

## **Abstract**

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Title of diploma thesis: SIC-HILIC methods development for the determination of resveratrol in nutraceuticals.

The subject of this diploma thesis was validation and development of SIC-HILIC method for determination of resveratrol substance in food supplements. Food supplements Resveratrol RX 800, Evelor Resveratrol 50 mg and Resveratrol antiaging were analyzed. Chromatography column Chromolith NH<sub>2</sub> (MERCK), 50x 4,6mm was used for separation in HILIC mode. Different combinations of composition of mobile phase, as ACN/0.5% acetic acid, ACN/0.5% formic acid, ACN/0.1% phosphoric acid, were tested. The best combination, ACN/ 0.5% acetic acid, was then tested on four levels of pH and optimization of volume of this mobile phase was performed. Flow rate of mobile phase was 1.0 ml/min, detection was performed at wavelength 305 nm with DAD detector. The separation was carried out at laboratory temperature and column pressure was constant. This measurement also confirmed the declared level of resveratrol content in analyzed food supplements available on the Czech market.

Keywords: Hydrophilic Interaction Chromatography (HILIC), Sequential Injection Analysis (SIA), Sequential Injection Chromatography (SIC), resveratrol, piceid