

CONTENTS

Preface to first edition	vii
Preface to second edition	ix
Safety in the laboratory	xi
1. Preliminary tests	1
1. Elemental analysis	1
2. Ignition	3
3. Colour and odour	3
4. Determination of physical constants	3
2. Chemical and spectroscopic characterization of functional groups	7
3. The separation of organic mixtures	35
4. Preparation of derivatives	38
5. Tables of organic compounds and their derivatives	59
Table 1. Acetals	60
Table 2. Alcohols (C, H and O)	60
Table 3. Alcohols (C, H, O and halogen or N)	62
Table 4. Aldehydes (C, H and O)	63
Table 5. Aldehydes (C, H, O and halogen or N)	65
Table 6. Amides (primary), imides, ureas, thioureas and guanidines	65
Table 7. Amides, <i>N</i> -substituted	67
Table 8. Amines, primary aliphatic	67
Table 9. Amines, primary aromatic (C, H, (O) and N)	68
Table 10. Amines, primary aromatic (C, H, (O), N and halogen or S)	71
Table 11. Amines, secondary	72
Table 12. Amines, tertiary	73
Table 13. Amino-acids	74
Table 14. Azo, azoxy, nitroso and hydrazine compounds	75
Table 15. Carbohydrates	76
Table 16. Carboxylic acids (C, H and O), their acyl chlorides, anhydrides and nitriles	77
Table 17. Carboxylic acids (C, H, O and halogen, N or S)	82
Table 18. Enols	84
Table 19. Esters, carboxylic	84
Table 20. Esters, phosphoric	86
Table 21. Ethers	87
Table 22. Halides, alkyl mono-	88
Table 23. Halides, alkyl poly-	90
Table 24. Halides, aryl	91
Table 25. Hydrocarbons	92
Table 26. Ketones (C, H and O)	94
Table 27. Ketones (C, H, O and halogen or N)	97
Table 28. Nitriles	98
Table 29. Nitro-, halogenonitro-compounds and nitro-ethers	99
Table 30. Phenols (C, H and O)	101
Table 31. Phenols (C, H, O and halogen or N)	104

Table 32. Quinones	106
Table 33. Sulphonic acids and their derivatives	106
Table 34. Thioethers (sulphides)	107
Table 35. Thiols and thiophenols	108
6. Pharmaceutical compounds	109
Introduction	109
Table P1. Compounds containing C, H, (and O)	109
Table P2. Compounds containing C, H, N, (and O)	110
Table P3. Compounds containing C, H, halogen (and O)	110
Table P4. Compounds containing C, H, N, halogen (and O)	110
Table P5. Compounds containing C, H, N, S (and O)	111
Table P6. Compounds containing C, H, N, S, halogen (and O)	111
Index	113