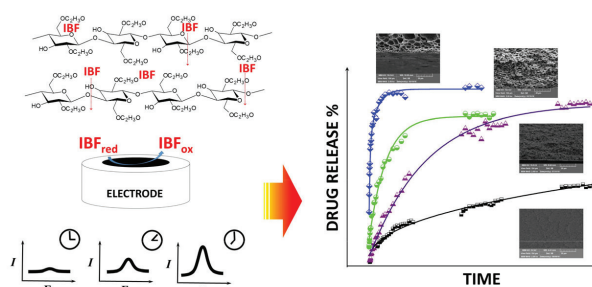


- 823 Avaliação do perfil de liberação do fármaco ibuprofeno em membranas simétricas e assimétricas de acetato de celulose: efeito da morfologia

Marcos V. Ferreira, Lauro A. Pradela Filho, André L. dos Santos, Regina M. Takeuchi e Rosana M. N. de Assunção

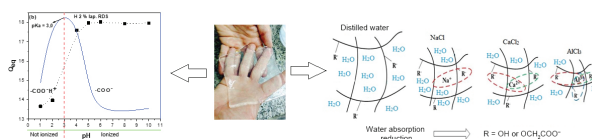
Cellulose acetate (CA) membranes with different morphologies - symmetric and asymmetric - were loaded with ibuprofen (IBF) and showed the effect of morphology on the drug releasing curves. These curves were directly obtained by square-wave voltammetry (SWV) measurements.



- 831 Efeito do pH, espécie e concentração iônica na absorção de água de hidrogéis bionanocompósitos constituídos de CMC/PAAm/Laponita RDS

João A. F. Garcia, Márcia R. de Moura, Fauze A. Aouada

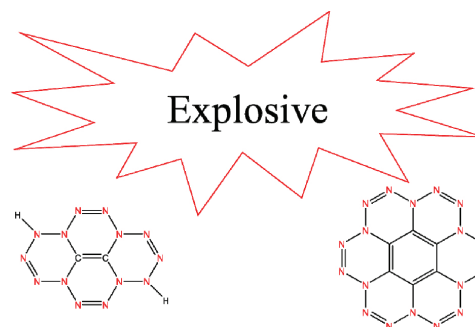
This paper presents the detailed study of the effects of pH, intensity and ionic species on the mechanism of water absorption of the bionanocomposite hydrogels based on carboxymethylcellulose and laponite nanoclay.



- 838 Theoretical studies on the new high-nitrogen explosives N14 and N18

Jifeng Chen, Yi Yu, Yuchuan Li and Siping Pang

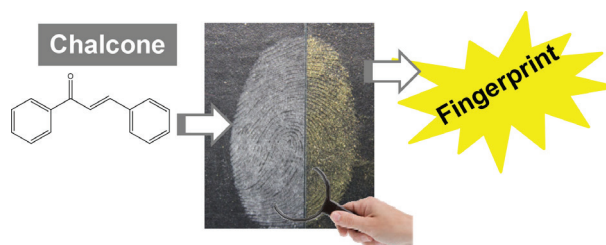
Two novel explosives have an excellent power, and their detonation performance are all comparable to CL-20. Besides, their impact sensitivities are slightly better than CL-20, therefore they are promising candidates in energetic materials.



- 845 Desenvolvimento de metodologia de revelação de impressão digital latente com chalconas

Jaqueline D. Balsan, Bruno N. Rosa, Claudio M. P. Pereira e Clarissa M. M. Santos

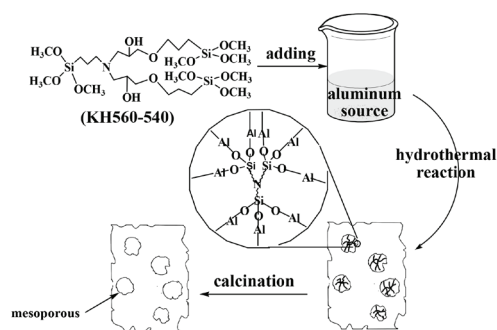
The synthesized chalcones represent as promising and new class of latent fingerprint powder developers as alternative and ecologically correct.



851 Synthesis of mesoporous  $\gamma$ -alumina and its catalytic performance in dichloropropanol cyclization

Huimin Yang, Ruyue Han and Fuxiang Li

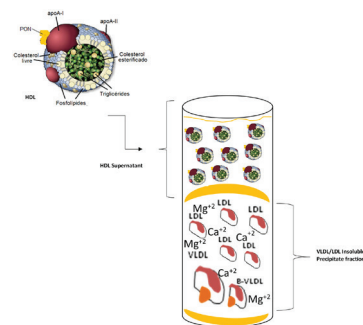
Use KH560-540 as a template to synthesize mesoporous alumina, before the calcination, the methoxy group at the end of the template molecule is hydrolyzed to form a siloxy group, which combines with the aluminumoxy group produced by hydrolysis of aluminum source.



859 HDL-particles separation employing different precipitating agents: functional properties of the impact of chemical precipitation on lipoprotein particle-size and paraoxonase-1-activity

Vanessa R. A. e Silva, Elaine C. Albuquerque, Ana Paula C. dos Santos, Julio C. A. Santos, Lazaro S. S. Junior, William A. Presada, Carmen G. C. de M. Vinagre and Ricardo D. Couto

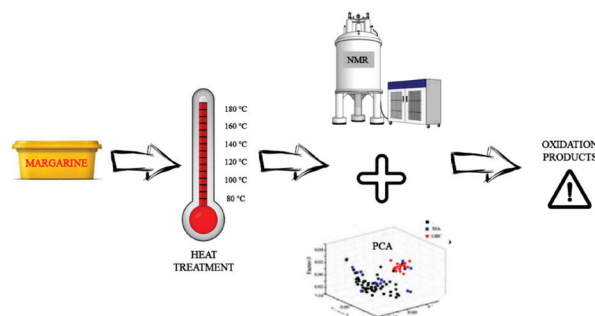
Three different precipitating solutions were tested for HDL particle-size determination: polyethylene glycol (PEG) 8000 (200 g L<sup>-1</sup>) (P1); phosphotungstic acid-Ca<sup>2+</sup> (3 g L<sup>-1</sup>) (P2); and dextran sulfate/MgCl<sub>2</sub> (15 g L<sup>-1</sup>) (P3).



866 Foodômica por RMN de <sup>1</sup>H para monitoramento da estabilidade oxidativa de margarinas submetidas ao tratamento térmico

Vinícius S. Pinto, Anna K. Nery e Luciano M. Lião

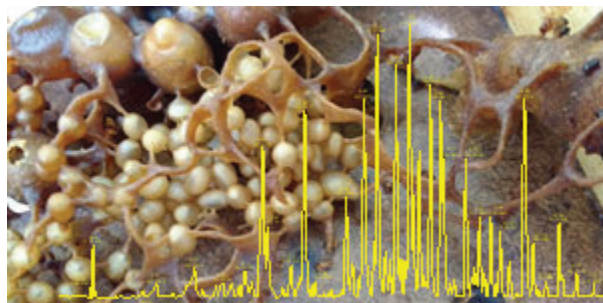
Use of NMR and PCA in the identification of oxidation products in brazilian margarines subjected to thermal stress.



874 Análises melissopalínológicas, físico-químicas, atividade antirradicalar e perfil químico por UPLC-DAD-qTOF-MS/MS dos méis de *Frieseomelitta doederleini* (abelha branca): comparação com os fenólicos presentes nas flores de *Mimosa tenuiflora* (jurema preta)

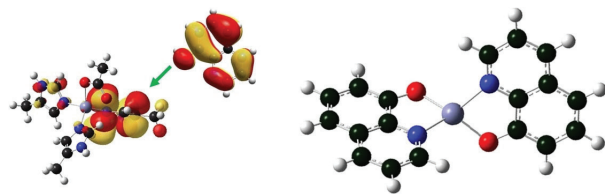
Rogelio M. Santisteban, Sonia P. Cabrera, José F. Neto, Eva M. S. Silva, Rebert C. Correia, Rodolfo F. Alves, Francisco de A. R. dos Santos, Celso A. Camara e Tania M. S. Silva

*Frieseomelitta doederleini* (abelha branca) bee nest. ESI base peak ion (BPI) chromatogram of phenolics extracted from *Frieseomelitta doederleini* honey bee and analyzed by UPLC-QTOF-MS.



- 885 Estudo eletrônico da reatividade da 8-hidroxiquinolina substituída frente ao sítio de ligação do peptídeo  $\gamma$ -amilóide ao íon zinco

*Talis U. Silva e Sérgio de P. Machado*

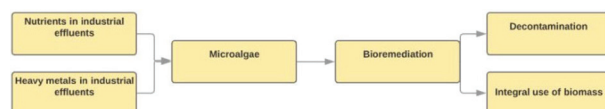


Removing process Zn<sup>2+</sup> in A $\beta$  peptide bind site: interaction of 8-HQ derivative HOMO orbital with ZnA $\beta$  site LUMO orbital.

## Revisão

- 891 Biorremediação de efluentes por meio da aplicação de microalgas – uma revisão

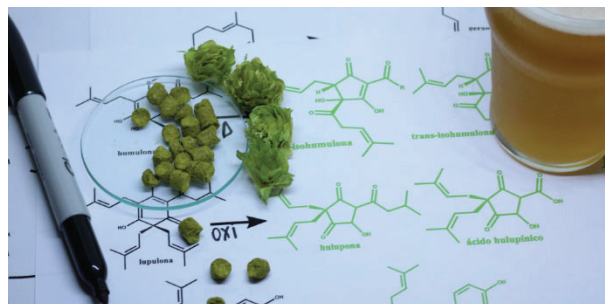
*Guilherme Dias, Matheus Hipólito, Fernando Santos, Rogério Lourega, Jaqueline de Mattia, Paulo Eichler e Jonathan Alves*



Bioremediation of industrial effluent using microalgae.

- 900 Química do lúpulo

*Renato S. Durello, Lucas M. Silva e Stanislaw Bogusz Jr.*

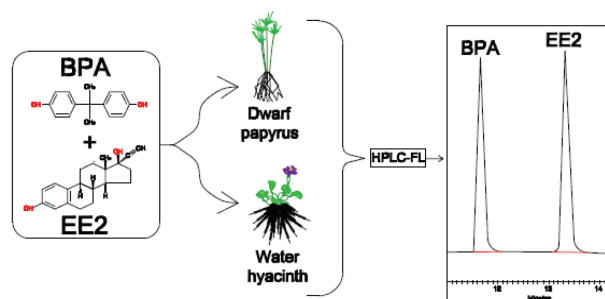


In this scientific paper we present a critical and comprehensive review about hop chemistry and their role in the brewing process.

## Nota Técnica

- 920 Desenvolvimento e validação de método para determinação de bisfenol A e etinilestradiol em aguapé e mini-papiro provenientes de wetlands construídas

*Julyenne M. Campos, Denis M. Roston e Sonia C. N. Queiroz*

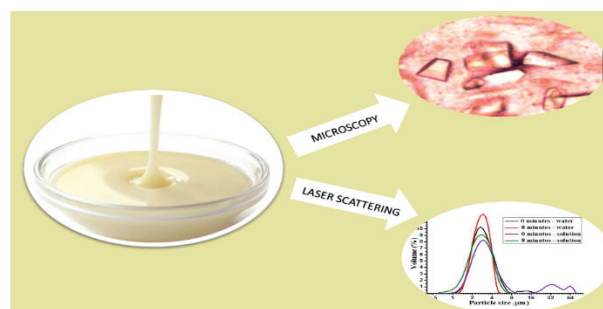


Analysis of bisphenol A (BPA) and ethinylestradiol (EE2) in Dwarf papyrus and Water hyacinth by high performance liquid chromatography (HPLC) coupled to fluorescence detector (FL).

- 928 Water versus lactose solution as a dispersion medium for particle analysis in sweetened condensed milk by laser diffraction

João P. F. Pereira, Igor L. de Paula, Rodrigo Stephani, Ítalo T. Perrone, Luiz F. C. de Oliveira and Antonio F. de Carvalho

The sweetened condensed milks were analyzed by microscopy (usual method) and by laser particle size analysis using two different dispersion media (water and a lactose solution) and different solubilization times to seek the characterization of the samples using the laser scattering.

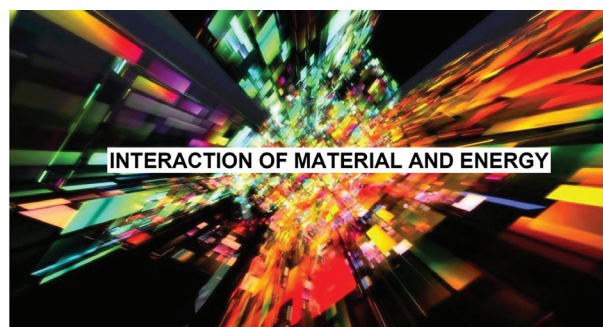


## Educação

- 932 Cambio en los modelos conceptuales escolares sobre la interacción materia y energía en un entorno ciencia tecnología sociedad y ambiente

John J. Bermúdez Loaiza, Francisco J. Ruiz Ortega y Milton Rosero-Moreano

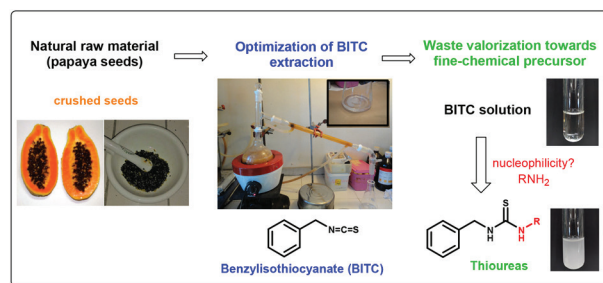
The matter and energy interaction, used as didactic mediation in the high school learning could promote the better acquisition level of knowledge among the students by facilitating the spectroscopy understanding within a Science, Technology, Environment and Society pedagogical framework.



- 940 Revisiting the nucleophilicity concept in a comprehensive biomass valorization experiment: from papaya seeds to thiourea motifs

Raquel V. dos Santos, Gil M. Viana, Anderson F. S. Moreira, Vitor S. Nóbrega, Vitor A. S. da Silva, Luiz F. B. Malta, Lucia C. S. Aguiar and Jaqueline D. Senra

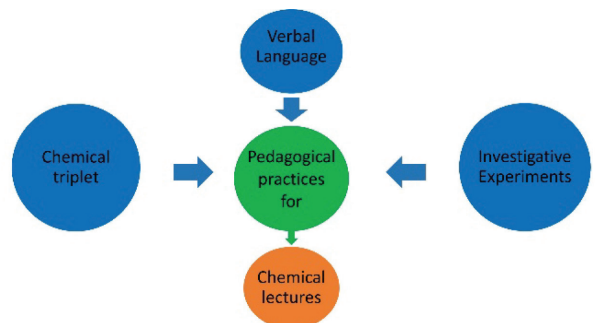
The use of raw material from papaya seeds was introduced as a strategy to attract the students' attention towards the biomass valorization while acquiring knowledge in research skills in the context of nucleophilic addition reactions.



- 947 Proposições didáticas para o formador químico: a importância do tripote químico, da linguagem e da experimentação investigativa na formação docente em química

Roseli P. Schnetzler e Thiago Antunes-Souza

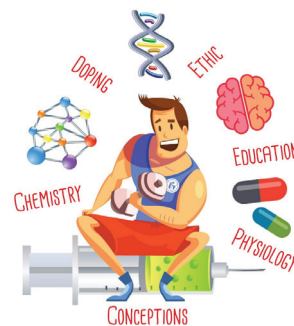
Pedagogical Practices based on: i) the articulation of the three levels of chemical knowledge, ii) the importance of verbal language in chemistry teaching-learning processes and iii) the role of investigative experiments for exploring students' ideas.



- 955 El dopaje deportivo como cuestión socialmente viva: una revisión bibliográfica

*Yair A. Porras-Contreras y Juan A. Torres-Aranguren*

The aim of this study is to analyze the concept of Sports Doping in a sample of scientific journals, published during the period 2008-2018, in order to recognize its scope in the educational field.



- 962 Aplicação de condimentos na revelação de impressões digitais latentes: um experimento no ensino de química

*Caroline Nicolodi, Bruno N. da Rosa, Caroline C. da Silva, Lucas M. Berneira, Bruna S. Pacheco, Tais Poletti, Dalila Venzke, Kristiane C. Mariotti e Claudio M. P. Pereira*

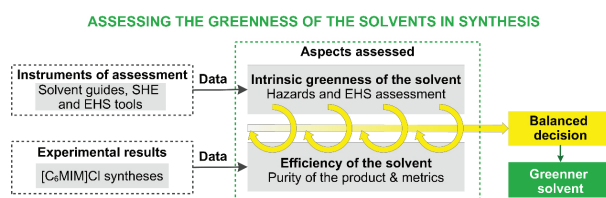
This paper showed an experimental methodology for the extraction and chromatographic analysis of food spices and the possibility of applying them as latent fingerprints developers. This procedure can be successfully applied in undergraduate chemistry classes.



- 971 O desafio na escolha dos solventes em síntese – o *workup* como exemplo

*José R. M. Pinto, M<sup>a</sup> Gabriela T. C. Ribeiro e Adélio A. S. C. Machado*

Assessing the substitution of solvents in synthesis with respect to their intrinsic greenness and their influence on the chemical reaction greenness.



- 983 Students building didactic experiments as a tool for teaching unit operations and process control for chemistry technicians

*Rodrigo Battisti, Grazielle V. B. Possenti, Ana P. Figueiredo and Marcelo Dal Bó*

Heat exchanger; Adsorption; Humidification; Drying; Planning; Building; Experiment.



