

CONTENTS

Preface	page vii
Glossary	ix
1 Methods of Plant Analysis	1
1.1 Introduction	1
1.2 Methods of Extraction and Isolation	4
1.3 Methods of Separation	7
1.4 Methods of Identification	14
1.5 Applications	26
2 Phenolic Compounds	33
2.1 Introduction	33
2.2 Phenols and Phenolic Acids	34
2.3 Phenylpropanoids	41
2.4 Flavonoid Pigments	52
2.5 Anthocyanins	59
2.6 Flakvonols and Flavones	66
2.7 Minor Flavonoids, Xanthones and Stilbenes	74
2.8 Quinone Pigments	80
3 The Terpenoids	89
3.1 Introduction	89
3.2 Essential Oils	92
3.3 Diterpenoids and Gibberellins	105
3.4 Triterpenoids and Steroids	109
3.5 Carotenoids	119
4 Organic Acids, Lipids and Related Compounds	132
4.1 Plant Acids	132
4.2 Fatty Acids and Lipids	140
4.3 Alkanes and Related Hydrocarbons	150
4.4 Polyacetylenes	154
4.5 Sulphur Compounds	159
5 Nitrogen Compounds	166
5.1 Introduction	166
5.2 Amino Acids	168
5.3 Amines	177
5.4 Alkaloids	182
5.5 Cyanogenic Glycosides	192

5.6 Indoles	195
5.7 Purines, Pyrimidines and Cytokinins	198
5.8 The Chlorophylls	204
6 Sugars and their Derivatives	212
6.1 Introduction	212
6.2 Monosaccharides	213
6.3 Oligosaccharides	221
6.4 Sugar Alcohols and Cyclitols	226
7 Macromolecules	233
7.1 Introduction	233
7.2 Nucleic Acids	236
7.3 Proteins	243
7.4 Polysaccharides	255
Index	271