

## Extraction of Polyphenolic Compounds from Grape Pomace

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### SUMMARY

Plant polyphenolic compounds have been extensively studied and their antioxidant activity has been identified in several agricultural by-products, such as grape pomace. Grape seed in pomace is a good source of pro-anthocyanidins. Beside the seeds, grape skins in pomace represent a potentially important global source of *trans*-resveratrol. *Trans*-resveratrol, as a biologically active compound is one of the secondary plant metabolites, (Balasundram et al., 2006).

Grape skins were used to determine the *trans*-resveratrol content of pomace. For this purpose, traditional liquid-solid extraction method and ultrasonic extraction method were selected (Cho et al., 2006). Solid liquid ratio (g/mL) was kept constant as 0,1 for both of the methods. In order to investigate the importance of selecting appropriate extraction solvents, pure ethanol, pure methanol, and their 20% aqueous forms were used in extraction experiments. In order to determine the effect of temperature on extraction yield of *trans*-resveratrol in solvent extraction method, 30 °C and 60 °C were chosen. In each one of the temperature conditions tested, *trans*-resveratrol content at certain times of extraction (15, 30, 60 minutes and 24hours) was determined by HPLC-DAD. After applying extraction, crude extracts were centrifuged for 5 min at 3000 rpm. In case of the low concentration of *trans*-resveratrol in the extract, 1 mL of sample was concentrated to 0.1 mL with a vacuum concentrator at 40°C for 6 hours. After removing solvent with rotary evaporation at 40 °C, crude dry extract was obtained with freeze drier, which was applied at -50 °C and 0.2 mbar.

**Keywords:** grape skins, *trans*-resveratrol, ultrasonic extraction

*Acknowledgments.* This study has been financed by the Romanian Ministry of Education and Research, National Authority for Scientific Research, 19N/2009 NUCLEU Program, under Project PN 09190103, „Theoretical and experimental research for realization of molecular solar concentrators with application in the systems of renewable energy conversion”.

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