

## **Quantitative analysis of virgin coconut oil in cream cosmetics preparations using Fourier Transform Infrared (FTIR) spectroscopy**

### **ABSTRACT**

Today, virgin coconut oil (VCO) is becoming valuable oil and is receiving an attractive topic for researchers because of its several biological activities. In cosmetics industry, VCO is excellent material which functions as a skin moisturizer and softener. Therefore, it is important to develop a quantitative analytical method offering a fast and reliable technique. Fourier transform infrared (FTIR) spectroscopy with sample handling technique of attenuated total reflectance (ATR) can be successfully used to analyze VCO quantitatively in cream cosmetic preparations. A multivariate analysis using calibration of partial least square (PLS) model revealed the good relationship between actual value and FTIR-predicted value of VCO with coefficient of determination ( $R^2$ ) of 0.998.

**Keyword:** Virgin Coconut Oil (VCO); FTIR spectroscopy; Partial least square, Cosmetics