# química nova

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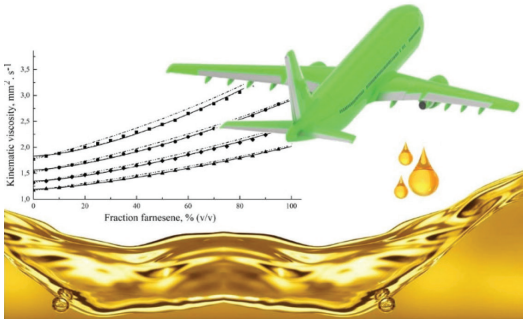
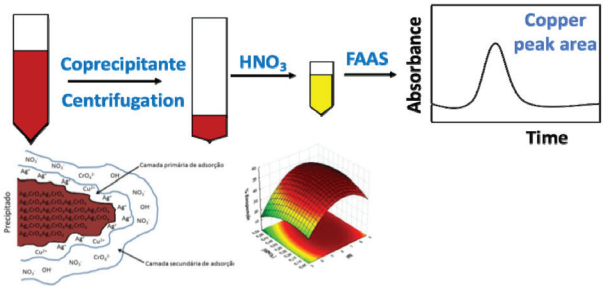
## *Artigo*





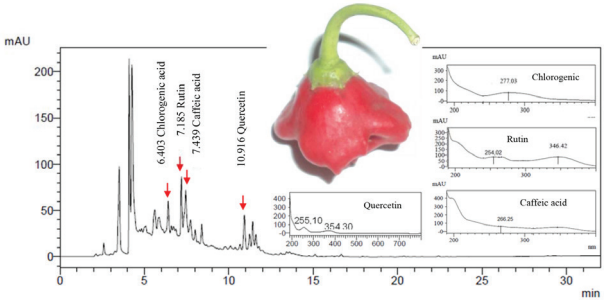

The graph shown in the figure is inserted in the context of the article, the graph represents the path traveled by green aircraft that cares about the environment, driven by a drop-in biofuel. The aircraft is crossing a sea of biokerosene.





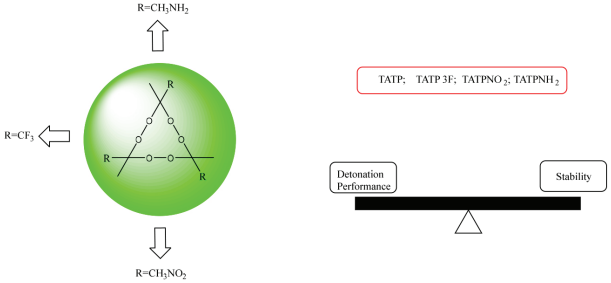

- Multivariate optimization of analytical methods.
- Silver chromate as coprecipitant copper separation and preconcentration.
- Determination of copper in water samples by FAAS.






Compounds from the ethanolic extract of pepper fruit *Capsicum baccatum* var. *pendulum* identified by High-Performance Liquid Chromatography (HPLC).

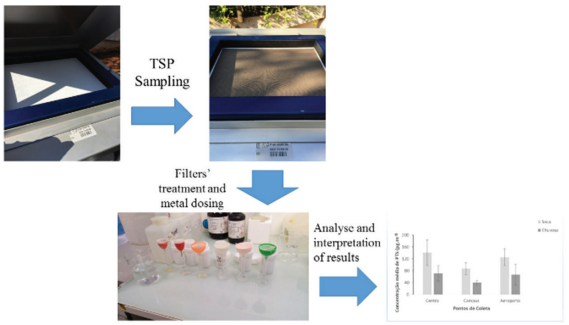





Stability and detonation performance of derivatives of Triacetonetriperoxide were investigated. Results show that $TATPNO_2$ is a candidate of novel high energy density materials.

28 Avaliação espacial e sazonal das concentrações de partículas totais em suspensão e elementos metálicos associados no ar de uma cidade do sudeste brasileiro

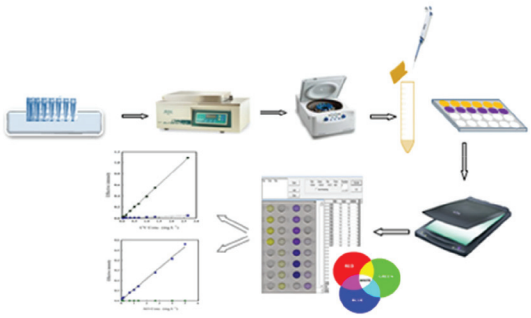
*Gabriel P. Machado, Renato I. S. Alves, Ana P. M. S. Senhuk, Brisa M. Fregonesi, Guilherme S. Zagui, Martí Nadal, Jordi Sierra, Josep L. Domingo e Susana I. Segura-Muñoz*




This study evaluated the concentrations of TSP and metals in the air of Ribeirão Preto city. Spatial differences were found between some metals, but seasonal differences were found between TSP and the most of the elements.

36 Development of Cloud Point Extraction-Scanometry, for the preconcentration and determination of colorless species: application for the determination of phenylalanine

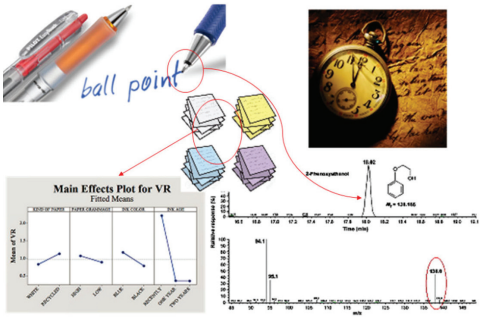
*Ardeshir Shokrollahi and Masuod Refahi*



CPE-scanometry is applied for the determination of Phenylalanine amino acid. The extracted phase was diluted with alkali ethanol and transfered to a special cell. The cells containing the analyte solution were scanned with a scanner, then the color of each cell was analyzed, by software written in Visual Basic (VB 6), to obtain the red, green and blue values.

42 Figures of merit evaluation of GC/MS method for quantification of 2-phenoxyethanol from ballpoint pen ink lines and determination of the influence of support paper on solvent extraction

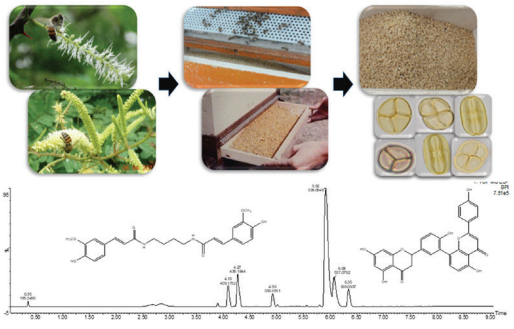
*Carina Mª B. de Carvalho, Rafael S. Ortiz e Renata P. Limberger*



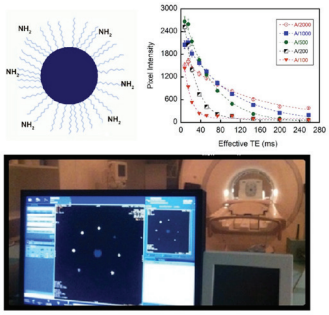

The ballpoint pen ink ageing can be used to date questioned documents. One way to evaluate the ageing is the quantification of volatile components as 2-phenoxyethanol. This paper concerned about GC/MS method evaluation of merit figures and the influence of different kinds of paper sheets in the quantification of 2-phenoxyetanol, using Full Factorial Design.

49 Composição química, atividade antiradicalar e antimicrobiana do pólen apícola de Fabaceae

*Francisco R. L. Caldas, Francisco Augusto Filho, Heberty T. Facundo, Rodolfo F. Alves, Francisco de A. R. dos Santos, Girliane R. da Silva, Celso A. Camara e Tania M. S. Silva*

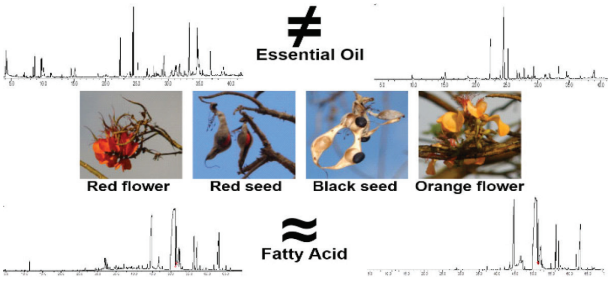


The bees *Apis mellifera* visit species of Fabaceae. Pollen is acquired in hives and palynological analysis shows the botanical pollen types. The chemical constituents for the Fabaceae pollen bee were identified.




We describe a biocompatible nanoparticle system with a magnetic core coated with dextran. The coating was also crosslinked, grafted with amino groups and conjugated with a fluorophore, allowing magnetic resonance contrast action.

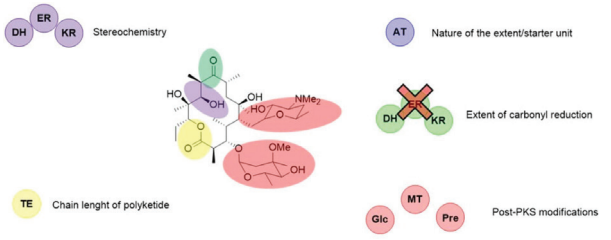





*Erythina velutina* occurs with chromatic variations in its seeds and flowers on Fernando de Noronha Island. Chemical analysis revealed significant differences in the chemical profile of the essential oils between the red and orange flowers, whereas the fatty acid profile of the red and black seeds was similar.

## Revisão

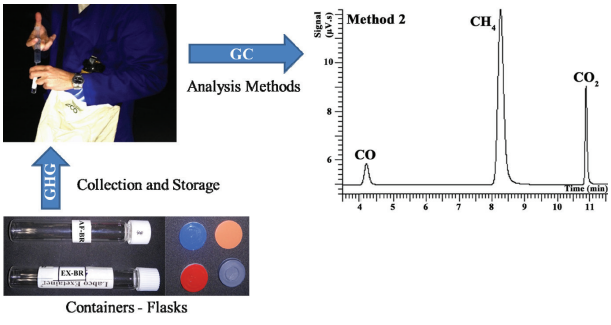





Prospects in genetic engineering of enzymes, modules and domains from polyketides megasynthases results in structural diversity on natural products.

## Nota Técnica

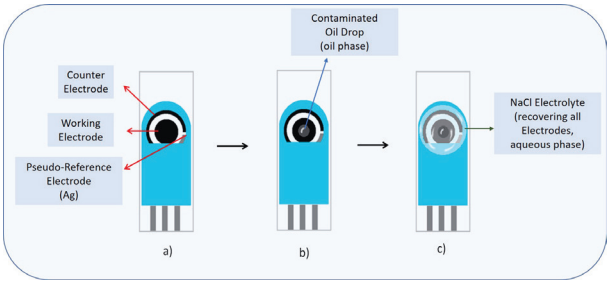





Methanator-GC-FID analysis of low level of CO in presence of $O_2$ need meticulous evaluation. Sample stability and container reusability indicated borosilicate flask with butyl rubber and PTFE/silicone septa sampler as more appropriate for storing GHG and CO samples.

95 Metodologia para detecção eletroquímica qualitativa de compostos orgânicos em interfaces petróleo/água

*Roberval A. Silva, Rejane M. P. Silva, Keyla T. Santos, Tatiana S. Araujo, Alexandre C. Alcântara e Hugo B. Suffredini*

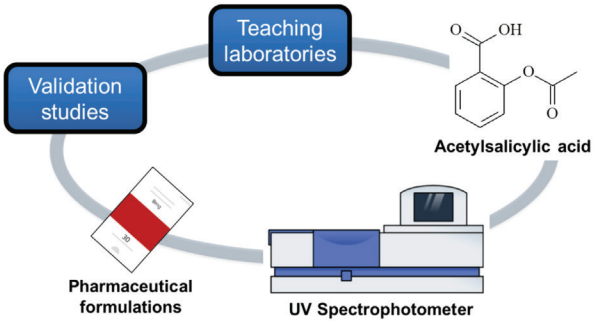



Experimental scheme of the detection of petroleum using oil/water interfaces with an electrochemical approach.

## Educação

99 Validação de método espectrofotométrico de análise para a quantificação de ácido acetilsalicílico em formulações farmacêuticas: uma proposta de aula experimental para análise instrumental

*Enock J. A. Goes Junior, Jakson S. Roeder, Kaiky B. L. Oliveira, Mateus P. Ferreira e Jonatas G. da Silva*




Validation of a simple, precise, accurate, rapid and low-cost UV spectrophotometric method for quantification of acetylsalicylic acid in pharmaceutical formulations for experimental activities on teaching laboratories.

## Assuntos Gerais

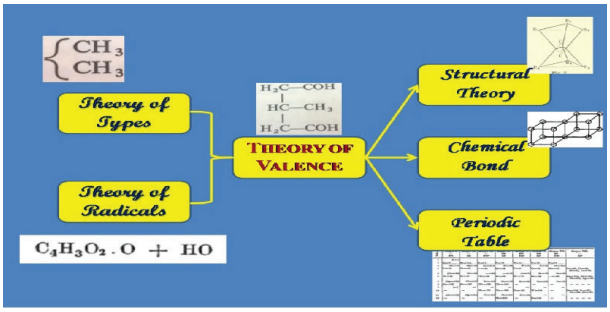
105 A busca por chumbo e prata em minas gerais como alternativa às esgotadas minas de ouro e diamantes no século XIX

*Luciano E. Faria e Carlos A. L. Filgueiras*

Silver bar (front and rear) obtained by the Baron of Eschwege in 1812 from the argentiferous galena (PbS) of the Rio Abaeté *sertões* - MG.

117 Entre tipos e radicais: a construção do conceito de valência

*Helena S. A. Nogueira e Paulo A. Porto*




Theory of valence resulted from the amalgamation of earlier theories of radicals and types, and was connected with the development of several fundamental aspects of chemistry, such as structural theory, chemical bonding and the periodic table.