

ANALYTICAL STUDIES ON THE FRACTIONATION PRODUCTS FROM LAVENDER EXTRACTS

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Lavender (*Lavandula angustifolia*) is a widespread aromatic plant exploited globally for essential oil production. It is known that the remaining wastes after industrial processing are rich in secondary metabolites with relevant biological activities [1]. In particular, triterpenic acids have recently attracted the interest of scientific community because of their broad activity spectrum which makes them very attractive for the use in cosmetics and healthcare products as functional compounds.

The aim of this study was isolation and analytical studies on different fractions obtained from *Lavandula angustifolia* ethanolic extracts. The vegetal plant material represented wastes generated on the extraction of essential oil at industrial scale.

The obtained integral extracts were mixed with different organic solvents of different polarity in acid and basic medium, thus obtaining a series of fractions with different content of secondary metabolites. The fractions with a high content of triterpenic acids were selected by using thin layer chromatography.

The analytical experiments included determination of total polyphenols with the Folin-Ciocalteu reagent, quantitative determination of flavonoids, FRAP reducing capacity test and qNMR determination of oleanolic, ursolic, pomolic and rosmarinic acids.

According to the obtained results fractions showing higher total polyphenols (495.59 mg EGA/g of extract) were also rich in flavonoids (343.01 mg catechin equivalent/g of extract) demonstrating relevant reducing capacity (386.67 mg EGA/g of extract) and high rosmarinic acid content (cca. 250 mg/g of extract). The triterpenic acids have been found to predominate in less polar fractions.

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References:

1. Héral, B., Stierlin, É., Fernandez, X., & Michel, T. Phytochemicals from the genus *Lavandula*: A review. *Phytochemistry Reviews*, 2021, 20(4), 751-771. <https://doi.org/10.1007/s11101-020-09719-z>.