UNIVERSITI TEKNOLOGI MARA

METABOLITE IDENTIFICATION OF SPONTANEOUSLY FERMENTED PAPAYA LEAF

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ABSTRACT

This study was conducted to identify the flavonoid component and phenolic acid in C. papaya fermented extract. C. papaya leaf typically has high amount of flavonoid compound such as, quercetin and kaempferol. Here, the metabolite components of the fermented C. papaya leaf extract was resolved using chromatograpic analysis i.e. UHPLC followed by identification specific compounds using online database. Based on the database analysis, the compound detected i.e. Kaempferide 7-Methylkaempferol and 3-O-Methylkaempferol is a group of flavonoids kaempferol while 6-Acetylphenazine-1-carboxylic acid is a phenolic acid compound that are known to have great anti-oxidant and anti-cancer activity. From the result obtained, it can be conclude that the extracted C. papaya fermented contains flavonoid and phenolic compounds.

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INTRODUCTION

1.1 Background

Papaya is a tropical fruit that IS cultivated in tropical region. It is known as Carica papaya Linnaeus which belongs to *Caricaceae* family. Papaya can lives for several years. The fruit is the main product of this tree and being recognized for its delicious taste and reddish-orange in colour.

Figure 1: The papaya tree (Source: Google Image)

Besides having the delicious taste, their fruit also has a nutritive value. Other parts of the Carica papaya tree such as the stem and leave have no use and considered as a waste. The leaves of Carica papaya generally considered waste but their extract have been linked with various health benefits (Vuong et al., 2010) It also being found that, the different parts of the plants potentially to have a medicinal value.

1.1.1 Fermentation

Fermentation process is known as one of the oldest method in the world to preserve food (Nuraida L., 2015). This process can expand the shelf life of foods such as meat,