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BIOTRANSFORMATION OF BALANOCARPOL USING DIFFERENT FUNGI FROM THE MALAYSIAN FOREST

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ABSTRACT

Biotransformation has been a subject of interest since centuries ago. It can be used to modify a compound into another compound, which may be hard to obtain during chemical synthesis by using microorganisms such as endophytes. The study is aimed to identify the biotransformation product using a given substrate which is known as Balanocarpol by using fermentation with 3 different microorganisms namely *Asperlligus niger* (ATCC), *Asperlligus* (HAB10R12 endophyte) and *Botrytis cinerea* to rationalize the chemical modification induced by them and compare with standard organic chemistry procedure. Overall methodology includes media preparation, inoculating of the fungi into different media, feeding of substrate, incubating them for one to two weeks, then extracting with EtOAc. Finally the extract was analyzed by using High Performance Liquid Chromatography (HPLC) technique to determine the biotransformed products.

CHAPTER 1

INTRODUCTION

1.1 Introduction

"Biotransformation" refers to any structural modifications brought by an enzymes, microorganisms, animals or plant cell cultures. In microbial transformation, a substance (substrate) will be incubated with microorganism to produce another (product). Microbial transformation is also known as "bioconversion" or "microbial conversion".

1.2 Statement of problem

Some compounds cannot be transformed by classical chemical methods. Moreover chemical synthesis is very expensive and its products or residues can be hazardous to environment and human health.

1.3 Significance of the study

Microbial transformation is the design, development and implementation of chemical products and processes to reduce or eliminate the use and generation of substances hazardous to human health and the environment. Microbial transformation is an innovative, non-regulatory, economically driven approach towards sustainability.