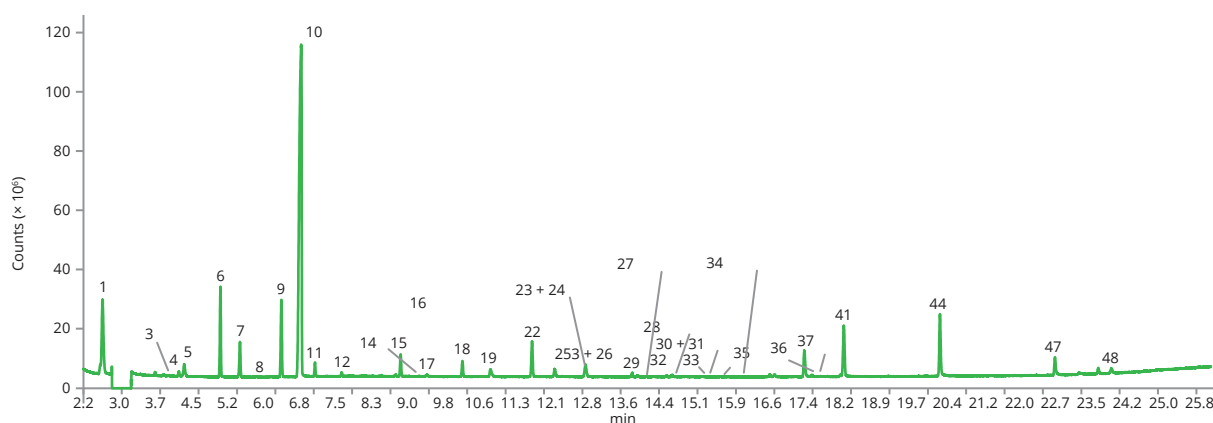




Wine profile analysis by GC/MS

The flavour and aroma of a wine are highly depend on the content of volatile organic compounds. A simple GC/MS method for determination of wine's key volatile compounds has been developed. The understanding of chromatographic profile of the wine is an important tool for wine formulation and quality control in the winemaking.



Calibration standard on LION™ LN-WAX MS GC capillary column

Column	LION™ LN-WAX MS
Dimensions	30 m × 0.25 mm × 0.25 µm
Part number	LNI-5784-FF30
Injector temp.	200 °C
Injection mode	Split, 5:1
Column flowrate	1.2 mL/min
Oven program	45 °C, hold 3.5 min, 15 °C/min, 90 °C, hold 0 min, 6 °C/min, 135 °C, hold 0 min, 9 °C/min, 207 °C, hold 0 min, 15 °C/min, 252 °C, hold 1 min
Detection	MS, Interface @250 °C, 20 to 220 amu
Instrument	Shimadzu GC/MS system 17A/QP-5050A



Wine profile analysis by GC/MS

Analytes

- | | |
|-----------------------|---------------------------|
| 1. Ethyl acetate | 26. 2,3-butanediol |
| 2. 1,1-diethoxyethane | 27. Hotrienol |
| 3. Isobutyl acetate | 28. Butyric acid |
| 4. Ethyl butyrate | 29. Ethyl decanoate |
| 5. 1-propanol | 30. Isovaleric acid. |
| 6. Isobutyl alcohol | 31. 2-methylbutanoic acid |
| 7. Isoamyl acetate | 32. Diethyl succinate |
| 8. 1-butanol | 33. Alpha-terpineol |
| 9. Cyclopentanone | 34. Methionol |
| 10. Isoamyl alcohol | 35. Nerol |
| 11. Ethyl hexanoate | 36. 2-phenylethyl acetate |
| 12. 1-hexyl acetate | 37. Hexanoic acid |
| 13. Acetone | 38. Ethyl dodecanoate |
| 14. Ethyl lactate | 39. Geraniol |
| 15. 1-hexanol | 40. Benzyl alcohol |
| 16. (E)-3-hexen-1-ol | 41. 2-phenyl ethanol |
| 17. (Z)-3-hexen-1-ol | 42. 4-ethylguaiacol |
| 18. Ethyl octanoate | 43. Diethyl malate |
| 19. Acetic acid | 44. Octanoic acid |
| 20. Furfural | 45. 4-ethyl phenol |
| 21. Benzaldehyde | 46. 4-vinyl guaiaicol |
| 22. 2-nonanol | 47. Decanoic acid |
| 23. 2,3-butanediol | 48. 4-vinyl phenol |
| 24. Linalool | 49. Dodecanoic acid |
| 25. Isobutyric acid | |

This application was developed by the Mendel University in Brno.

