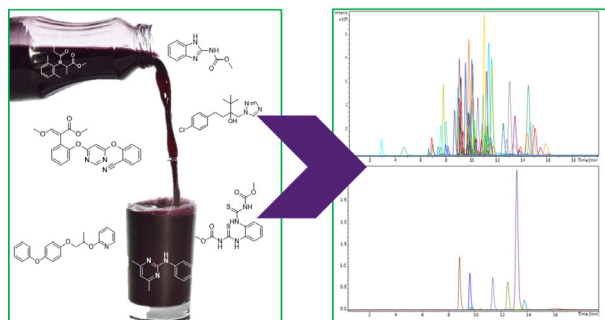


Artigos/Articles

- 405 Pesticides in processed food - multiresidue pesticides in natural grape juices by high-resolution mass spectrometry
Marilda Chiarello, Luana C. Crocoli, Vinícius B. Molon and Sidnei Moura

<http://dx.doi.org/10.21577/0100-4042.20230024>

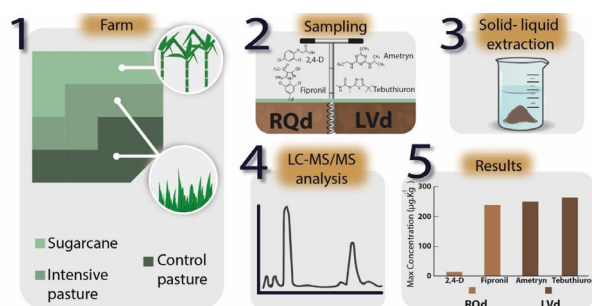
Pesticide residues have been detected in processed grape-based products. LC-HRMS is an important, sensitive and reliable analysis tool. Seven compounds were detected, including carbendazim, banned in August 2022 in Brazil.



- 414 Ocorrência de pesticidas em solos argilosos e arenosos após aplicação em pastagens e cana-de-açúcar
Ingrid R. dos S. Feitosa, Nívea C. G. Munin, Bianca V. Goulart e Cassiana C. Montagner

<http://dx.doi.org/10.21577/0100-4042.20230025>

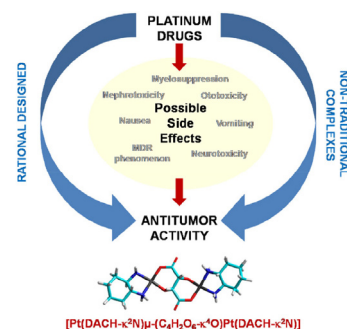
The persistence of pesticides in soil after application is dependent of the type of the soil, the physical-chemistry properties of the compounds and the management of crop.



- 425 Um novo composto de coordenação dinuclear projetado para não apresentar danos oxidativos e efeitos toxicológicos
Jamerson H. F. da Silva, André Galembeck, Mônica F. Belian, Wagner E. Silva, Jandyson M. Santos, Jacinto da Costa Silva Neto, Jaciana S. Aguiar e Teresinha Gonçalves

<http://dx.doi.org/10.21577/0100-4042.20230032>

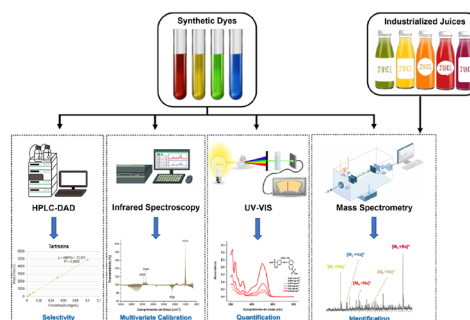
The synthesis, characterization, and biological activity of a novel dinuclear platinum complex. Tumor weight inhibition percentage of dinuclear complex was 66%. The results of the hematological, biochemical, and histopathological tests showed that the dinuclear complex had fewer side effects and less oxidative damages to the tested biological model.



- 435 Comparando a eficiência analítica das técnicas FTIR, UV-VIS, CLAE-DAD e ESI(+)-MS no estudo de corantes alimentares
Marcos V. V. Lyrio, Danieli G. Debona, Nathália dos S. Conceição, Francisco M. Gomes, Alan R. Pereira, Henrique A. Frizzera, Jessica L. Reis, Taila T. Grecco, Bruna C. Pires, Valdemar Lacerda Jr., Eustaquio V. R. Castro, Marsele M. Isidoro, Paulo R. Filgueiras e Wanderson Romão

<http://dx.doi.org/10.21577/0100-4042.20230037>

HPLC-DAD, infrared spectroscopy, UV-VIS, and mass spectrometry were applied in the study of synthetic dyes, aiming to indicate the advantages and applicability of each technique.

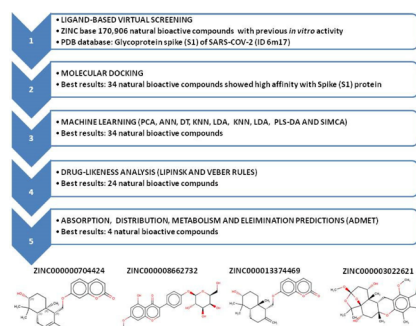


- 450 Machine learning-based virtual screening, molecular docking, drug-likeness, pharmacokinetics and toxicity analyses to identify new natural inhibitors of the glycoprotein spike (S1) of SARS-CoV-2

Alexandre de F. Cobre, Beatriz Böger, Mariana M. Fachi, Carlos A. Ehrenfried, Dile P. Stremel, Eduardo B. De Melo, Fernanda S. Tonin and Roberto Pontarolo

<http://dx.doi.org/10.21577/0100-4042.20230038>

Flowchart for performing virtual screening assays, molecular docking, pharmacokinetic and toxicity analysis.



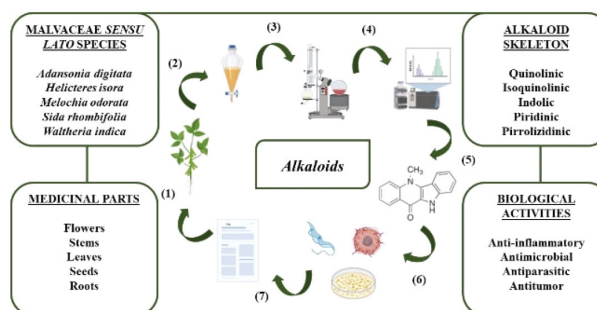
Revisão/Review

- 460 Phytochemical and pharmacological aspects of the alkaloids of *Malvaceae sensu lato* species: a review

Ana Laura de C. Sobreira, Janderson B. L. de Albuquerque, Wallace A. Machado de Queiroz, Pedro I. V. de Souza, Diégina A. Fernandes and M^a de Fátima V. de Souza

<http://dx.doi.org/10.21577/0100-4042.20230028>

Analysis of the chemical and biological profile of alkaloids identified from species of the *Malvaceae sensu lato* family as alternative sources for new drugs.



Nota Técnica/Technical Notes

- 470 Desenvolvimento de um equipamento de spin coating com sistema de fixação de substrato a vácuo empregando materiais reutilizados

Antonio A. A. Chepluki, Tiago E. A. Frizon e Igor E. de Carvalho

<http://dx.doi.org/10.21577/0100-4042.20230022>

This article presents the procedures for the construction of a spin coater with a vacuum substrate fastening system, using an Arduino microcontroller, 3D printing and reuse of materials.

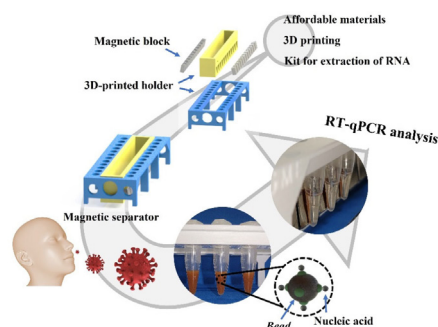


- 476 Impressão 3D de separador magnético: uma abordagem acessível para o preparo de amostras no diagnóstico da COVID-19

Habdias A. Silva-Neto, Gerson F. Duarte-Junior, Gabriela S. Bazílio, Juliana A. Parente-Rocha, Diego B. Colugnati, Clayton L. Borges e Wendell K. T. Coltro

<http://dx.doi.org/10.21577/0100-4042.20230023>

This study describes the fabrication of a low-cost magnetic separator holder combining 3D printing and compact neodymium blocks for allowing magnetic extraction and purification of RNA from samples collected by nasopharyngeal swab from patients infected by SARS-CoV-2.



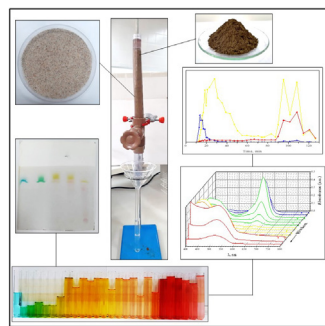
Educação/Education

- 482 Low-cost and easy access materials for a laboratory class:
a proposal of liquid chromatography for food coloring
separation as an experience of meaningful learning

*Bruna C. Cerqueira, Gerônimo L. Lima, Artur J. S.
Mascarenhas, Heloysa M. C. Andrade and Rodrigo De
Paula*

<http://dx.doi.org/10.21577/0100-4042.20230027>

A simple experiment using easy access and low-cost material for teaching chemistry. A column chromatography for food dye separation is a trigger for a wide discussion for teaching Chemistry.



Assuntos Gerais/General Subject

- 491 O vidro e sua importância na vida e na química

Wladimir T. da Silva e Carlos A. L. Filgueiras

<http://dx.doi.org/10.21577/0100-4042.20230033>

Roman blown glass flask of the first century, from the old collections of the National Museum of Rio de Janeiro. It is impressive to compare this flask, about 500 mL in capacity, with modern laboratory flasks.



