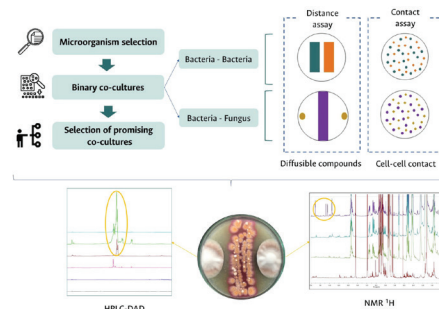


- 713 Binary co-culture selection from marine-derived microorganisms for differential production of specialized metabolites

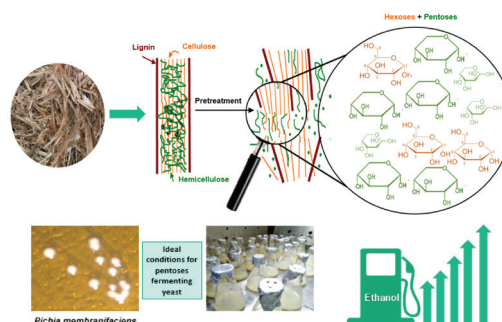
Paola A. Martínez-Buitrago, Freddy A. Ramos and Leonardo Castellanos



Selection of promising bacteria-bacteria and bacteria-fungus co-cultures for further chemical studies using contact and distance assays.

- 720 Otimização das condições fermentativas de *Pichia membranifaciens* para produção de etanol de segunda geração

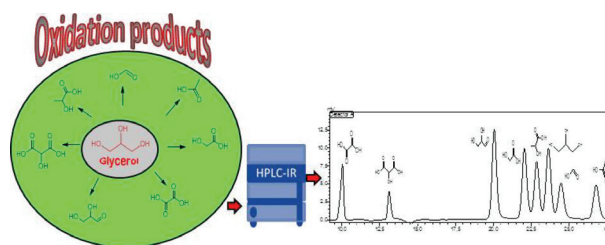
Natália N. Ribeiro, Lidyane A. Freitas, Letícia F. Tralli, Aline F. Silva, Cristhyane M. Freitas, Franciele Q. Mendes, Vitor Teixeira, Calisto N. S. Junior e Márcia J. R. Mutton



The production of ethanol from the use of lignocellulosic materials is already a reality, however the study of new microorganisms capable of fermenting sugars with five carbons is essential for improving the fermentative conditions of the processes.

- 729 Improvement of an analytical method based on HPLC with refractive index detection for the analysis of glycerol oxidation products

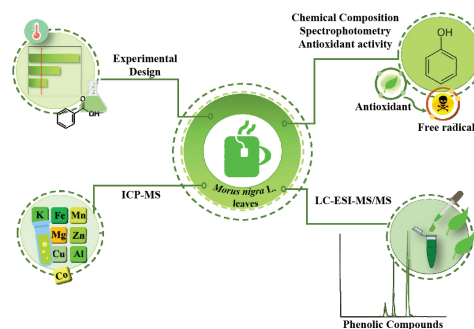
Cristian J. Giertyas, Débora S. da Silva, Camila L. F. da Silva, Mario R. Meneghetti, Simoni M. Plentz Meneghetti, Rusiene M. de Almeida and Janaína H. Bortoluzzi



Practical chromatographic method for the identification of glycerol oxidation products using high-performance liquid chromatography with refractive index detection.

- 736 Avaliação de compostos bioativos e atividade antioxidante de extratos de folhas de amoreira preta (*Morus nigra* L.) utilizando planejamento experimental

Kathlyn Schafranski, Matheus P. Postigo, Luciano Vitali, Gustavo A. Mücke, Wagner E. Richter e Eduardo S. Chaves

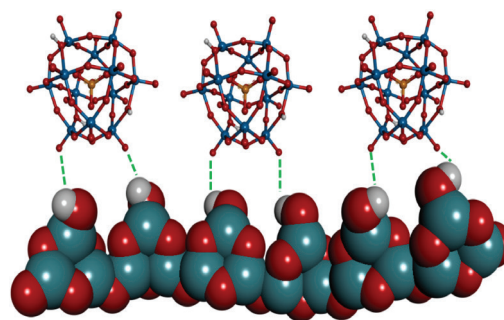


Phenolic compounds, antioxidants and minerals content in leaves of *Morus nigra* L.

- 745 Synthesis and theoretical study of HPW catalysts supported on niobia calcinated at 500 and 600 °C

Claudia V. Lacerda, Livia C. T. Lacerda, Alexandre A. de Castro, Tanos C. C. França, Teodorico C. Ramalho, Nadine Essayem and Wilma de A. Gonzalez

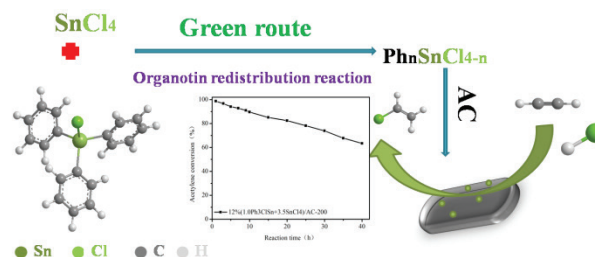
Most likely way of binding on the niobia surface of HPW catalysts supported on niobia, calcinated at 500 and 600 °C, according to theoretical calculations.



- 752 $\text{Ph}_n\text{SnCl}_{4-n}$ supported on activated carbon as novel tin-based catalysts for acetylene hydrochlorination

Yibo Wu, Longjie Cui, Rong Zhang, Rujiang Pei, Sufang Hu, Ruyue Han, Huimin Yang, Fuxiang Li, Jianwei Xue and Zhiping Lv

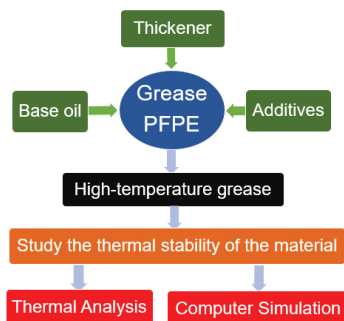
In this work, the novel organotin-based catalysts was prepared by triphenyltin chloride (Ph_3ClSn) and tin(IV) chloride (SnCl_4) and utilized in the acetylene hydrochlorination.



- 760 Determinação dos parâmetros cinéticos e simulação computacional do perfluoropoliéter (PFPE) empregado como lubrificante sintético

Ellen C. A. Rosa, Rene F. B. Gonçalves, Marcela G. Domingues, Luiz E. N. Almeida, Antônio C. Silva e José A. F. F. Rocco

Grease is usually constituted by 85% lubricating fluid, 10% thickener and 5% additives. This work aims to study the thermal behavior of perfluoropolyether (PFPE) as a synthetic lubricant by thermal analysis and computer simulation.

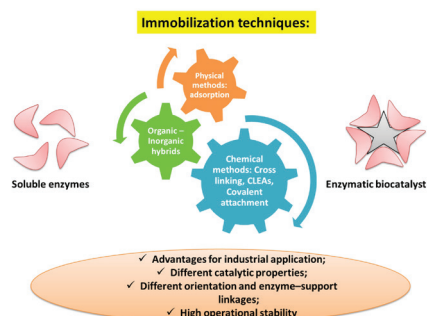


Revisão

- 768 Design of immobilized enzyme biocatalysts: drawbacks and opportunities

Carla L. B. Reis, Emerson Y. A. de Sousa, Juliana de F. Serpa, Ravena C. Oliveira and José C. S. dos Santos

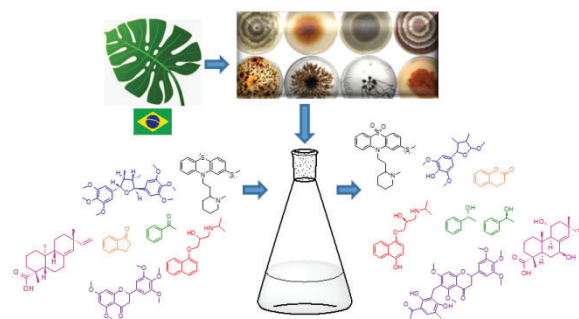
In this study, we aimed to discuss the versatility of biocatalysts immobilized enzymes design, focusing on the opportunities and disadvantages for each method presented.



784 Endophytic fungi from the Brazilian flora and their employment in biotransformation reactions

Valmore H. P. dos Santos and Eliane de O. Silva

Distinct substrates can be successfully biotransformed by the Brazilian endophytic fungi conducting to wide chemodiversity.

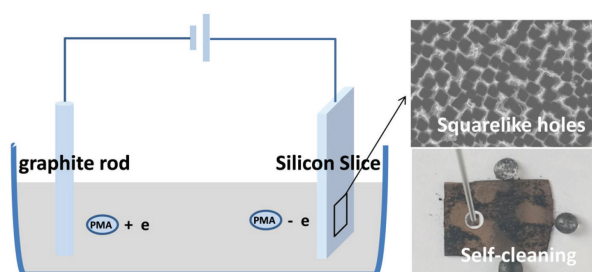


Nota Técnica

792 Superhydrophobic silicon fabricated by phosphomolybdic acid-assisted electrochemical etching

Yanbiao Zhou, Kaige Qu, Lihui Zhang and Binghua Liao

Superhydrophobic silicon surfaces with water contact angle larger than 150° and sliding angle less than 10° have been successfully fabricated by electrochemical etching strategy. Squarelike hole arrays with controllable geometries, especially controllable hole width and depth were formed on silicon. The relatively stable superhydrophobic silicon exhibited good self-cleaning and water-proofing properties in air and oil.



797 Extrato de hibisco-colibri como inibidor verde de corrosão do aço-carbono em ácido sulfúrico

Arthur Valbon, Bruno F. Ribeiro, M^a Augusta F. Soares, Márcia C. C. de Oliveira, Marcelo A. Neves e Aurea Echevarria



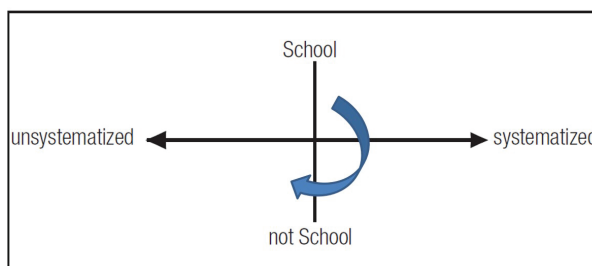
Malvaviscus arboreus as an efficient corrosion green inhibitor to carbon steel.

Educação

803 Estratégias para a inserção de museus de ciências no estágio supervisionado em ensino de química

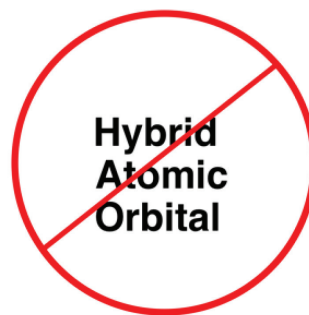
Rafael C. Mori e Ana C. Kasseboehmer

Supervised chemistry teacher internships can occur at different kinds of educational spaces, representing education modalities between school/non-school and unsystematic/systematized dimensions.



-
- 812 Hybrid Atomic Orbitals in Organic Chemistry. Part 1: critique of formal aspects
Guy Lamoureux and John F. Ogilvie

In Part 1, a review of hybrid atomic orbitals is provided and a critique of their use in undergraduate organic chemistry education is introduced.



-
- 817 Hybrid Atomic Orbitals in Organic Chemistry. Part 2: critique of practical aspects
Guy Lamoureux and John F. Ogilvie

In Part 2, a review of the use of hybrid atomic orbitals in organic chemistry is provided and further critiques of their use in teaching are included. A pedagogical alternative to hybridization, which is observable, free from interpretation and consistent with experiments is presented.

