



Analysis of fermentation-derived wine volatiles



What is it?

During fermentation, a wide range of wine compounds are formed including ethyl esters, acetates, and alcohols. Compounds arising from fermentation are the main group of volatile aroma compounds present in wine, and are major contributors to the aroma and flavor profile of wine. These fermentation-derived compounds are often found in red wine and white wine at or above their sensory perception threshold, and thus are considered important contributors to the aroma of wine.

The SA Metabolomics Facility has developed a method that allows the quantification of 17 volatile fermentation-derived compounds that contribute to the aroma of red and white wine in a single analysis. The 17 compounds are listed in the table below.

Why is it important?

All of the compounds measured have important sensory impact. Various factors, including yeast strain and other fermentation conditions, are all reported to impact on levels of these compounds in wine. Consequently, the relative concentrations of this range of fermentation-derived compounds can be characteristic of particular fermentation parameters and provide vital information on how such parameters modulate wine aroma and style.

Pricing for the analysis is dependent on number of samples, so please contact Natoiya on natoiya.lloyd@awri.com.au for more details.



Compound	Aroma descriptors	Compound	Aroma descriptors
Ethyl acetate	VA, nail polish	3-methylbutyl acetate	Banana
Ethyl propanoate	Fruity	Hexyl acetate	Sweet, perfume
Ethyl 2-methylpropanoate	Fruity	2-phenylethyl acetate	Flowery
Ethyl butanoate	Fruity	2-methylpropanol	Fusel, spiritous
Ethyl 2-methylbutanoate	Sweet fruit	Butanol	Fusel, spiritous
Ethyl 3-methylbutanoate	Berry	2-methylbutanol	Nail polish
Ethyl hexanoate	Green apple	3-methylbutanol	Harsh, nail polish
2-methylpropyl acetate	Banana, fruity	Hexanol	Green, grass
2-methylbutyl acetate	Banana, fruity		

Contact

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