

### III. Symposium of Young Researchers on Pharmaceutical Technology, Biotechnology and Regulatory Science

January 20-22<sup>nd</sup> 2021 Szeged, Hungary

#### OP-6

DOI: [10.14232/syrptbrs.2021.op6](https://doi.org/10.14232/syrptbrs.2021.op6)

#### Potential of vinegar as extractio solvent: can we use it for herbal preparation?

Zorana Mutavski, Senka Vidović

Faculty of Technology, University of Novi Sad, Novi Sad, Serbia



Apple cider vinegar (ACV) is widely used around the world as a flavoring and as a food preservative. Also, its use has been proposed in folk medicine as a health benefit for obesity and overweight, arthritis, asthma, cough, diarrhea, eczema, diabetes, and high cholesterol, and other disorders and diseases. It is produced by alcoholic and acetic fermentation (double fermentation). The ACV chemical composition is affected by the chemical composition of the apples used as a raw material, and by the applied fermentation process. According to the available data, ACV contains various organic acids-dominantly acetic acid, phenolic compounds, minerals (like potassium, sodium, calcium, and iron), vitamins (C and B group), and pectin.

In this study, ACV was used as an extraction solvent for the extraction of phenolic compounds from the black elderberry fruit. Conventional modified maceration and ultrasound-assisted extraction were used as the extraction techniques. The potential of several different ACVs as the extraction solvents was investigated. For the obtained ACV elderberry extracts, the analysis of phenolic compounds (TP), flavonoids, and anthocyanins were performed. Also, the effect of applied extraction process on the changes in pH and changes in sensory properties of obtained extracts was assessed. It has been observed that the ability to use ACV as an extraction solvent predominantly depends on the ACV production process, its chemical composition and microbiological status. The type of ACV production process affected the value of ACV pH, total solids, sugar content, acetic acid content, initial TP content, and sensory properties, which further affects the efficiency of extraction of phenolic compounds from black elderberry fruit, microbiological status and sensory properties of obtained extracts.

*Supervisor: Senka Vidović*