

## Evaluation of Pretreatment and Bioactive Compounds Recovery from *Chlorella vulgaris*

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**Abstract :** Nowadays, microalgae represent the diverse branch of microorganism that is used not only in fish farming, but also in food, cosmetics, pharmaceuticals and biofuel production as they can produce a wide range of unique functional ingredients. In the present work, a remarkable microalga *Chlorella vulgaris* (CV) was selected as a raw material for the recovery of multifunctional extracts. First of all, the drying of raw biomass was examined with freeze-drying showing the best behavior. Ultrasonic-assisted extraction (UAE) using different solvents was applied under the specific optimized conditions. In case of raw biomass, ethanol was the suitable solvent, whereas on dried samples water performed better. The total carotenoid,  $\beta$ -carotene, chlorophyll and protein content in the raw materials, extracts and extraction residues was determined using UV-Vis spectrometry. The microalgae biomass and the extracts were evaluated regarding their antiradical activity using the DPPH method.

**Keywords :** antioxidant activity, pigments, proteins, ultrasound assisted extraction

**Conference Title :** ICFPT 2016 : International Conference on Food Processing and Technology

**Conference Location :** Paris, France

**Conference Dates :** August 22-23, 2016