

DETERMINATION OF CAFFEINE IN DIFFERENT BRANDS OF
COFFEE SAMPLES BY SOLID PHASE MICROEXTRACTION
(SPME) AND GAS CHROMATOGRAPHY MASS
SPECTROMETRY DETECTOR (GC-MSD)

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TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS	iii
TABLE OF CONTENTS	iv
LIST OF TABLES	vi
LIST OF FIGURES	vii
LIST OF ABBREVIATIONS	viii
ABSTRACT	ix
ABSTRAK	x
CHAPTER 1 INTRODUCTION	
1.1 Background of research	1
1.2 Significance of study	4
1.3 Objective of study	5
CHAPTER 2 LITERATURE REVIEW	
2.1 Coffee	6
2.2 Caffeine	7
2.3 Health effects of caffeine on human	11
2.4 Previous studies on caffeine	13
2.5 Solid phase microextraction (SPME)	17
2.6 Gas chromatography-mass spectrometry (GC-MS)	19
CHAPTER 3 MEHODOLOGY	
3.1 Materials	21
3.1.1 Chemicals and reagents	21
3.1.2 Samples	21
3.1.3 Apparatus	22
3.2 Methods	22
3.2.1 Preparation of 500 ppm caffeine standard solution	22
3.2.2 Solid phase microextraction (SPME) procedure	23
3.2.3 Optimization of SPME conditions	24
3.2.3.1 The extraction temperature	25
3.2.3.2 The extraction time	25
3.2.4 Preparation of 10 ppm caffeine standard solution	26
3.2.5 Preparation of coffee samples	26
3.3 Gas chromatography / Mass spectrometry detector	26
3.4 Summary of the overall method	28

ABSTRACT

DETERMINATION OF CAFFEINE IN DIFFERENT BRANDS OF COFFEE SAMPLES BY SOLID PHASE MICROEXTRACTION (SPME) AND GAS CHROMATOGRAPHY MASS SPECTROMETRY DETECTOR (GC-MSD)

Caffeine in different brands of coffee samples (L₁, L₂, I₁, and I₂) was determined using extraction by solid phase microextraction (SPME) and then analyzed by gas chromatography coupled with mass spectrometry detector (GC-MSD). The optimizations of SPME were carried out in order to enhance the fiber performance and obtain high amount of caffeine extracted. The optimization conditions were done by extracting 500 ppm of caffeine standard solution. It was found that the optimum SPME conditions were at 85 °C of extraction temperature and 10 minutes of extraction time. The headspace immersion of SPME was applied to extract caffeine from different brands of coffee samples. The result showed that I₂ brand of coffee has the relatively highest amount of caffeine among the four brands analyzed. This was followed by I₁, L₁ and L₂ brands of coffee.