

Microstructural and microchemical characterization of valorized *cola nitida* pod wastes

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ABSTRACT

The inherent environmental effects of the accumulated kola nut pod waste products have become a subject of discussion among many researchers. The need then arises for their alternative use as nutraceutical bioproducts. The physical and chemical analytical techniques are often required for the standardization of these bioproducts in order to determine and maintain their quality characteristics. The dataset presented in this study provided information on the chemical profile, physisorption and thermo-analytical screening of *Cola nut* pod extracts. Six sets of physicochemical methods were employed to characterize the phenolic extracts. The result obtained clearly revealed the presence of two-hundred and fifty-five phenolic bioactive. Also presented was the thermal stability, morphological and microstructural surface area configuration of the *Cola nitida* pod extracts. The information obtained from this study could be used in determining the quality of food wastes bioproducts in nutria-pharmaceutical applications.

KEYWORDS

Brunauer–Emmett–Teller (BET); *Cola nitida*; Differential scanning calorimetry (DSC); Thermogravimetry analysis (TGA)

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