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Czech J. Food Sci.

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Chemical markers in the aroma profiles of South Moravian red wine distillates

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HSSPME-GC/MS method was used to investigate the volatile compounds responsible for varietal character in the aroma of wine distillates made from 16 different red wine grape cultivars: Andre, Blue Frankish, Merlot, Cabernet Moravia, Rubinet, Pinot Noir, Ariana, Alibernet, Laurot, Dornfelder, Blauer Portugieser, Agni, Neronet, Zweigeltrebe, Cabernet Sauvignon, and Domina. The grapes were all grown in the same vineyard in South Moravia, an important viticultural region in the south of the Czech Republic bordering Austria. The isometric log-ratio transformation was used to compute variances prior to statistical analysis, and a compositional biplot was used to interpret the data and identify the main chemical markers. A comparison of the key terpenoids present in the aroma

profiles indicated that these were consistent with the known relationships between the cultivars based on their parentage. There were similarities in the terpenoid elements of the aroma profiles of Blue Frankish and its relatives Andre, Laurot, Agni, and Zweigeltrebe, which are dominated by (*Z*)-linalool oxide, linalool, isoborneol, terpinen-4-ol and *α*-terpineol. On the other hand, the aroma profiles of Pinot Noir, Blauer Portugieser, Cabernet Sauvignon and their related hybrids are dominated by *o*-cymene, limonene, (*E*)-sabinyl acetate, and (*E*)-calamenene.

Keywords:

terpenoids; compositional data; principal component analysis; centred log-ratio transformation; gas chromatography/mass spectrometry; solid-phase microextraction

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