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Pressurized liquid extraction of bioactive compounds from grape marc

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1 **Pressurized liquid extraction of bioactive compounds from grape**

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14 **ABSTRACT**

15 Extracts rich in monomeric anthocyanins (MAC) and total phenolic compounds (TPC)
16 were obtained from grape marc by Pressurized Liquid Extraction (PLE). PLE was
17 performed using ethanol and water mixtures (acidified or not) (50% w/w), pure ethanol
18 and acidified water at temperatures from 40 to 100 °C. The best PLE conditions for MAC
19 extraction (ethanol-water pH 2.0 [50% w/w]) resulted in 10.21 mg of malvidin-3-*O*-
20 glucoside/g of dried grape marc (dr). Fifteen anthocyanins were identified and quantified
21 in PLE extracts by UHPLC-UV-Vis. PLE with ethanol-water (50% w/w) as solvent at
22 100 °C achieved the highest TPC content (65.68 mg GAE/g dr) and antioxidant capacity
23 by ORAC (772.11 µmol TE/g dr) and FRAP (1452 mg TE/g dr) among the evaluated
24 conditions. Based on the results for extraction of monomeric anthocyanins and phenolics
25 compounds, a sequential PLE process was performed and proved to be viable for the
26 recovery of two different extract fractions.

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