

Abstract

This bachelor thesis dealt with the optimization of a method for the determination of 10 volatile compounds occurring as minor components in alcoholic products. The quantification was performed by the internal standard method, comparing the results using 1-pentanol and ethanol as classical and proposed internal standards, respectively. In the case of ethanol usage, better repeatability and accuracy of the results were expected as this method does not require any sample pre-treatment. The optimized measurement method was monitored for both internal standards, while following these parameters - repeatability, recovery, linearity and limits of detection and quantification.

It was found out that, as expected, the method of the proposed ethanol internal standard gives more accurate results for the analysis of real alcoholic beverage samples. However, it did not outperform the classical internal standard method in all parameters. That one gave better results for repeatability and linearity for the set of calibration solutions measured, despite the fact that each sample had to be pre-treated. It was also found that samples with a high ethanol or other volatile content were not suitable for SPME analysis, because the fibre then loses its ability to sorb these substances in the same proportions and quantitative analysis could not be reliably performed.