

4th International Conference and Exhibition on **Biosensors & Bioelectronics**

September 28-30, 2015 Atlanta, USA

Authenticity and classification of honeys from different geographical and botanical origins based on voltammetric electronic tongue

Nezha El Bari, Bougrini, K Tahri, T Saidi, N El Alami and B Bouchikhi
Moulay Ismail University, Morocco

The main possible honey fraud is the addition of various sugar syrups. But there are also other types of fraud, such as deception on the geographical and/or botanical origin product. Provide a product of the hive with full authenticity is therefore crucial for the preservation of beekeeping. In this pursuit, a potential technique based Voltammetric Electronic Tongue (V-ET) was used to detect adulterants such as Glucose Syrup (GS) and Saccharose Syrup (SS) in honey. GS and SS were each mixed with authentic honey samples in the following ratios: 2%, 5%, 10% and 20%. Furthermore, V-ET was employed to classify honey samples from different geographical and botanical origins. The data obtained were analyzed by three-pattern recognition techniques: Principal Component Analysis (PCA), Cluster Analysis (CA), and Support Vector Machines (SVMs). As a result, these methods enabled the detection of honey adulterations with sugar syrups at a down adulteration level of 2%; and it was possible to discriminate among thirteen honeys of different geographical origins and seven honeys of different botanical origins based on PCA, while good results were shown by CA and SVMs, too. For this reason, V-ET is a practice and rapid method for application in honey quality assessments, including detection of adulterated samples and classification of geographical/botanical origins.

Biography

Nezha EL BARI, Professor of Immunology and serves as a Faculty of Sciences at Moulay Ismail University (Morocco) since 1990. She received her PhD in Biology Applied to Nutrition and Bioindustry from University of Nancy 1 (France) in 1989. She obtained her Biology thesis es-sciences from the University of Moulay Ismail in 1995. She was the instigator and a head of professional bachelors in dairy industry from 1997 to 2003. She is a head of Biotechnology Agroalimentary and Biomedical Analysis Group since 2005. She has authored and co-authored more than 30 publications in the international journals.

n-elbari@hormail.com

Notes: