

Discrimination of fermented Amazon robustas coffees by FTIR and PLS-DA

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Introduction

Fermentation has been applied as an emerging method to enhance the chemical and sensory characteristics of coffee. From the chemical point of view, this study evaluated Amazon robustas coffees (*Coffea canephora*) natural dry process and fermented dry process, to identify the chemical compounds related to the discrimination of these processes.

Materials/Methods

Amazon robusta coffee

Natural dry process

Fermented dry process



Results/Discussion

The PLS-DA model exhibited 100% accuracy for the training set and 90% accuracy for the test set (Figure 1.A). By utilizing the Variable Importance of Projection (VIP) scores, which provides a significant measure of the predictive variables of the model, significant regions of the spectrum were identified (Figure 1.B).

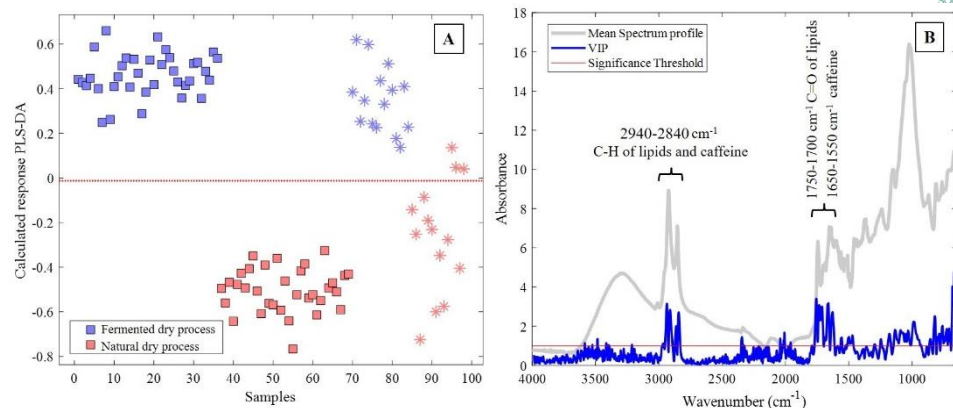


Figure 1: Calculated response PLS-DA (A). VIP scores of the PLS-DA model (B).

Conclusion/Perspectives

The chemical markers responsible for discriminating between natural dry process and fermented dry process of Amazon robusta coffee were lipids and caffeine. Future studies should focus on evaluating the fermentation factor and its influence on the sensory quality of the beverage.

References:

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