

XXII Encontro Luso-Galego

Química

**9 a 11 novembro 2016**

Instituto Politécnico de Bragança | BRAGANÇA - PORTUGAL



## Livro de Resumos

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## **XXII ENCONTRO LUSO-GALEGO DE QUÍMICA**

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## White wine tartrate stability: comparative study of ion exchange resins versus oenological additives

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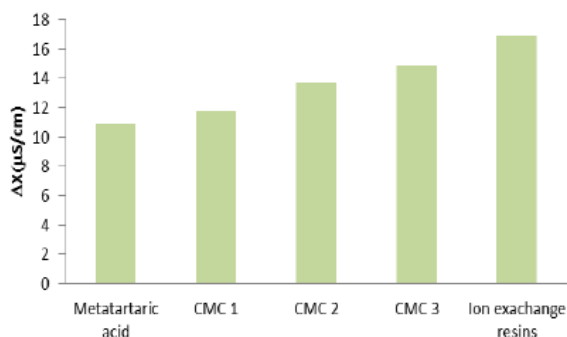
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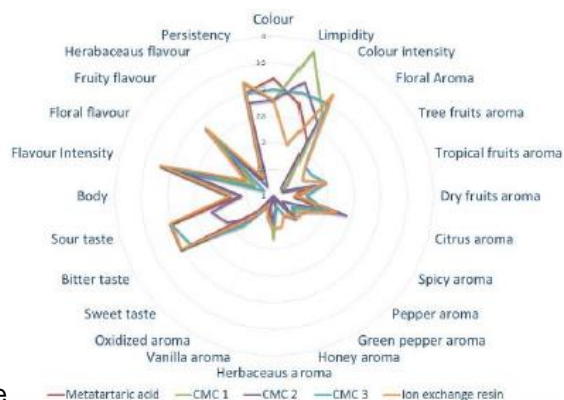
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The precipitation of tartrate crystals is a natural phenomenon in wine evolution, which occurs mainly during wine conservation. Preventative solutions to this phenomenon can be chemical or physical treatments. Within these, ion exchange resins is an accepted stabilization process by the OIV to prevent tartrate instability of wines, according to the Resolution 43/2000 [1].

Tartaric acid is the most important organic acid in the wine. It is easily ionized, leading to the formation of precipitates like potassium hydrogen tartrate (KHT) and calcium tartrate (CaT). These precipitates, although not being harmful to health of the consumer, leads to a decrease in the commercial acceptance and, consequently, to the decrease of the wine commercial value [2]. Thus, the aim of this work was to compare ion exchange resins with oenological additives, such as CMC's with different structural features and metatartaric acid, in a white wine from the Douro Valley, on tartaric stability. It was also studied their impact on wine phenolic compounds, mineral composition, chromatic characteristics and sensorial profile.



**Fig. 1.** Effect of stabilization treatments on white wine tartaric stability



**Fig. 2.** Sensorial profile of treated white wines

After addition of metatartaric acid, CMC 1, CMC 2, CMC 3 and treatment with ion exchange resins in the acid cycle, all white wines achieved tartaric stability (Fig.1). The application of these treatments for white wine tartaric stabilization showed no significant effect on the wine sensorial profile (Fig.2), yet some descriptors were highlighted in wine treated with ion exchange resins, namely colour intensity, flavour intensity and persistency.

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### References

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