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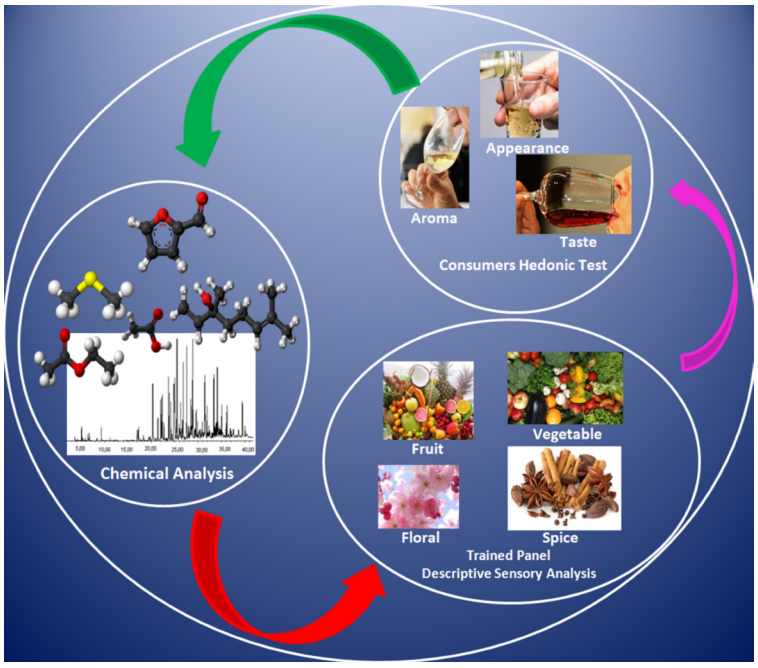
Cover Picture

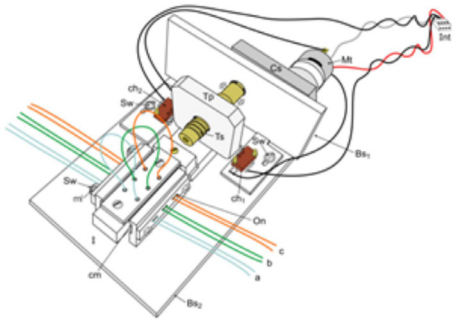


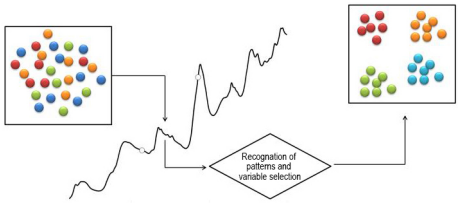
Chemical and sensory aspects of sugarcane spirits (*cachaças*) are described aiming to better understanding their sensory and chemical characteristics and their possible correlations. Chemometrics treatment of the beverage's chemical and sensory evaluation data provide a model to predict the *cachaça's* quality and consumer's acceptance based on chemical descriptors. Details are presented in the Article **Correlation between Chemical Composition and Sensory Properties in Sugarcane Spirits** by *Felipe A. T. Serafim, Fernanda R. F. Seixas, Alexandre A. Da Silva, Carlos A. Galinaro, Eduardo S. P. Nascimento, Silmara F. Buchviser, Luigi Odello and Douglas W. Franco* on page 973.

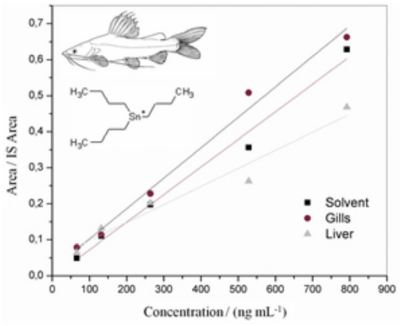
Contents

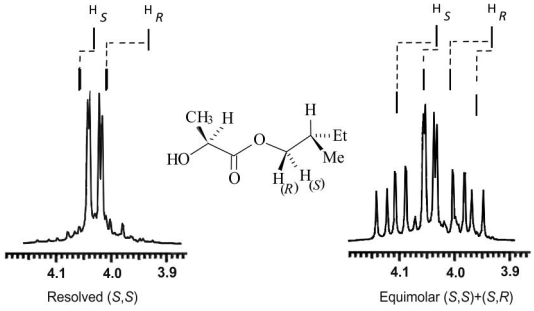
Editorial

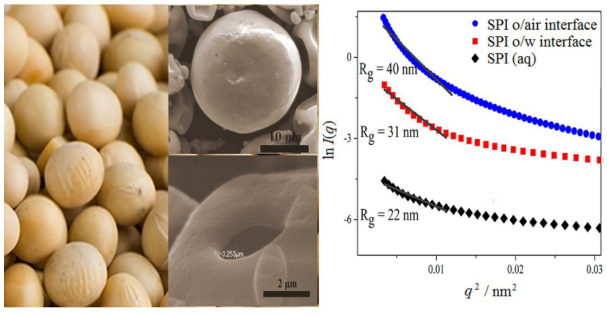
Articles

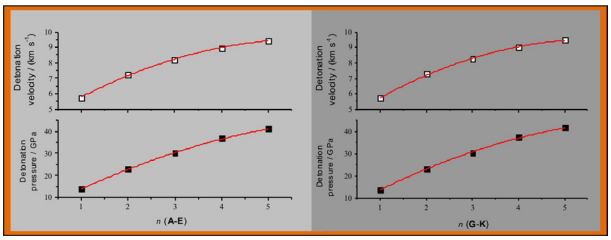




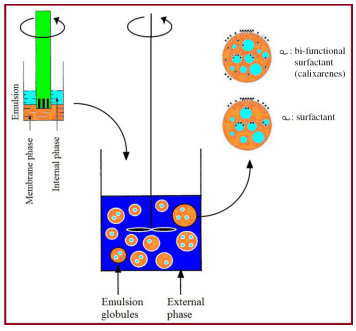




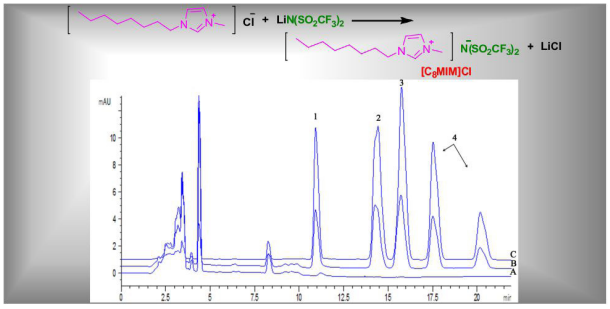




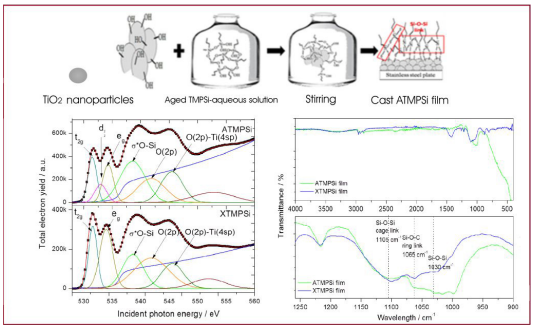
Graphical Abstract
Density functional theory (DFT) was employed to study polynitroimidazopyridines at the B3LYP/6-31+G(d) level. The simulation results reveal that two molecules perform similarly to 1,3,5,7-tetranitro-1,3,5,7-tetrazocane (HMX), and other two molecules may be potential candidates for high energy density compounds (HEDCs)



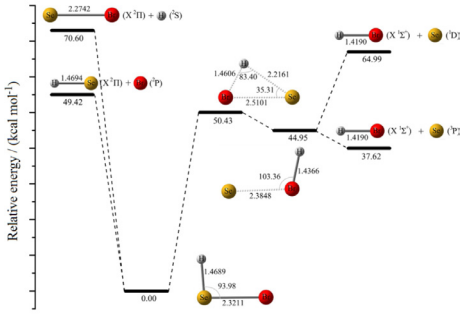
Graphical Abstract
The novelty of this study is the application of nano-baskets of calixarene in the selective and efficient preconcentration and separation of dioxin. For this aim, four derivatives of *p-tert*-calix[4]arene bearing different sulfonamide moieties were synthesized and their inclusion-extraction parameters were optimized



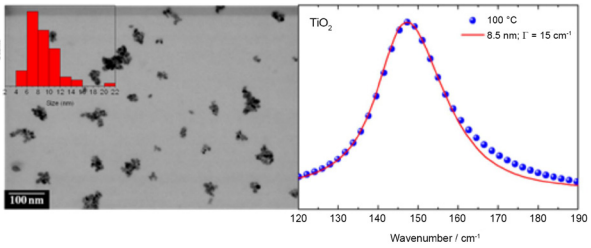
Graphical Abstract
The remarkable advantage of *in situ* metathesis reaction assisted IL-DLLME is that it does not require the utilization of an organic disperser solvent. The typical chromatogram indicates that the matrix complexity had little effect on this method



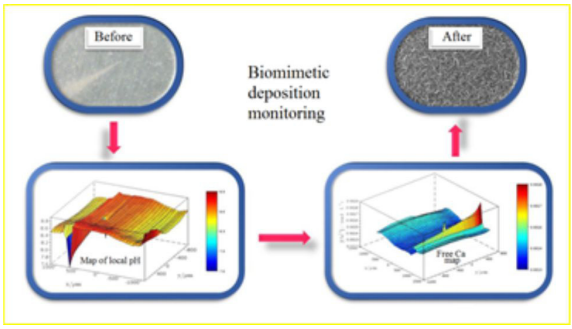
Graphical Abstract
The superhydrophobic surfaces (static water contact angle (WCA) ≥ 159°) fabricated using aqueous and non-aqueous solvents were probed in detail by NEXAFS and FTIR-ATR. The chemical heterogeneity of the surface determined the dynamic of the wetting phenomena without altering the static component of the superhydrophobicity



Graphical Abstract
Geometric parameters and energy profile showing the relative stability of the isomers HSeBr and HBrSe, the barrier height to isomerization and the dissociation channels



Graphical Abstract
Anatase nanoparticle size measurements employed Raman spectroscopy and the phonon confinement model in comparison with TEM images and particle size distribution



Graphical Abstract
Experimental monitoring and computational simulation of titanium surface modifications during biomimetic coating. Before: Bare titanium. The pH-microelectrode can be seen at 45° towards the center. After: Coated titanium

Graphical Abstract
The figure shows mandarin orange (*Citrus reticulata*) used as a biosorbent in an on-line system coupled to flame atomic absorption spectrometry for the preconcentration and determination of nickel in alcoholic beverages