



Polyphenol constituents and antioxidant activity of grape pomace extracts from five Sicilian red grape cultivars

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Abstract: The methanolic extracts (MeOH) obtained from de-stemmed grape pomace samples of five Sicilian red grape cultivars (Nero d'Avola-NA, Nerello Mascalese-NM, Nerello Cappuccio-NC, Frappato-FR and Cabernet Sauvignon-CS) were evaluated for their DPPHradical dot and ABTSradical dot- radical scavenging capacity, and submitted to HPLC-UV-DAD and HPLC-MS-ESI analysis to determine the main polyphenolic constituents, namely anthocyanins and flavonols. All the MeOH extracts showed significant antioxidant activity, with some differences between the two methods employed. The NM sample was the most active in both tests. A large variability in the total anthocyanin (TA) and flavonol (TF) contents of the MeOH extracts, as well as in the quantitative distribution of the single anthocyanins and flavonols was observed. Statistically insignificant correlations between the TA + TF content and antioxidant activity, as measured by DPPHradical dot and ABTSradical dot- model systems ($r^2 = 0.0607$, $P > 0.05$; $r^2 = 0.3471$, $P > 0.05$), were established, but the most active sample, NM, showed the highest content of anthocyanins including a free catechol moiety in their structure.

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