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**MICROWAVE AND ULTRASOUND PRE-TREATMENTS TO ENHANCE
ANTHOCYANINS EXTRACTION FROM DIFFERENT WINE LEES.**

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Abstract

Wine lees are rich in anthocyanins (AC), natural colorants with health promoting properties. The extraction kinetics of AC from different wine lees in conventional solid-liquid extraction were studied for the first time. The influence of parameters such as temperature, solid-liquid ratio (R_{S-L}) and type of solvent (hydro-alcoholic mixtures) was also studied. Furthermore, microwaves (MW) and ultrasounds (US) were used as pre-treatments (a prior step to the conventional extraction) in order to increase AC yield. Maximum extraction yield ($2.78 \text{ mg}_{\text{MALVIDIN-EQUIVALENTS}}/\text{g}_{\text{DRY}}$ -

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