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Introduction

Verdicchio and Lugana are two Italian white wines produced in the Marche and Garda lake regions respectively. They are however obtained using grape varieties sharing the same genetic background, locally known as Verdicchio in Marche and Trebbiano di Soave in Garda. Anecdotal evidence suggests that these two wine types exhibit distinctive aroma features. The aim of this work was to explore the existence of a recognizable odour profile for Lugana and Verdicchio, and whether specific aroma chemical markers could be identified



Materials and Methods

Wine samples:

13 commercial wines:
6 Lugana (L)
7 Verdicchio (V)
Vintages 2016, 2017,
2018

Volatile compounds analysis:

Solid Phase Microextraction (SPME) and Solid Phase Extraction (SPE) sampling techniques coupled to GC-MS analysis allowed to identify and quantify a total of 53 volatile compounds

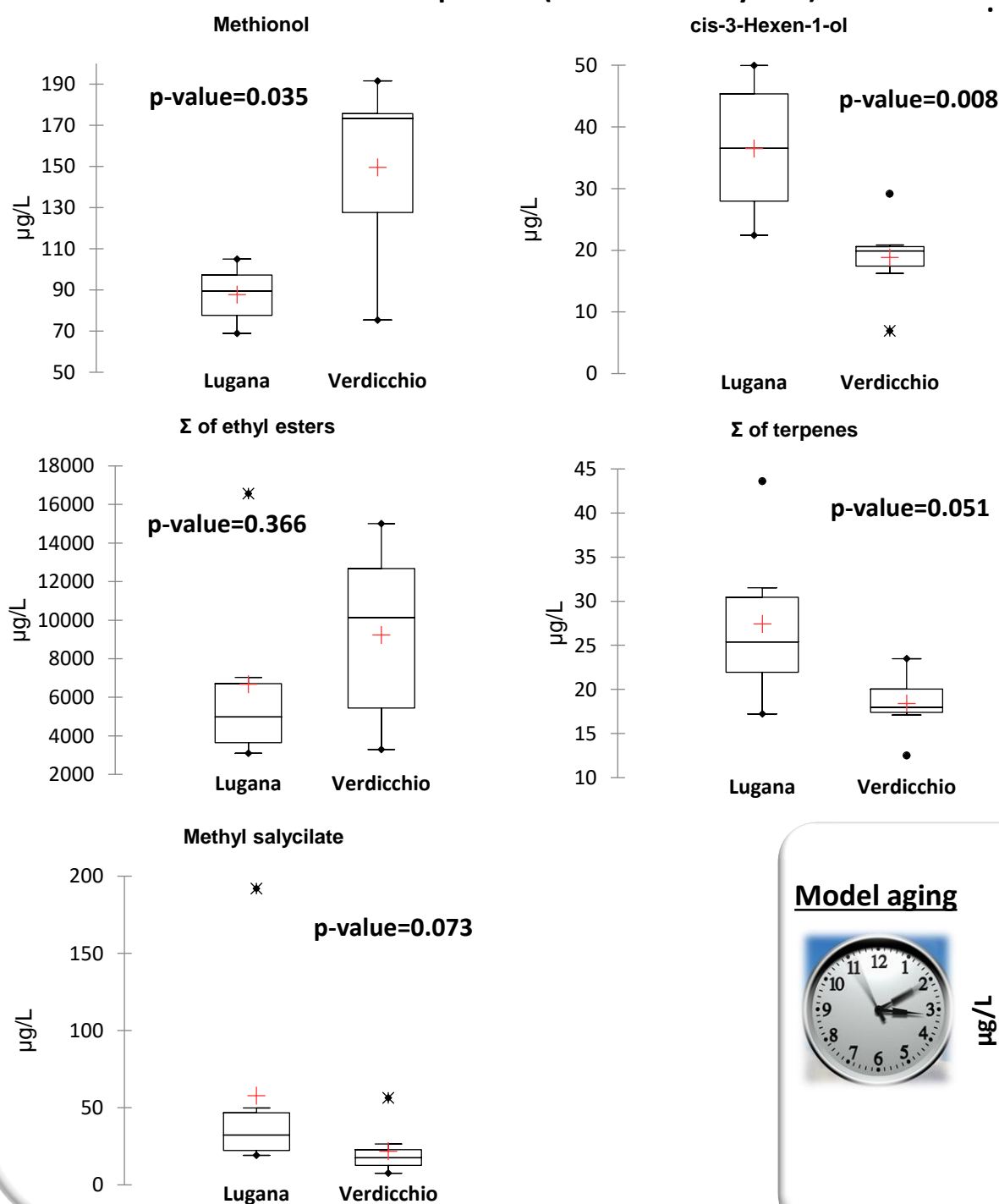
Model aging:

Stored at 40 °C for 3 months

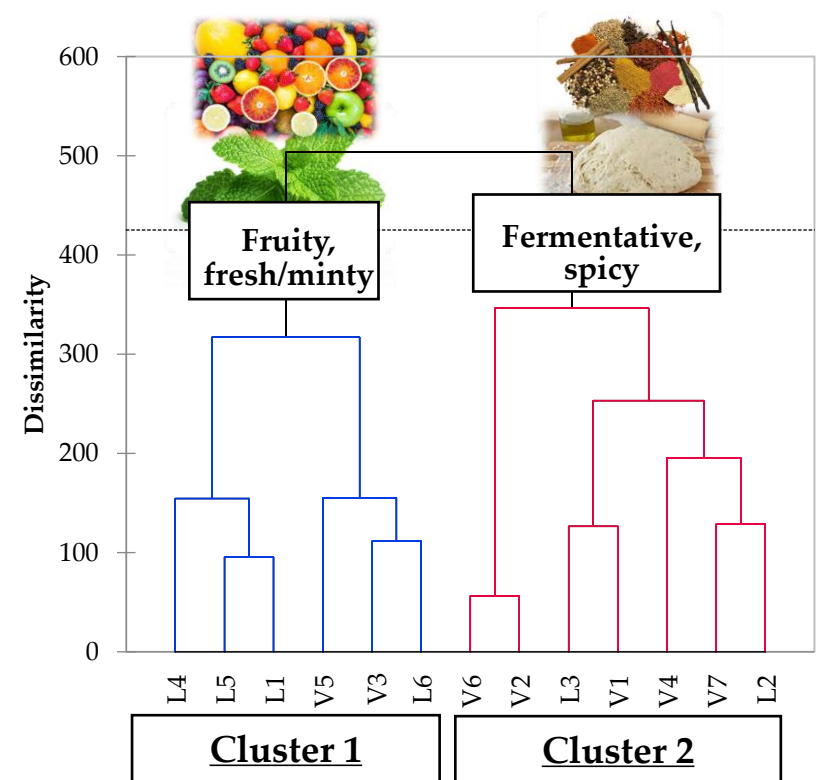
Results

CHEMICAL DIFFERENCES

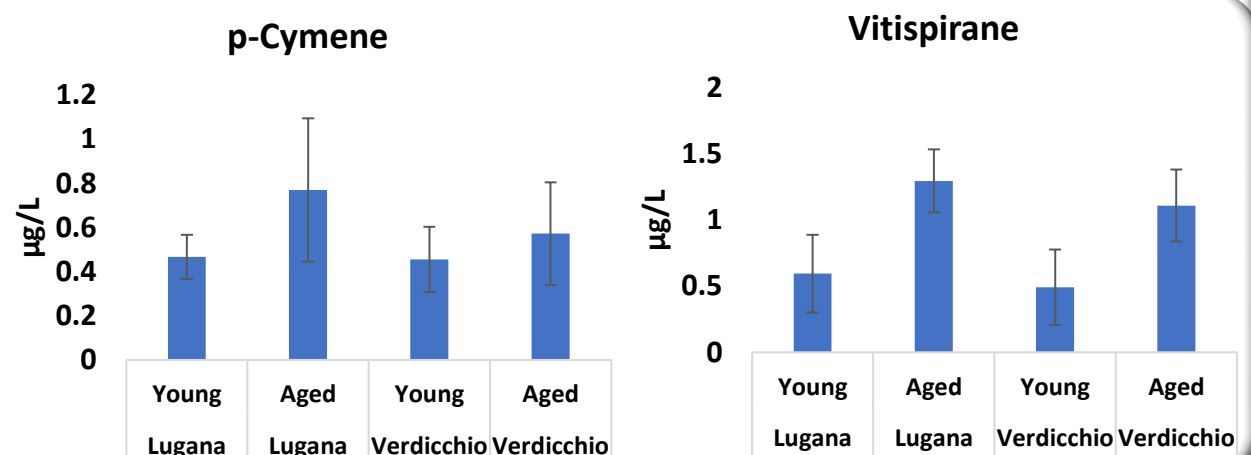
Most discriminant compounds (Mann-Whitney test)



SORTING TASK – OLFACTORY DIFFERENCES



Model aging



CONCLUSIONS

Significant differences exist between Lugana and Verdicchio wines both at a sensorial and chemical level. These results highlight that environment and viti-enological practices play a fundamental role in the aroma expression of wines in spite of the very similar genetic background of the grape.