

## **Abstract**

Charles University

Faculty of Pharmacy in Hradec Králové

Department of Analytical Chemistry

**Candidate:** Kristýna Arnoltová

**Supervisor:** doc. PharmDr. Ludmila Matysová, Ph.D.

**Title of the diploma thesis:** Development and validation of UHPLC method for determination of miconazole, econazole and its impurities in solid dispersions

The aim of the submitted thesis was to create a new analytical method for the determination of miconazole, econazole and its three impurities. Ultra-high performance liquid chromatography (UHPLC) was used.

A Kinetex<sup>TM</sup> XB C18 column, 1.7  $\mu\text{m}$  particle size, 50 x 2.1 mm was used for the separation. The mobile phase was composed of the acetate buffer pH 7.8 in a mixture with methanol (80:20) and of acetonitrile with methanol (60:40), in a total ratio of 60:40. A gradient elution was used. Flow rate was set to 0.6 ml / min. Butylparaben was chosen as the internal standard. All substances were detected at a wavelength of 225nm. Total analysis time was 9 minutes.

After optimization of the separation conditions, the method was partially validated and used for practical measurements to determine the content of miconazole in solid dispersions.