

CHARACTERIZATION OF SOME PHENOLIC COMPOUNDS IN MUSCATEL DESSERT WINES

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Phenolic compounds in wines are important as they contribute to the colour and flavour and its regular ingestion has been associated with antioxidant properties decreasing the risk of cardiovascular and other diseases.

Different families of phenolic compounds as benzoic aldehydes and acids, hydroxycinnamic aldehydes and acids, their esters obtained by condensation with tartaric acid, flavanols, flavonols, anthocyanins, flavan-3-ols, proanthocyanidins and hydrolysable tannins occur in wines. The type and concentration of these compounds is influenced by the grapes, the techniques used during the winemaking process and ageing conditions.

In previous work [1] phenolic compounds in Muscatel dessert wines from different producers in Setúbal region (Portugal) were identified and changes during the winemaking process were monitored. The aim of the present work was to identify a group of compounds not well resolved and detected at 66-76min in the chromatograms of all the wines analysed. In a preliminary characterization, two groups distinguished by *m/z* values of 447 and 461 were pointed out: there were also differences observed in UV spectra.

Analyses were performed with a Thermo Finnigan system including a HPLC coupled with a diode array detector and a mass spectrometer. Separations were performed at 35°C with a reversed phase column (C18). The chromatographic details and operational conditions of DAD and mass spectrometer with the APCI source were described before [1].

The peak pointed out in figure contains quercetin. Currently, information (UV and MS data) is being collected for characterization of the other peaks with the ultimate goal of identification. MS² experiments are also under way in order to get more structural information about these unknown compounds.

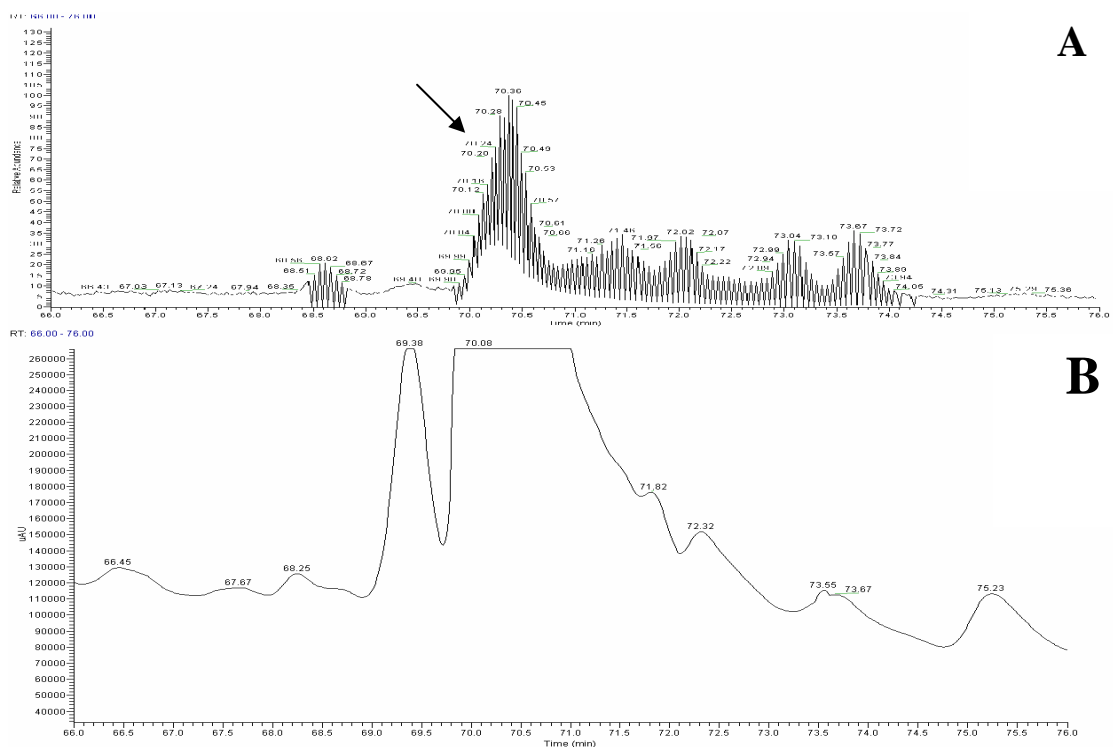


Figure. Chromatograms of a Muscatel wine: A) TIC MS B) Absorbance at λ_{max}

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References

[1] M.N. Bravo *et al.*, accepted for publication, *Analytica Chimica Acta*, 2005.