UNIVERSITI TEKNOLOGI MARA

PHYTOCHEMICAL INVESTIGATION ON *"HEDYOTIS DIFFUSA"*

NURUL YUMIZA BINTI MD YUSOF

Dissertation submitted in partial fulfillment of the requirements for the degree of Bachelor of Pharmacy (Hons)

Faculty of Pharmacy

November 2008

ACKNOWLEDGEMENTS

Firstly, Alhamdulillah because of His permission this thesis can be completely done in the given time. This thesis reflects the talent and the hard work and also many people contribute to it. Here I want to express my deepest thanks to numerous people who have contributed to the completion of this thesis.

I want to take this opportunity to thank all who have assisted with the preparation of this thesis project.

I also want to express an extremely indebted and thankful to my supervisor Dr. Humera Naz for all of the support, guidance, advice and knowledge that she had gave throughout the research period. I am awfully appreciated it.

I am also grateful to coordinator for PHM 555 course Dr. Zainul for his guidance. Beside that thank to my research partner and also laboratory assistant for their support and helpful to finish up this thesis.

Last but not least, I wish to thank to my family and my friends for their support and encouragement. Also to all that we may not list it here. Thank you very much. For all of them thank you for everything.

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ABSTRACT

The main objective of this study was to isolate the compounds from *n*-hexane and dichloromethane extracts of *Hedyotis diffusa* aerial parts. The compounds from the *n*-hexane extract were purified by fractionation method using preparative Thin Layer Chromatography (TLC). The pure compounds were subjected to Nuclear Magnetic Resonance (^{1}H NMR) analysis in order to know the structure of the compound. The structure of desired compound could not be interpreted by using only 1H NMR. This is because the quantity of compound was not sufficient for 13C-NMR and 2D-NMR analysis.

CHAPTER 1

INTRODUCTION

Plants have been used traditionally by people for curing various health disorders around the world. A vast knowledge about the usage of plants against different illness accumulated in areas where the use of plants is still of great importance. The medicinal value of plants is due to the presence of some chemical substances which produce a definite physiological action in human body. The most important bioactive compounds from plants are alkaloids, flavanoids, tannins and phenolic compounds. Many drugs used conventionally were originally derived from plants.

Hedyotis diffusa (syn. *Oldenlandia diffusa*), a member of the family Rubiaceae, is an annual herb distributed in northeastern Asia. Pharmacologically, this plant is used for the treatment of cancer and inflammations such as appendicitis, arthritis and bronchitis due to its antibacterial activity. Three major classes of compounds, including iridoid glucosides, flavanoids, and anthraquinones, have been reported as bioactive compounds from this plant (Cuman *et al.*, 2008). As a part of our studies on Rubiaceous plants, our investigation was focus on isolation of chemical constituents from this plant. The current studies on this plant described the isolation and identification of active constituents.