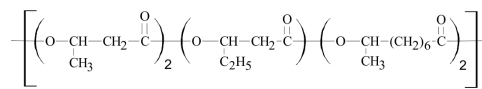


- 1111 Produção e caracterização de polihidroxialcanoatos obtidos por fermentação da glicerina bruta residual do biodiesel

Tamiris V. B. Figueiredo, Márcio I. Campos, Luciane S. Sousa, Jaff R. da Silva e Janice I. Druzian



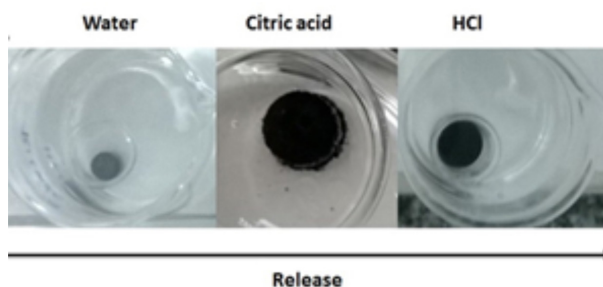
Poly(3-hydroxybutyrate)-co-(3-hydroxypentanoate)-co-(8-hydroxynonanoate)

Graphical Abstract

The schematic representation is a possible chemical composition of PHAs produced by fermentation of GBRB in shake flasks (35 °C, 72 h, 180 rpm) by *Cupriavidus necator* IPT 026.

- 1118 Estudo da liberação controlada do herbicida ametrina em compósitos à base de PVA – carvão ativado

Ricardo Bortoletto-Santos e Caue Ribeiro

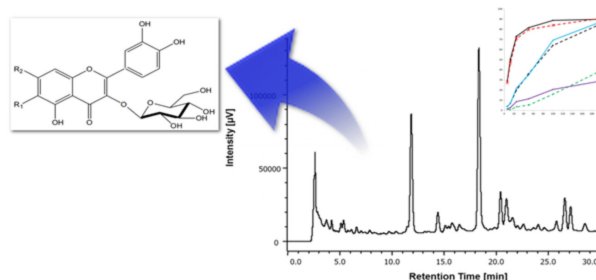


Graphical Abstract

Herbicide release was shown to be dependent on medium pH: in release tests using different pHs, medium acidification accelerated release and tablet deformation according to acid strength.

- 1122 HPLC-DAD based method for the quantification of flavonoids in the hydroethanolic extract of *Tonina fluviatilis* Aubl. (Eriocaulaceae) and their radical scavenging activity

Marcelo R. de Amorim, Daniel Rinaldo, Fabiano P. do Amaral, Wagner Vilegas, Mara A. G. Magenta, Gerardo M. Vieira Jr. and Lourdes C. dos Santos

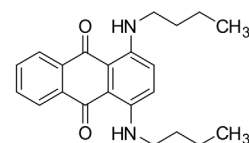


Graphical Abstract

This article describes the development of a HPLC-DAD based method for the isolation, identification, and quantification of three flavonoids in the hydroethanolic extract of the aerial parts of *Tonina fluviatilis* and evaluation of their radical scavenging activity by a DPPH based assay.

- 1128 Spectrophotometric determination of Sudan Blue II in environmental samples after dispersive liquid-liquid micro-extraction

Yunus E. Unsal, Mustafa Tuzen and Mustafa Soylak



Sudan Blue II

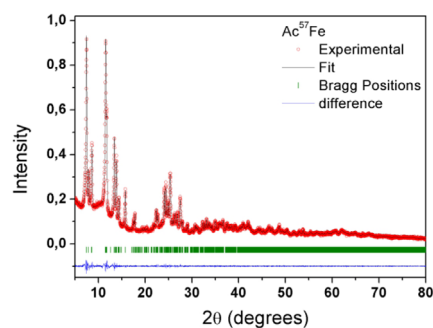
Graphical Abstract

A dispersive liquid-liquid microextraction procedure coupled to spectrophotometry is described for the determination of the trace levels of Sudan Blue II.

- 1132 Síntese, liofilização e caracterização de acetato de $^{57}\text{Fe}(\text{III})$
 Antônio O. de Souza, Valdecir Biondo, Paulo W. C. Sarvezuk, Jusmar V. Bellini, Pedro R. Anizelli, Dimas A. M. Zaia e Andrea Paesano Jr.

Graphical Abstract

X-ray diffraction (refined with the program FullProf / routine Le Bail) for iron(III) 57 acetate, formula $[\text{}^{57}\text{Fe}_3\text{O}(\text{CH}_3\text{COO})_6(\text{H}_2\text{O})_3]\text{CH}_3\text{COO}$ or Ac^{57}Fe , showed that the space group that best refines the X-ray diffraction pattern of the compound is $\text{C}2/c$.



- 1138 Atividade antibacteriana *in vitro* e toxicidade frente à *Artemia salina* Leach. de alguns compostos triazenos
 Gustavo L. Paraginski, Claiton R. Berticelli, Priscilla J. Zambiasi, Vanessa T. K. Paraginski, Manfredo Hörner, Aline J. R. W. A. dos Santos e Rosmari Hörner

Graphical Abstract

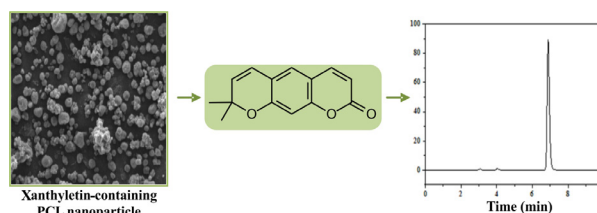
Six diaryltriazene compounds bearing different substituent groups were tested for antibacterial activity and toxicity toward *Artemia salina*. MIC results were good to very good, in the range 8 to 128 $\mu\text{g mL}^{-1}$. Toxicity was about 10-fold lower than DTIC for three compounds.



- 1145 Development and validation of a RP-HPLC method to determine the xanthyletin content in biodegradable polymeric nanoparticles
 Cristiane de M. Casal, Moacir R. Forim, M^a Fátima G. F. da Silva, Paulo C. Vieira and João B. Fernandes

Graphical Abstract

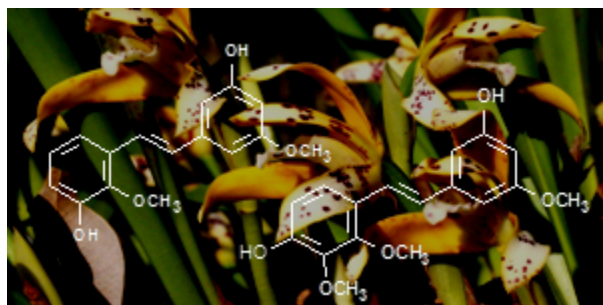
A rapid analytical method using HPLC for the quantification of xanthyletin content in biodegradable polymeric nanoparticles has been developed and validated.



- 1151 Estudo químico e atividades antiproliferativa, tripanocida e leishmanicida de *Maxillaria picta*
 Thiago L. de Almeida, Josiane A. Monteiro, Greice K. P. Lopes, Lucas U. R. Chiavelli, Silvana M. de O. Santin, Cleuza C. da Silva, Vanessa Kaplum, Débora B. Scariot, Celso V. Nakamura, Ana L. T. G. Ruiz, João E. Carvalho, Ricardo T. de Faria e Armando M. Pomini

Graphical Abstract

Chemical study of the orchid *Maxillaria picta* allowed the isolation of the bioactive stilbenes phoyunbene B and phoyunbene C, which were evaluated for anticancer activity against human tumor cell lines and against evolutionary forms of *T. cruzi* and *L. amazonensis*.

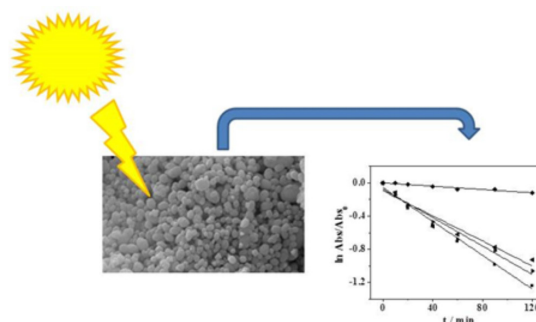


- 1158 Vanadato de bismuto sintetizado por combustão em solução na presença de diferentes combustíveis: síntese, caracterização e estudo da atividade fotocatalítica

Jéssica A. Serafim, Renata Afonso, Adriana C. Lucilha, Lucas A. de Oliveira, Paulo R. C. da Silva, Marcelo R. da Silva, Elen R. Sartori e Luiz H. Dall'Antonia

Graphical Abstract

Bismuth vanadate, a semiconductor, when irradiated with visible light promotes discoloration of dyes leading to a decrease in their concentration as a function of irradiation time.

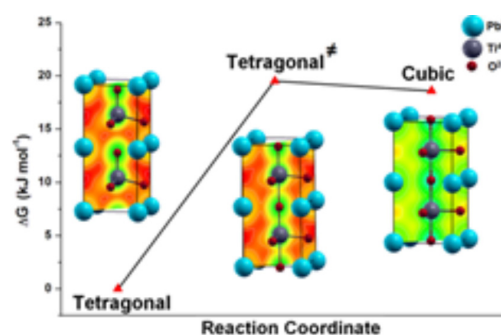


- 1165 Theoretical investigations of the bulk modulus in the tetra-cubic transition of PbTiO_3 material

Renan A. P. Ribeiro and Sergio R. de Lázaro

Graphical Abstract

Density functional theory B3LYP investigations of the pressure-induced phase transition of PbTiO_3 material revealed that the transition state of this process displayed a tetragonal symmetry, and spontaneous polarizations changed under pressure.

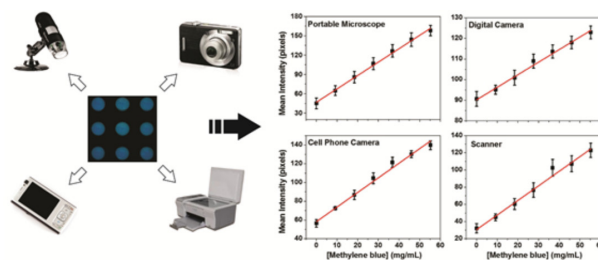


- 1171 Avaliação de dispositivos de captura de imagens digitais para detecção colorimétrica em microzonas impressas

Fabício R. de Souza, Gerson F. Duarte Junior, Paulo de T. Garcia e Wendell K. T. Coltro

Graphical Abstract

This report describes a study about the feasibility of using a conventional digital camera, a cell-phone camera, an optical microscope, and a scanner as digital image capture devices for colorimetric measurements in laser-printed microzones on transparency films.

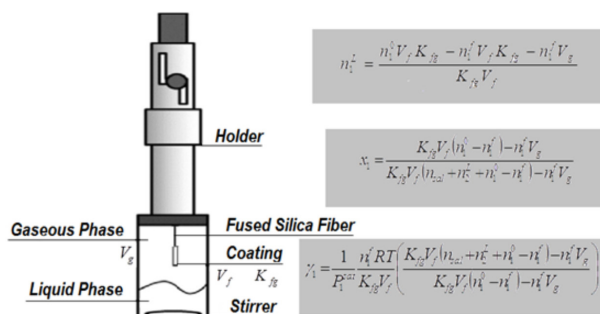


- 1177 Determinação do coeficiente de atividade na diluição infinita em sistemas etanol-água-sal por microextração em fase sólida-GC-FID

Andrew M. Elias, Filipe A. Furtado e Gerson L. V. Coelho

Graphical Abstract

Schematic representation of a closed system containing a liquid phase, a gaseous phase, and fiber-coating phase. SPME is a technique for extraction and concentration of analytes for posterior analysis on analytical equipment such as GC or HPLC.

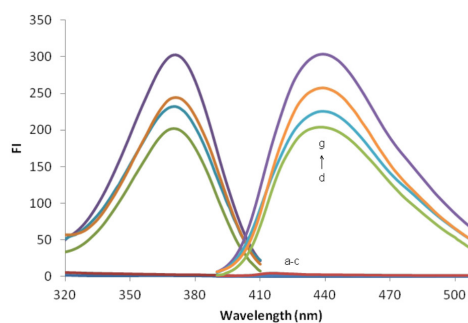


- 1182 Determination of triamterene in human plasma and urine after its cloud point extraction

Ahad B. Tabrizi, Sana Naini, Kosar Parnian, Samin Mohammadi, Fayeze Emami zad, Samira P. Anvarian and Ali Abdollahi

Graphical Abstract

Cloud point extraction combined with spectrofluorimetric detection was used to extract and determine triamterene in human urine samples, and was found to be a promising method for monitoring drugs for pharmaceutical and clinical purposes.

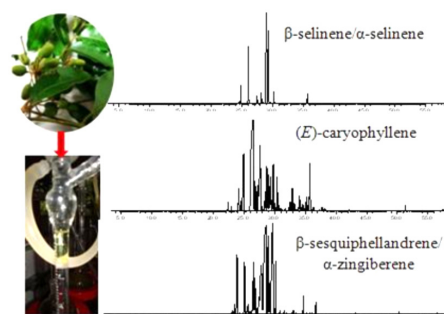


- 1188 Variation of essential oil composition of *Tapirira guianensis* Aubl. (Anacardiaceae) from two sandbank forests, North of Brazil

M^a das Graças B. Zoghbi, Raimunda A. Pereira, Giselle do S. L. de Lima and M^a de Nazaré do C. Bastos

Graphical Abstract

Leaves and branches of *Tapirira guianensis* (Anacardiaceae) afforded three different types of oils: I) β -selinene/ α -selinene, II) (*E*)-caryophyllene, and III) β -sesquiphellandrene/ α -zingiberene. This is the first report on the volatiles of this tree.

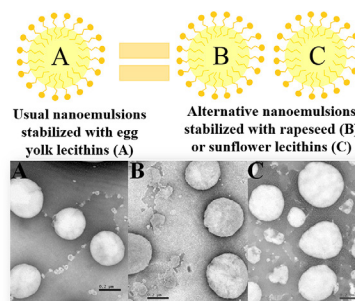


- 1193 Physicochemical properties of lecithin-based nanoemulsions obtained by spontaneous emulsification or high-pressure homogenization

Roselena S. Schuh, Fernanda Bruxel and Helder F. Teixeira

Graphical Abstract

Nanoemulsions stabilized by rapeseed or sunflower lecithins demonstrated similar physicochemical properties to the egg lecithin-based formulations obtained by spontaneous emulsification or high-pressure homogenization procedures.



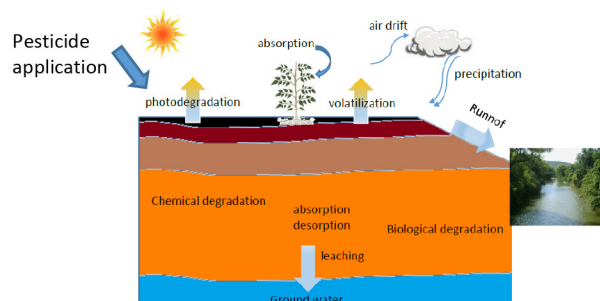
Revisão

- 1199 Avaliação de risco ambiental de ambientes aquáticos afetados pelo uso de agrotóxicos

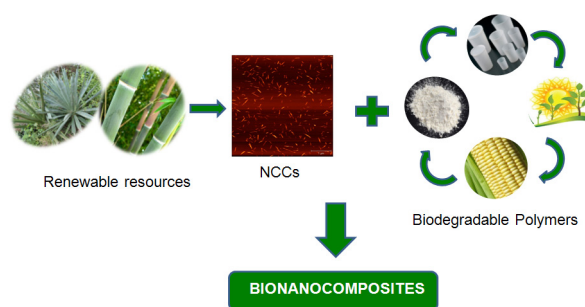
Rafaela M. Rebelo e Eloisa D. Caldas

Graphical Abstract

The environmental fate of pesticides depends on its physical-chemical properties, application method, soil characteristics and climate. The pesticide can reach the ground water and contaminate river and lakes, affecting the living organisms.



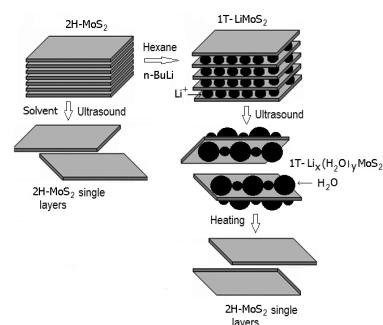
- 1209 Bionanocompósitos preparados por incorporação de nanocristais de celulose em polímeros biodegradáveis por meio de evaporação de solvente, automontagem ou eletrofiliação
Fabiano V. Pereira, Everton L. de Paula, João P. de Mesquita, Alessandra de A. Lucas e Valdir Mano



Graphical Abstract

An alternative to improve the properties of biodegradable polymers is the development of nanocomposites using biodegradable nanoparticles obtained from renewable resources.

- 1220 Dissulfeto de molibdênio, um material multifuncional e surpreendente: doze anos depois
Fernando Wypych

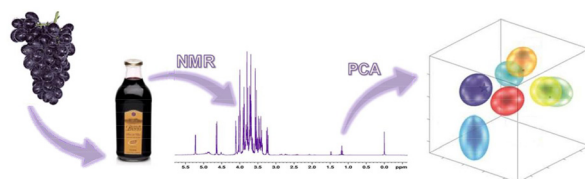


Graphical Abstract

2H-MoS₂ having a layered structure is able to be exfoliated through several chemical or physical methods and the obtained single layers can be used in several branches of science and technology.

Nota Técnica

- 1227 Grape juice quality control by means of ¹H NMR spectroscopy and chemometric analyses
Caroline W. P. da S. Grandizoli, Francinete R. Campos, Fabio Simonelli and Andersson Barison



Graphical Abstract

Grape Juice Quality Control by Means of ¹H NMR Spectroscopy and Chemometric Analyses.

- 1233 Medição e interpretação de valores do potencial redox (E_H) em matrizes ambientais
Wilson F. Jardim

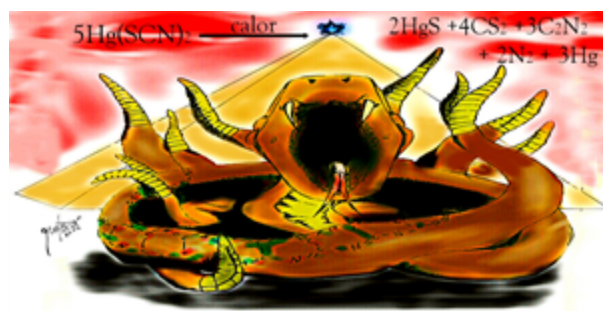
Educação

- 1236 “Serpentes de Faraó” – a história de uma brincadeira pirotécnica e sua aplicabilidade no ensino de princípios químicos básicos

Marcius A. Ullmann, Wilhelm M. Wallau, Daniela Bianchini, Andressa da C. Schneid e Lara M. P. Montenegro

Graphical Abstract

Would you like to make serpent eggs which vivify? These eggs are basically comprised of sugar and sodium bicarbonate. In the past, mercuric thiocyanate was used for this experiment and its decomposition had generated ash very more times longer than the eggs. Interesting, yet toxic.

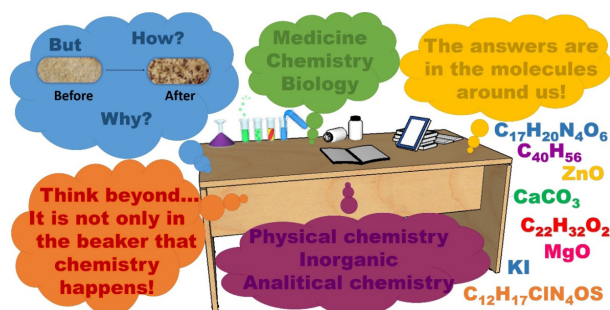


- 1244 Alterações em medicamentos mal acondicionados: uma estratégia para desenvolver habilidades investigativas, comunicação científica e interdisciplinaridade nas aulas de química

Jaqueline R. Maluta

Graphical Abstract

The physical alterations in poorly stored drugs represented in the picture were the framework by which several questions were raised. Thus, undergraduate students have to connect all the information, and investigate and test their hypotheses to solve the problem.

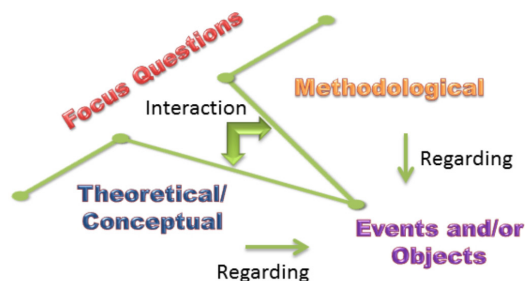


- 1249 Uso de diagrama V modificado como relatório em aulas teórico-práticas de Química Geral

M^a Fernanda C. Mendonça, Márcia R. Cordeiro e Keila B. Kiill

Graphical Abstract

This work proposes the use of the modified V diagram as a report in practical classes of general chemistry to assist students in establishing relationships between theoretical/conceptual and methodological knowledge concerning objects and/or events studied.



Assuntos Gerais

- 1257 Química Verde: a evolução de um conceito

Eduardo F. Sousa-Aguiar, João M. A. R. de Almeida, Pedro N. Romano, Rodrigo P. Fernandes e Yuri Carvalho

Graphical Abstract

The topic “Green Chemistry” has gained great importance over recent years, being quoted in an increasing number of publications. This fact shows how concern over developing “greener” processes has played a prominent role in the scientific community.

