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# UHPLC-QqTOF UNTARGETED METABOLOMICS OF NATIVE PHENOLIC COMPOUNDS IN DIFFERENT RASPBERRY SAMPLES (*RUBUS IDAEUS L.* AND *RUBUS OCCIDENTALIS L.*)

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Dietary health benefits are increasingly associated to the consumption of phenolic antioxidants (e.g. anthocyanins and ellagitannins), which are widely distributed and abundant in small fruits, such as raspberry [1, 2]. The in-depth metabolomics profiling of polyphenol-rich fruits is of paramount importance for the discrimination of different berry species and/or cultivars. Moreover, an accurate knowledge of fruit native compounds is of crucial significance when their fate during the digestion processes is investigated [3, 4]. Accordingly, the aim of this work is to provide a detailed profile of these bioactive compounds in different raspberry species (*Rubus idaeus* L. and *Rubus occidentalis* L.) by untargeted approaches developed with UHPLC analysis coupled with quadrupole/time-of-flight mass spectrometry. Total soluble polyphenols (TSP), total monomeric anthocyanins (TMA), as well as targeted individual phenolic compounds were also determined in the extracts of the freeze-dried samples. The metabolomics profiling evidenced a high number of polyphenols mostly belonging to the anthocyanins, ellagitannins (ETs) and flavan-3-ols classes. TSP and TMA assays revealed a polyphenol content ranging from 198.5 to 337.2 mg procyanidin B1 eq. 100 $g^{-1}$ f.w. and from 61.0 to1245.1 mg cyanidin-3-sophoroside eq. 100 $g^{-1}$ f.w., respectively. Individual compound quantitation highlighted a general content of each selected analyte ranging from hundreds µg to tens mg 100 $g^{-1}$ f.w.

**References**

[1] Zhang X., Sandhu A., Edirisinghe I., Burton-Freeman Britt, Food & Function, 2018, 9, 806.
[2] Kula M., Majdan M., Glod D., Krauze-Baranowska M., Journal of Food Composition and Analysis, 2016, 52, 74.
[3] Ancillotti C., Ciofi L., Rossini D., Chiuminatto U., Stahl-Zeng J., Orlandini S., Furlanetto S., Del Bubba M., Analytical and Bioanalytical Chemistry, 2017, 409, 1347.
[4] Ancillotti C., Ulaszewska M., Mattivi F., Del Bubba M., Journal of America Society for Mass Spectrometry, 2018, 1.