

Table of Contents

Chapter	Description	Page #
	Declaration	i
	Abstract	ii-vi
	Preface	vii-ix
	List of Tables	xii-xiii
	List of Figures	xiv-xvi
	List of Appendices	xvii
1	Introduction	1-8
2	Review of Literature	9-23
	2.1 Brief history of Mimosoideae	9
	2.2 Ethnomedicinal studies	9
	2.3 Medicinal properties of selected Mimosoids	10
	2.4 Antioxidant activities of selected Mimosoids	15
	2.5 Phytochemistry	17
	2.6 Molecular diversity of different Mimosoids and Rhizobium	18
3	Materials and methods	24-59
	3.1 The study area	24
	3.2 Exploitation of local ethno-medicinal plants	25
	3.3 <i>In-vitro</i> Antioxidant profiling	25
	3.4 PCA and HCA of different antioxidant traits	31
	3.5 Assessment of cytotoxicity of plant extracts	31
	3.6 Neurotherapeutic effects of plant extract	32
	3.7 Anti-diabetic Activity of plant extract	35
	3.8 Chemical Characterizations of selected plant extracts	38
	3.9 <i>In-silico</i> drugability prediction and Pharmacokinetic study	40
	3.10 Study of Molecular diversity of Mimosoids	42
	3.11 Medicinal and molecular assortment of Microsymbionts	52
4	Results and Discussion	60-120
	4.1 Utilization of local plants of selected Mimosoids	60
	4.2 <i>In-vitro</i> antioxidant activities	61
	4.3 Principal component analysis (PCA) and hierarchical cluster analysis (HCA)	66
	4.4 Evaluation of cytotoxicity	69
	4.5 Neurotherapeutic effects of plant extract	71
	4.6 Anti-diabetic activity of <i>Acacia nilotica</i> (ANL) extract	74
	4.7 Chemical Characterizations of selected plant extracts	81

Table of Contents

Chapter	Description	Page #
	4.8 <i>In-silico</i> drug targeting and Pharmacokinetic study	92
	4.9 Molecular diversity of different Mimosoids	103
	4.10 Exploration of medicinal and diversity of microsymbionts	115
	Conclusion	121-123
	Bibliography	124-138
	Index	139-140
	Appendix (A-B)	A1-A4