

TABLE OF CONTENTS

TITLE PAGE	i
RATIFICATION PAGE	ii
STATEMENT PAGE	ii
DEDICATION	iv
TABLE OF CONTENTS	v
LIST OF FIGURES	vii
LIST OF TABLES	viii
LIST OF ATTACHMENTS	ix
PREFACE	x
ABSTRACT	xii
INTISARI	xiii
CHAPTER I INTRODUCTION	1
I.1 Background	1
I.2 Research Aim	4
I.3 Research Benefit	4
CHAPTER II LITERATURE REVIEW AND HYPOTHESIS	5
II.1 Literature Review	5
II.1.1 Boron and its compound	5
II.1.2 Boron analysis by UV-Vis spectrophotometry	6
II.1.3 Boron separation method	8
II.1.4 Effect of glassware to boron analysis	10
II.1.5 Validation of the method	10
II.2 Hypothesis Formulation and Research Plan	15
II.2.1 Hypothesis Formulation 1	15
II.2.2 Hypothesis Formulation 2	15
II.3 Research Plan	15
CHAPTER III METHOD	17
III.1 Materials	17
III.2 Equipment	17
III.3 Research Procedures	18
III.3.1 Preparation of food sample	18
III.3.2 Preparation of solution used in the research	18
III.3.3 Optimization of boron analysis by UV-Vis Spectrophotometry	18
III.3.4 Validation of Analysis Method	19
III.3.5 Analysis of boron in a food sample	20
CHAPTER IV RESULT AND DISCUSSION	21
IV.1 Result of Optimization of Boron Analysis	21
IV.1.1 Wavelength optimization of curcumin and boron curcumin complex	21
IV.1.2 Isothermal distillation time	23

IV. 2 Results of Method Validation of Boron Analysis	25
IV.2.1 Linearity and sensitivity	25
IV.2.2 Precision	27
IV.2.3 Limit of detection (LOD) and limit of quantification (LOQ)	27
IV.2.4 Accuracy	27
IV.3 The results of boron analysis in food samples	28
CHAPTER V CONCLUSION	31
V.1 Conclusion	31
V.2 Suggestion	31
REFERENCES	32
ATTACHMENT	36