

Classification of arabica by electronic tongue

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An electronic tongue (e-tongue) represents a class of machines that are able to classify liquid samples, e.g. food and beverages, usually from various electrochemical methodology in combination with pattern classification and recognition analyses. This research aims to classify Arabica coffee by using an in-house electrochemical based on cyclic voltammetry and principal component analysis (PCA). Arabica coffee samples include green coffee beans and roast coffee beans of different grades from Pahee, Chiang Rai province. The coffee beans were ground and brewed following the cup test methods. The solutions were then measured and classified by the e-tongue. The results show that the e-tongue classifies the differences of the coffee samples from the most significant to the least as follows: brewing methods, the degree of roast, and lastly the grade or the origin of coffee. The results will be compared with human sensory tests (total = 30). This research demonstrates the potential of the e-tongue as a rapid and low method for quality control of coffee.

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