

ABSTRACT

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Thesis Title: Dispersive Solid-Phase Extraction for the Analysis of Chosen Substances in *Zingiber officinale*

The thesis was focused on the development of optimal extraction method for the analysis of chosen substances contained in *Zingiber officinale*. Some representative samples containing extracts of *Zingiber officinale* were chosen. This method was based on the diploma thesis of Martina Urbanová [1]. To get a higher preconcentration factor, dispersive solid-phase extraction (dSPE) was tested for the sample pretreatment. Then, a method of supported liquid extraction (SLE) was examined as another methodology for the sample preparation. Chosen substances, 6-gingerol, 8-gingerol, 6-shogaol and 10-gingerol, were found in almost all samples. Among syrups, the largest amount of substances was contained in the Kitl syrup (preparation with cold water). Among teas, the highest number of substances was contained in Fruit-herbal tea flavored with ginger and lemon. 6-Shogaol was not found in rhizome samples, however, it has been found in the samples of teas and syrups.

During the optimization of this method, various sorbents were examined. The most suitable sorbent was Oasis HLB. The analysis took place under chromatographic conditions that had been optimized and presented in the diploma thesis of Martina Urbanová [1].

The developed method has been partially validated. The linearity, stability, accuracy, precision and limit of detection and limit of quantification were determined. The suitability test of the chromatographic system was being verified.