

TABLE OF CONTENTS

APROVAL PAGE	ii
SELF DECLARATION AGAINST PLAGIARISM	iii
PREFACE.....	iv
ACKNOWLEDGEMEN	v
ABSTRACT.....	vii
TABLE OF CONTENTS	viii
LIST OF TABLES	x
LIST OF FIGURES	xi
CHAPTER I	1
1.1 Problem Background	1
1.2 Objective.	4
1.3 Identification Problems.	4
1.4 Scope Research	4
1.5 Hypothesis	5
1.6 Research Methodology.....	5
1.7 Writing System.	6
CHAPTER II	7
2.1 Research Review	7
2.2 Blood Glucose (Glucose)	9
2.3 Surface Plasmon Polarition	9
2.4 Surface Plasmon Resonance	10
2.5 Evanecent Wave	15
2.6 Thin Film	17
2.7 Square Open-Loop Double SSR	18
2.8 Winspall	19
2.9 Lumerical FDTD	20
CHAPTER III	21
3.1 Overview	21
3.2 Desain Flow Chart	22
3.3 Overall SPR Configuration With Metamaterial	23
3.4 Specification dan Modeling on Metamaterial	24

3.5 Gold and Silver Specification	25
3.6 Specification of Refractive Index	25
3.7 Initial Specifications and Results	27
3.8 Optimization Scenario	29
CHAPTER IV	35
4.1 Modeling and Simulation Results	36
4.2 Sensitivities, Detection Accuracy, and Quality Factor In The Use of Materials	38
CHAPTER V	41
5.1 Conclusion	41
5.2 Suggestion	41
REFERENCES	42