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***SIMULTANEOUS DETERMINATION OF TARTARIC ACID AND
POTASSIUM IN WINES USING A DIALYSIS MULTICOMMUTED
FLOW SYSTEM***

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Precipitation of the tartaric salts as potassium bitartrate and calcium tartrate continues to be the main cause of physical instability in bottled wines. Prevention of this precipitation is required, since the presence of these crystals in wines can indicate poor quality or even spoilage of the product for the consumer. Thus, the development of simple and rapid procedures to monitor tartaric acid and potassium during the wine stabilization process may constitute a useful approach for wineries.

In this work, a multicommuted flow injection system is presented for the simultaneous determination of tartaric acid and potassium in wine samples. A dialysis unit was introduced in the manifold to minimize possible matrix interferences. Tartaric acid determination was based on the spectrophotometric detection of the coloured complex formed between the diffused analyte and vanadate, in acidic medium. Potassium was monitored using a tubular ion-selective potassium electrode placed in the donor stream.

The proposed methodology allowed determination of tartaric acid and potassium within concentration ranges of 1.00 - 5.00 g L⁻¹ and 390 - 1955 mg L⁻¹, respectively. A determination frequency of 54 h⁻¹ was achieved, with relative standard deviations less than 2.07 and 2.40% for tartaric acid and potassium, respectively. The system was applied to the determination of 20 table and 10 port wines and the results were in agreement with the comparison procedures.

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