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Use of the iodine-starch chemistry for the flow injection determination of free sulphur dioxide in wine

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Sulphur dioxide is a constituent of wine, and its presence can be increased due to yeast metabolism. The biosynthesis of sulphur dioxide can be influenced by the yeast strain, fermentation temperature and the available sulphur content of the grapes [1]. On the other hand, SO₂ can be added in different forms as preservative to prevent oxidation and microbiological growth, and to control enzymatic reactions during production and storage [2].

Some works have been presented describing methodologies for the determination of free sulphites in wine using flow-based systems. Most of these methods make use of the pararosaniline [2,3] or malachite green reaction [2]. The present work aims describes a flow injection analysis (FIA) system with spectrophotometric detection for the determination of sulphur dioxide in wine samples using another approach, involving an iodine solution with starch. A gas diffusion unit (GDU) was incorporated in the system to eliminate possible interfering species of the matrix and separate SO₂ from the matrix prior to quantification.

References

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