



Vinifera master thesis abstract (template 2013)

Thesis title: Kinetic Models of Secondary Aroma Compounds Synthesis in Wine Alcoholic Fermentation

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Date & location of the oral examination (if known) :

Confidential: Yes No

Abstract (max 300 words)

Topic position & objectives: A mechanistic model of aroma synthesis in wine alcoholic fermentation is developed.

Methods: By conducting a rough classification of previously published models and systematically studying the secondary aroma compounds synthesis, three compounds in higher alcohol group were chosen to represent secondary aroma synthesis.

Results: A mechanistic model based on nitrogen as the growth-limiting nutrient is developed and then used to predict the synthesis of propanol, isoamyl alcohol and isobutanol in wine alcoholic fermentation. The simulation result compare favourably with experimental data.

Main conclusions: The mechanistic model developed is able to predict an important part of wine secondary aroma compounds synthesis in wine alcoholic fermentation.

Keywords (5): Fermentation; Aroma; Mechanistic Model; ODE.

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