

TERPENOIDS AND NORISOPRENOIDS IN ITALIAN RED WINES



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Introduction and methods

Terpene compounds are associated with floral notes and are characteristic of aromatic grape varieties such as Muscat (Jackson, 2008). They are generally considered to potentially contribute to the aroma of white wines. However, there is a growing interest towards the potential contribution of terpene compounds to the aroma of red wines. The aim of this work was to investigate the occurrence of different terpenes in red wines from Italian varieties. For this study wines from 11 mono-varietal Italian red wines from 12 regions were used (19 Sangiovese, 11 Nebbiolo, 10 Aglianico, 11 Primitivo, 10 Raboso del Piave, 9 Cannonau, 11 Teroldego, 3 Nerello, 9 Montepulciano, 7 Corvina). All samples were from vintage 2016 and none of them had been in contact with wood. A total of 19 terpenes and 7 norisoprenoids were analysed by mean of SPME-GC-MS. The wines were collected in the framework of the activities of the D-Wines (Diversity of Italian wines) project.

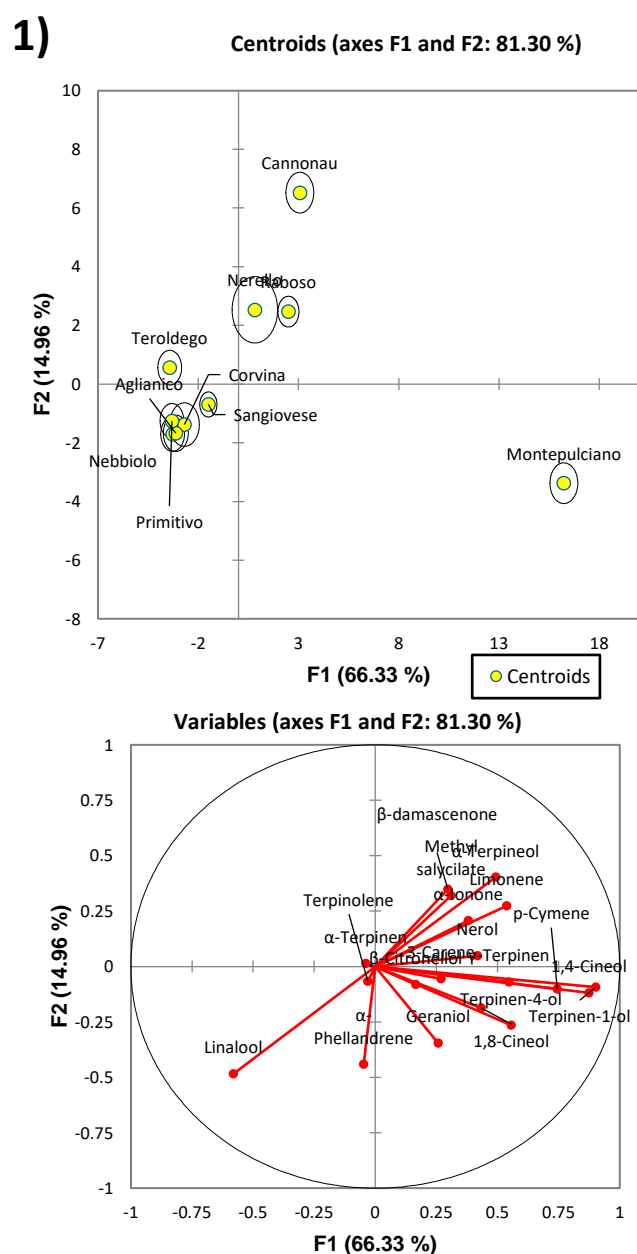
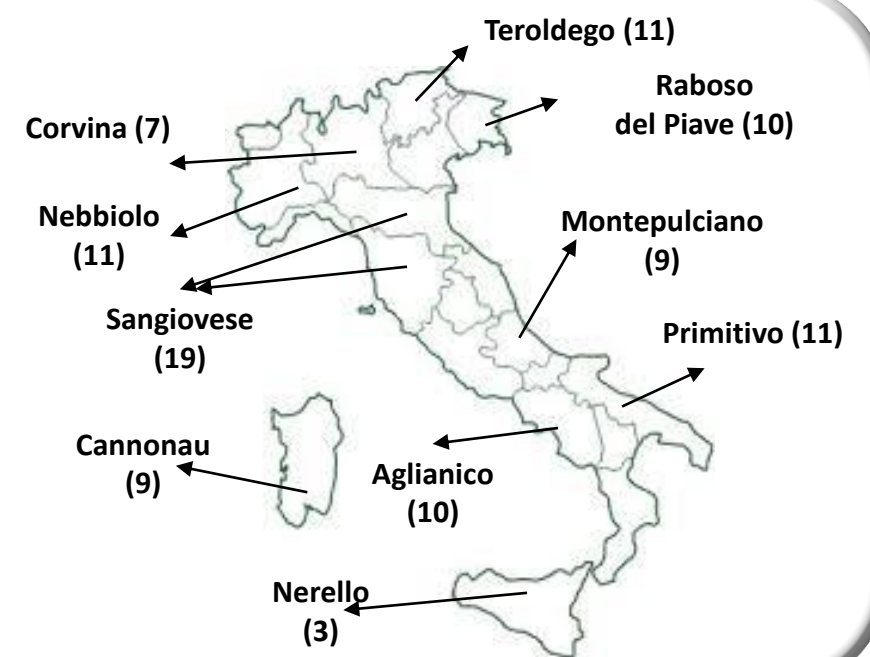
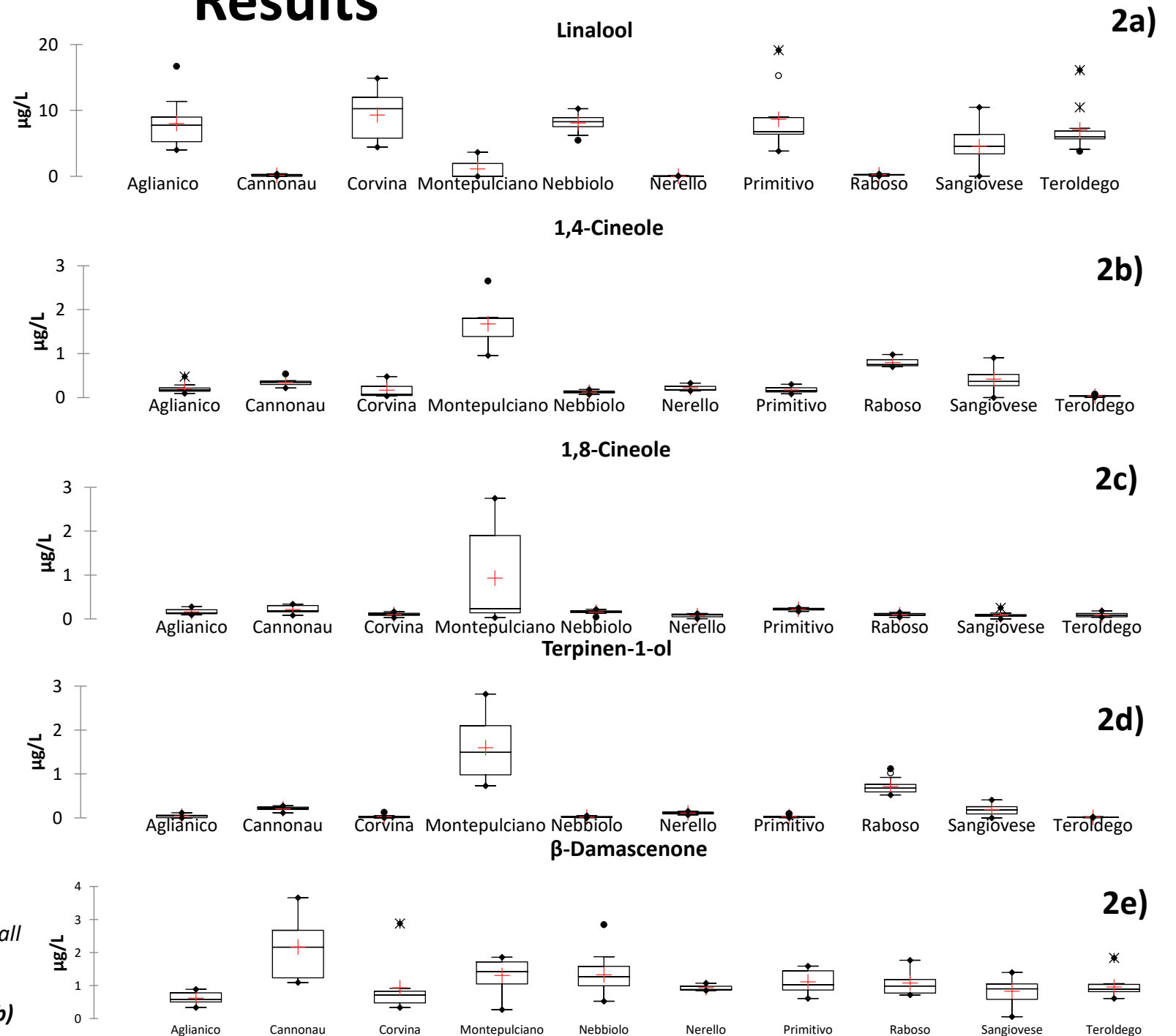


Figure 1. Discriminant Analysis of volatile compounds of all red wines

Figure 2. Content of discriminant compounds a) linalool b) 1,4-cineole c) 1,8-cineole d) Terpinen-1-ol and e) β -damascenone

Results



Conclusions

This study provide the first survey of a large number of terpenoids and norisoprenoids in different mono-varietal Italian red wines. The results showed that a large number of terpenoids were present in Italian red wines with specific profiles related to the varieties.

References: Jackson, R.S. (2008). Chapter 6 Chemical constituents of grapes and wine. Wine science (3rd ed.), Elsevier.

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