Anita J. Marsaioli

Graphical Abstract

Latent fluorogenic probes are chemical tools for the detection and understanding of enzymatic activities, providing real-time clues about complex biological processes.

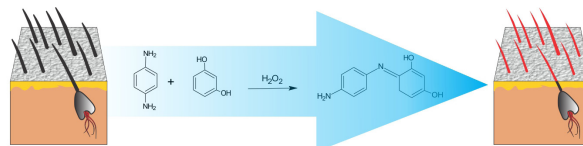


- 1037 A química e toxicidade dos corantes de cabelo

Ricardo A. G. de Oliveira, Thalita B. Zanoni, Guilherme G. Bessegato, Danielle P. Oliveira, Gisela A. Umbuzeiro e M^a Valnice B. Zanoni

Graphical Abstract

Reaction using the primary intermediate (p-phenyldiamine) and the coupler (resorcinol) in the presence of hydrogen peroxide, resulting in the formation of the dye Idoaniline, of red color.

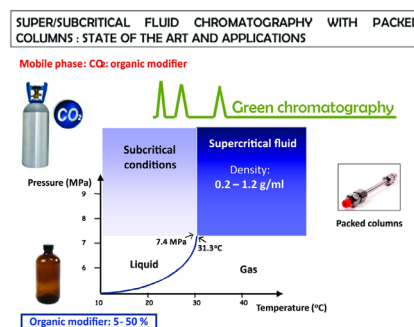


- 1047 Super/subcritical fluid chromatography with packed columns: state of the art and applications

Carla G. A. da Silva and Carol H. Collins

Graphical Abstract

Separations using super/subcritical fluid chromatography (SFC) with packed columns have been re-discovered and explored in recent years. SFC with the use of CO₂ and modifiers (5-50%) have been providing fast, efficient and greener separations.



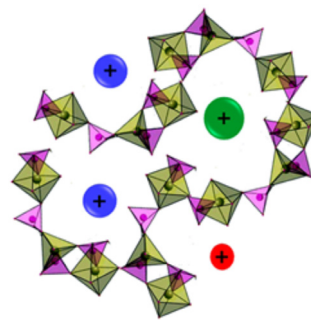
Nota técnica

- 1058 Inertization of small-scale chemical wastes using iron phosphate glass

João P. Gobbo, Dalva L. A. de Faria and José R. Martinelli

Graphical Abstract

The immobilization of heavy-metal wastes in iron phosphate glass decreases their release rate into the environment and constitutes an option for the management of hazardous metal residues produced on a small scale.

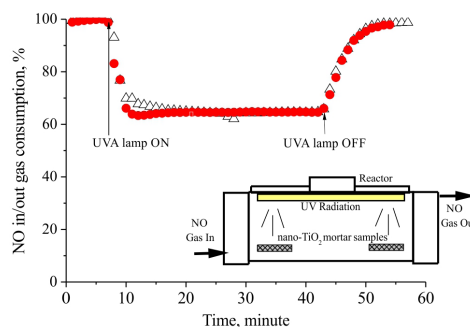


- 1063 Method for determining the photocatalytic potential of Portland cement mortar containing TiO_2 for decomposing the pollutant nitrogen monoxide

Marcelle M. Bonato, Mariana O. G. P. Bragança, Kleber F. Portella, Mateus E. Vieira, Eliseu Esmanhoto, Dailton P. Cerqueira and Jeannette C. M. dos Santos

Graphical Abstract

Photocatalytic decomposition of NO_x pollutants by mortars containing TiO_2 nanoparticles

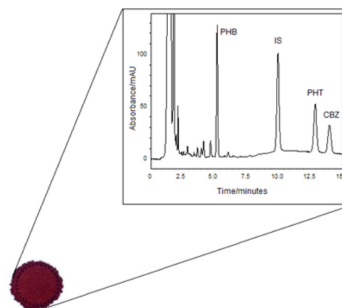


- 1067 Determinação simultânea de carbamazepina, fenitoína e fenobarbital em sangue seco em papel por cromatografia líquida de alta eficiência

Gabriela M. S. de Lima, Roberta Z. Hahn, Cristina Rama, Liliane Rhoden, Paulina Hidalgo, Cleber A. da Silva, Marina V. Antunes e Rafael Linden

Graphical Abstract

The antiepileptic drugs phenobarbital, phenytoin and carbamazepine were extracted from a single blood spot on paper and simultaneously determined by HPLC-DAD.



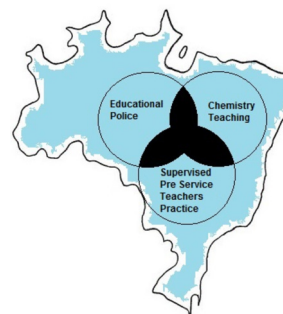
Educação

- 1072 Diretrizes para a formação de professores da educação básica em interface com a Licenciatura em Química: em contexto as possibilidades formativas

Nyura A. da S. Mesquita e Márlon H. F. B. Soares

Graphical Abstract

The improvement in chemistry teacher training involves discussions that interrelate educational policies, supervised stage, and chemistry teaching in undergraduate courses in Brazilian context.

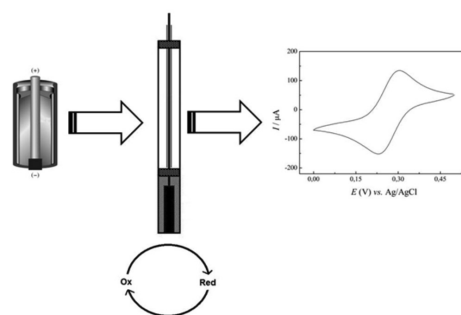


- 1078 Construção de eletrodo de grafite retirado de pilha comum:
aplicações didáticas

José A. F. Baio, Luiz A. Ramos e Éder T. G. Cavalheiro

Graphical Abstract

Voltammetric electrodes were prepared using recycled graphite obtained from exhausted commercial 1.5 V batteries and its application in electroanalysis with didactic purposes is described in several simple laboratory experiments.



- 1085 Avaliação da “microverdura” de sínteses com a estrela verde

Rita C. C. Duarte, M^a Gabriela T. C. Ribeiro e Adélio A. S. C. Machado

Graphical Abstract

The separate evaluation of the steps of the synthesis (reaction, isolation and purification) for several protocols with the green star (GS) allows reaching an optimized protocol from information on the greenness of each step.



Assuntos Gerais

- 1094 Bateria de métricas para avaliação da verdura material de
reações de síntese

Adélio A. S. C. Machado

Graphical Abstract

A battery of three hierachized metrics (atomic economy, AE, reaction mass efficiency, RME, and mass intensity, MI) is presented for evaluation of the material greenness of synthesis reactions, which involves two components: AE and RME evaluate the atomic greenness (incorporation in the product of the atoms from reagents) and MI evaluates the global mass greenness.

