

# Abstract

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**Title of thesis:** Miniaturized solid-phase extraction in analysis of amino compounds by LC-MS/MS

Amino compounds, such as amino acids and biogenic amines, are essential building blocks of proteins and key metabolites found in various natural matrices. Their analysis plays a vital role in advancing the understanding of biological systems. Nowadays, removing unwanted compounds and cleaning samples is crucial and often the most challenging part of developing an analytical method. Sample preparation methods are continuously developed and optimized, focusing on miniaturization, cost reduction, speed, and higher throughput. In homemade pipette tip micro-solid-phase extraction, a sorbent is placed between two pieces of cotton in the pipette tip. This approach facilitates the handling of low-volume samples and organic solvents to achieve cheaper and more environmentally friendly sample preparation. In this master's thesis, the homemade pipette tip micro-solid-phase extraction was employed to simultaneously analyze amino compounds in honey. After the solid-phase extraction, the samples were evaporated, derivatized with diethyl ethoxymethylenemalonate, and analyzed by liquid chromatography tandem mass spectrometry.

**Key words:** amino compounds; pipette tip micro-solid-phase extraction; derivatization-targeted analysis; liquid chromatography tandem mass spectrometry.