## UNIVERSITI TEKNOLOGI MARA

ANNONA MURICATA : EXTRACTION OF AGEs FROM LEAVES

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### ABSTRACT

Since the dawn of medicine, natural products, especially those derived from plants, have been used to help mankind sustain their health. In the last century, phytochemicals in plants have been a pipeline for pharmaceutical discovery. The importance of plant active ingredients in agriculture and medicine has stimulated considerable scientific interest in the biological activities of these substances. Plants with a long history of use in ethno- medicine are a rich source of active phytoconstituents in a pharmaceutical landscape that offer medicinal or health through benefits against various diseases. Annona Muricata is also commonly referred to as Gunbanana Graviola or Soursop. Therefore, the aim of this work is to study the effect of solvent concentration towards the extraction of bioactive Acetogenin compounds in Annona Muricata . Extraction involved during experiment was liquid - solid extraction. The Annona Muricata leaves were picked and collected for about 500 gram were shade dried and powdered. The powder was macerated with 0 - 95% ethanol and water to obtain six different fraction F1-F6 which were bringing into analysis. HPLC and FTIR analysis showed that with different combination of water - ethanol concentration added into fractions affect the presence of acetogenin compounds and chemical groups. Four acetogenin were found in HPLC analysis. Besides, each fractionation showed different level of chemical groups presence in FTIR analysis.

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### **CHAPTER 1**

### INTRODUCTION

#### 1.1 BACKGROUND STUDY

Since the dawn of medicine, natural products, especially those derived from plants, have been used to help mankind sustain their health. In the last century, phytochemicals in plants have been a pipeline for pharmaceutical discovery. The importance of plant active ingredients in agriculture and medicine has stimulated considerable scientific interest in the biological activities of these substances. (Moghadamtousi SZ, et. al, 2013). Despite these scientific studies, a limited number of plant species have undergone detailed scientific inspections and knowledge about their potential role in nature is relatively insufficient. Therefore, the achievement of a reasonable perception of natural products requires comprehensive research on the biological activities of these plants and their key phytochemicals. (Moghadamtousi SZ, et. al, 2014). The use of traditional complementary medicine, which includes herbal medicine in the treatment of multiple diseases, has rapidly increased in both advanced and emerging countries, due to affordability, accessibility and effectiveness. Documented and undocumented medical conditions related to herbal medicines make it relevant that pre- clinical toxicological studies on these natural products are carried out. Herbal medicinal plant remedies have traditionally been used in many parts of the world where access to formal healthcare is restricted. (Bailey and Day, 1989). They may also have toxic side-effect (Keen et. al, 1994).

Plants with a long history of use in ethno- medicine are a rich source of active phytoconstituents in a pharmaceutical landscape that offer medicinal or healthrough benefits against various diseases and diseases. Annona Muricata is also commonly referred to as Gunbanana Graviola or Soursop. The name soursop is because of the sweet and sour taste of its great fruits, Cherimoya( A.Cherimola) and sugar apple( A.Squamosa) are related species; the paw paw( Asimina triloba) is also part of the family. The soursop is native to tropical Central and South America and the Caribbean, but is now frequently preserved in tropical areas worldwide, including southern Florida and South East Asia, from sea level to approximately 1150 meters above sea level. Soursop is one of Caribbean's most widely used medicinal plants. There is a pulp inside the fruit, which is eaten and used as food and beverage ingredients. Soursop tea is often manufactured and use for drinking with other herbs. Soursop is a slender, small and cold intolerant tree, usually 4- 6 meters high. The soursop is adapted to areas of high humidity and relatively warm winters; temperatures below 5 °C can cause leaves and small branches to suffer damage and temperatures below 3 °C can be fatal. (MS Sejal and Jayvadan, 2016).