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Determination Anthocyanidin Profile and Antioxidant Capacity of Black Myrtle (*Myrtus communis* L.)

Salih AKSAY, Firat ÇINAR*, Rıdvan ARSLAN, Habip TOKBAŞ

Mersin University, Department of Food Engineering 33343 Mersin

firatcinar@mersin.edu.tr

Abstract

Myrtle (*Myrtus communis* L.) is an aromatic medicinal and evergreen shrub belonging to the family of Myrtaceae and is distributed in Mediterranean basin, Asia and America. Myrtle is an annual plant and has been used for medicinal purposes and as food and spice since ancient times. This study was conducted to determine the type of anthocyanidins which are potential to be found and antioxidant capacity of Black Myrtle (*Myrtus communis* L.). For this purpose, total polyphenol content was extracted from black myrtle fruits by acidified methanol and then by using C₁₈ Sep-Pac cartridge were used for further purification of anthocyanins. Acid and alkaline hydrolysis were applied for description of the purification anthocyanins. For description of anthocyanins, high-performance liquid chromatography which was equipped with reverse phased C18 mini column and DAD detector adjusted to 520 nm wavelength was used for purified extract, saponified and acid hydrolysed samples. Anthocyanins which are potential to be found in the Black Myrtle fruits were determined by comparing reference chromatograms of anthocyanidins extracted from grapes, strawberry, black plum and eggplant. Antioxidant activity of acidified methanolic crude extract was determined by using ferric reducing/antioxidant power (FRAP) method. According the results, the predominant anthocyanins of Black Myrtle is considered as cyanidin. Also solid content, total phenolic contents and antioxidant activity of fruit were observed %32.72, 0.45 mg gallic acid equivalent/g dw, and 2462.93 µg FeSO₄/g dw respectively.

Keywords: Black Myrtle, *Myrtus communis* L., Anthocyanin, Antioxidant Activity, High Performance Liquid Chromatography.