

ABSTRAK

STUDI PENGGUNAAN *UV-VIS SPECTROSCOPY* UNTUK IDENTIFIKASI CAMPURAN KOPI LUWAK DENGAN KOPI ARABIKA

Oleh

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Penelitian ini bertujuan untuk mengidentifikasi kemurnian kopi luwak menggunakan metode *soft independent modeling of class analogy* (SIMCA) dan *principal component analysis* (PCA). Pengujian dilakukan pada bubuk kopi berukuran 0.297 milimeter (mesh 50).

Perbandingan campuran, sampel 1- 50 masing-masing 1 g kopi luwak murni, sampel 51– 60 masing-masing 0.9 g luwak dan 0.1 g arabika, sampel 61 – 70 masing-masing 0.8 g luwak dan 0.2 g arabika, sampel 71 – 80 masing-masing 0.7 g luwak dan 0.3 g arabika, sampel 81 – 90 masing-masing 0.6 g luwak dan 0.4 g arabika, sampel 90 – 100 masing-masing 0.5 g luwak dan 0.5 g arabika.

Hasil klasifikasi menunjukkan metode PCA dan SIMCA mampu mengidentifikasi campuran kopi luwak. PC1 menjelaskan 75% keragaman data dan PC2 menjelaskan 17% keragaman data. Sedangkan untuk klasifikasi SIMCA diperoleh nilai persentase untuk nilai spesifisitas 76%, sensitivitas 84% dan akurasi sebesar 80%, dengan nilai eror sebesar 23%.

Kata Kunci : Kopi arabika, kopi luwak, PCA, SIMCA, *UV-Vis spectroscopy*

ABSTRACT

STUDIES ON THE USING OF UV-VIS SPECTROSCOPY FOR IDENTIFICATION THE BLENDING OF CIVET COFFEE WITH ARABICA COFFEE

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This study aims to identify the authentication of civet coffee using a Soft independent modeling of class analogy (SIMCA) method and principal component analysis (PCA). The test carried out on the coffee powder measuring 0.297 millimeters (mesh 50).

Comparison of blend that is samples 1- 50 each 1 g of pure civet coffee, samples 51- 60 each 0.9 g civet coffee and 0.1 g arabica coffee, samples 61-70 each 0.8 g civet coffee and 0.2 g arabica coffee, samples 71-80 each 0.7 g civet coffee and 0.3 g arabica coffee, samples 81-90 each 0.6 g civet coffee and 0.4 g arabica coffee, samples 90-100 each 0.5 g civet coffee and 0.5 g arabica coffee.

The classification results show SIMCA and PCA methods are able to identify civet coffee mixture. PC 1 explains 75% the variance of data and PC2 explains 17% the variance of data. Values obtained on SIMCA classification are specificity 76%, sensitivity of 84% and accuracy of 80%, with a value error of 23%.

Keywords: Arabica coffee, civet coffee, PCA, SIMCA, UV-Vis spectroscopy.