

**PRELIMINARY SCREENING OF ALKALOIDS BY
USING THIN LAYER CHROMATOGRAPHY (TLC)
ANALYSIS ON SELECTED FRUIT'S PEELS, *in vitro*
ROOTS OF *Archidendron pauciflorum* AND *Eurycoma*
longifolia.**

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This Final Year Project Report entitled “**Preliminary Screening of Alkaloids by Using Thin Layer Chromatography Analysis (TLC) On Selected Fruit’s Peels, *in vitro* Roots of *Archidendron pauciflorum* and *Eurycoma longifolia***” was submitted by Nur Farah Izzati binti Yusri, in partial fulfilment of the requirements for the Degree of Bachelor of Science (Hons.) Biology, in the Faculty of Applied Sciences, and was approved by

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TABLE OF CONTENTS

	PAGE
ACKNOWLEDGEMENT	iii
TABLE OF CONTENTS	iv
LIST OF TABLE	vi
LIST OF PLATE	vii
LIST OF ABBREVIATIONS	viii
ABSTRACT	ix
ABSTRAK	x
CHAPTER 1: INTRODUCTION	
1.1 Background Study	1
1.2 Problem Statements	2
1.3 Significance of the Study	2
1.4 Objectives of the Study	3
CHAPTER 2 : LITERATURE REVIEW	
2.1 Alkaloids	4
2.2 Thin-Layer Chromatography	5
2.3 Selected Fruit's Peels	
2.3.1 Papaya	6
2.3.2 Banana	7
2.3.3 Dragon fruit	8
2.3.4 Watermelon	9
2.3.5 Honeydew	11
2.4 Selected Roots	
2.4.1 Tongkat Ali	12
2.4.2 Djengkol Beans	13
CHAPTER 3: METHODOLOGY	
3.1 Materials	
3.1.1 Raw materials	15
3.1.2 Chemicals	15
3.1.3 Apparatus	15
3.2 Method	
3.2.1 Preparation of samples	16
3.2.2 Extraction of alkaloids	16

3.2.3	Detection of alkaloids	17
CHAPTER 4: RESULT AND DISCUSSION		
4.1	Comparison between different solvent ratios	18
4.2	Detection of alkaloid from <i>in vitro</i> roots	
4.2.1	Short waves UV lamp	22
4.2.2	Long waves UV lamp	24
4.3	Detection of alkaloids from fruit's peels	
4.3.1	Short waves UV lamp	27
4.3.2	Long waves UV lamp	28
CHAPTER 5: CONCLUSIONS AND RECOMMENDATIONS		32
CITED REFERENCES		34
APPENDICES		38
CURRICULUM VITAE		39

ABSTRACT

PRELIMINARY SCREENING OF ALKALOIDS USING THIN LAYER CHROMATOGRAPHY (TLC) ANALYSIS ON SELECTED FRUIT'S PEELS, *in vitro* ROOTS OF *Archidendron Pauciflorum* AND *Eurycoma longifolia*.

Plant has been used to treat many diseases due to one of its compound contained which is alkaloids that exhibit many pharmacological effects. Since alkaloids has crucial effect on treating cancer diseases, this experiment is conducted by using the samples of selected fruit's peels which are papaya (*Carica papaya*), banana (*Musa acuminata*), honeydew (*Cucumis melo*), watermelon (*Citrullus lanatus*) and dragon fruit (*Hylocerous polyrhizus*) and *in vitro* roots of Tongkat Ali (*Eurycoma longifolia*) and Djengkol beans (*Archidendron pauciflorum*). This experiment is conducted to detect the presence of alkaloids in all these samples, to identify which of the solvent ratio that can exhibit the best result and to compare the presence of alkaloids between fruit's peels and *in vitro* roots. TLC is being applied in this experiments as it is inexpensive and easy for the separation of compound. The TLC method was performed with four differences ratio of running solvents which were 4:1, 3:2, 2:3 and 1:4. From this experiments it shows that Tongkat Ali contains many alkaloids compared to the Djengkol beans with the present of Unknown alkaloids A, B, C, D, E, H and 9-methoxycanthin-6-one with Rf value of 0.42, 0.53, 0.78, 0.84, 0.97, 0.92 and 0.83 respectively. While in Djengkol beans, the alkaloids that has been found were Unknown D and E with Rf value were 0.84 and 0.97 respectively. For fruit's peels, peels of papaya, watermelon and Honeydew shows the higher present of alkaloids. The alkaloids present in papaya's peels were Unknown I, J, K and R with Rf value of 0.28, 0.55, 0.92 and 0.66 respectively. Meanwhile, for the sample of banana's peels, alkaloids that were present were Unknown L, M and N with Rf value of 0.62, 0.7 and 0.9 respectively. From honeydew's peels, alkaloids present were Unknown O, P, Q and S with the Rf value of 0.25, 0.37, 0.48 and 0.96 respectively. For watermelon's peels, alkaloids present were Unknown L, M, K and T with Rf value of 0.65, 0.7, 0.92 and 0.74 respectively. Dragon fruit's peels has the present of alkaloids which was Unknown K with Rf value of 0.92. From four different ratio of solvent (Chloroform: Methanol), the ratio of 4:1 exhibit the best result. As conclusion, alkaloids were present in all these samples The ratio of 4:1 solvent exhibit the best result for both type of samples which were fruit's peels and *in vitro* roots. From this experiments, all the results that has been obtained can be shared with others through the publication of journal.