

Pattern classifier of chemical compounds in different qualities of agarwood oil parameter using scale conjugate gradient algorithm in MLP

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ABSTRACT

This paper presents the modelling of agarwood oil (AO) significant compounds by different qualities using Scaled Conjugate Gradient (SCG) algorithm. This technique involved of data collection from Gas Chromatography-Mass Spectrometry (GC-MS) for compound extraction. The development of Multilayer perceptron (MLP) is used to discriminate the qualities of AO chemical compounds to the high and low quality. The input and output data was transferred to the MATLAB version R2013a for extended analysis. The input is the abundances of significant compounds (%) and the output is the oil quality either high or low. This involved of identification, selection and optimization of a MLP as classifiers to identify and classify the agarwood oil quality. The result showed that MLP as pattern classifier is successful classify agarwood oil quality using SCG algorithm with 100% accuracy. This finding is important in agarwood oil area especially in grading system.

KEYWORDS

Agarwood oil; Classification; Scale Conjugate Gradient (SCG); Multilayer perceptron (MLP)

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