

**UNIVERSITI TEKNOLOGI MARA**

**ISOLATION AND IDENTIFICATION OF OLIGOSTILBENE  
FROM THE LEAVES OF *NEOBALANOCARPUS HEIMII* USING  
HPLC METHOD**

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## ABSTRACT

Dipterocarpaceae is a plant family present in Malaysia consisting of a large number of plant species. This research aims to isolate and identify the chemical constituents of a species from Dipterocarpaceae, *Neobalanocarpus heimii* also known as chengal. This research was conducted by identifying known compounds from the crude extract using LCMS. Preparative High Performance Liquid Chromatography (HPLC) was used to isolate oligostilbene compound and was then purified using analytical HPLC. The purified compound was then analyzed using Proton Nuclear Magnetic Resonance (<sup>1</sup>H-NMR) spectroscopy to identify the compound structure and stereochemistry. The <sup>1</sup>H-NMR spectrum was then compared with the reported data from journals to identify the identity of the compound. As the summary, this research result shows that the leaves extract of *Neobalanocarpus heimii* contain oligostilbene which is vaticaphenol A.

# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

Asia Pacific regions, especially Malaysia, Indonesia, and Thailand are known as the tropical reserves of many plant species. There are more than 12,000 species of higher plants existing in Malaysia, and from the amount, about 10% of these plants were used for medicinal purposes (Latiff *et al.*, 1984).

A number of oligostilbenes were isolated from several plant families: Cyperaceae, Dipterocarpaceae, Gnetaceae, Leguminosae, and Vitaceae. In Dipterocarpaceous plants, a noteworthy number of these compounds have been isolated from species belonging to the genera *Balanocarpus* (Sotheeswaran and Pasupathy, 1993), *Hopea* (Sotheeswaran and Pasupathy, 1993; Dai *et al.*, 1998; Tanaka *et al.*, 2001), *Shorea* (Saraswathy *et al.*, 2000; Hirano *et al.*, 2001; Tanaka *et al.*, 2001), and *Vateria* (Sotheeswaran and Pasupathy, 1993; Seo *et al.*, 1999; Tanaka *et al.*, 2000).