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Rapid detection of ethanol in beverages using IIUM-fabricated electronic nose (Article)

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Abstract

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This study has been successfully conducted to develop a method for rapid detection of ethanol (EtOH) concentration in beverages using Portable Electronic Nose (E-Nose) developed by International Islamic University Malaysia (IIUM). E-Nose is widely used in food analysis. However, E-Noses used in the food industry are big and not portable. The very recently developed portable device used in this study is very handy and practical for use. Results from this study revealed that the device could be used for rapid detection of ethanol concentration in various beverages such as alcoholic beverages, isotonic drinks, soft drinks and fruit juices from different brands sold in Malaysia. From the result obtained, it was shown that the device has high accuracy and reliability where it could detect ethanol concentration as low as 0.1% (v/v). The analytical condition for the detection was achieved with the lowest voltage output of 0.43V. While for optimization analysis using Response Surface Methodology (RSM), optimum Headspace Generated Time (HGT) and bottle's volume (mL) obtained are 0.66h and 100 mL, respectively. © All Rights Reserved.

SciVal Topic Prominence

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Reaxys Database Information

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