

International Conference on
DIABETES AND HEALTHCARE
&
International Conference on
FOOD SCIENCE AND TECHNOLOGY
June 25-26, 2018 | Toronto, Canada

Determination of volatile organic compounds migrated from food contact materials using headspace-gas chromatography

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Volatile organic compounds (VOCs) are organic chemicals that have a high vapor pressure at ordinary room temperature. VOCs are numerous, varied, and ubiquitous. Besides environmental contaminations, VOCs could be exposed to human from foods through food contact materials. VOCs in foods can also be stemmed from food processing as well as migration from food packaging into foodstuffs (1). Even though the concentration of VOCs in foods is not so intensive, the presence of them itself is very critical issue considering the exposure frequency and periods. Furthermore, the appearance of various foods

packaging increased consumption pattern of instant cooking foods has caused concern about VOCs exposure. In this study, we developed an analytical method using headspace-GC-MS for VOCs from food packaging source. The results of this method showed acceptable values in terms of linearity, precision and accuracy. The food simulants were water, 4% acetic acid, 50% ethanol, and n-heptane. These simulants solutions were checked for recovery test respectively. This analytical method will be applied to the determination of VOCs originated from food packaging materials.

Biography

Joung Boon Hwang has completed her Master's Degree at KyungHee University and worked for 2 years at Doping Control Center, Korea Institute of Science and Technology. She has been working in part of food contact materials and packaging of National Institute of Food and Drug Safety Evaluation.

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