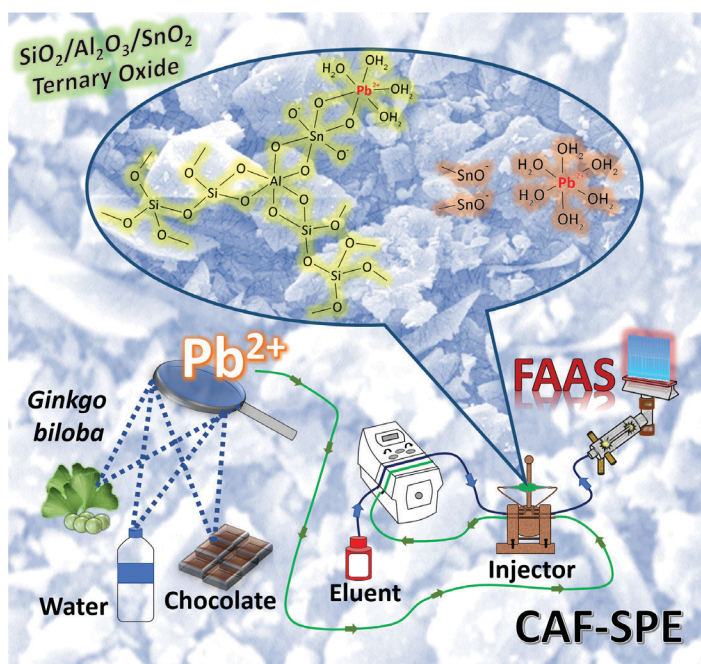


## Cover Picture



A  $\text{SiO}_2/\text{Al}_2\text{O}_3/\text{SnO}_2$  ternary oxide was used as chelating agent free-solid phase extractor (CAF-SPE) in online solid-phase preconcentration system coupled to flame atomic absorption spectrometry (FAAS) for  $\text{Pb}^{2+}$  determination in different kind of water, chocolate powder and *Ginkgo biloba* samples. Based on the results, the material can be considered an efficient alternative as a silica-based adsorbent to be utilized for preconcentration and determination of  $\text{Pb}^{2+}$  at trace levels. Details are presented in the Article **Synthesis of Chelating Agent Free-Solid Phase Extractor (CAF-SPE) Based on New  $\text{SiO}_2/\text{Al}_2\text{O}_3/\text{SnO}_2$  Ternary Oxide and Application for Online Preconcentration of  $\text{Pb}^{2+}$  Coupled with FAAS** by César R. T. Tarley, Guilherme L. Scheel, Emerson S. Ribeiro, Caroline D. Zappiello and Fabio A. C. Suquila on page 1225.

## Contents

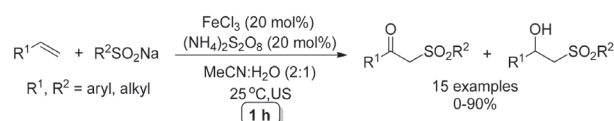
### Communication

#### 1167 Ultrasound-Promoted Chemoselective Oxsulfonation of Alkenes



Queila P. S. B. Freitas, Raffael A. G. Lira, Nucleiton J. R. Freitas, Gilson Zeni and Paulo H. Menezes

SI online



- open atmosphere;
- chemo- and regioselective;
- faster reaction when compared to conventional methods;
- high atom utilization

#### Graphical Abstract

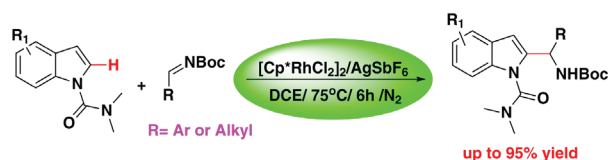
The ultrasound-assisted oxsulfonation of alkenes using sodium salts of organosulfonic acids under air atmosphere in a chemo- and regioselective way is described. The  $\beta$ -keto-sulfones were obtained in good yields as major products.

## Articles

## 1175 Rhodium(III)-Catalyzed Addition of Indoles with Boc-Imines via C–H Bond Activation

Jinfang Wang, Hui Wang and Chuanjun Yue

SI online



## Graphical Abstract

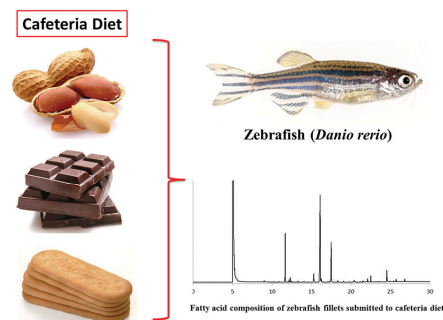
A rhodium-catalyzed alkylation reaction of indoles with *N*-Boc-imines has been developed via C–H activation to afford a series of biological important 2-indolylmethanamine derivatives with good functional group tolerance and high yields.

1183 Impact of Cafeteria Diet on the Composition of Fatty Acids in Zebrafish (*Danio rerio*) Fillets

Vanessa B. M. J. C. Néia, Eliane P. Ambrosio-Albuquerque,  
Ingrid L. Figueiredo, Joana S. Boeing, Thibério C. da Silva,  
Vanessa Lewandowski, Ricardo P. Ribeiro,  
Jeane E. L. Visentainer and Jesuí V. Visentainer

## Graphical Abstract

The effect of a cafeteria diet (chocolate, peanut and biscuit) on the composition of fatty acids in zebrafish fillets was evaluated by gas chromatography.

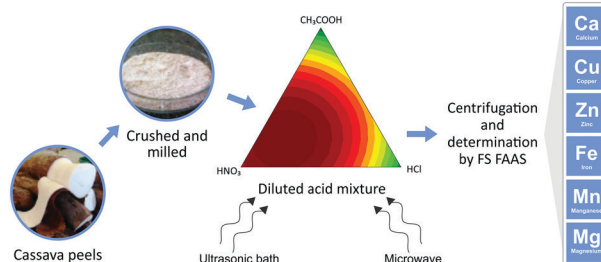


## 1189 Use of Mixture Design with Minimal Restrictions to Optimize an Extraction Procedure Employing Diluted Acids Assisted by Ultrasound and Microwave for Nutrient Element Determination in Vegetal Samples

Vinícius C. Costa, Erik G. P. Silva, Daniel C. Lima,  
Marcelo Franco, Raildo M. Jesus, Marcos A. Bezerra and  
Fábio A. C. Amorim

## Graphical Abstract

Optimization of sample preparation based on extraction with diluted acids assisted by ultrasound and microwave for nutrients elements determination.



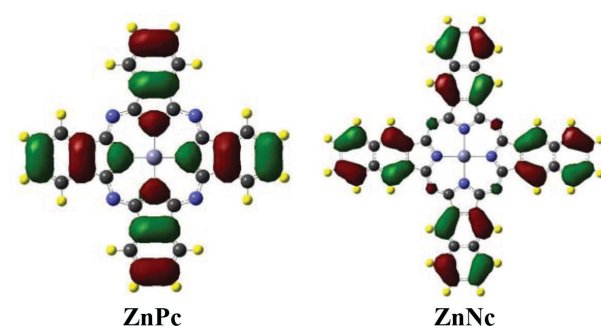
## 1199 Photophysical and Photochemical Properties and Aggregation Behavior of Phthalocyanine and Naphthalocyanine Derivatives

Thalita F. M. de Souza, Felipe C. T. Antonio, Mateus Zanotto,  
Paula Homem-de-Mello and Anderson O. Ribeiro

SI online

## Graphical Abstract

Computational calculations (density-functional theory, DFT) of Q-band involved molecular orbitals in phthalocyanines and naphthalocyanines with similar structures.

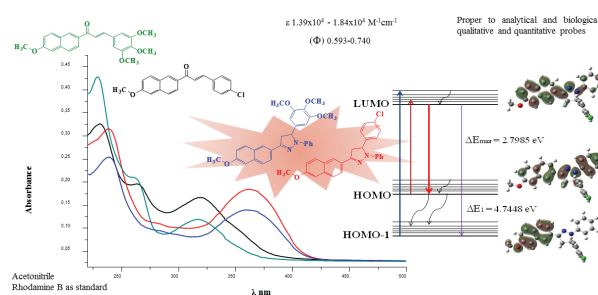


**1210 Syntheses, Experimental and Theoretical Studies on Absorption/Emission Properties of Pyrazoline-Containing Aryl/Methoxynaphthyl Substituents**

SI online Jorge Trilleras, Edwin González-López, Jhair León-Jaramillo, Alfredo Pérez-Gamboa, Esneyder Puello-Polo, Pablo Romo, Alejandro Ortiz and Jairo Quiroga

**Graphical Abstract**

Facile synthesis of pyrazoline derivatives and their luminescence properties. Theoretical calculations at time-dependent density functional theory (TD-DFT) level explain the electronic behavior.

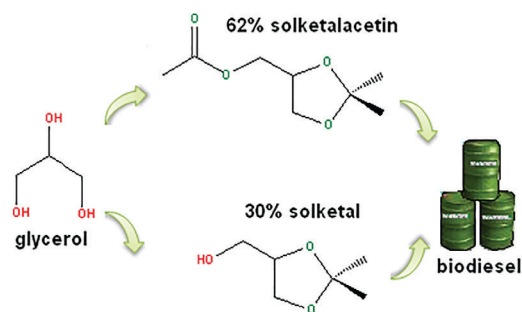


**1218 Continuous Synthesis of a Green Fuel Additive Mixture with Highest Quantities of Solketalacetin and Solketal and Lowest Amount of Diacetin from Biodiesel-Derived Glycerol**

SI online Yadollah M. Gorji and Hassan S. Ghaziaskar

**Graphical Abstract**

Glycerol was reacted first with acetic acid to synthesize monoacetin. Then monoacetin and residual glycerol were reacted with acetone to obtain 62% solketalacetin, 30% solketal, and 8% diacetin.

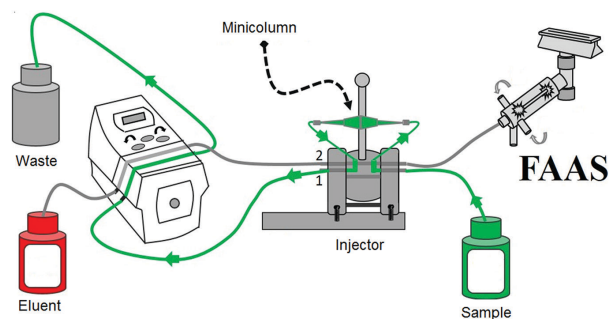


**1225 Synthesis of Chelating Agent Free-Solid Phase Extractor (CAF-SPE) Based on New SiO<sub>2</sub>/Al<sub>2</sub>O<sub>3</sub>/SnO<sub>2</sub> Ternary Oxide and Application for Online Preconcentration of Pb<sup>2+</sup> Coupled with FAAS**

César R. T. Tarley, Guilherme L. Scheel, Emerson S. Ribeiro, Caroline D. Zappiello and Fabio A. C. Suquila

**Graphical Abstract**

Chelating agent free-solid phase extractor (CAF-SPE) based on new SiO<sub>2</sub>/Al<sub>2</sub>O<sub>3</sub>/SnO<sub>2</sub> for online Pb<sup>2+</sup> preconcentration.

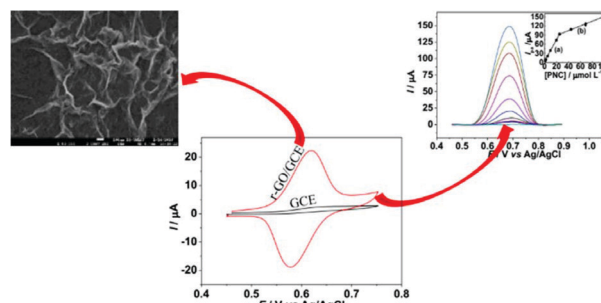


**1237 Enhanced Detection of Ponceau 4R Food Dye by Glassy Carbon Electrode Modified with Reduced Graphene Oxide**

Paloma B. de Moraes, Felipe F. Hudari, João P. Silva and Maria V. B. Zanon

**Graphical Abstract**

A voltammetric method is proposed by a simple electrodeposition of reduced graphene oxide on glassy carbon electrode. The modified electrode showed a 20-fold increase in analyte signal compared to unmodified electrode.

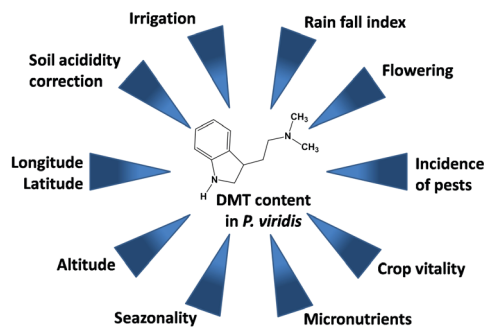


**1245 Influence of Environmental Factors and Cultural Methods on the Content of *N,N*-Dimethyltryptamine in *Psychotria viridis* (Rubiaceae)**

SI online André D. Cavalcante, Gabriele A. Cardoso, Fernando L. P. de Oliveira, Eduardo Bearzoti, Adriana A. Okuma, Lucienir P. Duarte and Sidney A. Vieira-Filho

**Graphical Abstract**

Environmental parameters, nutrients, plant characteristics, data on farming methods were correlated with *N,N*-dimethyltryptamine, determined by gas chromatography coupled to mass spectrometry (GC-MS).

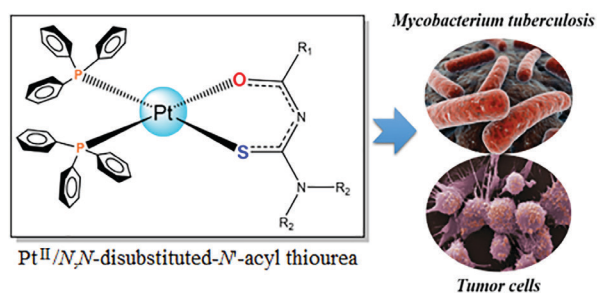


**1256 Structure/Activity of Pt<sup>II</sup>/*N,N*-Disubstituted-*N'*-acylthiourea Complexes: Anti-Tumor and Anti-*Mycobacterium tuberculosis* Activities**

SI online Ana M. Plutín, Anislay Alvarez, Raúl Mocelo, Raúl Ramos, Osmar C. Sánchez, Eduardo E. Castellano, Monize M. da Silva, Wilmer Villarreal, Legna Colina-Vegas, Fernando R. Pavan and Alzir A. Batista

**Graphical Abstract**

Twelve [Pt(PPh<sub>3</sub>)<sub>2</sub>(acylthiourea)]PF<sub>6</sub> complexes was synthesized and evaluated against *Mycobacterium tuberculosis* and human tumor cells.

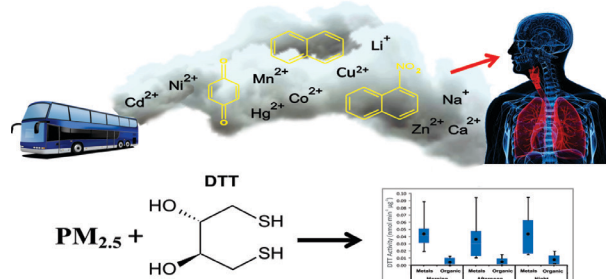


**1268 In vitro Evaluation of Oxidative Stress Caused by Fine Particles (PM<sub>2.5</sub>) Exhausted from Heavy-Duty Vehicles Using Diesel/Biodiesel Blends under Real World Conditions**

Robson M. de Jesus, Aline C. Mosca, Aline L. N. Guarieiro, Gisele O. da Rocha and Jailson B. de Andrade

**Graphical Abstract**

Oxidative potential of PM<sub>2.5</sub> as predictive indicator of adverse health effects.

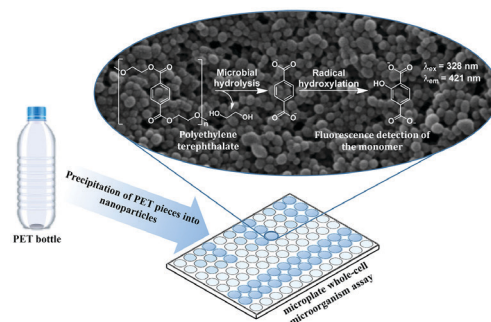


**1278 A Practical Fluorescence-Based Screening Protocol for Polyethylene Terephthalate Degrading Microorganisms**

SI online Michel R. B. Chaves, Maria L. S. O. Lima, Lusiane Malafatti-Picca, Derlene A. de Angelis, Aline M. de Castro, Érika Valoni and Anita J. Marsaioli

**Graphical Abstract**

We proposed a fast, low-cost, microscale fluorescence-based screening methodology for PET degrading microorganisms with selective detection of the terephthalic acid monomer produced during the microbial hydrolysis.

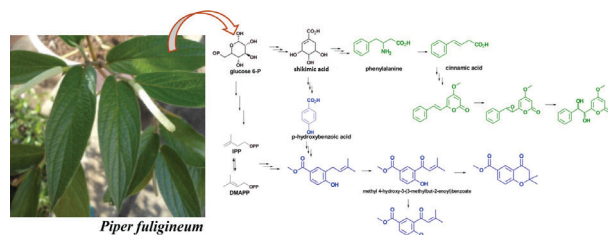




**1286 Kavalactones and Benzoic Acid Derivatives from Leaves of *Piper fuliginum* Kunth (Piperaceae)**

Bruna F. Mazzeu, Lidiane G. Felipe, Fernando Cotinguiba, Massuo J. Kato and Maysa Furlan

SI online



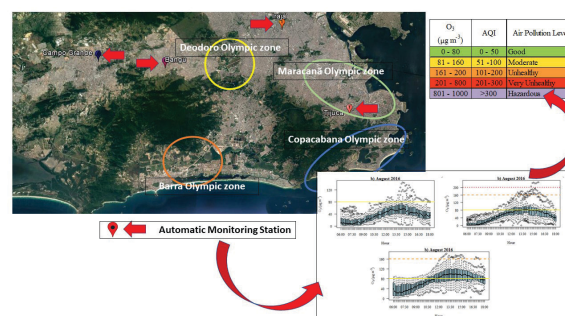
**Graphical Abstract**

Kavalactones and benzoic acid derivatives from *Piper fuliginum* shows dichotomous biosynthetic pathways and shikimic acid is a common precursor of this two different classes.

**1291 Air Quality Indexes in the City of Rio de Janeiro During the 2016 Olympic and Paralympic Games**

Felipe Tsuruta, Nicole J. de Carvalho, Cleyton M. da Silva and Graciela Arbilla

SI online



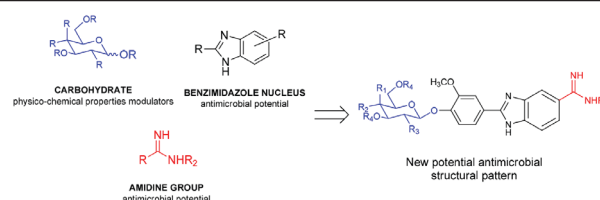
**Graphical Abstract**

The air quality indexes (AQIs) determined in Rio de Janeiro from July to September 2016, before and during the Summer Olympic and Paralympic Games, in four monitoring stations, were compiled and analyzed.

**1304 Synthesis and Antimicrobial Activity of Glycosylated 2-Aryl-5-amidinobenzimidazoles**

Thiago B. de Souza, Josidel C. Oliver, Ana Paula B. Gomes, Cícero Flávio S. Aragão, Leandro S. Ferreira, Fernando Henrique A. Nogueira, Amanda Latércia T. Dias and Ricardo J. Alves

SI online



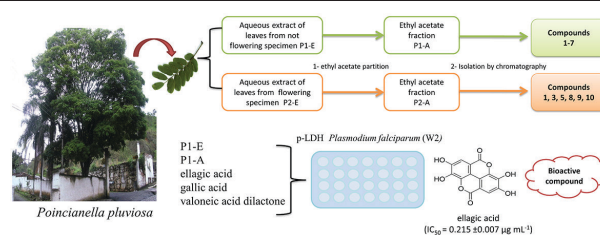
**Graphical Abstract**

Glycosylated 2-aryl-5-amidinobenzimidazoles were synthesized, characterized and showed antifungal and antibacterial potential against different strains.

**1318 Leaves from the Tree *Poincianella pluviosa* as a Renewable Source of Antiplasmodial Compounds against Chloroquine-Resistant *Plasmodium falciparum***

Jacqueline E. de Souza, Maria F. A. do Nascimento, Maria P. G. Borsodi, Ana P. de Almeida, Bartira Rossi-Bergmann, Alaíde B. de Oliveira and Sônia S. Costa

SI online

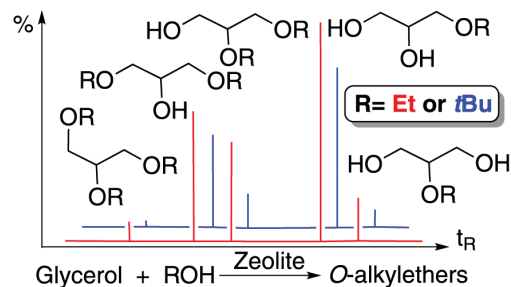


**Graphical Abstract**

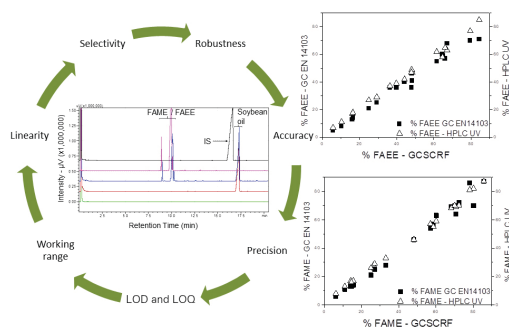
Ten phenolic compounds were isolated from leaves of *Poincianella pluviosa* (Fabaceae). Among the major compounds, ellagic acid was the most active against *Plasmodium falciparum* (W2).

**1328 Identification of Ethyl and *t*-Butyl Glyceryl Ethers Using**
**Gas Chromatography Coupled with Mass Spectrometry**
*Paula M. Veiga, Cláudia O. Veloso, Ayres G. Dias and*
*SI online Cristiane A. Henriques*

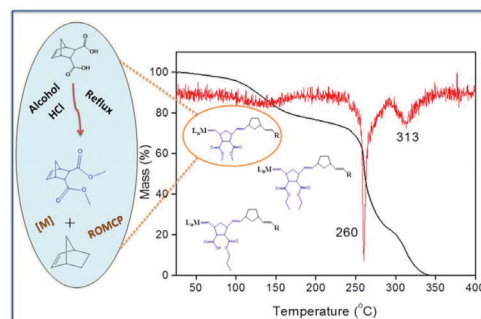

**Graphical Abstract**  
Gas chromatography-mass spectrometry (GC-MS) identification of ethyl and *t*-butyl glyceryl ethers.


**1336 Determination of Alkyl Esters Content by Gas Chromatography: Validation of Method Based on Short Column and Response Factor**
*Filipe L. Silva, Lucas N. Melo, Carlos R. Wolf,*
*Simoni M. P. Meneghetti and Janaína H. Bortoluzzi*

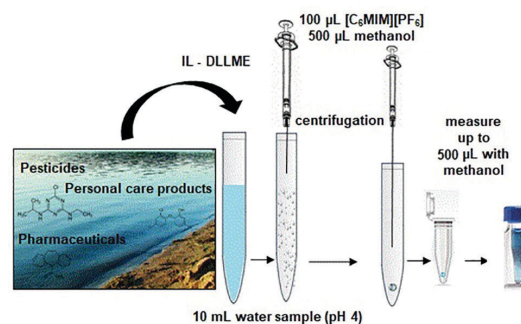
**Graphical Abstract**  
Quantification of fatty acid methyl or ethyl esters obtained from soybean oil and comparison of analytical methodologies applied to biodiesel samples.

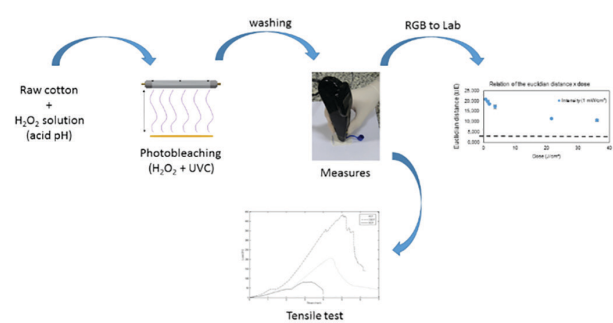

**1344 Chain Elongation Influence in Copolymerization with Different Diesters of Norbornene 2,3-Dicarboxylic Acid Monomers via ROMP under Air Atmosphere**
*Sâmia D. Braga, Vanessa B. Vieira, Cristina V. Silva-Neta,*
*Nouga C. Batista, Larissa R. Fonseca, Benedito S. Lima-Neto,*
*Geraldo E. Luz Jr. and José Luiz S. Sá*

**Graphical Abstract**  
Copolymerization via ring-opening metathesis polymerization (ROMP) under air atmosphere of norbornene (NBE) and its ester-dicarboxylic derivate with Ru-catalyst.


**1349 Multi-Residue Method for Determination of Thirty-Five Pesticides, Pharmaceuticals and Personal Care Products in Water Using Ionic Liquid-Dispersive Liquid-Liquid Microextraction Combined with Liquid Chromatography-Tandem Mass Spectrometry**
*SI online*
*Liziane C. Marube, Sergiane S. Caldas, Elisane O. dos Santos, Andressa Michaelsen and Ednei G. Primel*

**Graphical Abstract**  
Ionic liquid-dispersive liquid-liquid microextraction (IL-DLLME) was successfully used for the extraction of the pesticides and pharmaceuticals and personal care products (PPCPs) in water.



**1360 Colorimetric Analysis of Cotton Textile Bleaching through** **$\text{H}_2\text{O}_2$  Activated by UV Light***Bruno P. de Oliveira, Lilian T. Moriyama and**Vanderlei S. Bagnato***Graphical Abstract**

Scheme of the proposed UV mediated cotton bleaching process with  $\text{H}_2\text{O}_2$ , evaluated by colorimetry and tensile test.

