

ABSTRACT

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Title of the diploma thesis: **Development of HPLC method for determination of selected phenolic acids and flavonoids in Tokaj wines**

The aim of this diploma thesis was to develop and optimize HPLC method for simultaneous determination of 15 phenolic compounds, protocatechic acid, fertaric, coffee, p-hydroxybenzoic, syringic, gallic, p-coumaric, ferulic, chlorogenic, caftaric, 2-hydroxy-4-methoxybenzoic, polydatin, resveratrol, catechin hydrate and epicatechin in Tokaj wines.

The quantity and content of selected phenolic compounds was analyzed in 25 samples of Tokaj wines, which come from vineyards from the Slovak part of Tokaj wine region. The work was also focused on the description of the specific characteristics of this unique area, the unique method of Tokaj wine production, its chemical composition, and namely the spectrum of phenolic substances.

Analysis of selected phenolic compounds was performed using an Ascentis® Express F5 column (150 x 4.6 mm; 5 µm) using a mobile phase consisting of 0.1% phosphoric acid and acetonitrile in gradient elution. The substances were analyzed at 30 °C and flow rate of 1 ml/min and detected at 280 and 320 nm using a DAD detector.

Keywords: HPLC; Tokaj wine; the Tokaj region; phenolic compounds