

UNIVERSITY TEKNOLOGY MARA

**ISOLATION AND IDENTIFICATION OF THE
CHEMICAL CONSTITUENTS FROM THE LEAVES
OF *NEOBALANOCARPUS HELMII***

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ABSTRACT

Dipterocarpaceae is one of plant families that exist in Malaysia whereby it consist of a large number of plant species. The aims of this project were to isolate and identify the chemical constituent from the leaf of *Neobalanocarpus heimii* or also known as chengal. Besides that, this project will only focus on identifying any compound which derived from stilbene. Preparative of High Performance Liquid Chromatography (HPLC) was used to isolate and purify oligostilbene compound. The purified compound was then analyzed using NMR spectroscopy to identify the compound structure and stereochemistry. The NMR spectrum was then compared with the reported data from journals to identify the identity of the compound. The result shows that the leaves extract of *Neobalanocarpus heimii* contain oligostilbene which is vaticanol A.

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CHAPTER 1

INTRODUCTION

1.1. Phytochemistry of dipterocarpaceae

Phytochemistry is the branch of organic chemistry dealing with the chemistry of plants. Technologies in phytochemistry that available today have make it possible to determine the secondary metabolic profile of a plant, at a given point in time, rapidly and in significant detail, and correlate that information with biological activity (Cordell, 2011). Since traditional medicine is mainly from plants, thus it relate to phytochemistry. A broad revolution in phytochemistry is strengthening its relevancy through the application of powerful new technologies, and is restoring and enhancing the original link between phytochemistry and traditional medicine (Cordell, 2011).

Dipterocarpaceae is a large family of tropical plants. It consists of 16 genera and approximately 600 species. It is found mainly in tropical regions. This group of plants is widely distributed in Seychelles, Sri Lanka, India, Southeast Asia to New Guinea, and a large distribution in Borneo, where they form the dominant species in the lowland forests and locally known as Meranti, Keruing or Tengkawang (Aminah *et al.*, 2002).