

**COMPOSITION AND BIOLOGICAL ACTIVITIES OF *STROBILANTHES*
CRISPUS LEAVES FOR ESSENTIAL OILS EXTRACTED BY
HYDRODISTILLATION (HD) AND MICROWAVE-ASSISTED
HYDRODISTILLATION (MAHD) METHODS**

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**BACHELOR OF CHEMICAL ENGINEERING
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Thesis submitted in partial fulfilment of the requirements
for the award of the degree of
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UNIVERSITI MALAYSIA PAHANG**

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SUPERVISOR'S DECLARATION

We hereby declare that we have checked this thesis and in our opinion, this thesis is adequate in terms of scope and quality for the award of the degree of Bachelor of Chemical Engineering.

Signature :
Name of main supervisor :
Position : PROFESSOR
Date :

STUDENT'S DECLARATION

I hereby declare that the work in this thesis is my own except for quotations and summaries which have been duly acknowledged. The thesis has not been accepted for any degree and is not concurrently submitted for award of other degree

Signature :

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Dedicated to my supervisor, and my parents.

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LIST OF ABBREVIATIONS

DPPH	1, 1-diphenyl-2-picrylhydrazy
FTC	Ferric Thiocyanate
GC-MS	Gas-Chromatography-Mass-Spectrometry
HD	Conventional hydrodistillation
MAHD	Microwave-Assisted Hydrodistillation
MTT	3-(4,5-Dimethylthiazol-2-yl)-2,5-Diphenyltetrazolium Bromide
TBA	Thiobarbituric Acid