ABSTRACT

Charles University in Prague

Faculty of Pharmacy in Hradec Králové

Department of Analytical Chemistry

Candidate: Štěpán Růžička

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

Title of the diploma thesis: HPLC method development for carotenoids determination in fruits

In this thesis was optimized and developed a new HPLC method for the determination of specific carotenoids (betacarotene, lutein and zeaxanthin) content in selected species of sweet cherries. The method used Supelco Analytical RP-Amide (100 x 4.6 mm; 5 μm) column for separation and UV detection at a wavelength of 450 nm. There was used isocratic elution of the mobile phase acetonitrile:hexan:methylene chloride (96.6:1.7:1.7) at a flow rate of 1.409 ml/min during the measurement. The cherry samples were extracted to chloroform in ultrasound bath, centrifuged, and after filtration injected into HPLC system. The temperature was set at 30 °C and injected volume was 5 μl. The amount of betacarotene was quantified in a few cherry samples because of too low concentration of carotenoids.