

UNIVERSITI PUTRA MALAYSIA

RECOVERY OF VOLATILE TERPENES PRODUCED BY GENETICALLY ENGINEERED Escherichia coli STRAINS USING FLUIDIZED BED

AZIN AMIRI

FBSB 2020 14



RECOVERY OF VOLATILE TERPENES PRODUCED BY GENETICALLY ENGINEERED *Escherichia coli* STRAINS USING FLUIDIZED BED

By AZIN AMIRI

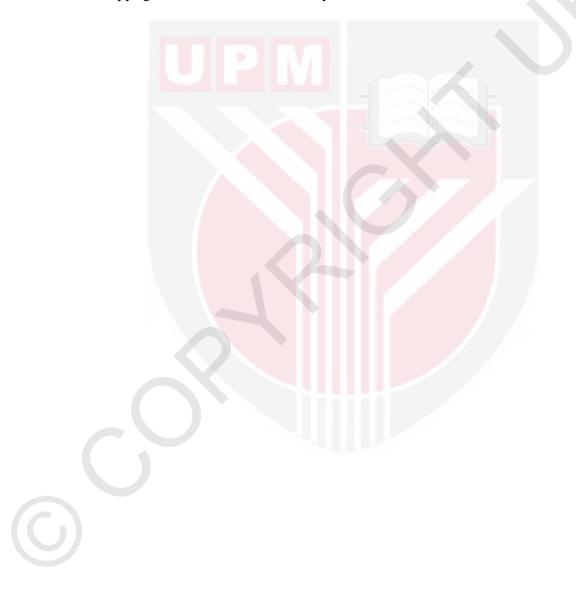
> Thesis Submitted to the School of Graduate Studies, Universiti Putra Malaysia, in Fulfilment of the Requirements for the Degree of Doctor of Philosophy

> > January 2020

COPYRIGHT

All material contained within the thesis, including without limitation text, logos, icons, photographs, and all other artwork, is copyright material of Universiti Putra Malaysia unless otherwise stated. Use may be made of any material contained within the thesis for non-commercial purposes from the copyright holder. Commercial use of material may only be made with the express, prior, written permission of Universiti Putra Malaysia.

Copyright © Universiti Putra Malaysia





UNIVERSITI PUTRA MALAYSIA

STATUS CONFIRMATION FOR THESIS / PROJECT REPORT AND COPYRIGHT

ACADEMIC SESSION : _____

TITLE OF THESIS / PROJECT REPORT :

RECOVERY OF VOLATILE TERPENES PRODUCED BY GENETICALLY ENGINEERED Escherichia coli STRAINS USING FLUIDIZED BED

NAME OF STUDENT : ____AZIN AMIRI

I acknowledge that the copyright and other intellectual property in the thesis/project report belonged to Universiti Putra Malaysia and I agree to allow this thesis/project report to be placed at the library under the following terms:

- 1. This thesis/project report is the property of Universiti Putra Malaysia.
- 2. The library of Universiti Putra Malaysia has the right to make copies for educational purposes only.
- 3. The library of Universiti Putra Malaysia is allowed to make copies of this thesis for academic exchange.

I declare that this thesis is classified as :

*Please tick (v)



(Contain confidential information under Official Secret Act 1972).

(Contains restricted information as specified by the

/

RESTRICTED

CONFIDENTIAL



OPEN ACCESS

organization/institution where research was done). I agree that my thesis/project report to be published

as hard copy or online open access.

This thesis is submitted for :



PATENT

Embargo from		until	
	(date)		(date)

Approved by:

(Signature of Student) New IC No/ Passport No.: (Signature of Chairman of Supervisory Committee) Name:

Date :

Date :

[Note : If the thesis is CONFIDENTIAL or RESTRICTED, please attach with the letter from the organization/institution with period and reasons for confidentially or restricted.]