

Assessment of Functional Group in Herbo-mineral Siddha Formulation *Abraga Parpam* through Fourier Transform Infrared Spectroscopy

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Abstract

Siddha Medicine is one of the ancient Tamil medicines. Siddha medicines are used to treat various diseases. The *Abraga parpam* is a Herbo–mineral drug of Siddha formulation used for the treatment of deep wounds, deep skin ulcer, diabetes mellitus and other symptoms related to it like thirst and dryness of mouth, cough and *kapha* diseases. The objective of the present study is to characterize and assess the functional groups in Herbo-mineral drug “*Abraga parpam*”. The ingredients were collected & purified and the drug was prepared as per Siddha literature “*Anuboga vaidhya navaneetham*”. Here, the drug was subjected into characterization through FT – IR analysis. FT – IR characterization applied in the mid infrared region 4000 cm^{-1} to 400 cm^{-1} revealed the presence of functional groups like O-H stretch, N=C=S stretch, C=O stretch, C=N stretch, N-O stretch, O-H bend, S-O stretch, C-O stretch, C=C bend, C-Br stretch, C-I stretch respectively. This peak indicates the presence of some organic functional groups such as alcohols, Carboxylic acid, Isothianate, Acid halides, Imine/oxime, nitro compounds, sulphonates, alkenes, alkyl halides & aryl halides, which ensure the efficacy and therapeutic effect of the drug. The instrumental analysis FTIR shows the presence of functional groups through their stretch and bends which are responsible for its functional activity. These characterized functional groups are assessed through research papers from journals which provides the information that they have wound healing, hypoglycaemic, anti-microbial, anti-parasitic, anti-diarrhoeal and anti-tubular activity. These activities resemble the indications mentioned in Siddha text book for *Abraga parpam*. This study forms the base for the pharmaceutical analysis of *Abraga parpam* which can be followed by safety and efficacy studies later.

Keywords: FT – IR, *Abraga parpam*, Herbo-mineral Siddha formulation, Functional groups.