

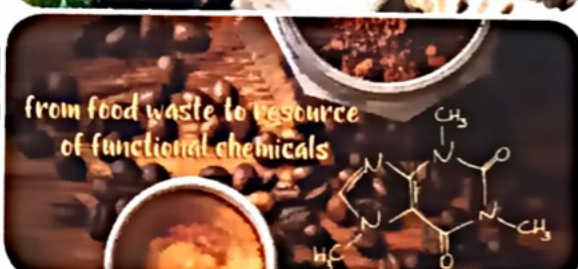


CHIMALI 2018
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Gruppo Interdisciplinare
Chimica degli Alimenti

CHIMALI

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Auditorium Benedetto XIII - via Le Mosse - Colle Paradiso

- OC37 A recycling proposal for pomegranate marcs obtained after juice squeezing.
- OC38 Antioxidant activity of a chemically characterized propolis extract rich in polyphenols: bioavailability and mechanisms of action.
- OC39 Allergen cross-reactivity between the shrimp *P. vannamei* and the edible cricket *A. domesticus*.

POSTERS

- PO01 From spirulina proteins to dipeptidyl peptidase IV inhibitory peptides: A high-throughput and integrated peptidomic strategy.
- PO02 The development of new extraction methods to quantify three lignans in espresso and roast and ground coffee.
- PO03 A new extraction method to quantify lignans and isoflavones in green coffee using HPLC-MS/MS triple quadrupole.
- PO04 Levels of mercury and selenium in mediterranean bluefin tuna (*thunnus thynnus*) and swordfish (*xiphias gladius*) muscle.
- PO05 Short-time lactic-acid fermentation improves the nutraceutical value of black tea beverage.
- PO06 PO06- Rapid detection of *E. Coli* O157:H7 in salad.
- PO07 A thorough investigation on the vegetable waxes from *Citrus Limon* (L.) Osbeck.
- PO08 Composition and quality of milk and cheese from sheep grazing on dry pasture: effects of feeding supplementation.
- PO09 Active graphene-based food packaging systems for a modern society (GRAFOOD).
- PO10 Development of a new HPLC MS/MS method for the simultaneous quantification of sixteen polyphenols in pulses.
- PO11 Free fatty acids and hexanal monitoring in cheese by HS-SPME-GC-MS: evaluation of food packaging efficiency.
- PO12 Polysaccharides, ellagitannins and anthocyanins from pomegranate: a study of the whole fruits of 16 varieties.
- PO13 Antioxidant peptide from buffalo ricotta cheese after simulated gastrointestinal digestion: *In vitro* intestinal protection and *ex-vivo* hypotensive activity.
- PO14 SERS spectroscopy for in-field detection of pesticides: Preliminary results on glyphosate and dimethoate.
- PO15 Phenolic fingerprint of 16 different grape varieties by HPLC/DAD/ESI/MS.

P015- Phenolic fingerprint of 16 different grape varieties by HPLC/DAD/ESI/MS

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Introduction:

Epidemiological studies have shown the role of phenolic compounds in modulating different metabolic patterns responsible for beneficial effects in human health [1]. Grapes is one of the most important sources of phenolic compounds of the Mediterranean diet. The antioxidant activity of grapes has been previously correlated with the corresponding phytochemical profile [2].

Methods:

The aim of this study was the characterization of the phenolic profile of 16 different varieties of table and wine grapes using the High-Performance Liquid Chromatography coupled with electrospray ionization mass spectrometry. The UV spectral data, fragmentation patterns and chromatographic behaviors were compared with data from the scientific literature or the available on-line databases.

Results:

From the analysis, 59 phenolic compounds were identified: 25 anthocyanins, 18 flavonols and 16 flavan-3-ols; among them, epicatechin, procyanidin B2, malvidin-3-glucoside and quercetin were the most abundant.

Among anthocyanins, the glucosides of malvidin, cyanidin, petunidin, peonidin, were the most representative; other derivatives, such as acetyl, coumaroyl and caffeoyl esters were also abundant.

Among flavonols, the galactoside, glucoside, glucuronide and rutoside derivatives of quercetin and kaempferol were the most abundant; other flavonols (e.g. trihydroxyflavone-hexoside and trihydroxyflavone-riboside) were distributed in all grape varieties.

Four different proanthocyanidin dimers were observed, but the identification with purified standard was only possible for procyanidin B2. Surprisingly, epigallocatechin and epigallocatechin gallate were not detected in any sample.

Conclusions:

The results of this study show that the table grapes and, consequently, their unfermented derivatives (e.g. juice), are rich in anti-oxidant compounds. Moreover, the phenolic profile of some grape varieties seems particularly interesting and could represent a significant dietetic tool in promoting human health.

References

1. Valls-Pedret C., Lamuela-Raventós R.M., Medina-Remón A., Quintana M., Corella D., Pintó X.,
2. Martínez-González M.Á., Estruch R., Ros E., *J Alzheimers Dis*, 29,773-782 (2012).