

## **Abstract**

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Title of Diploma Thesis: HPLC method development of active substances determination in nutraceuticals

A high performance liquid chromatography (HPLC) method with diode array detection (DAD) was used and validated for the simultaneous determination rutin, troxerutin, diosmin and hesperidin. The method was used for direct determination of these flavonoids in pharmaceutical preparations and nutraceuticals, Cilkanol (Zentiva), Detralex (Les Laboratoires), Hemodin Prebio Forte (Valosun a. s.), MobiVen Micro (Vulm cz a.s.). Using Ascentis Express RP – Amide (10 cm x 3.0 mm, 2.7  $\mu\text{m}$ ) Supelco Analytical column, the following conditions were chosen as optimal: mobile phase acetonitril/water 30/70 containing acetic acid for pH adjustment to value pH 3. Method development was performed within a temperature of 50°C and pressure of 18.6 MPa. The flavonoids were detected by diode array detector (DAD) at the wavelength of 283 nm and 255 nm.

Keywords: high performance liquid chromatography (HPLC), flavonoids, rutin, troxerutin, diosmin, hesperidin, nutraceuticals