

## **Abstract**

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Title of diploma thesis: Sequential injection chromatography – advanced separations of bioflavonoids in food supplements

Two methods were developed in the thesis. A primary method of sequential injection chromatography with UV detection was developed for separation of bioflavonoids rutin, hesperidin and diosmin. A second method was developed for adjustment data, which enables to increase sensitivity of first developed method.

Chromatographic column YMC-Triart C18 ExRS; 100 mm × 4.6 mm; 5 μ, 8 nm was used for separation. The mobile phase consisted of a mixture of acetonitrile with phosphoric acid solution pH 2.0 prepared in a ratio of 25:75. Isocratic elution was chosen; flowrate was 10 μl/s and total length of analysis was 7.9 minutes.

Sequential injection chromatography system and computer software SIAsoft was used for analysis. Programs Microsoft Excel and Origin Pro 9 were used for processing and adjustment of data.

Developed method was not successful in quantification of amount of flavonoids in Hemostop Probio MAX. Method for data adjustment enabled significant reduction of LOD and LOQ.

Keywords: flavonoids, rutin, diosmin, hesperidin, sequential injection chromatography, Savitzky-Golay filter, food supplements.