

**CHEMICAL CONSTITUENTS FROM THE LEAVES OF**  
*Mangifera indica*

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## ABSTRACT

### CHEMICAL CONSTITUENTS FROM THE LEAVES OF *Mangifera Indica*

*Mangifera indica* a species of *Anacardiaceae* or locally known as *Mempelam*, *Pauh* or *Mangga* grows wild on lowland and few on the mountain. It is well known as a medicinal plant and economic product commonly used by all race in many Asian countries. All parts of the plant including the fruit, flower, leaves and stem are used in various ways to treat many health ailments and diseases. Previous study indicated that flavonoids are the major chemical constituents of *Mangifera indica* from the leaves part of the plant. In this work, the plant was extracted with petroleum ether and methanol solvent. Isolation was conducted on the methanol crude extract in order to obtain the pure compounds followed by structure elucidation of the pure compound. The structure of pure compound was determined by spectroscopic methods and also by comparing the experimental data with those from the literature. Phytochemical investigation of the methanol extract of the leaf part of *Mangifera Indica* has afforded compound X proposed to be 1, 3, 4-Trihydroxyl-1-(4-methoxy-phenyl)-3-(3, 4, 5 trihydroxy-hydroxymethyl-tetrahydro-pyran-2-yl)-butan-2-one. The structure of the flavanone was established based on spectral studies using  $^1\text{H-NMR}$ ,  $^{13}\text{C-NMR}$ , MS, UV and IR analysis.

## CHAPTER 1

### INTRODUCTION

#### 1.1 Background

Natural product was defined as a chemical substance produced by living organism. It covers the chemistry of naturally occurring organic compound either in the biosynthesis, environment, metabolism or more conventional branches of chemistry including structure and synthesis. Natural product chemistry has lately undergone explosive growth owing to advances in isolation technique, identification, structure elucidation and study of the chemical characteristic of chemical substances produced by living organism. On the other hand, it is precisely the chemistry of natural product which has fostered many of the new developments in this area, because of the variety of compounds available (Nakanoshi, 1974).

The advent of modern sophisticated instrumentation and new bioassay technique have shifted the emphasis to the structure elucidation of minor natural product, particularly those which show bioactivity. The complex structure of many of these offer challenges to synthetic organic chemist to develop synthetic approaches to them, which often leads to the development of new synthetic methods in order to achieve specific transformation (Atta-ur-Rahman, 1995).