

Flow Analysis XIII



6–10 July 2015, Diplomat Hotel, Prague, Czech Republic



Final Programme & Book of Abstracts



P38

Flow-based system for the determination of titratable and volatile acidity in wines

A. Rangel¹, S. Vidigal²

¹ Escola Superior de Biotecnologia- Universidade Católica Portuguesa/Porto, CBQF – Centro de Biotecnologia e Química Fina – Laboratório Associado, Porto, Portugal

² Escola Superior de Biotecnologia- Universidade Católica Portuguesa/Porto, CBQF – Centro de Biotecnologia e Química Fina – Laboratório Associado, Porto, Portugal

arangel@porto.ucp.pt

The determination of total (titratable) and volatile acidity in wine are routine procedures. The acidic compounds play an important role in keeping the wine microbiologically and chemically stable. In addition, they have a large effect on the colour, taste and stability of the final product, therefore are important index of wine character and quality. Acidity in wines is divided into two categories: (i) volatile acidity; and (ii) fixed. Total acidity is the combination of both categories. It is important to follow the changes in acidity after fermentation and during aging since wines contain not only the acids present in musts but also a number of acids produced during and after alcoholic fermentation. OIV describes the total acidity in wine as the sum of its titratable acidities when titrated to a pH value of 7 against a standard alkaline solution, by potentiometric or visual titration with BTB as indicator. OIV also describes the volatile acidity as derived from the acids of the acetic series present in wine in the free-state and combined as salts. These have to be separated from the wine matrix by steam distillation and titrated using a standard sodium hydroxide.

The above described methods for total and volatile acidity determination in wines are laborious and time consuming, involving complex sample treatment such as distillation. In this scenario, the aim of the present work is the development of a simple tool as a flow-based system for the determination of the total and volatile acidity in wines without any sample pre-treatment.

Acknowledgements: S. Vidigal thanks FCT Portugal and FSE for the financial support through the POPH-QREN program via the grant SFRH/BPD/78705/2011. This work was supported by National Funds from FCT through project PEst-OE/EQB/LA0016/2013.