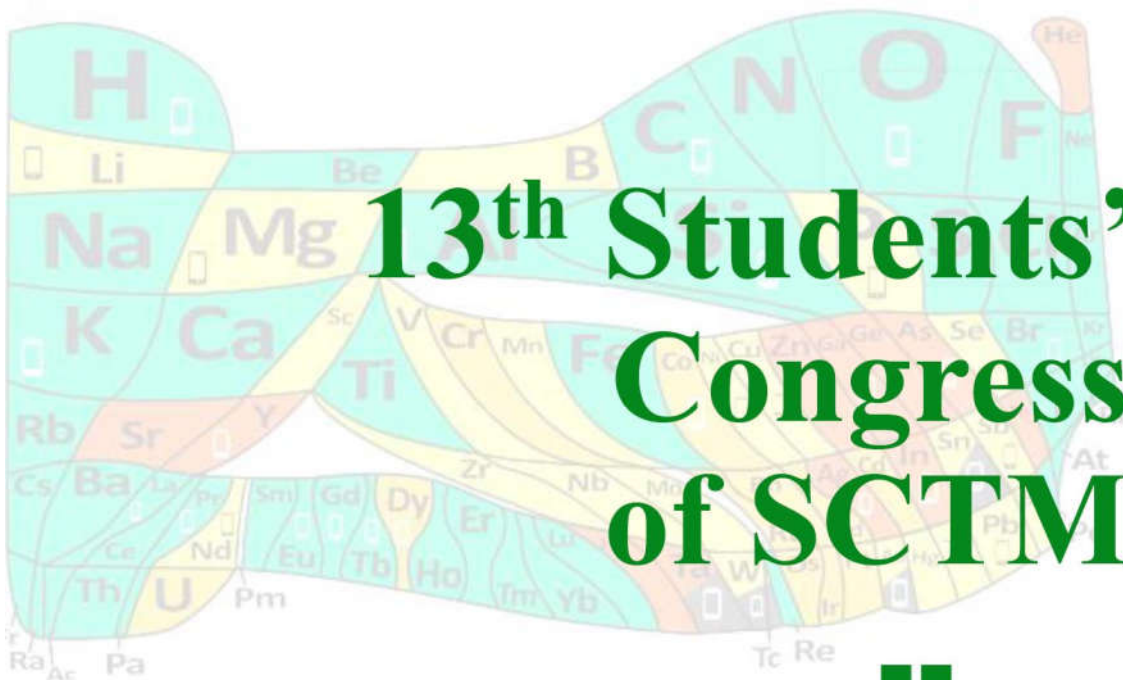




United Nations
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International Year
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of Chemical Elements



**19–21 September, 2019 |
Institute of Chemistry**

**Skopje,
Republic of N. Macedonia**



**Сојуз на хемичарите и технолозите на
Македонија**

**Society of Chemists and Technologists of
Macedonia**

13th Students' Congress of SCTM

BOOK OF ABSTRACTS

**19-21 September 2019
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Сојуз на хемичарите и технолозите на Македонија
Society of Chemists and Technologists of Macedonia

19-21 September 2019, Institute of Chemistry, Skopje

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Biotechnology and Food Technology (BFT)

BFT 2

Application of HPLC-DAD for phenolic evaluation of red wines during maceration

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The quality of red wines depends to great extent on their phenolic composition, the most important components which determine the colour, mouthfeel, astringency and bitterness of the wine. These compounds origin from different parts of the grape: (i) grape skins contain anthocyanins, flavan-3-ols, flavonols, dihydroflavonols, hydroxycinnamoyl tartaric acids, hydroxybenzoic acids and hydroxystilbenes, whereas (ii) flavan-3-ols and gallic acid are dominant in the seeds, and (iii) hydroxycinnamoyl tartaric acids are mainly present in the juice. In this study, phenolic compounds in Stanušina, Vranec and Cabernet Sauvignon wines were determined by HPLC-DAD and spectrophotometry. All wines were produced with different maceration time (3, 6 and 9 days) in order to study its influence on the phenolics extraction during winemaking. It was concluded that malvidin-3-glucoside and its derivatives were the major compounds, while caftaric acid was the predominant cinnamic acid derivative, followed by catechin, the main flavan-3-ol. Monitoring of winemaking showed a complex extraction pattern that vary with maceration time and grape variety, with hydroxycinnamic acids and anthocyanins were observed to be present in the highest content after 3 and 6 days of maceration, respectively, followed by a slight decrease with time. Compared to Cabernet Sauvignon and Vranec, Stanušina wines showed low level of anthocyanins, but relatively high content of hydroxycinnamic acids, such as caftaric and caffeic acids, and antioxidant activity as well.

Keywords: Anthocyanins, Autochthonous variety, HPLC, maceration, red wine.

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Reference:

[1] Ivanova-Petropulos, V.; Durakova, S.; Ricci, A.; Parpinello, G.P.; Versari, A. Extraction and evaluation of natural occurring bioactive compounds and change in antioxidant activity during red winemaking. *J. Food Sci Tech Mys* 2016, 53 (6) 2634-2643. DOI:10.1007/s13197-016-2235-7.