

## LAPORAN AKHIR DANA PEMBUDAYAAN PENYELIDIKAN (RAGS)

## Α **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 1. PROF. DR. AZURA AMID (termasuk GRA)

- 2. DR. ANI LIZA ASNAWI
- 3. CHE HAFIZAH CHE NOH

4. AMINAH ALIAS

## **PROJECT ACHIEVEMENT** (Prestasi Projek)

В

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

On-goingGraduatedspectCitizenMalaysianNon MalaysianMalaysianNon MalaysianNo. PHD STUDENTNANANANAStudent Fullname: IC / Passport No: Student ID:NANANANo. MASTER STUDENTNANA1NAStudent Fullname: IC / Passport No: Student ID:NANA1NANo. MASTER STUDENTNANA1NAStudent Fullname: IC / Passport No: Student ID:NANA1NANo. UNDERGRADUATENANA1NA				Number		Others
Citizen     Malaysian     Malaysian     Malaysian     Malaysian     Malaysian       No. PHD STUDENT     NA     NA     NA     NA     NA       Student Fullname: IC / Passport No: Student ID:     NA     NA     NA     NA       No. MASTER STUDENT     NA     NA     NA     NA       Student Fullname: IC / Passport No: Student ID:     NA     NA     1     NA       No. UNDERGRADUATE Student ID:     NA     NA     NA     4     NA       No. UNDERGRADUATE Student ID:     NA     NA     4     NA       Student ID:     NA     NA     4     NA       No. UNDERGRADUATE STUDENT     NA     NA     4     NA       No. UNDERGRADUATE STUDENT     NA     NA     4     NA	Human Capital	On-going Gra		duated (please specify)		
Student Fullname:       NA       NA       NA       NA       NA       NA         No. MASTER STUDENT       NA       NA       NA       1       NA         Student Fullname:       IC / Passport No:       NA       NA       NA       1       NA         Student Fullname:       IC / Passport No:       NA       NA       NA       NA       Student Che         No. UNDERGRADUATE       NA       NA       NA       4       NA         Student TD:       NA       NA       NA       4       NA         Student ID:       NA       NA       A       A       A         No. UNDERGRADUATE       NA       NA       A       A       NA         Student To:       NA       NA       A       A       NA         Student To:       NA       NA       A       A       NA         Student To:       NA       NA       A       A       NA         Student Fullname:       IC / Passport No:       Nur Fatina Nabila       Binti Rosely       960301105930       132037         Student ID:       Student ID:       Nor Fatin Nabila       Binti Mohd Namerah       Binti Mohd Namerah       Binti Mohd Namerah         N	Citizen	Malaysian		Malaysian	Non Malaysian	
IC / Passport No: Student ID:NANANANANo. MASTER STUDENTNANA1NAStudent Fullname: IC / Passport No: Student ID:NANA1NANo. UNDERGRADUATENANANA4NAStudent Fullname: IC / Passport No: Student ID:NANA4NANo. UNDERGRADUATENANA4NAStudent Fullname: IC / Passport No: Student ID:NANA4NANorul Amirah Site Student Fullname: IC / Passport No: Student ID:NaNA4NANurr Farihah Binti Isamudin 940513-03-5090 132532Nur Farihah Binti Isamudin 940513-03-5090 132532Nur Farihah Binti Isamudin 94029-03-5790 1321136Nur Farihah Binti Isimi Mohd Razani 94029-03-5790 1321136Student ID:NaNaNur Farihah Binti Isimi Mohd Razani 94029-03-5790 	No. PHD STUDENT	NA	NA	NA	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         NA       NA       NA       4       NA         Student Teuliname: IC / Passport No: Student Fullname: IC / Passport No: Student ID:       NA       NA       4       NA         Nurul Amirah Binti Mohd Azani 940928-10-6006 1326622       Nurul Amirah Binti Isamudin 940513-03-6000 1325352       Nur Farihah Binti Isamudin 940513-03-6000 1325352       Nur Farihah Binti Isamudin 940209-03-5090 1321136       Nor Fatih Nabila Binti Mohd Nor 940209-03-5790 1321136         Natiah Ameerah Binti Mohd Ezani 930105875016       Natiah Ameerah Binti Mohd Ezani 930105875016       Natiah Ameerah Binti Mohd Ezani 930105875016	IC / Passport No:	NA	NA	NA	NA	
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Nurul Amirah Binti Mohd Azani 940928-10-6006 1326622         Nur Farihah Binti Isamudin 940513-03-5090 1325352         Nur Fatiha Nabila Binti Rosely 950301105930 1420278         Student ID:         Nor Fatin Nabila Binti Mohd Nor 940209-03-5790 1321136         Nadiah Ameerah Binti Mohd Ezani 930105875016		NA	NA	4	NA	
Student Fullname:       Isamudin         IC / Passport No:       Nur Fatiha Nabila         Student ID:       Nor Fatin Nabila         Nor Fatin Nabila       Nor Fatin Nabila         Binti Mohd Nor       940209-03-5790         1321136       Nadiah Ameerah         Binti Mohd Ezani       930105875016				Binti Mohd Azani 940928-10-6006 1326622		
Student Fullname:       Binti Rosely         IC / Passport No:       950301105930         Student ID:       1420278         Nor Fatin Nabila       Binti Mohd Nor         940209-03-5790       1321136         Nadiah Ameerah       Binti Mohd Ezani         930105875016       930105875016	IC / Passport No:			Isamudin 940513-03-5090 1325352		
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Binti Mohd Ezani 930105875016				Binti Mohd Nor 940209-03-5790		
				Binti Mohd Ezani 930105875016		
Total 5	Total			5		
NDITURE (Perbelanjaan) as Borang K1(RMC)	NDITURE (Perbelanjaan) as Borang	K1(RMC)				
Budget Approved (Peruntukan diluluskan) : RM80,000.00 Amount Spent (Jumlah Perbelanjaan) : RM80,000.00						

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

D			
	International		
	Activity (e.g : Course/ Seminar/ Symposium/ Conference/ Workshop/ Site Visit) National Activity	Date (Month, Year) 4 <sup>th</sup> 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. Date (Month, Year)	Organizer Department of Biotechnology Engineering, Kulliyyah of Engineering, IIUM, Malaysia. IEEE Malaysia Section and IEEE International Islamic University (IIUM) Student Branch.
	(e.g : Course/ Seminar/ Symposium/ Conference/ Workshop/ Site Visit)	NA	NA
Е	PROBLEMS / CONSTRAINTS IF ANY	(Masalah/ Kekangan sekiranya ada)	
	NA		
F	RECOMMENDATION (Cadangan Pena	mbahbaikan <b>)</b>	
	NA		
G	RESEARCH ABSTRACT – Not More T	han 200 Words (Abstrak Penyelidikan -	- Tidak Melebihi 200 patah perkataan)
	Bioactive compounds are one of the application. Increasing research perf compounds, however non to date has study was focused on the development flavanone, flavone and flavonol. Fou statistical data analysis, which is Print that the flavonoids classes were ident based on the FTIR spectrum of the st be used as a molecular fingerprint for other flavonoids classes are still und	ormed on the extraction, isolation and as explored on the identification of fla- ent of algorithm for rapid identification rier Transform Infrared (FTIR) spectra ncipal Component Analysis (PCA) was ntified according to spectral region as samples. The study concluded that F rrapid identification of flavonoids cla	nd identification of bioactive vonoids classes. Therefore, this n of flavonoids classes which are roscopy coupled with multivariate as performed. The results showed ssigned using the PCA algorithm TIR coupled with PCA analysis can asses. The comparative studies of

	Date : 5/4/2019 Tarikh	Project Leader's Signature:
	COMMENTS, IF ANY/ ENDORSEMENT (Komen, sekiranya ada/ Pengesahan ole	r BY RESEARCH MANAGEMENT CENTER (RMC) eh Pusat Pengurusan Penyelidikan)
1		
	Name:	Signature:
And and a second s	Name: Nama:	Signature: Tandatangan:
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