Evaluation of two quantitative gas chromatography–olfactometry methods for clonal red wines differentiation

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ABSTRACT: The gas chromatography–olfactometry (GC–O) methods, detection frequency and posterior intensity, were evaluated to determine the odour intensity of three Aragonez clonal red wines. An experienced panel of eight sniffers was used and 36 odourant compounds were detected. Positive significant correlations were obtained between detection frequency and average intensity scores. Principal component analysis of the scores obtained by the posterior intensity method revealed a good separation among the three Aragonez clonal red wines. Clonal wine A1 presented the highest odour intensities. Indeed, this wine was highly influenced by several odourant compounds, in particular, varietal compounds such as β-damascenone and 2,5-dimethyl-4-hydroxy-3(2H)-furanone. These results pointed to the posterior intensity method as a suitable tool for clonal red wines differentiation. Copyright © 2007 John Wiley & Sons, Ltd.

KEY WORDS: gas chromatography–olfactometry; detection frequency method; posterior intensity method; clonal red wines; principal component analysis

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