

Contents

Preface	IX
Commercial Products	X
1. Introduction	1
2. Liquid column chromatography	3
2.1. Sorbents	3
2.2. Instrumentation	8
2.3. High-pressure liquid column chromatography	10
3. Paper and thin-layer chromatography	13
3.1. Paper chromatography	13
3.2. Thin-layer chromatography	14
3.3. Sorbents	14
3.4. Layers	16
3.5. Development	17
3.6. Detection	18
3.7. Quantitative and radiochemical methods	24
3.8. Steroid derivatives	25
4. Gas chromatography	29
4.1. Introduction	29
4.2. Steroid derivatives	29
4.3. Packed columns	33
4.4. Coated capillaries	37
4.5. Instrumentation	41
4.6. Gas chromatography–mass spectrometry combination	41
4.7. Quantitative and radiochemical methods	43
5. Relations between structure and chromatographic mobility	45
5.1. R_M values in liquid chromatography	45
5.2. R_M values in gas chromatography	46
5.3. Group retention factors	47
5.4. Steroid numbers	48
5.5. Other indices	53
6. Sterols	55
6.1. Liquid column chromatography	55
6.2. Thin-layer chromatography	57
6.3. Gas chromatography	61
7. Bile acids and alcohols	71
7.1. Liquid column chromatography	71
7.2. Thin-layer chromatography	71
7.3. Gas chromatography	74

8. Estrogens	79
8.1. Liquid column chromatography	79
8.2. Thin-layer chromatography	81
8.3. Gas chromatography	83
9. Androstane derivatives	87
9.1. Liquid column chromatography	87
9.2. Thin-layer chromatography	87
9.3. Gas chromatography	91
10. Pregnane derivatives	93
10.1. Thin-layer chromatography	93
10.2. Gas chromatography	96
11. Corticosteroids	99
11.1. Liquid column chromatography	99
11.2. Thin-layer chromatography	101
11.3. Gas chromatography	103
12. Miscellaneous steroid hormones	107
12.1. Introduction	107
12.2. Hormones in urine	107
12.3. Hormones in other biological specimens	109
12.4. Hormones in pharmaceuticals	109
13. Vitamins D	113
14. Molting hormones	115
15. Steroid sapogenins and alkaloids	117
16. Cardenolides and bufadienolides	121
List of Abbreviations	125
References	127
Subject index	193