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Can we turn *Arctostaphylos uva-ursi* L. tea factory waste into herbal extracts for pharmaceutical formulations?

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Increased production of herbal tea generates increased amount of waste derived as an abundant residue that remains after plants processing, specifically herbal dust (up to 40% of the total processed raw material). According to our previous studies, highly useful compounds such as polyphenols, aromatic compounds, chlorophylls, and carotenoids have been recovered from different herbal dusts. *Arctostaphylos uva-ursi* L., commonly known as uva ursi or bearberry, have been traditionally used as a diuretic and antiseptic due to its rich arbutin content.

New technologies considering industrial ecology concepts have pointed out the need for waste recycling, and recovery of resources as valuable compounds as a main research topic. The objective of this research was to consider the impact of conventional solid-liquid (SLE), subcritical water (SWE) and ultrasound-assisted (UAE) extractions on the composition of individual bioactive compounds of *A. uva-ursi* herbal dust. Different extraction conditions were varied during the process. Qualitative and quantitative analysis of bioactive compounds from the *A. uva-ursi* herbal dust extracts was performed using HPLC-DAD.

The major phenolic compounds in *A. uva-ursi* herbal dust determined at different extraction conditions were hyperoside, followed by gallic acid and arbutin. High concentration of arbutin and gallic acid in *A. uva-ursi* extracts obtained by SWE make a great advantage of this green extraction technique over the others investigated. In summary, the conducted study has revealed promising results which showed the possible pathways for further application of green extraction techniques in efficient turn of herbal tea factory waste into functional ingredients for pharmaceutical applications.