

CONTENTS

PREFACE	1
1. INTRODUCTION	3
Techniques	4
2. ACIDS AND BASES	6
Selection of Acid-Base Method	7
Differentiations	13
Indicators	22
Methods	25
References	34
3. NITROGEN COMPOUNDS	35
Amines	35
Amides	52
Miscellaneous	55
References	59
4. CARBONYL COMPOUNDS AND DERIVATIVES	60
Hydroxylamine Hydrochloride-Triethanolamine	
Methods	61
Hydroxylamine Hydrochloride-Dimethylethanolamine	
Method	68
Hydroxylammonium Formate	71
Mercurimetric Determination of Aldehydes	75
2,4,-Dinitrophenylhydrazine Colorimetric Method.	78
Summary	79
References	80
5. HYDROXYL COMPOUNDS	81
Acylation Methods	82
Cleavage of 1,2-Glycols	92
Hydrogen Bromide Method for Tertiary Alcohols	
(and Diols)	95
Bromination Method for Aromatic Hydroxyl Compounds	97
Colorimetric Methods	99

CONTENTS

Summary	104
References	105
6. UNSATURATED COMPOUNDS	107
Halogenation Methods	108
Morpholine Method	116
Mercuric Acetate Method	119
Silver Perchlorate Method	121
Summary	123
References	123
7. 1,2-EPOXY COMPOUNDS	125
Indirect Hydrogen Bromide Method	126
Direct Hydrogen Bromide Method	131
Pyridine Hydrochloride Method	133
Morpholine Method	136
Colorimetric Method	138
Summary	140
References	140
8. ESTERS	141
Saponification with Aqueous Potassium Hydroxide	141
Saponification in the Presence of Phenylhydrazine	143
Saponification with Potassium Hydroxide in Diethylene Glycol	144
Hydroxamic Acid Colorimetric Method	146
Summary	148
References	149
9. CARBOXYLIC ACID ANHYDRIDES	150
Aniline-Sodium Hydroxide Method	150
Morpholine Method	152
Morpholine-Carbon Disulfide Method	153
Hydroxamic Acid Colorimetric Method	155
Summary	156
References	157
10. PEROXIDES	158
Sodium Iodide-Acetic Anhydride Method	159
Hydrogen Iodide-Acetic Acid Method	160
Ceric Ammonium Sulfate Method	161

Colorimetric Sodium Iodide-Acetic Anhydride Method	162
Summary	163
References	163
11. SULFUR COMPOUNDS	164
Titration of Mercaptans with Mercuric Perchlorate	165
Iodometric Method for Mercaptans	166
Potassium Bromate Method for Sulfides and Disulfides	167
Acid Hydrolysis of Alkyl Sulfates	168
Titration of Surface Active Sulfates and Sulfonates with Cetyl Pyridinium Bromide	169
Colorimetric Method for Surface Active Sulfates and Sulfonates	171
References	171
INDEX	173