

## ANALYSIS OF THE FATTY ACID COMPOSITION OF *Caulerpa lentillifera* USING GAS CHROMATOGRAPHY MASS SPECTROMETRY

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### ABSTRACT

*Caulerpa lentillifera*, also known as Sea Grape or Green Caviar is a type of green seaweed from the class of *Caurlepacea* and species of *Lentillifera*. They are common seaweed communities in tropical and subtropical waters. They have different biochemical compounds from various seaweed species. However, the study on phytochemical components and the biological activity of *C. lentillifera* are not fully understood yet. This study was carried out to determine the best extraction solvents and to evaluate the phytochemical component in the *n*-hexane, Dichloromethane (DCM) and methanol extract of *C. lentillifera* using Gas Chromatography-Mass Spectrometry (GC-MS) analysis. *C. lentillifera* was collected from the coastal area of Sabah, Malaysia. Then, it was subjected for purification, drying and soxhlet extraction process using *n*-hexane, DCM and methanol. Only fatty acid compound was analysed using a Perkin Elmer Turbo Mass Spectrophotometer. It showed that, methanol is the most efficient solvent as it recorded the highest extraction yield in *C. lentillifera*. Twenty phytochemicals have been identified from all extracts of *C. lentillifera* by GC-MS analysis. This analysis discovered the presence of major constituents like palmitic acid, oleic acid, pentadecanoic acid, behenic acid, myristic acid, etc. Many studies have shown that, most of the identified major compounds were proven to exhibit antibacterial, antifungal, anti-inflammatory, antiviral, etc. Thus, it is apparent that *C. lentillifera* has the potential to be used as seaweed of phytopharmaceutical importance as it contains numerous bioactive compounds.

**Keywords:** *Caulerpa lentillifera*, Fatty acid, Gas Chromatography-Mass Spectrometry, Phytoconstituents, Seaweeds

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