

## ABSTRACT

Charles University

Faculty of Pharmacy in Hradec Králové

Department of Analytical Chemistry

Candidate: Bc. Tereza Sudová

Supervisor: Doc. RNDr. Dalibor Šatínský, Ph.D.

Title of the diploma thesis: **Development of HPLC method for determination of coumarins in Tokaj wines**

A high performance chromatography method was used for simultaneous determination of coumarins: umbelliferone (7-hydroxycoumarin), coumarin and 7-methoxycoumarin (herniarin) in 60 samples of Tokaj wines and 12 samples of wines and spirits.

Before the analysis, HPLC parameters were optimized: detector wavelength, analytical column, mobile phase and gradient elution. The suitability of the HPLC method for the determination of coumarins was confirmed. Then the method was validated by a validation process.

The analysis was performed under gradient elution conditions with mobile phase methanol (organic phase) and 0.1% phosphoric acid (aqueous phase) at a flow rate of 1 ml/min. Ascentis® Express F5 – 150 × 4.6 mm reversed phase column at a temperature of 30 °C was used. The particle size of the stationary phase was 5 µm. Coumarins were detected by a DAD detector at wavelengths 276 nm and 323 nm. Untreated samples were injected in a volume of 5 µl. The total analysis was 15.51 min.