

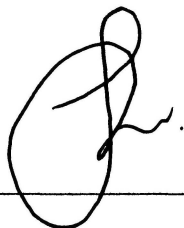
**IDENTIFICATION AND COMPARISON ON CHEMICAL
COMPOSITIONS OF *CITRUS AURANTIFOLIA* OIL OF HYDRO
DISTILATION AND HEXANE EXTRACTS.**

NORAIN BT SABLI

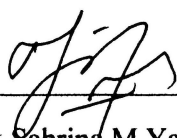
**Final Year Project Report Submitted in
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This Final Year Project Report entitled “**Identification and comparison on chemical compositions of *Citrus aurantifolia* oil of hydro distillation and hexane extracts**” was submitted by Norain bt Sabli, in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons.) Applied Chemistry in the Faculty of Applied Sciences, was approved by



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ABSTRACT

IDENTIFICATION AND COMPARISON ON CHEMICAL COMPOSITIONS OF CITRUS AURANTIFOLIA OIL OF HYDRO DISTILLATION AND HEXANE EXTRACTS.

In this study, essential oils of key lime (*Citrus aurantifolia*) from peel and fruit were obtained by two different methods, hydro distillation essembly clavenger-type apparatus and hexane extracts. The GCMS analysis identified different substances presence in both methods being limonene, β -pinene, α -bisabolol, and α -terpineol which the most significant compounds. These chemical compounds can be represented by three main classes; terpenes, sesquiterpenes, and oxygenated compounds. Extract of essential lime peel oil by hydro distillation produced 10.43% oil yield and consists of 62.61% terpene hydrocarbon groups, 17.94% sesquiterpene, and about 19.45% of oxygenated compound groups. However, hexane extracts produced half amount of hydro distillate yield which is 5.44% and 1.80% for peel and fruit respectively. The main chemical components of hexane extracts being 35.9% of terpene hydrocarbon groups, 29.9% of sesquiterpene compound groups, and 23.51% oxygenated compounds.