



LAPORAN AKHIR DANA PEMBUDAYAAN PENYELIDIKAN (RAGS)

A **TAJUK PROJEK PENYELIDIKAN:**
CHARACTERIZATION AND CLASSIFICATION OF BIOACTIVE COMPOUND IN NATURAL PRODUCTS BY FTIR AND MULTIVARIATE DATA ANALYSIS

TAHUN: 2012

TARIKH MULA: 1/12/2014

TEMPOH LANJUTAN: 6 bulan

TARIKH TAMAT: 31/5/2017

KETUA PENYELIDIK: DR. NOR FADHILLAH MOHAMED AZMIN

NO. KAD PENGENALAN: 760709065058

AHLI
 (termasuk GRA)

1. PROF. DR. AZURA AMID
2. DR. ANI LIZA ASNAWI
3. CHE HAFIZAH CHE NOH
4. AMINAH ALIAS

PROJECT ACHIEVEMENT (*Prestasi Projek*)

ACHIEVEMENT PERCENTAGE			
Project progress according to milestones achieved up to this period	0 - 50%	51 - 75%	76 - 100%
Percentage (please state #%)	NA	NA	100
RESEARCH OUTPUT			
Number of articles/manuscripts/books <i>(Please attach the First Page of Publication)</i>	Indexed Journal	Non-Indexed Journal	
	2	1	
Conference Proceeding <i>(Please attach the First Page of Publication)</i>	International	National	
	2	0	
Intellectual Property <i>(Please specify)</i>	0		

HUMAN CAPITAL DEVELOPMENT


Human Capital	Number				Others (please specify)
	On-going		Graduated		
Citizen	Malaysian	Non Malaysian	Malaysian	Non Malaysian	
No. PHD STUDENT	NA	NA	NA	NA	
Student Fullname: IC / Passport No: Student ID:	NA	NA	NA	NA	
No. MASTER STUDENT	NA	NA	1	NA	
Student Fullname: IC / Passport No: Student ID:	NA	NA	Che Hafizah Che Noh 890519-03-6008 G1516718	NA	
No. UNDERGRADUATE STUDENT	NA	NA	4	NA	
Student Fullname: IC / Passport No: Student ID:			Nurul Amirah Binti Mohd Azani 940928-10-6006 1326622 Nur Fariah Binti Isamudin 940513-03-5090 1325352 Nur Fatiha Nabila Binti Rosely 950301105930 1420278 Nor Fatin Nabila Binti Mohd Nor 940209-03-5790 1321136 Nadiyah Ameerah Binti Mohd Ezani 930105875016 1327330		
Total			5		

EXPENDITURE (Perbelanjaan) as Borang K1(RMC)

C	Budget Approved (Peruntukan diluluskan) : RM80,000.00
	Amount Spent (Jumlah Perbelanjaan) : <u>RM80,000.00</u>
	Balance (Baki) : RM0
	Percentage of Amount Spent : 100%
	<i>(Peratusan Belanja)</i>

ADDITIONAL RESEARCH ACTIVITIES THAT CONTRIBUTE TOWARDS DEVELOPING SOFT AND HARD SKILLS
(Aktiviti Penyelidikan Sampingan yang menyumbang kepada pembangunan kemahiran insaniah)

D	International		
	Activity	Date (Month, Year)	Organizer
	(e.g : Course/ Seminar/ Symposium/ Conference/ Workshop/ Site Visit)	4 th International Conference Biotechnology Engineering, July 25-27, 2016, Kuala Lumpur, Malaysia. IEEE Student Conference on Research and Development (SCORed), Kuala Lumpur, 13-14 December 2016.	Department of Biotechnology Engineering, Kulliyah of Engineering, IIUM, Malaysia. IEEE Malaysia Section and IEEE International Islamic University (IIUM) Student Branch.
	National		
Activity	Date (Month, Year)	Organizer	
(e.g : Course/ Seminar/ Symposium/ Conference/ Workshop/ Site Visit)	NA	NA	
E	PROBLEMS / CONSTRAINTS IF ANY (<i>Masalah/ Kekangan sekiranya ada</i>)		
	NA		
F	RECOMMENDATION (<i>Cadangan Penambahbaikan</i>)		
	NA		
G	RESEARCH ABSTRACT – Not More Than 200 Words (<i>Abstrak Penyelidikan – Tidak Melebihi 200 patah perkataan</i>)		
	<p>Bioactive compounds are one of the natural products used especially for medicinal, pharmaceutical and food application. Increasing research performed on the extraction, isolation and identification of bioactive compounds, however non to date has explored on the identification of flavonoids classes. Therefore, this study was focused on the development of algorithm for rapid identification of flavonoids classes which are flavanone, flavone and flavonol. Fourier Transform Infrared (FTIR) spectroscopy coupled with multivariate statistical data analysis, which is Principal Component Analysis (PCA) was performed. The results showed that the flavonoids classes were identified according to spectral region assigned using the PCA algorithm based on the FTIR spectrum of the samples. The study concluded that FTIR coupled with PCA analysis can be used as a molecular fingerprint for rapid identification of flavonoids classes. The comparative studies of other flavonoids classes are still under investigation using the same method.</p>		

	Date : 5/4/2019 <i>Tarikh</i>	Project Leader's Signature: <i>Tandatangan Ketua Projek</i> 
H	COMMENTS, IF ANY/ ENDORSEMENT BY RESEARCH MANAGEMENT CENTER (RMC) <i>(Komen, sekiranya ada/ Pengesahan oleh Pusat Pengurusan Penyelidikan)</i>	
	<p>.....</p> <p>.....</p> <p>.....</p> Name: <i>Nama:</i>	
	Date: <i>Tarikh:</i>	Signature: <i>Tandatangan:</i>

*** Sila kemukakan Borang Laporan Akhir ini bersama Buku Laporan Akhir (disertasi).**