

**P25. REGIONAL FEATURES OF NORTHERN ITALIAN SPARKLING WINES, IDENTIFIED USING SOLID-PHASE MICRO EXTRACTION AND COMPREHENSIVE TWO-DIMENSIONAL GAS CHROMATOGRAPHY COUPLED WITH TIME-OF-FLIGHT MASS SPECTROMETRY**

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We carried out comprehensive mapping of volatile compounds in 70 wines, from 48 wineries and 6 vintages, representative of the two main production areas for Italian sparkling wines, by HS-SPME-GC×GC-TOF-MS and multivariate analysis. The final scope was to describe the metabolomics space of these wines, and to verify whether the grape cultivar signature, the pedoclimatic influence of the production area, and the complex technology were measurable in the final product. The wine chromatograms provided a wealth of information, with 1695 compounds being found.

A large number of putative markers influenced by the cultivation area was observed. A subset of 196 biomarkers fully discriminated between the two types of sparkling wines investigated.

Among the new compounds, safranal and alpha-isophorone were observed. We showed how correlation-based network analysis could be used as a tool to detect the differences in compound behaviour based on external/environmental influences.