

Analysis of volatile compounds from Malaysian durians (*Durio zibethinus*) using headspace SPME coupled to fast GC-MS.

ABSTRACT

Headspace solid phase microextraction (SPME) coupled to fast gas chromatography-mass spectrometry (GC-MS) was applied to analyze the volatile compounds of durian (*Durio zibethinus*) varieties D2, D24, and D101 from Malaysia. Sampling sensitivity was improved by evaluation of sample matrix, sampling size, headspace volume, salt addition and sampling duration. A total of 39 volatile compounds were identified including 22 esters, 9 sulphur-containing alkanes, 3 thioacetals, 2 thioesters, 2 thiolanes and 1 alcohol. The relative amount of volatiles estimated using 1 ppm internal standard (IS) revealed the differences in the volatile composition among varieties. Further classification and characterization of each durian variety was successfully conducted using principal component analysis (PCA).

Keyword: Durian, *Durio zibethinus*, Solid phase microextraction (SPME), Fast gas chromatography, Principal component analysis (PCA)