IDENTIFICATION AND QUANTITATIVE DETERMINATION OF ANTHOCYANIN CONTENT IN GRAPE POMACE FROM THE WINE MAKING INDUSTRY IN COMPARISON TO THE EQUIVALENT CONTENT OF THE WINE VARIETY


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Anthocyanins are a group of phenolic compounds with great importance, not only because they play a crucial role in a wine’s quality, but also due to the fact that they can have beneficial effects on human health. In this work, a method was developed for the detection and identification of these compounds in solid wastes of the wine making industry (red grape skins and pomace) using liquid-liquid extraction and liquid chromatography-mass spectrometry techniques (LLE-LC-MS). The complete process was investigated and optimized, starting from the extraction conditions, continuing to liquid chromatography column type selection, as well as LC-MS parameters. To enable accurate identification of the analytes and optimization of the developed method, kuromanin chloride (cyaniding-3-O-glucoside chloride) and myrtillin chloride (delphinidin-3-O-glucoside chloride) were used as standards. Furthermore, the wine variety (Syrah) from which the specific by-products are produced, analyzed for its anthocyanin content under the same conditions, leading to interesting conclusions about which anthocyanins, and in what degree are transferred from grapes to wine during the fermentation process.

Chemical structure of anthocyanins (pH < 5)

KEYWORDS: anthocyanins, liquid chromatography, mass spectrometry, grape pomace

ACKNOWLEDGEMENTS:
This work was supported by "11SYN_2_1992" action "COOPERATION 2011" of EYDE-ETAK funded by the Operational Program "Competitiveness and Entrepreneurship" (EPAN-II).