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ABSTRACT

The chemical and bioactivity profile of *Actinodaphne glomerata* leaves oil were established to investigate its potential uses. The essential oil was evaluated for physical and chemical characteristic such as color, yield, refractive index and solubility in ethanol. *A. glomerata* has a light yellow color and 0,23% yield. The refractive index value and ratio of oil and ethanol were 1,42 and 1 :1,2, respectively. Twenty three compounds of *A. glomerata* leaves oil were identified by gas chromatography. The main compounds were linoleic acid chloride, β -sitosterol and spathulenol. The oil of *A. glomerata* were effective to inhibit the microorganisms such as *Candida albicans* and *Staphylococcus aureus* at 1% concentration.

Keywords : *Actinodaphne glomerata*, composition, essential oil.

INTRODUCTION

Many Lauraceae plants contain high concentrations of essential oil. The genus of *Actinodaphne* belongs to family Lauraceae comprises 70 species of evergreen trees and shrubs. *A. glomerata* is sub-canopy tree up to 24 m tall and 43 cm. In undisturbed sub-montan forest up to 1000 m altitude. Distributed in Peninsular Malaysia, Sumatera, Java and Borneo. It is well known that medicinal and aromatic plants containing active compounds are able to inhibit microbial growth and act as antimicrobial agents. The bioactivities of plant oils have demonstrated great influences and used for various purposes including perfumes, cosmetics, aromatherapy, phytotherapy, spices and nutrition (Lis-Balchin, 1997; Buchbauer, 2000; Mercier et al., 2005). Essential oils have been shown to possess antimicrobial properties (Prabuseenivasan et al., 2006). The medicines were complementary used by many essential oils for bacterial and fungal infections including boils, acne, gingivitis, and vaginal candidiasis. Some numerous books and articles in the popular press said that essential oils have been recommended for use as home remedies for treatment of vaginal candidiasis. Hence, in the present study, work has been carried out to determine the physical and chemical profile of *A. glomerata* oil as well as their antimicrobial activity.

METHODE



Fig. 1 Steam distillation of *Actinodaphne glomerata* leaf



Fig. 3 Antimicrobial activity by agar diffusion method

RESULT AND DISCUSSION



Fig. 3 Essential oil of *Actinodaphne glomerata* leaf

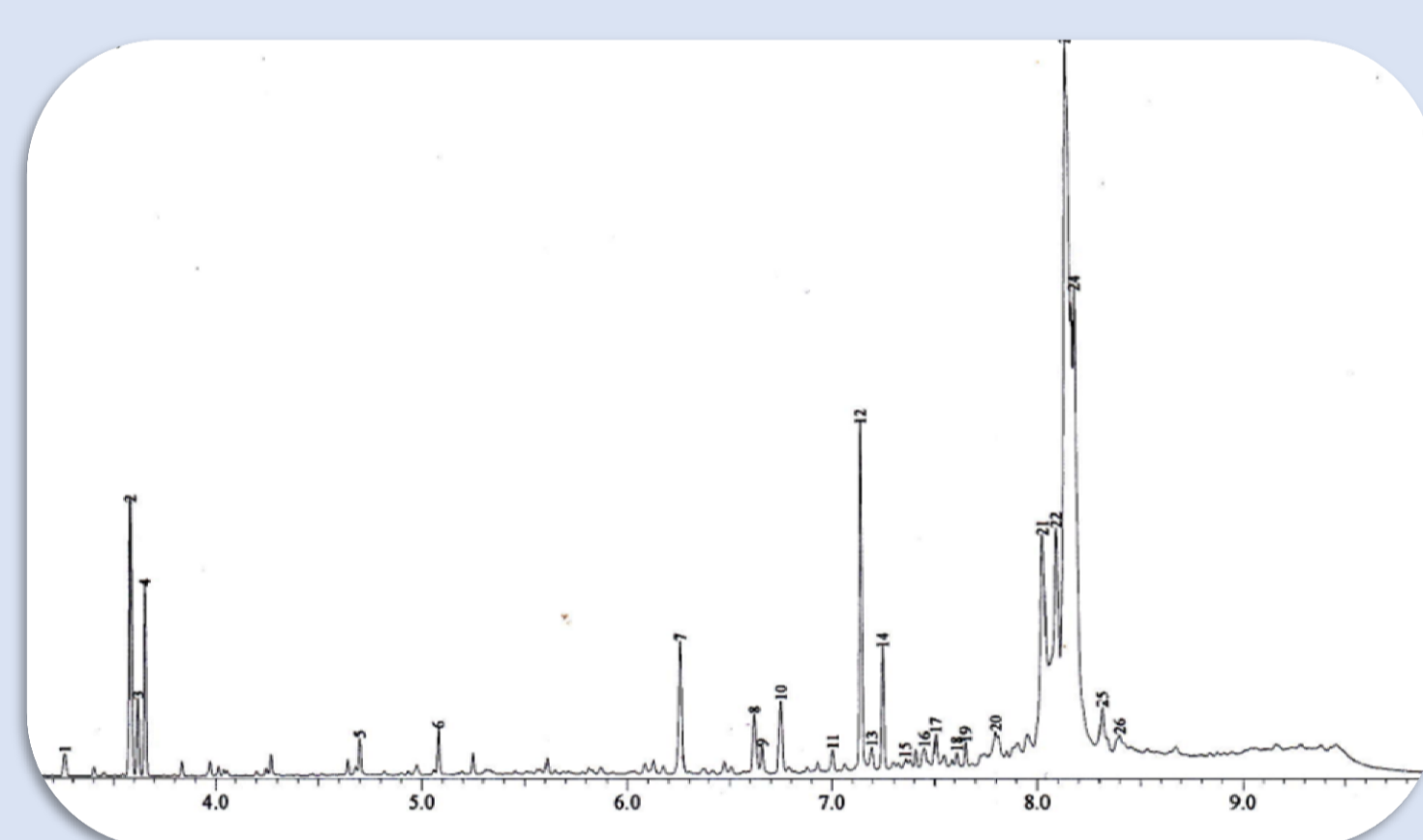


Fig. 4 GC-MS profile of *Actinodaphne glomerata* leaf oil

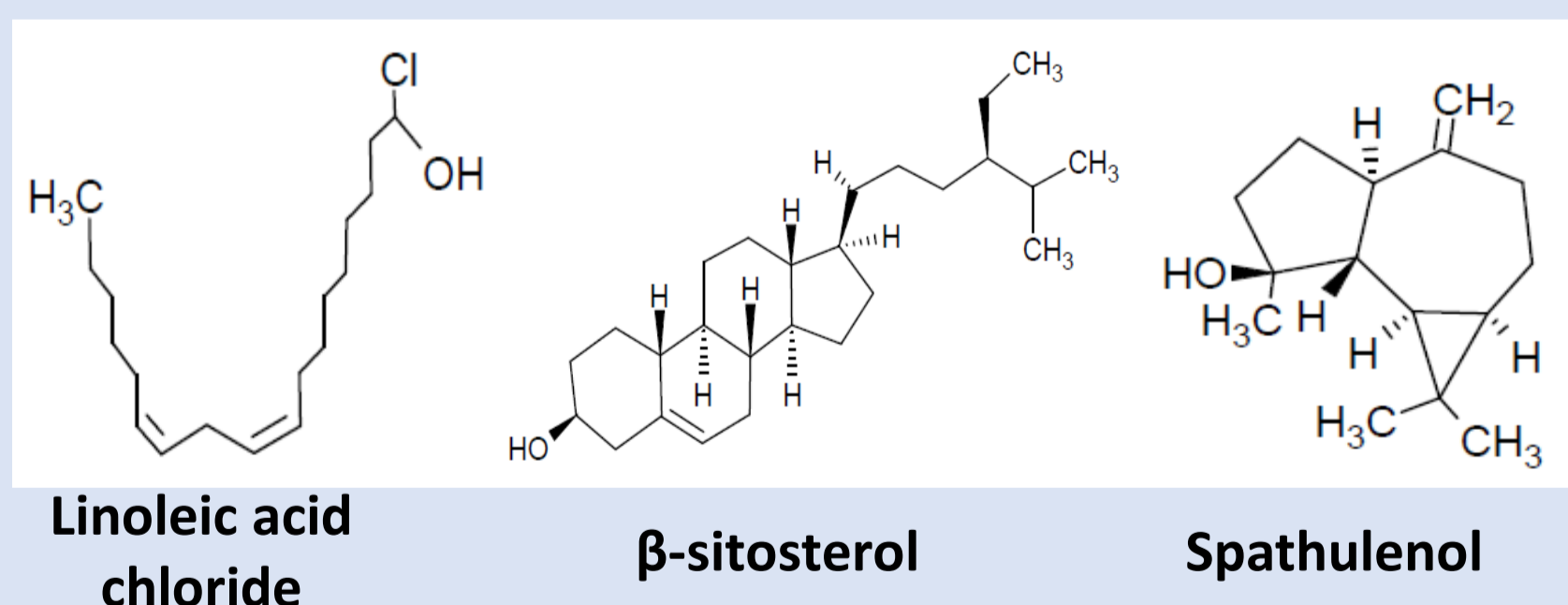


Fig. 5 Three major compound in of *Actinodaphne glomerata* leaf oil

Table 1 Antimicrobial Activity of *Actinodaphne glomerata* leaf oil

Microbes	Diameter of Inhibition (mm)		
	1 %	10 %	100%
<i>C. albicans</i>	9.33±0.58	12.89±0.53	50.00±0.00
<i>S. aureus</i>	10.67±0,39	15.22±0,58	22.45±0.72

!!! GAMBAR ANTI BAKTERI DALAM PETRI DISH !!!

Fig. 5 Antimicrobial Activity of *Actinodaphne glomerata* leaf oil

CONCLUSION

The main compounds the essential oils from *A. glomerata* were linoleic acid chloride, β -sitosterol and spathulenol.

This study proved that the essential oils from *A. glomerata* have potency to inhibit the growth of *S. aureus* and *C. albicans*.

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