



TABLE OF CONTENT

UNDERGRADUATE THESIS	ii
RATIFICATION PAGE	iii
STATEMENT PAGE	iv
DEDICATION	v
PREFACE	vi
TABLE OF CONTENT	vii
LIST OF FIGURES	ix
LIST OF TABLES	x
LIST OF APPENDICES	xi
ABSTRACT	xii
INTISARI	xiii
CHAPTER I INTRODUCTION	1
I.1 Background	1
I.2 Objectives	3
I.3 Research Benefit	3
CHAPTER II LITERATURE REVIEW AND HYPOTHESIS FORMULATION	4
II.1 Literature Review	4
II.1.1 Chalcones	4
II.1.2 Antimalarial activity assay	5
II.2 Hypothesis Formulation and Research Plan	7
II.2.1 Hypothesis formulation I	7
II.2.2 Hypothesis formulation II	7
II.2.3 Research plan	8
CHAPTER III RESEARCH METHOD	9
III.1 Material	9
III.2 Apparatus	9
III.3 Research Procedures	10
III.3.1 Synthesis of (<i>E</i>)-1-(furan-2-yl)-3-(4-methoxyphenyl) prop-2-en-1-one (Chalcone A)	10
III.3.2 Synthesis of (<i>E</i>)-1-(furan-2-yl)-3-(2,5-dimethoxyphenyl)-prop-2-en-1-one (Chalcone B)	10
III.3.3 Synthesis of (<i>E</i>)-1-(furan-2-yl)-3-(2,4-dimethoxyphenyl)-prop-2-en-1-one (Chalcone C)	10
III.3.4 Synthesis of (<i>E</i>)-1-(furan-2-yl)-3-(3,4-dimethoxyphenyl)-prop-2-en-1-one (Chalcone D)	10
III.3.5 Synthesis of (<i>E</i>)-1-(furan-2-yl)-3-(3,4,5-trimethoxyphenyl) prop-2-en-1-one (Chalcone E)	11
III.3.6 Antimalarial activity assay of chalcones against <i>Plasmodium falciparum</i> FCR-3	11
CHAPTER IV RESULT AND DISCUSSION	12
IV.1 Synthesis of (<i>E</i>)-1-(furan-2-yl)-3-(4-methoxyphenyl)-prop-2-en-1-one (Chalcone A)	13



IV.2 Synthesis of (<i>E</i>)-1-(furan-2-yl)-3-(2,5-dimethoxyphenyl)-prop-2-en-1-one (Chalcone B)	19
IV.3 Synthesis of (<i>E</i>)-1-(furan-2-yl)-3-(2,4-dimethoxyphenyl)-prop-2-en-1-one (Chalcone C)	24
IV.4 Synthesis of (<i>E</i>)-1-(furan-2-yl)-3-(3,4-dimethoxyphenyl)-prop-2-en-1-one (Chalcone D)	29
IV.5 Synthesis of (<i>E</i>)-1-(furan-2-yl)-3-(3,4,5-trimethoxyphenyl) prop-2-en-1- one (Chalcone E)	34
IV.6 Antimalarial activity assay of chalcones and against <i>Plasmodium falciparum</i> FCR-3	38
CHAPTER V CONCLUSION	41
V.1 Conclusion	41
V.2 Suggestions	41
REFERENCES	42
APPENDICES	45