

Table of Contents	Page
Declaration.....	ii
Dedication.....	iii
Abstract.....	iv
Acknowledgements.....	vi
Publication emanating from this study.....	vii
Table of contents.....	viii
List of figures.....	x
List of tables.....	xii
Chapter 1 - Introduction.....	1
1.1 Overview of <i>Mentha longifolia</i>	2
1.2 The antimicrobial activity of volatile oils.....	10
1.3 Mode of action of essential oils.....	10
1.4 Study objectives.....	12
Chapter 2 - Materials and Methods.....	13
2.1 Plant material and isolation of essential oils.....	13
2.2 Extraction of non-volatile compounds.....	14
2.3 Gas chromatography coupled to mass spectroscopy.....	15
2.4 High performance liquid chromatography.....	15

2.5 Antimicrobial assays.....	16
2.6 Minimum inhibitory concentration.....	16
2.7 Statistical analysis.....	18
Chapter 3 - Results and Discussion.....	19
3.1 Essential oil and non-volatile extract yields.....	19
3.2 Gas chromatography coupled to mass spectroscopy.....	20
3.3 Qualitative cluster analysis of essential oils.....	23
3.4 High performance liquid chromatography analysis.....	26
3.5 Antimicrobial activity.....	31
3.6 Correlation between essential oil composition and antimicrobial activity.....	37
Conclusions.....	42
References.....	44
Appendix A.....	55