

## CONTENTS

## INTRODUCTION

1 The Importance and Meaning of Organic Chemistry	1
2 The Feature of Organic Chemistry	36
3 Diagnosis of Organic Molecules A. Purification and Practical Techniques	12
4 Diagnosis of Organic Molecules B. Analysis and Molecular Formulae	25

## PART ONE

## Aliphatic Compounds

5 Aliphatic Hydrocarbons	43
6 Aliphatic Halogen Compounds	71
7 Compounds containing Hydroxyl Groups: The Alcohols	91
8 Compounds containing Carbonyl Groups: Aldehydes and Ketones	119
9 Compounds containing both the Carbonyl and Hydroxyl Groups: The Fatty Acids	150
10 Compounds containing Amino C-O-C Linkages: Ethers, Esters and Acid Anhydrides	197
11 Compounds containing Amino Groups: Amines, Amides, Urea and Glycine	197
12 Other Nitrogen-containing Compounds: Cyanides and Nitro Compounds	221
13 Stereoisomerism	235
14 Carbohydrates	245

## PART TWO

## Aromatic Compounds

15 Introduction to Aromatic Compounds	261
16 The Aromatic Hydrocarbons: Benzene and its Homologues	264
17 Aromatic Compounds containing Nitrogen	282
18 Halogen Derivatives of Aromatic Compounds	305
19 Sulphonic and Hydroxy Derivatives of Benzene	314
20 Aromatic Aldehydes, Ketones and Acids	329

## PART THREE

## Theory and Present-day Applications of Organic Chemistry

21 Synthetic Methods in Organic Chemistry	349
22 The Nature of Organic Compounds	360
23 Factors affecting Organic Linkages	375
24 The Electronic Theory Applied to Organic Reactions	388
25 The Mechanism of Some Organic Reactions	399
26 Resonance, Benzene Structure, and Substitution	409
27 Outlines of some Industrial Organic Processes	428
Questions	455
Answers to Questions	481

