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UNIVERSITÀ
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2° SSM

Seminario di Spettrometria di Massa
Dipartimento di Chimica
UNITECH COSPECT

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Aula C03 via Mangiagalli 25 - MILANO

Giornata di studio dedicata all'applicazione della spettrometria di massa in campo ambientale, farmaceutico, alimentare, clinico.

L'evento è articolato in una giornata e mezza e contiene due sessioni poster.

E' previsto un premio per il miglior poster.

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PHENOLIC PROFILE OF DIFFERENT TABLE GRAPE VARIETIES CHARACTERIZED BY HPLC/DAD/ESI/MS

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Abstract

In the past few years, epidemiological studies have shown the role of phenolic compounds present in fruits and vegetables, as a part of the Mediterranean diet, in preventing chronic diseases. Grapes is one of the most important sources of phenolic compounds among fruits. The antioxidant activity of grapes has been positively correlated with the phytochemical profile and content of anthocyanins, flavonols, flavan-3-ols and phenolic acids [1]. As a consequence, the phenolic profile characterization represents the first step to establish a correlation between grape consumption and the possible positive effects on health.

Table grapes market and, in parallel, the interest in promoting non-fermented beverages are rapidly growing, also due to a general trend in discouraging the alcohol abuse/misuse observed also among young people.

The aim of this study was the characterization of the phenolic profile of 16 different varieties of table and wine grapes using a High-Performance Liquid Chromatography (HPLC) coupled with electrospray ionization mass spectrometric (ESI-MS) method. LC-MS technique is a useful screening technique for the identification of biologically active metabolites in natural sources.

The UV spectral data, fragmentation patterns and chromatographic behaviors were compared with the information from the scientific literature or on-line databases.

Among the 59 compounds identified (18 flavonols, 16 flavan-3-ols and 25 anthocyanins) epicatechin, procyanidin B2, malvidin-3-glucoside and quercetin were the most abundant. Our results confirm that table grapes show an interesting phenolic profile, representing a good source of healthy compounds.

References

1. **Aubert** C, Chalot G. (2018) *Chemical composition, bioactive compounds, and volatiles of six table grape varieties (Vitis vinifera L.)*. Food Chem. **1**:524-533.