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APPENDICES

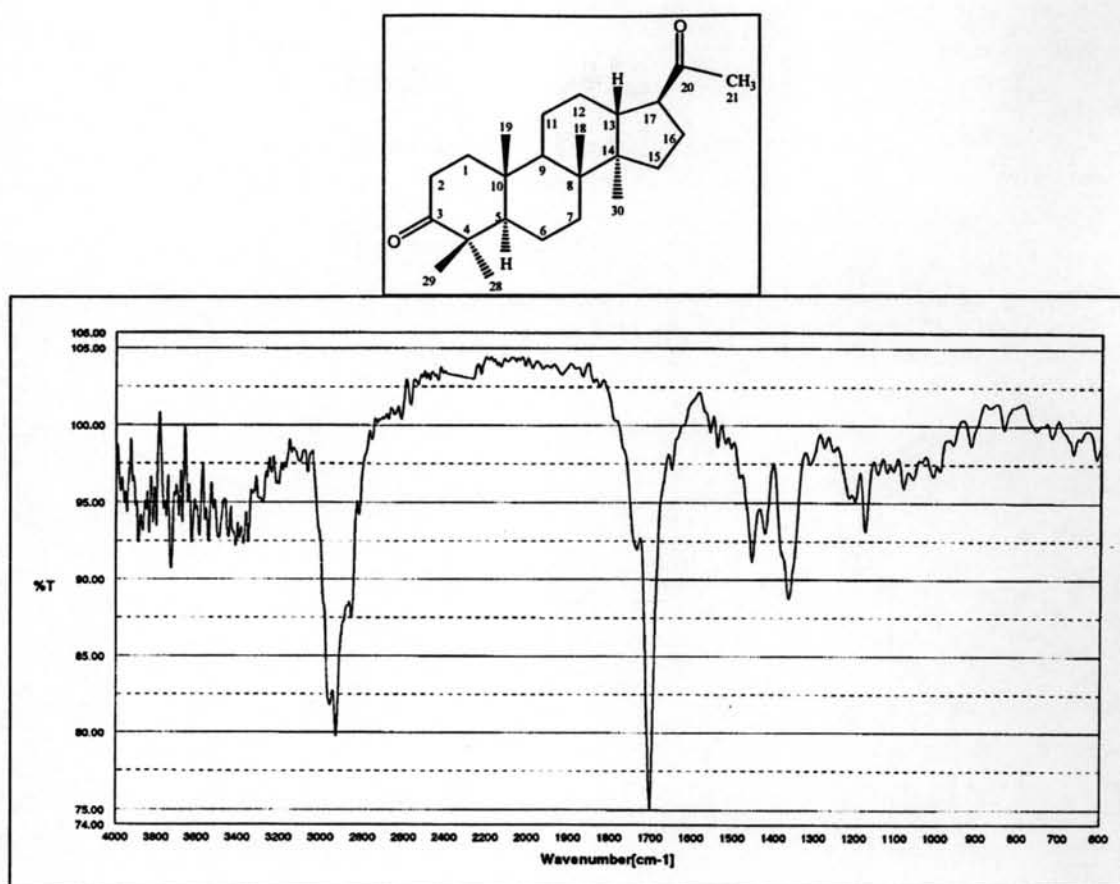


Figure 9. IR Spectrum of compound CP-1 (KBr disc)

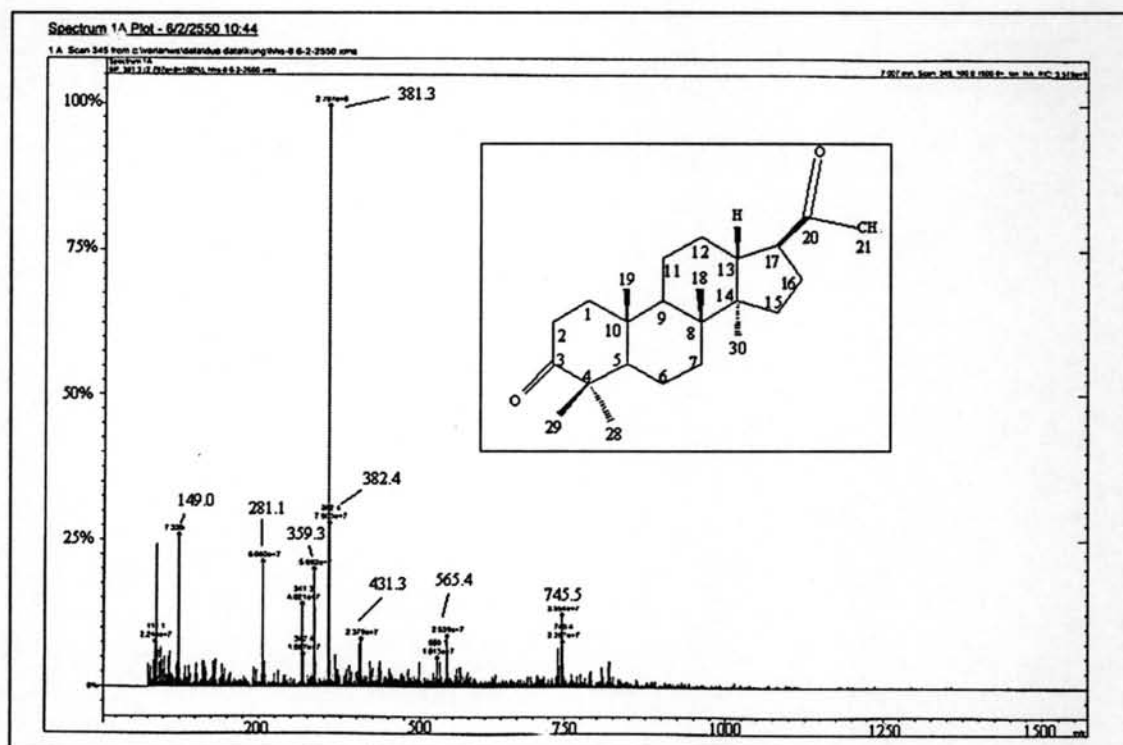


Figure 10. ESI Mass spectrum of compound CP-1

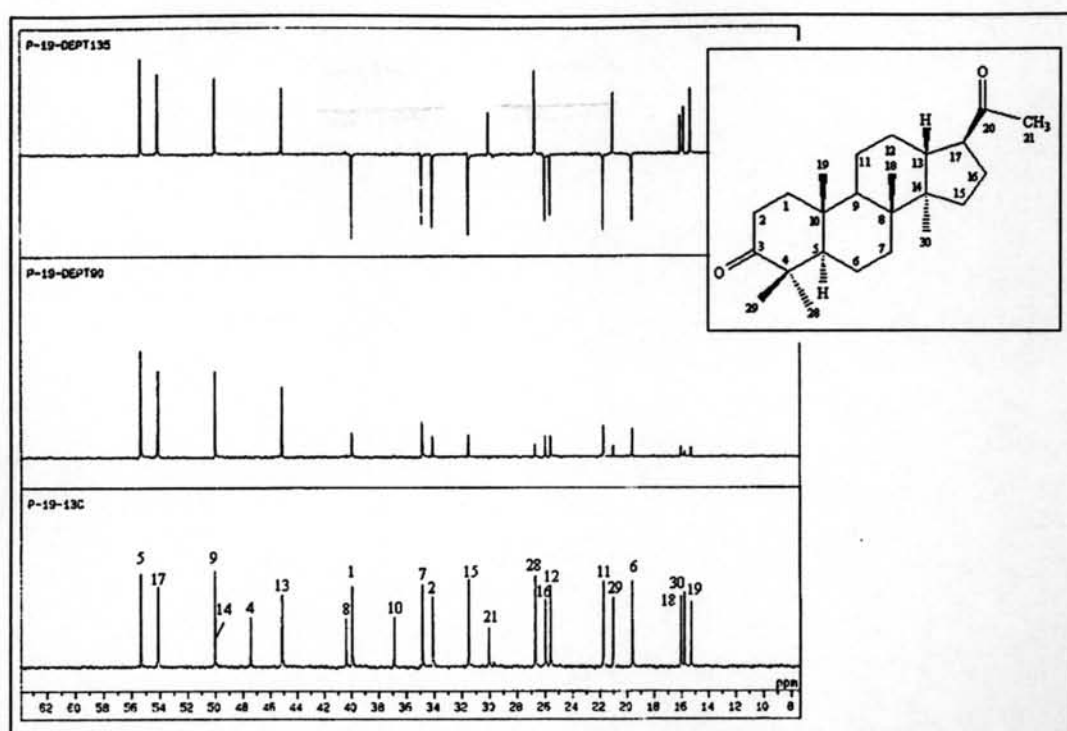


Figure 13a. DEPT 135 Spectrum of compound CP-1

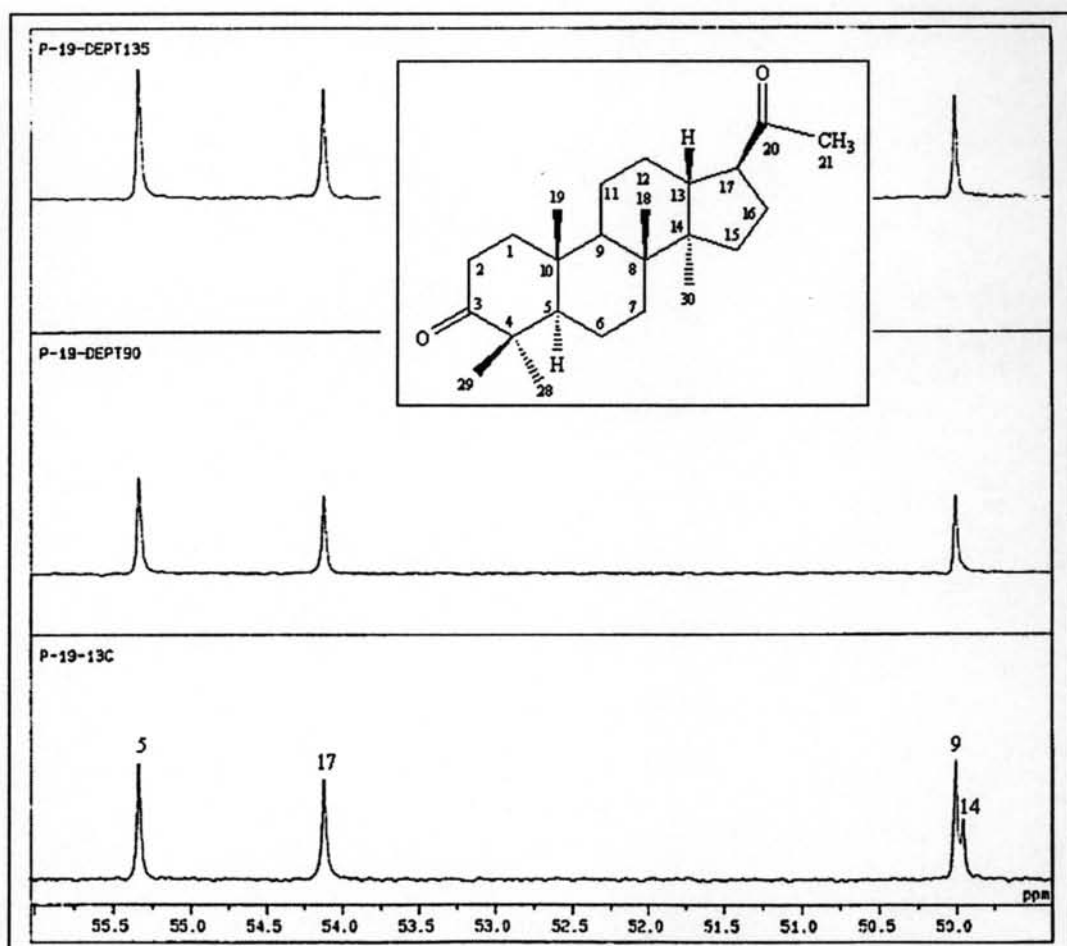


Figure 13b. DEPT 135 Spectrum of compound CP-1 (expansion δ 49.0-55.5 ppm)

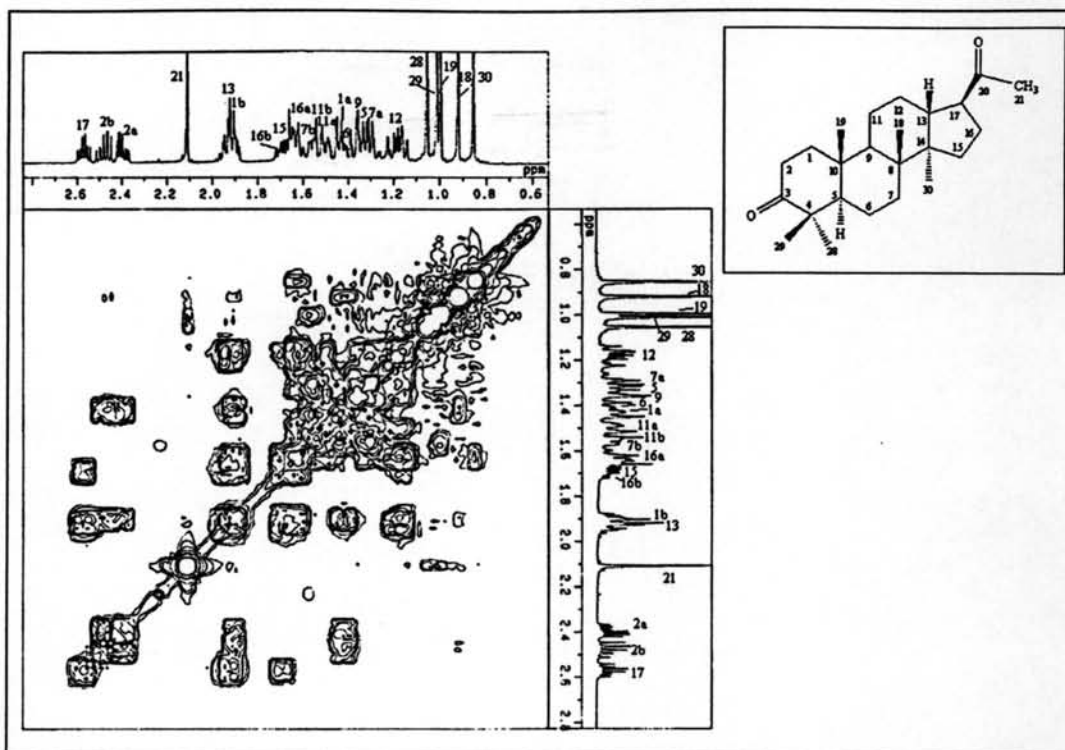


Figure 14. ^1H - ^1H COSY Spectrum of compound CP-1

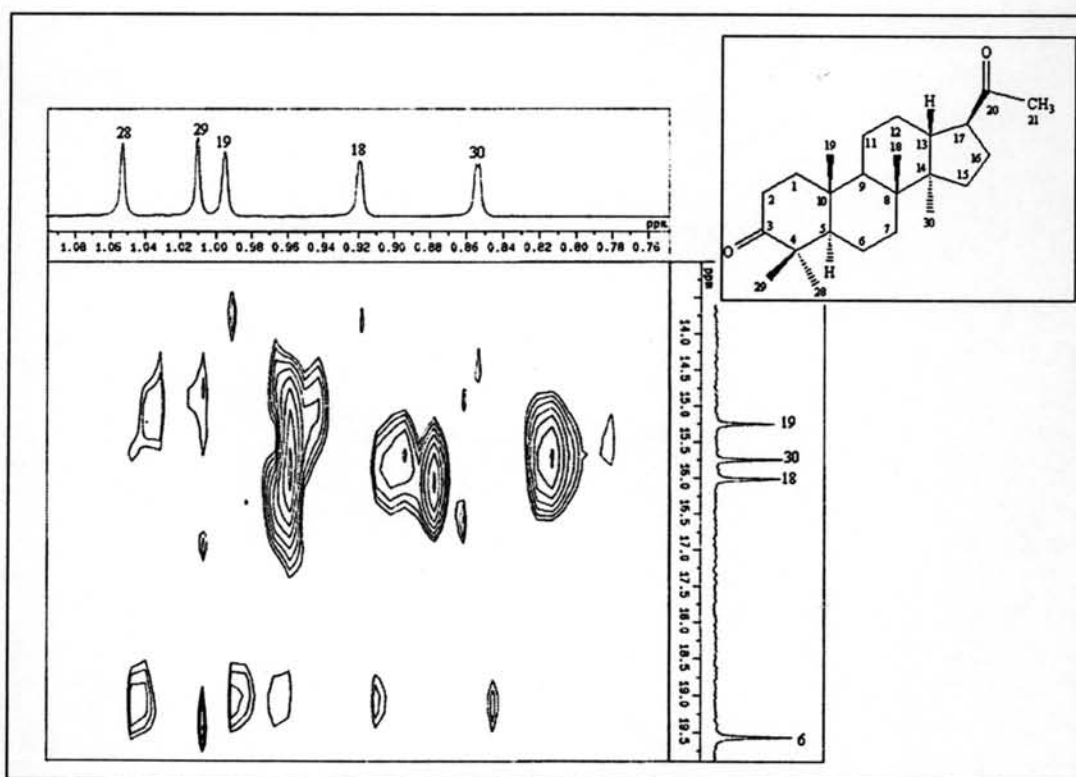


Figure 15a. HMQC Spectrum of compound CP-1 (δ_{H} 0.7-1.1 ppm, δ_{C} 14-20 ppm)

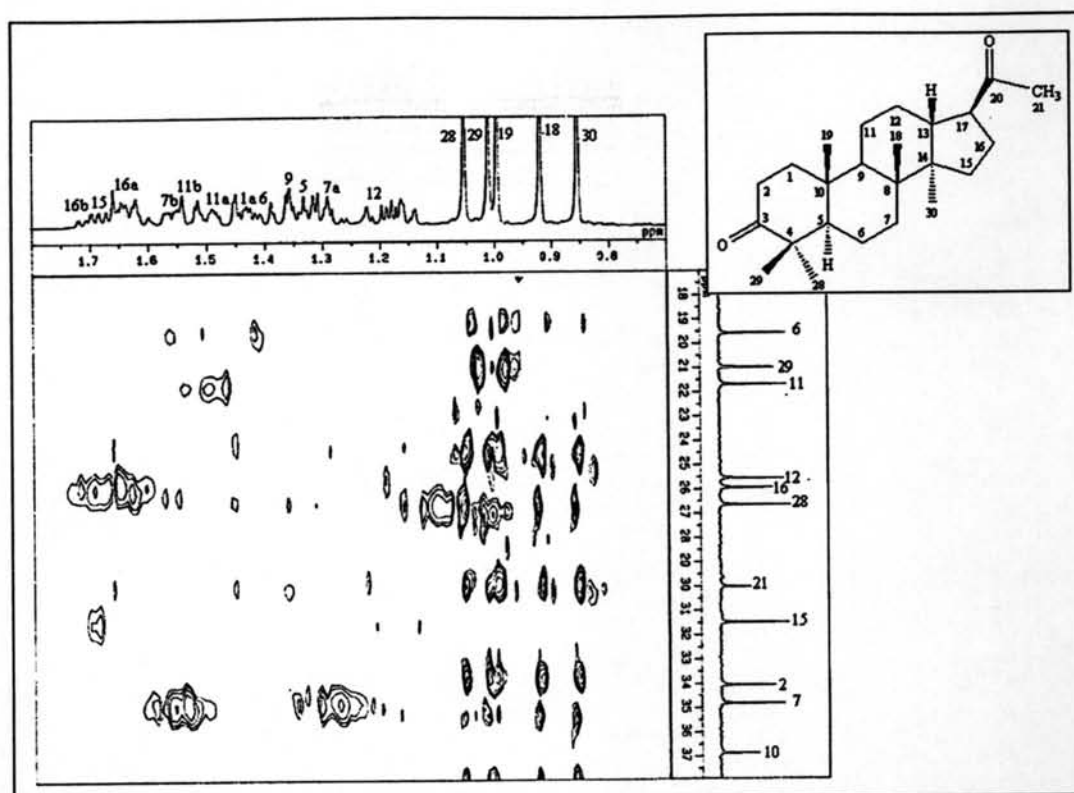


Figure 15b. HMQC Spectrum of compound CP-1 (δ_H 0.8-1.8 ppm, δ_C 18-37 ppm)

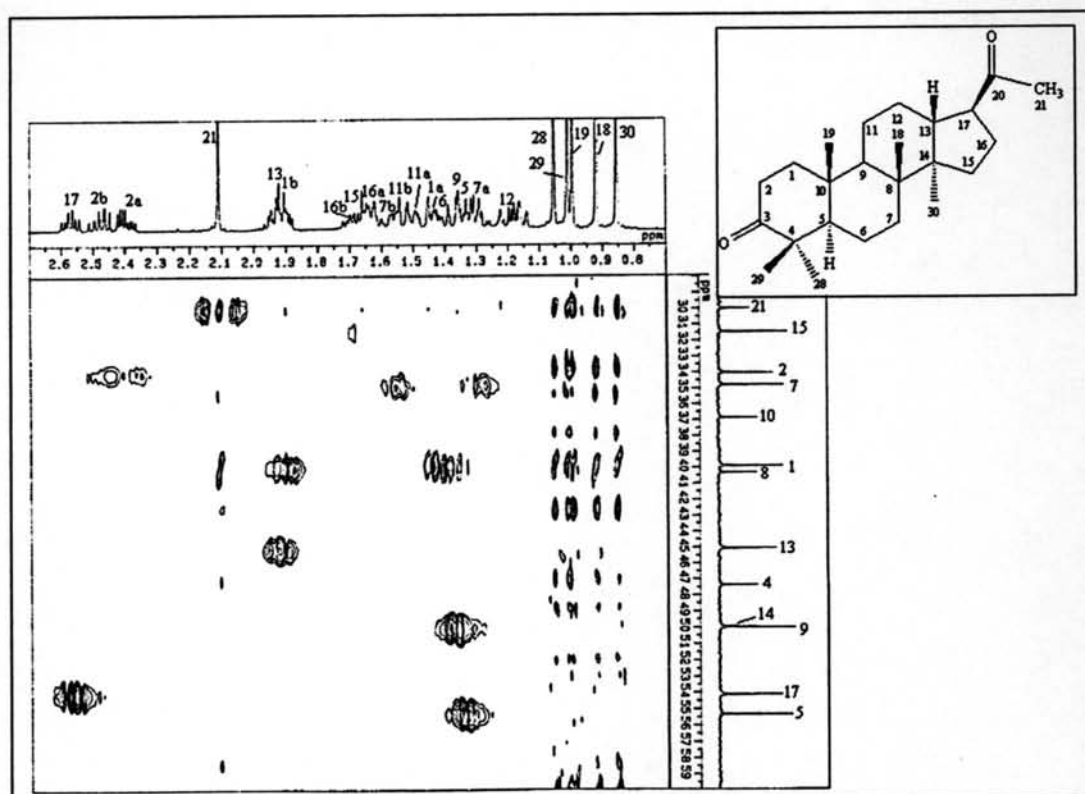


Figure 15c. HMQC Spectrum of compound CP-1 (δ_H 0.8-2.7 ppm, δ_C 30-60 ppm)

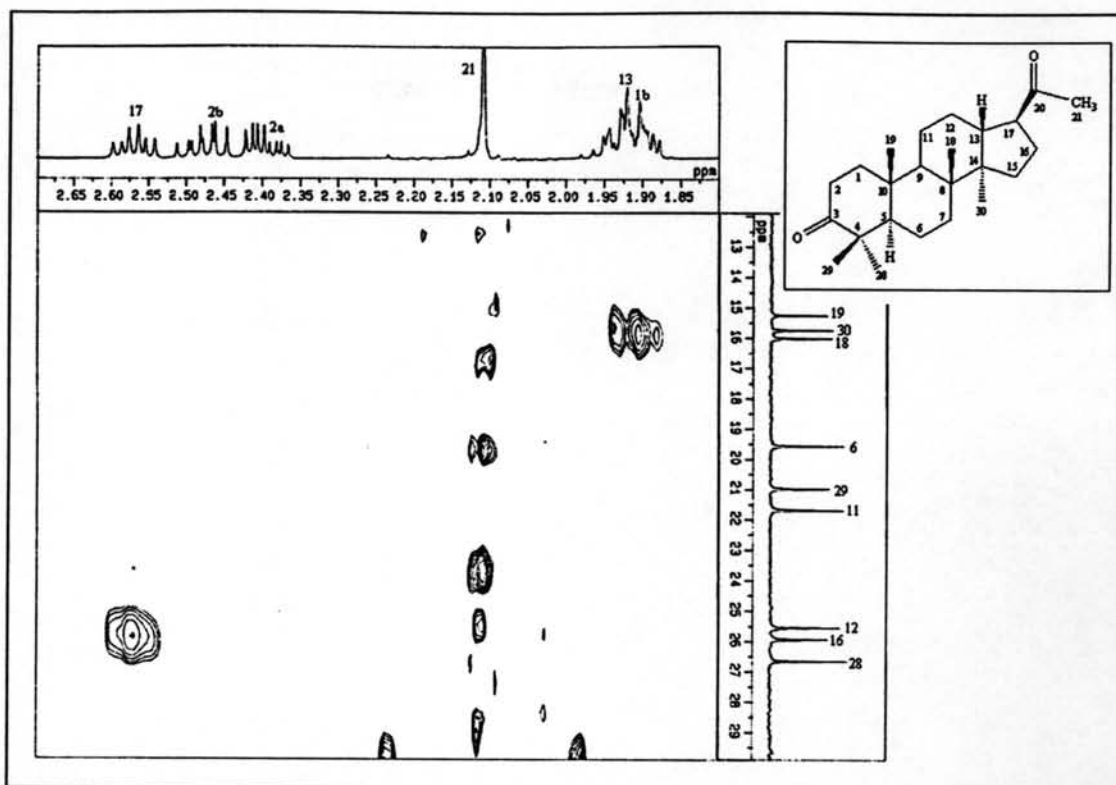


Figure 16a. HMBC Spectrum of compound CP-1 (δ_H 1.85-2.7 ppm, δ_C 13-29 ppm)

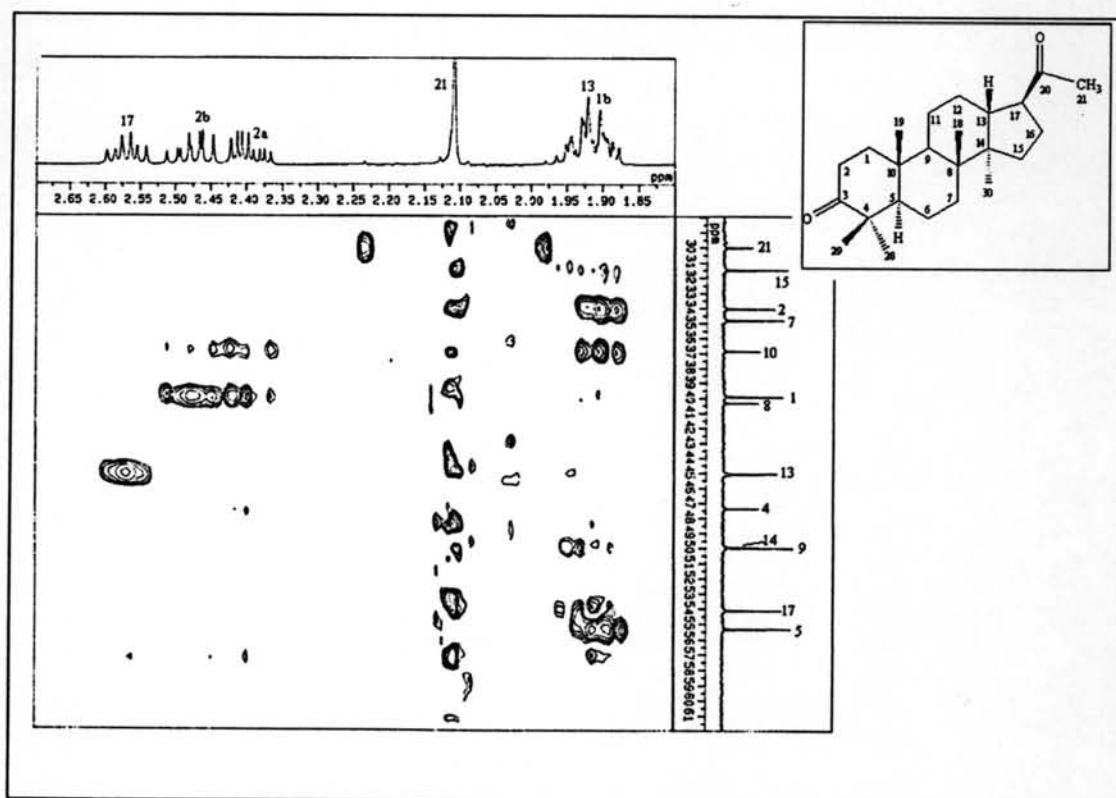


Figure 16b. HMBC Spectrum of compound CP-1 (δ_H 1.85-2.7 ppm, δ_C 30-60 ppm)

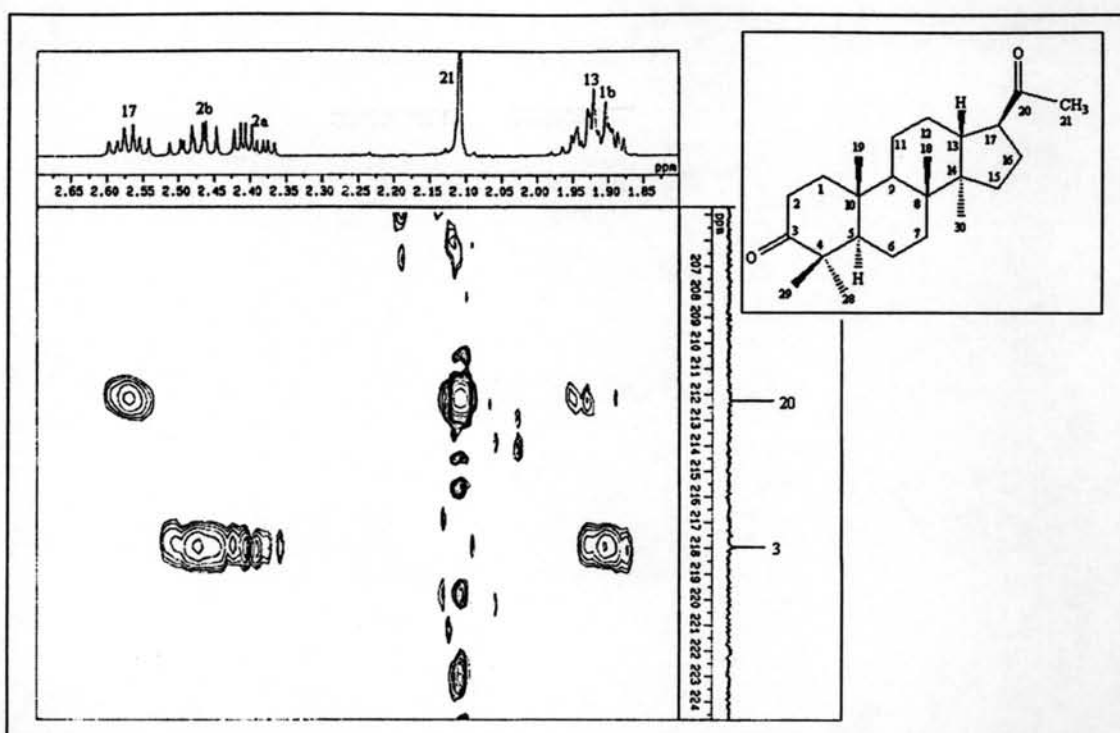


Figure 16c. HMBC Spectrum of compound CP-1 (δ_H 1.85-2.7 ppm, δ_C 200-220 ppm)

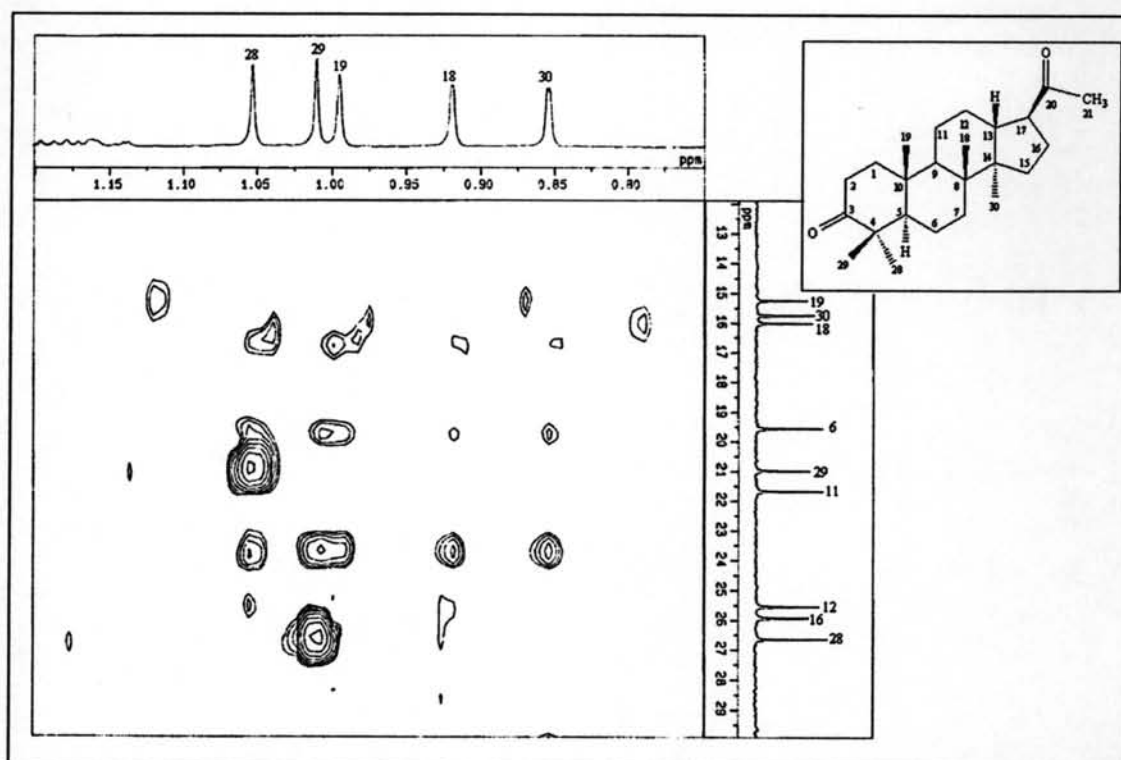


Figure 16d. HMBC Spectrum of compound CP-1 (δ_H 0.80-1.10 ppm, δ_C 13-29 ppm)

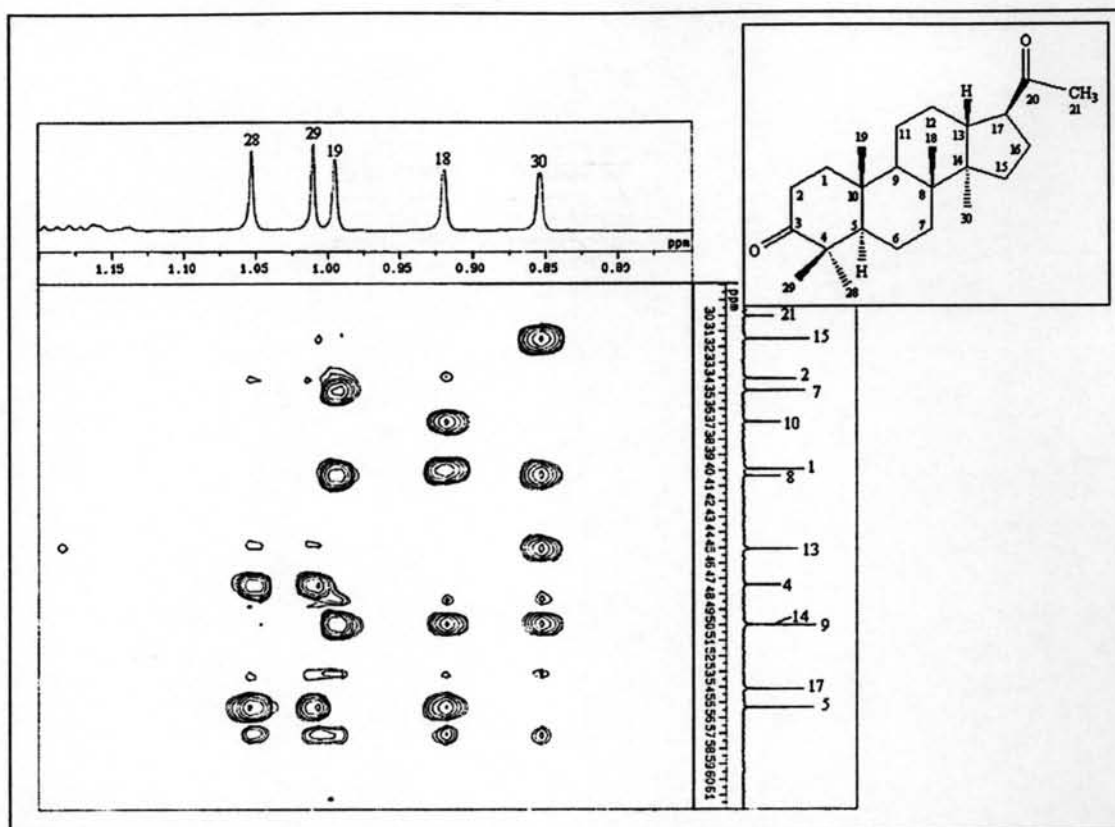


Figure 16e. HMBC Spectrum of compound CP-1 (δ_H 0.80-1.10 ppm, δ_C 30-60 ppm)

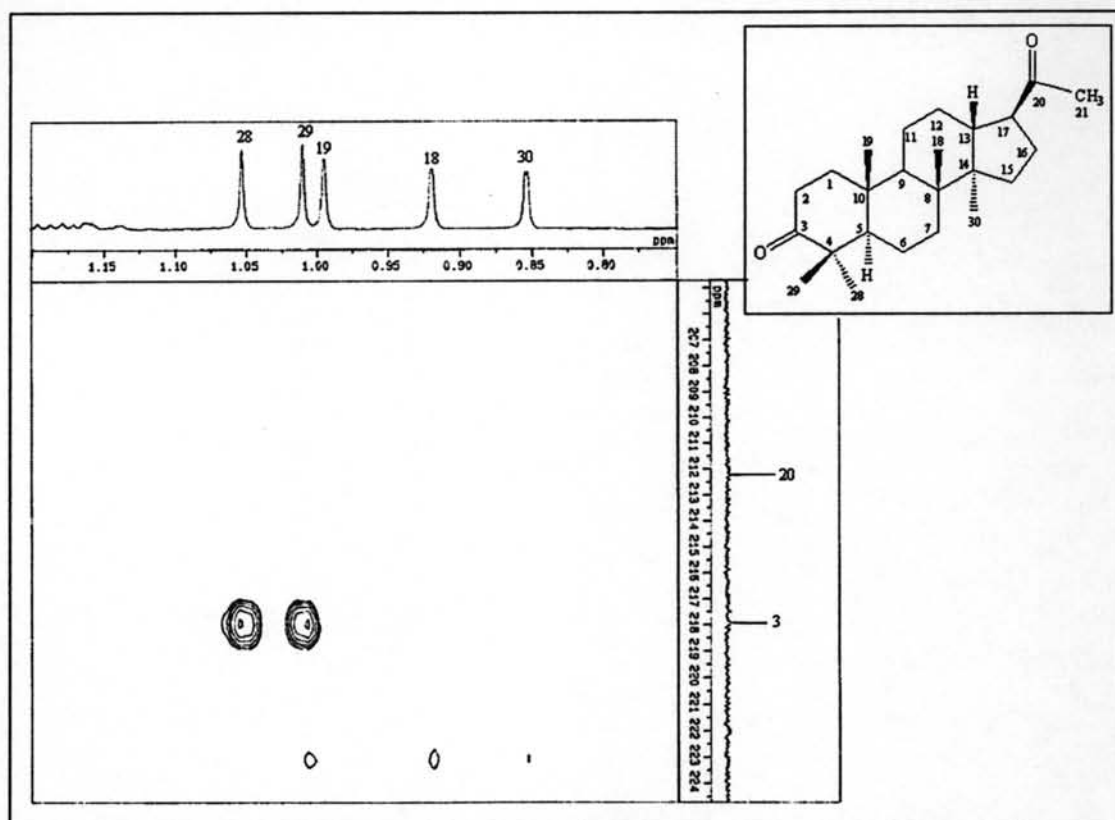


Figure 16f. HMBC Spectrum of compound CP-1
(δ_H 0.80-1.10 ppm, δ_C 207-220 ppm)

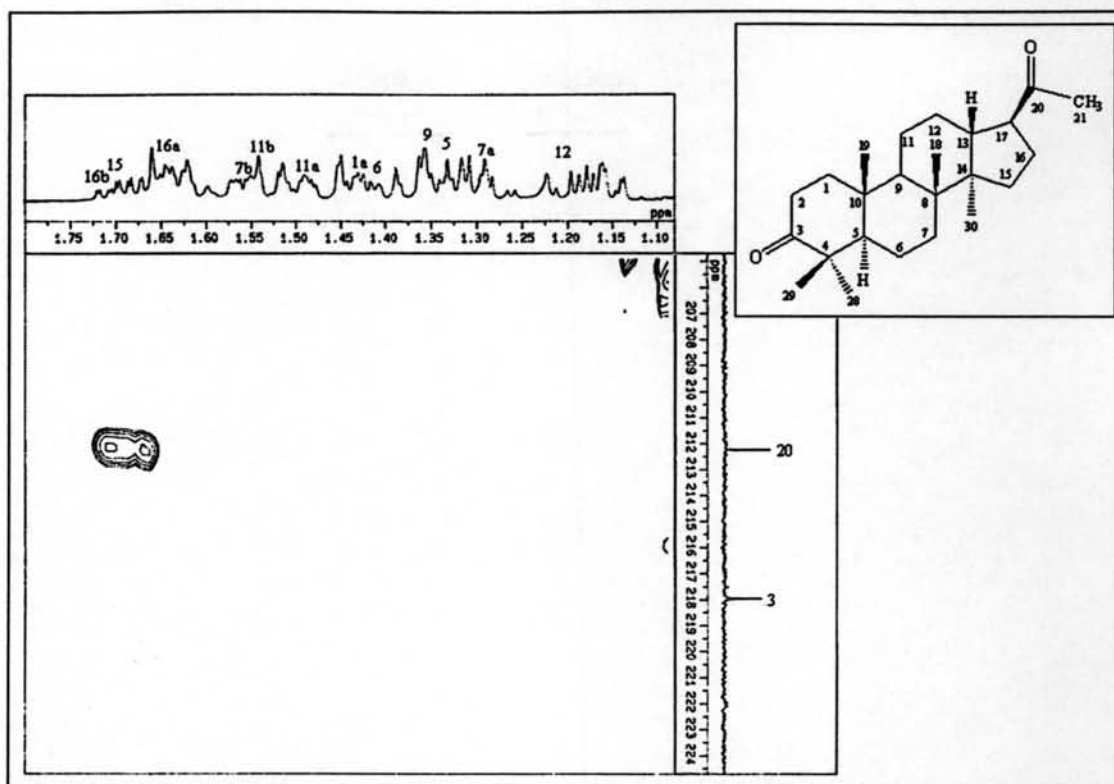


Figure 16g. HMBC Spectrum of compound CP-1
(δ_H 1.10-1.75 ppm, δ_C 207-220 ppm)

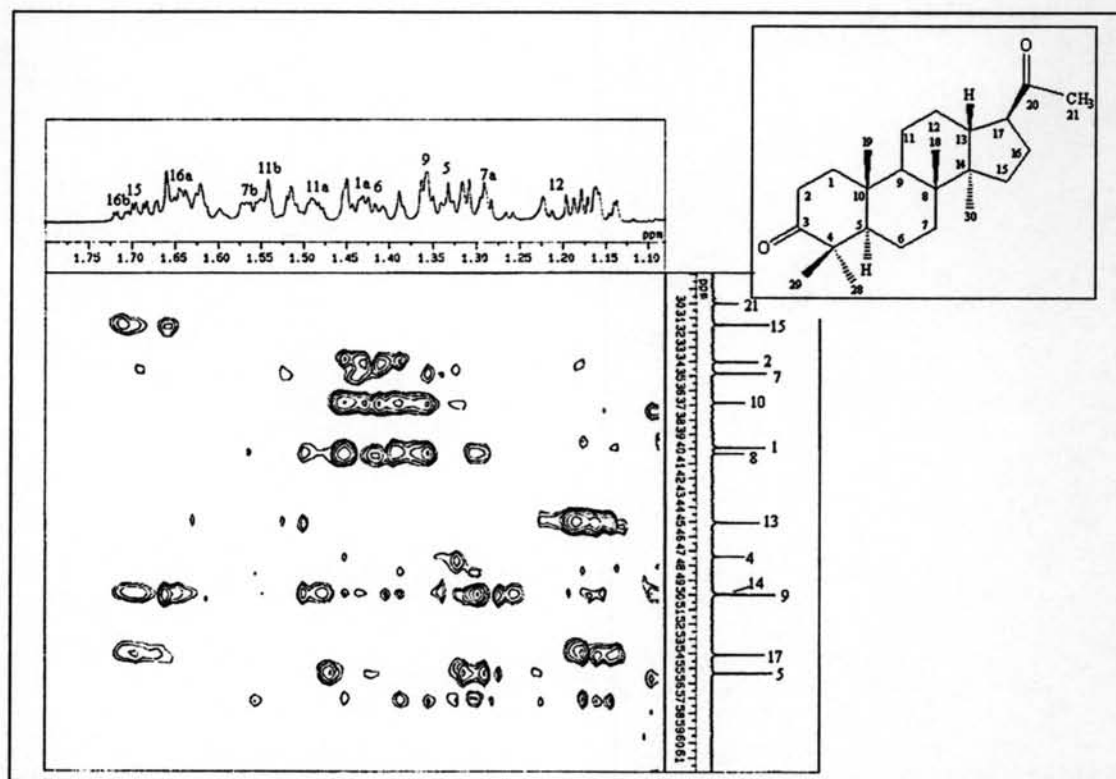


Figure 16h. HMBC Spectrum of compound CP-1 (δ_H 1.10-1.75 ppm, δ_C 30-60 ppm)

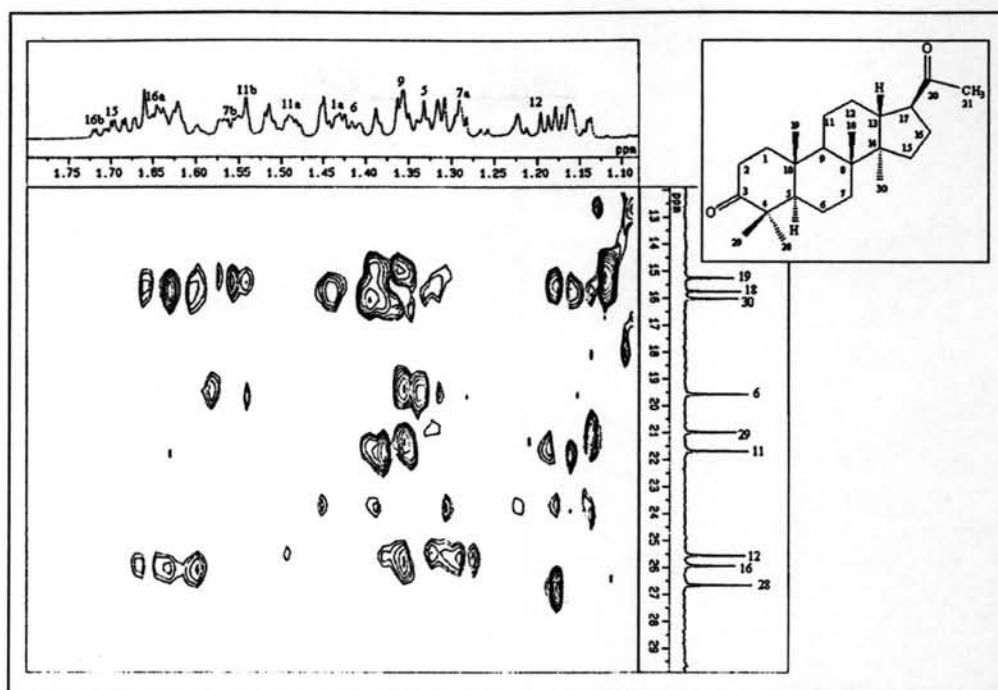


Figure 16i. HMBC Spectrum of compound CP-1 (δ_H 1.10-1.75 ppm, δ_C 13-30 ppm)

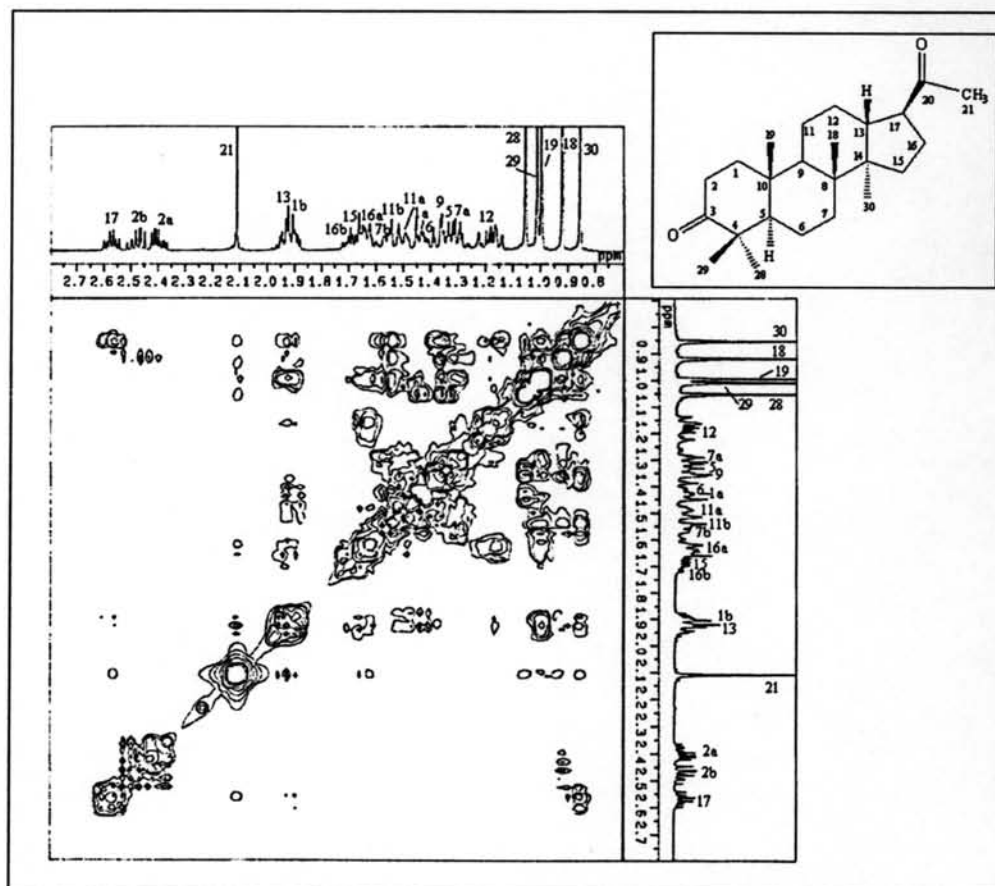


Figure 17. NOESY Spectrum of compound CP-1

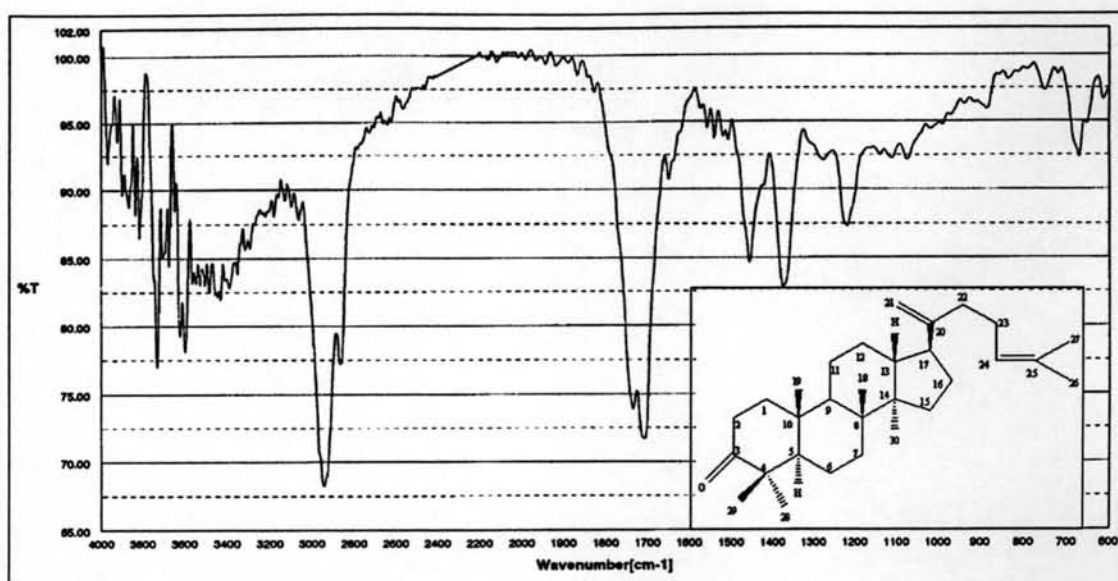


Figure 18. IR Spectrum of compound CP-2 (KBr disc)

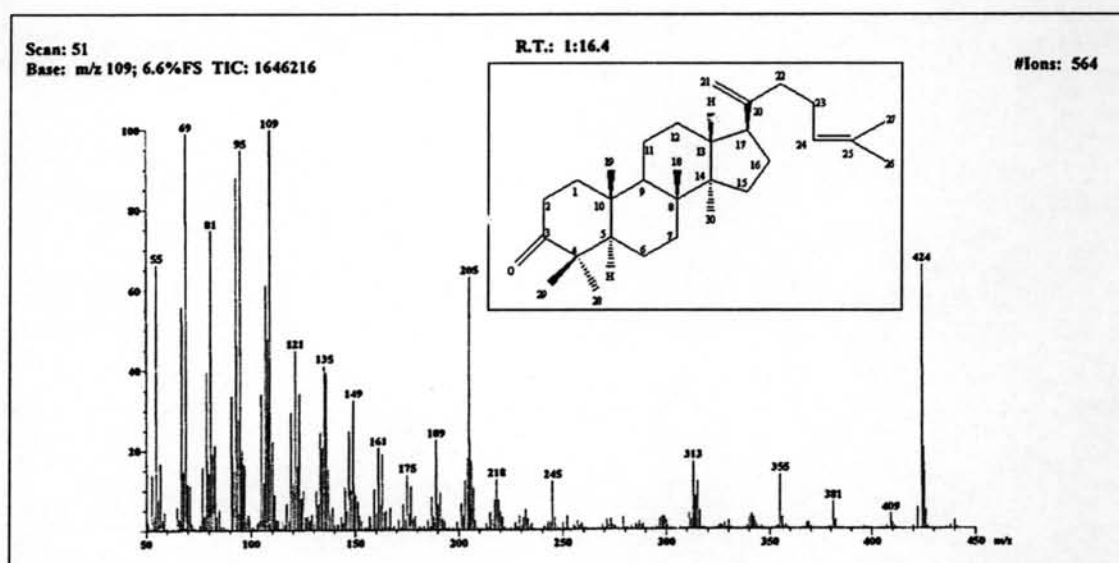


Figure 19. ESI Mass spectrum of compound CP-2

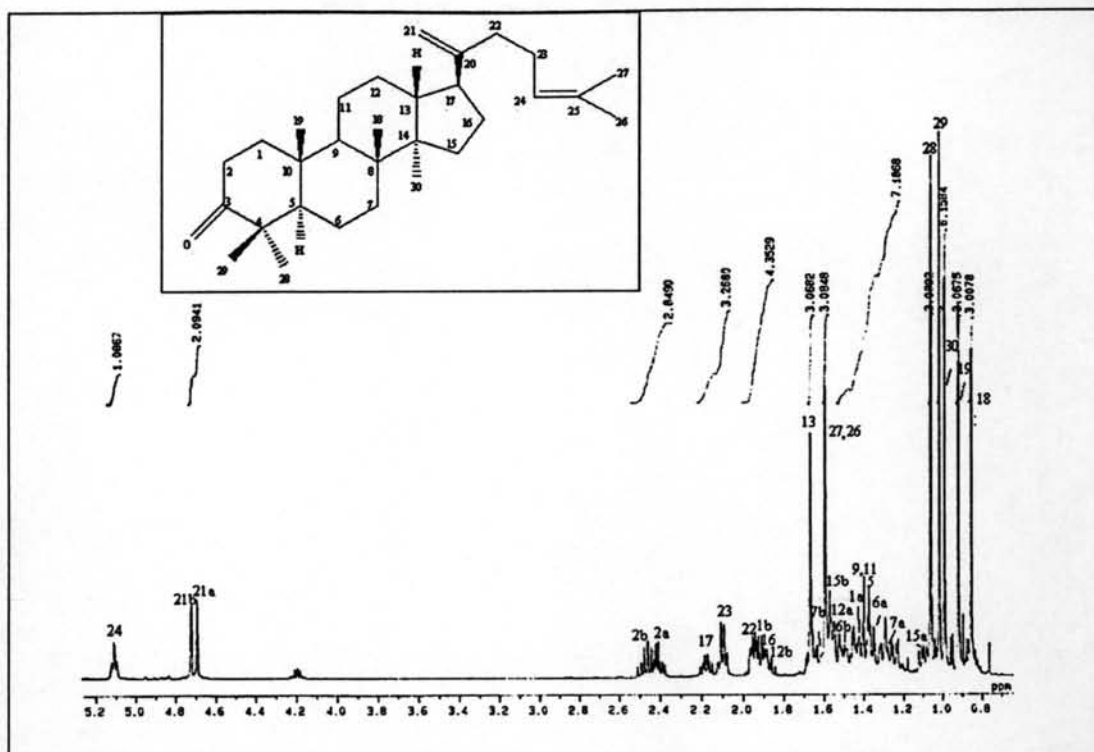


Figure 20a. ^1H NMR (500 MHz) Spectrum of compound CP-2 (in CDCl_3)

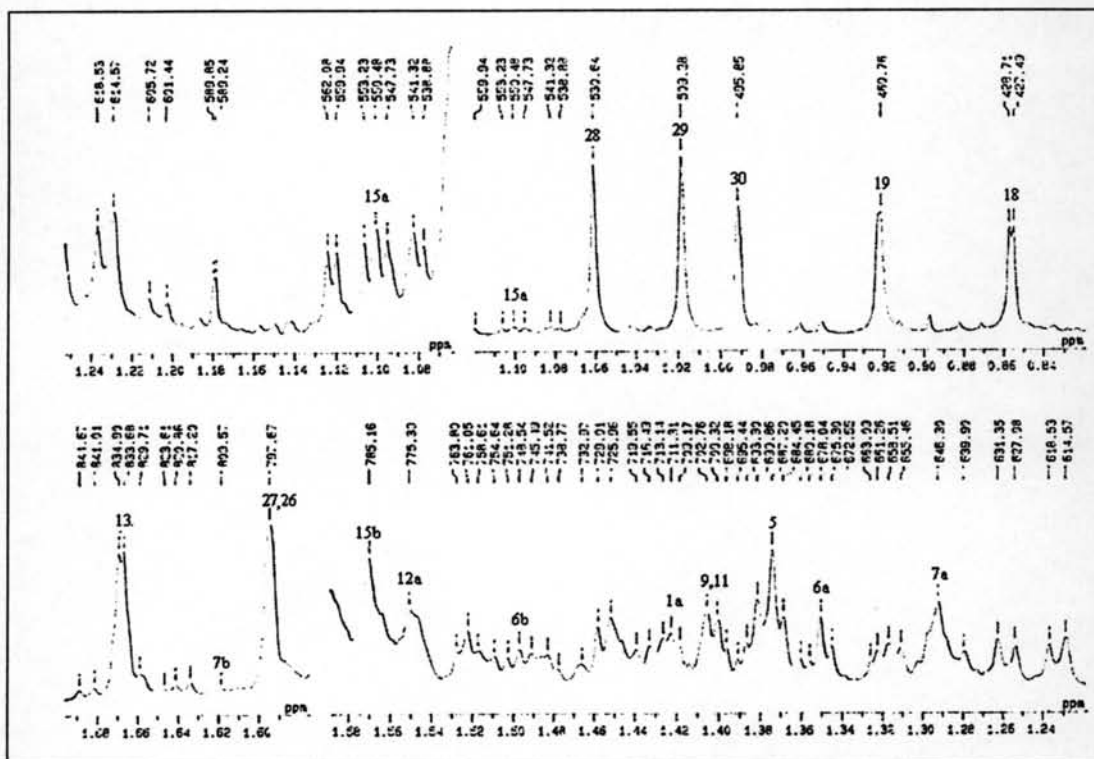


Figure 20b. ^1H NMR (500 MHz) Spectrum of compound CP-2 (in CDCl_3)
(expansion δ 0.84-1.69 ppm)

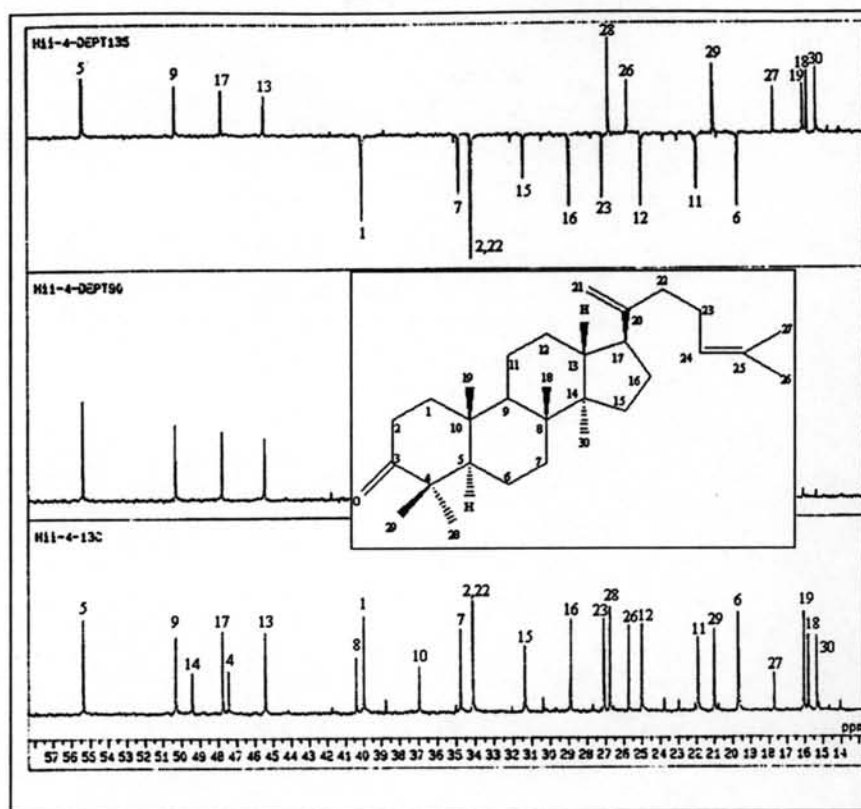


Figure 22a. DEPT 135 Spectrum of compound CP-2

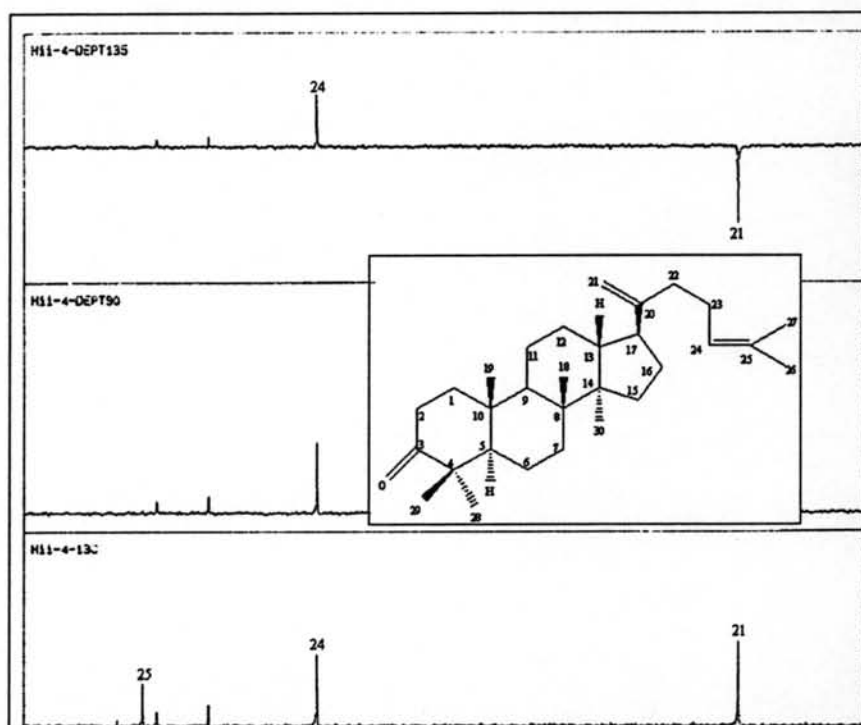


Figure 22b. DEPT 135 Spectrum of compound CP-2
(expansion δ 100-135 ppm)

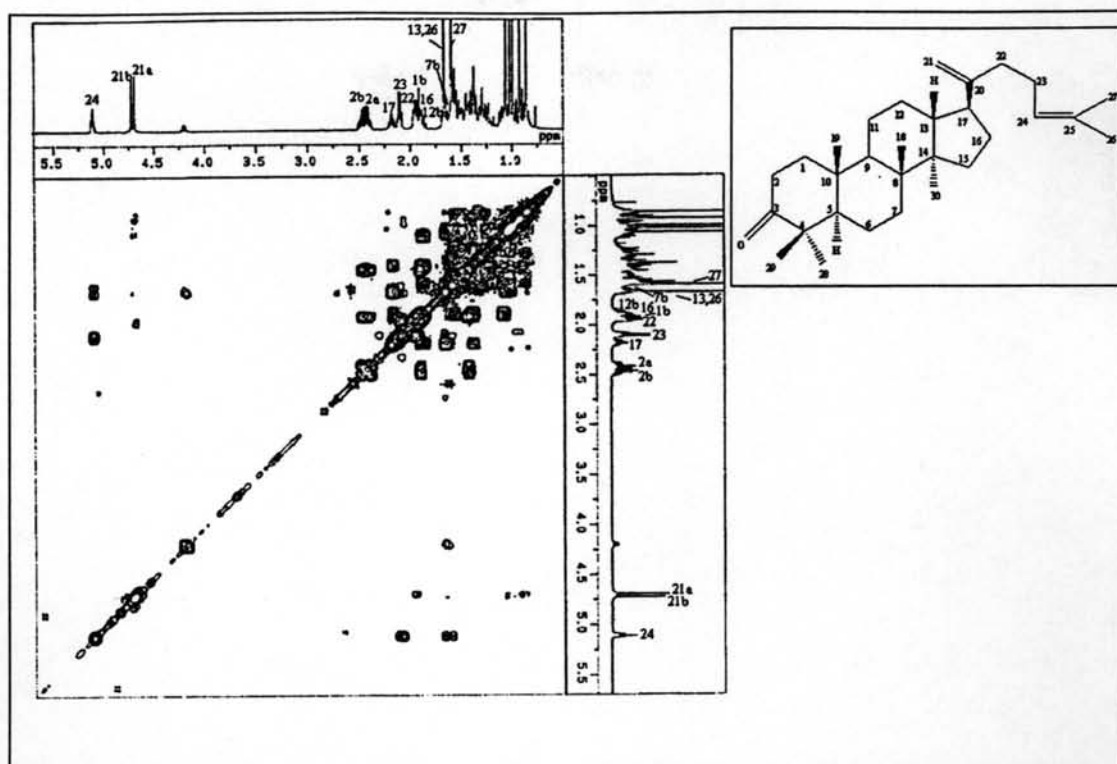


Figure 23. ^1H - ^1H COSY Spectrum of compound CP-2

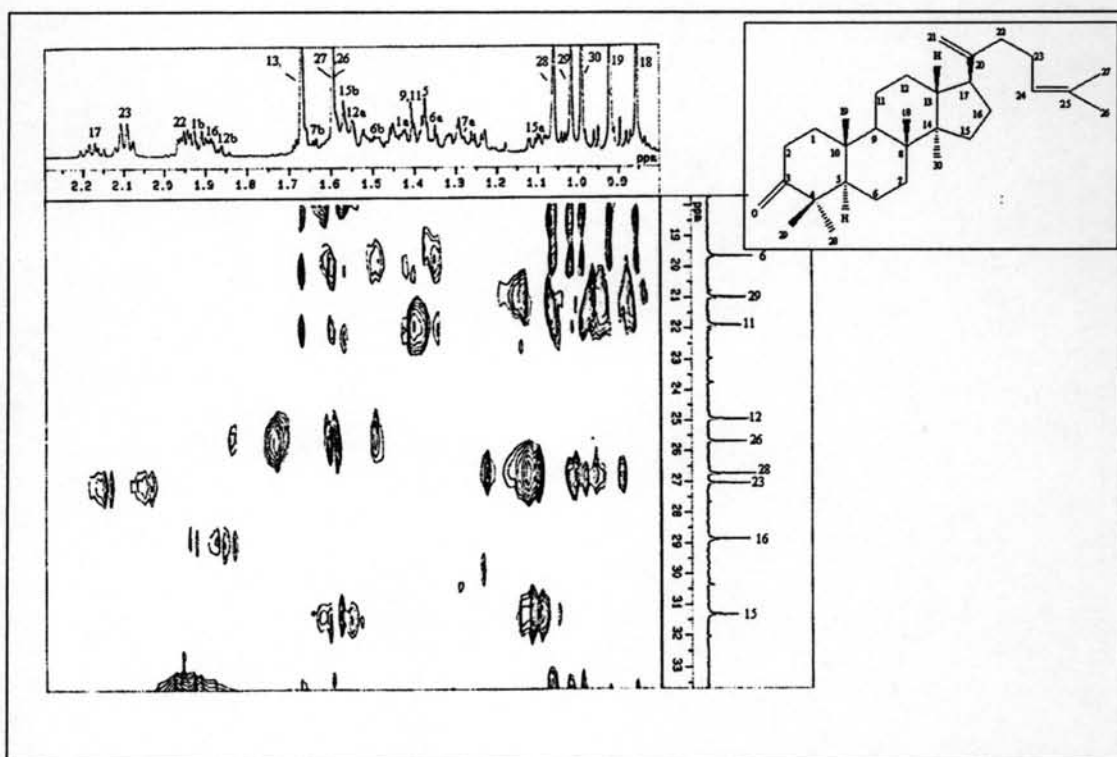


Figure 24a. HMQC Spectrum of compound CP-2
(δ_{H} 0.8-2.3 ppm, δ_{C} 19-33 ppm)

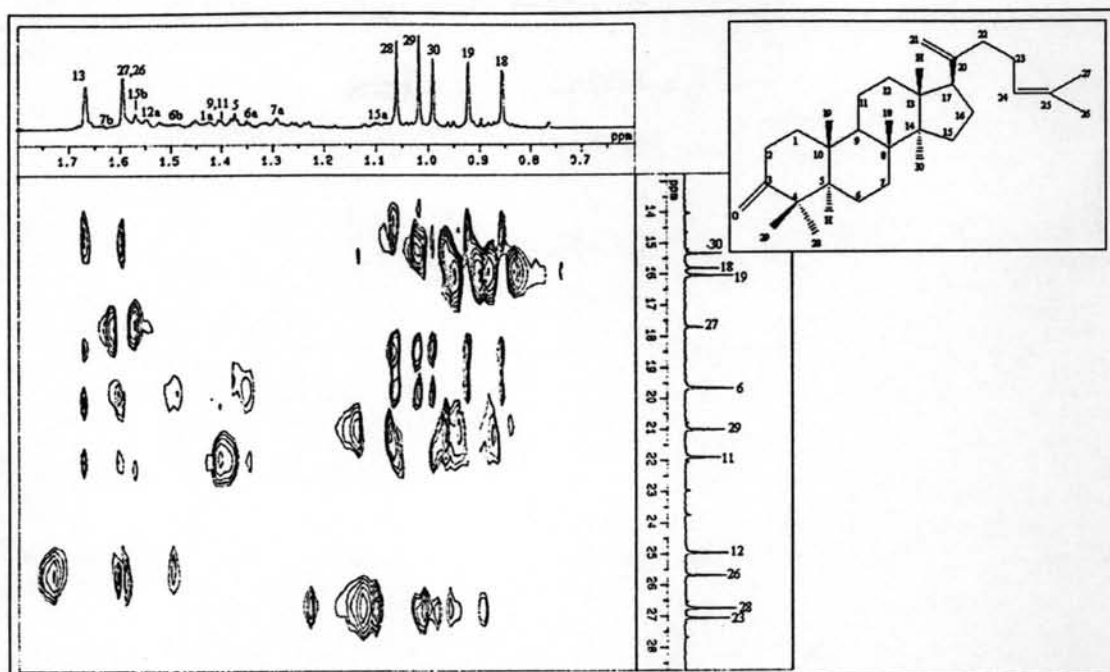


Figure 24b. HMQC Spectrum of compound CP-2
(δ_{H} 0.7-1.7 ppm, δ_{C} 14-28 ppm)

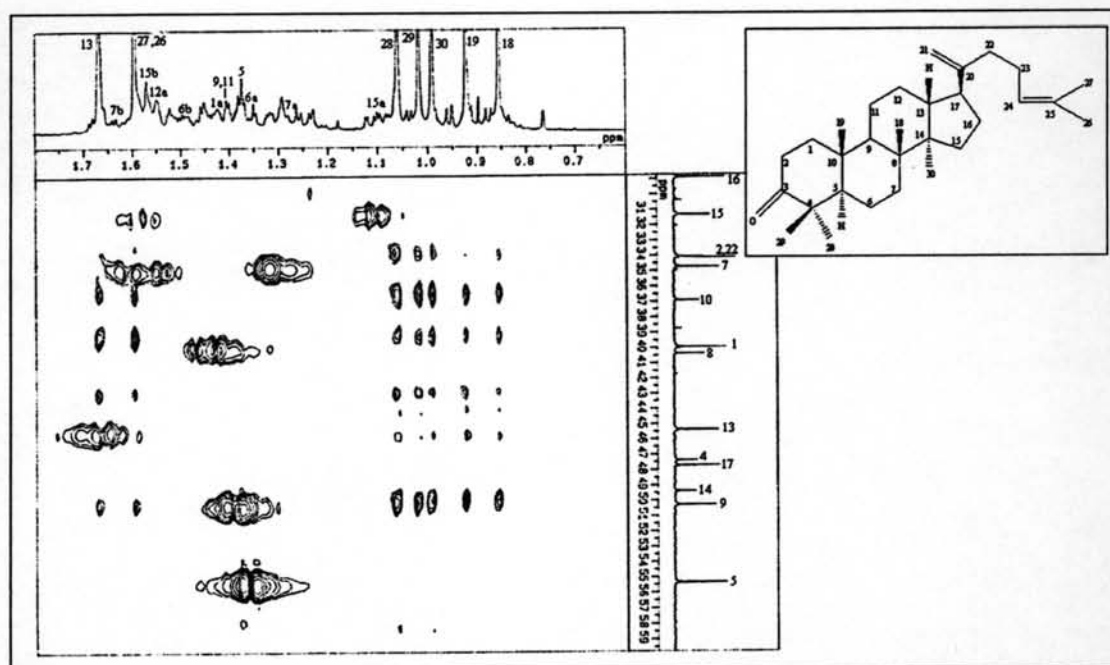


Figure 24c. HMQC Spectrum of compound CP-2
(δ_{H} 0.7-1.7 ppm, δ_{C} 28-60 ppm)

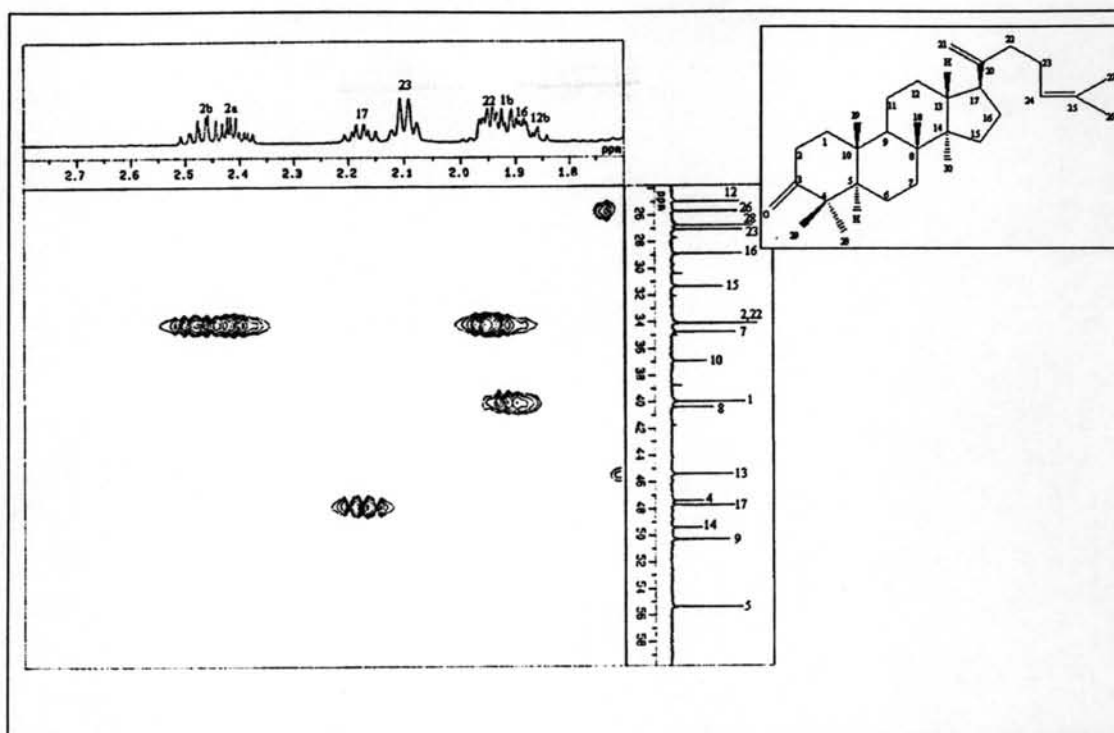


Figure 24d. HMQC Spectrum of compound CP-2
(δ_{H} 1.8-2.7 ppm, δ_{C} 25-58 ppm)

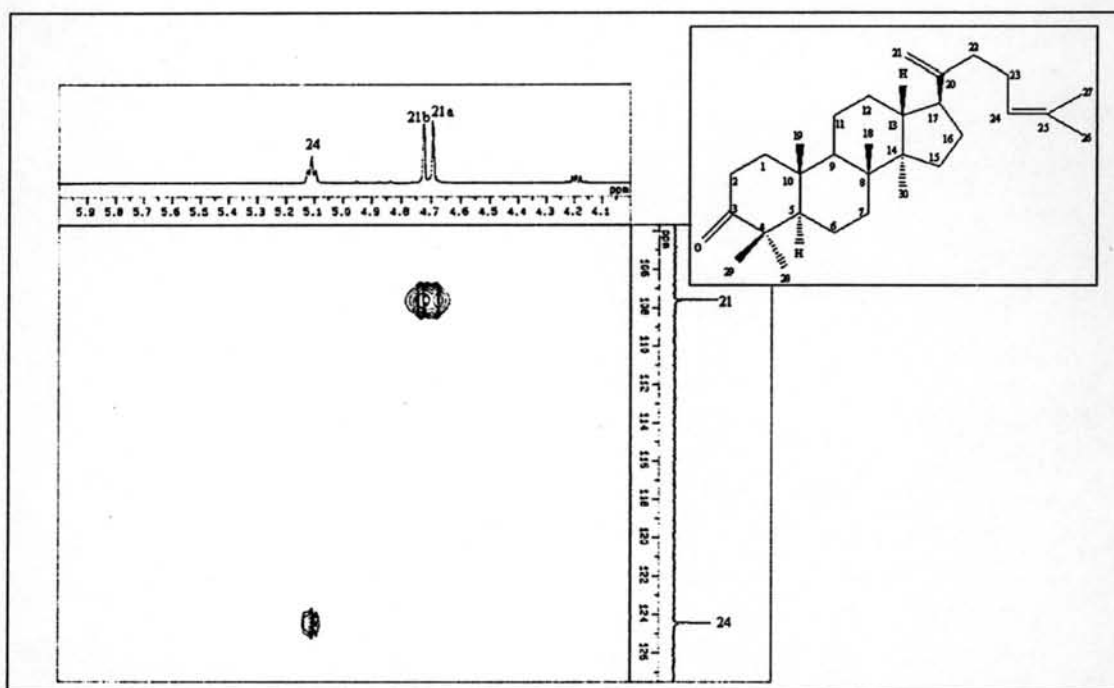


Figure 24e. HMQC Spectrum of compound CP-2
(δ_{H} 4.1-5.9 ppm, δ_{C} 106-126 ppm)

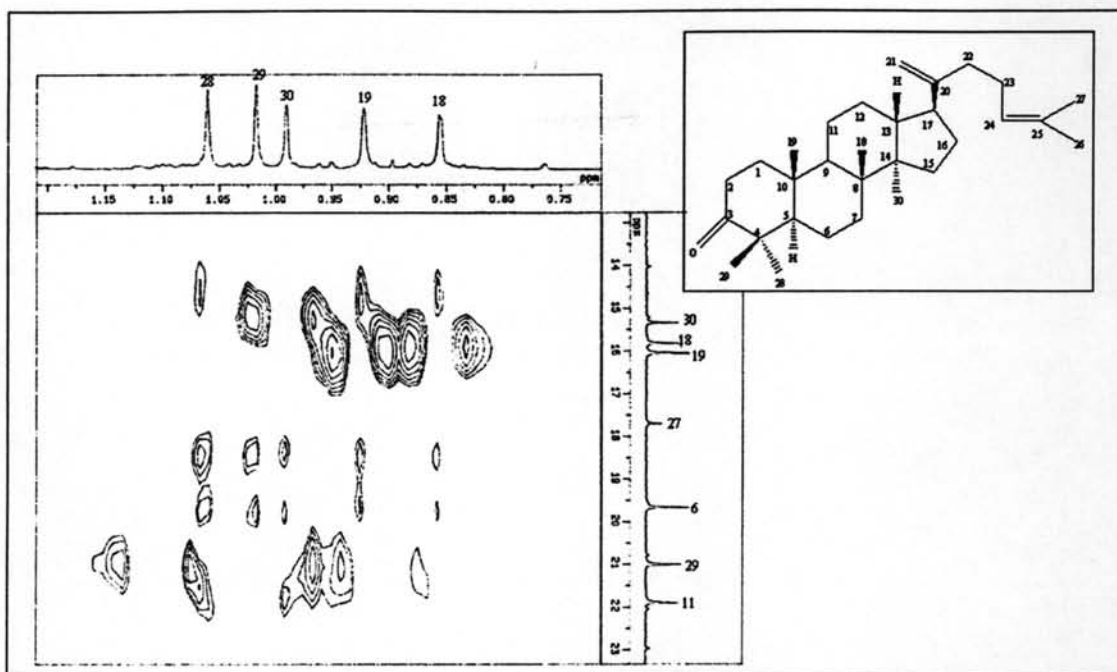


Figure 24f. HMQC Spectrum of compound CP-2
(δ_H 0.75-1.15 ppm, δ_C 14-23 ppm)

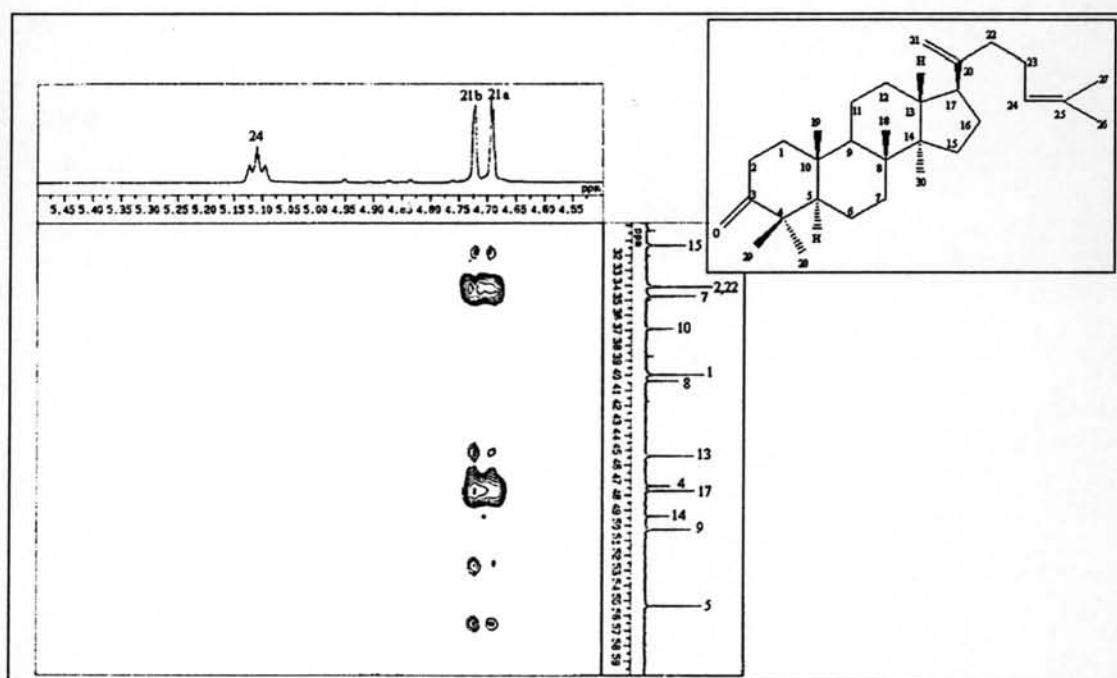


Figure 25a. HMBC Spectrum of compound CP-2
(δ_H 4.55-5.45 ppm, δ_C 30-60 ppm)

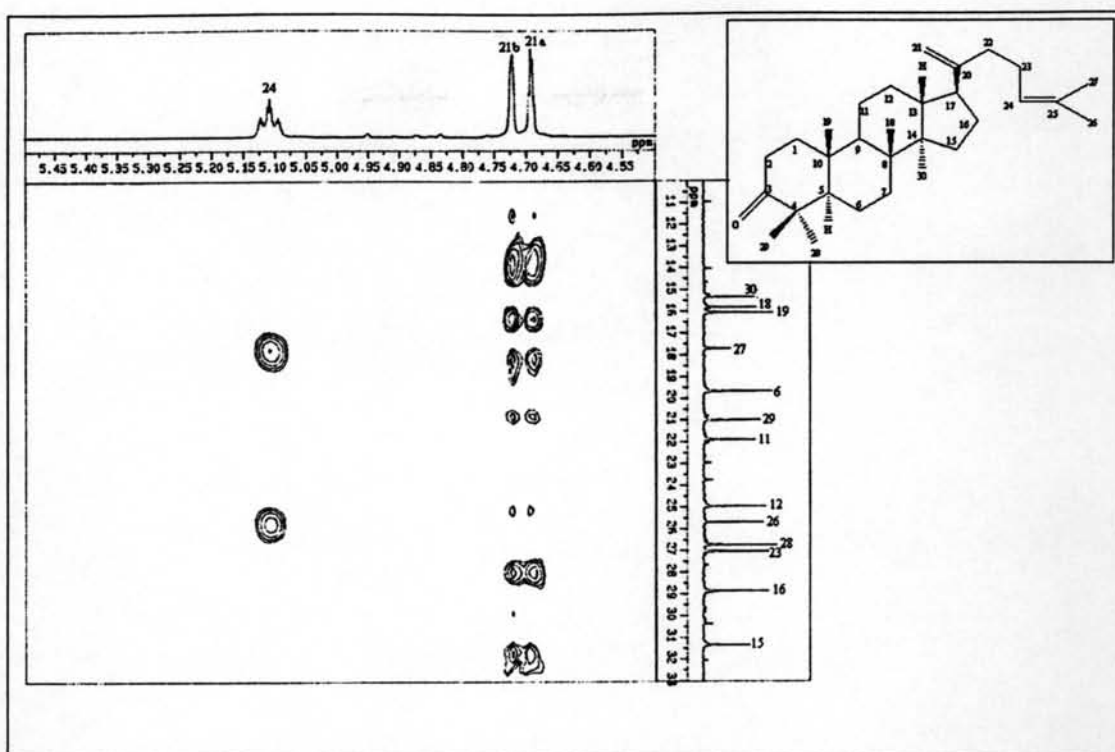


Figure 25b. HMBC Spectrum of compound CP-2
(δ_H 4.55-5.45 ppm, δ_C 11-33 ppm)

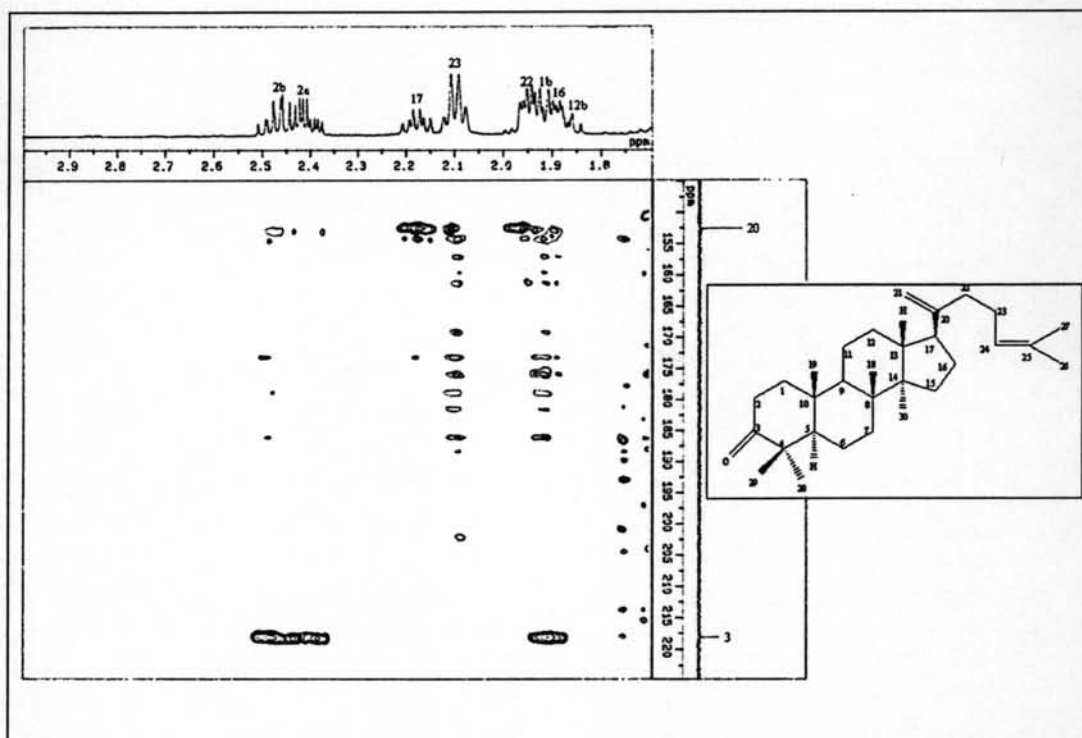


Figure 25c. HMBC Spectrum of compound CP-2
(δ_H 1.8-2.9 ppm, δ_C 150-220 ppm)

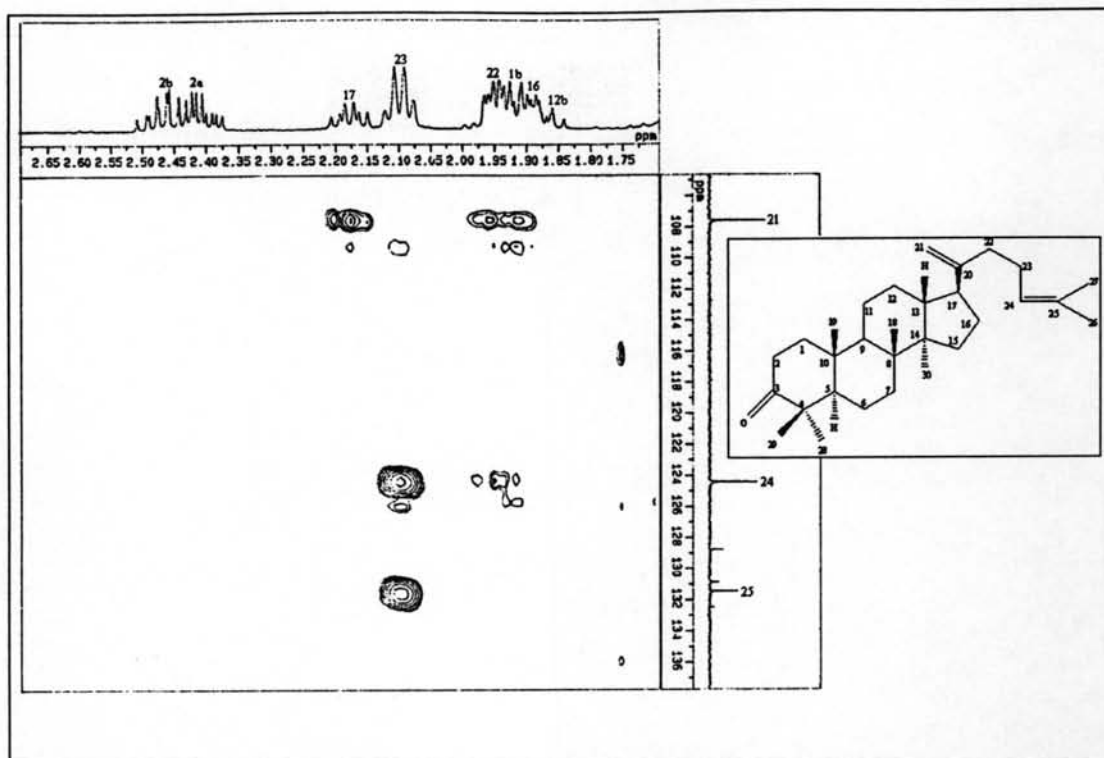


Figure 25d. HMBC Spectrum of compound CP-2
(δ_H 1.75-2.65 ppm, δ_C 107-136 ppm)

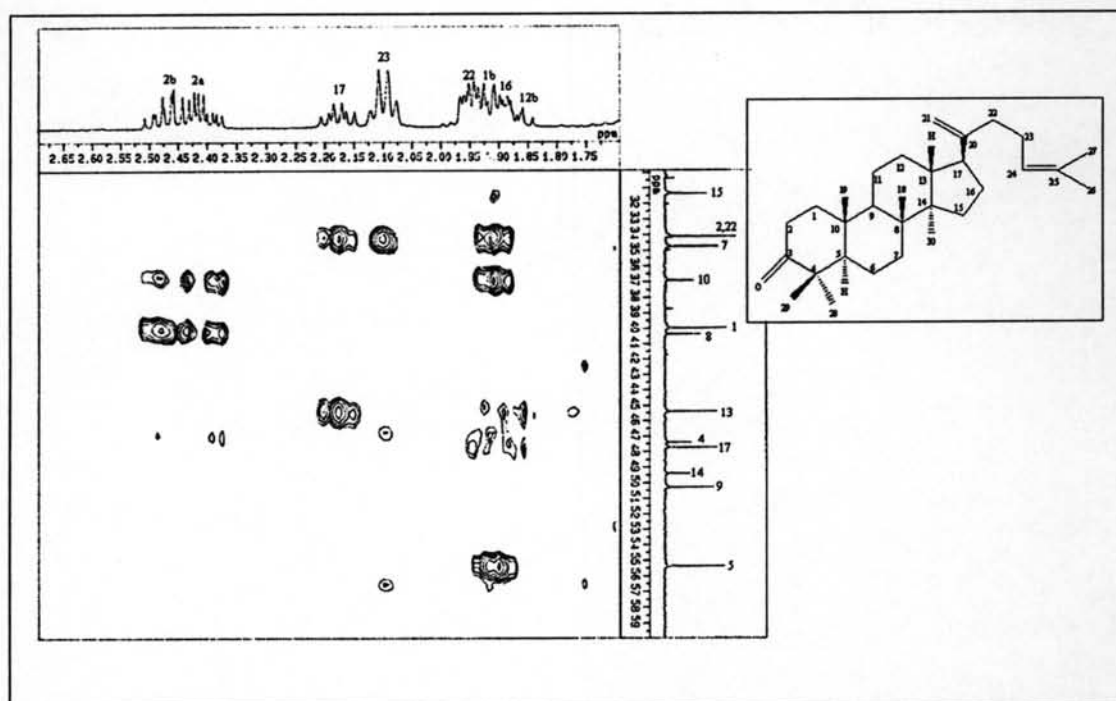


Figure 25e. HMBC Spectrum of compound CP-2
(δ_H 1.75-2.65 ppm, δ_C 30-60 ppm)

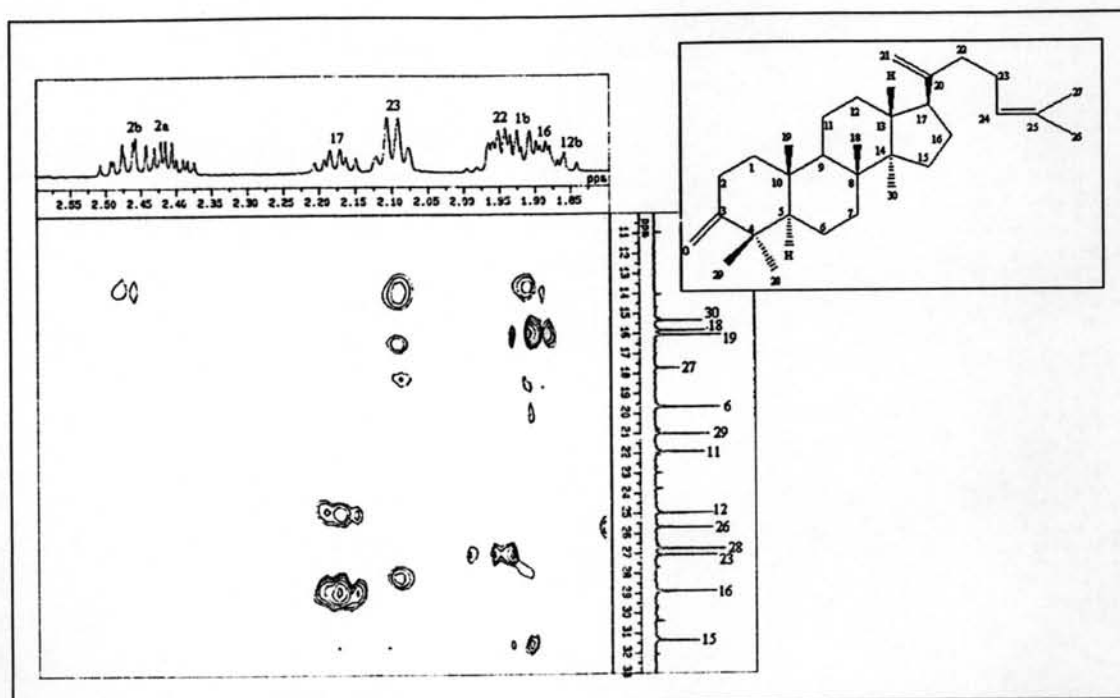


Figure 25f. HMBC Spectrum of compound CP-2
(δ_H 1.80-2.55 ppm, δ_C 11-33 ppm)

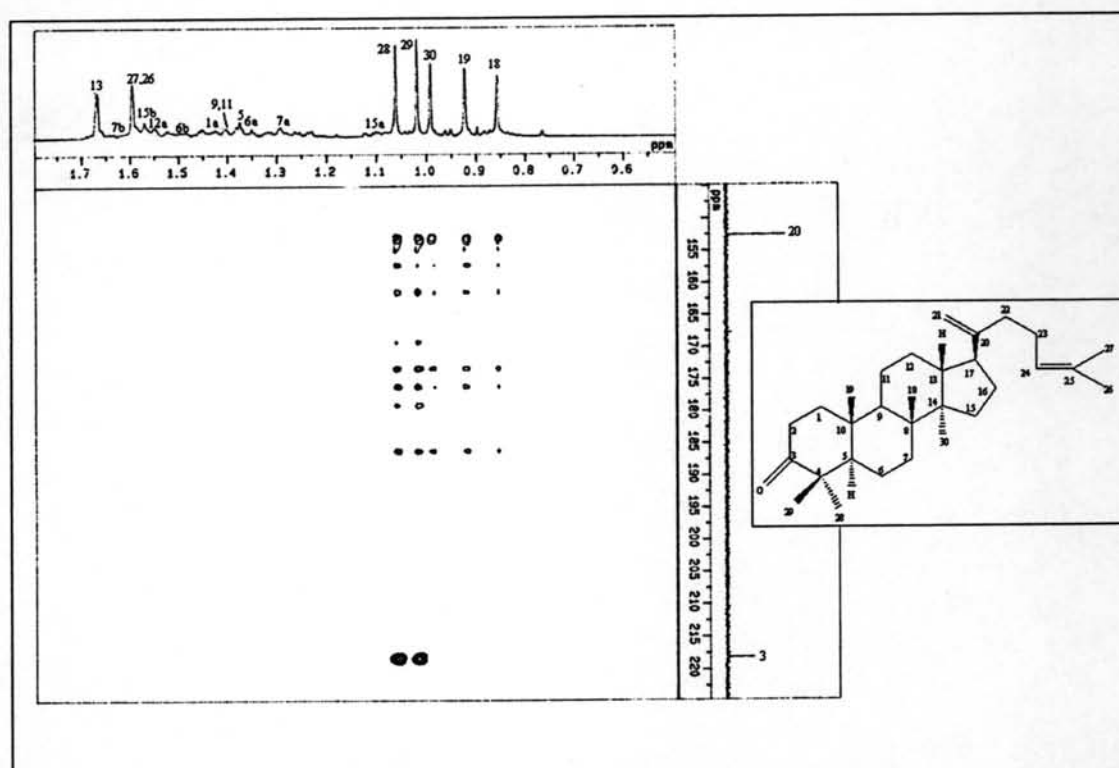


Figure 25g. HMBC Spectrum of compound CP-2
(δ_H 0.6-1.7 ppm, δ_C 150-220 ppm)

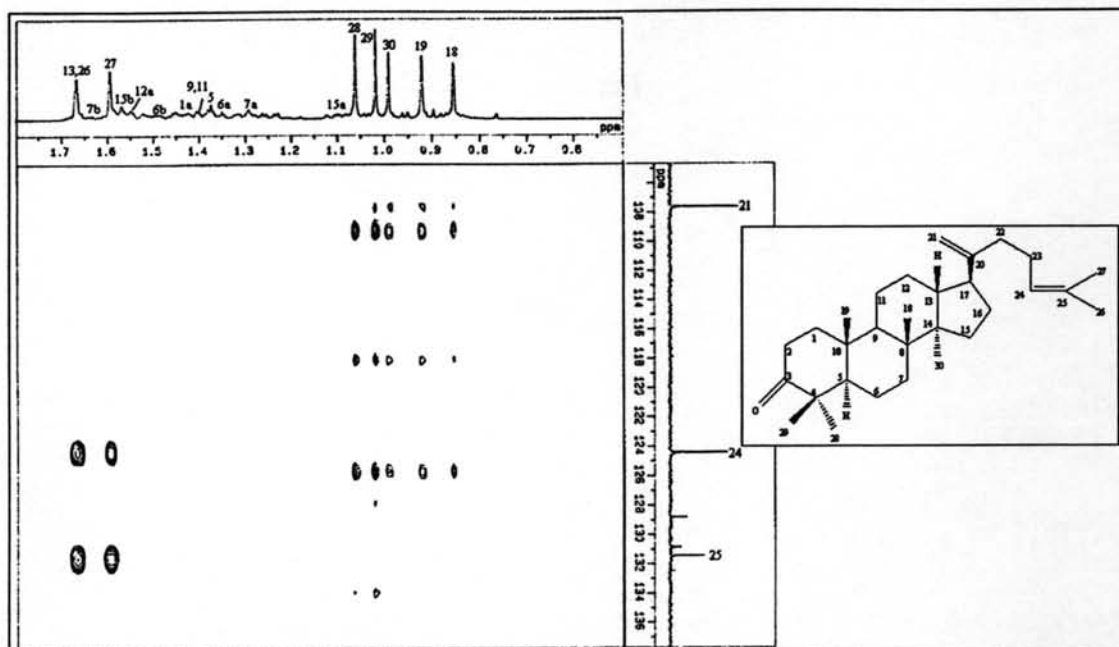


Figure 25h. HMBC Spectrum of compound CP-2
(δ_H 0.6-1.7 ppm, δ_C 107-136 ppm)

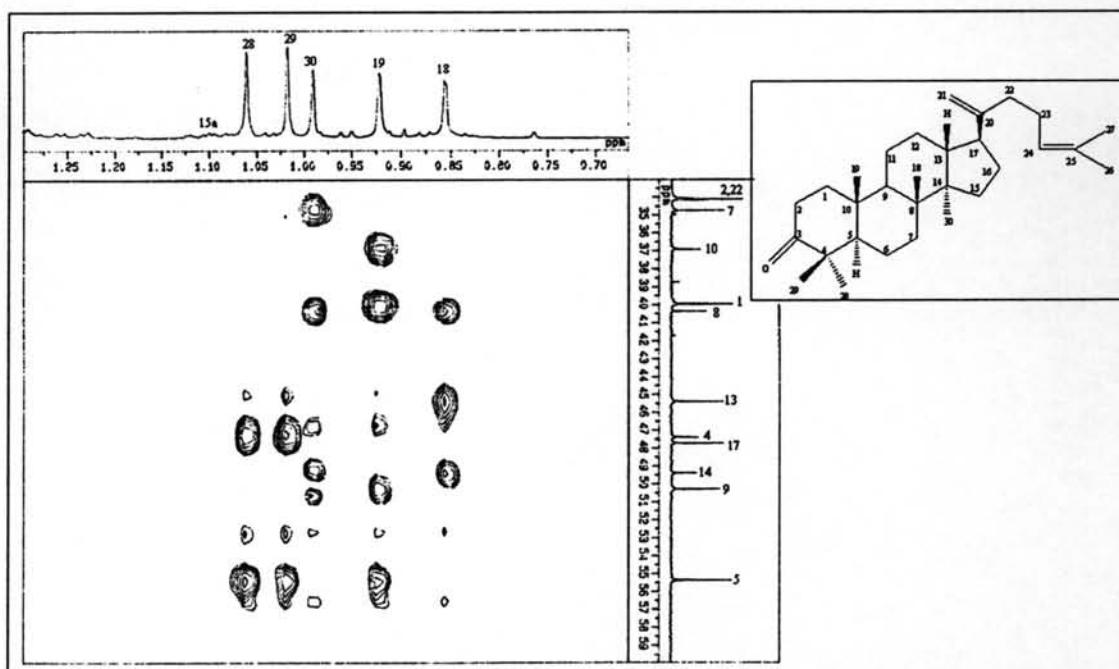


Figure 25i. HMBC Spectrum of compound CP-2
(δ_H 0.70-1.25 ppm, δ_C 34-59 ppm)

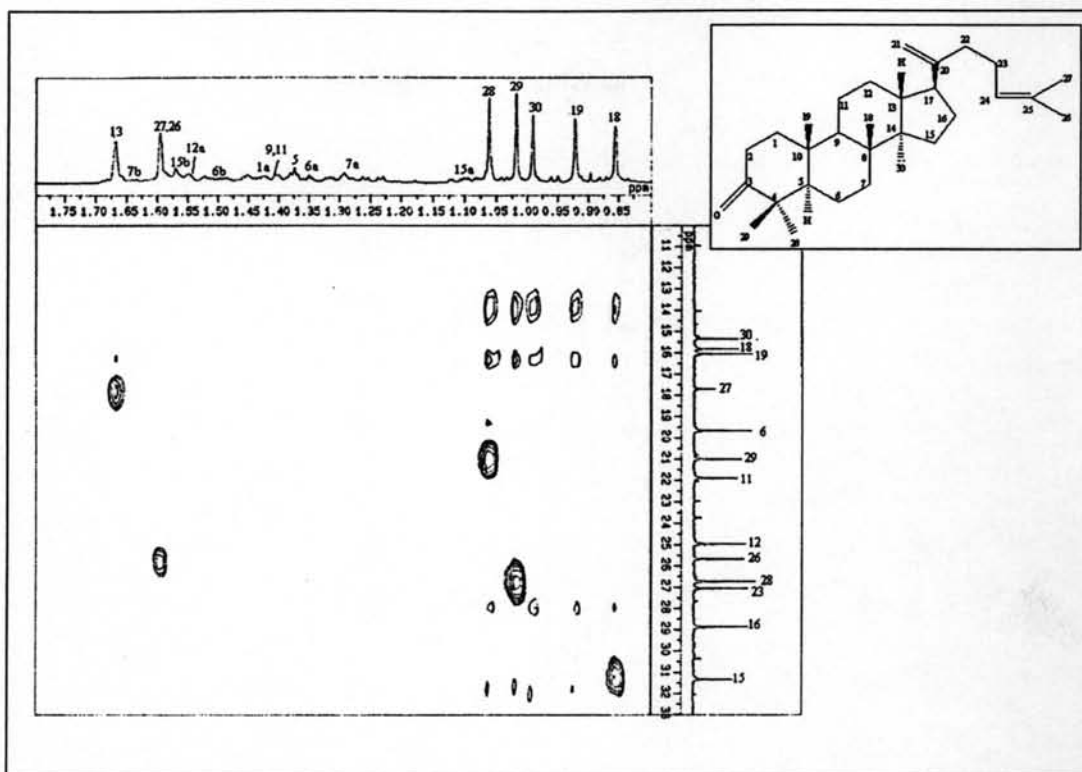


Figure 25j. HMBC Spectrum of compound CP-2
(δ_H 0.80-1.75 ppm, δ_C 11-33 ppm)

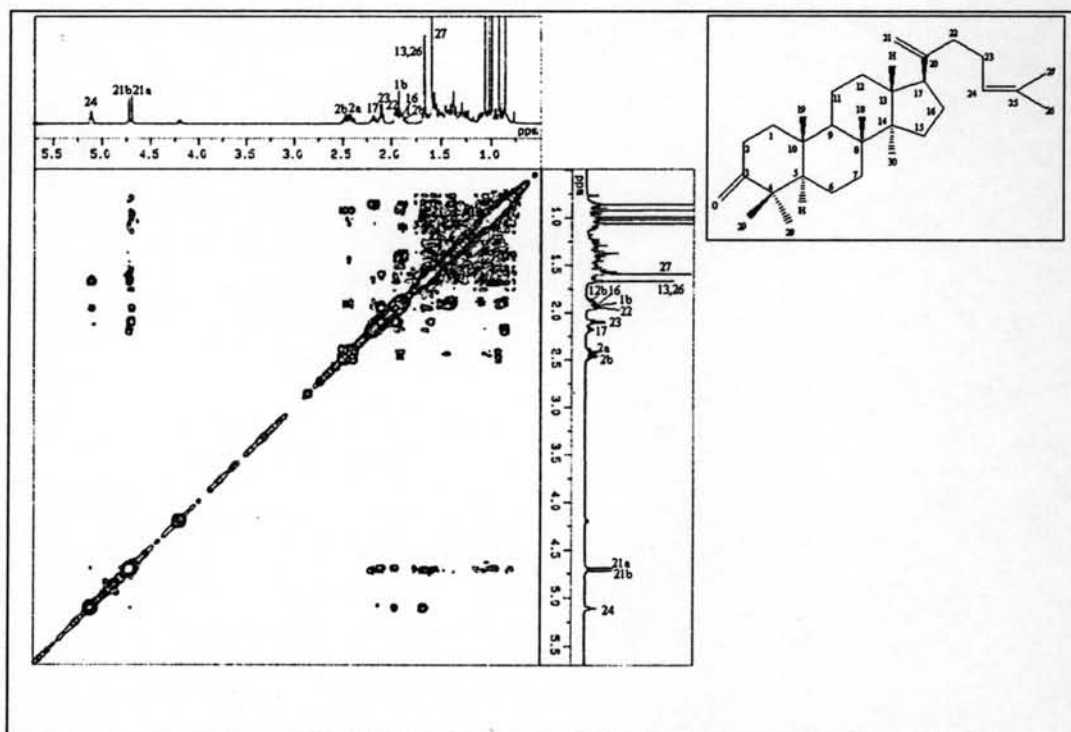


Figure 26. NOESY Spectrum of compound CP-2

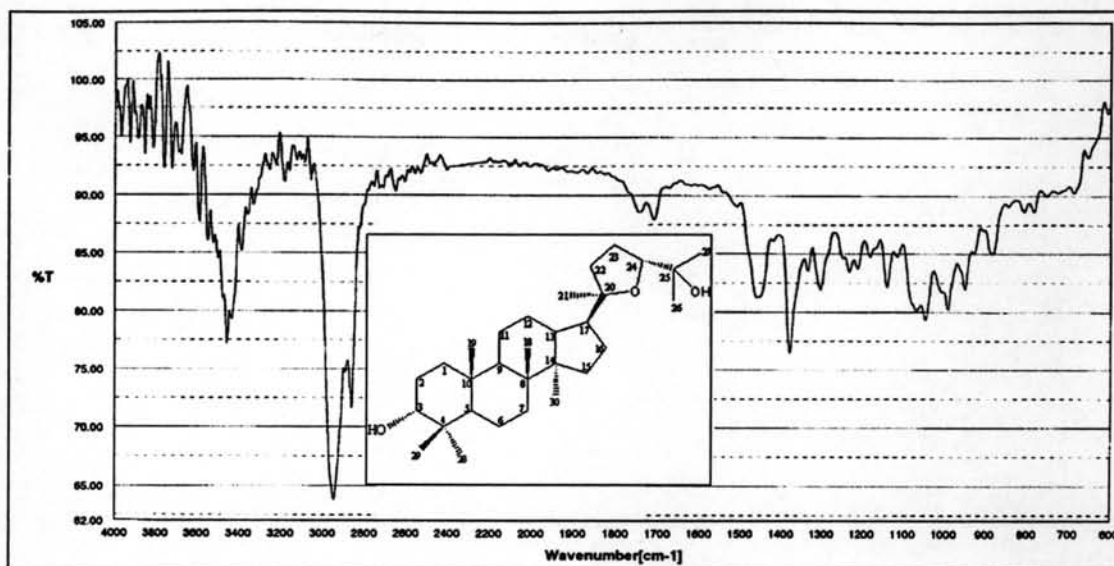


Figure 27. IR Spectrum of compound CP-3 (KBr disc)

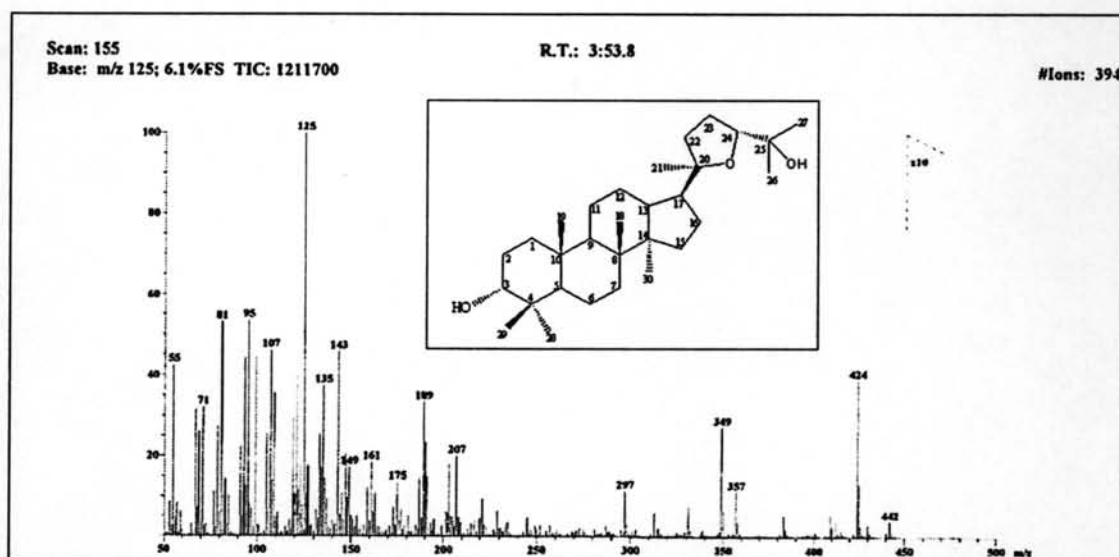


Figure 28. EI Mass spectrum of compound CP-3

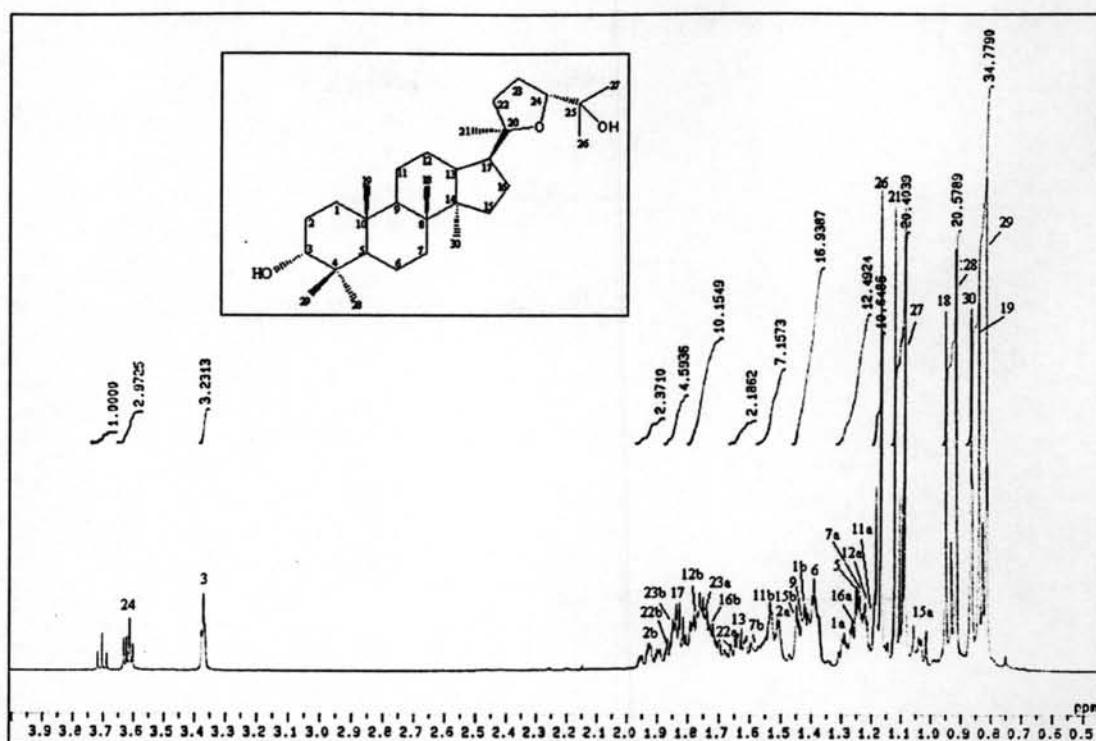


Figure 29a. ^1H NMR (500 MHz) Spectrum of compound CP-3 (in CDCl_3)

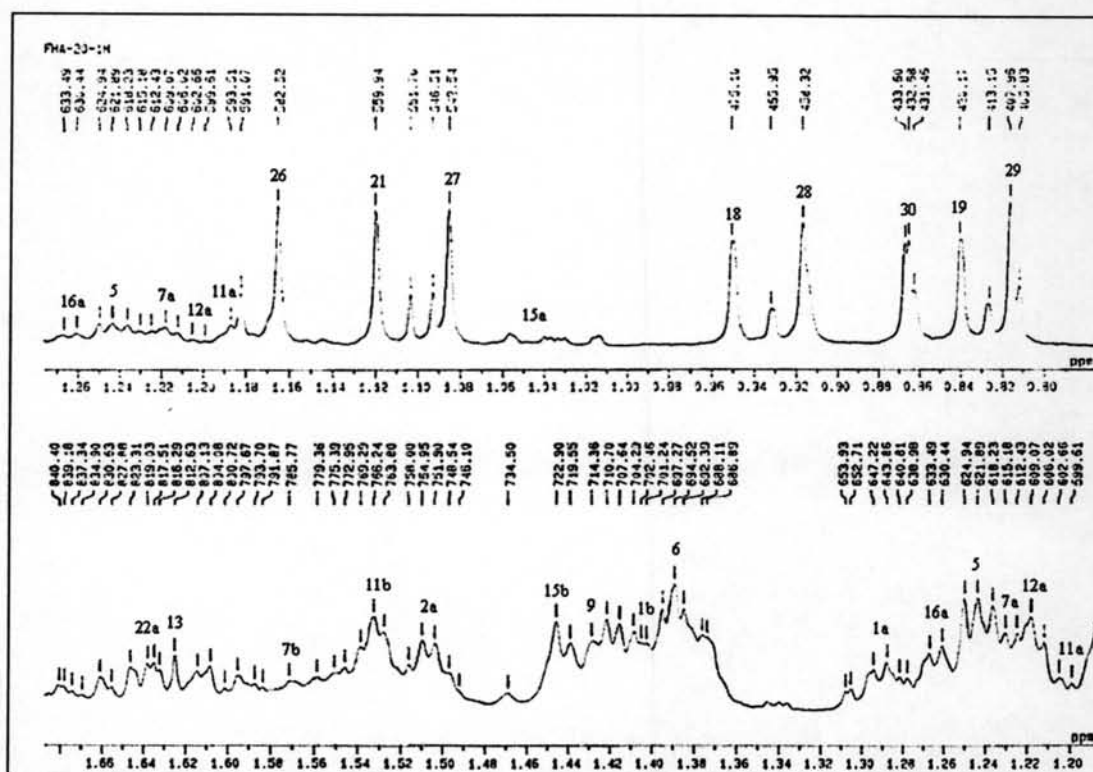


Figure 29b. ^1H NMR (500 MHz) Spectrum of compound CP-3 (in CDCl_3) (expansion δ 0.80-1.70 ppm)

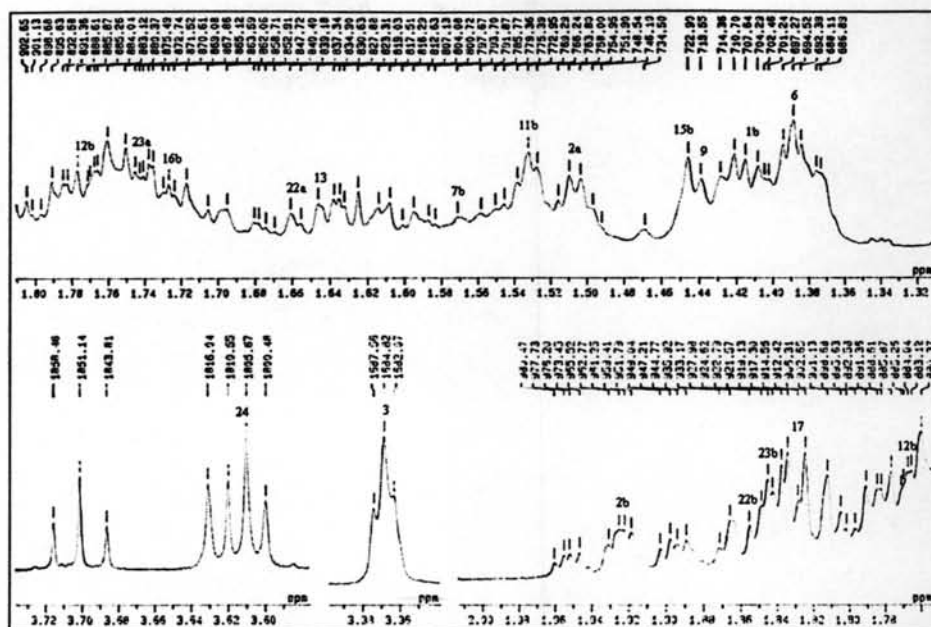


Figure 29c. ^1H NMR (500 MHz) Spectrum of compound CP-3 (in CDCl_3) (expansion δ 1.32-3.35 ppm)

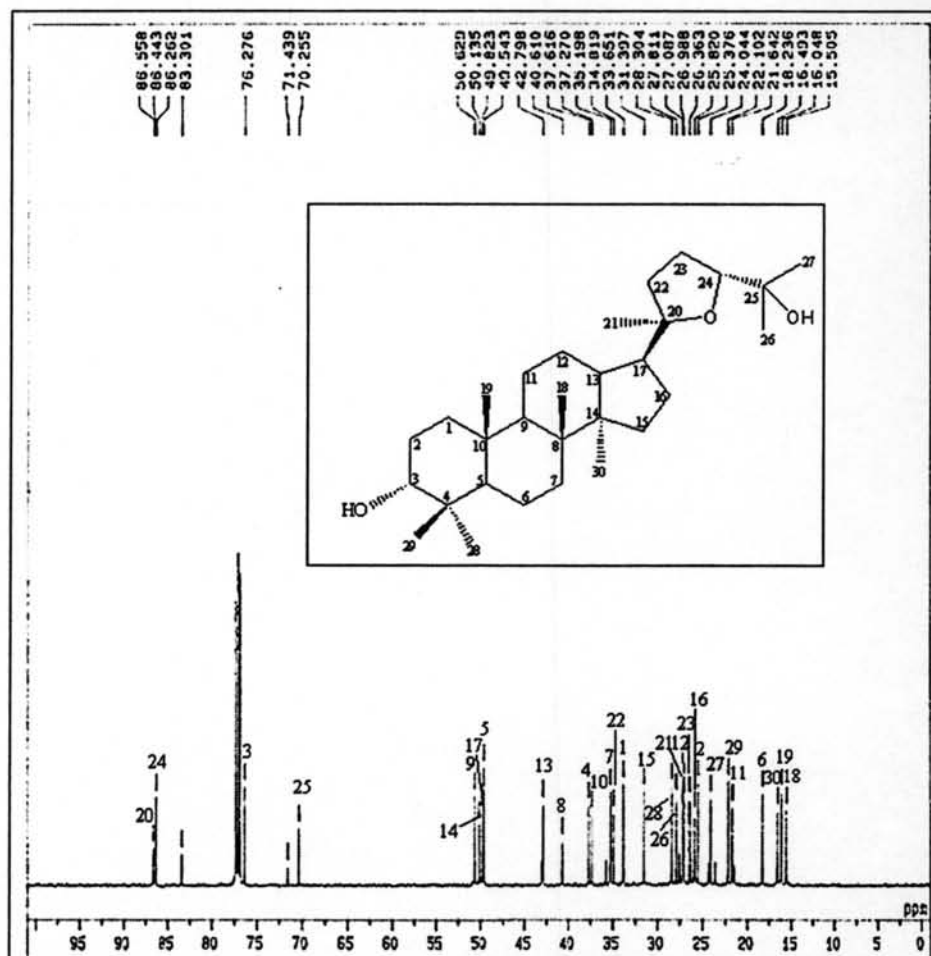


Figure 30. ^{13}C NMR (125 MHz) Spectrum of compound CP-3 (in CDCl_3)

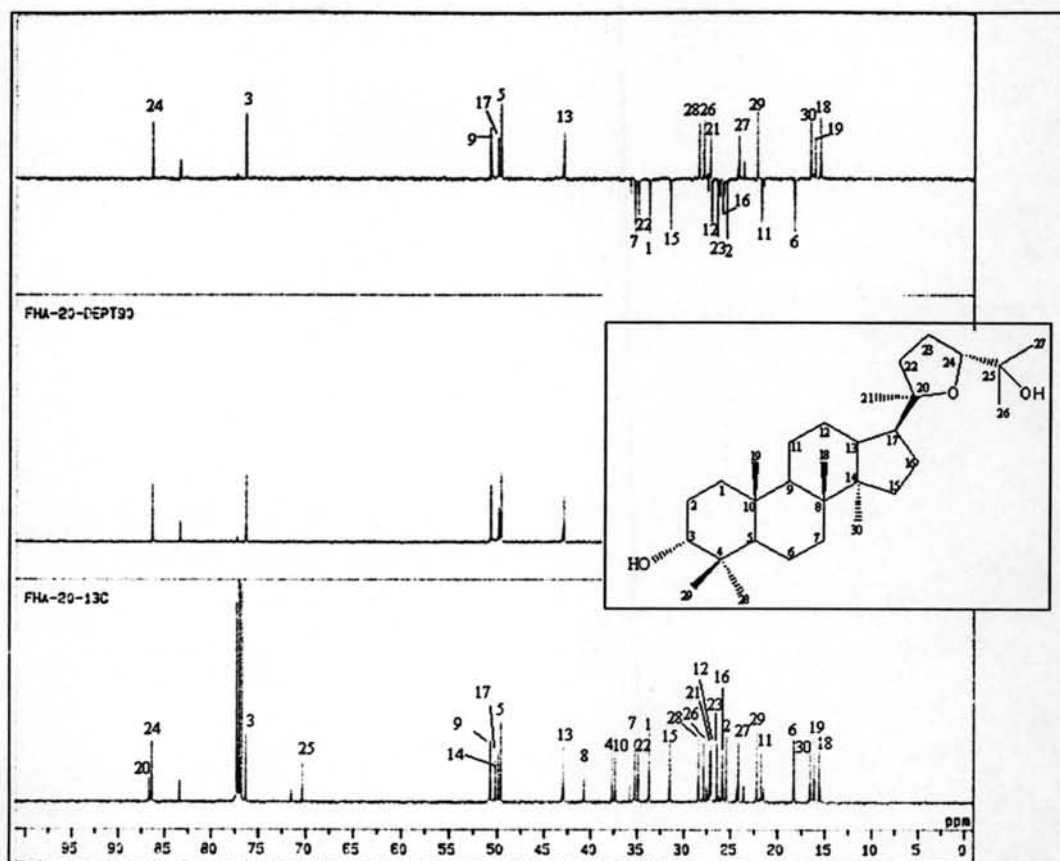


Figure 31. DEPT 135 Spectrum of compound CP-3

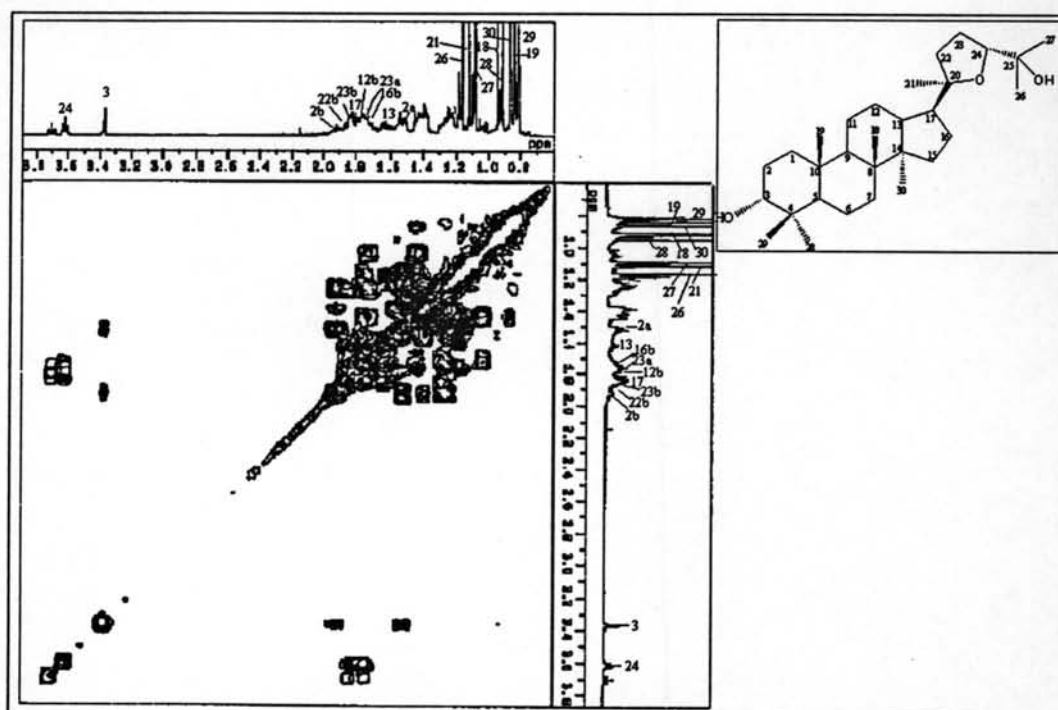


Figure 32. ^1H - ^1H COSY Spectrum of compound CP-3

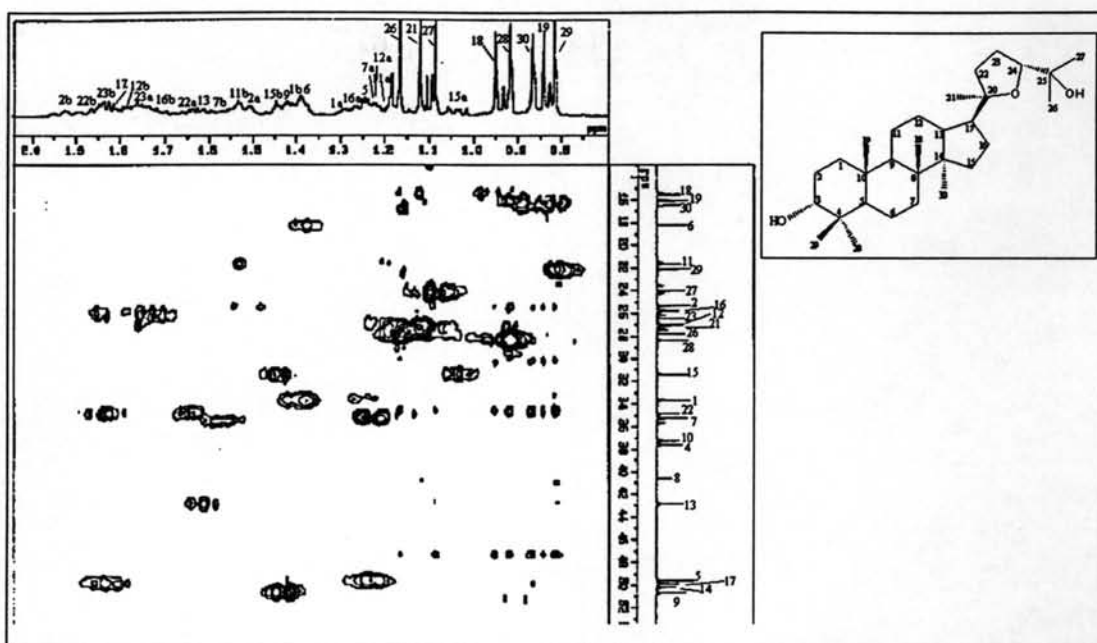


Figure 33a. HMQC Spectrum of compound CP-3
(δ_{H} 0.80-2.00 ppm, δ_{C} 16-52 ppm)

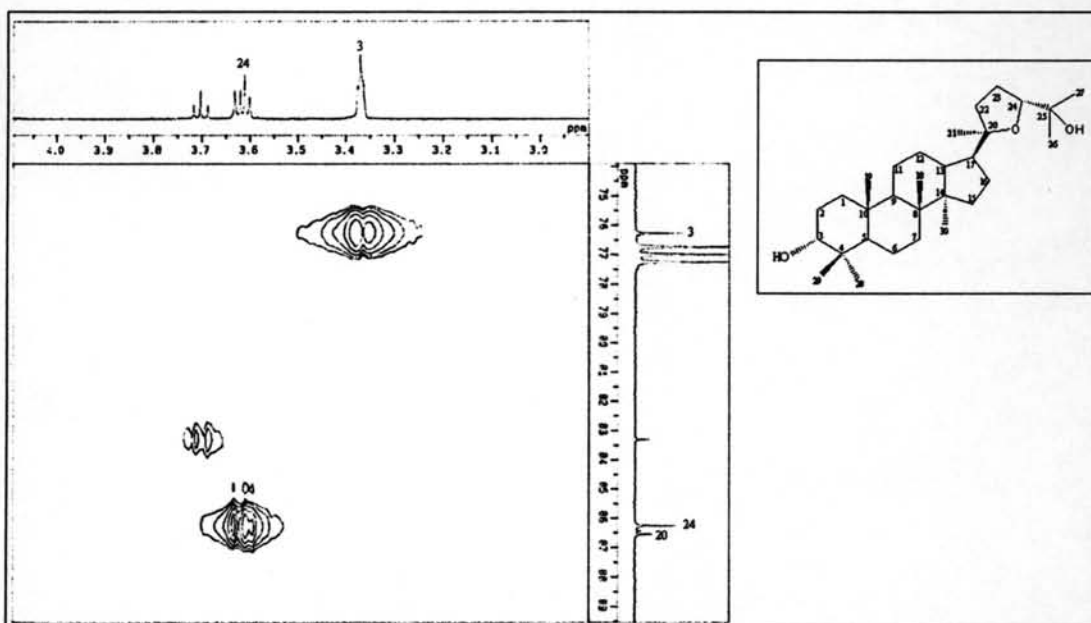


Figure 33b. HMQC Spectrum of compound CP-3
(δ_{H} 3.0-4.0 ppm, δ_{C} 74-89 ppm)

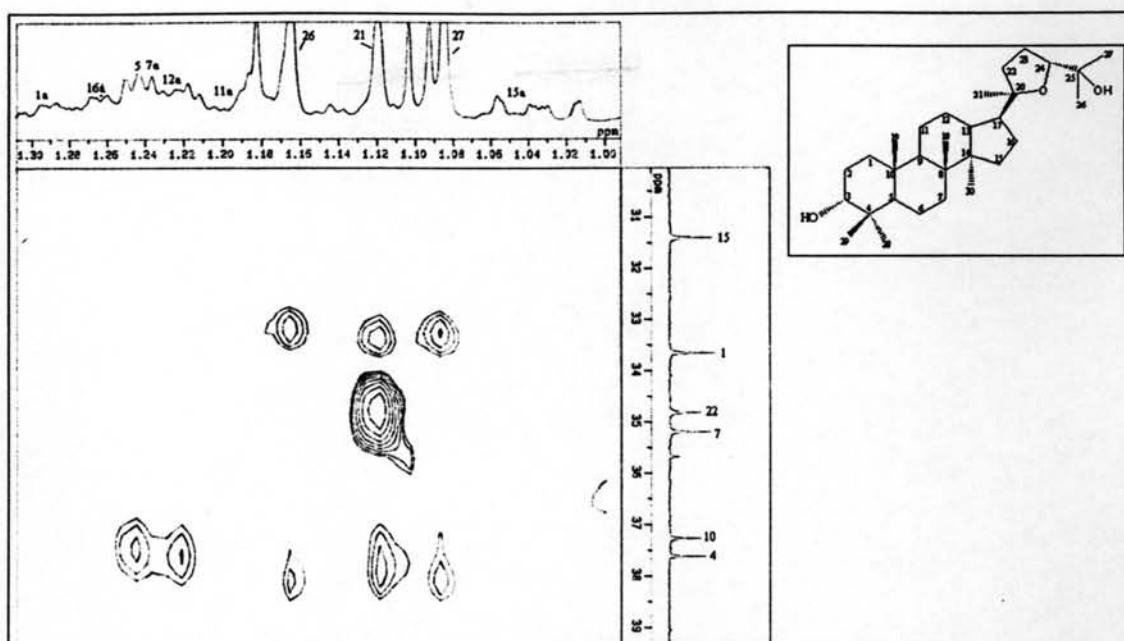


Figure 34a. HMBC Spectrum of compound CP-3
(δ_H 1.00-1.30 ppm, δ_C 30-39 ppm)

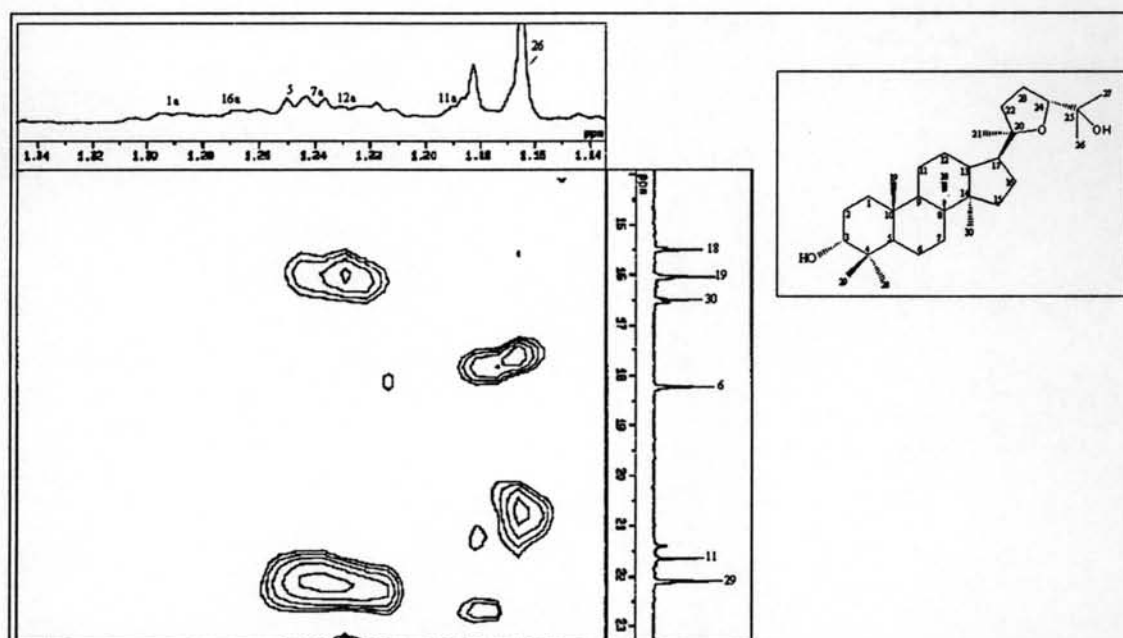


Figure 34b. HMBC Spectrum of compound CP-3
(δ_H 1.14-1.34 ppm, δ_C 15-23 ppm)

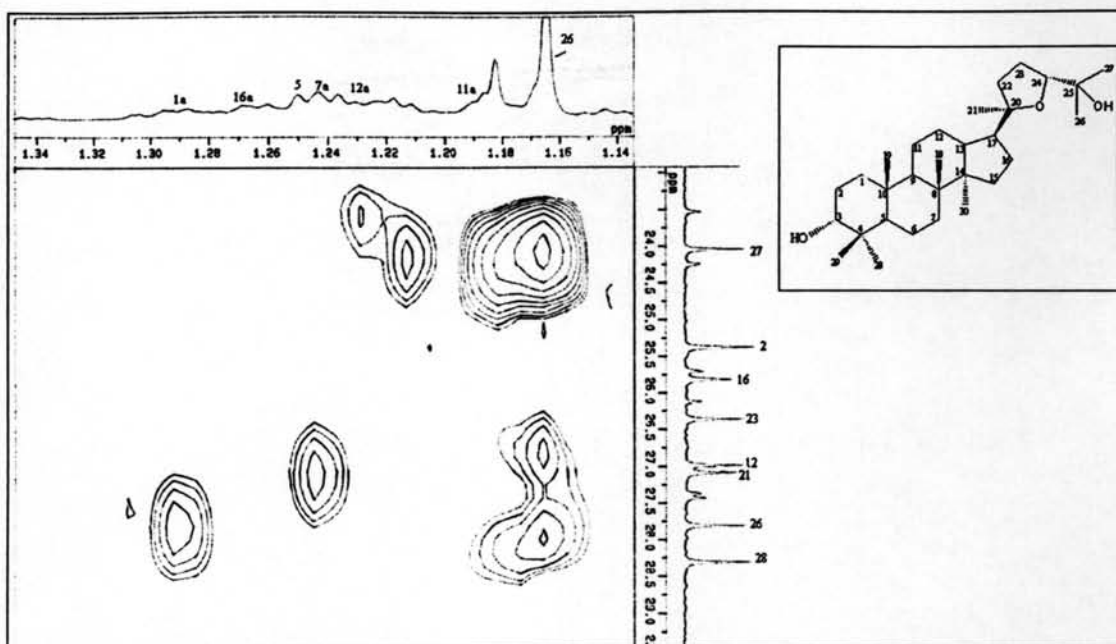


Figure 34c. HMBC Spectrum of compound CP-3
(δ_H 1.14-1.34 ppm, δ_C 24-30 ppm)

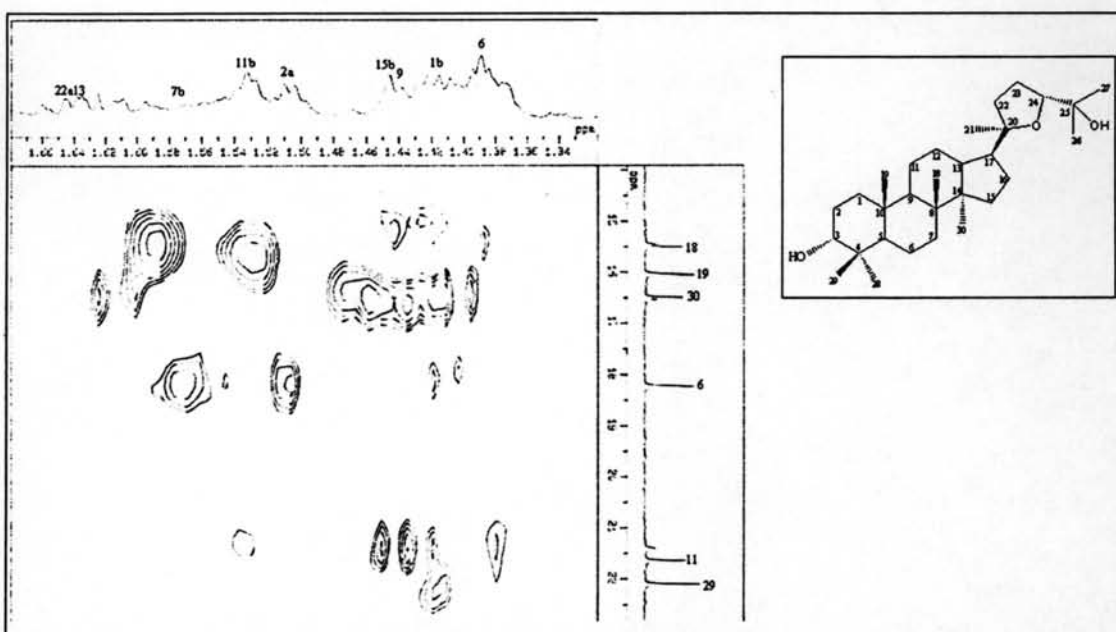


Figure 34d. HMBC Spectrum of compound CP-3
(δ_H 1.34-1.68 ppm, δ_C 15-23 ppm)

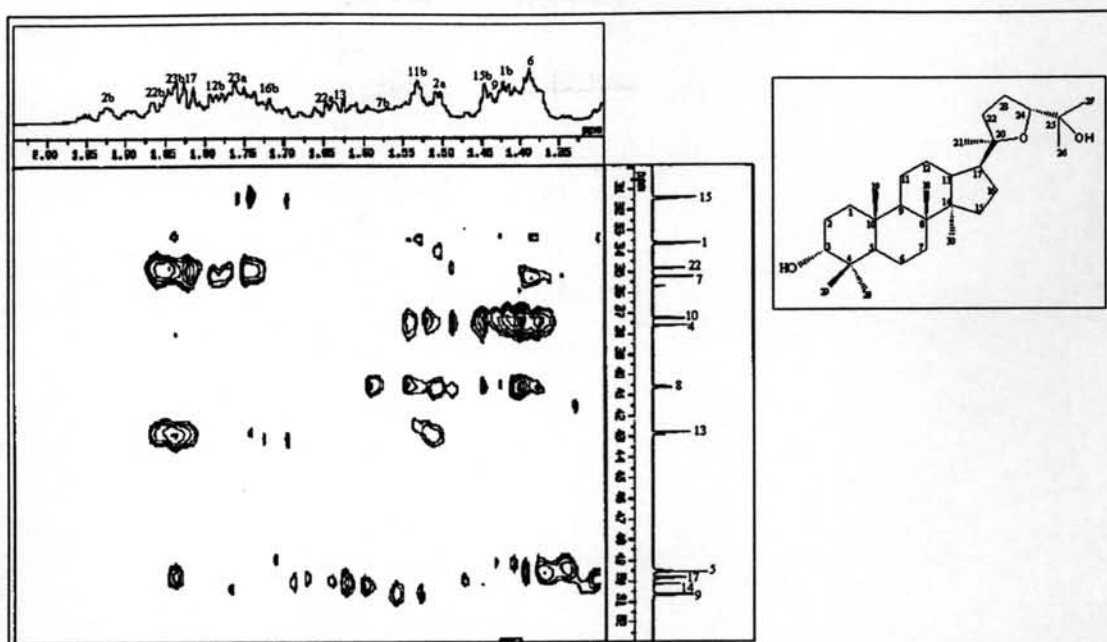


Figure 34e. HMBC Spectrum of compound CP-3
(δ_H 1.35-2.00 ppm, δ_C 30-53 ppm)

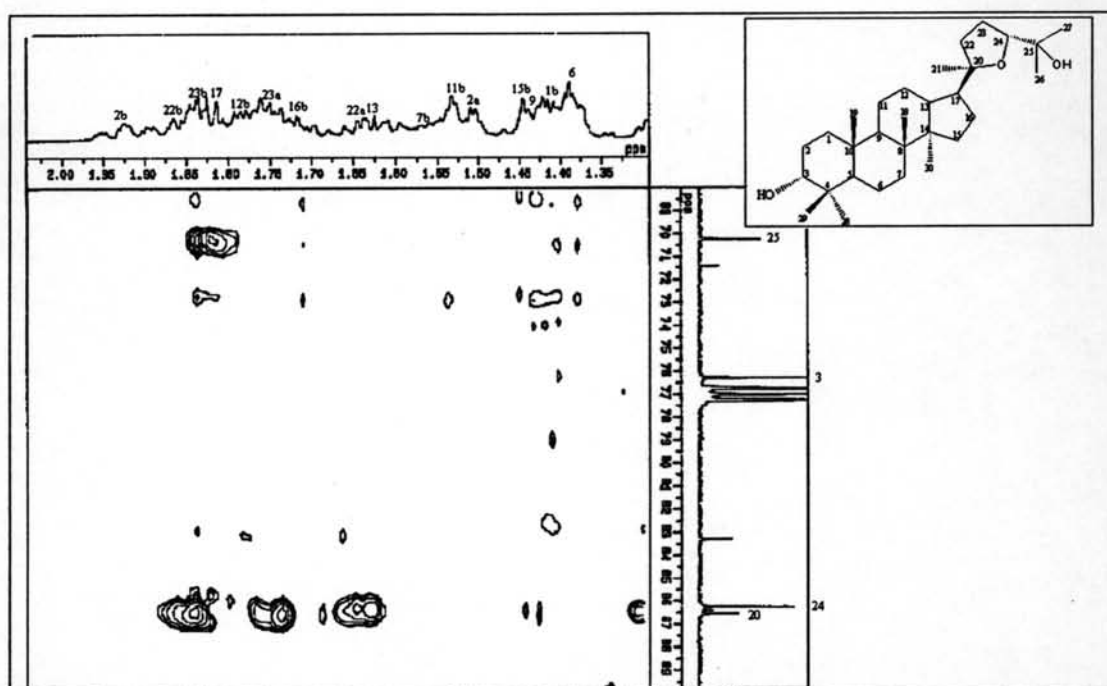


Figure 34f. HMBC Spectrum of compound CP-3
(δ_H 1.35-2.00 ppm, δ_C 68-90 ppm)

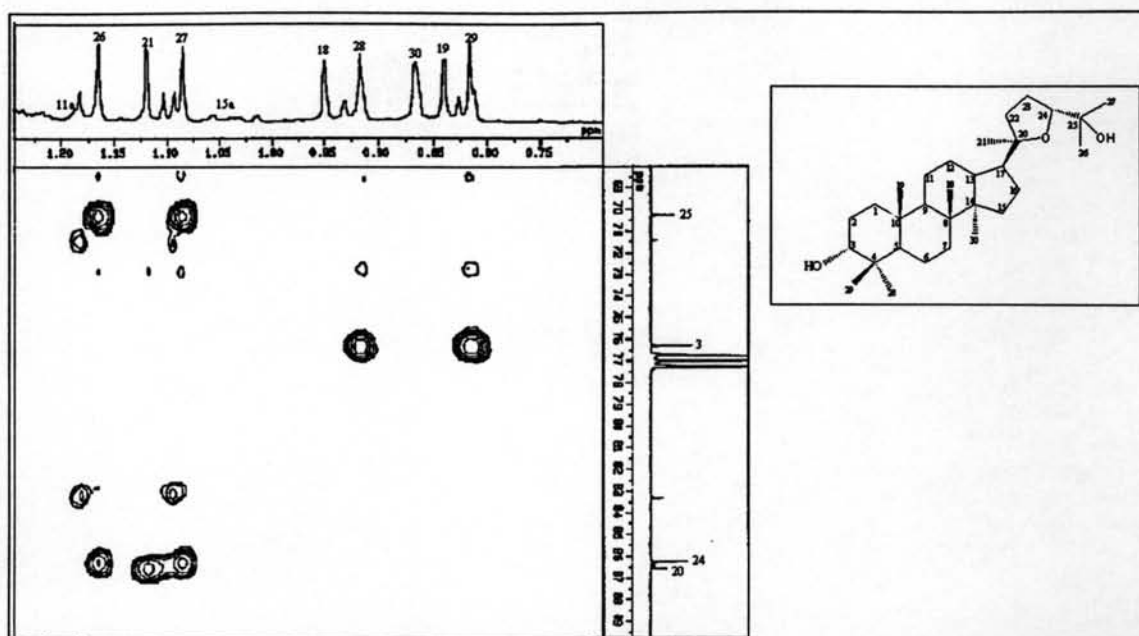


Figure 34g. HMBC Spectrum of compound CP-3
(δ_H 1.06-1.18 ppm, δ_C 85-88 ppm)

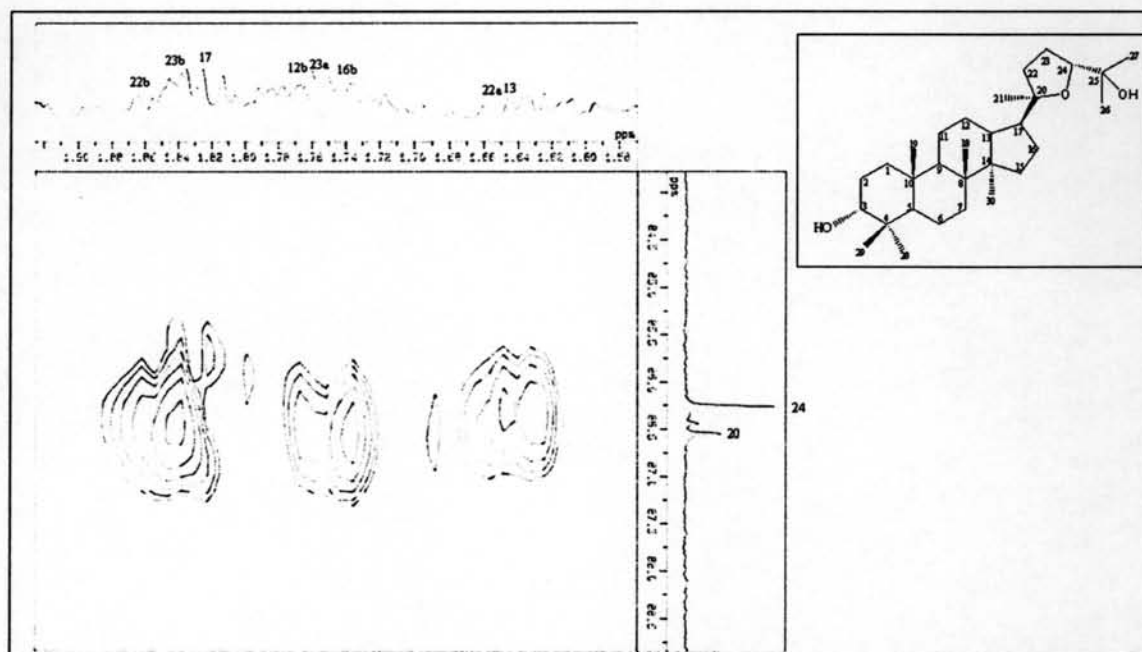


Figure 34h. HMBC Spectrum of con.pound CP-3
(δ_H 1.58-1.90 ppm, δ_C 84.5-88.5 ppm)

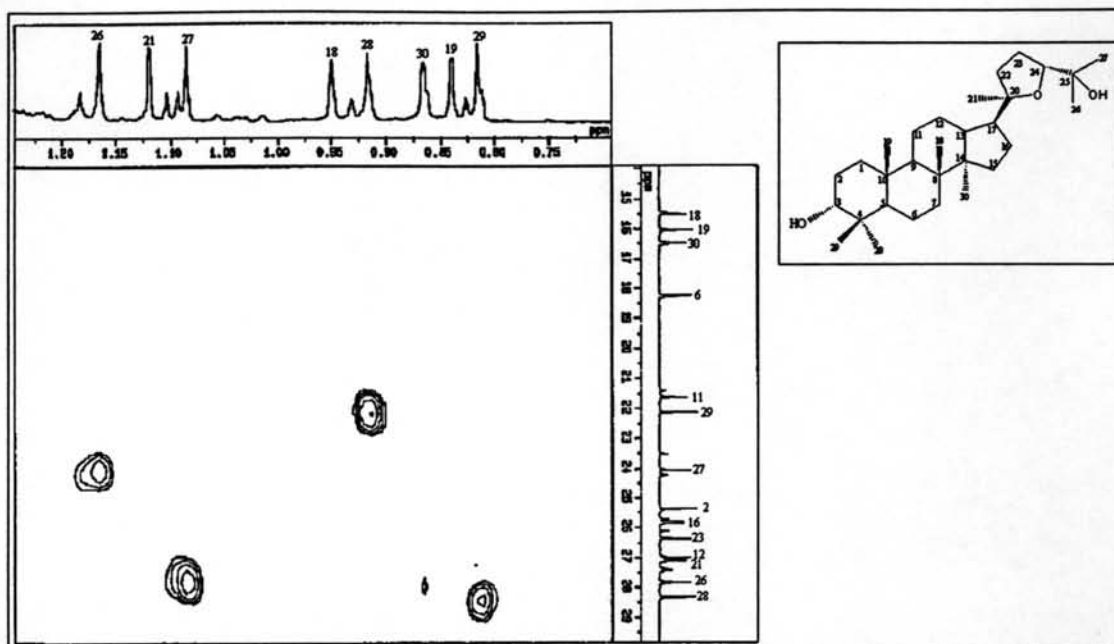


Figure 34i. HMBC Spectrum of compound CP-3
(δ_H 0.75-1.20 ppm, δ_C 15-29 ppm)

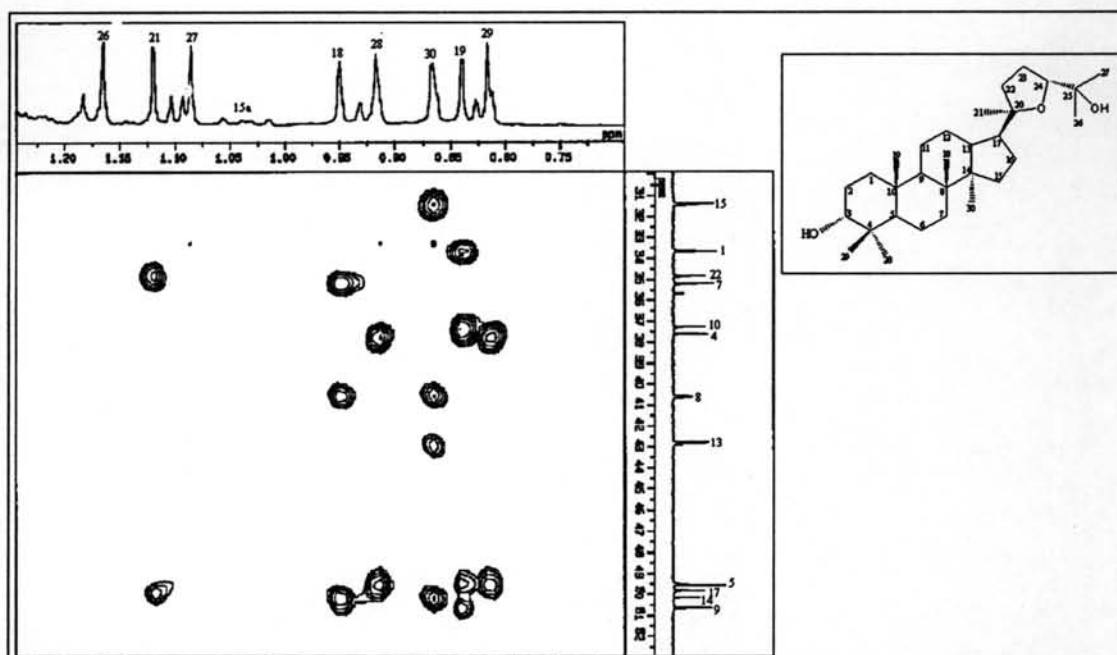


Figure 34j. HMBC Spectrum of compound CP-3
(δ_H 0.75-1.20 ppm, δ_C 31-52 ppm)

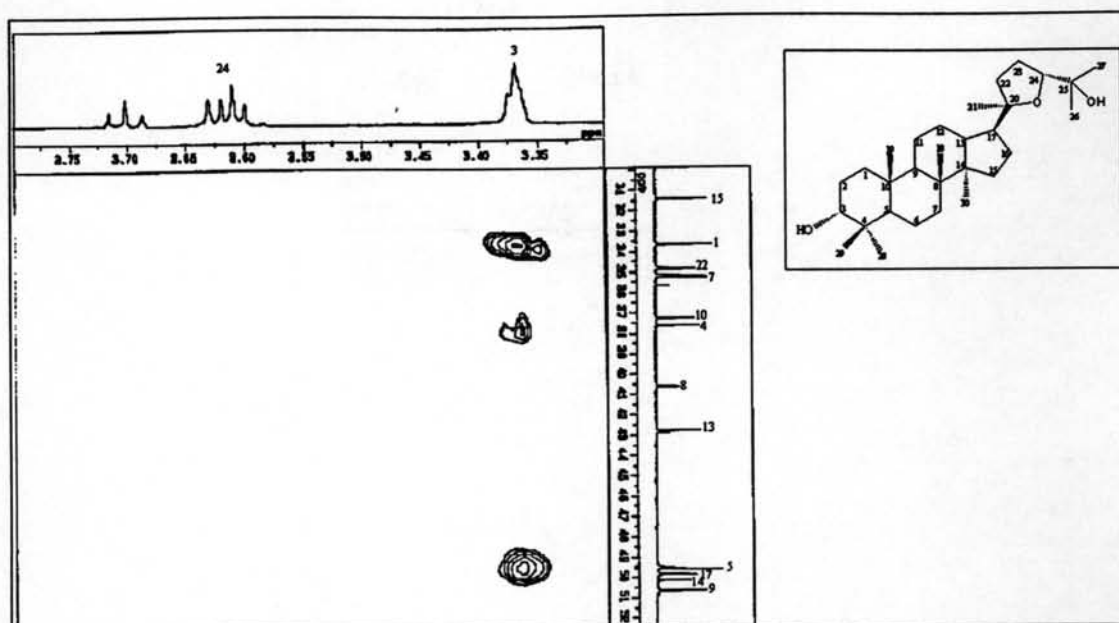


Figure 34k. HMBC Spectrum of compound CP-3
(δ_H 3.35-3.75 ppm, δ_C 31-52 ppm)

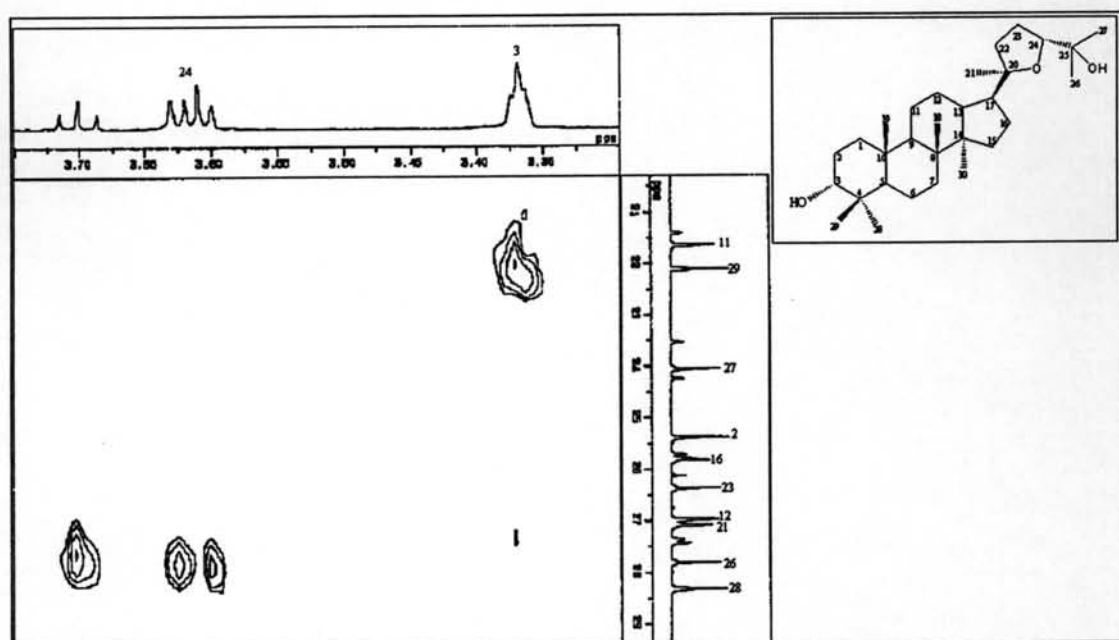


Figure 34l. HMBC Spectrum of compound CP-3
(δ_H 3.35-3.75 ppm, δ_C 21-30 ppm)

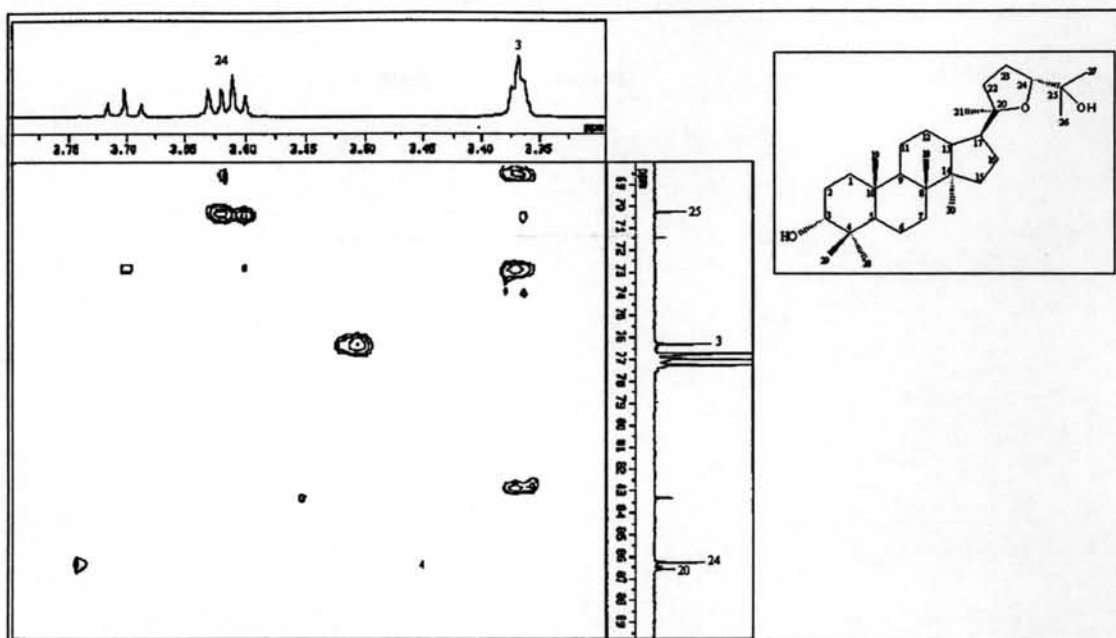


Figure 34m. HMBC Spectrum of compound CP-3
(δ_H 3.35-3.75 ppm, δ_C 69-89 ppm)

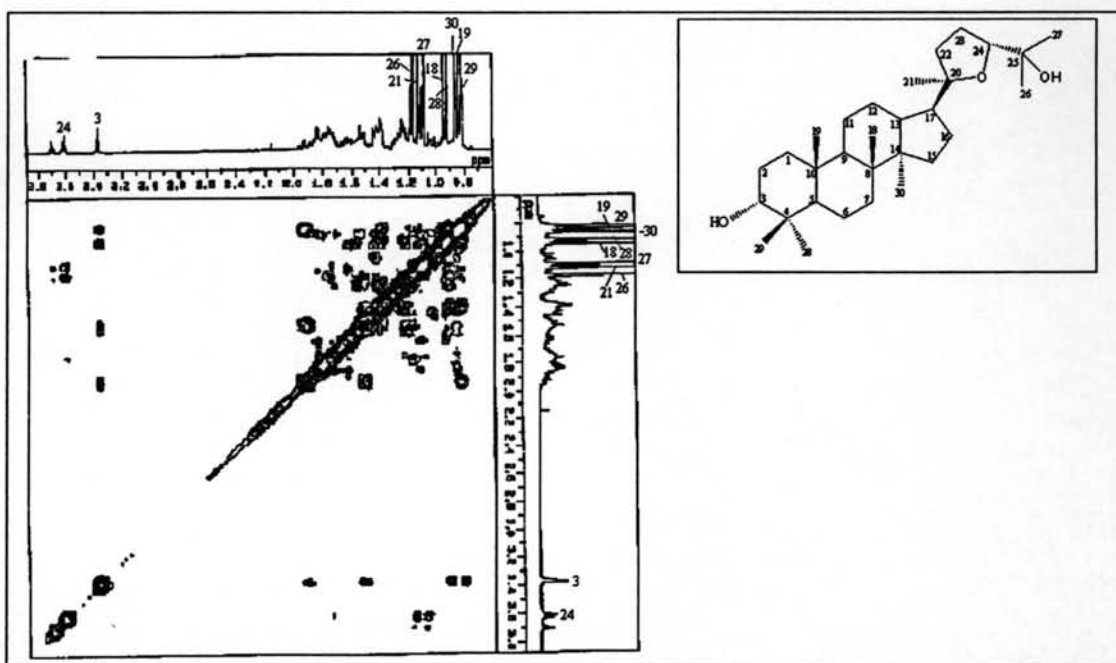


Figure 35. NOESY Spectrum of compound CP-3

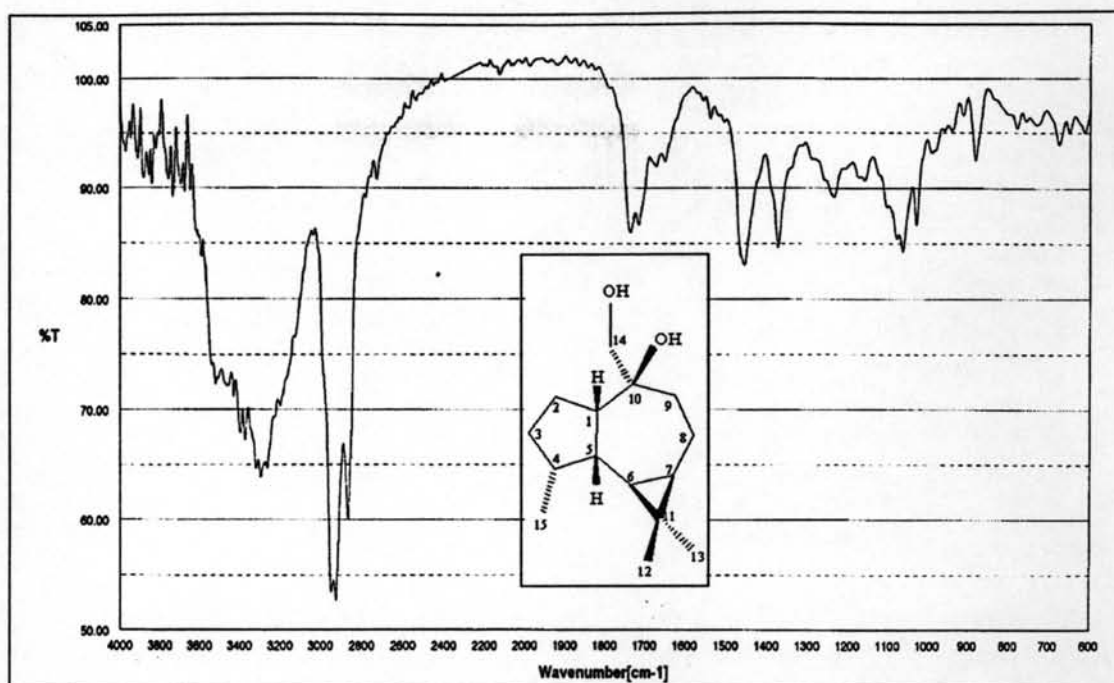


Figure 36. IR Spectrum of compound CP-4 (KBr disc)

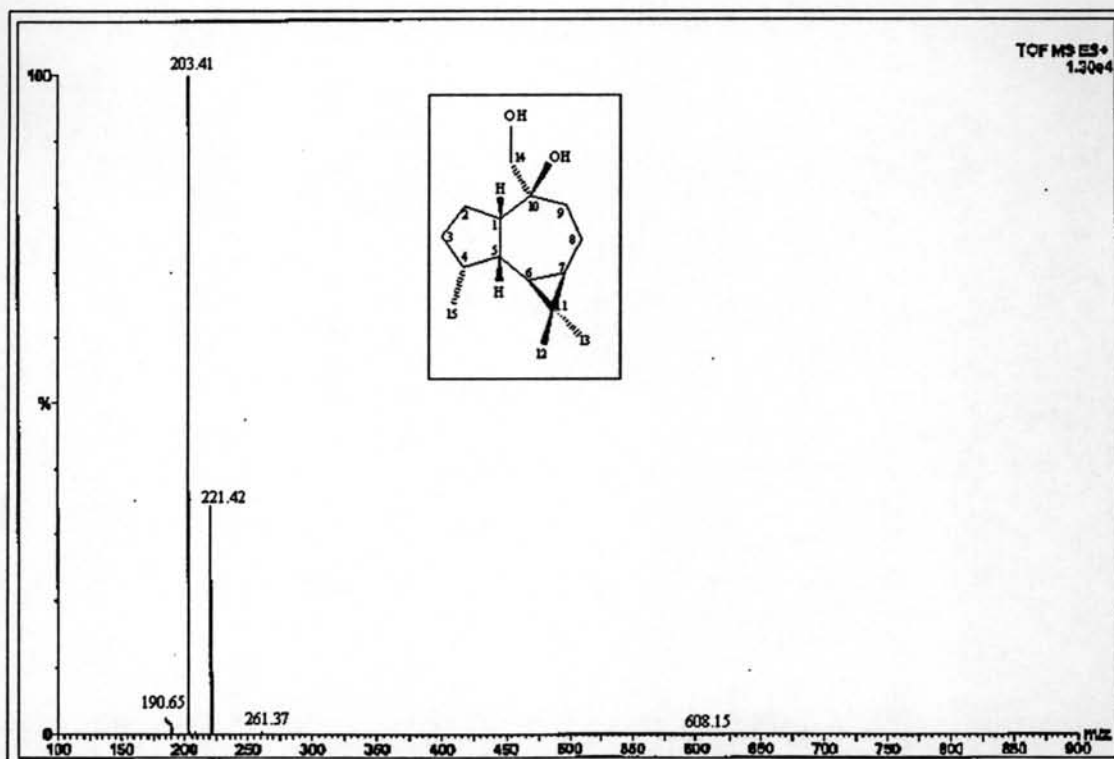


Figure 37. ESI-TOF Mass spectrum of compound CP-4

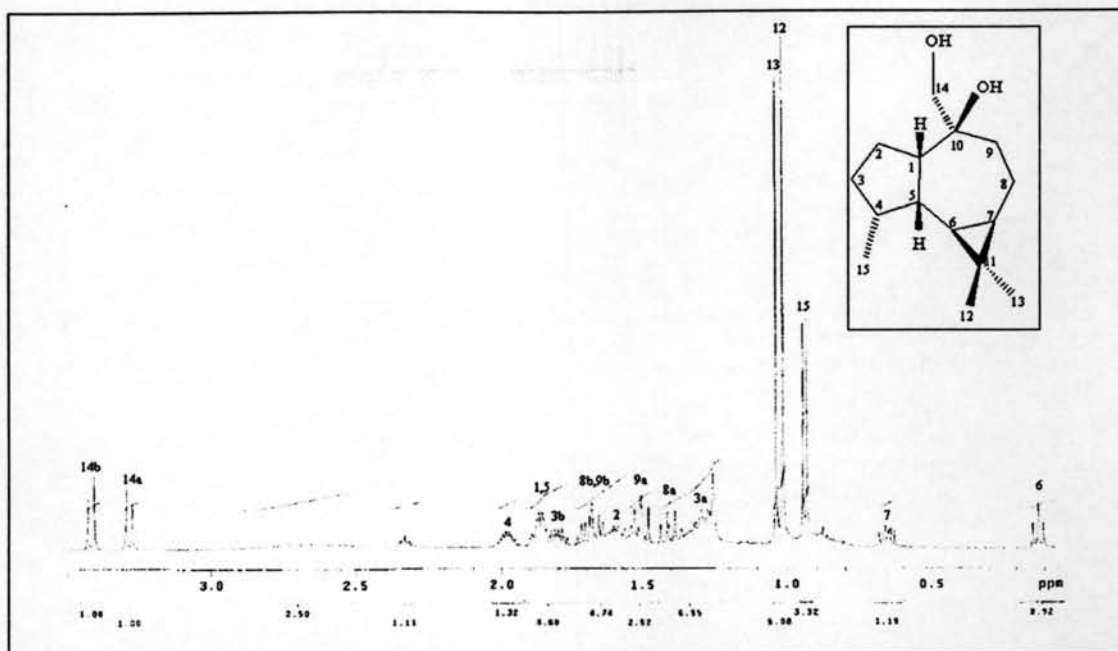


Figure 38a. ^1H NMR (500 MHz) Spectrum of compound CP-4 (in CDCl_3)

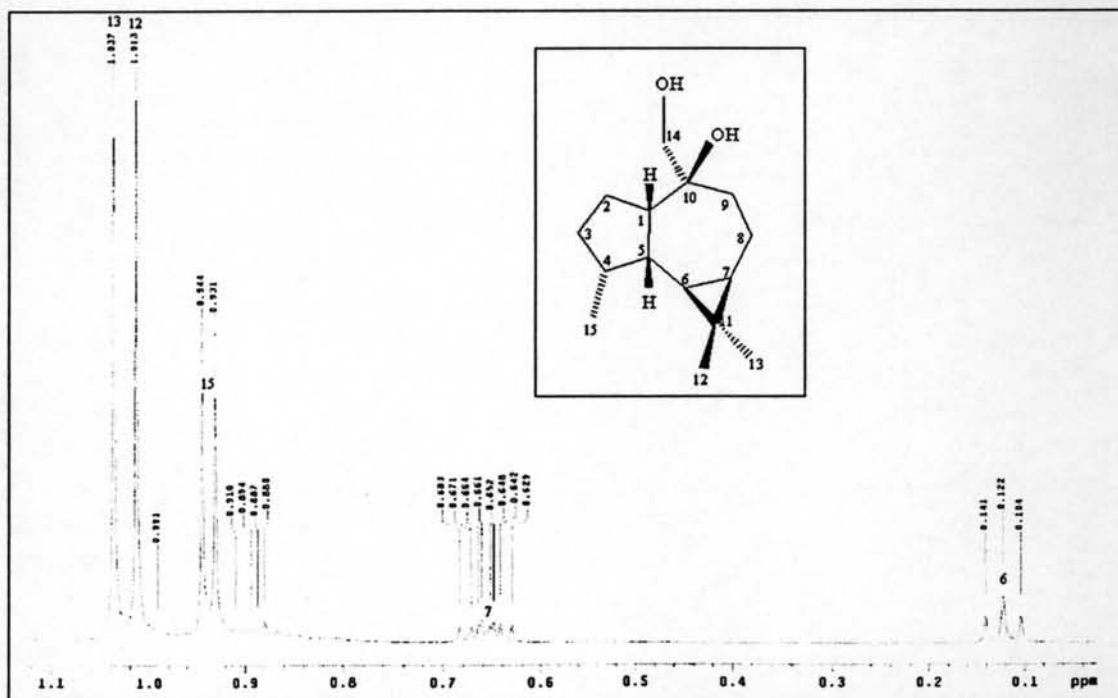


Figure 38b. ^1H NMR (500 MHz) Spectrum of compound CP-4 (in CDCl_3) (expansion δ 0.0-1.1 ppm)

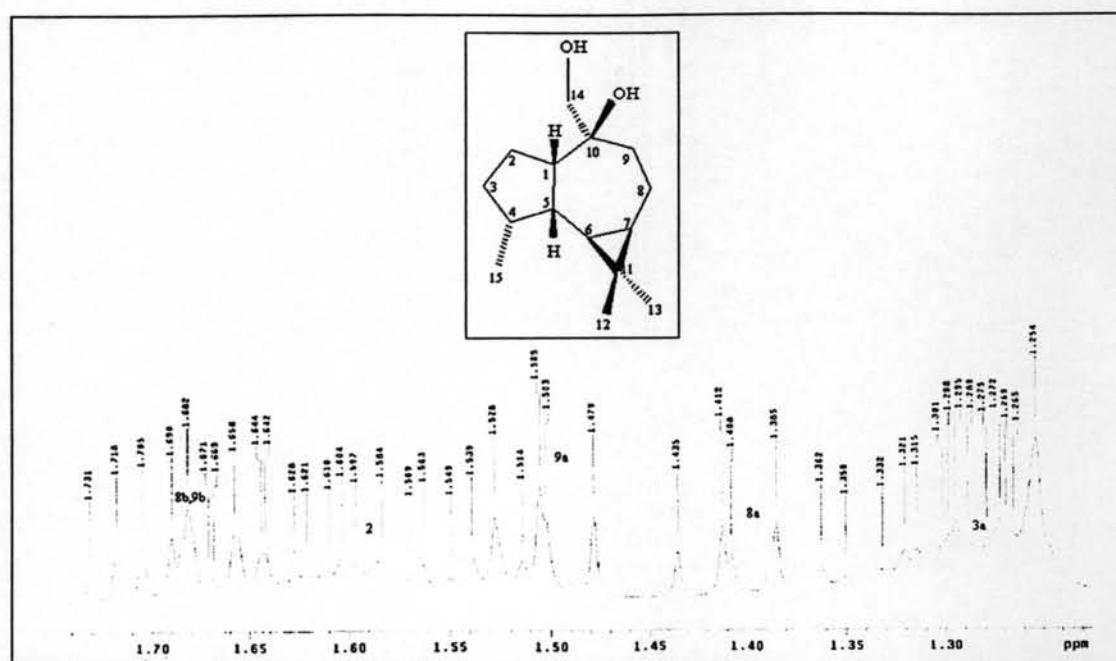


Figure 38c. ^1H NMR (500 MHz) Spectrum of compound CP-4 (in CDCl_3)
(expansion δ 1.0-1.7 ppm)

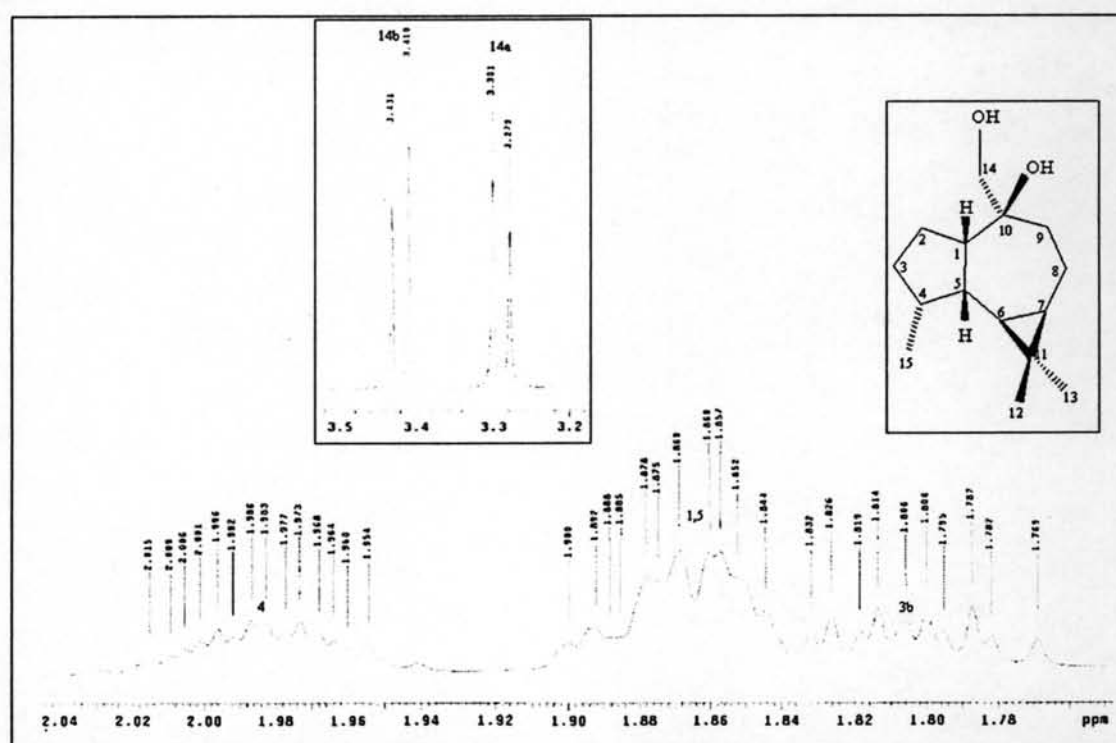


Figure 38d. ^1H NMR (500 MHz) Spectrum of compound CP-4 (in CDCl_3)
(expansion δ 1.70-2.04 ppm)

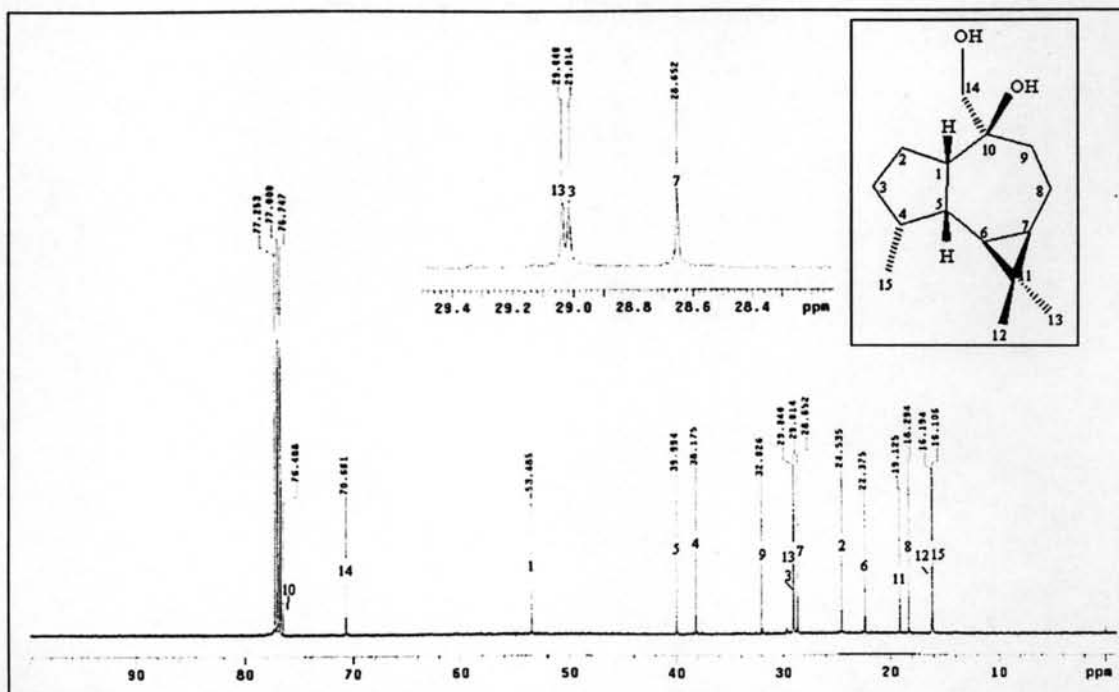


Figure 39. ^{13}C NMR (125 MHz) Spectrum of compound CP-4 (in CDCl_3)

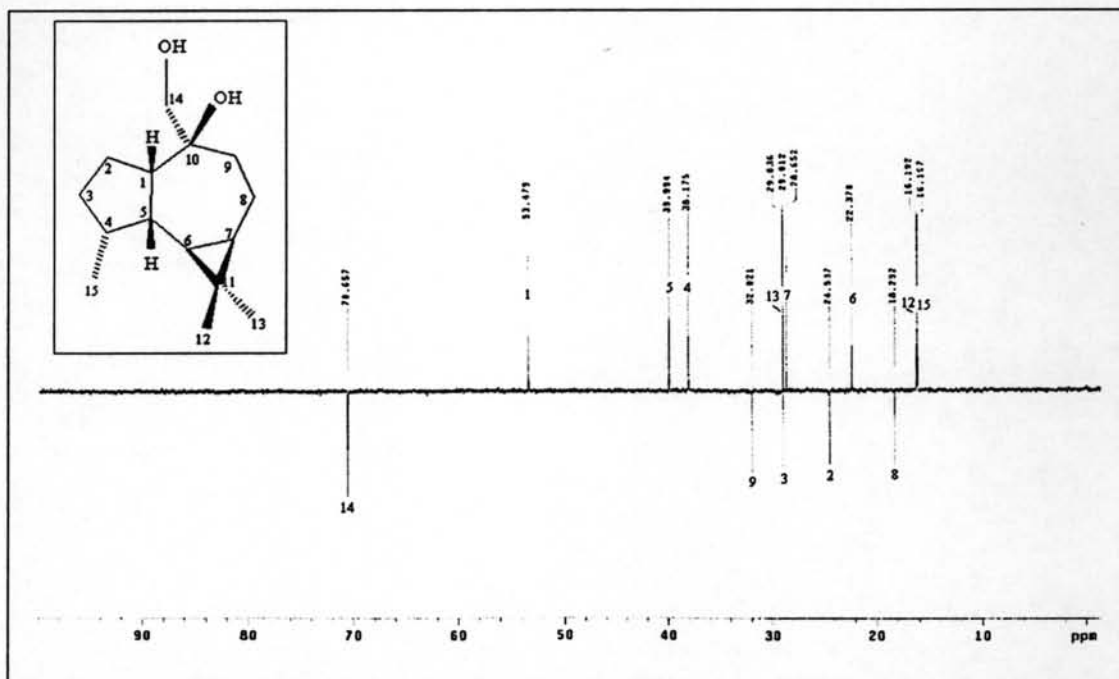


Figure 40a. DEPT 135 Spectrum of compound CP-4

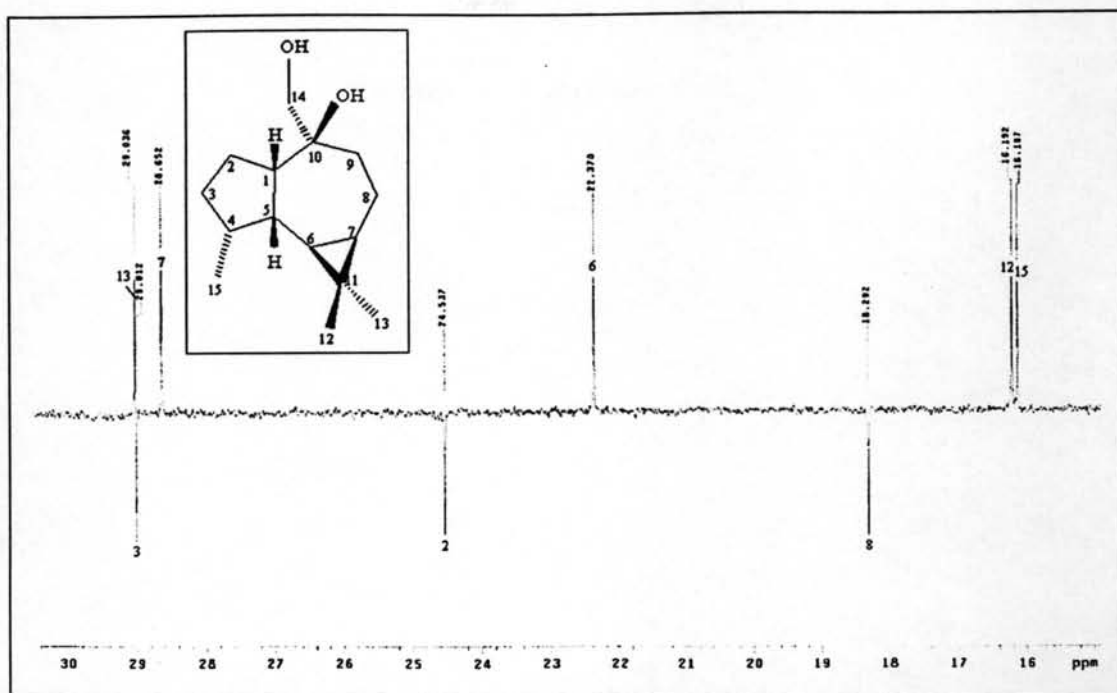


Figure 40b. DEPT 135 Spectrum of compound CP-4 (expansion δ 16-30 ppm)

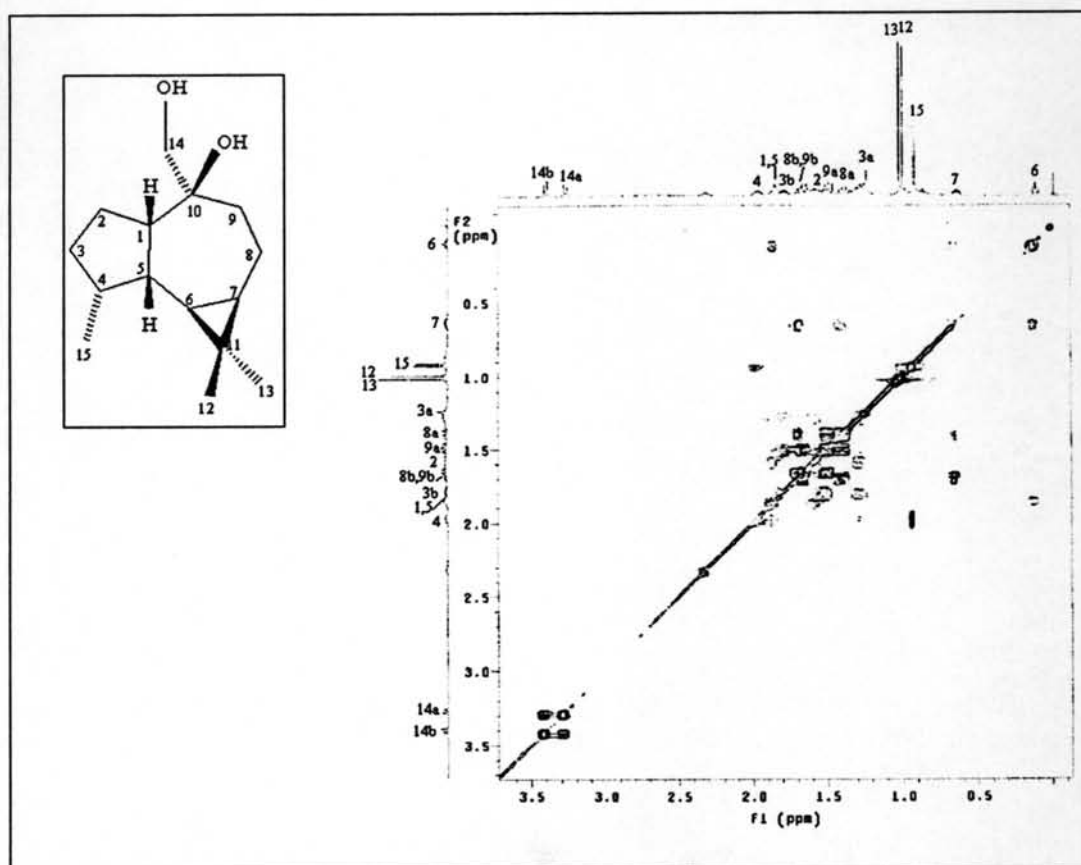


Figure 41. ^1H - ^1H COSY Spectrum of compound CP-4

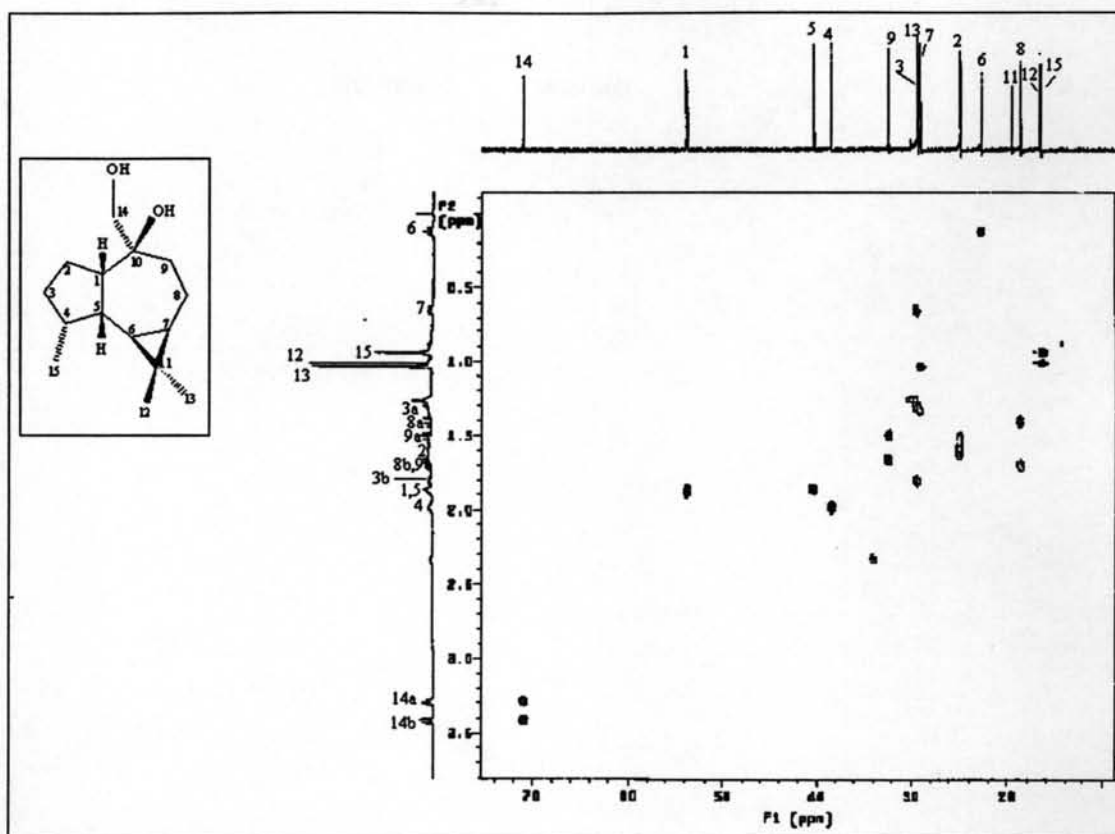


Figure 42. HMQC Spectrum of compound CP-4

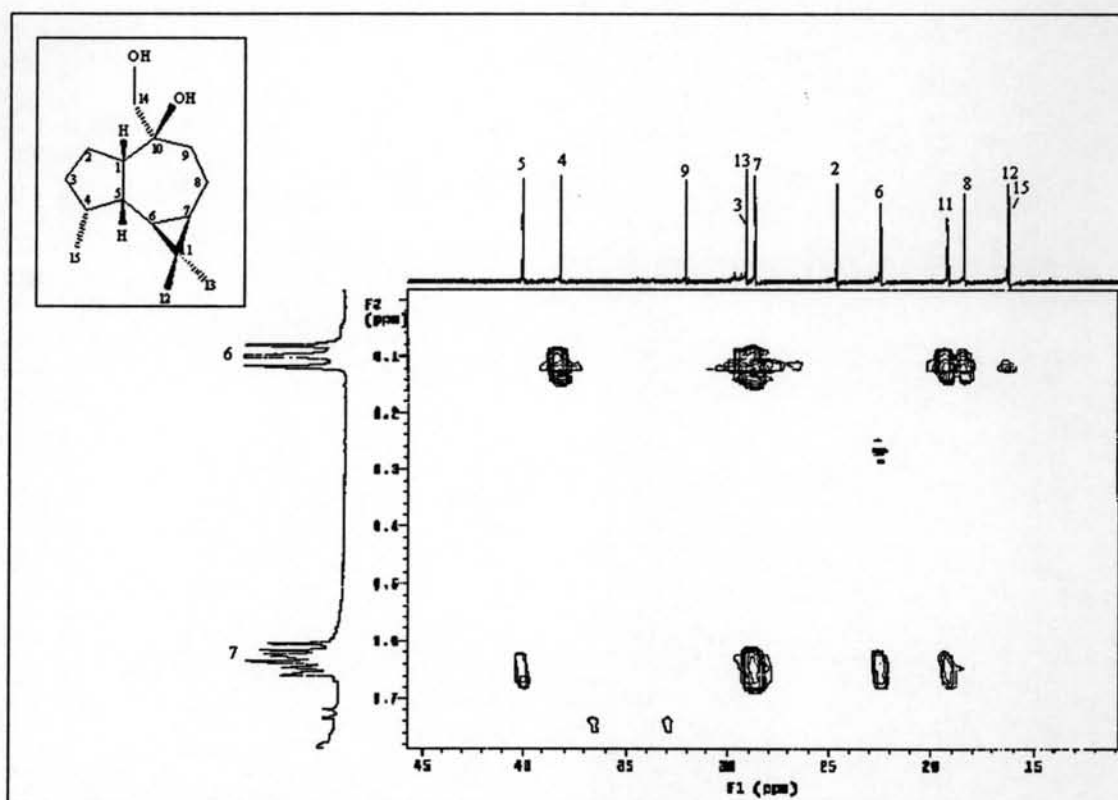


Figure 43a. HMBC Spectrum of compound CP-4

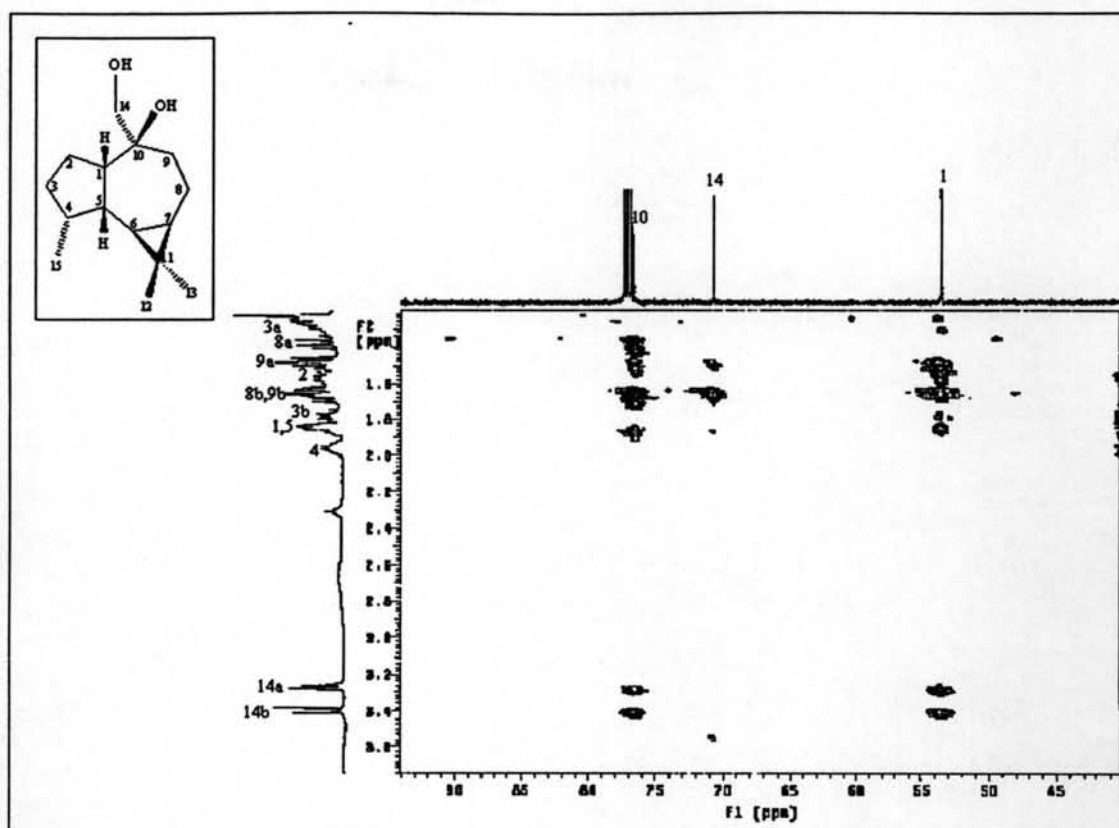


Figure 43b. HMBC Spectrum of compound CP-4 (δ_{H} 1.4-3.7 ppm, δ_{C} 40-95 ppm)

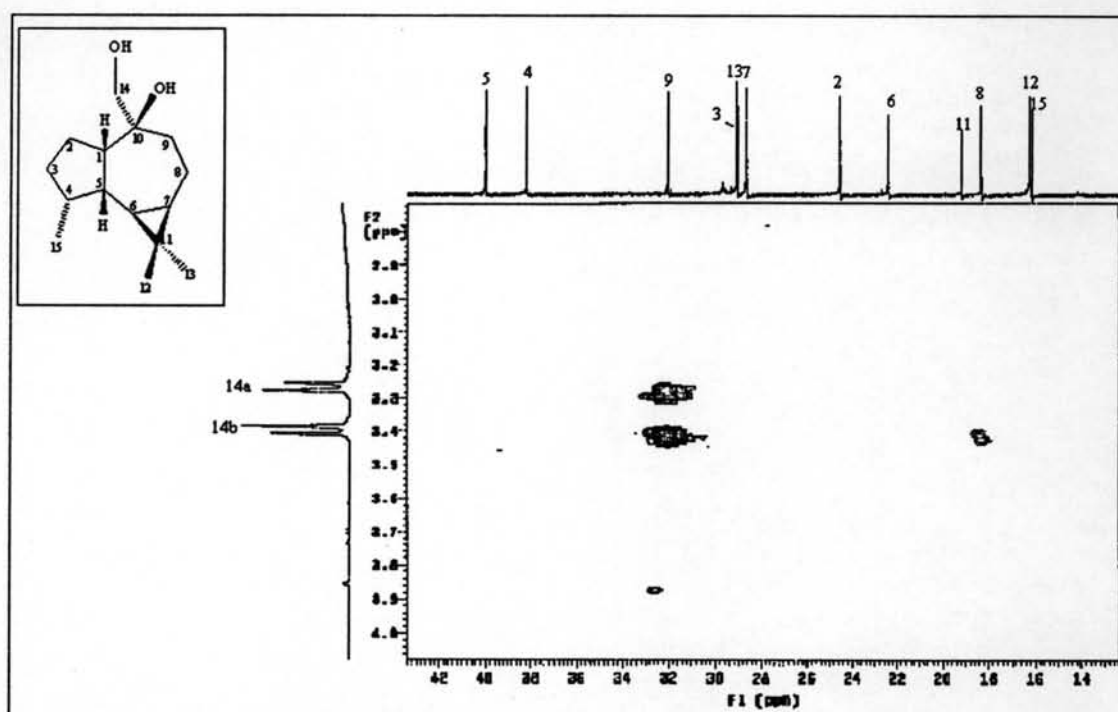


Figure 43c. HMBC Spectrum of compound CP-4 (δ_{H} 2.7-4.1 ppm, δ_{C} 14-43 ppm)

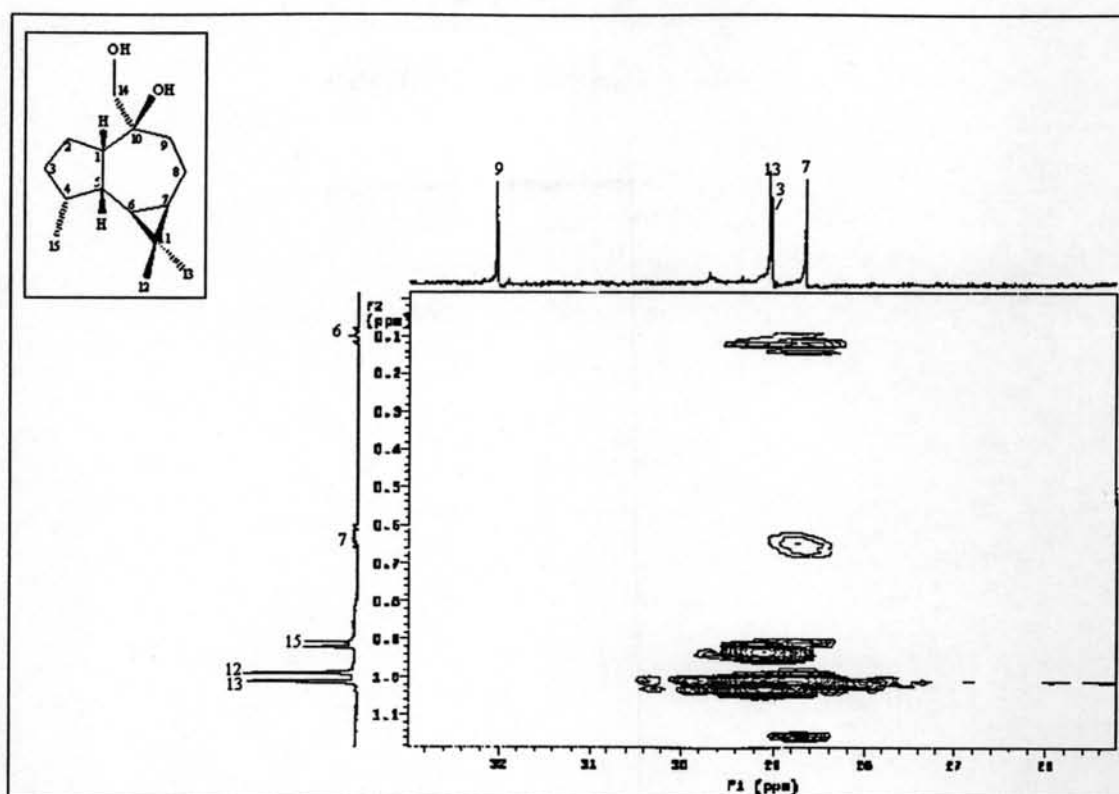


Figure 43d. HMBC Spectrum of compound CP-4 (δ_H 0.0-1.2 ppm, δ_C 25-33 ppm)

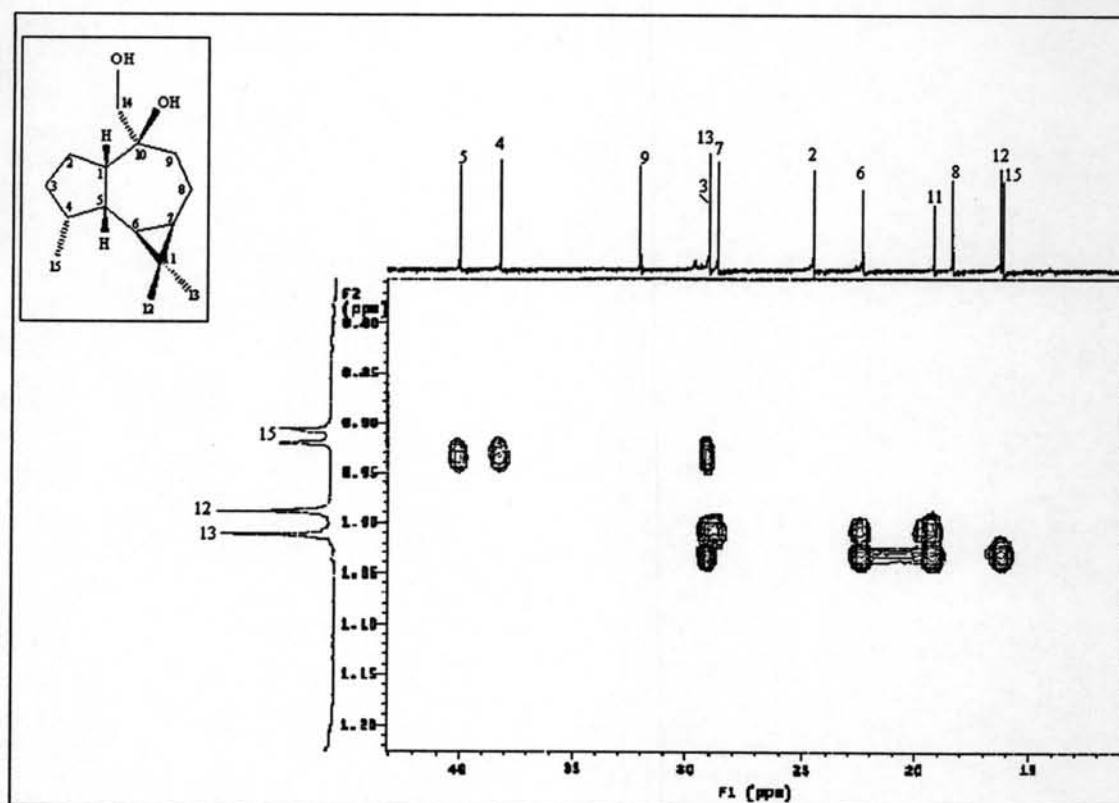


Figure 43e. HMBC Spectrum of compound CP-4 (δ_H 0.75-1.20 ppm, δ_C 11-43 ppm)

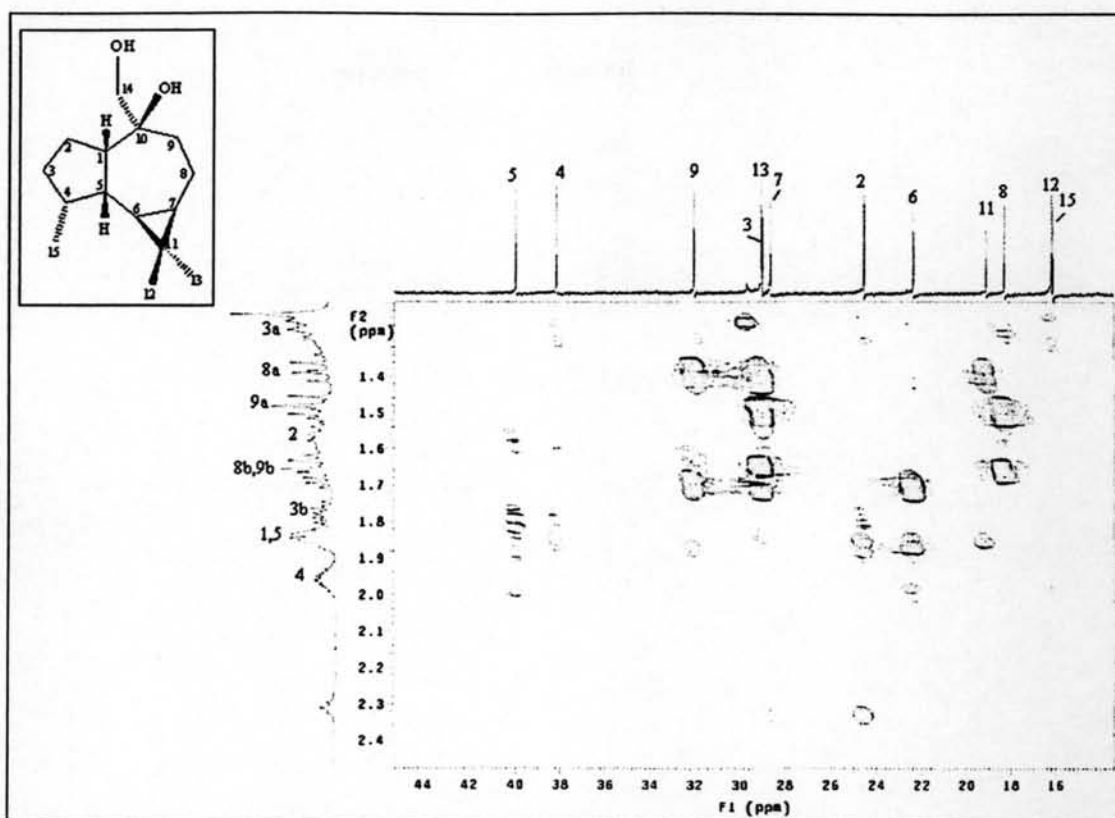


Figure 43f. HMBC Spectrum of compound CP-4 (δ_{H} 1.2-2.5 ppm, δ_{C} 15-45 ppm)

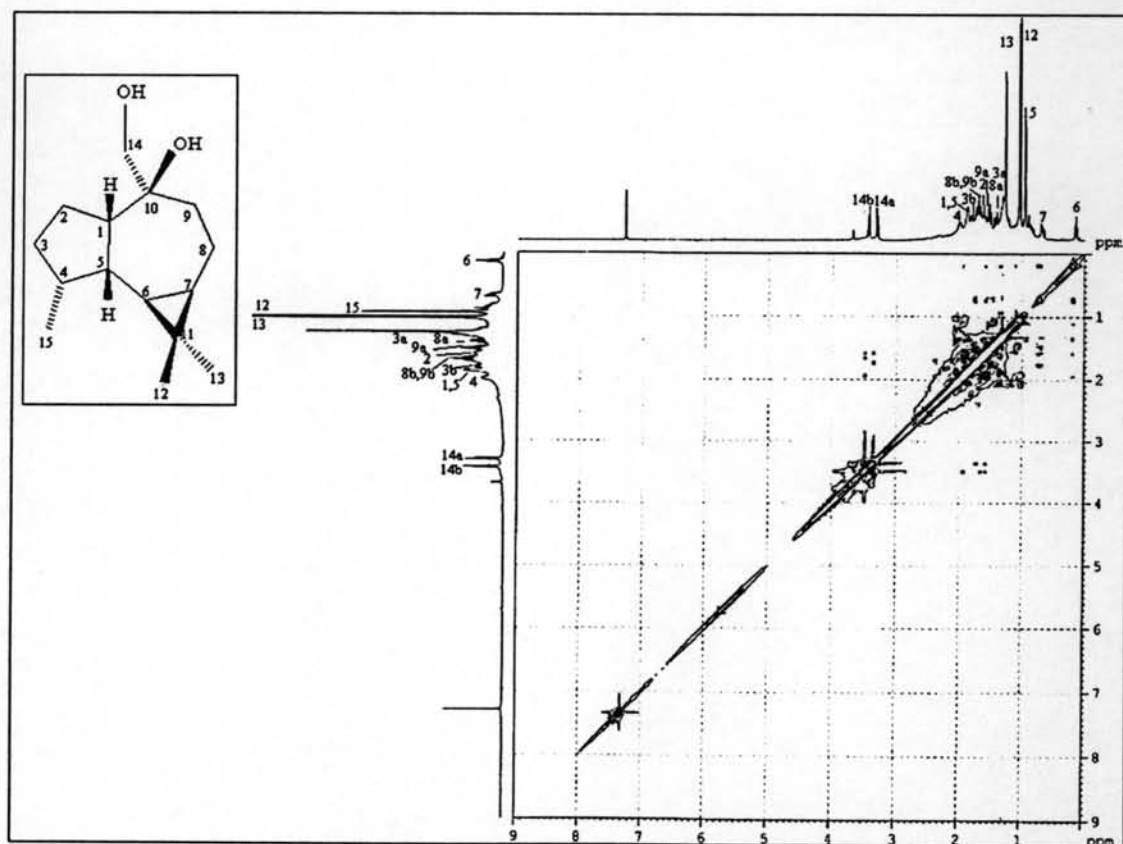


Figure 44. NOESY Spectrum of compound CP-4

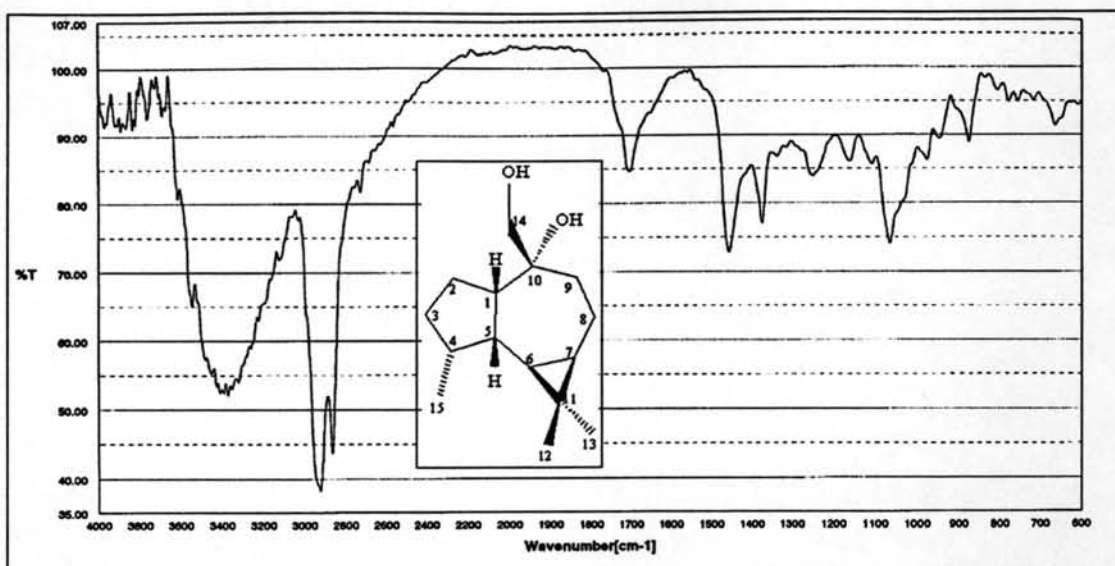


Figure 45. IR Spectrum of compound CP-5

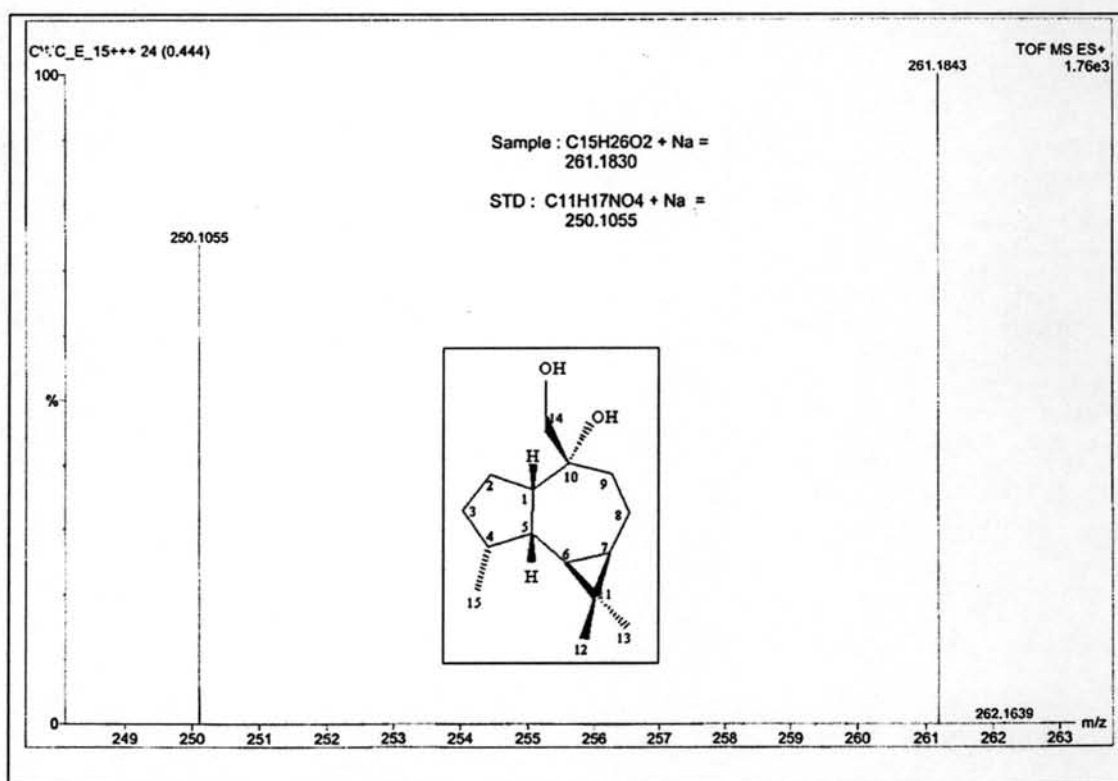


Figure 46. ESI-TOF Mass spectrum of compound CP-5

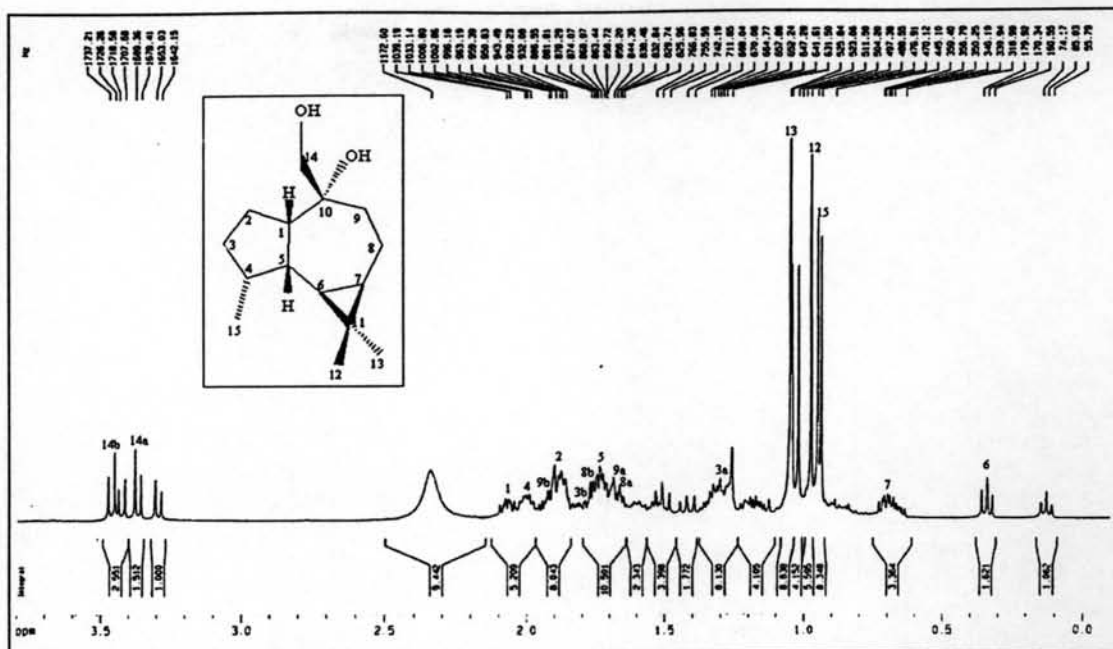


Figure 47a. ^1H NMR (500 MHz) Spectrum of compound CP-5 (in CDCl_3)

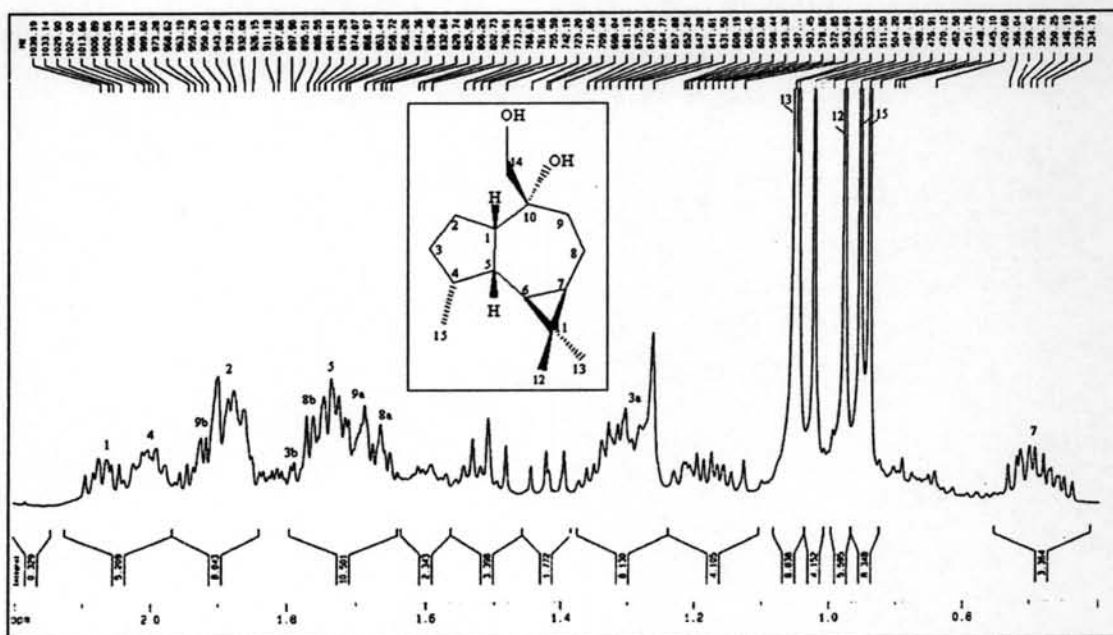


Figure 47b. ^1H NMR (500 MHz) Spectrum of compound CP-5 (in CDCl_3) (expansion δ 0.6-2.2 ppm)

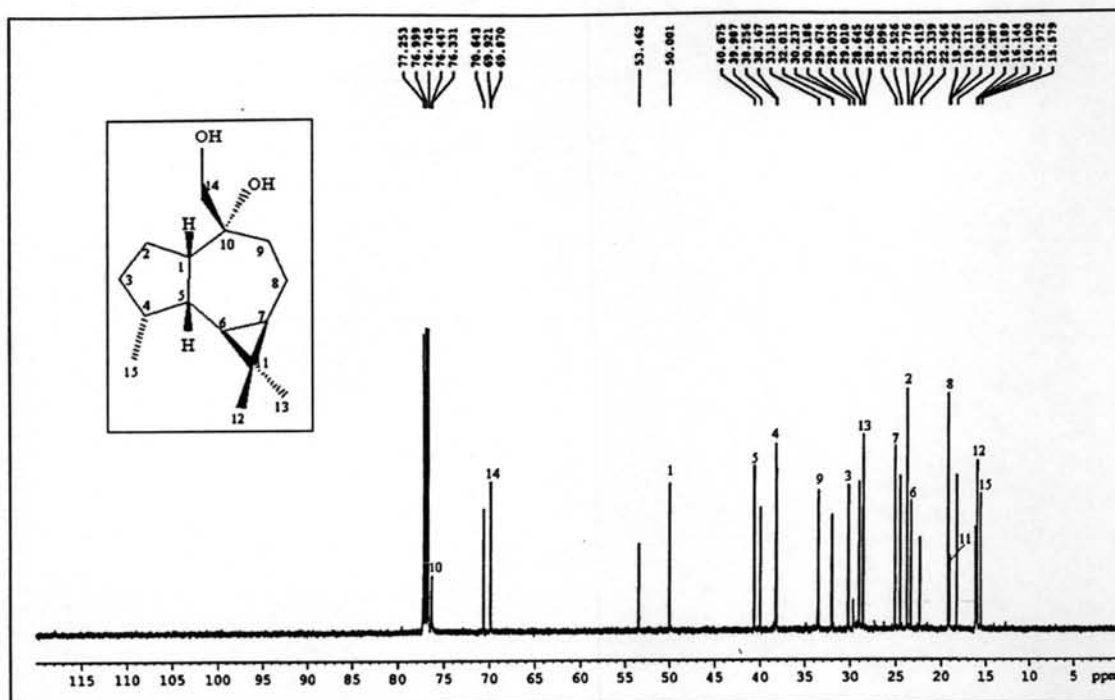


Figure 48. ^{13}C NMR (125 MHz) Spectrum of compound CP-5 (in CDCl_3)

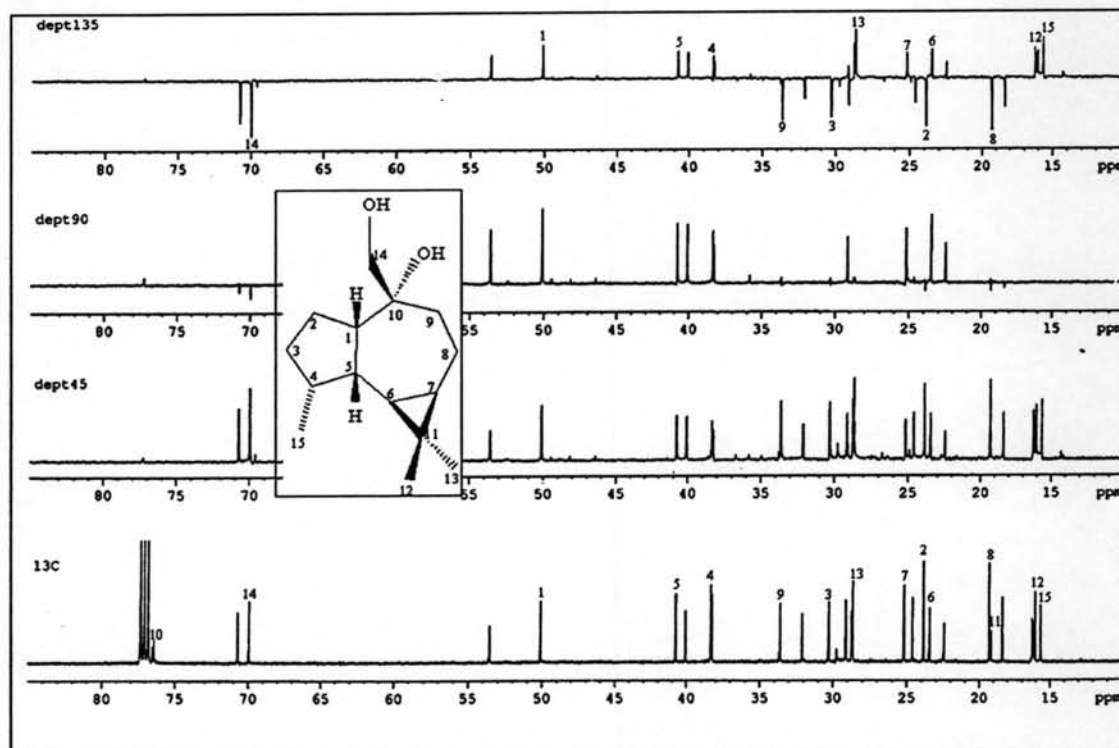


Figure 49a. DEPT 135 Spectrum of compound CP-5

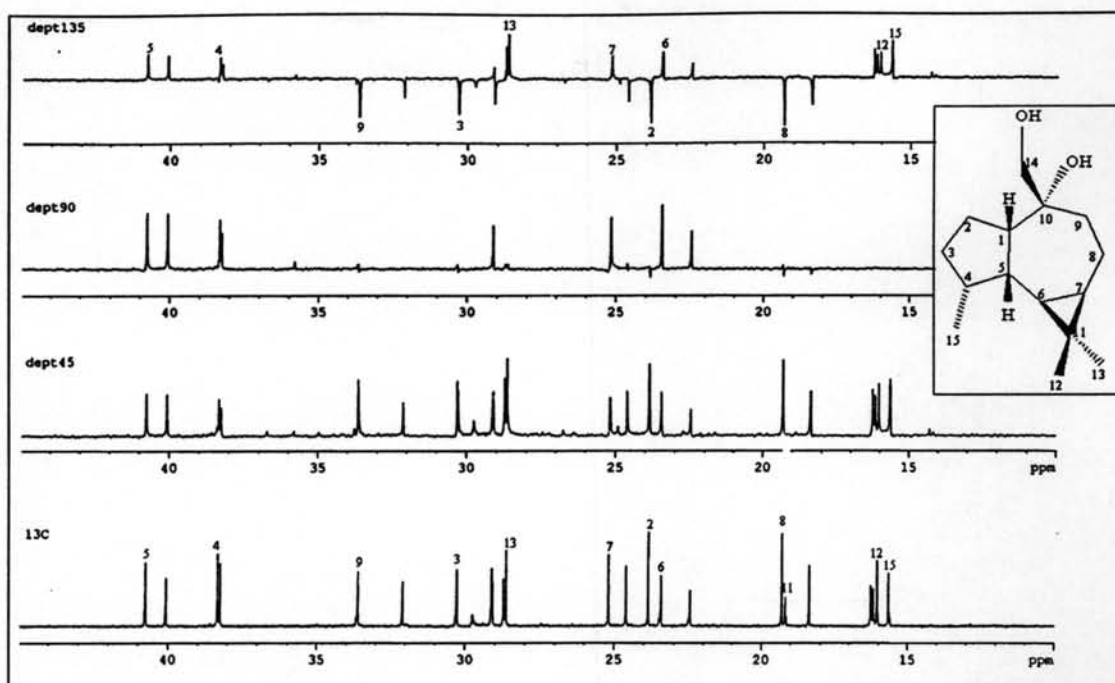


Figure 49b. DEPT 135 Spectrum of compound CP-5
(expansion δ 15-45 ppm)

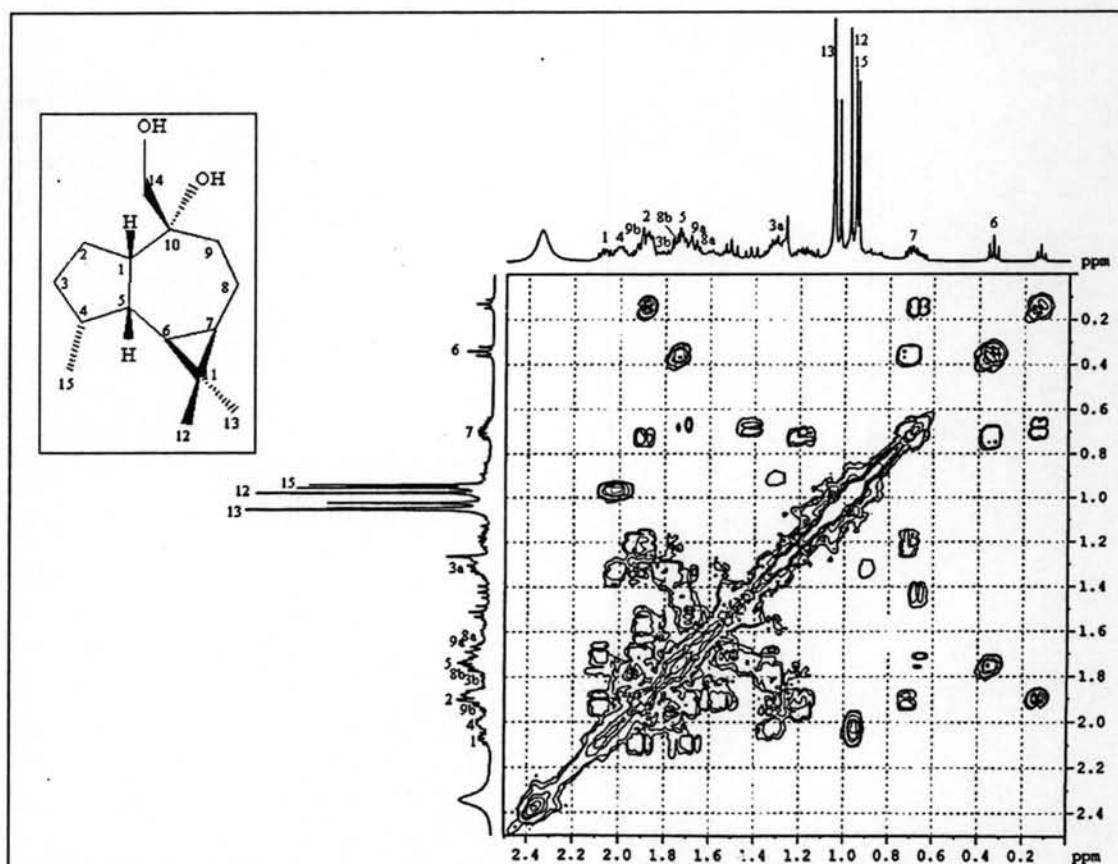


Figure 50. ^1H - ^1H COSY Spectrum of compound CP-5

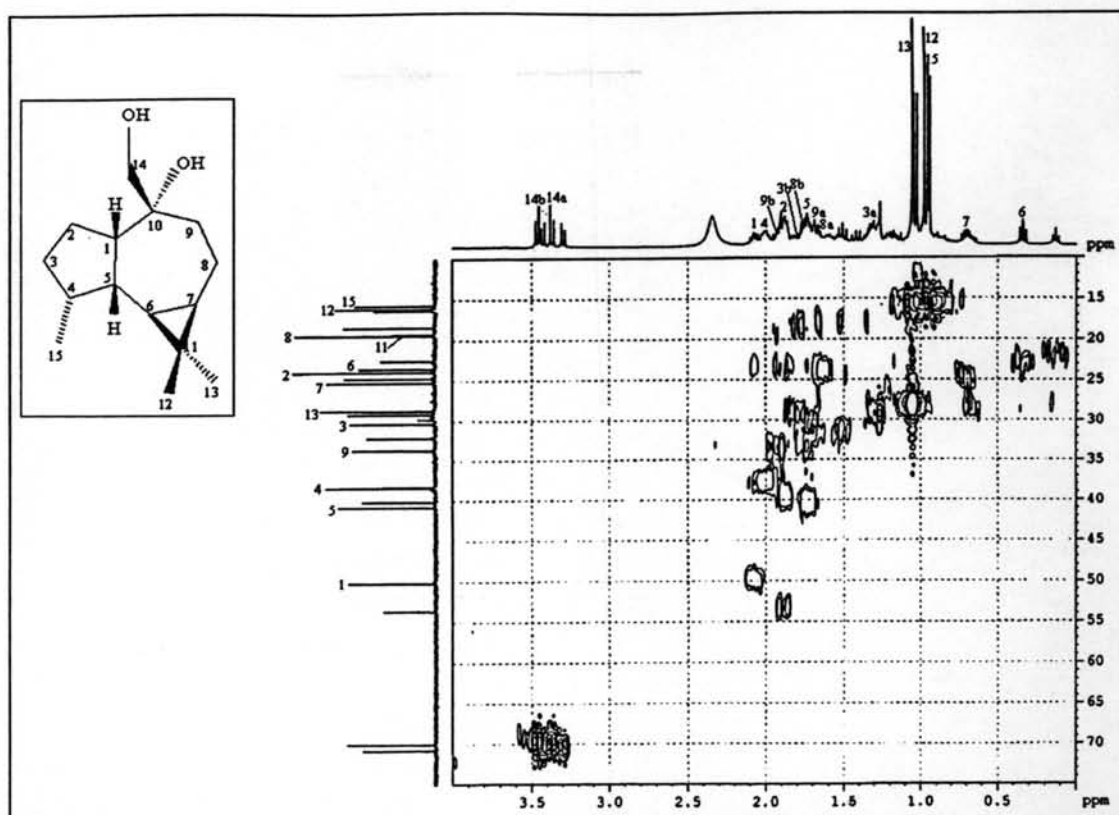


Figure 51. HMQC Spectrum of compound CP-5

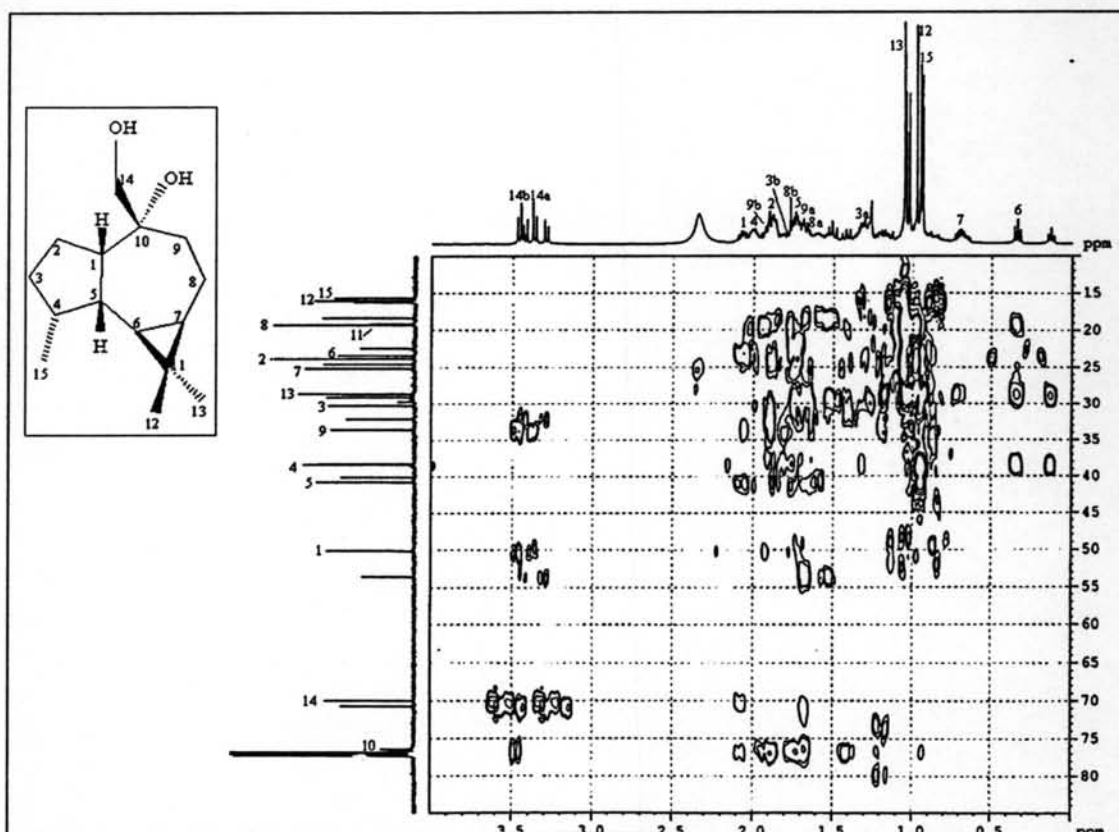


Figure 52. HMBC Spectrum of compound CP-5

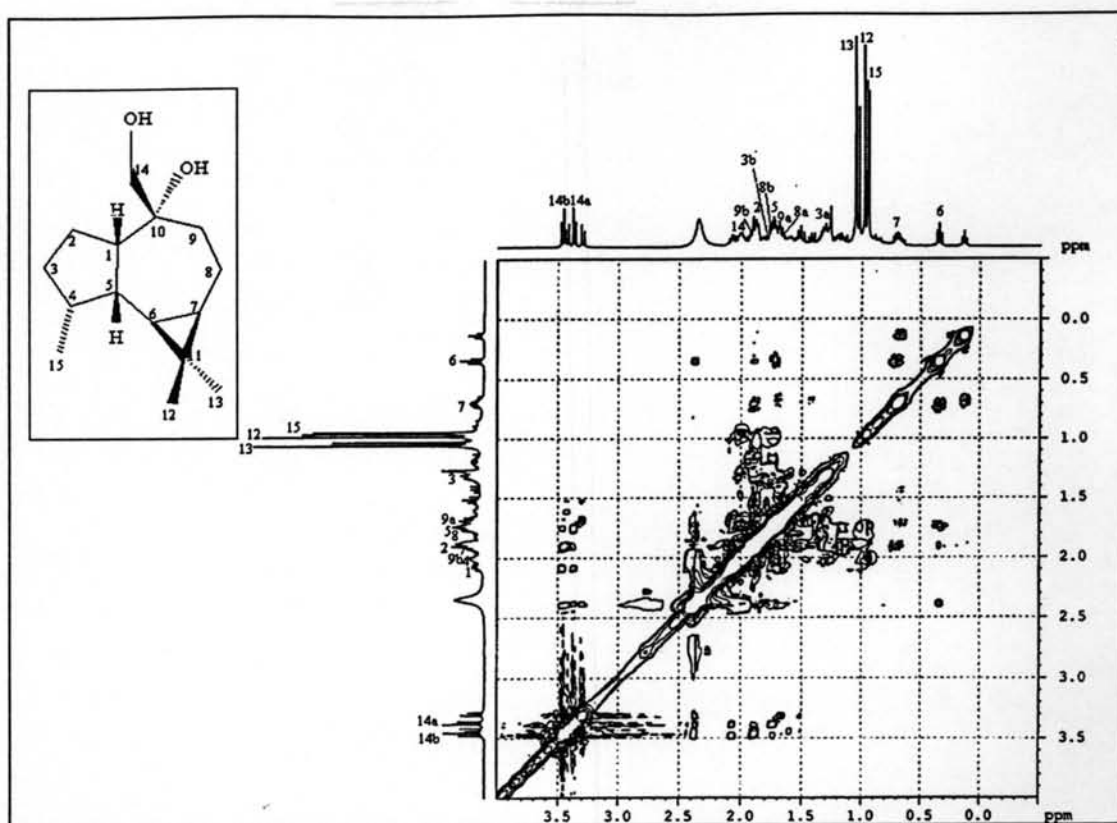


Figure 53a. NOESY Spectrum of compound CP-5

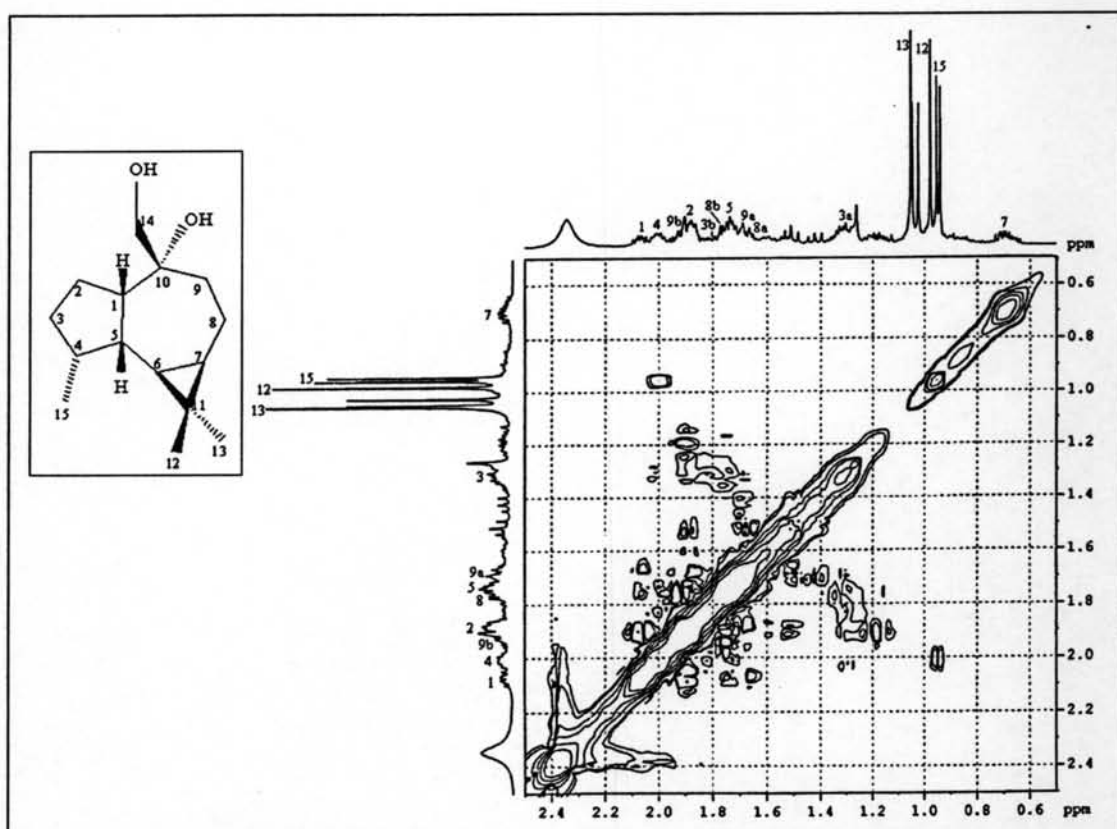


Figure 53b. NOESY Spectrum of compound CP-5 (δ 0.5-2.4 ppm)

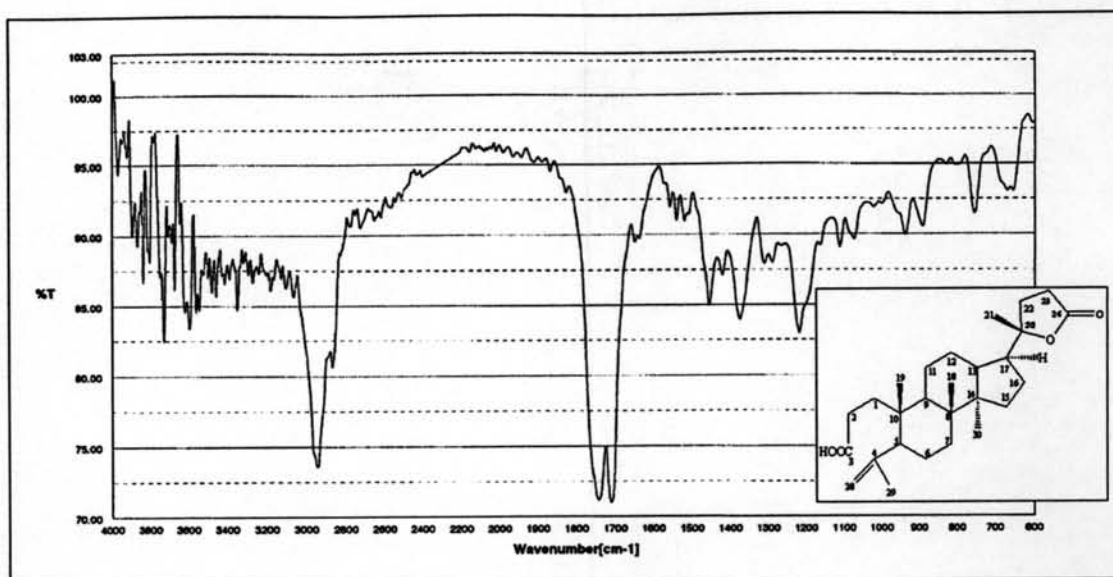


Figure 54. IR Spectrum of compound CP-6 (KBr disc)

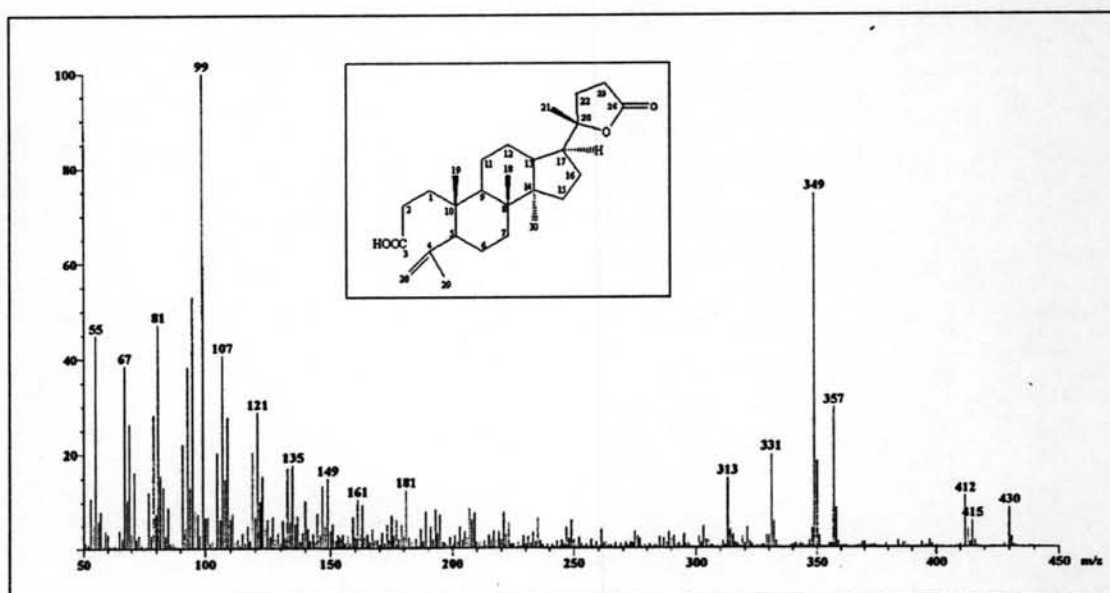


Figure 55. EI Mass spectrum of compound CP-6

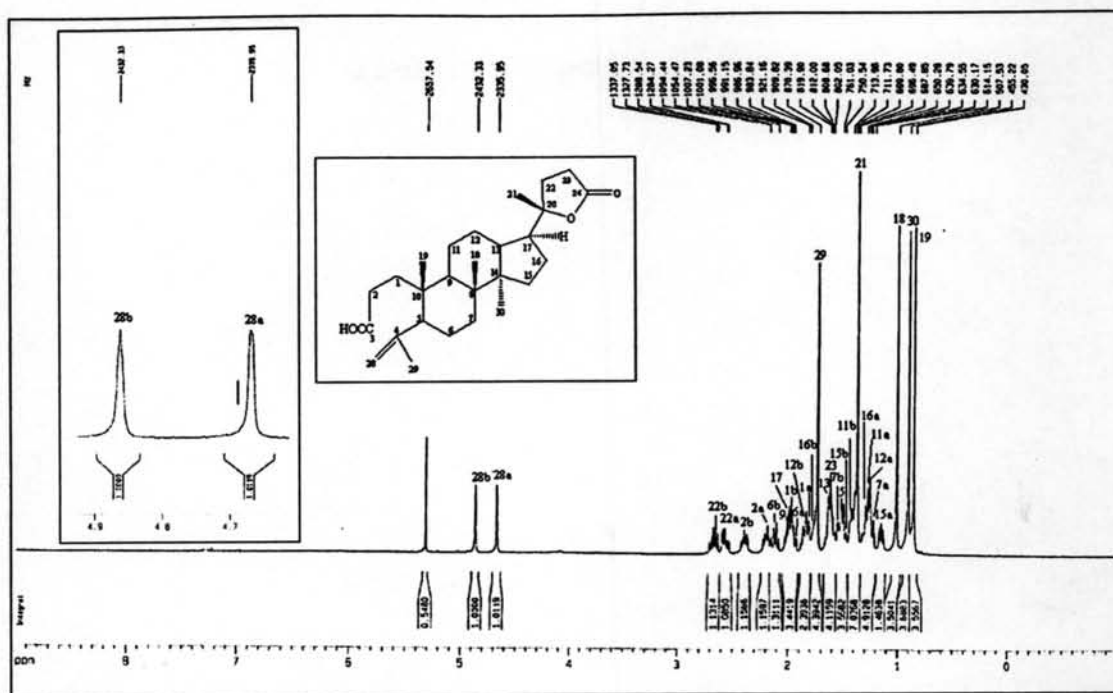


Figure 56a. ^1H NMR (500 MHz) Spectrum of compound CP-6 (in CDCl_3)

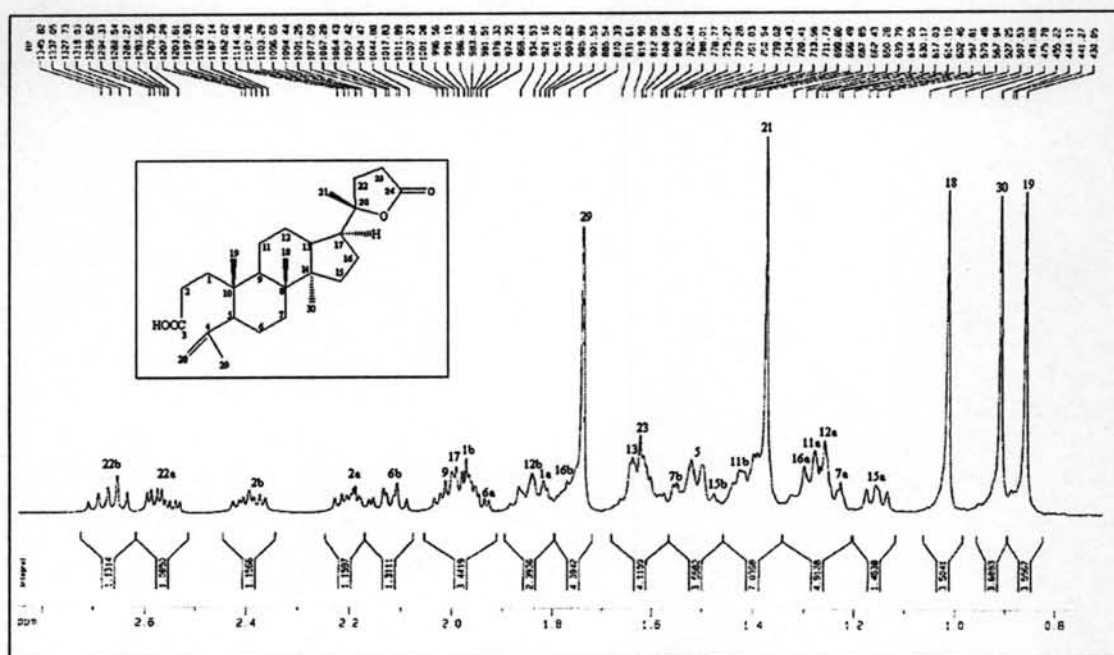


Figure 56b. ^1H NMR (500 MHz) Spectrum of compound CP-6 (in CDCl_3)
(expansion δ 0.8-2.8 ppm)

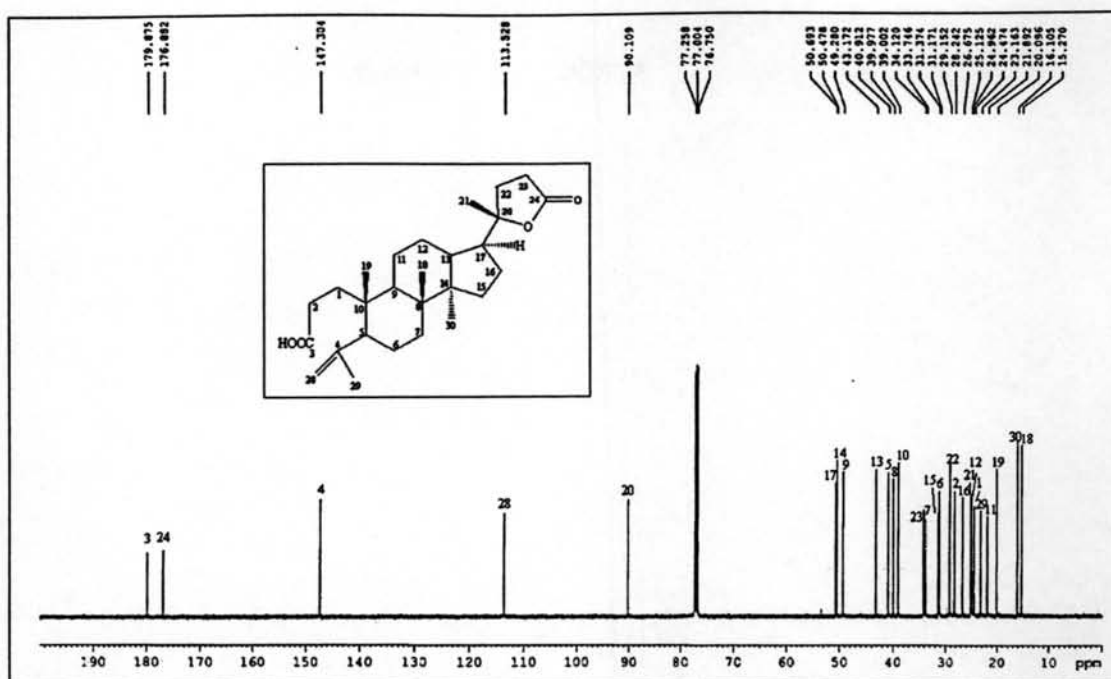


Figure 57a. ^{13}C NMR (125 MHz) Spectrum of compound CP-6 (in CDCl_3)

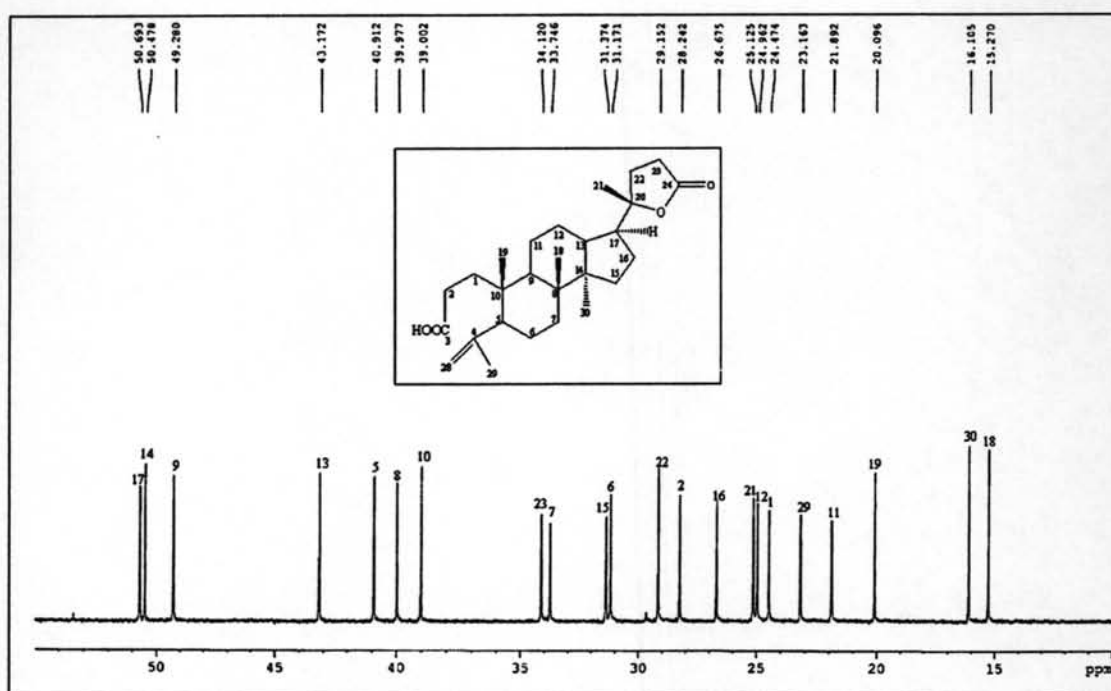


Figure 57b. ^{13}C NMR (125 MHz) Spectrum of compound CP-6 (in CDCl_3)
(expansion δ 15-51 ppm)

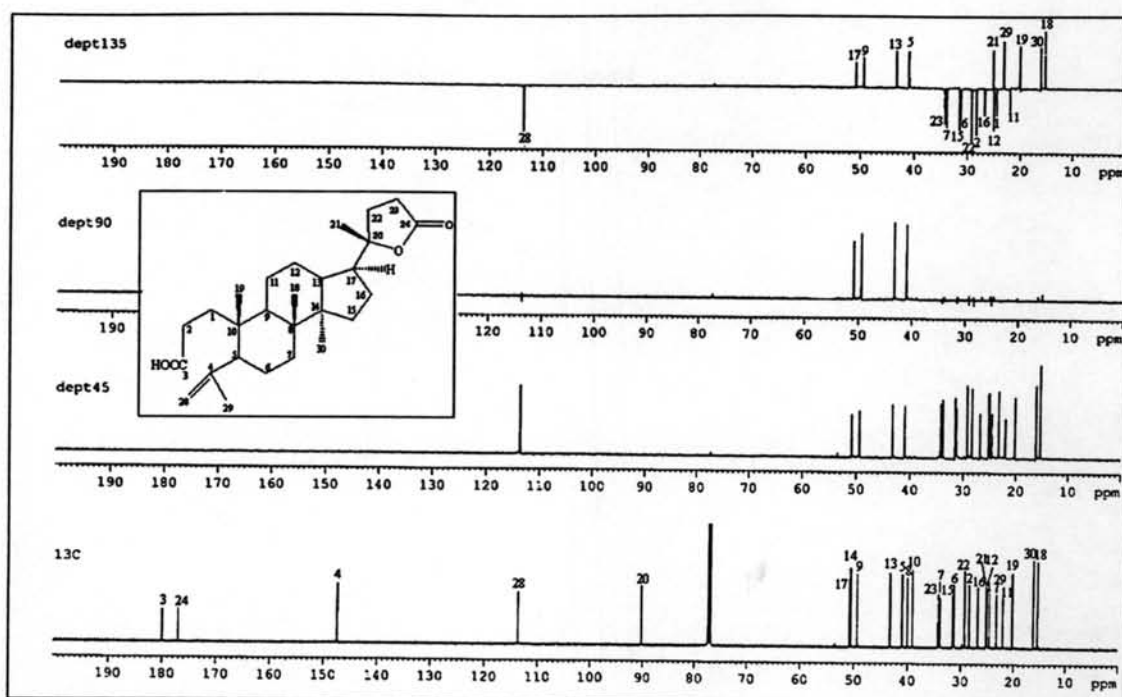


Figure 58. DEPT 135 Spectrum of compound CP-6

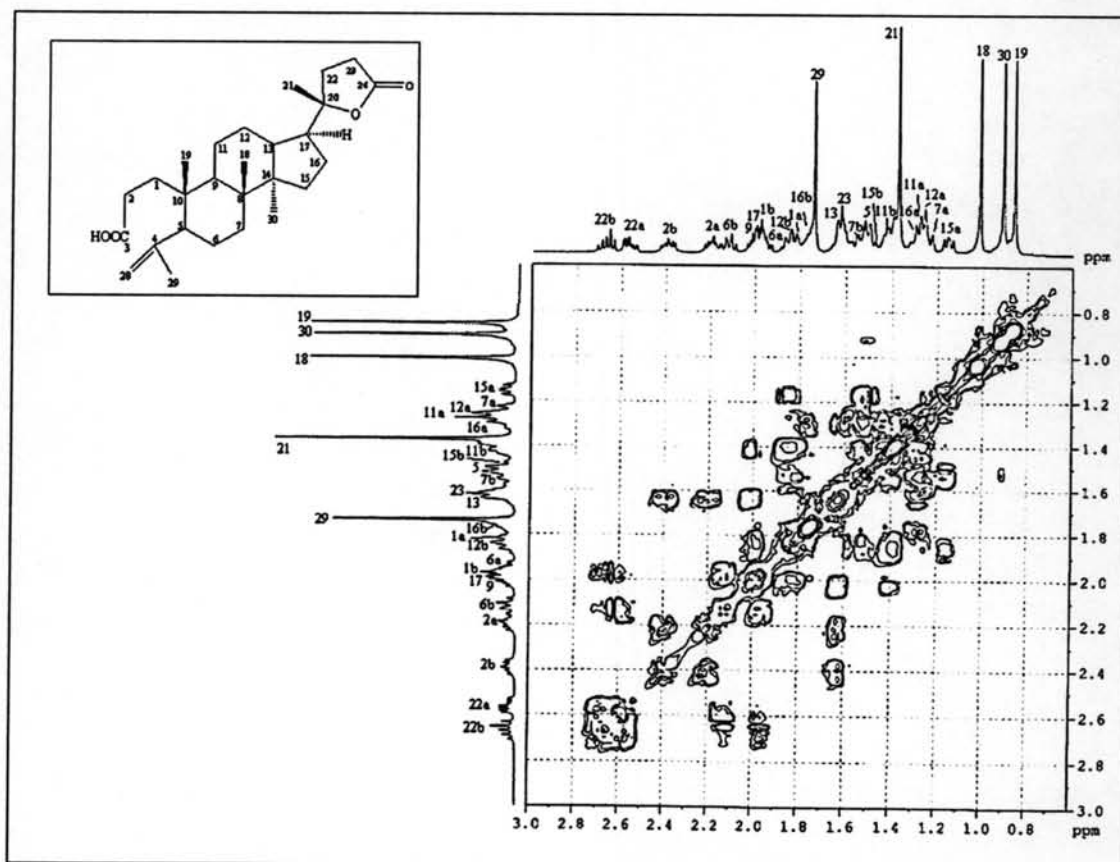


Figure 59. ^1H - ^1H COSY Spectrum of compound CP-6

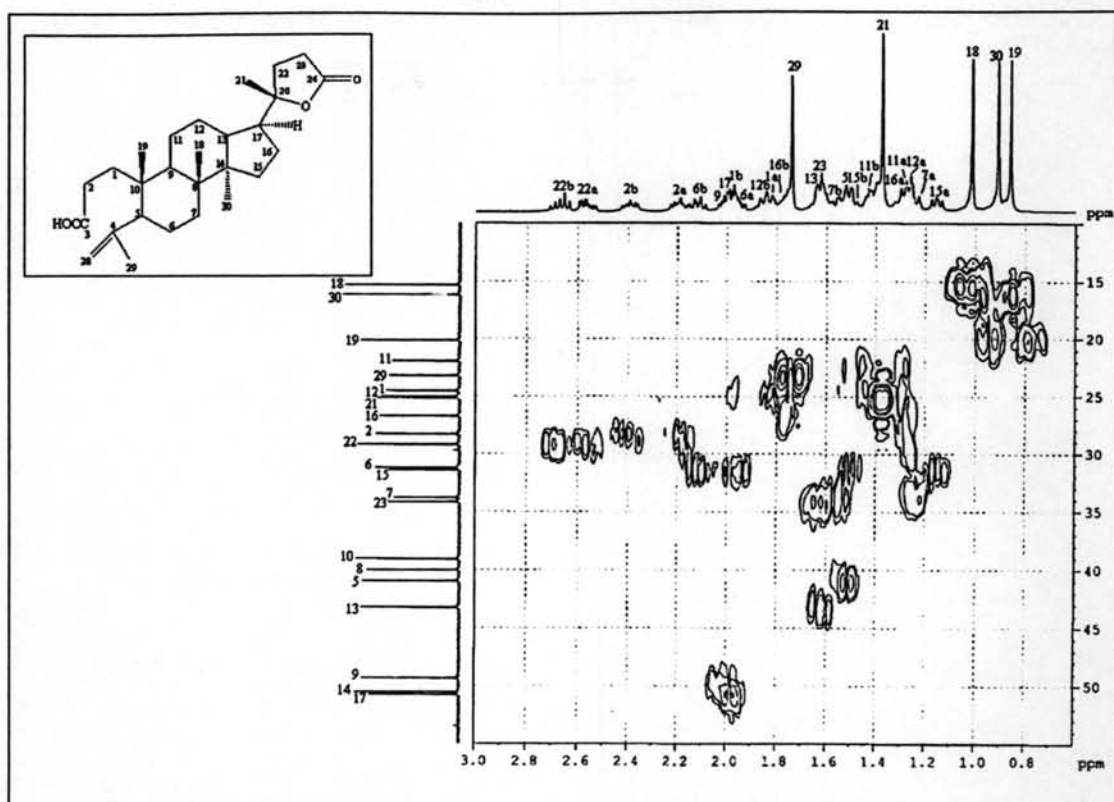


Figure 60a. HMQC Spectrum of compound CP-6

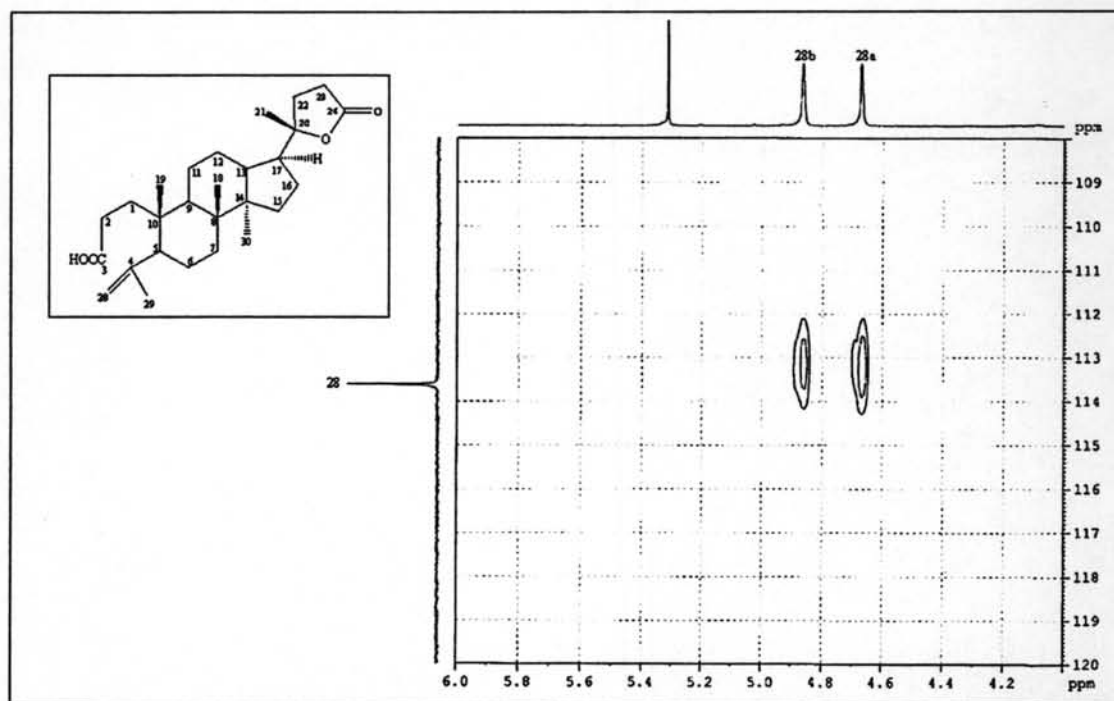


Figure 60b. HMQC Spectrum of compound CP-6
(δ_H 4.0-6.0 ppm, δ_C 108-120 ppm)

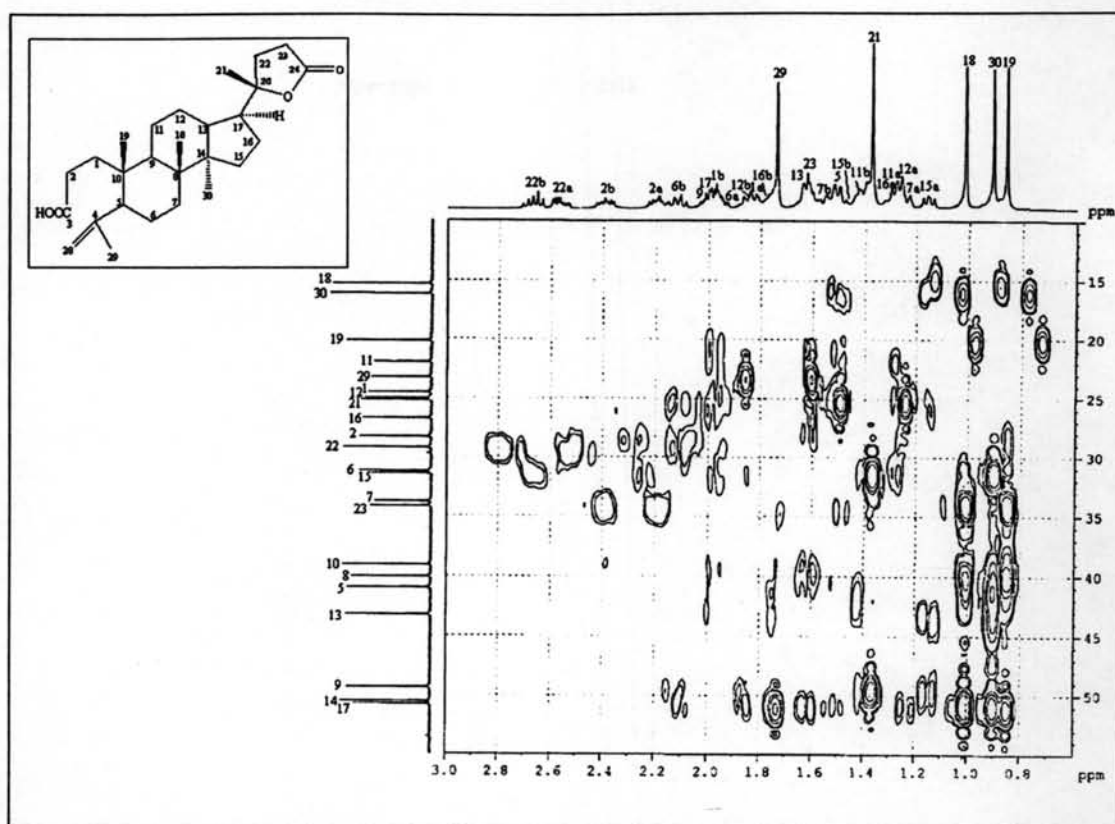


Figure 61a. HMBC Spectrum of compound CP-6

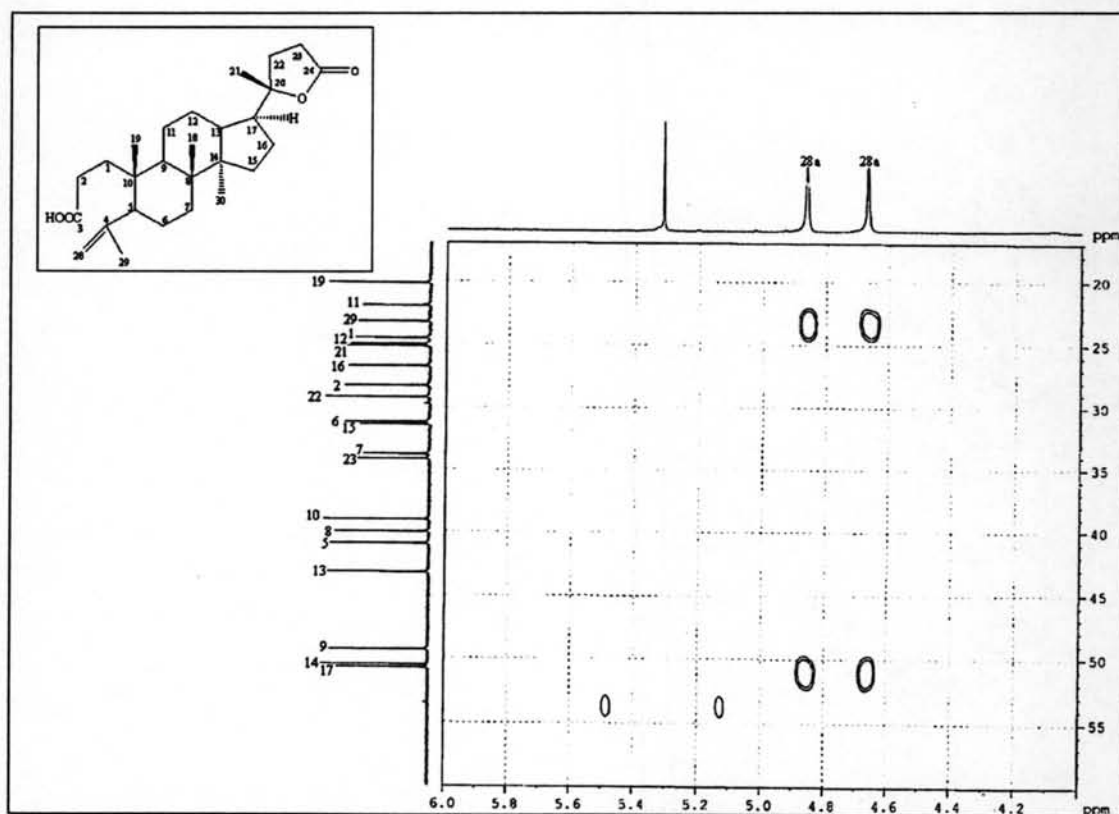


Figure 61b. HMBC Spectrum of compound CP-6
(δ_H 4.0-6.0 ppm, δ_C 15-60 ppm)

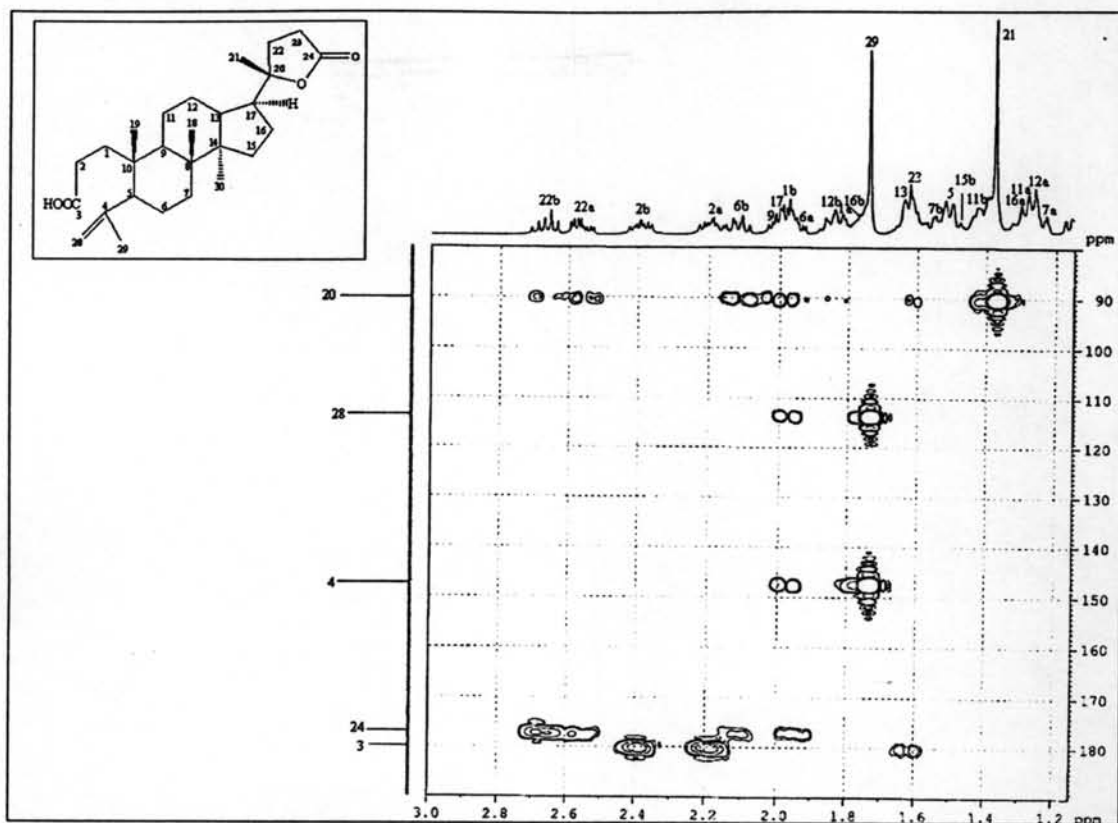


Figure 61c. HMBC Spectrum of compound CP-6
(δ_H 1.2-3.0 ppm, δ_C 80-190 ppm)

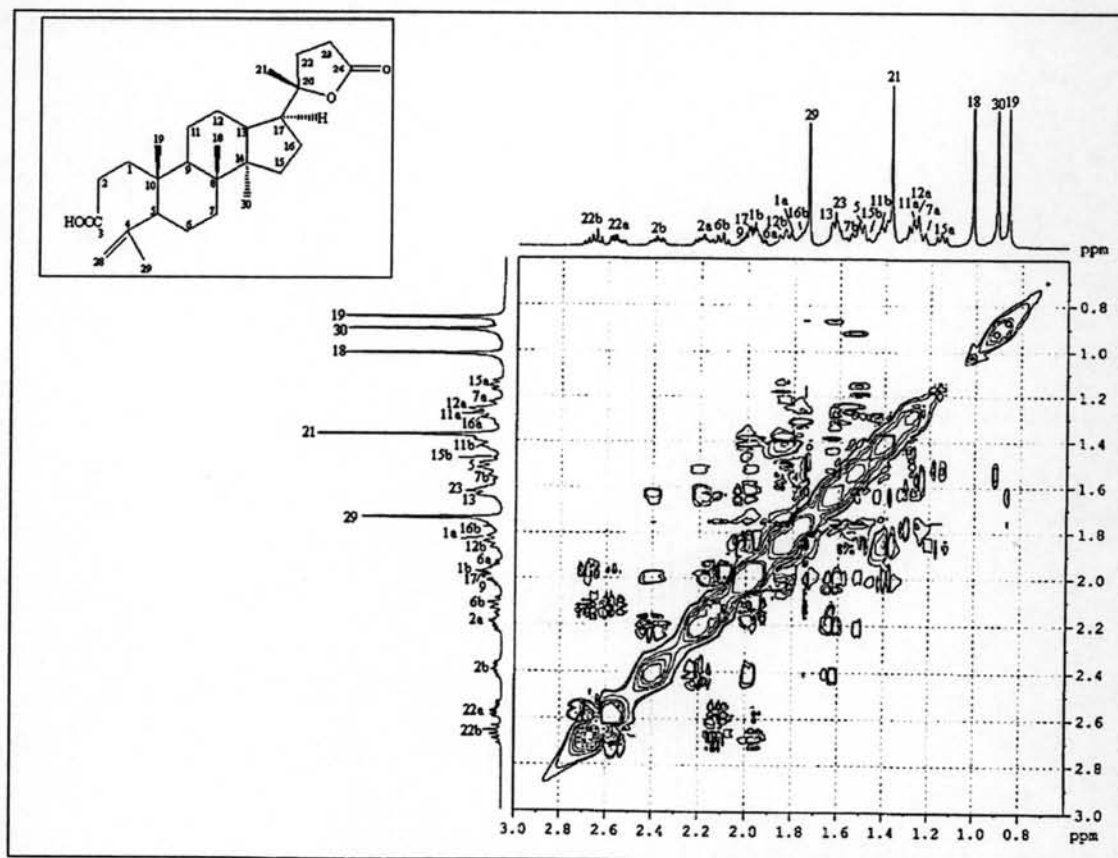


Figure 62. NOESY Spectrum of compound CP-6

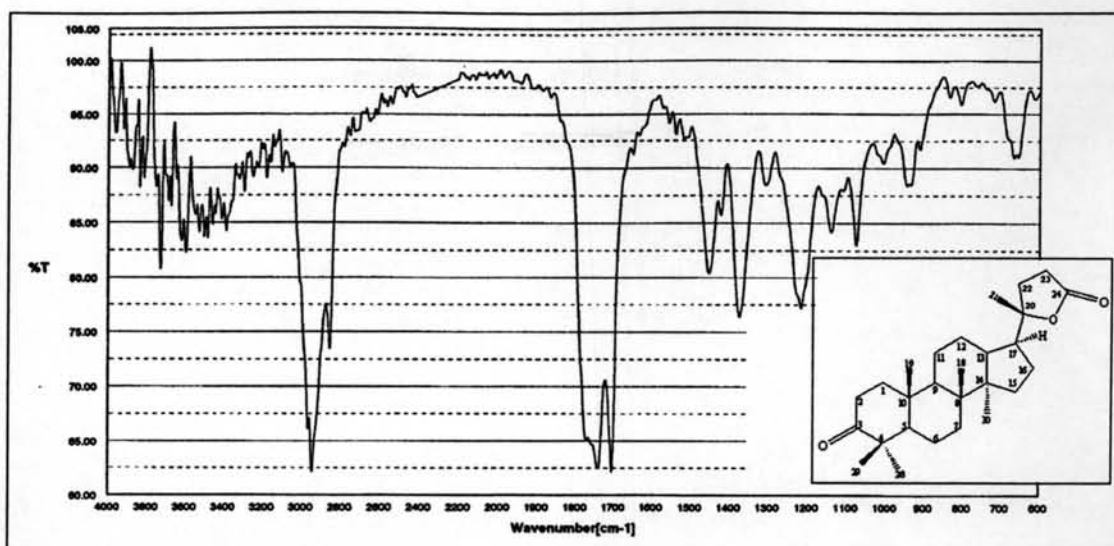


Figure 63. IR Spectrum of compound CP-7

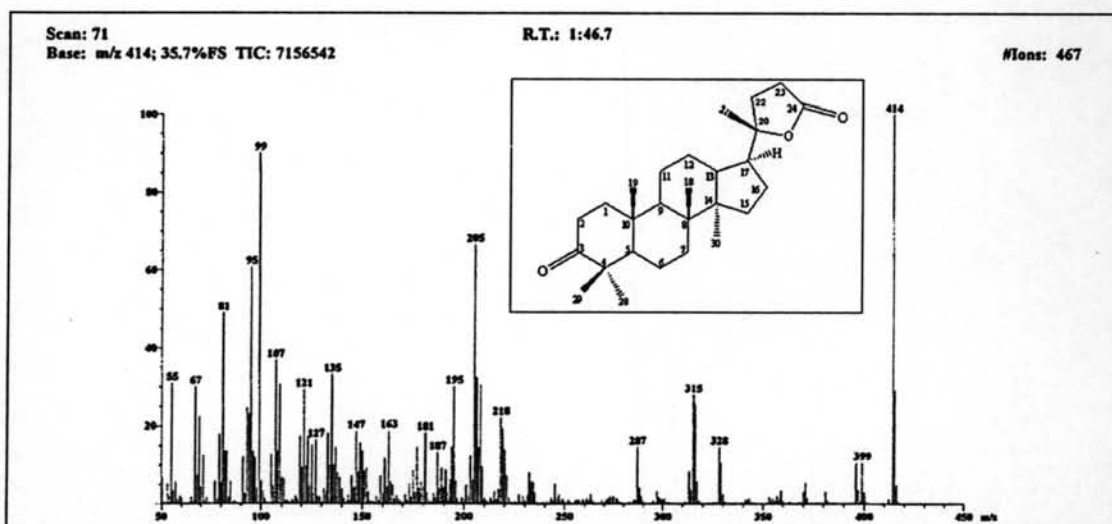


Figure 64. IR Spectrum of compound CP-7 (KBr disc)

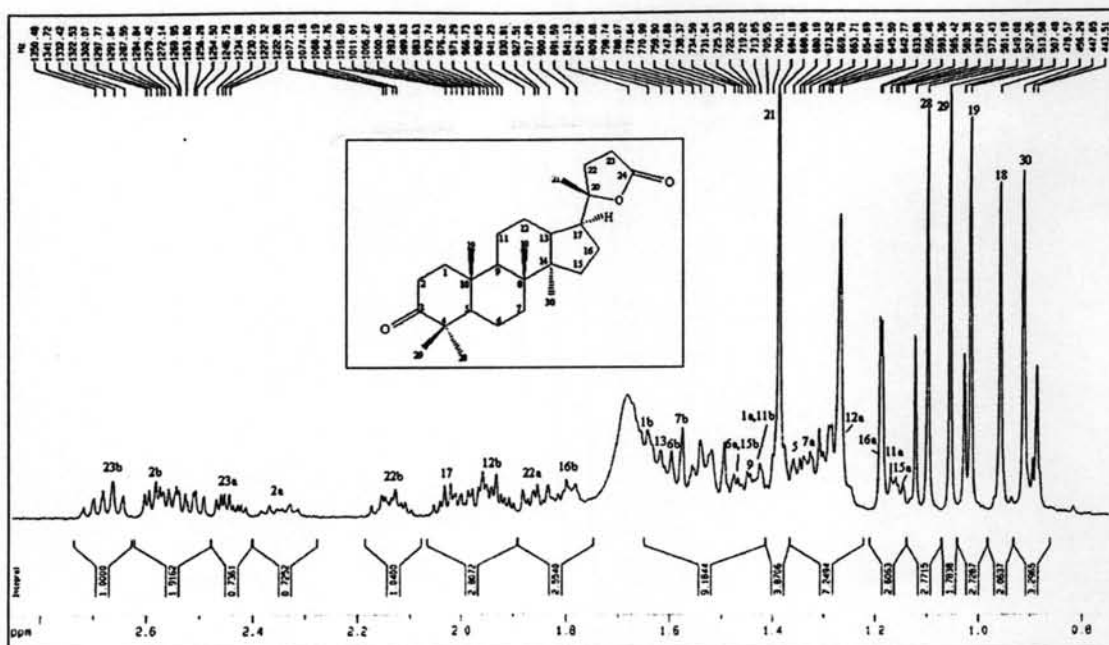


Figure 65. ^1H NMR (500 MHz) Spectrum of compound CP-7 (in CDCl_3)

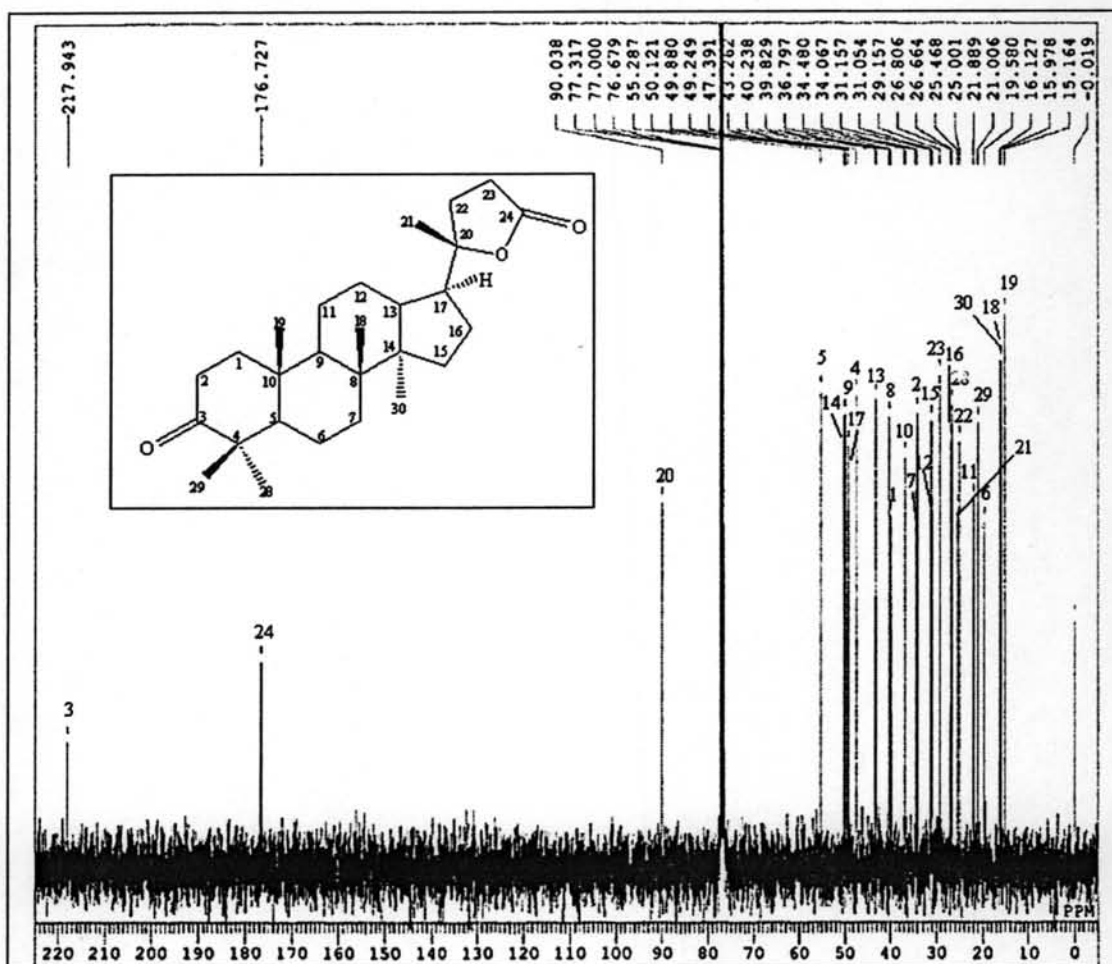


Figure 66. ^{13}C NMR (125 MHz) Spectrum of compound CP-7 (in CDCl_3)

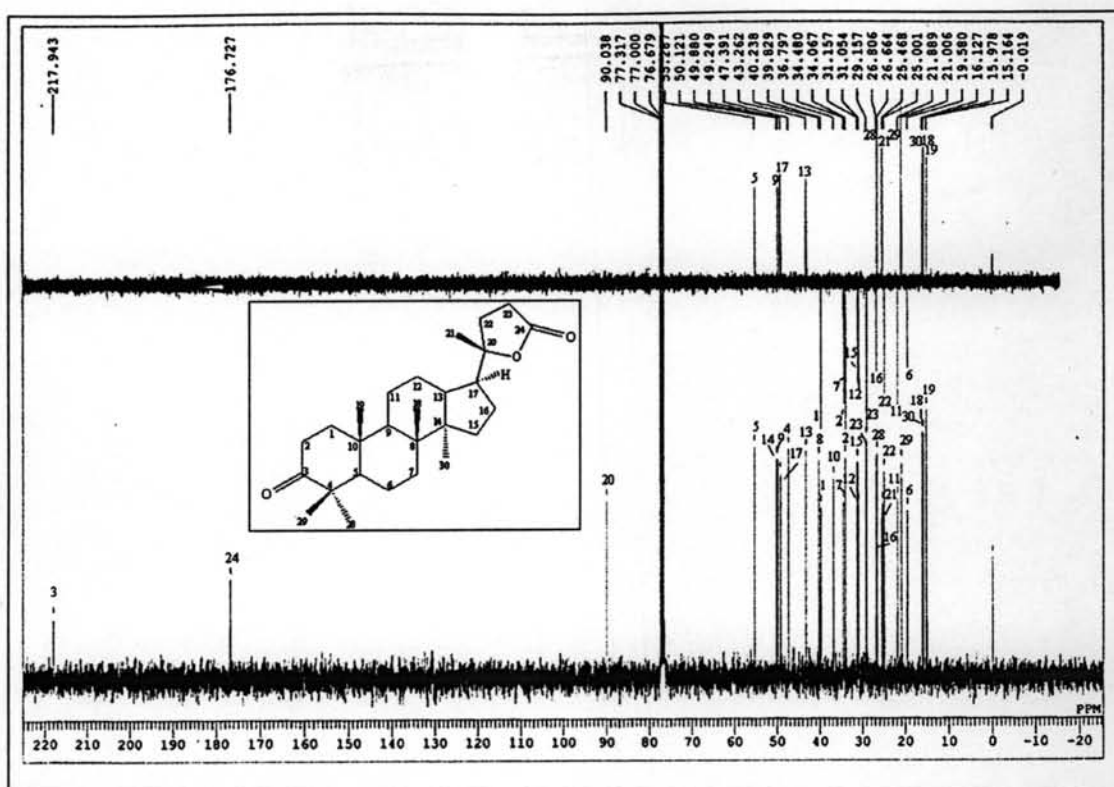


Figure 67a. DEPT 135 Spectrum of compound CP-7

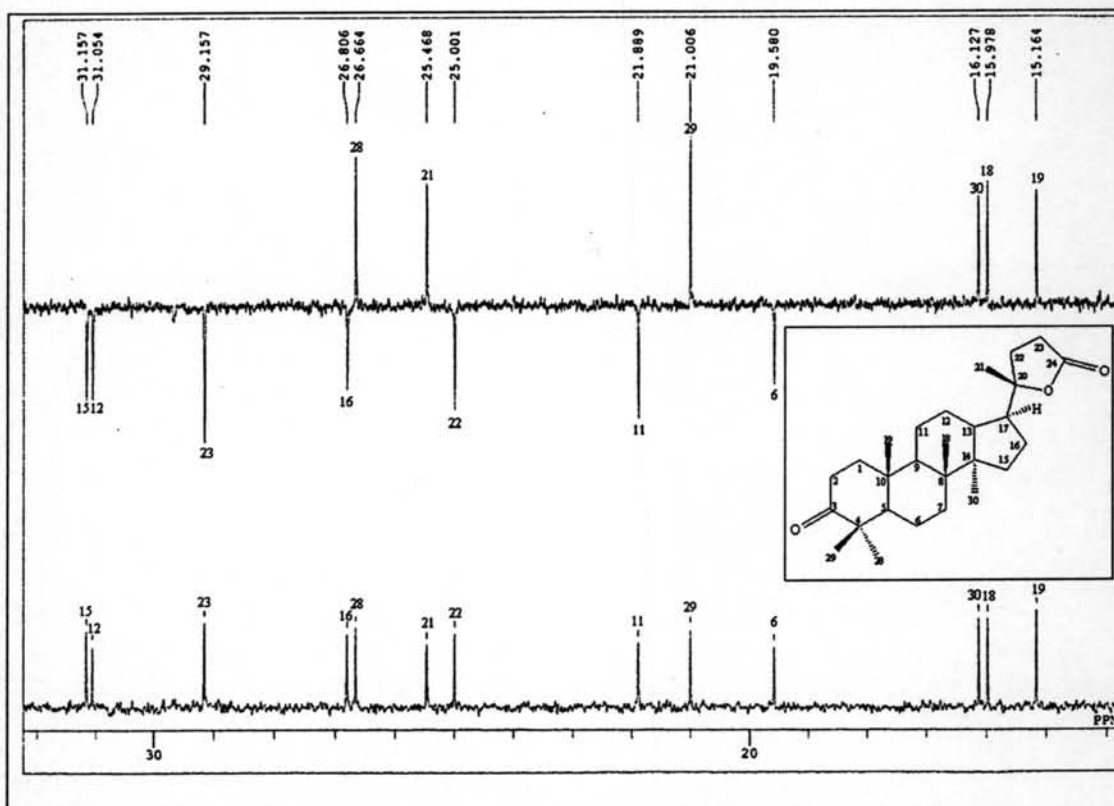


Figure 67b. DEPT 135 Spectrum of compound CP-7
(expansion δ 15-32 ppm)

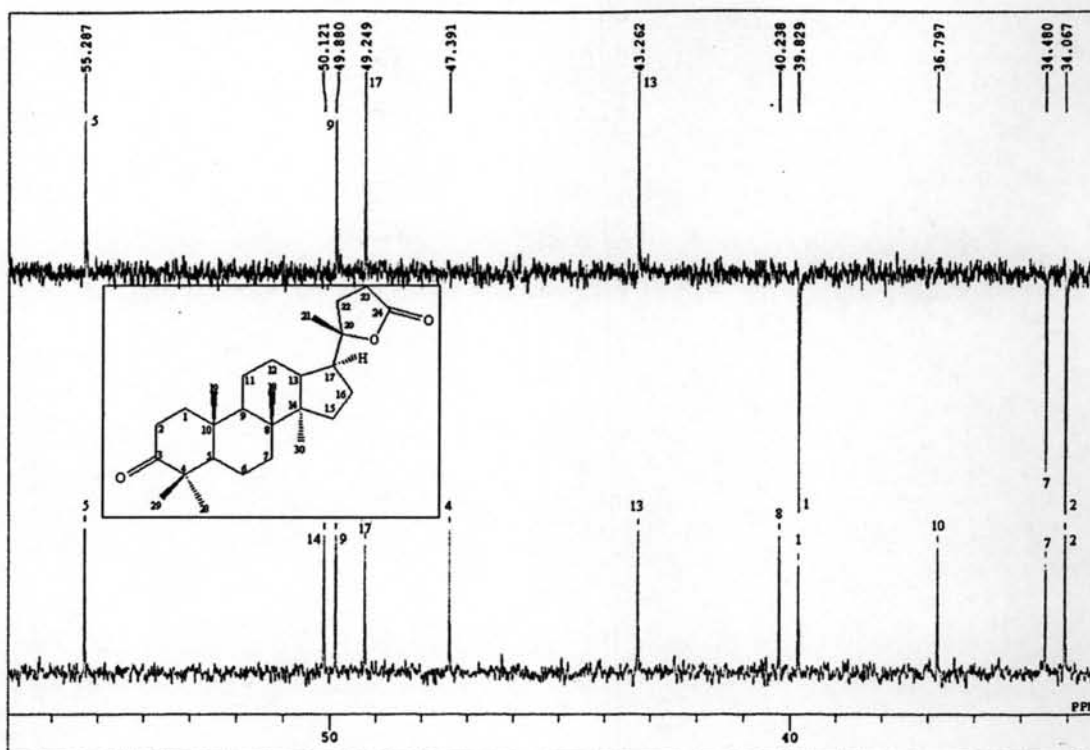


Figure 67c. DEPT 135 Spectrum of compound CP-7
(expansion δ 33-56 ppm)

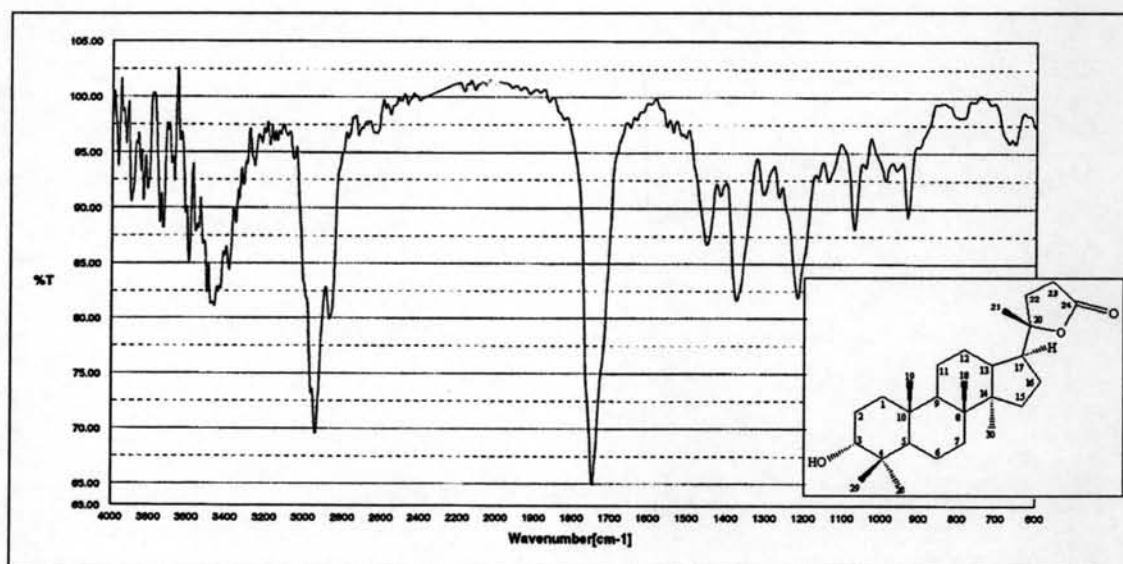


Figure 68. IR Spectrum of compound CP-8 (KBr disc)

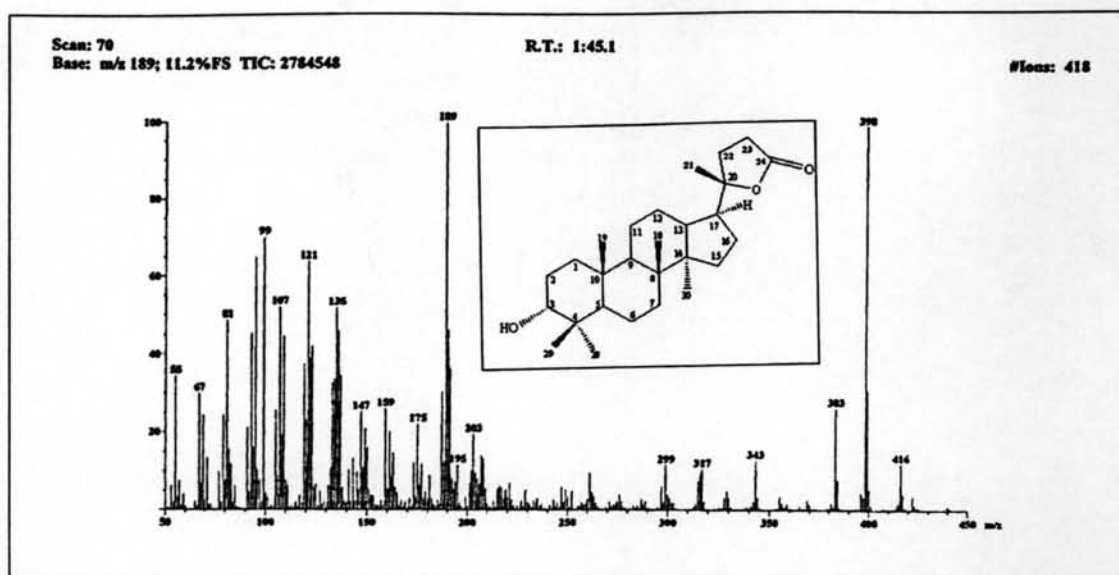


Figure 69. EI Mass spectrum of compound CP-8

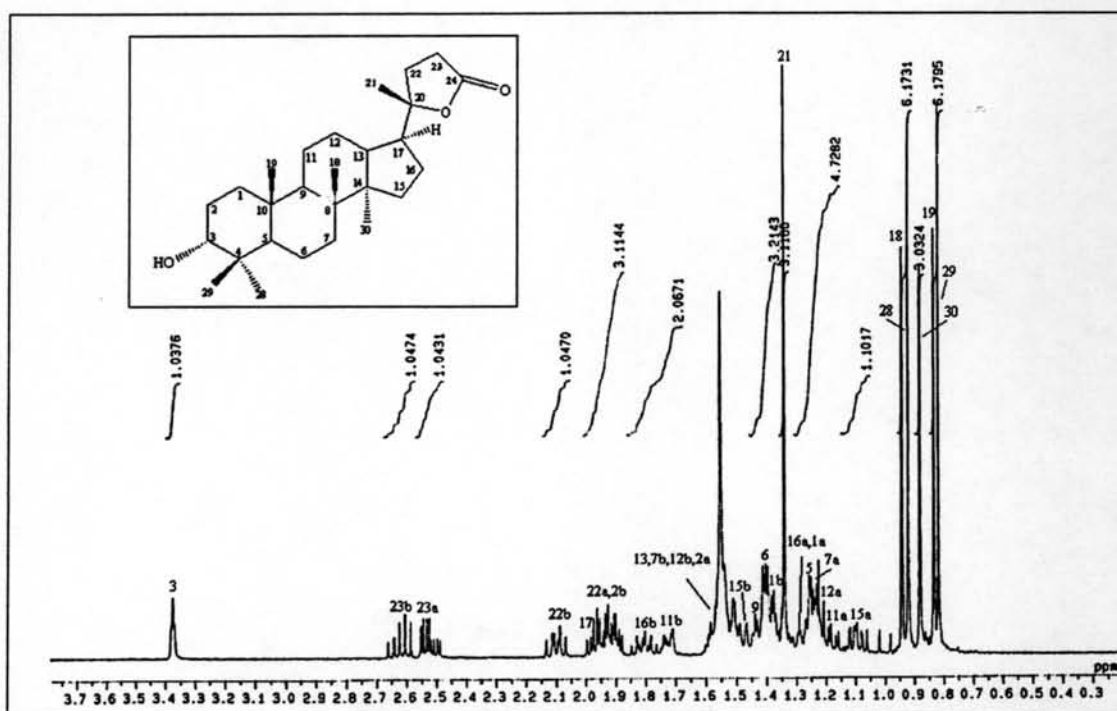


Figure 70a. ^1H NMR (500 MHz) Spectrum of compound CP-8 (in CDCl_3)

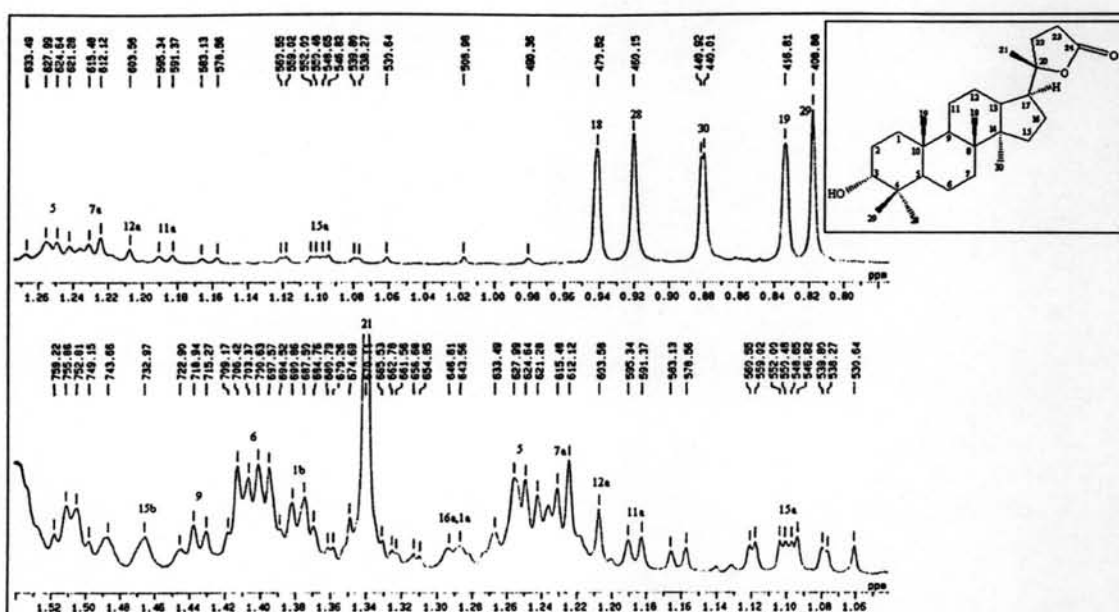


Figure 70b. ^1H NMR (500 MHz) Spectrum of compound CP-8 (in CDCl_3)
(expansion δ 0.80-1.52 ppm)

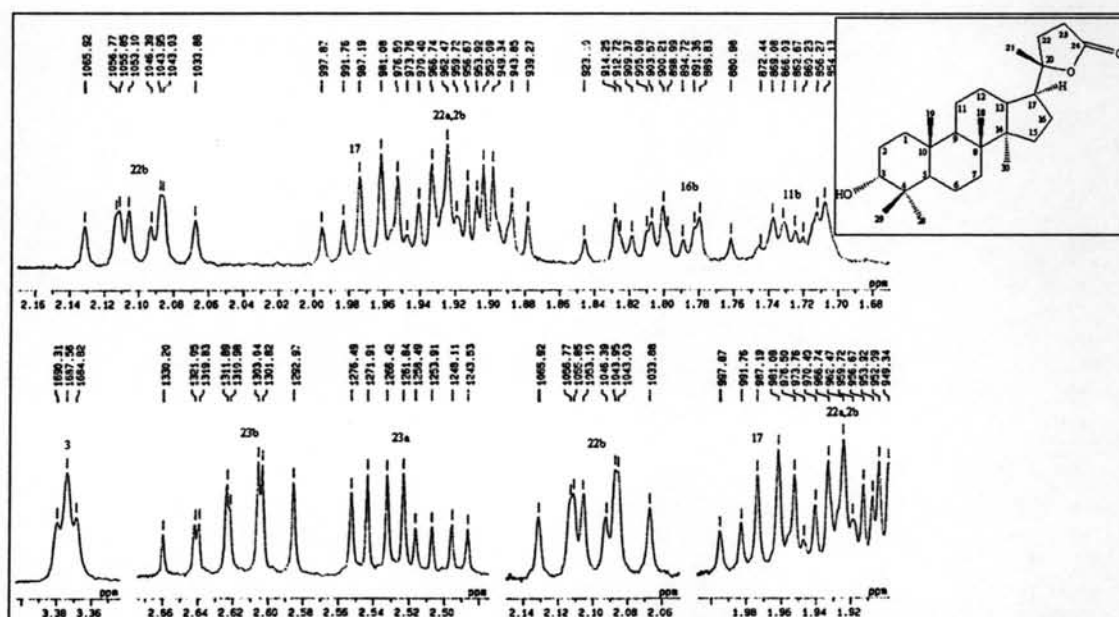


Figure 70c. ^1H NMR (500 MHz) Spectrum of compound CP-8 (in CDCl_3)
(expansion δ 1.68-3.40 ppm)

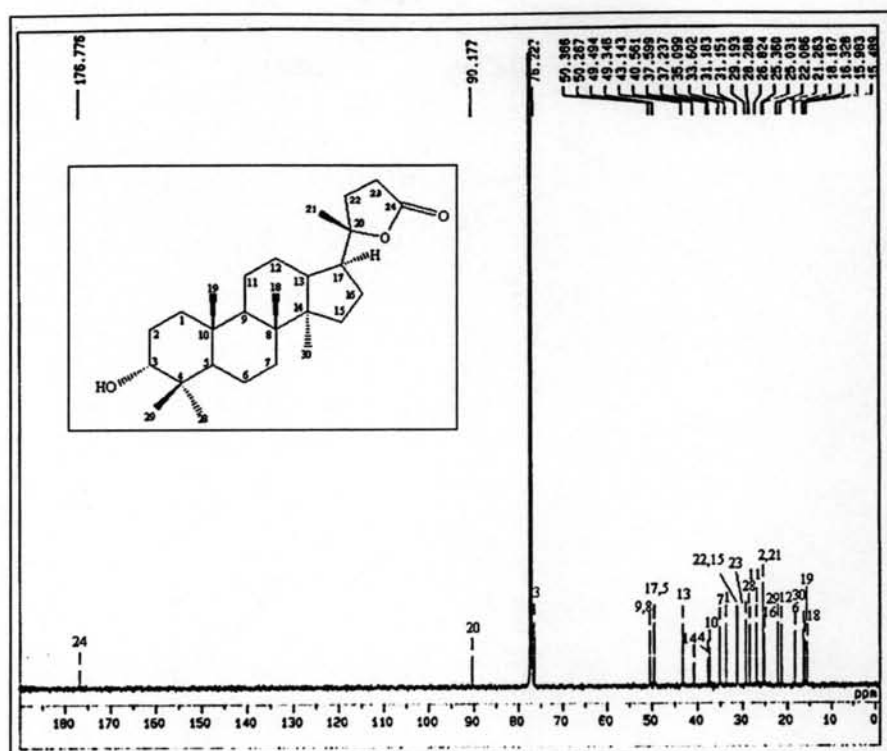


Figure 71. ^{13}C NMR (125 MHz) Spectrum of compound CP-8 (in CDCl_3)

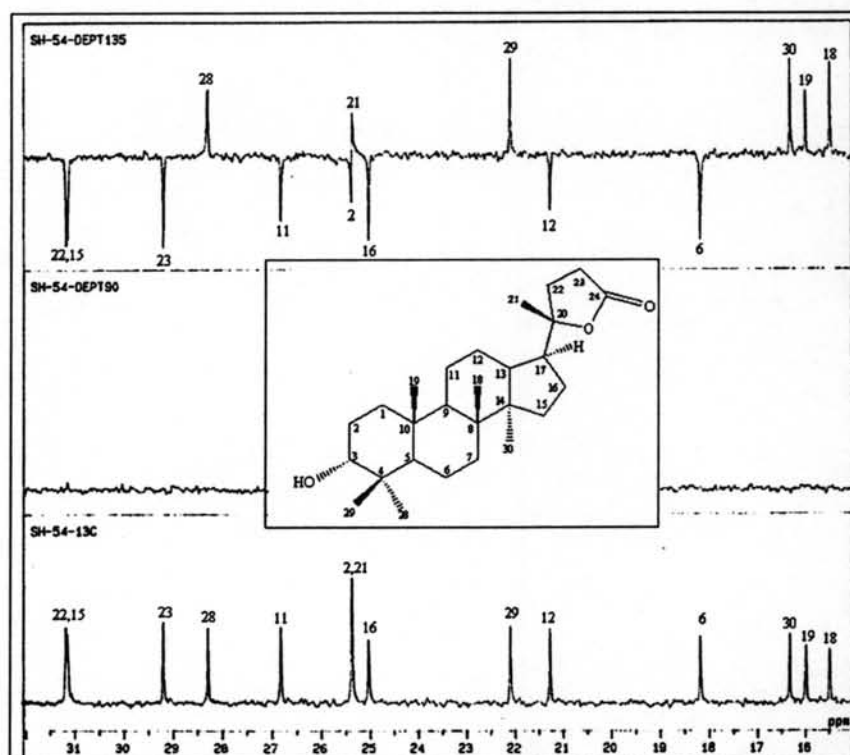


Figure 72a. DEPT 135 Spectrum of compound CP-8
(expansion δ 14-32 ppm)

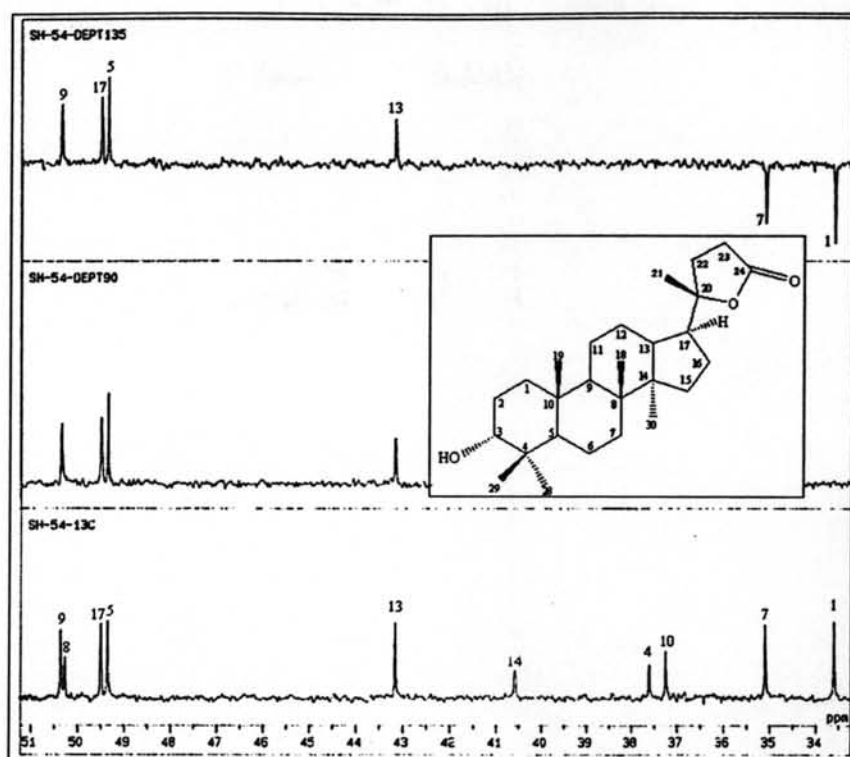


Figure 72b. DEPT 135 Spectrum of compound CP-8
(expansion δ 33-51 ppm)

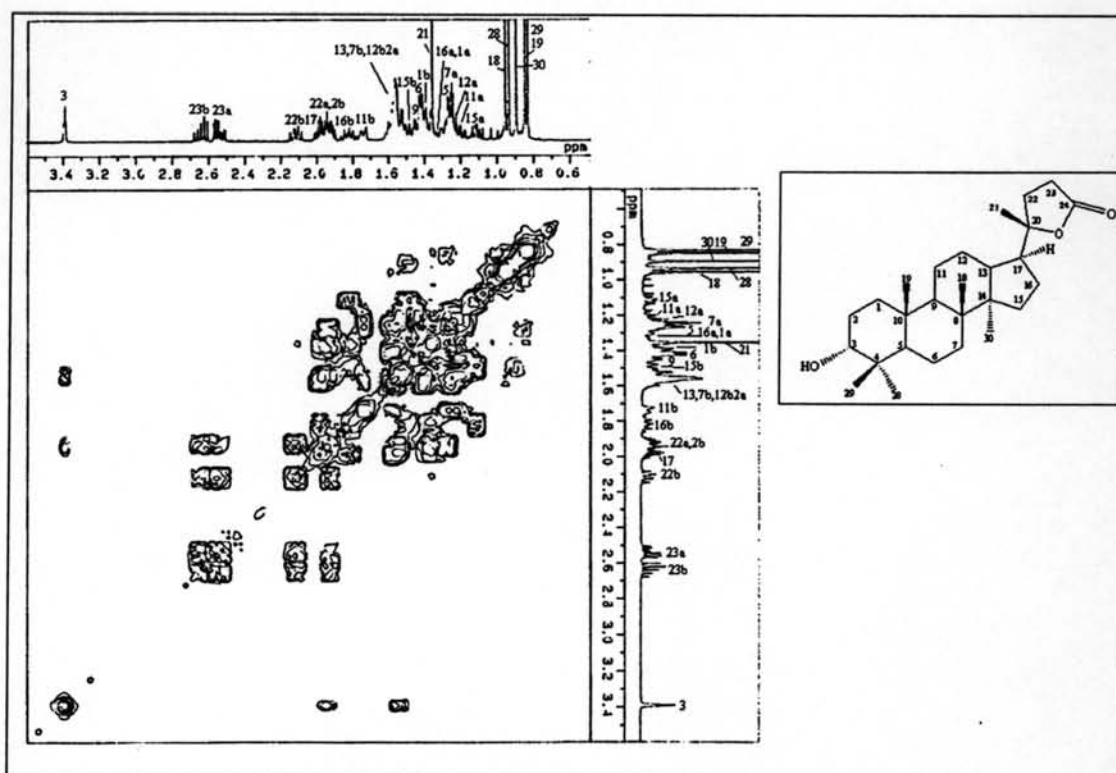


Figure 73. ^1H - ^1H COSY Spectrum of compound CP-8

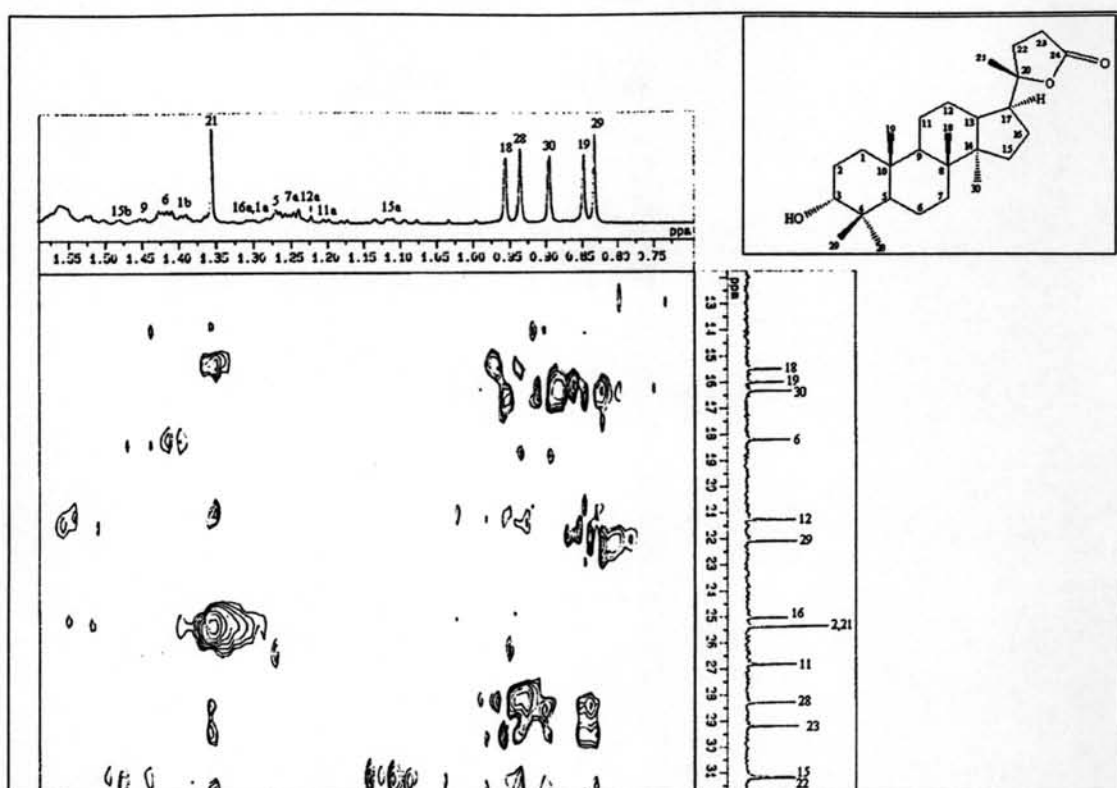


Figure 74a. HMQC Spectrum of compound CP-8

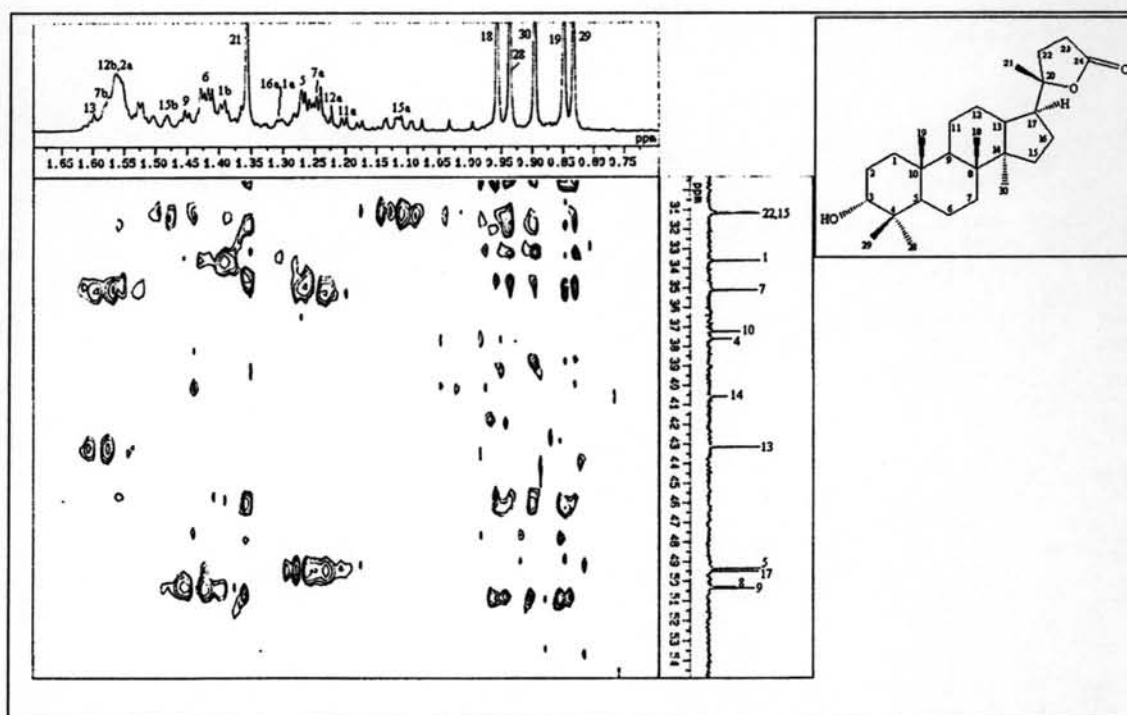


Figure 74b. HMQC Spectrum of compound CP-8

(δ_H 0.75-1.65 ppm, δ_C 30-54 ppm)

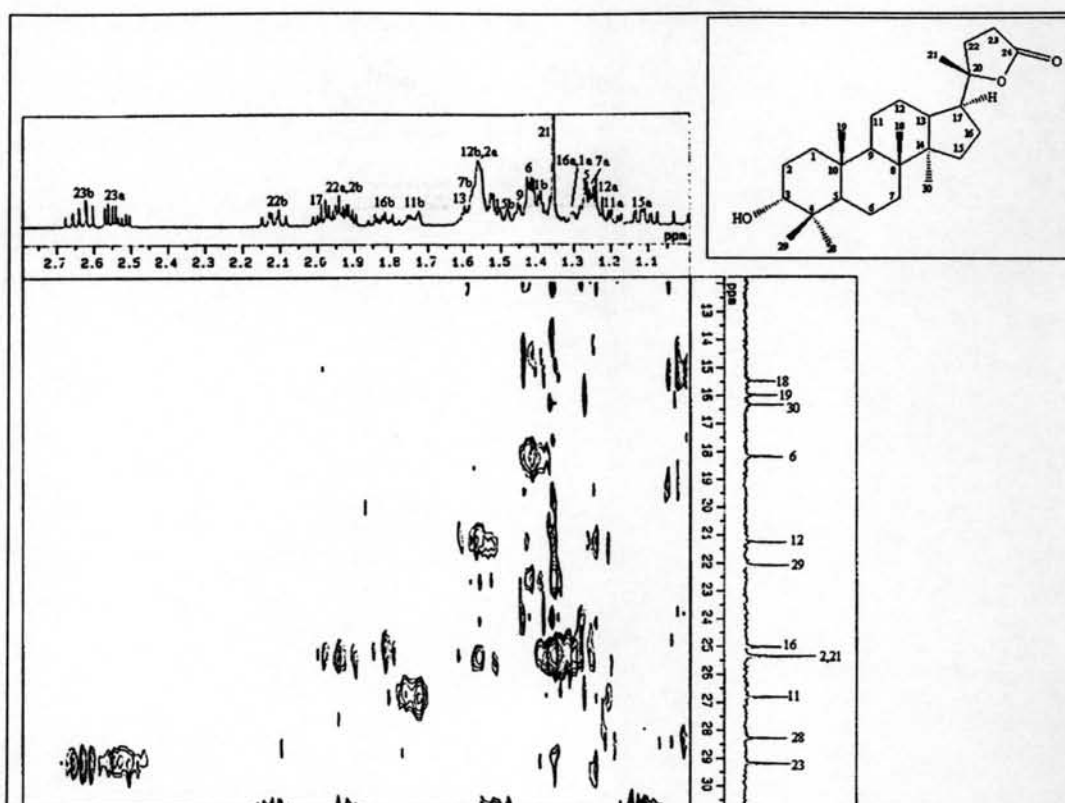


Figure 74c. HMQC Spectrum of compound CP-8
(δ_H 1.0-2.8 ppm, δ_C 13-30ppm)

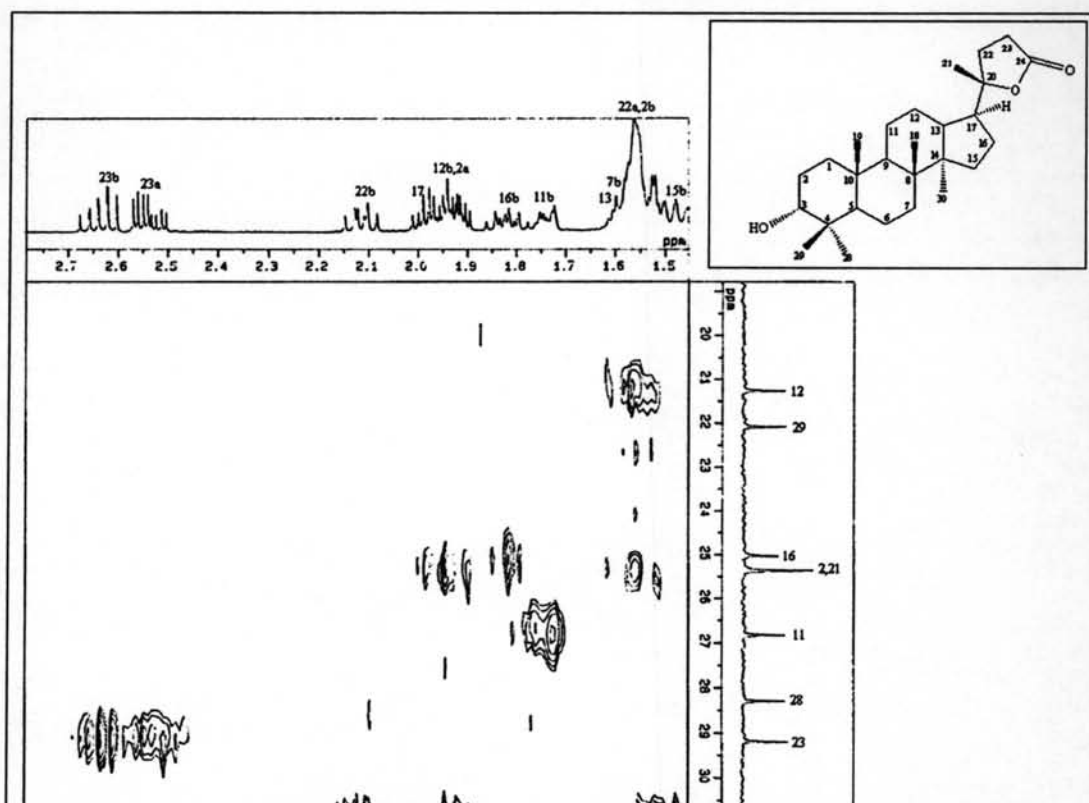


Figure 74d. HMQC Spectrum of compound CP-8
(δ_H 1.4-2.8 ppm, δ_C 20-30 ppm)

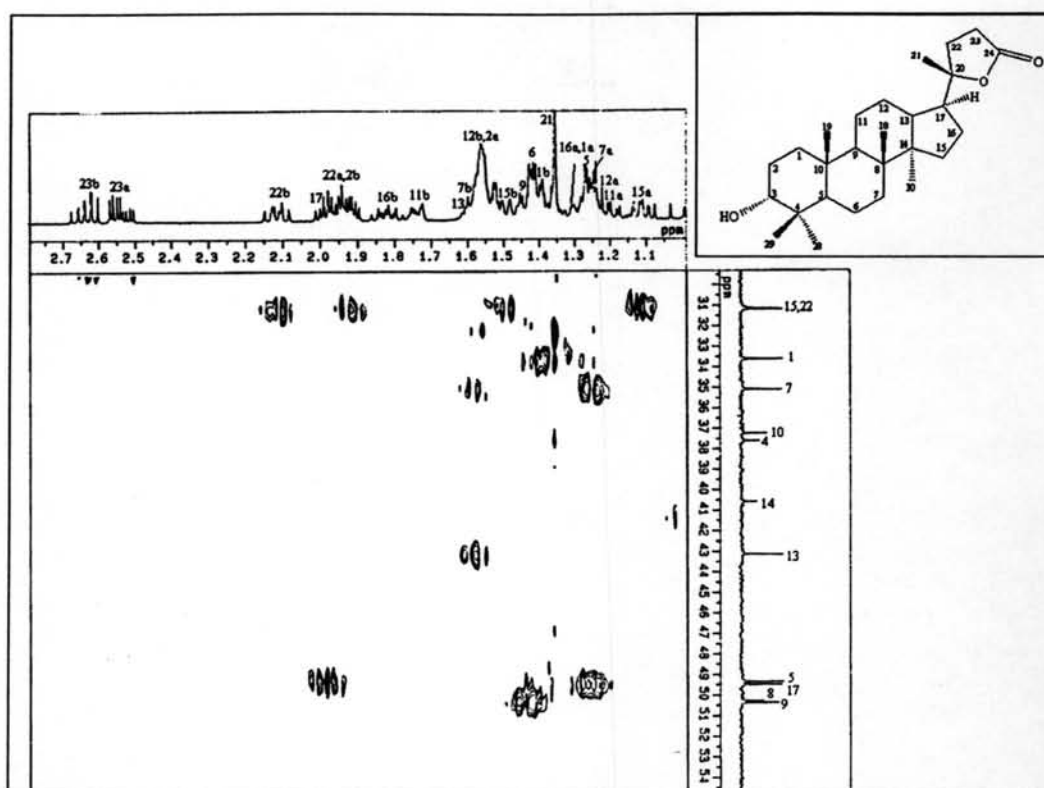


Figure 74e. HMQC Spectrum of compound CP-8
(δ_H 1.0-2.8 ppm, δ_C 30- 54ppm)

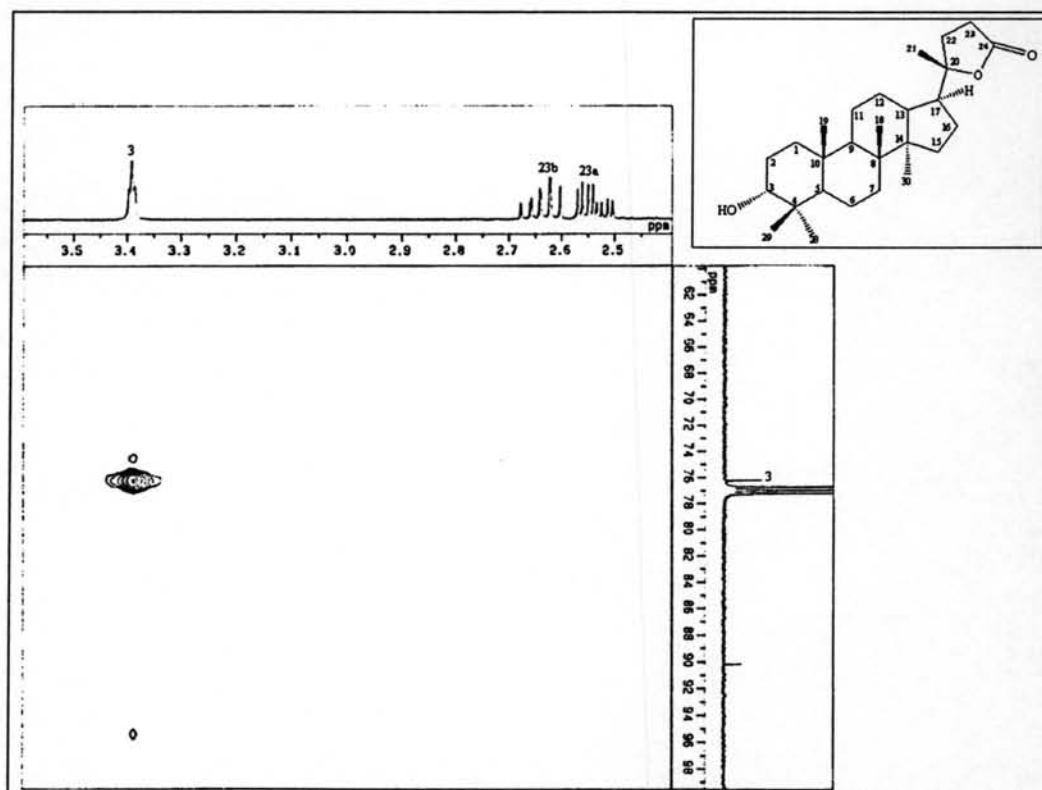


Figure 74f. HMQC Spectrum of compound CP-8
(δ_H 2.4-3.5 ppm, δ_C 62- 98ppm)

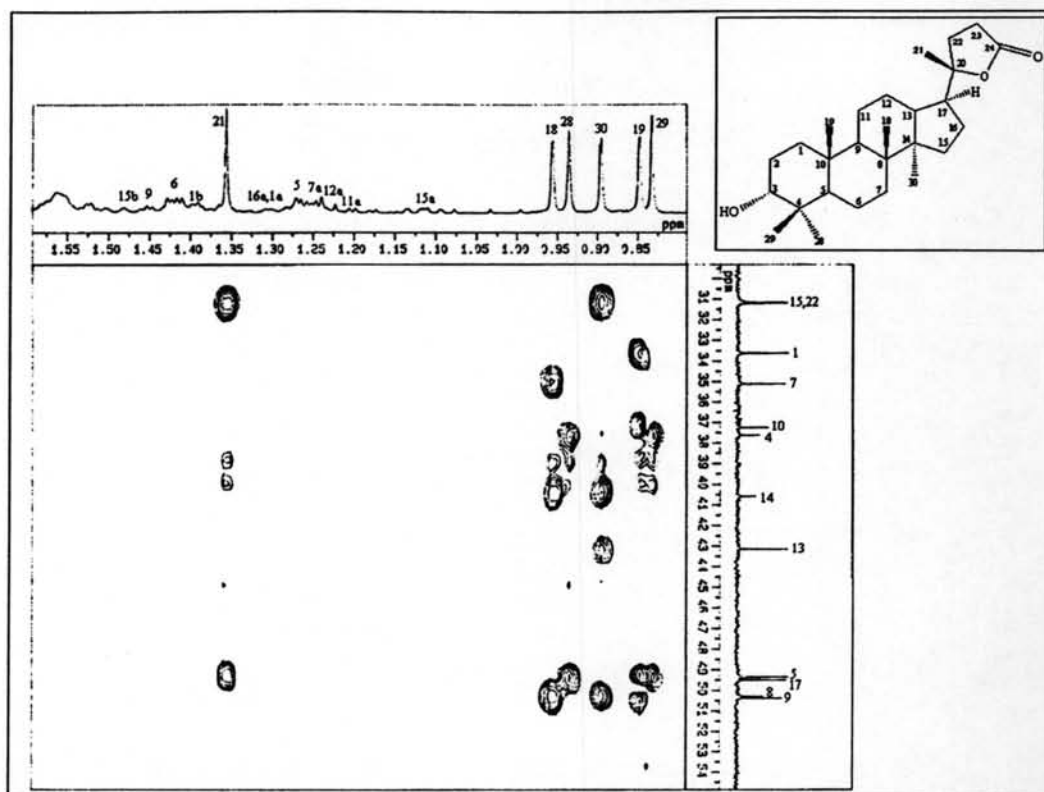


Figure 75a. HMBC Spectrum of compound CP-8

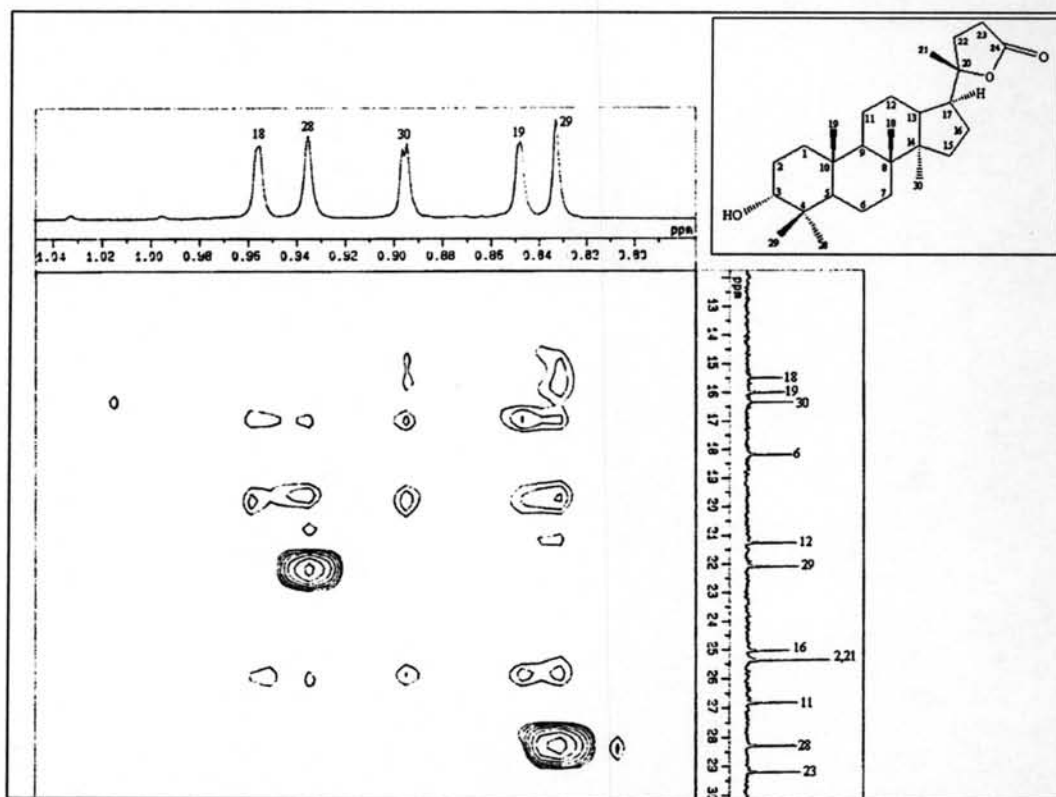


Figure 75b. HMBC Spectrum of compound CP-8
(δ_H 0.80-1.04 ppm, δ_C 13-30 ppm)

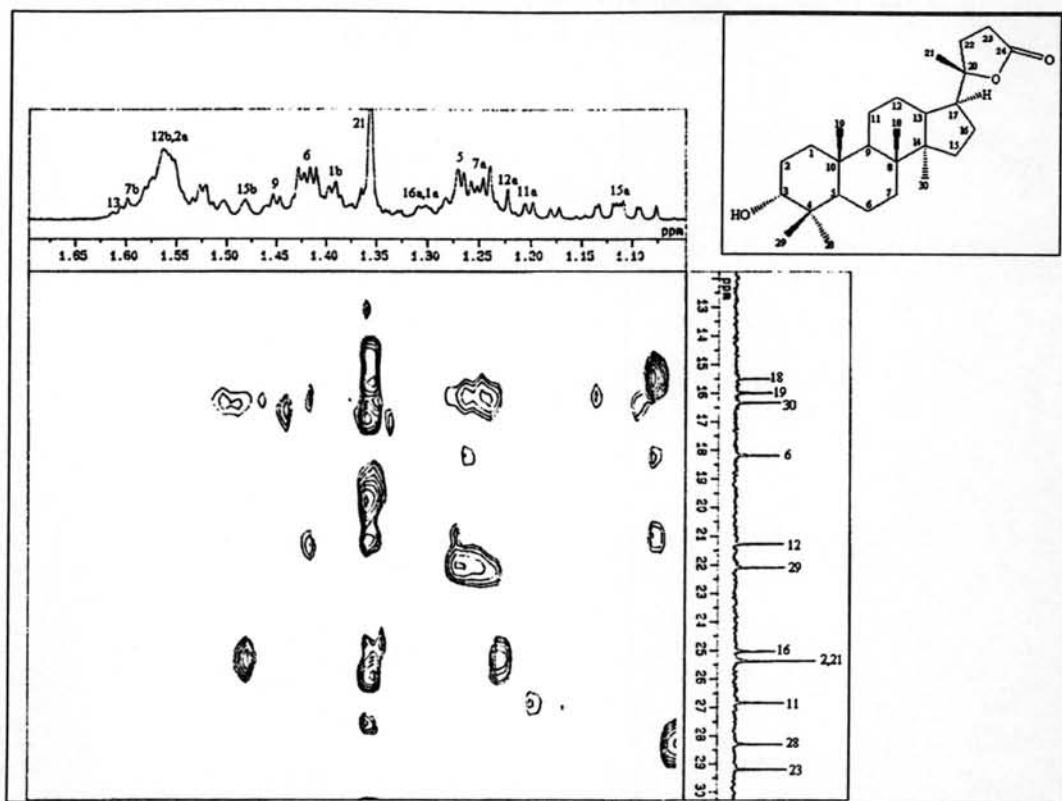


Figure 75c. HMBC Spectrum of compound CP-8
(δ_H 1.09-1.65 ppm, δ_C 13-30ppm)

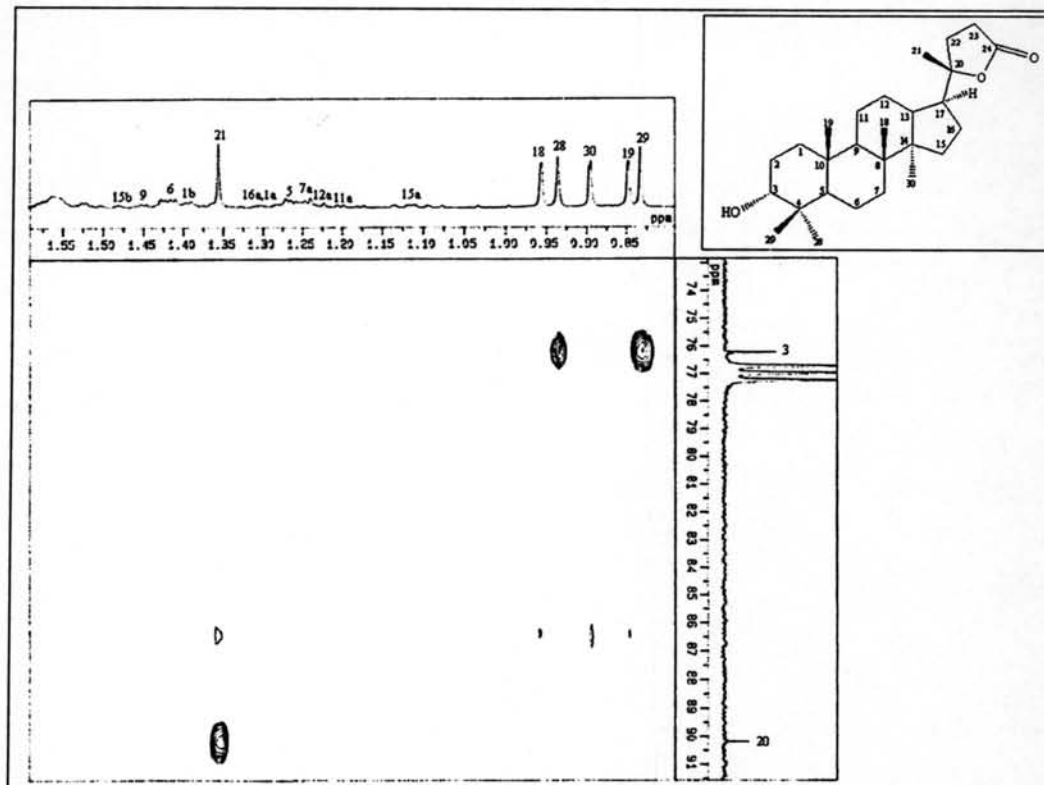


Figure 75d. HMBC Spectrum of compound CP-8
(δ_H 0.80-1.55 ppm, δ_C 74-91ppm)

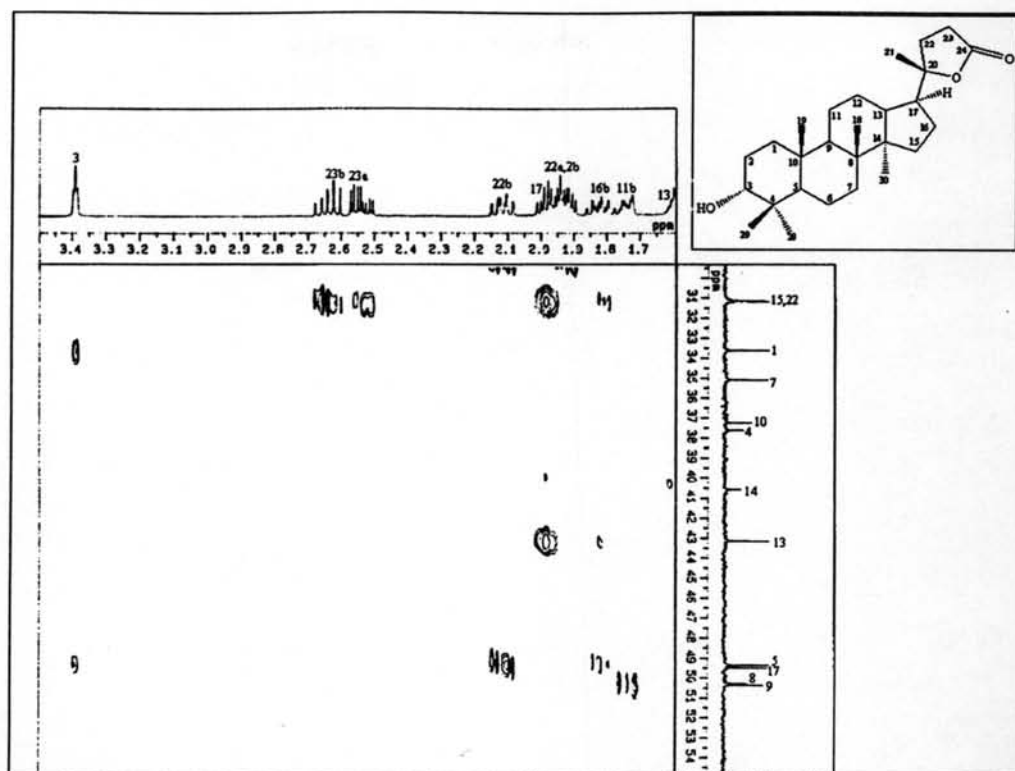


Figure 75e. HMBC Spectrum of compound CP-8
(δ_H 1.6-3.5 ppm, δ_C 30-54 ppm)

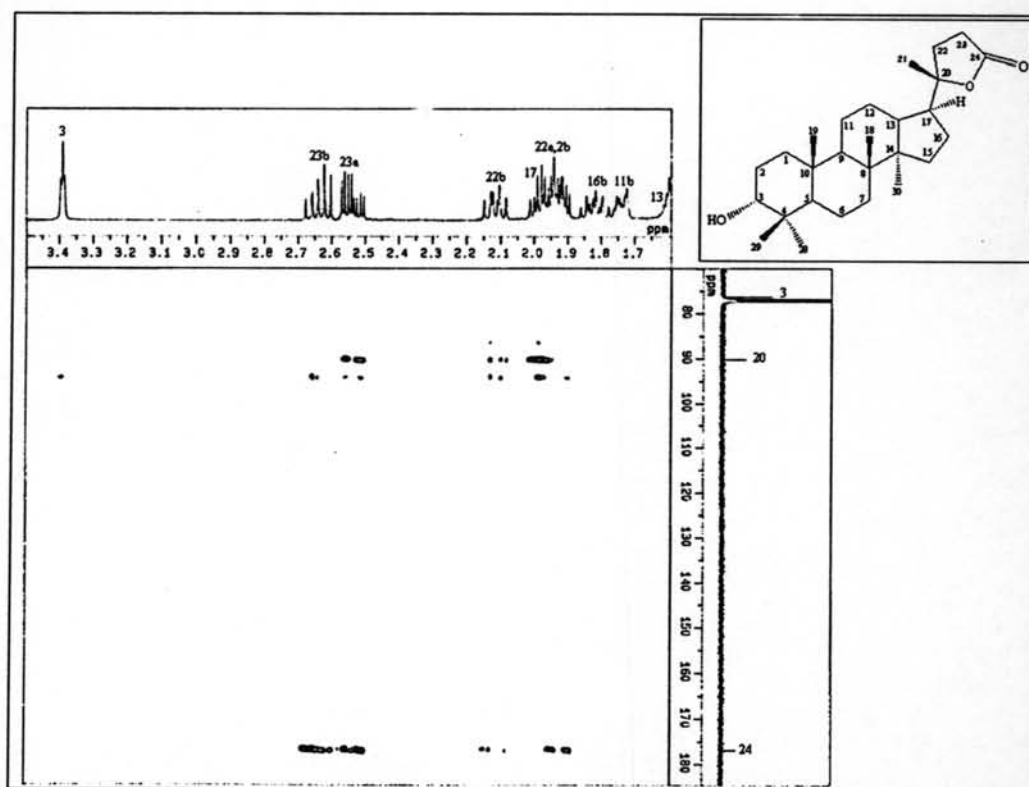


Figure 75f. HMBC Spectrum of compound CP-8
(δ_H 1.6-3.5 ppm, δ_C 70-180 ppm)

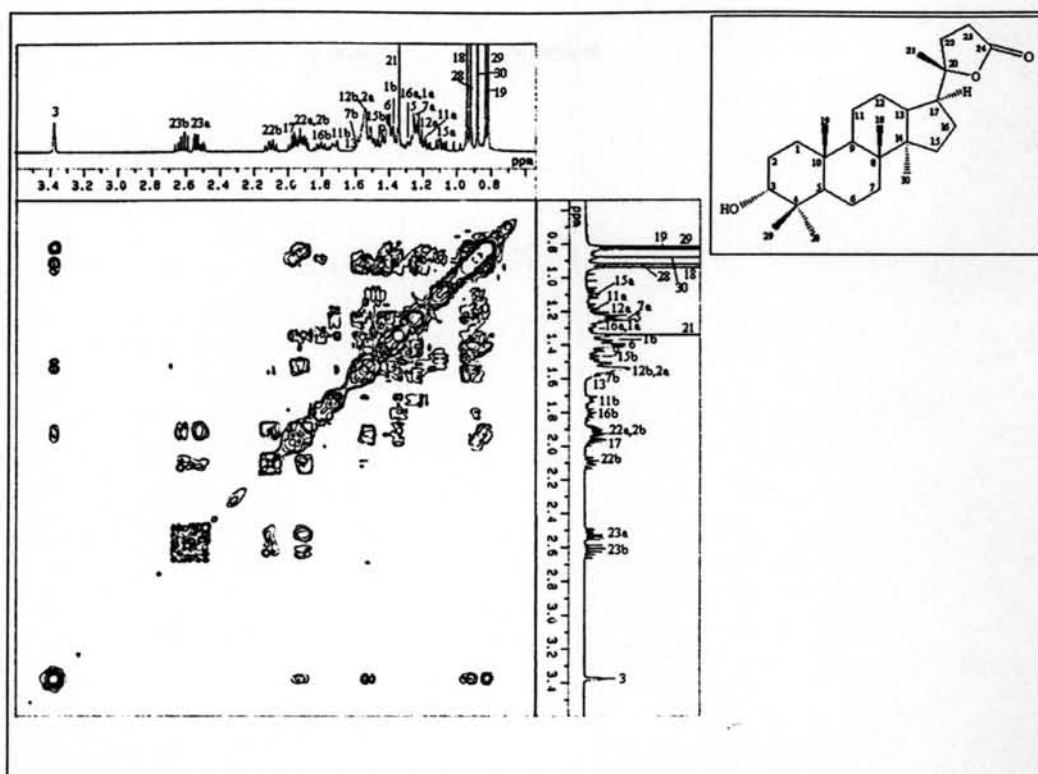


Figure 76. NOESY Spectrum of compound CP-8

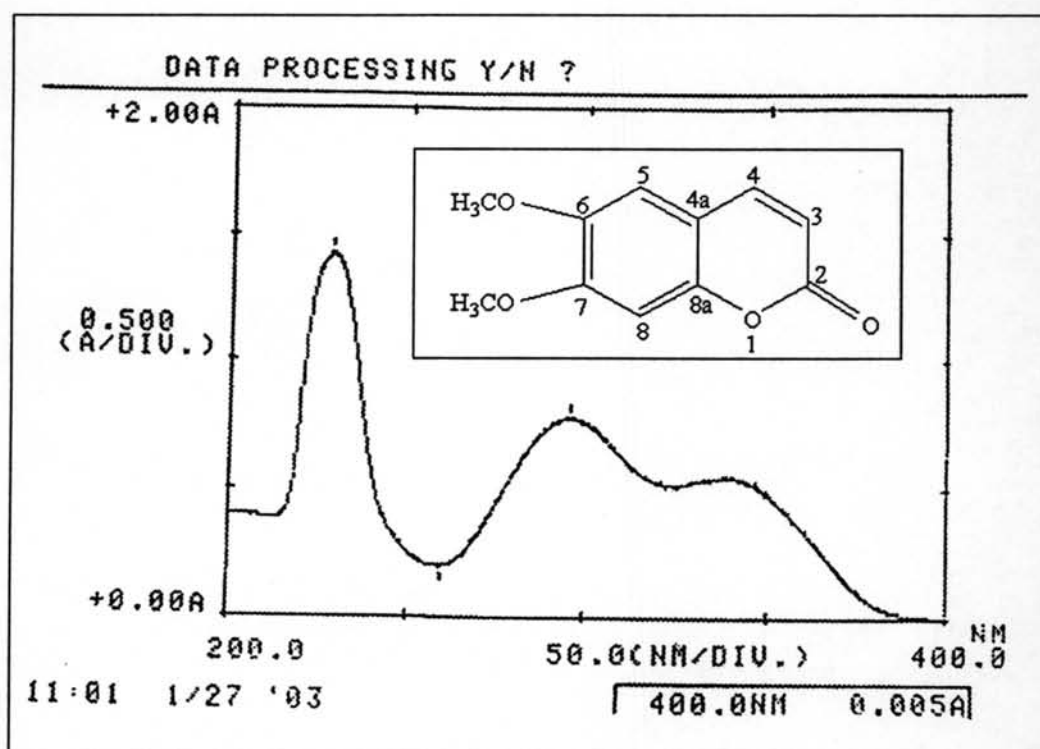


Figure 77. UV Spectrum of compound CP-9 (MeOH)

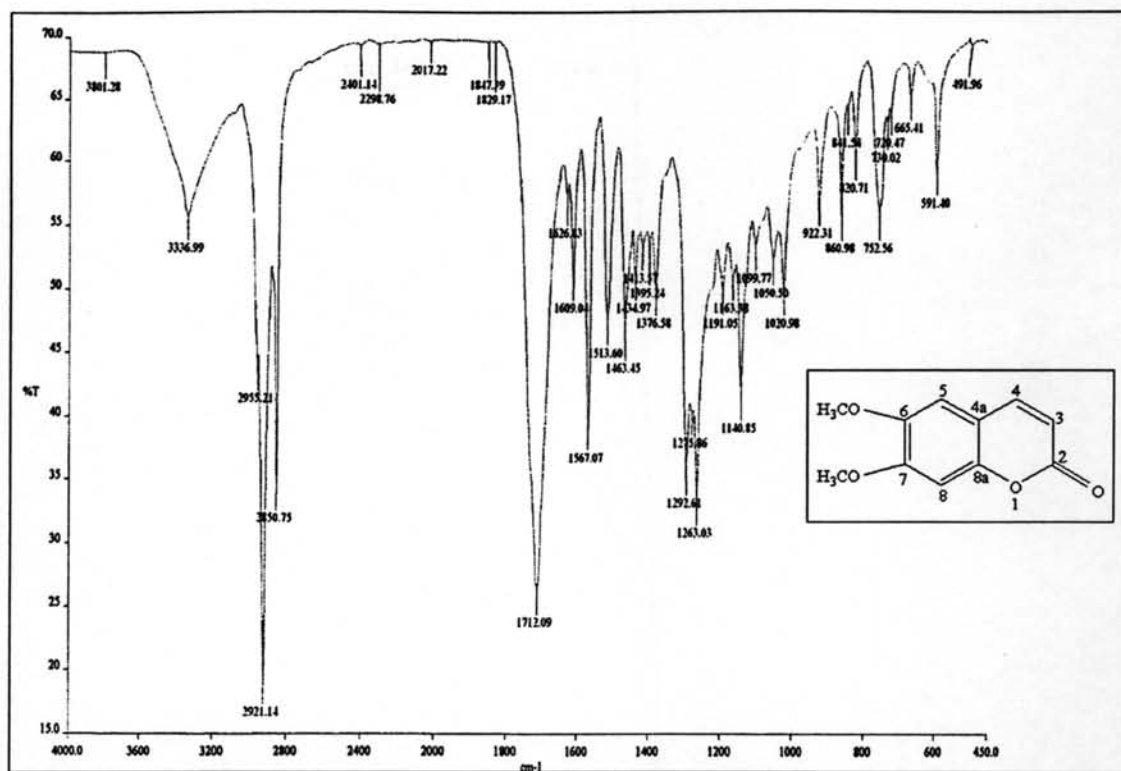


Figure 78. IR Spectrum of compound CP-9 (KBr disc)

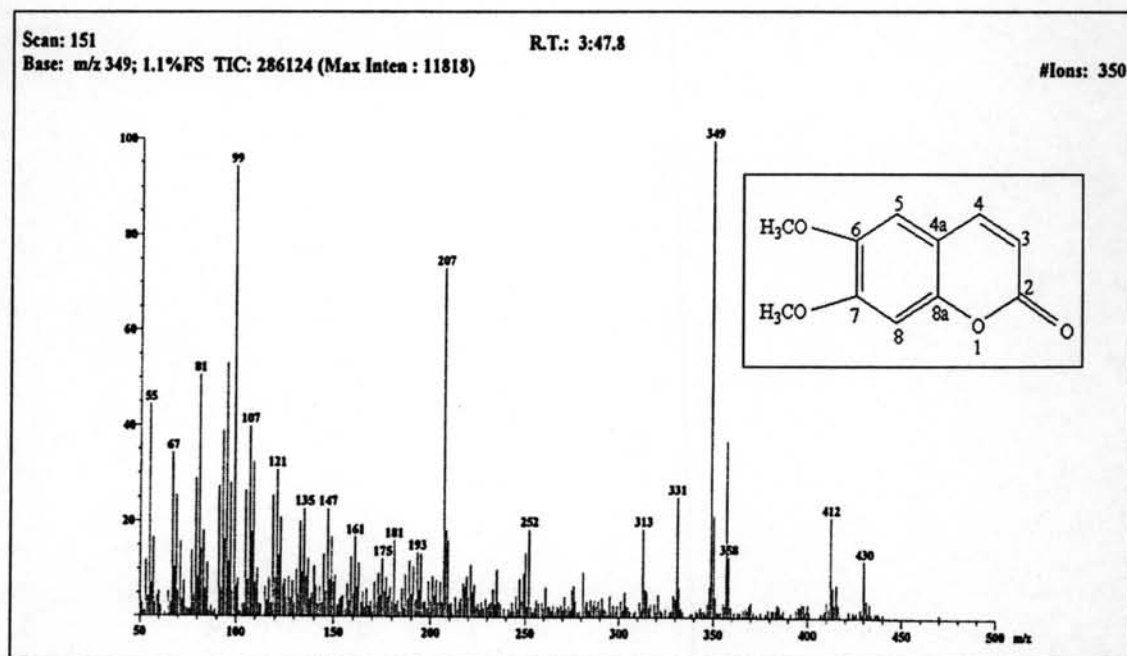


Figure 79. EI-Mass spectrum of compound CP-9

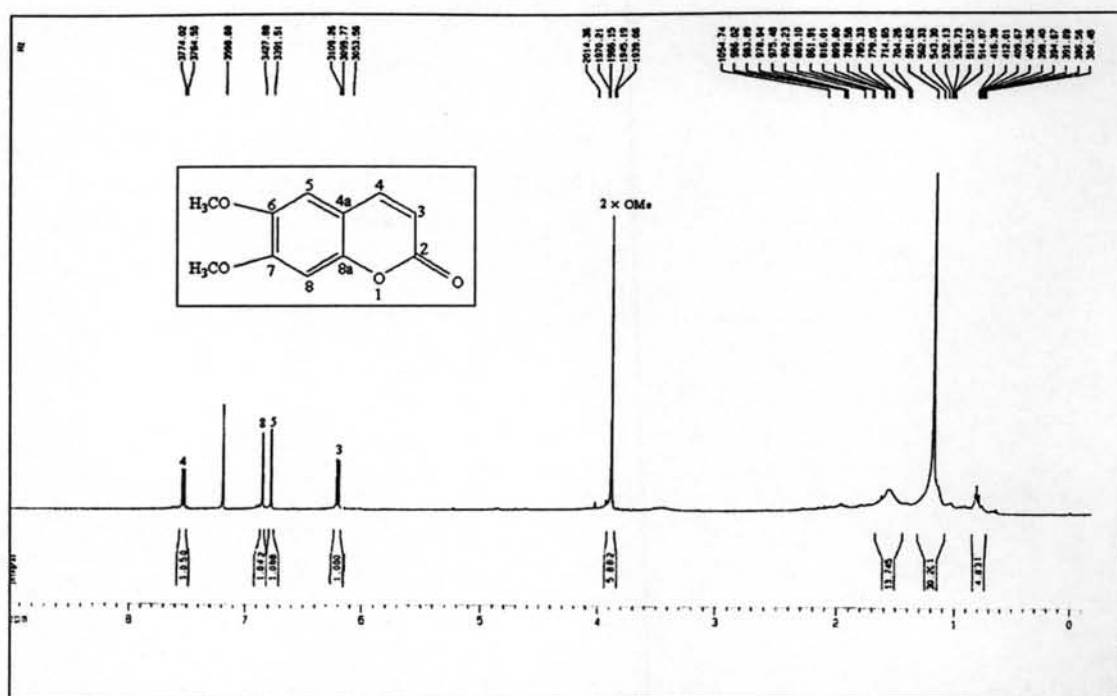


Figure 80. ^1H NMR (500 MHz) Spectrum of compound CP-9 (in CDCl_3)

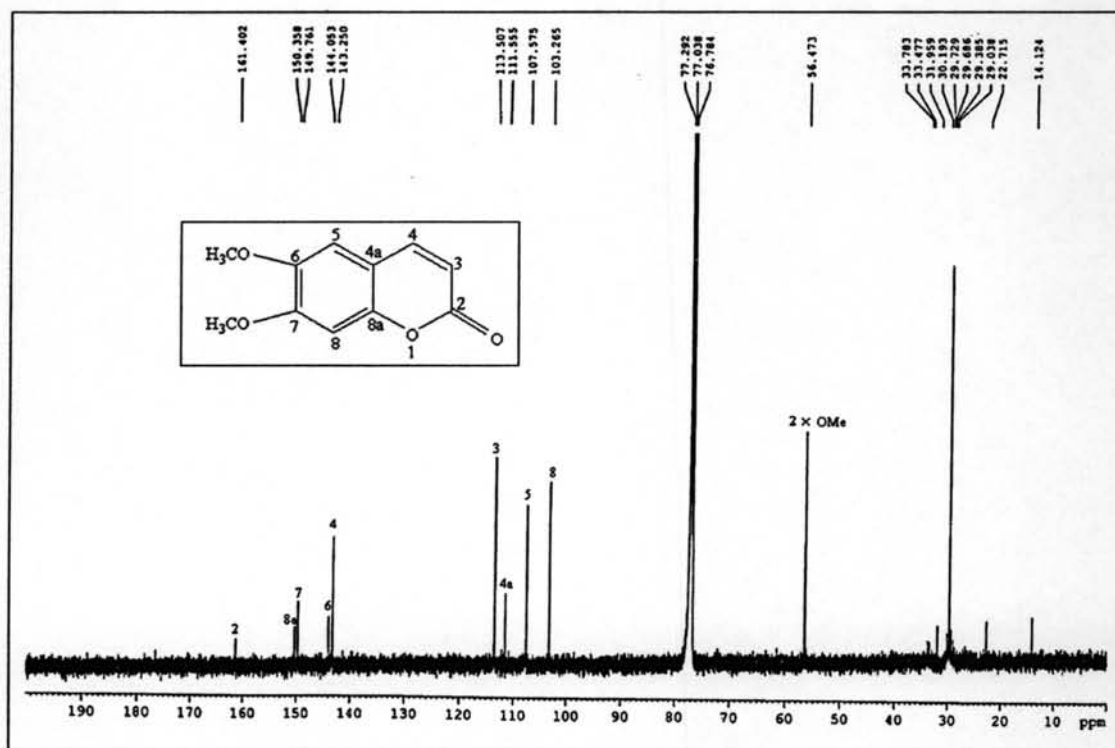


Figure 81. ^{13}C NMR (125 MHz) Spectrum of compound CP-9 (in CDCl_3)

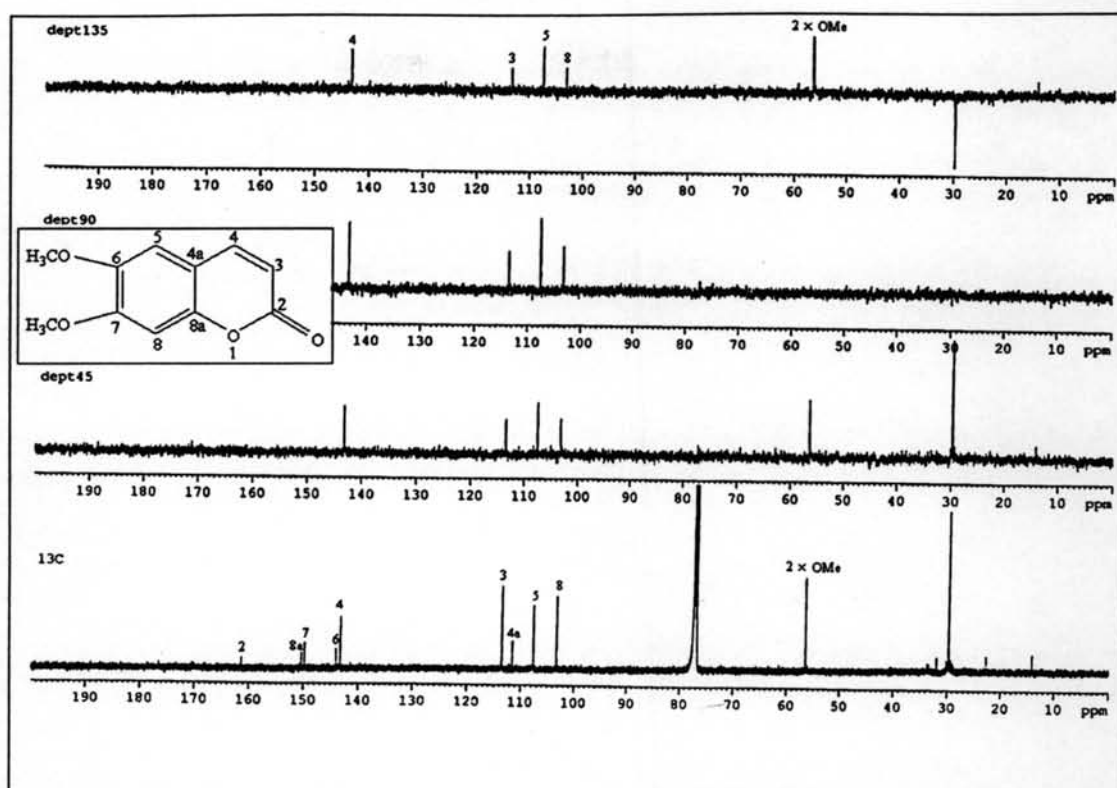


Figure 82. DEPT 135 Spectrum of compound CP-9

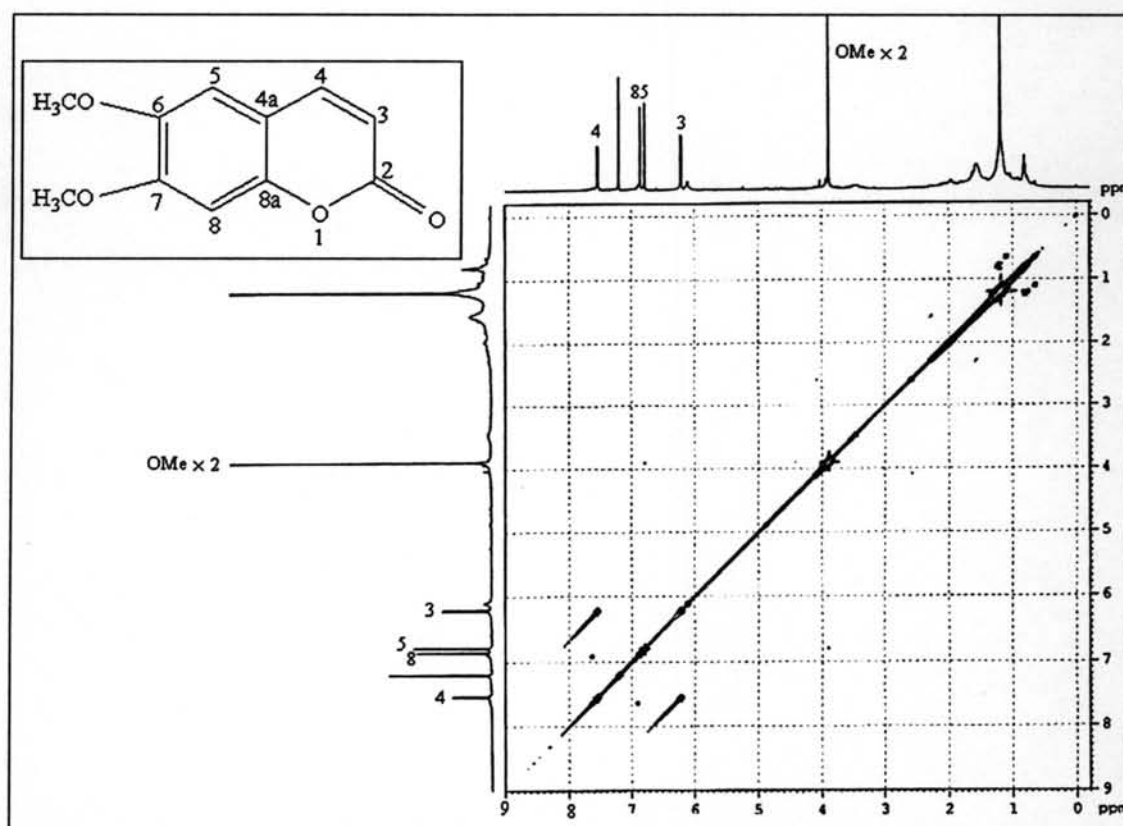


Figure 83. ^1H - ^1H COSY Spectrum of compound CP-9

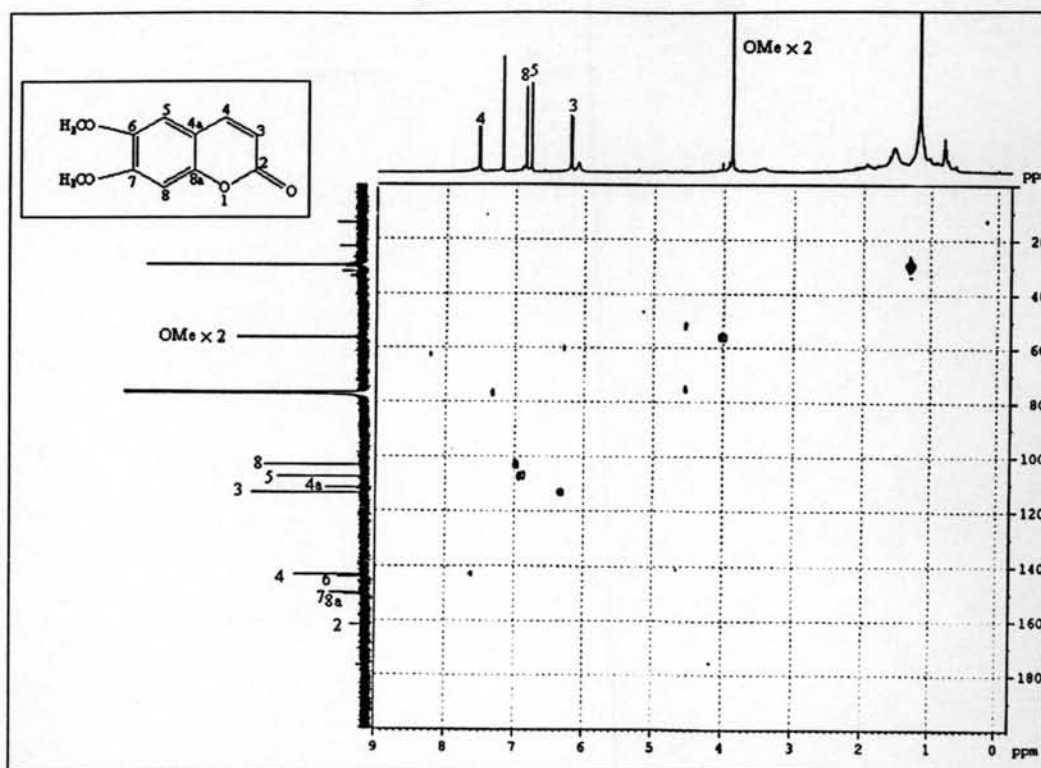


Figure 84. HMBC Spectrum of compound CP-9

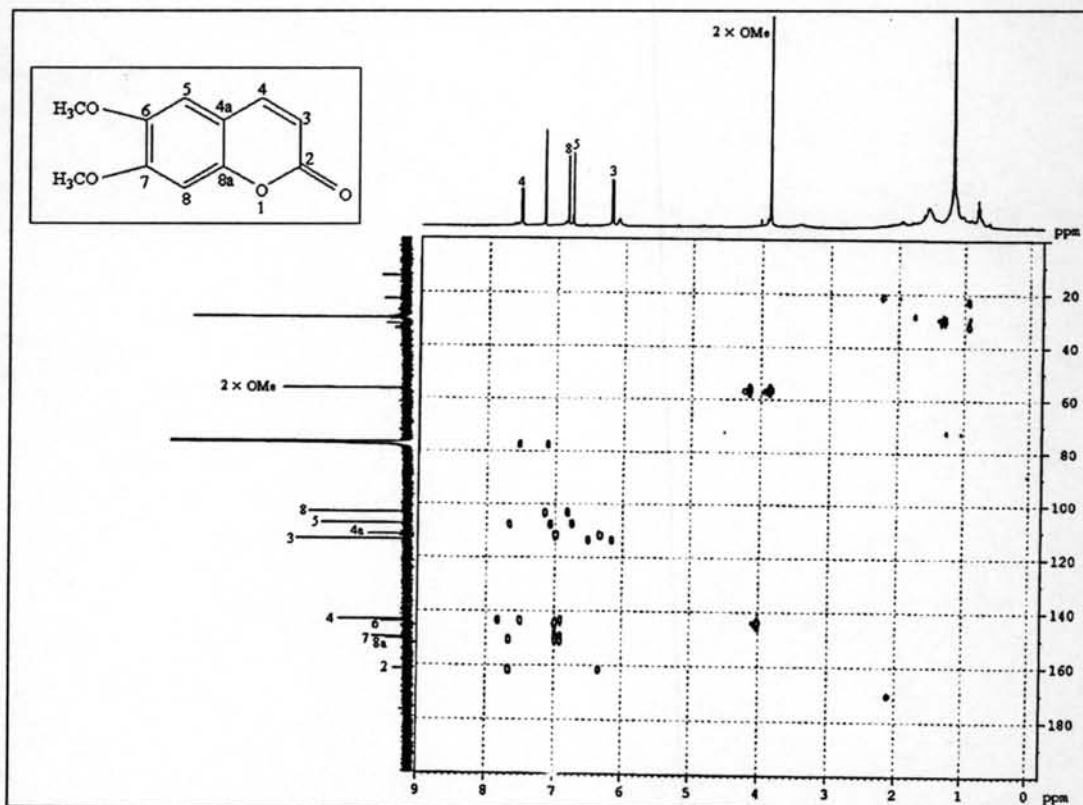


Figure 85. HMBC Spectrum of compound CP-9

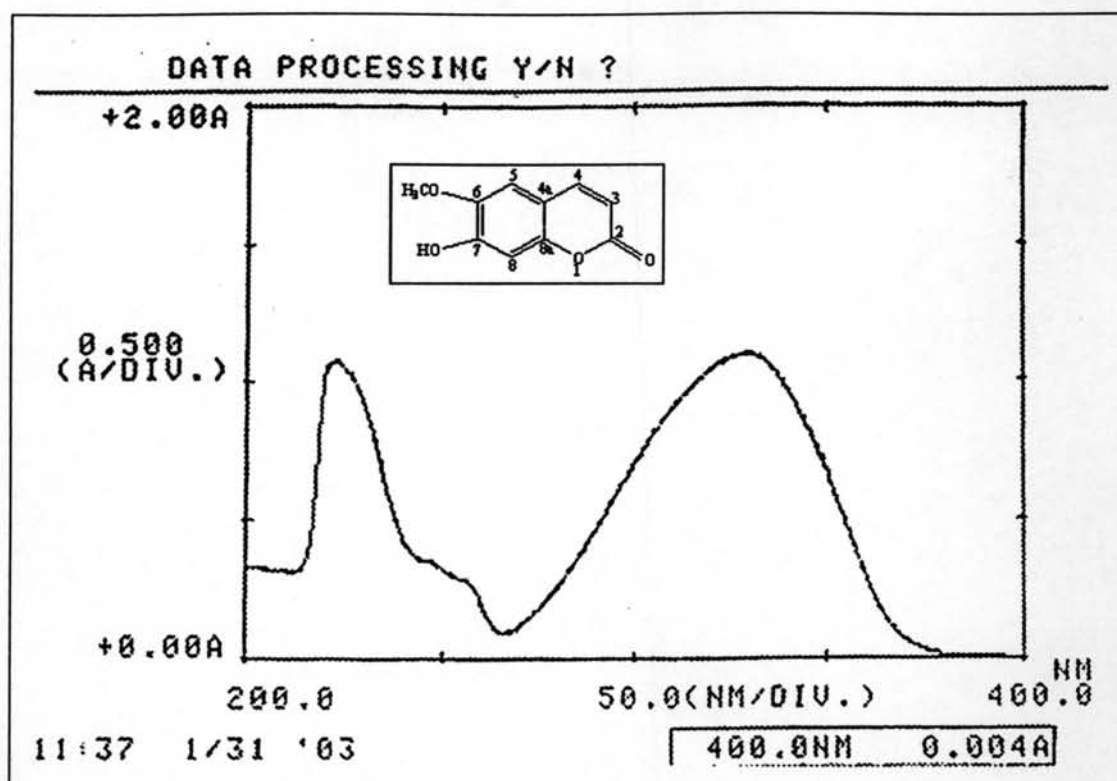


Figure 86. UV Spectrum of compound CP-10 (MeOH)

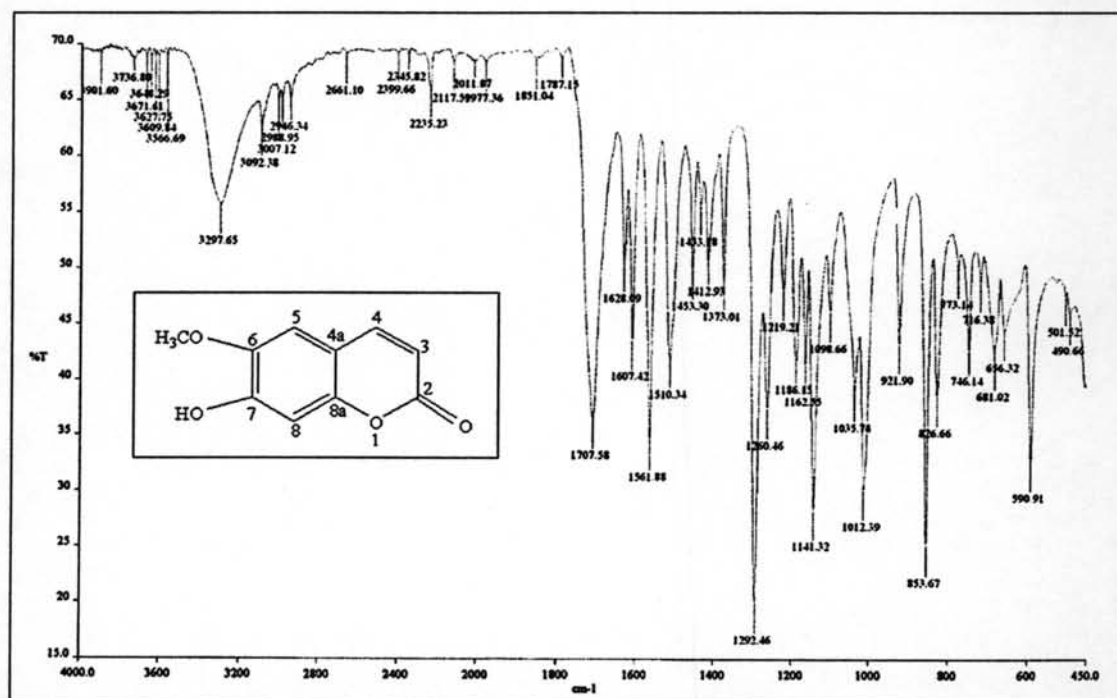


Figure 87. IR Spectrum of compound CP-10 (KBr disc)

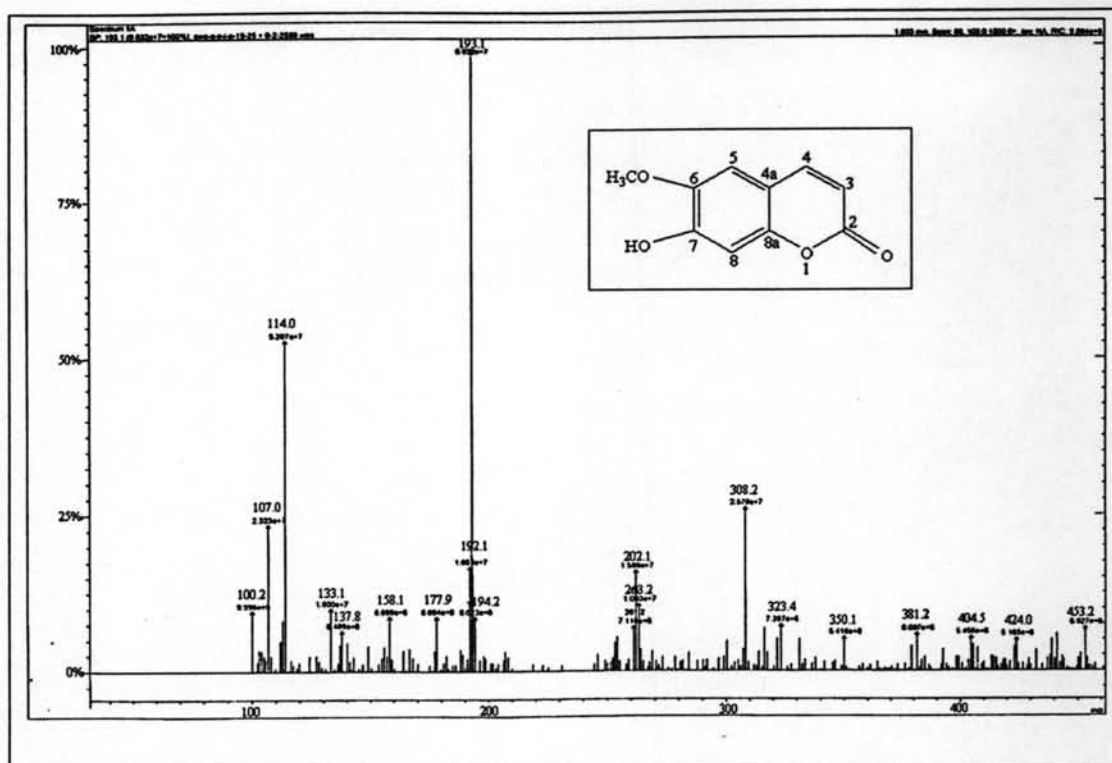


Figure 88. ESI-TOF Mass spectrum of compound CP-10

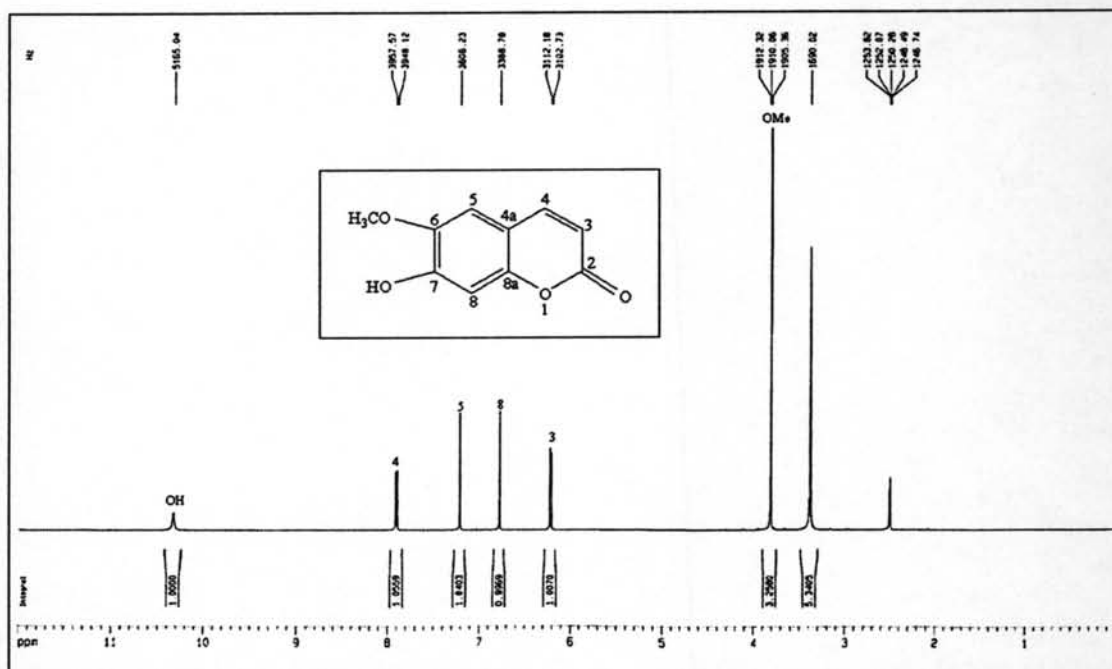


Figure 89. ¹H NMR (500 MHz) Spectrum of compound CP-10 (in DMSO-*d*₆)

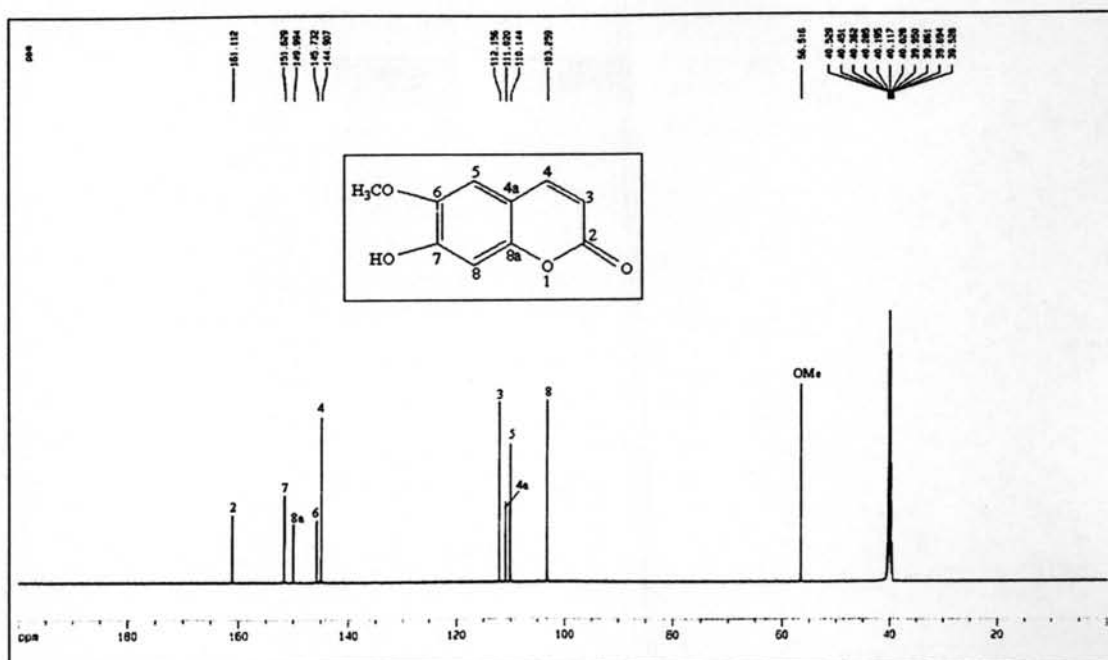


Figure 90. ^{13}C NMR (125 MHz) Spectrum of compound CP-10 (in $\text{DMSO-}d_6$)

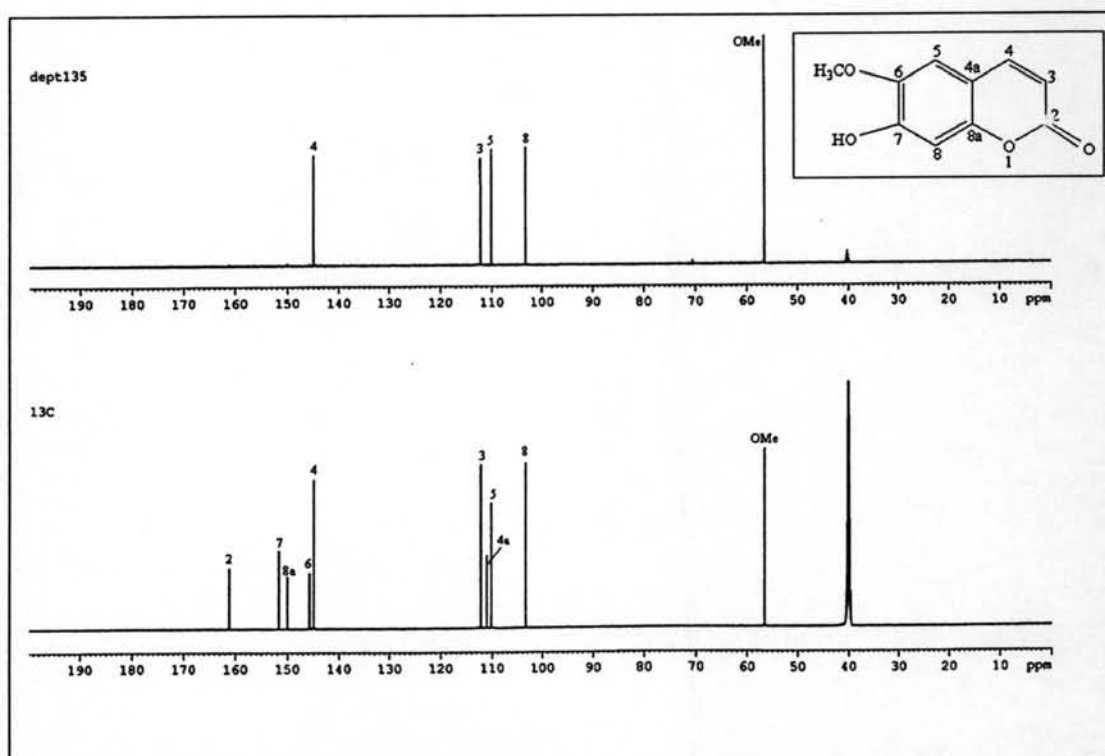


Figure 91. DEPT 135 Spectrum of compound CP-10

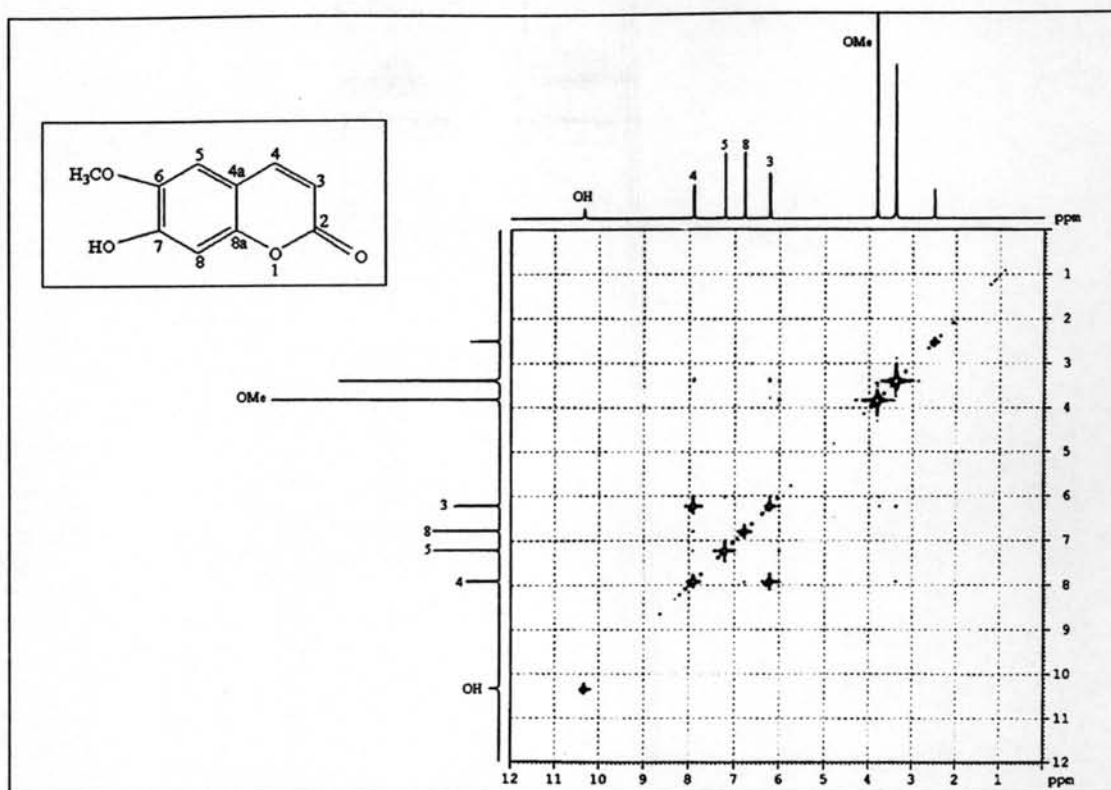


Figure 92. ^1H - ^1H COSY Spectrum of compound CP-10

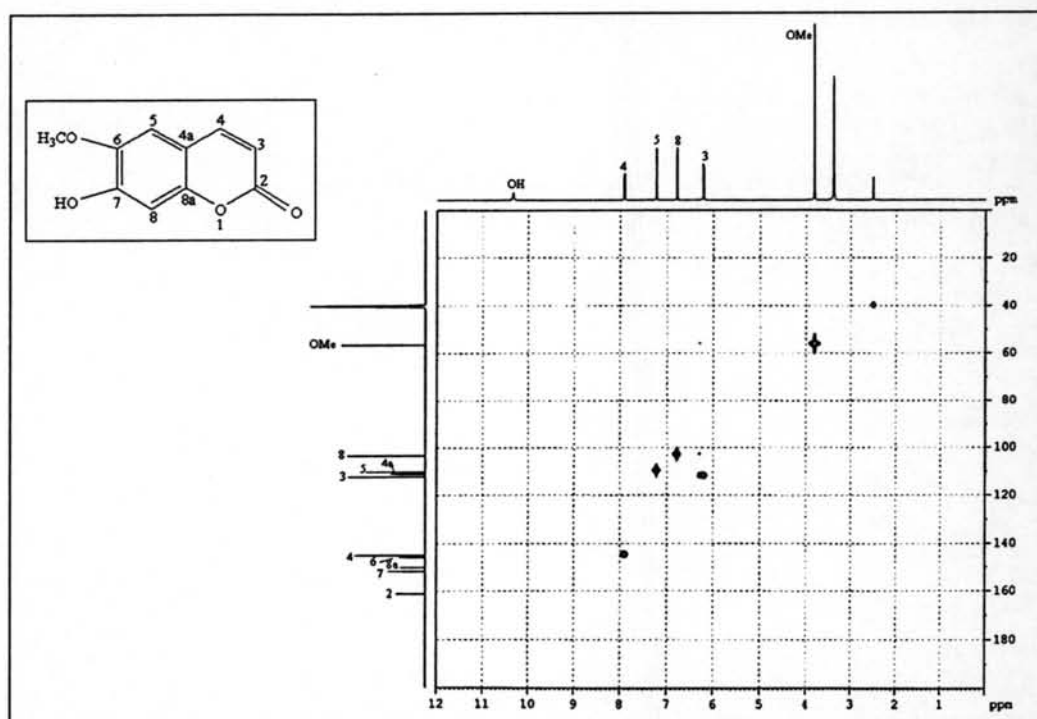


Figure 93. HMQC Spectrum of compound CP-10

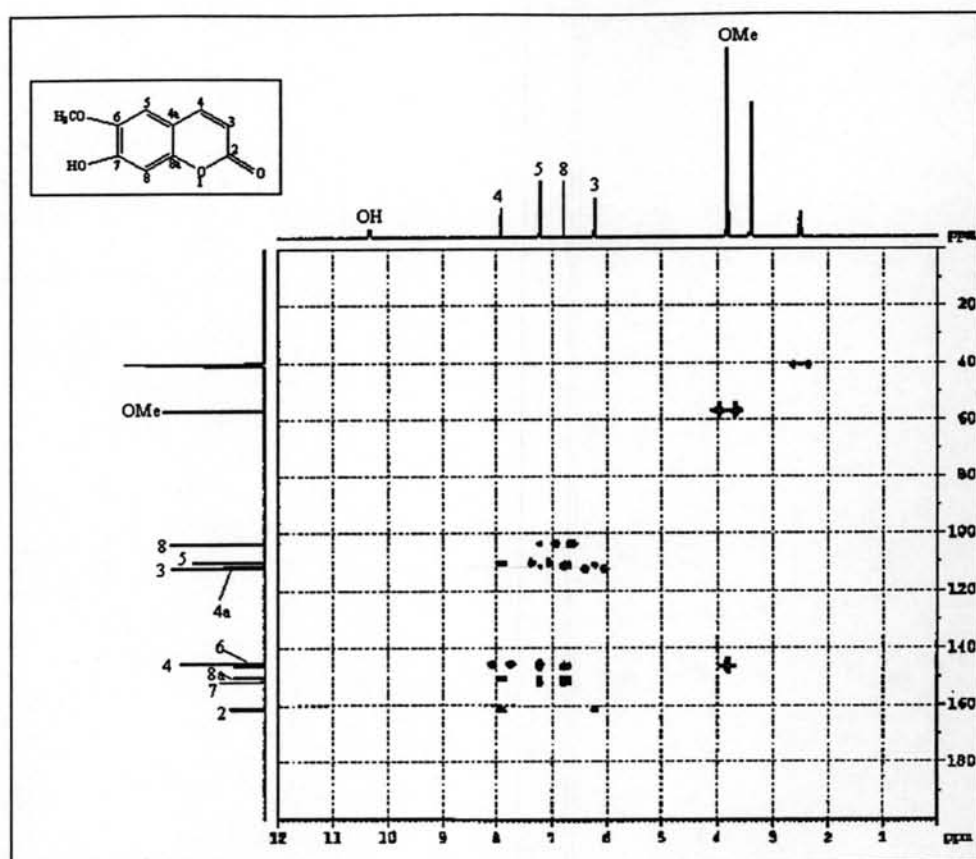


Figure 94. HMBC Spectrum of compound CP-10

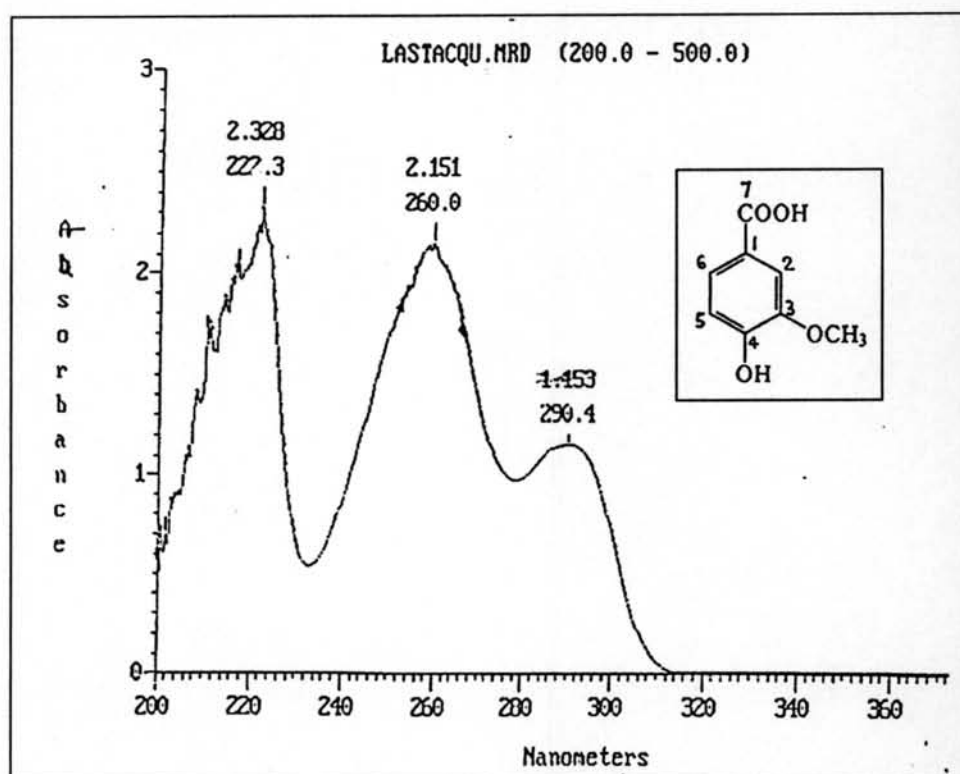


Figure 95. UV Spectrum of compound CP-11 (MeOH)

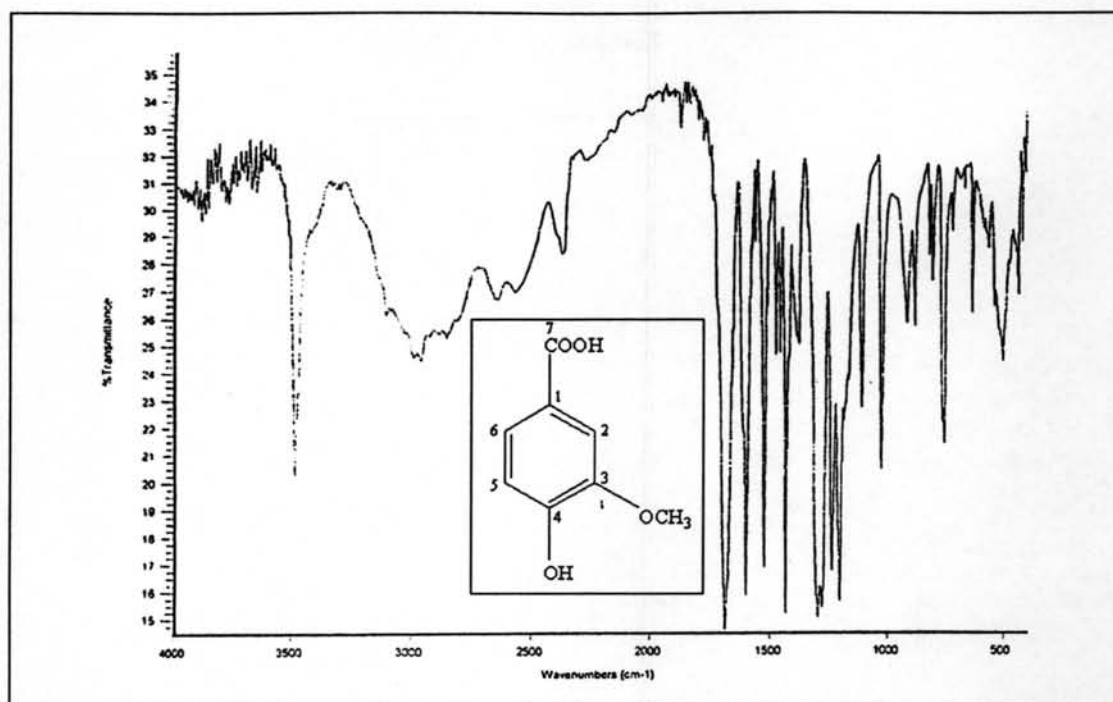


Figure 96. IR Spectrum of compound CP-11 (KBr disc)

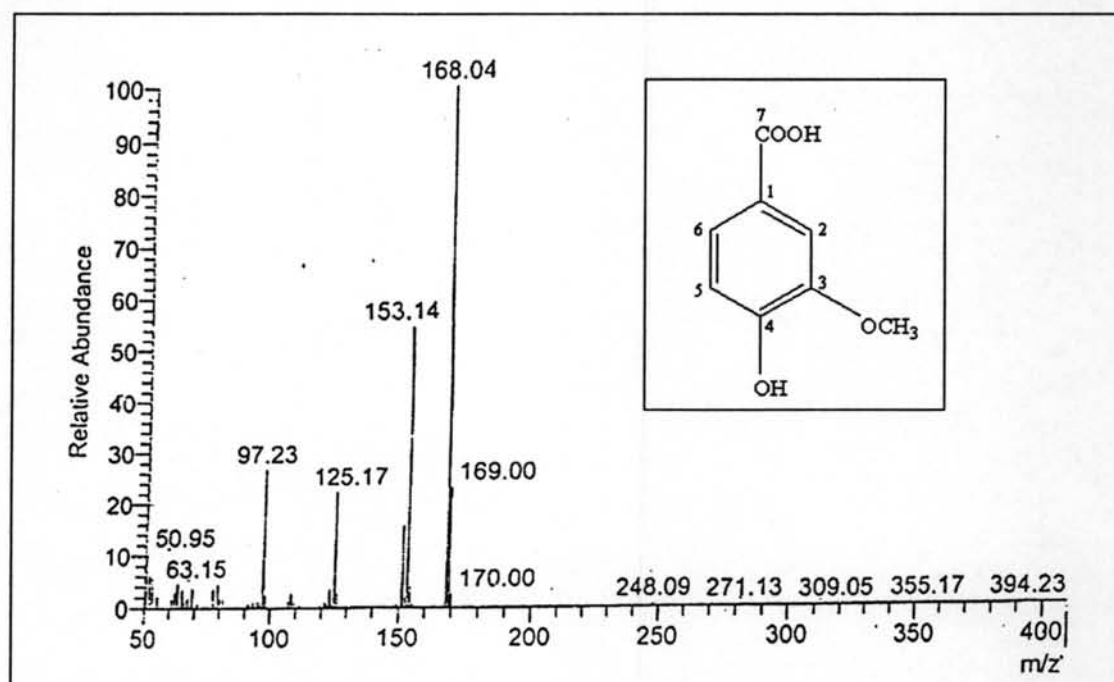


Figure 97. EI Mass spectrum of compound CP-11

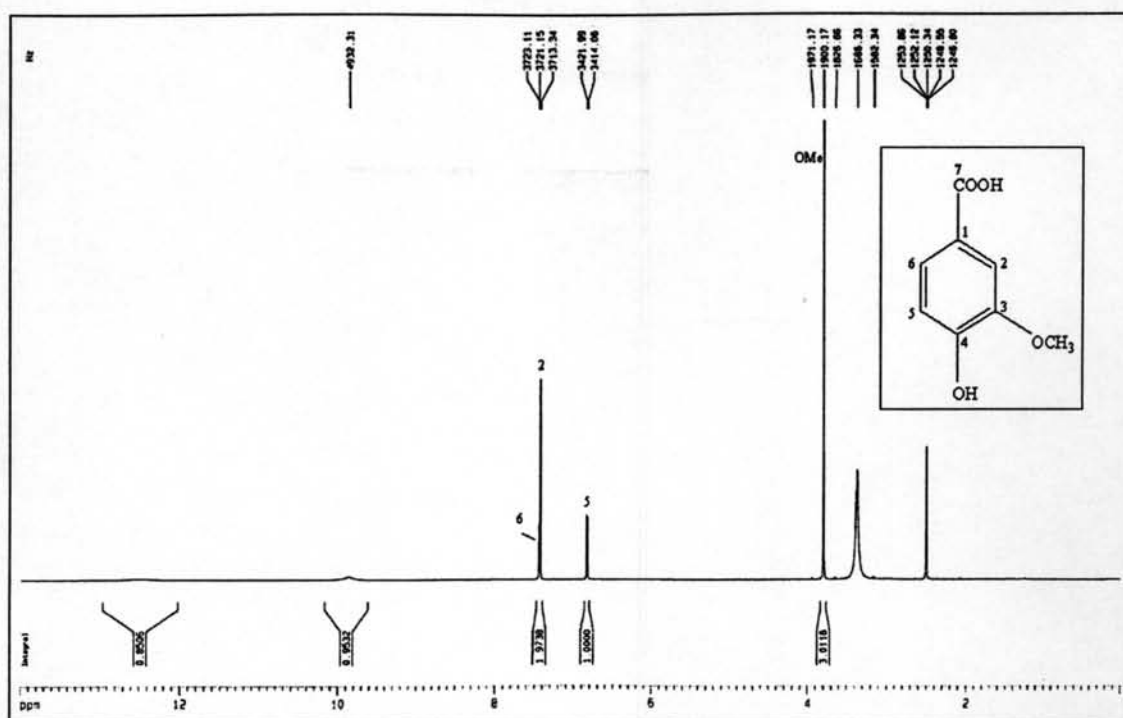


Figure 98a. ^1H NMR (500 MHz) Spectrum of compound CP-11 (in $\text{DMSO-}d_6$)

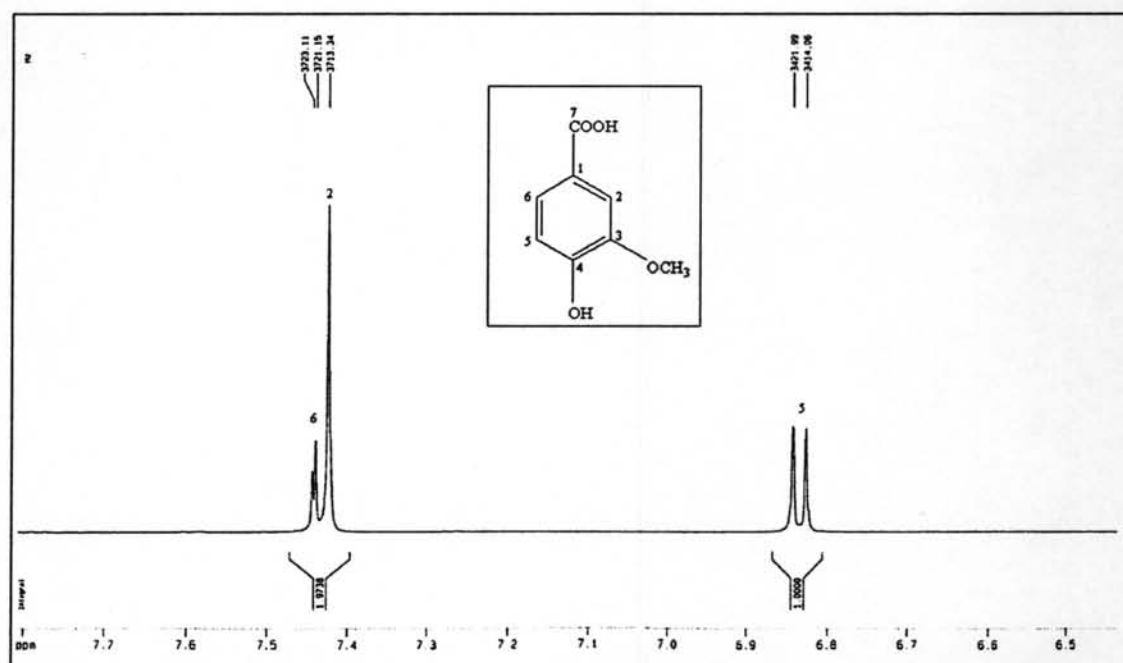
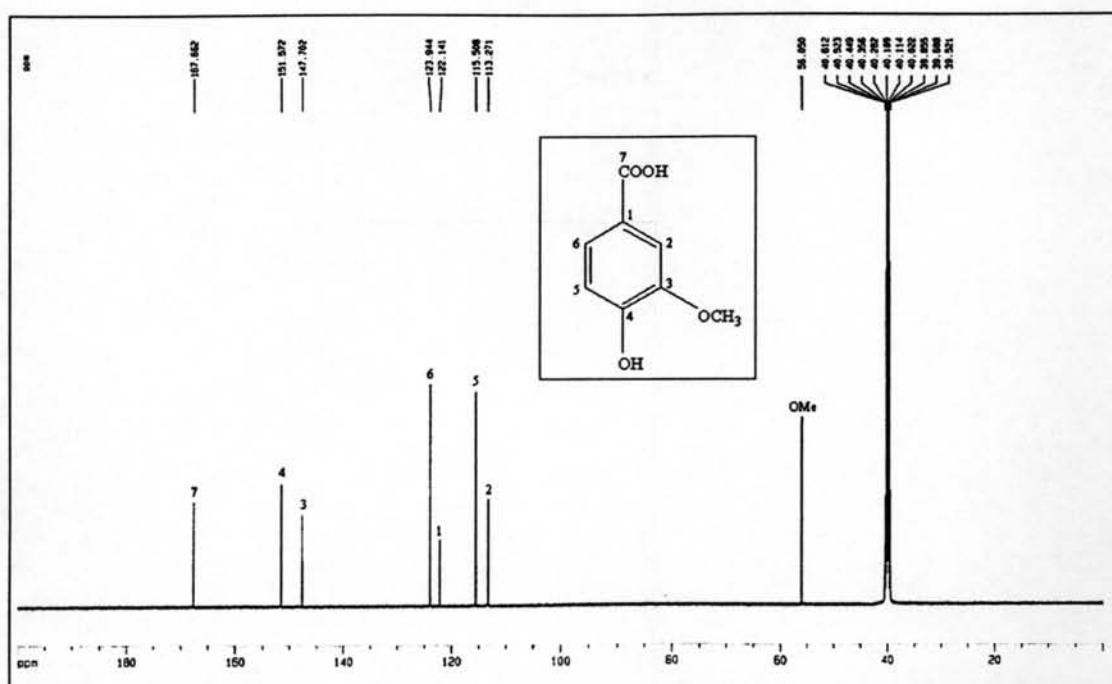


Figure 98b. ^1H NMR (500 MHz) Spectrum of compound CP-11 (in $\text{DMSO-}d_6$) (expansion δ 6.5-7.7 ppm)



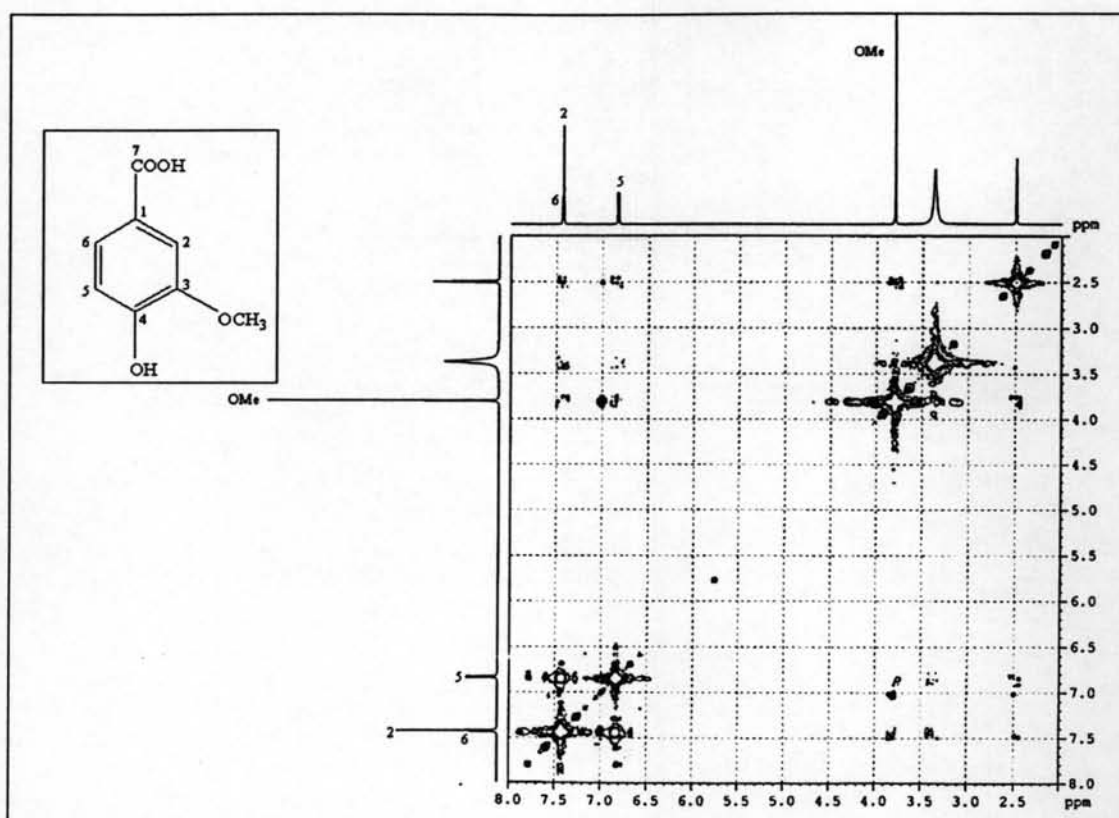


Figure 101. ^1H - ^1H COSY Spectrum of compound CP-11

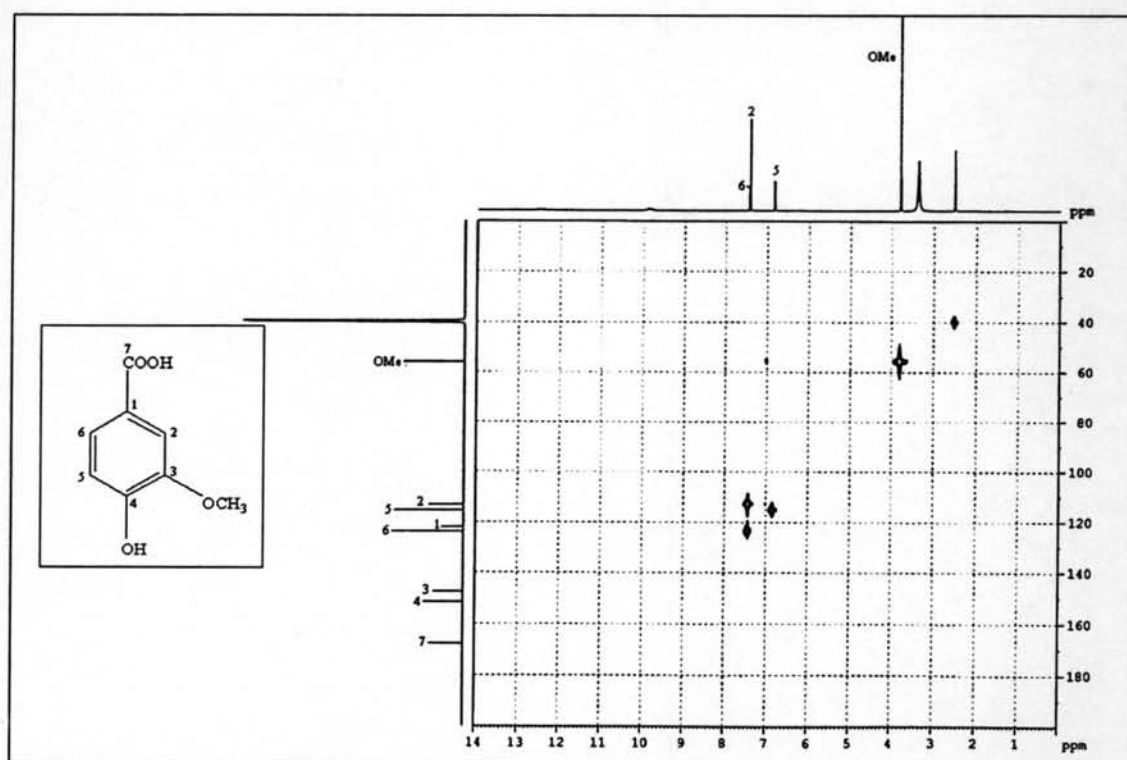


Figure 102. HMQC Spectrum of compound CP-11

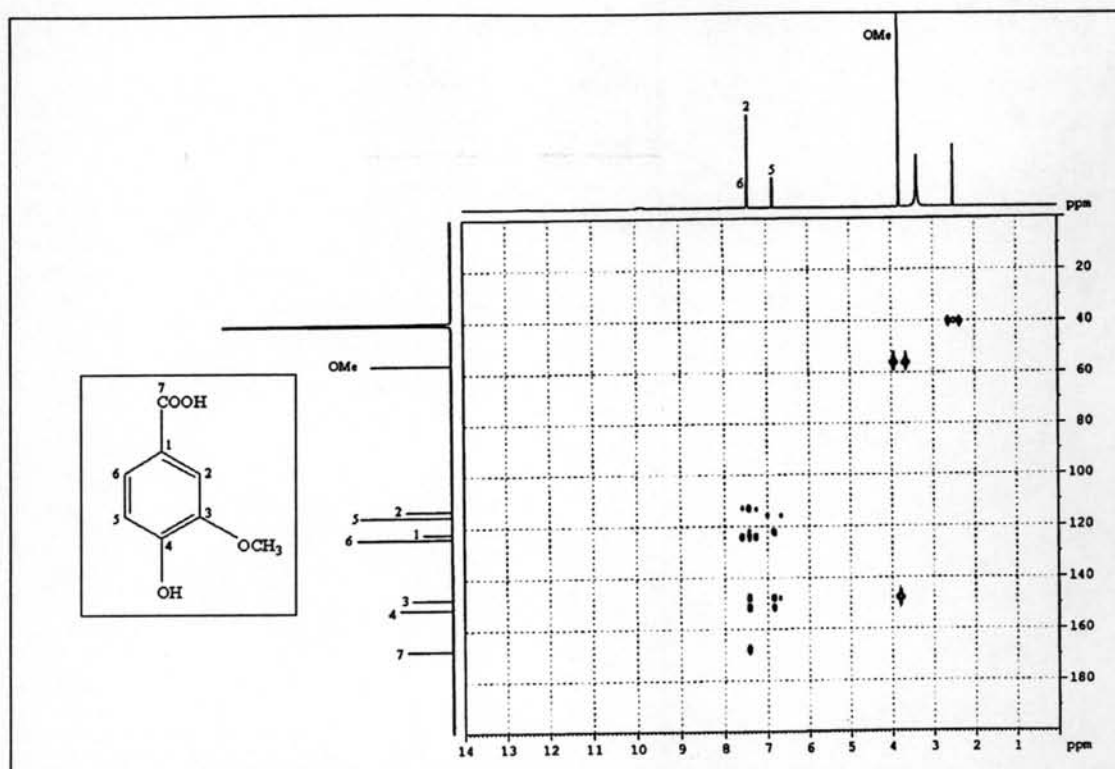


Figure 103. HMBC Spectrum of compound CP-11

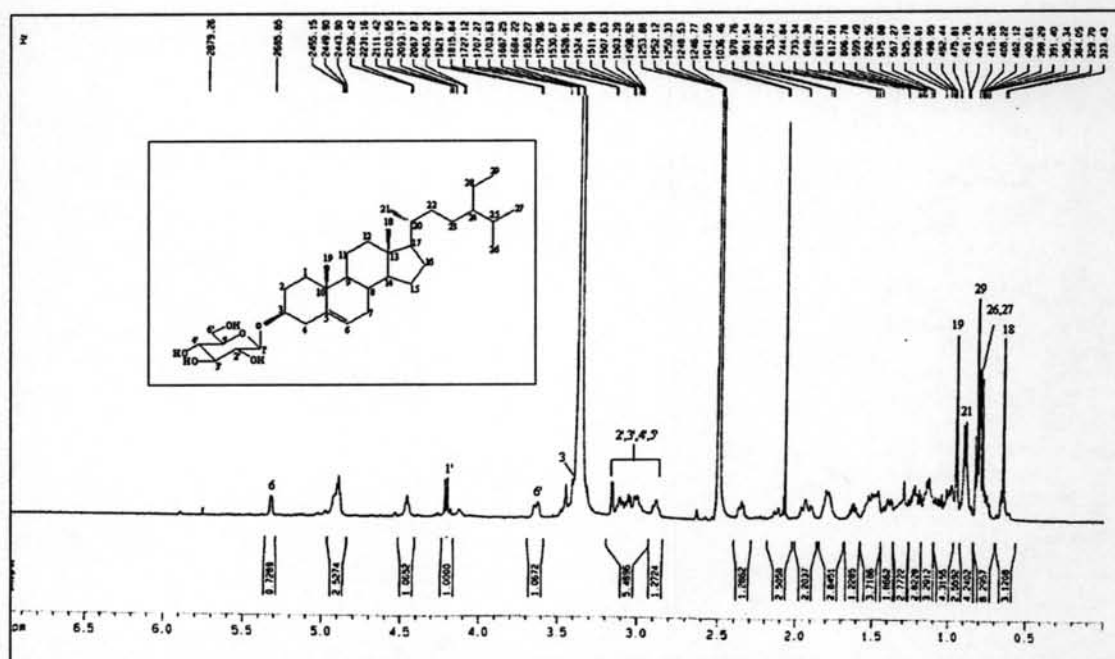


Figure 104. ^1H NMR (500 MHz) Spectrum of compound CP-12 (in DMSO- d_6)

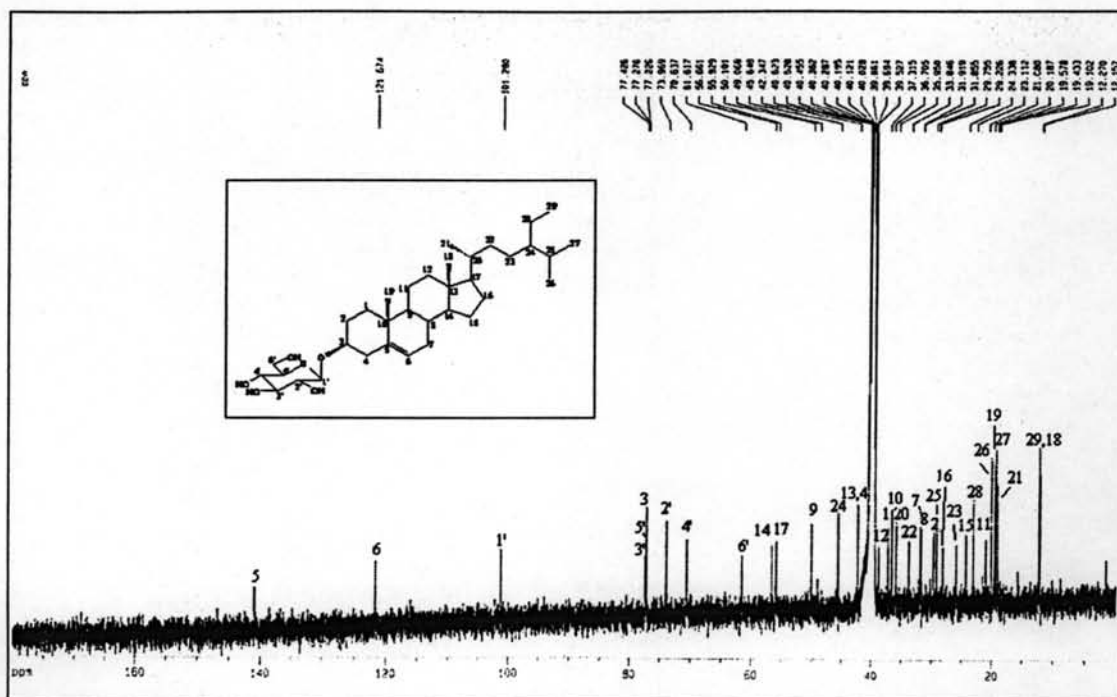


Figure 105a. ^{13}C NMR (125 MHz) Spectrum of compound CP-12 (in $\text{DMSO-}d_6$)

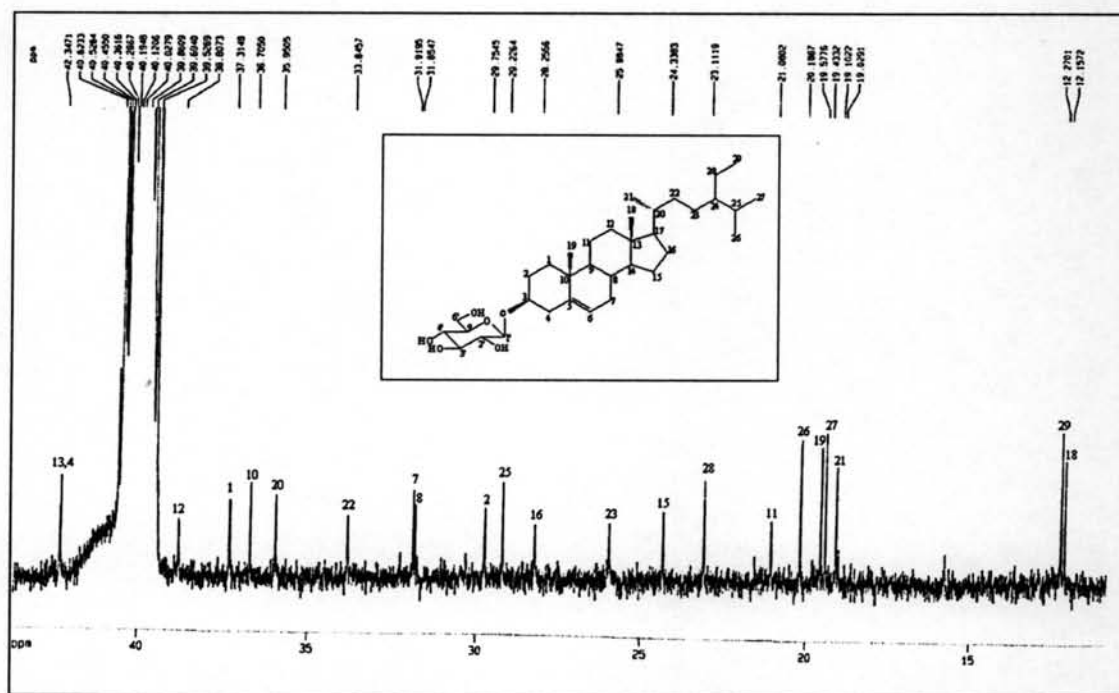


Figure 105b. ^{13}C NMR (125 MHz) Spectrum of compound CP-12 (in $\text{DMSO-}d_6$) (expanded δ 10-50 ppm)

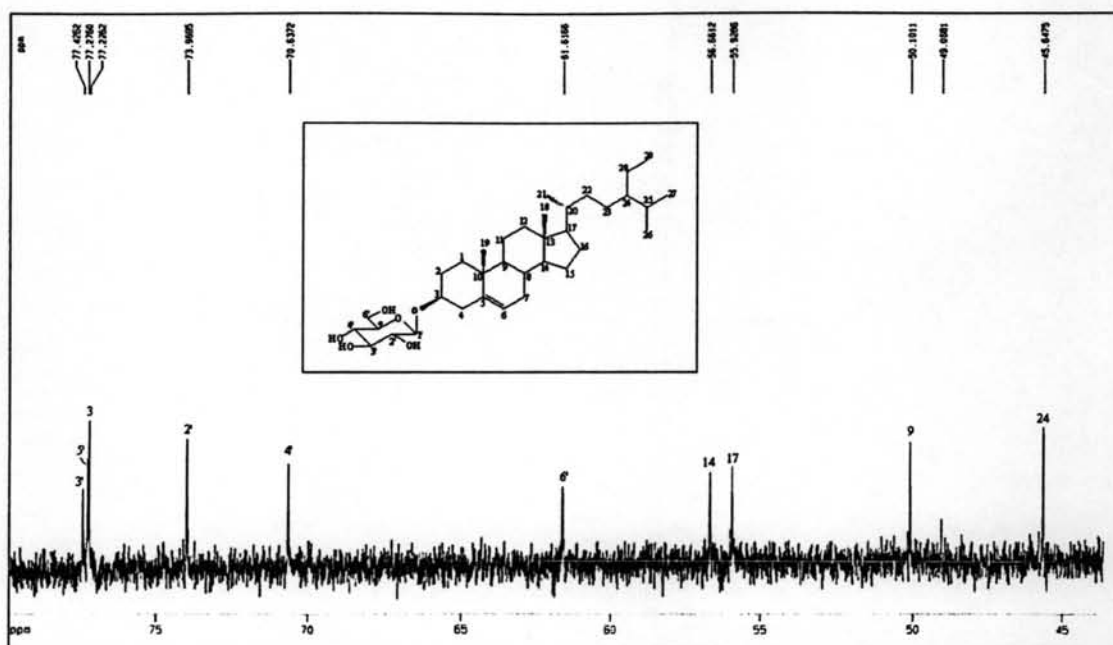


Figure 105c. ^{13}C NMR (125 MHz) Spectrum of compound CP-12 (in $\text{DMSO-}d_6$) (expansion δ 45-80 ppm)

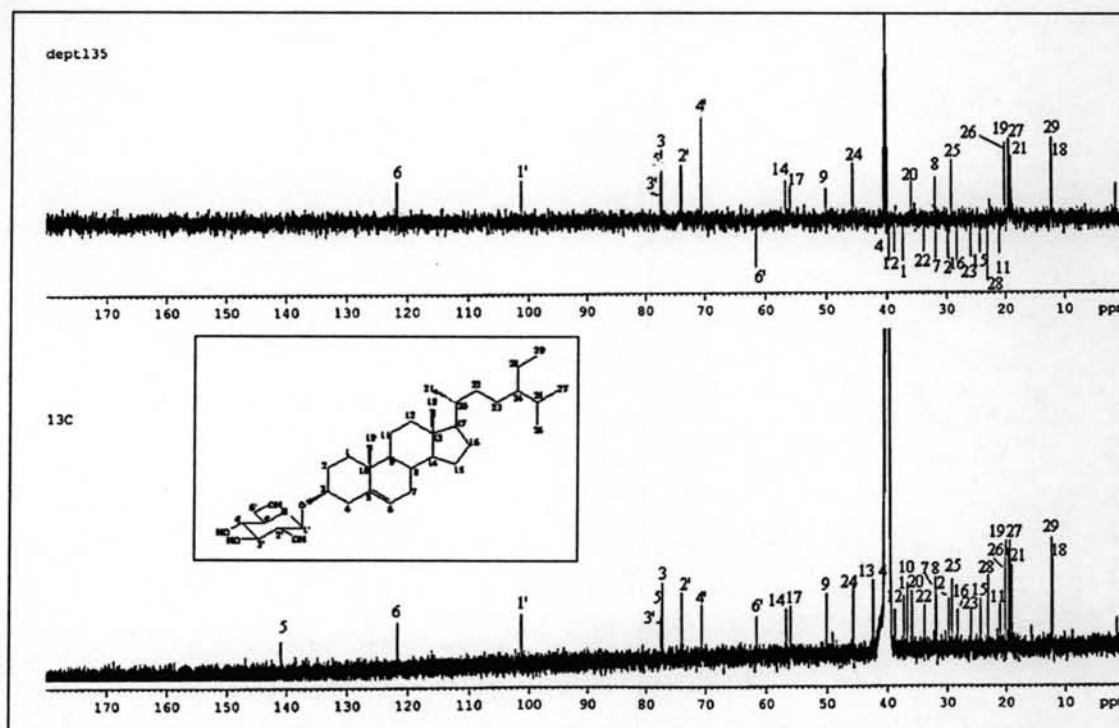


Figure 106. DEPT 135 Spectrum of compound CP-12

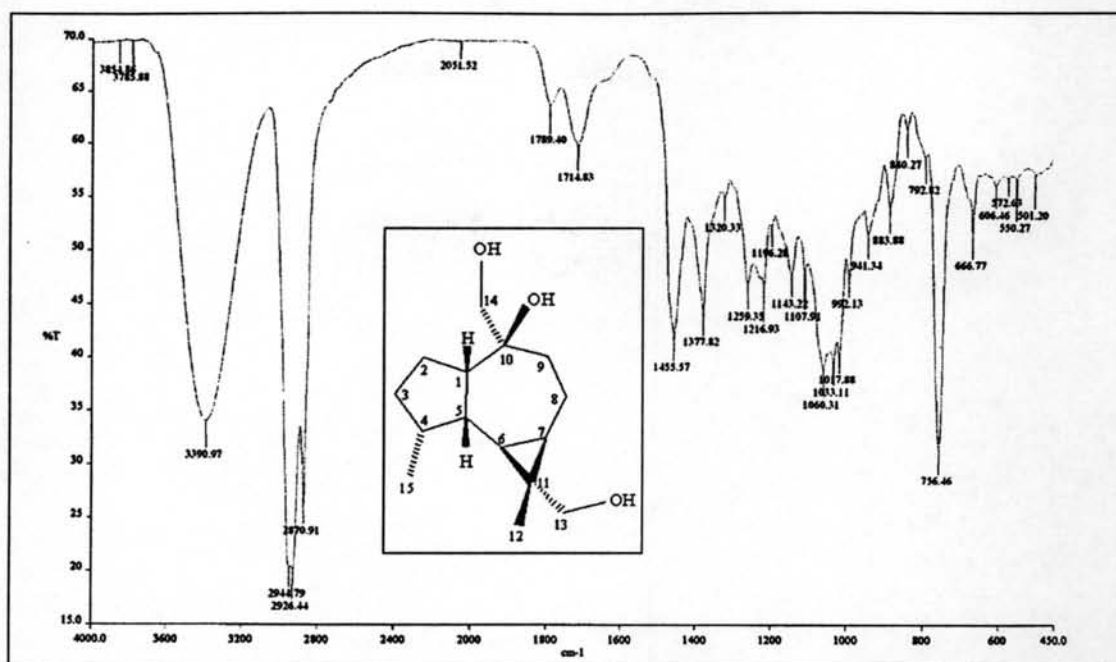


Figure 107. IR Spectrum of compound CP-13 (KBr disc)

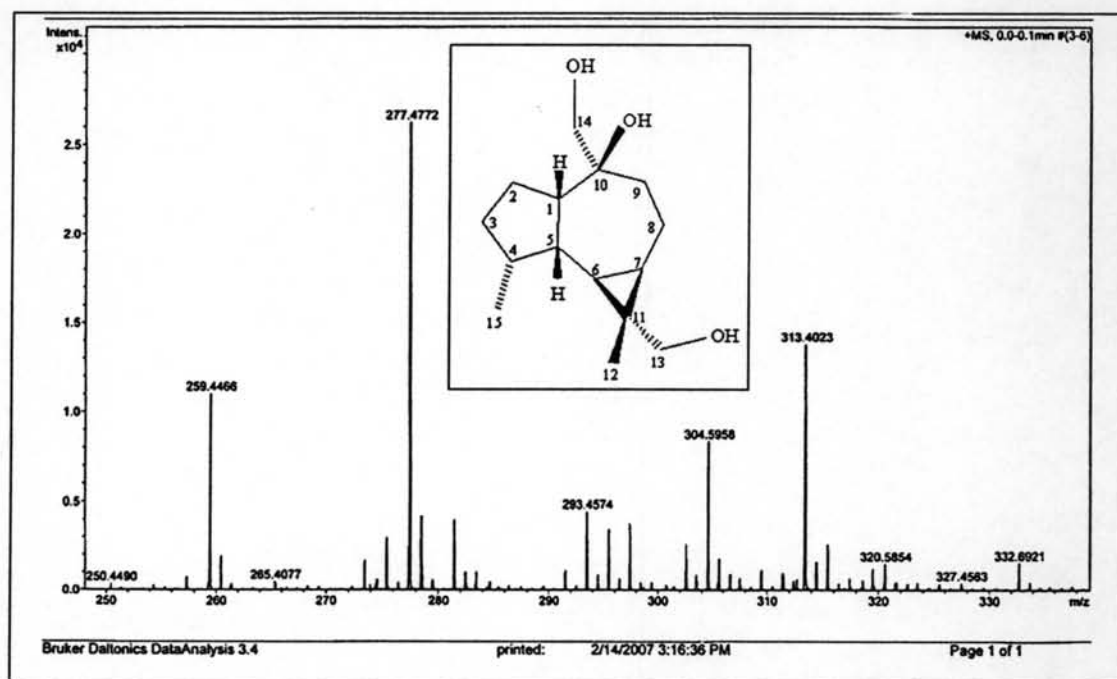


Figure 108. ESI Mass spectrum of compound CP-13

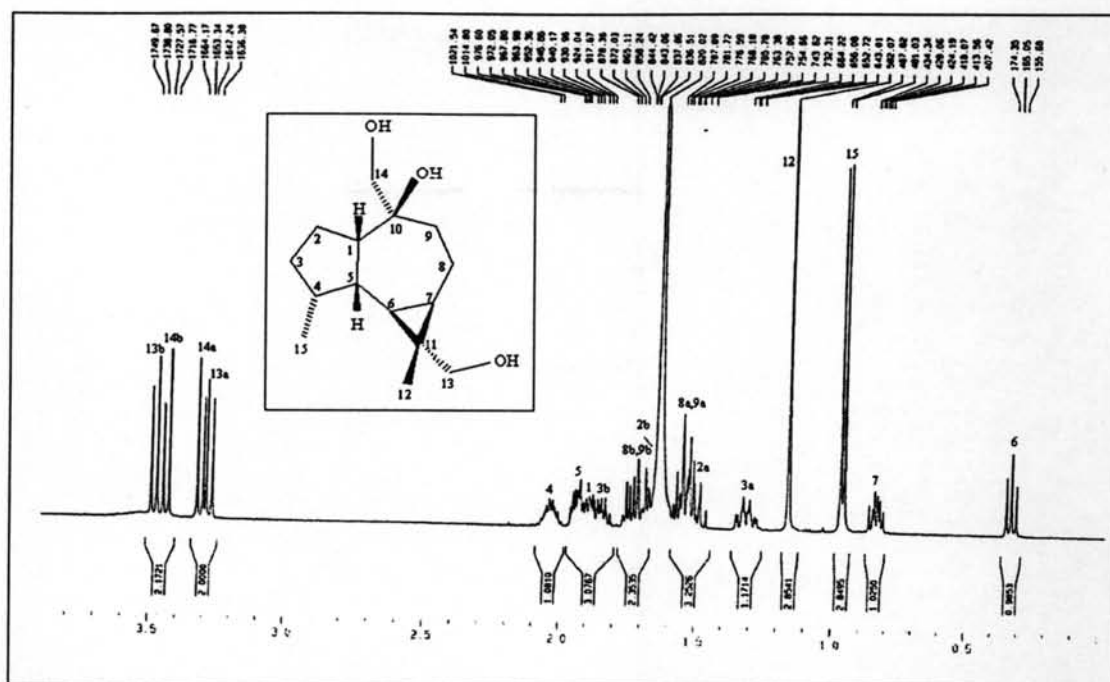


Figure 109. ^1H NMR (500 MHz) Spectrum of compound CP-13 (in CDCl_3)

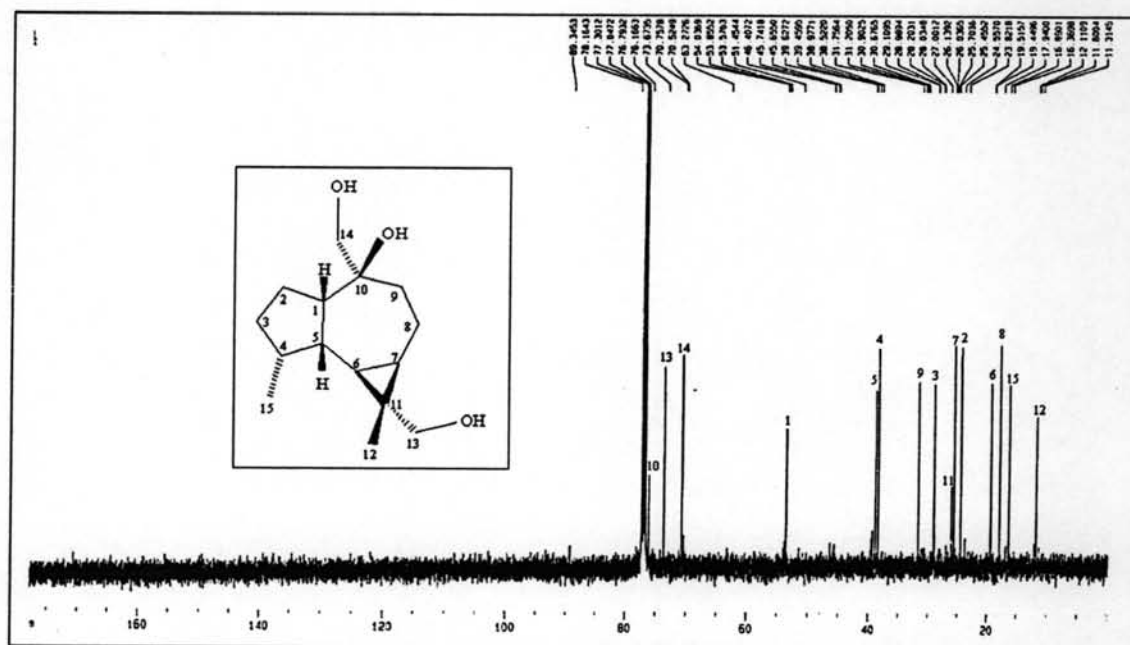


Figure 110. ^{13}C NMR (125 MHz) Spectrum of compound CP-13 (in CDCl_3)

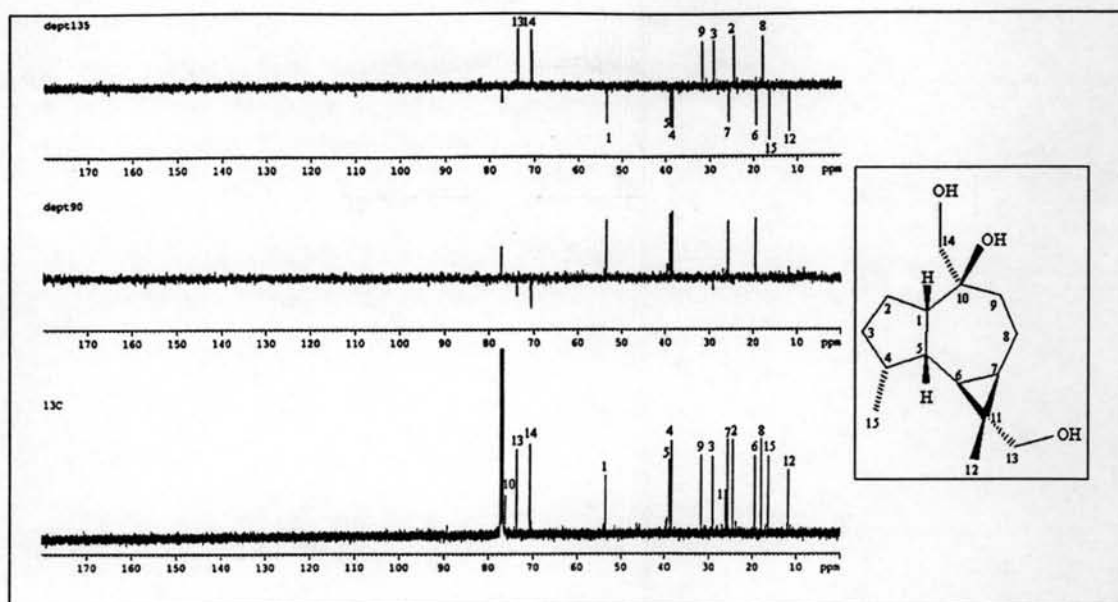


Figure 111. DEPT 135 Spectrum of compound CP-13

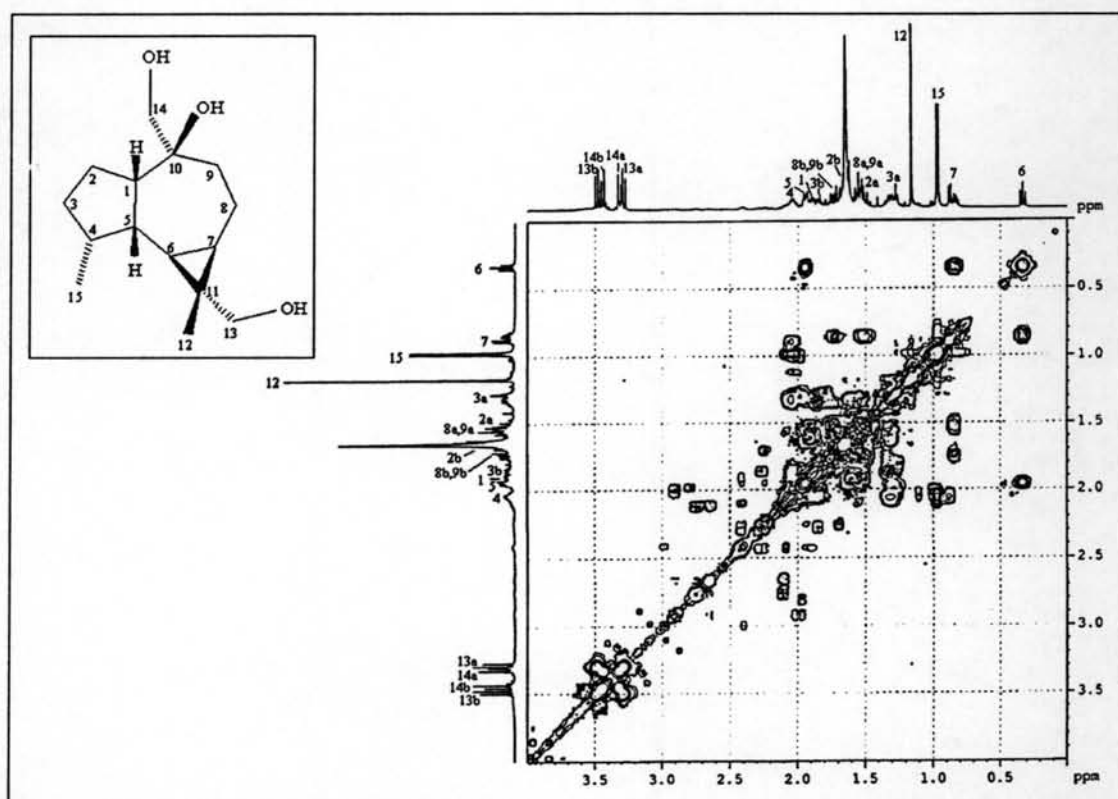


Figure 112. ^1H - ^1H COSY Spectrum of compound CP-13

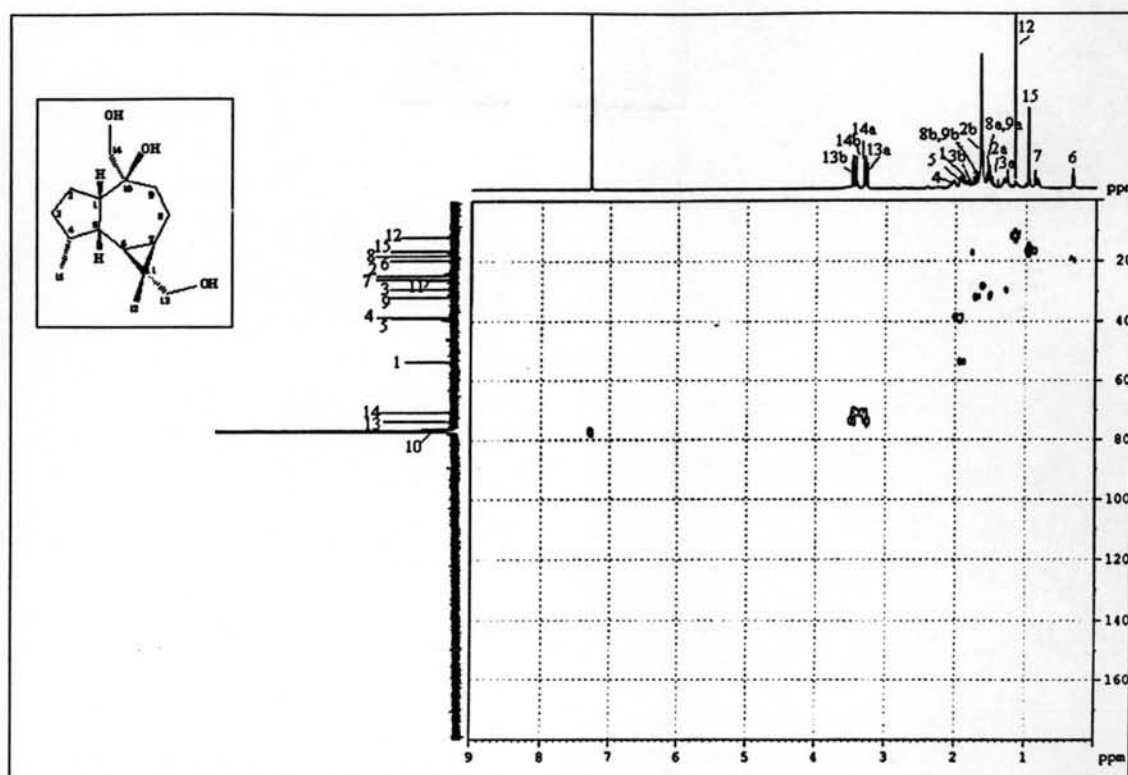


Figure 113. HMBC Spectrum of compound CP-13

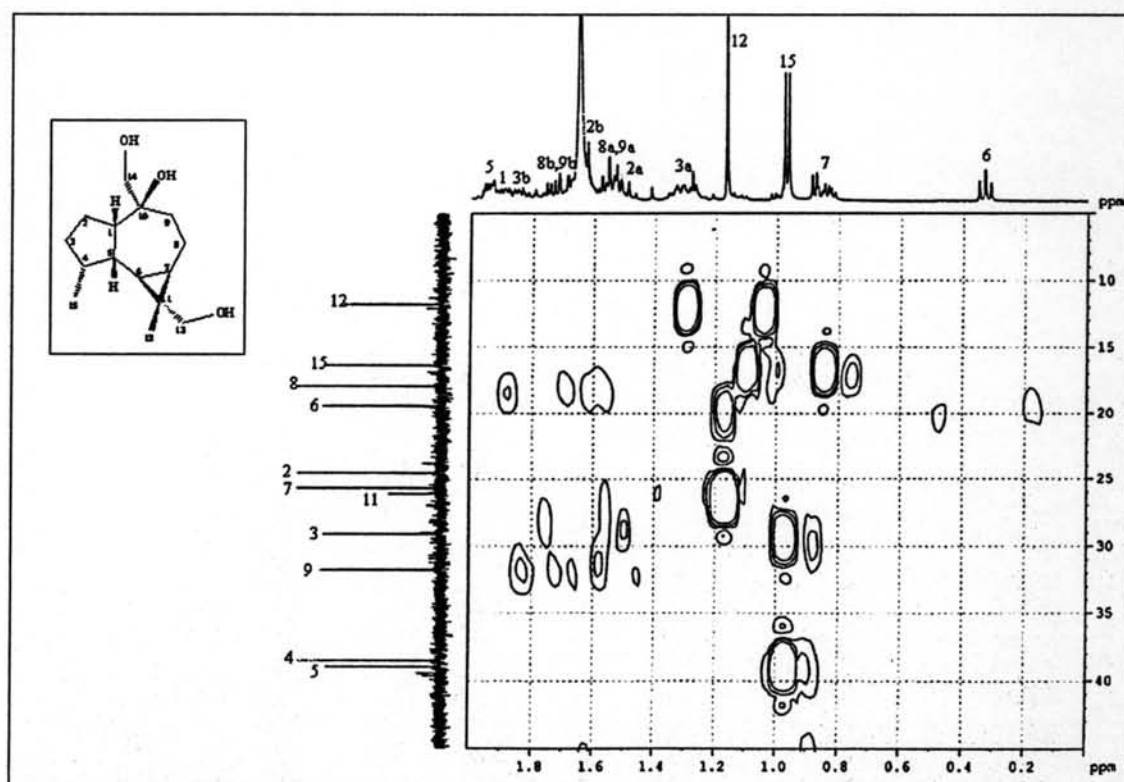


Figure 114a. HMBC Spectrum of compound CP-13

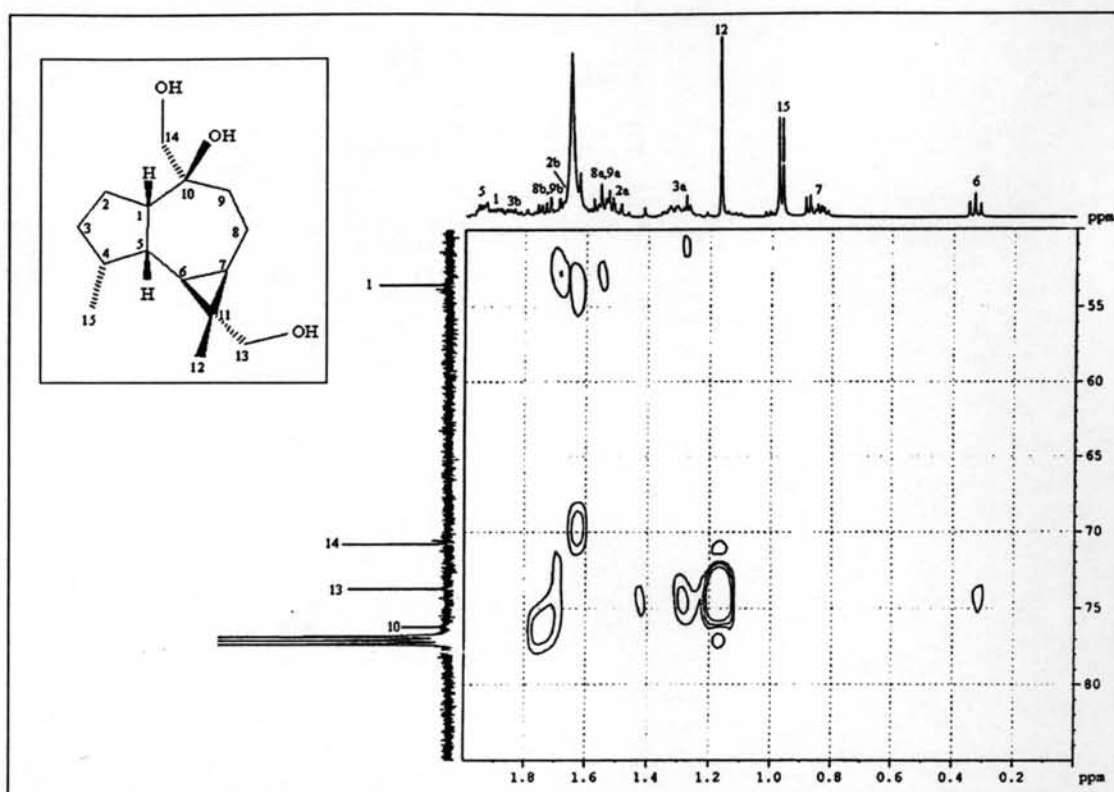


Figure 114b. HMBC Spectrum of compound CP-13 (δ_H 0.1-2.0 ppm, δ_C 50-85 ppm)

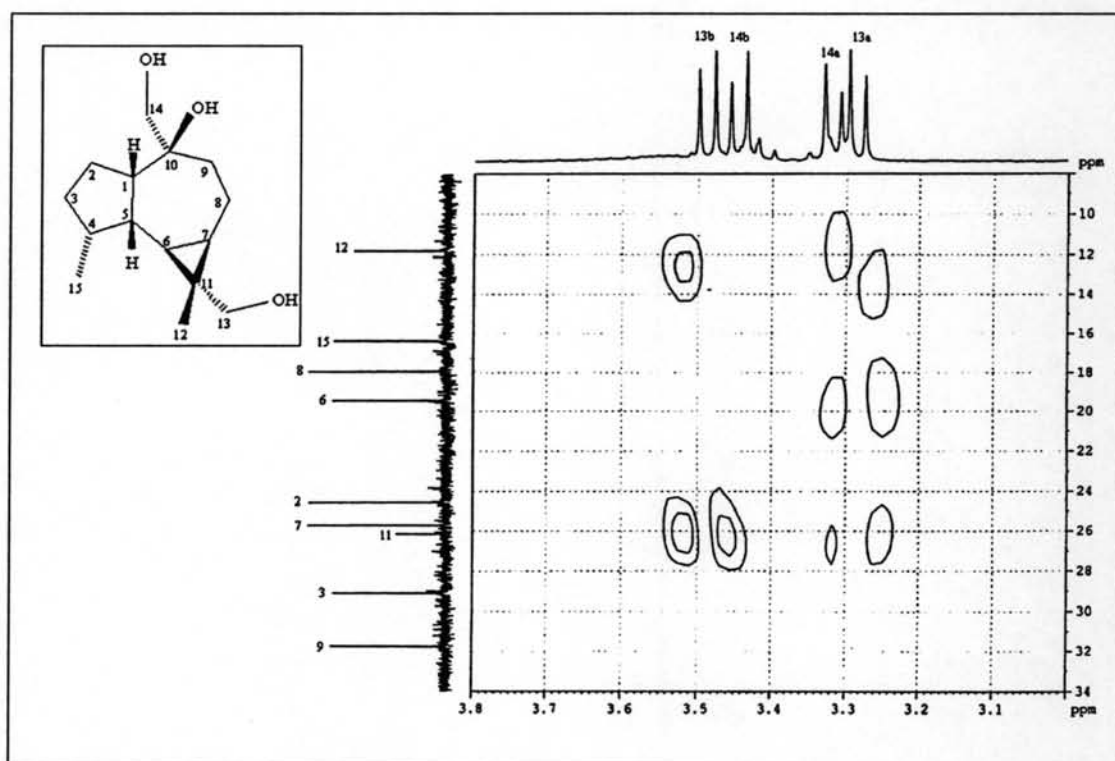


Figure 114c. HMBC Spectrum of compound CP-13 (δ_H 3.0-3.8 ppm, δ_C 9-34 ppm)

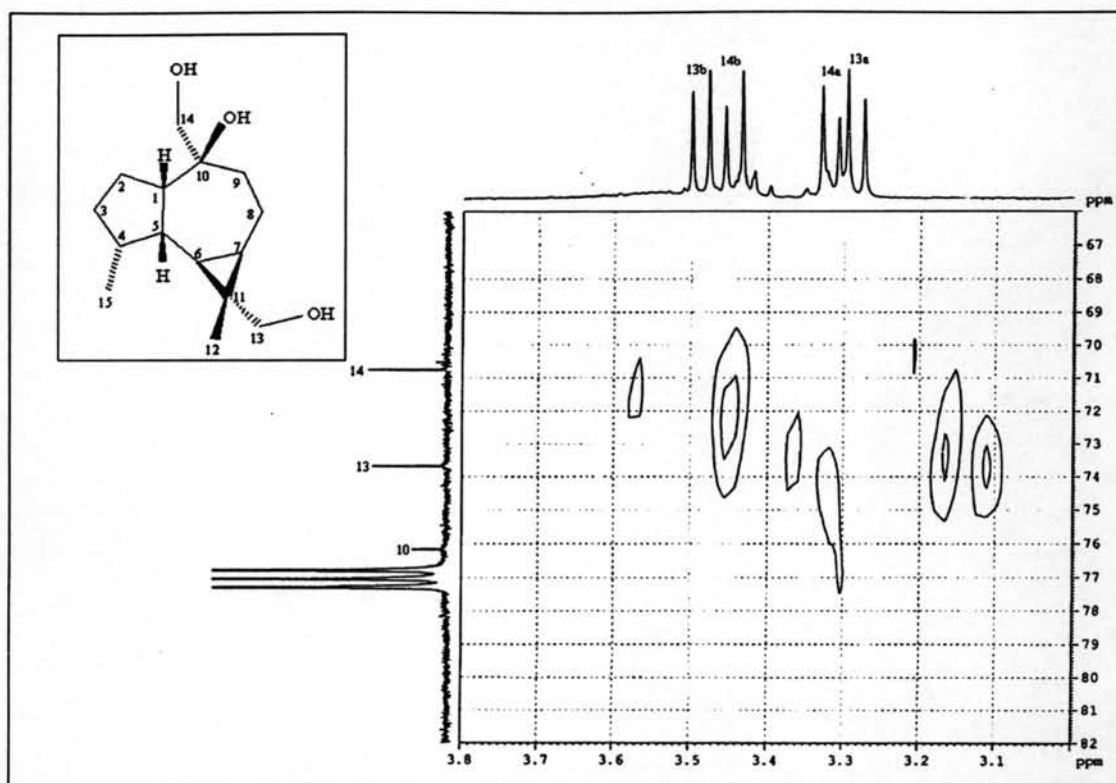


Figure 114d. HMBC Spectrum of compound CP-13 (δ_{H} 3.0-3.8 ppm, δ_{C} 66-82 ppm)

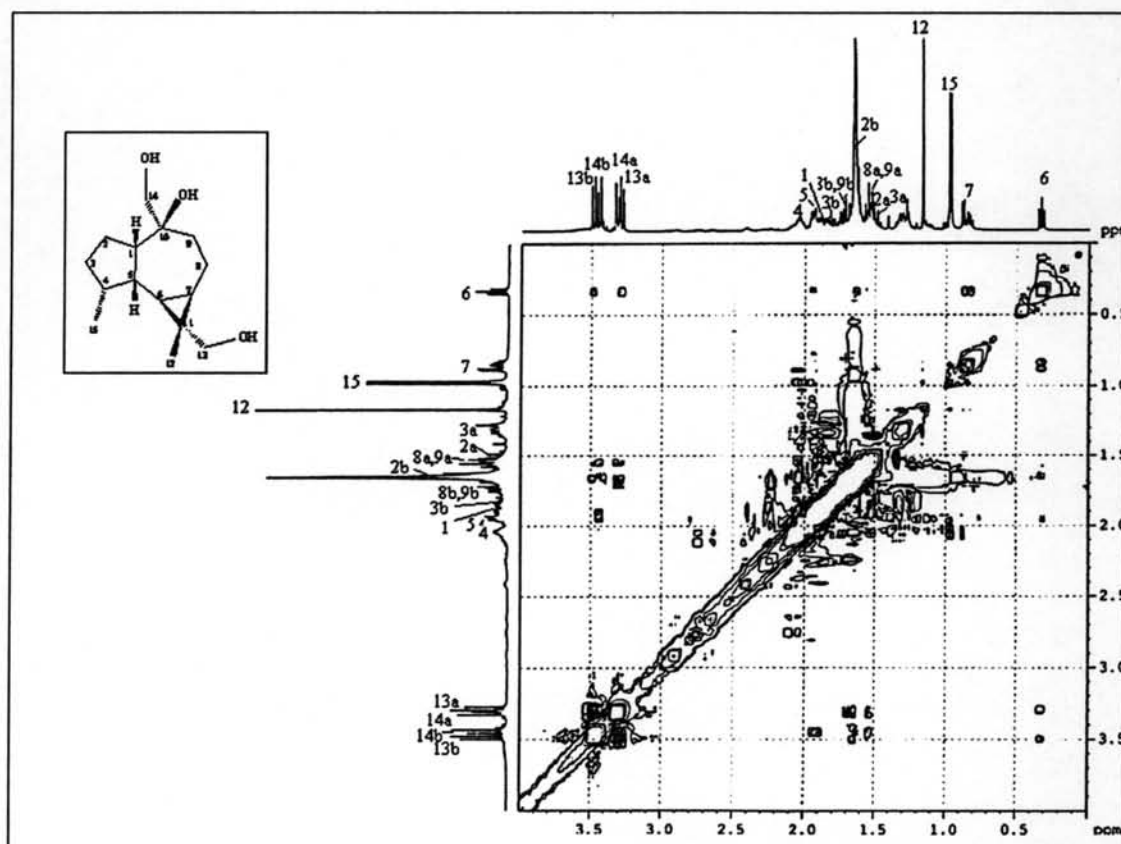


Figure 115. NOESY Spectrum of compound CP-13

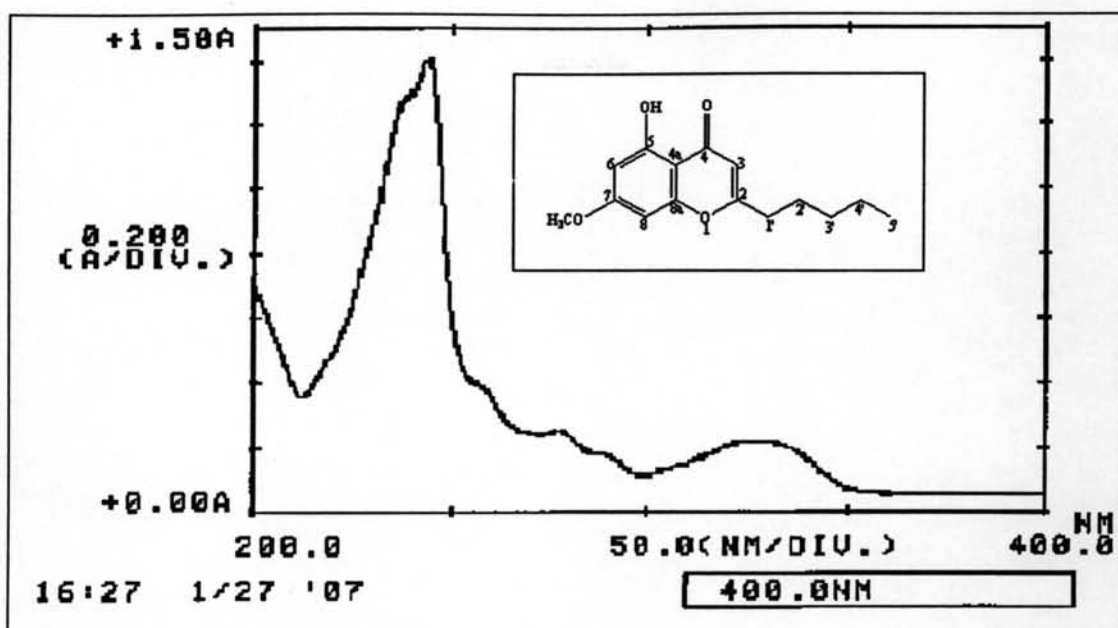


Figure 116. UV Spectrum of compound CP-14 (MeOH)

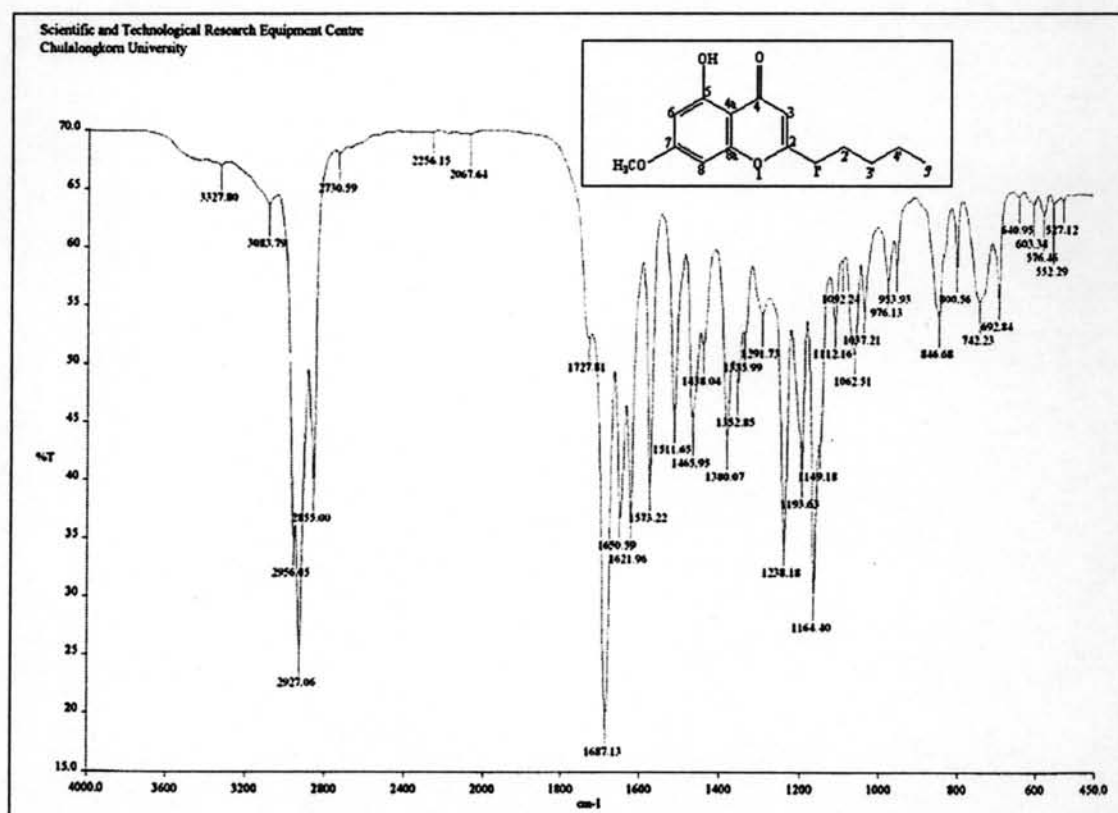


Figure 117. IR Spectrum of compound CP-14 (KBr disc)

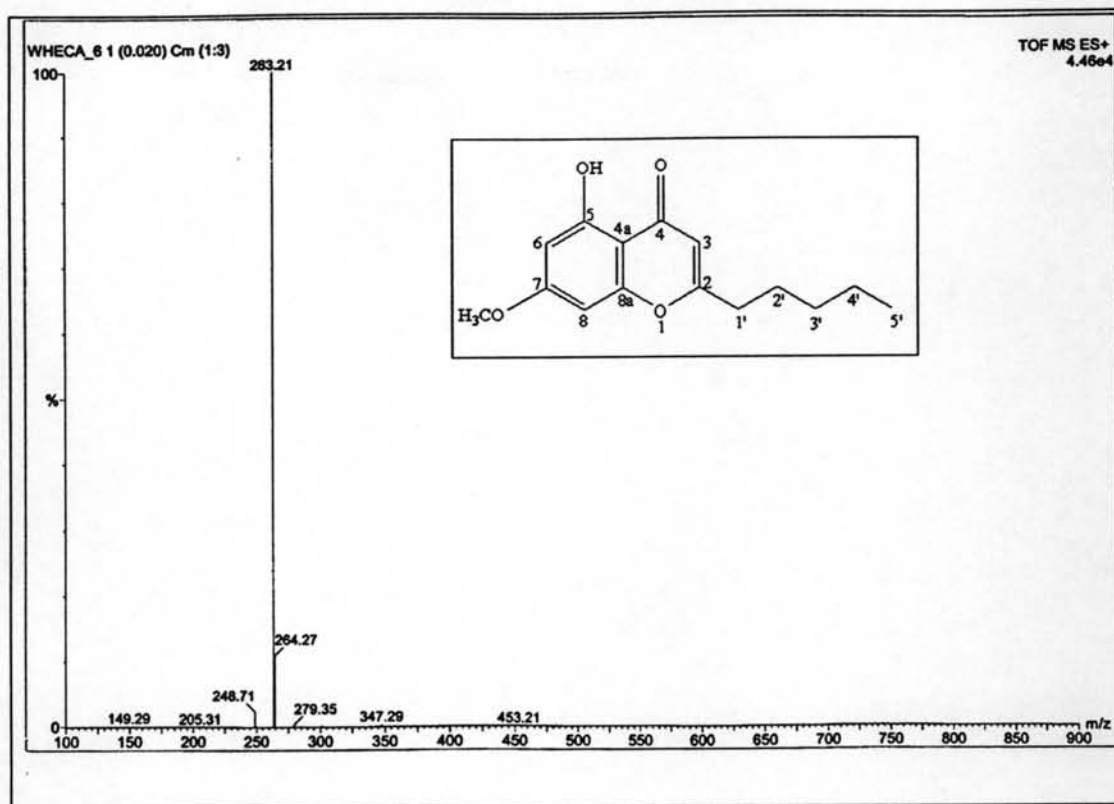


Figure 118. ESI-TOF Mass spectrum of compound CP-14

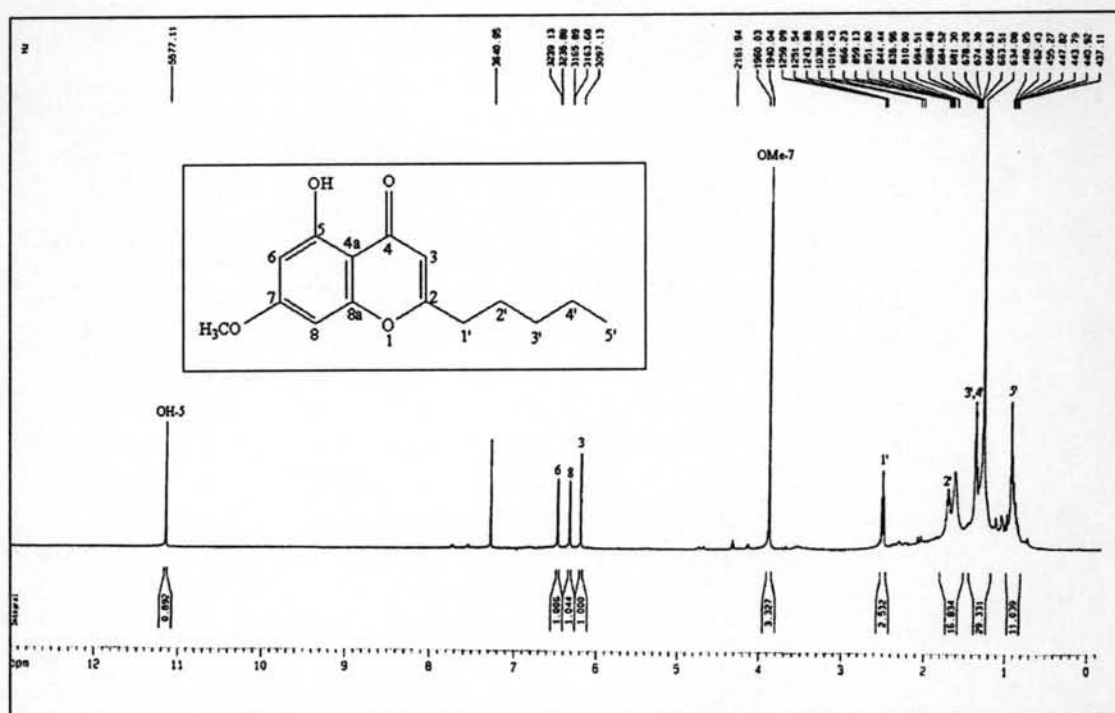


Figure 119. ¹H NMR (500 MHz) Spectrum of compound CP-14 (in CDCl₃)

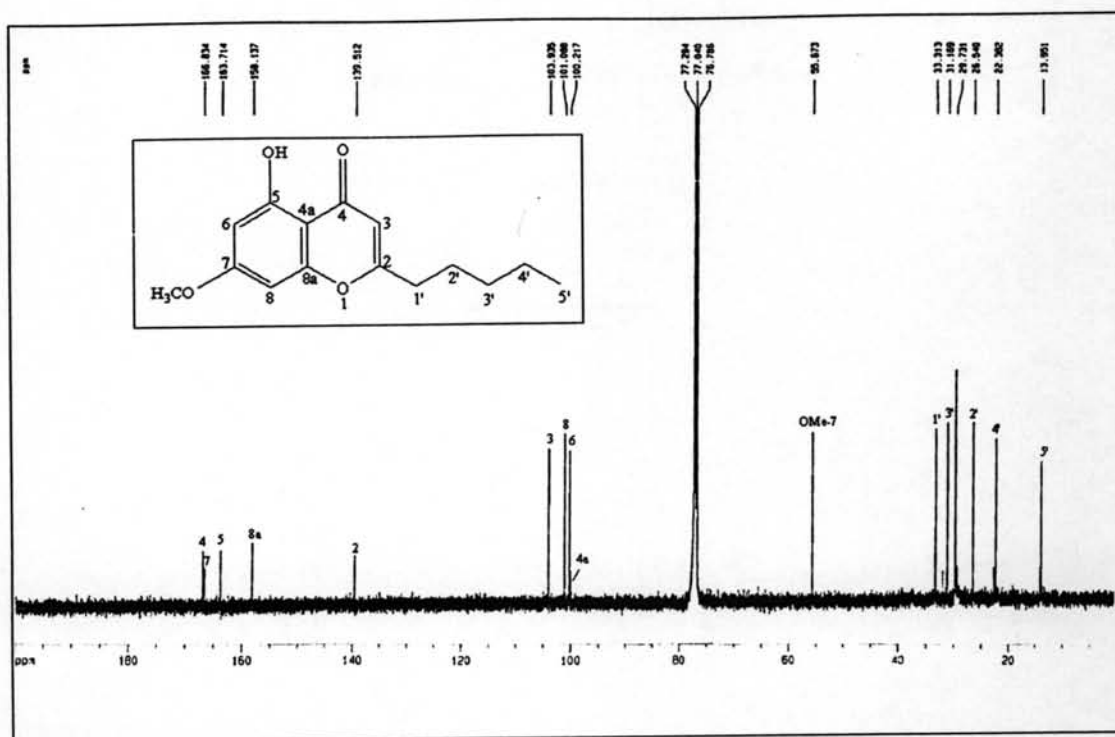


Figure 120. ^{13}C NMR (125 MHz) Spectrum of compound CP-14 (in CDCl_3)

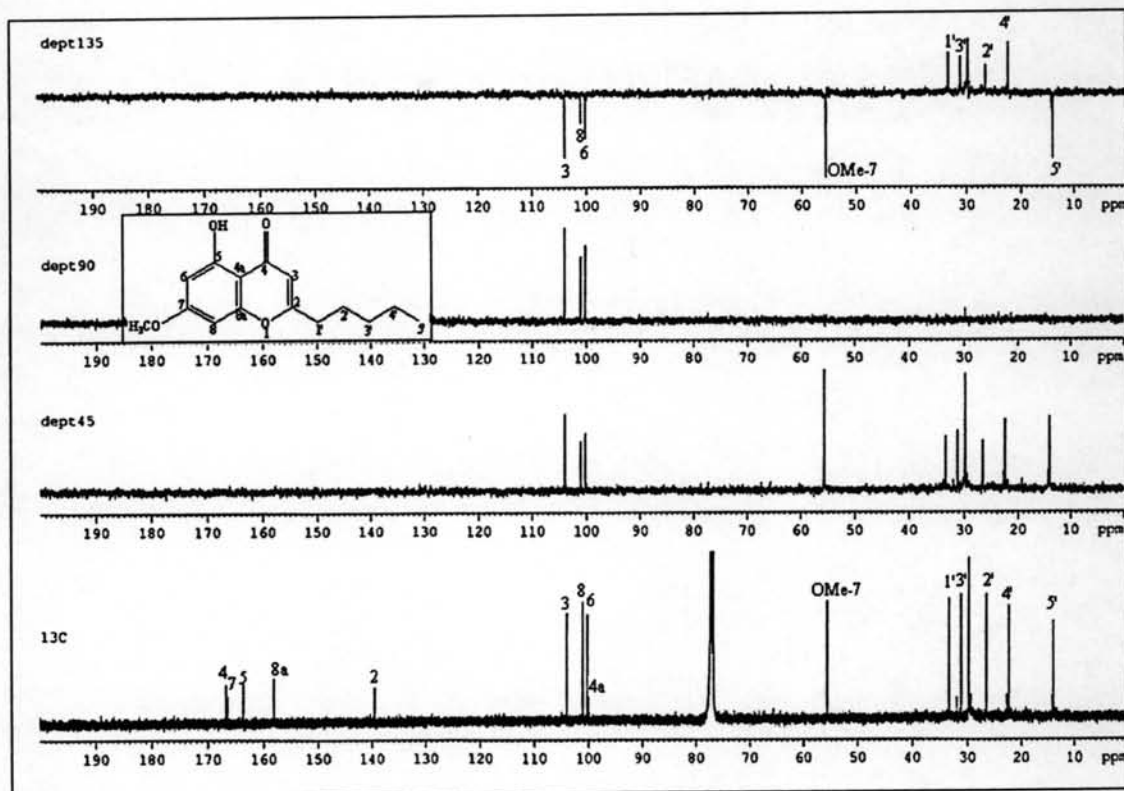


Figure 121. DEPT 135 Spectrum of compound CP-14

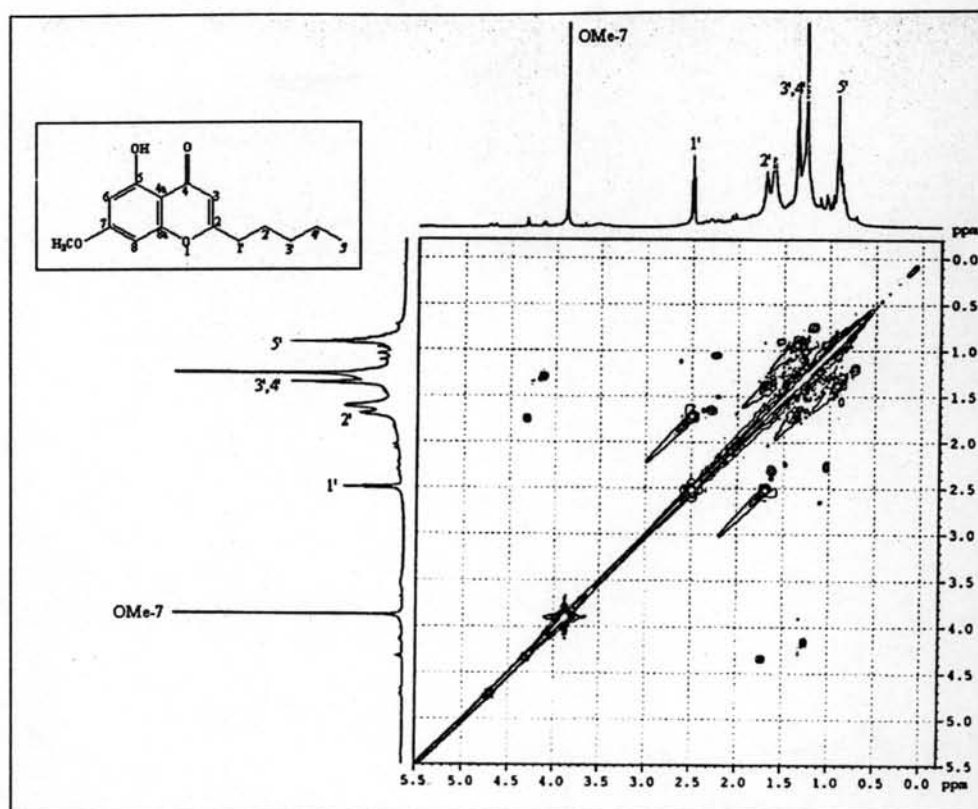


Figure 122. ^1H - ^1H COSY Spectrum of compound CP-14

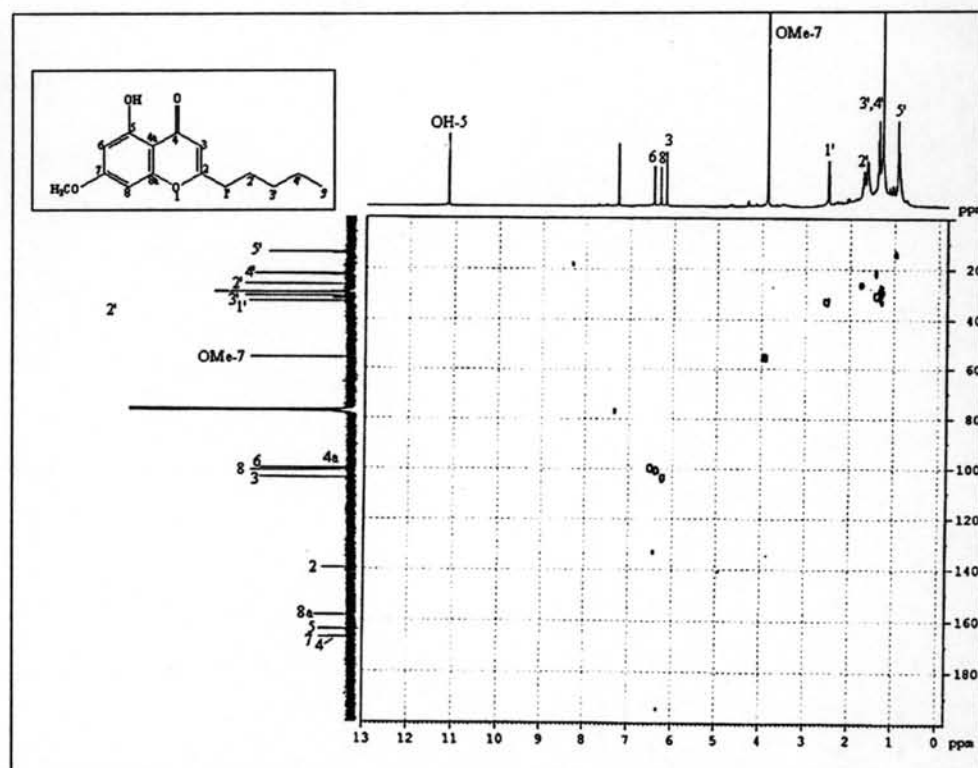


Figure 123. HMQC Spectrum of compound CP-14

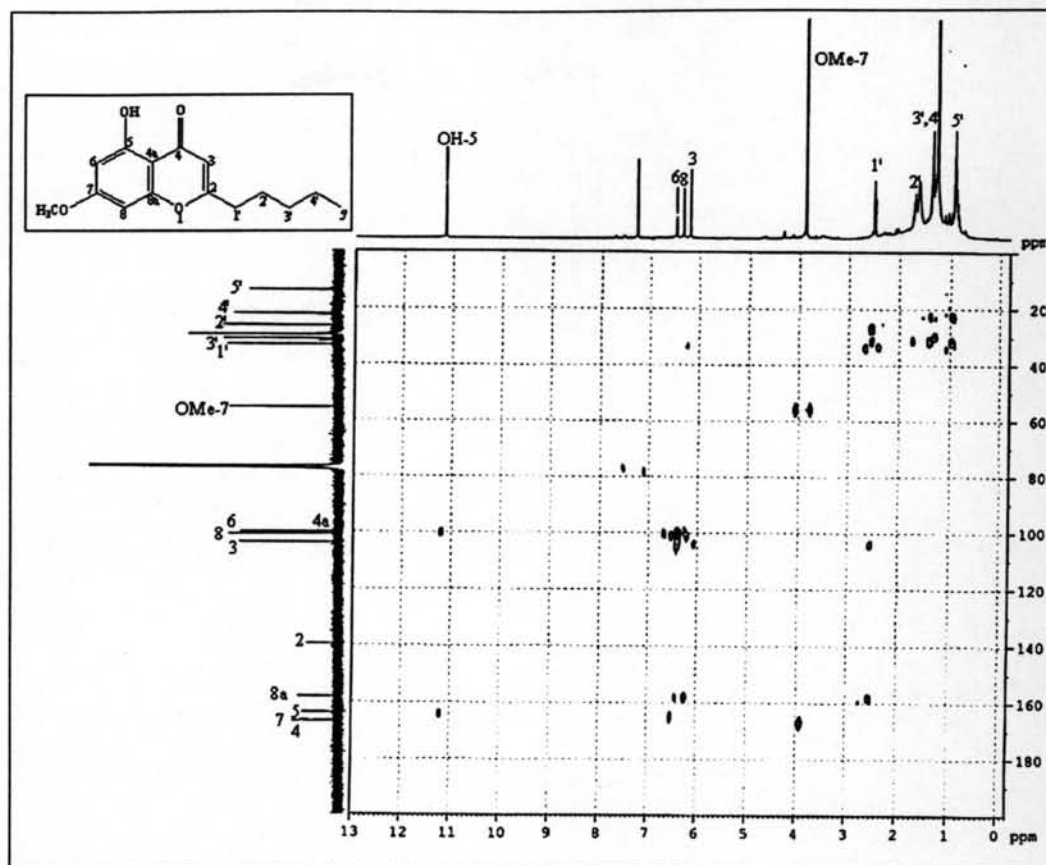


Figure 124. HMBC Spectrum of compound CP-14

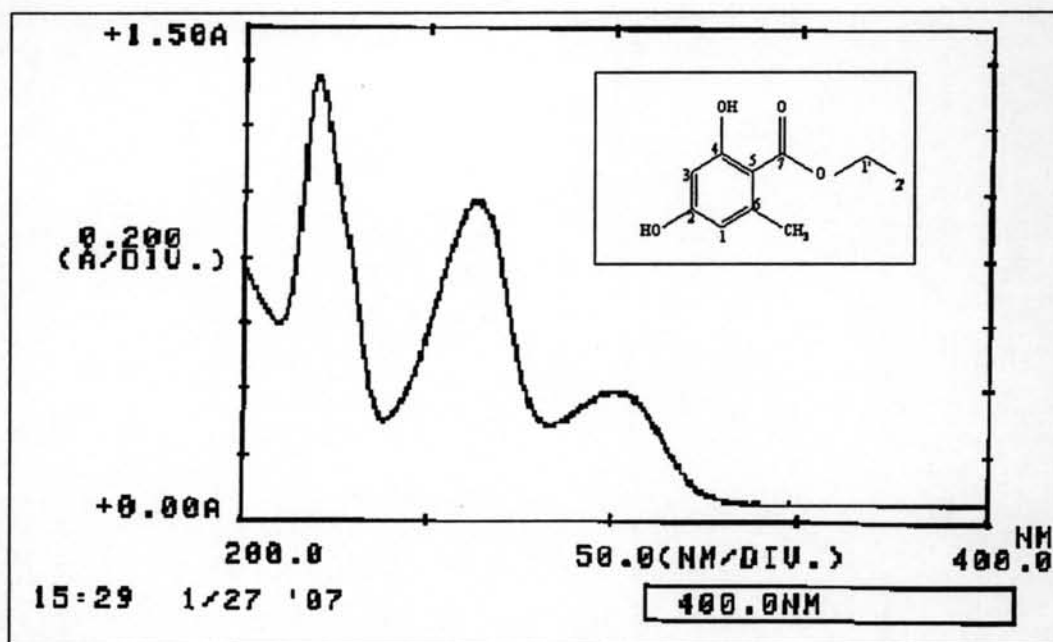


Figure 125. UV Spectrum of compound CP-15 (MeOH)

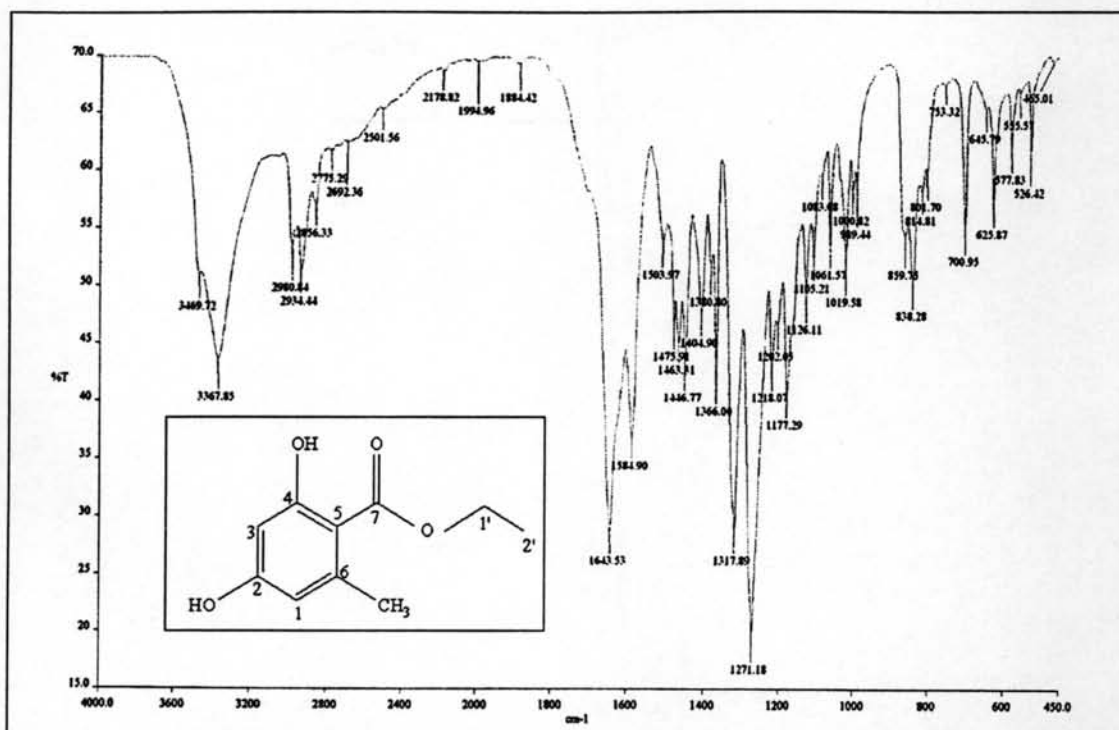


Figure 126. IR Spectrum of compound CP-15 (KBr disc)

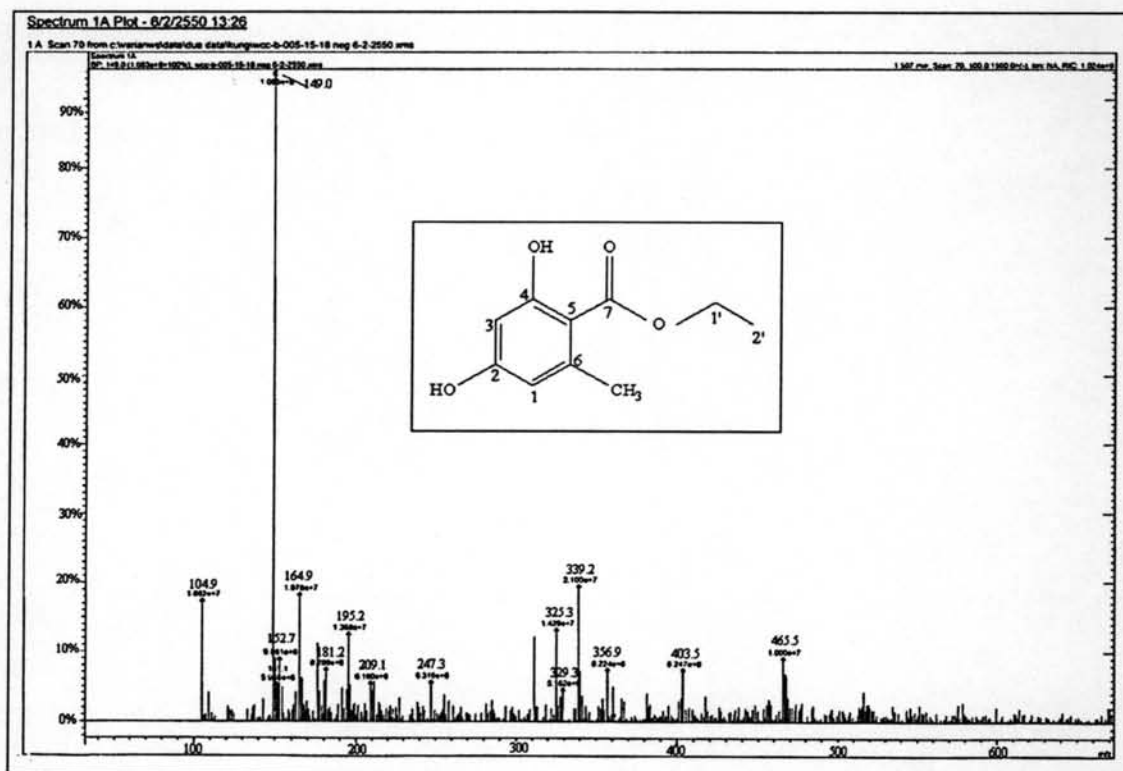


Figure 127. ESI-Mass spectrum (Negative mode) of compound CP-15

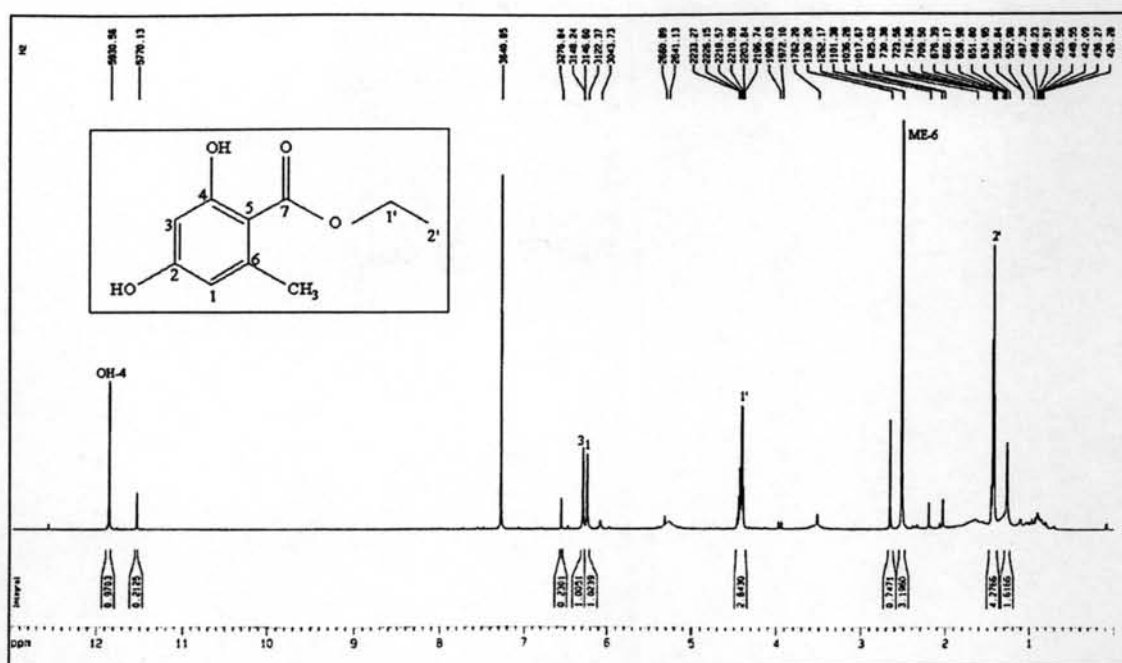


Figure 128a. ^1H NMR (500 MHz) Spectrum of compound CP-15 (in CDCl_3)

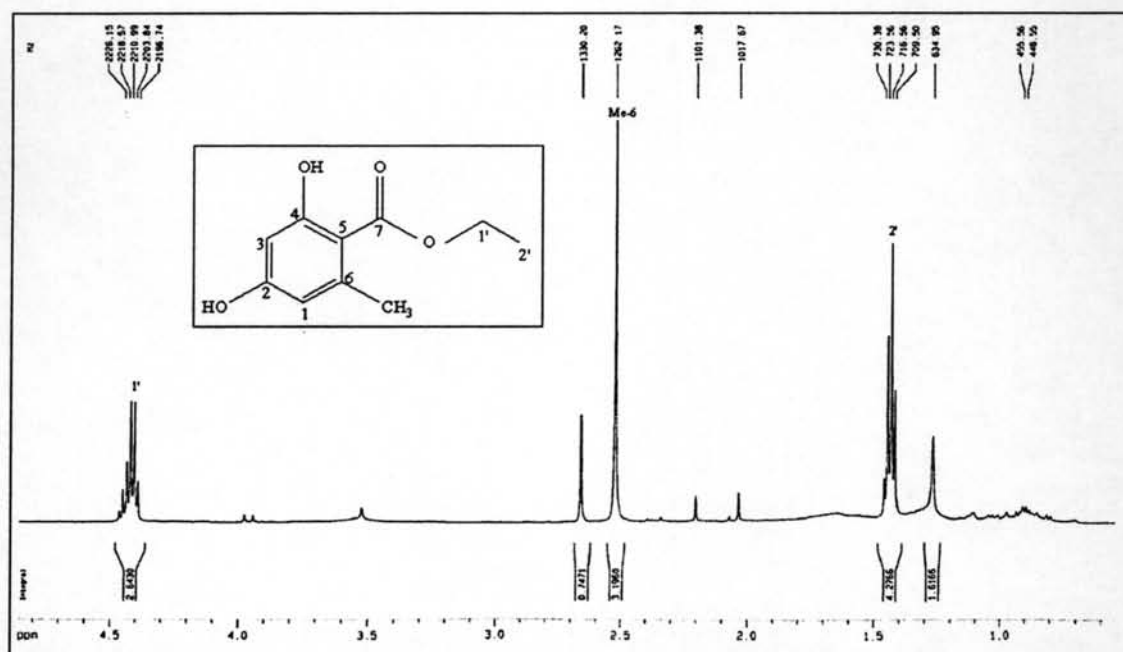


Figure 128b. ^1H NMR (500 MHz) Spectrum of compound CP-15 (in CDCl_3) (expansion δ 1.0-4.8 ppm)

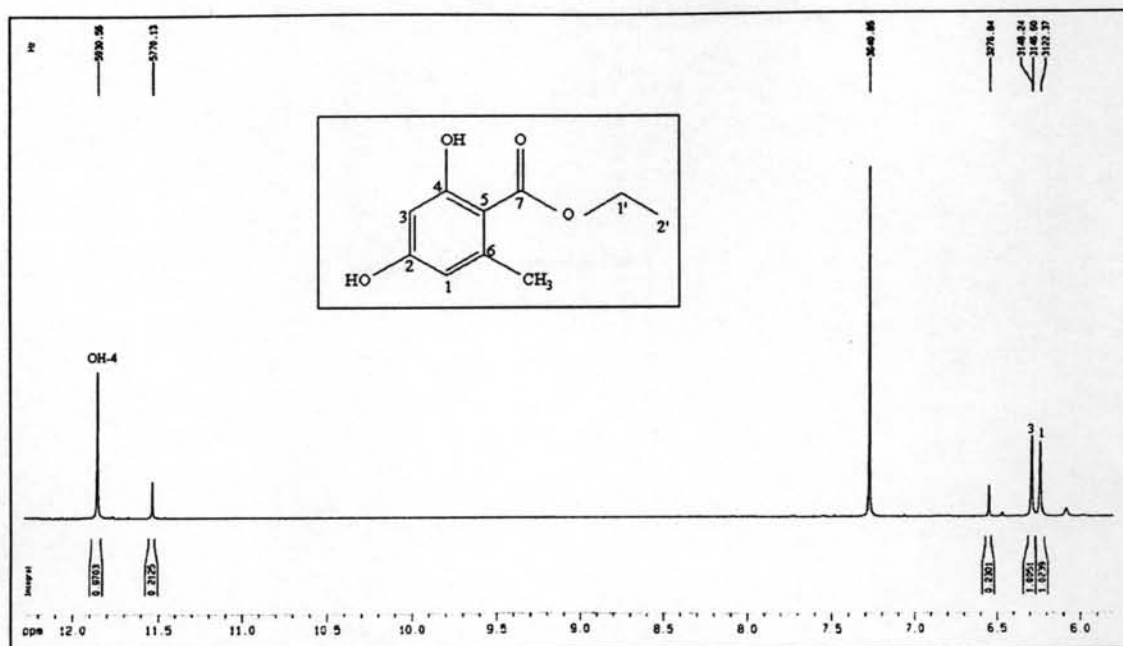


Figure 128c. ^1H NMR (500 MHz) Spectrum of compound CP-15 (in CDCl_3) (expansion δ 6.0-12.0 ppm)

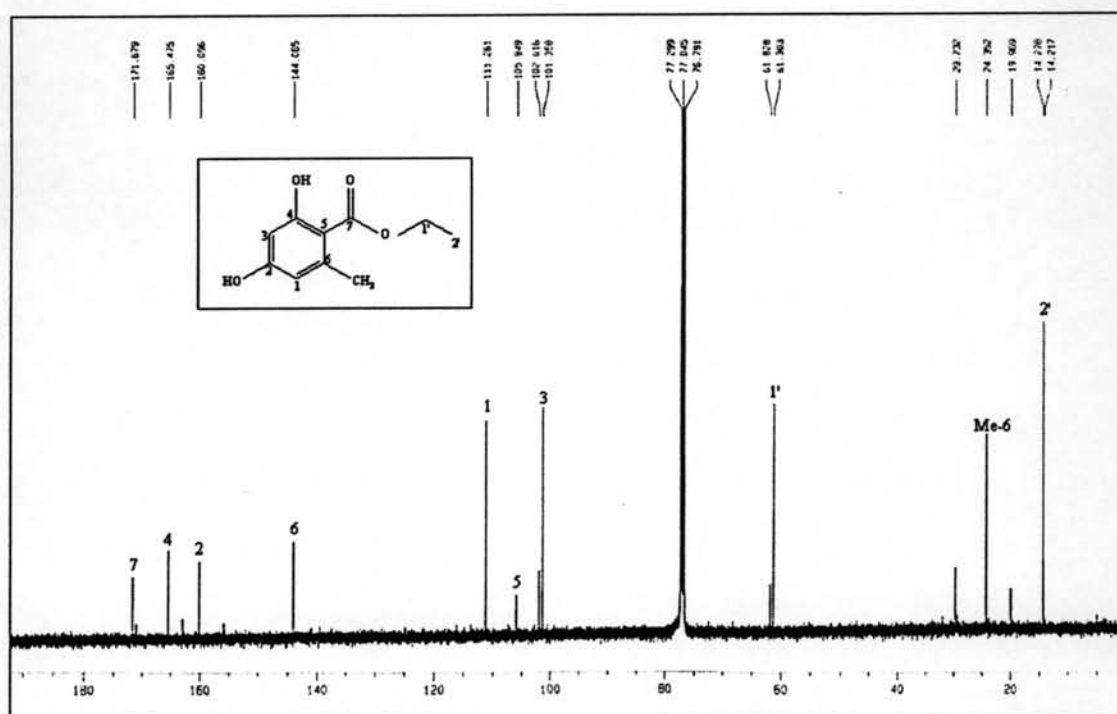


Figure 129. ^{13}C NMR (125 MHz) Spectrum of compound CP-15 (in CDCl_3)

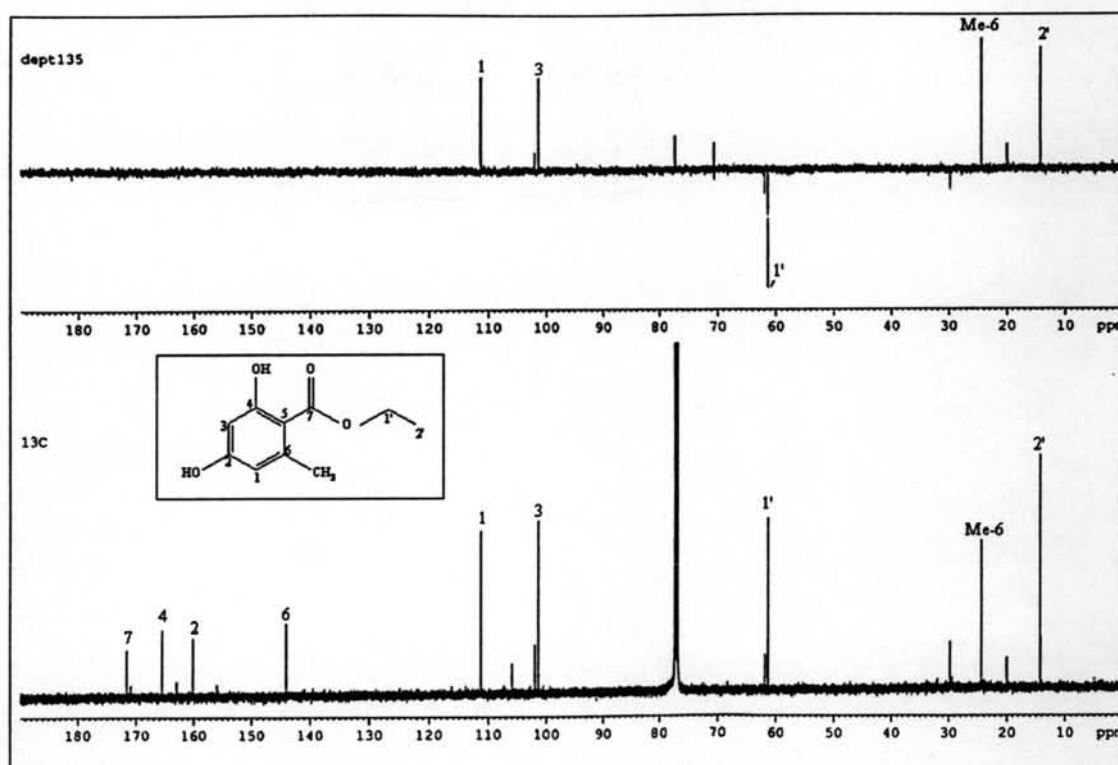


Figure 130. DEPT 135 Spectrum of compound CP-15

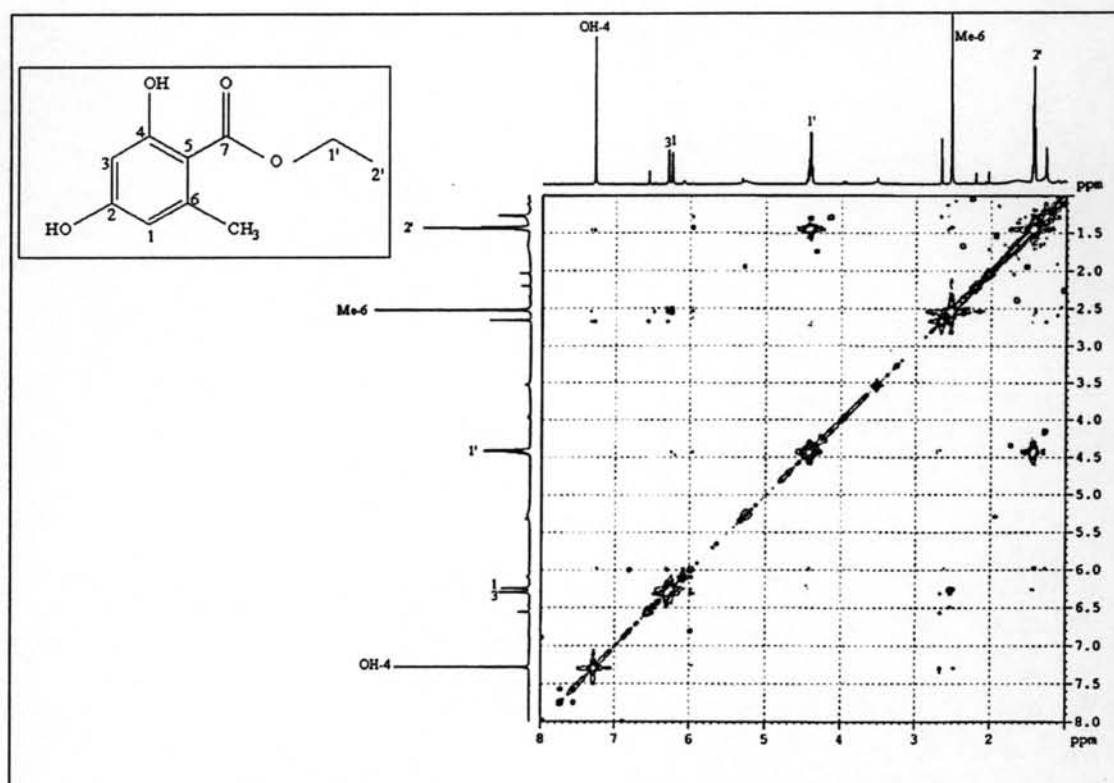


Figure 131. ^1H - ^1H COSY Spectrum of compound CP-15

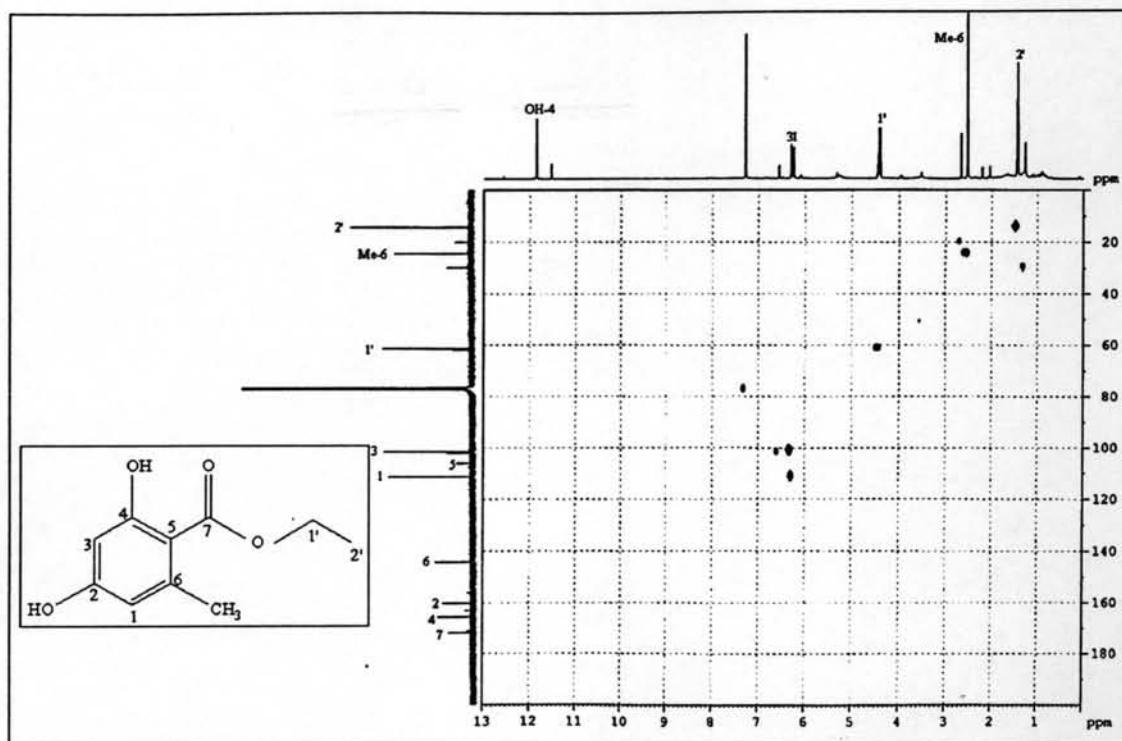


Figure 132. HMBC Spectrum of compound CP-15

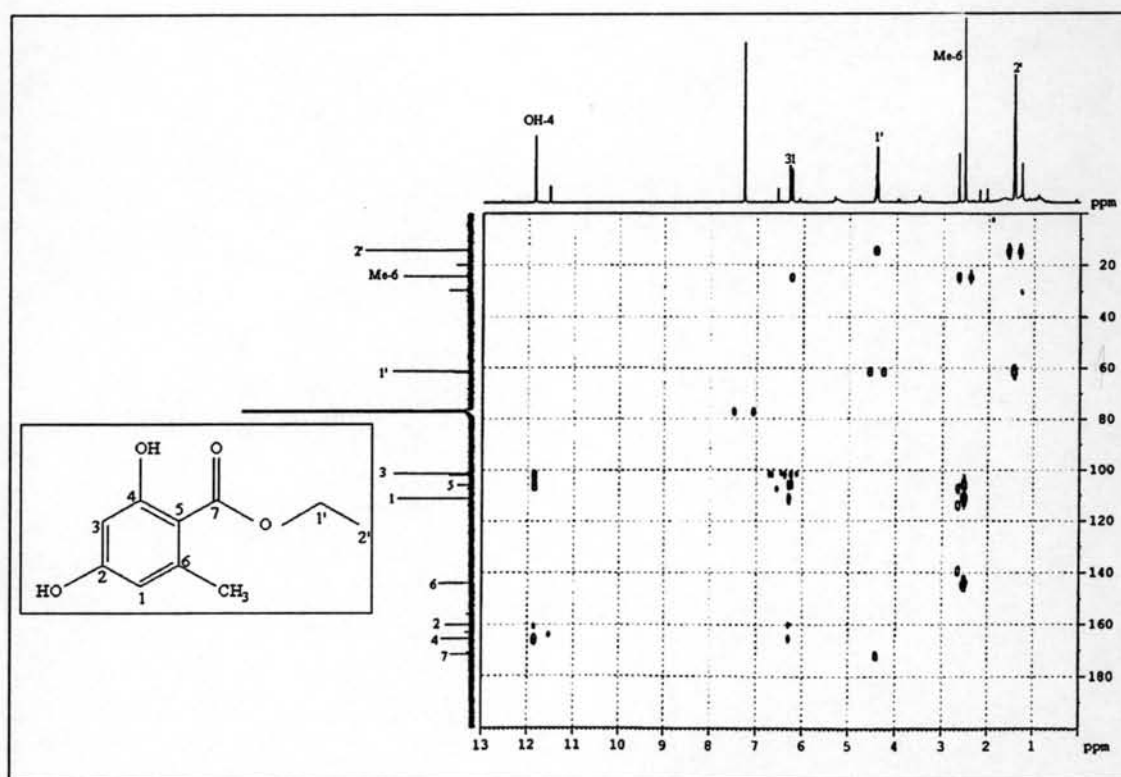


Figure 133. HMBC Spectrum of compound CP-15

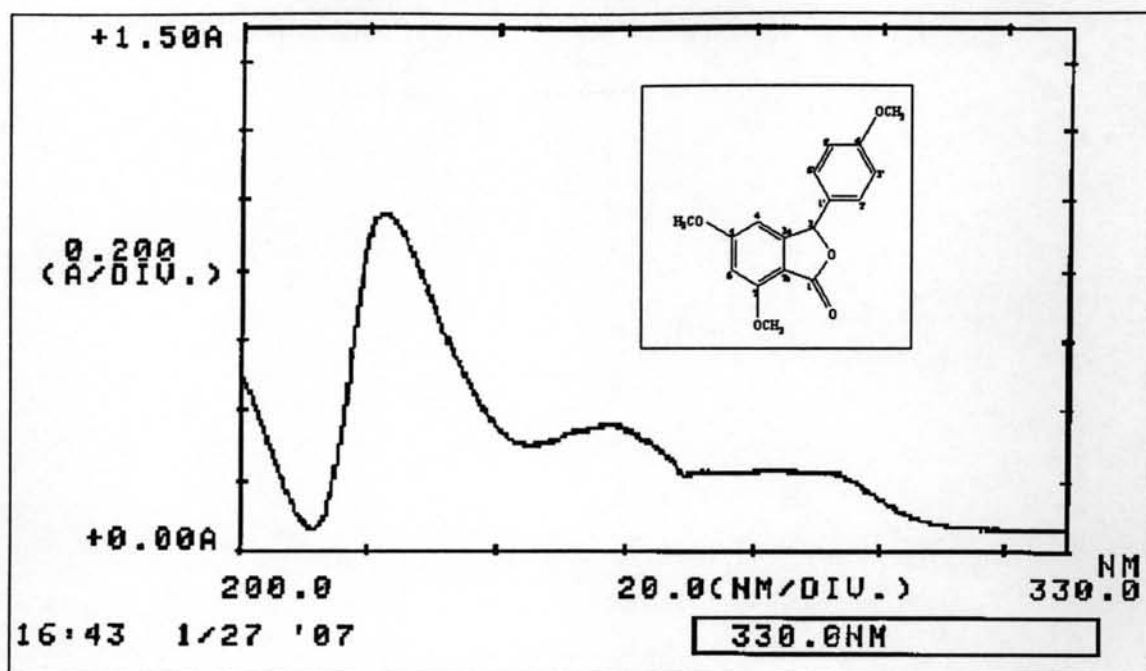


Figure 134. UV Spectrum of compound AE-4 (MeOH)

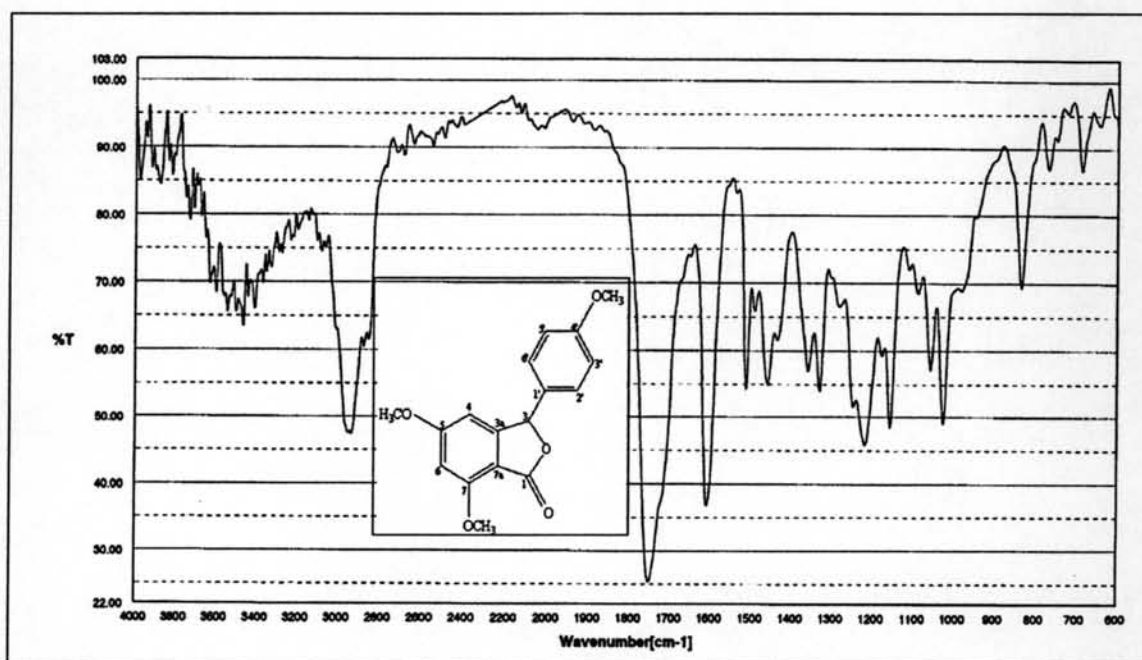


Figure 135. IR Spectrum of compound AE-4 (KBr disc)

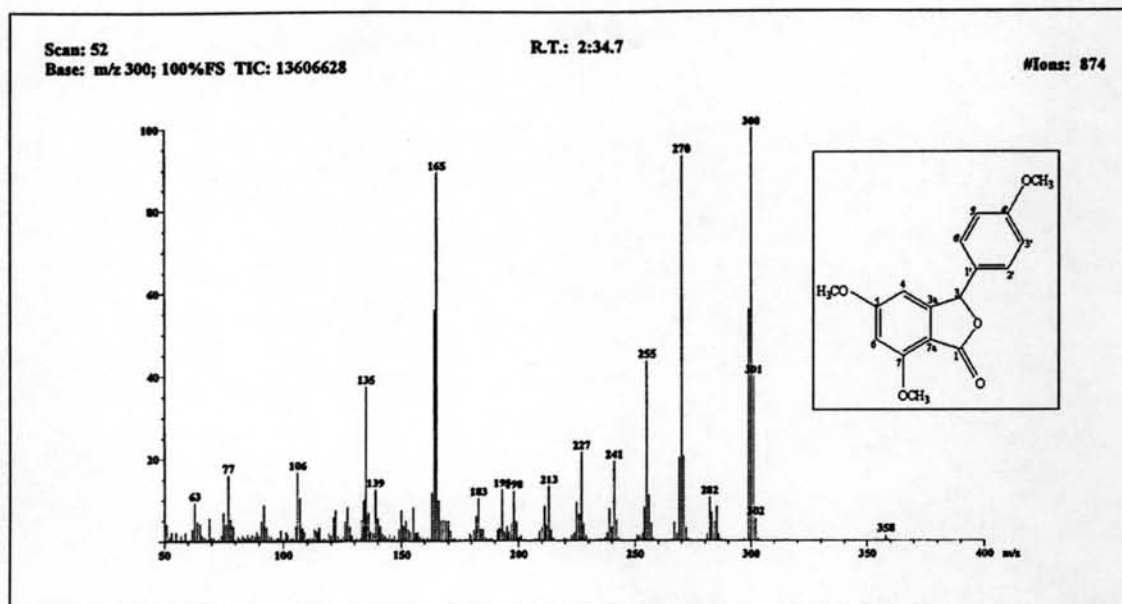


Figure 136. EI Mass spectrum of compound AE-4

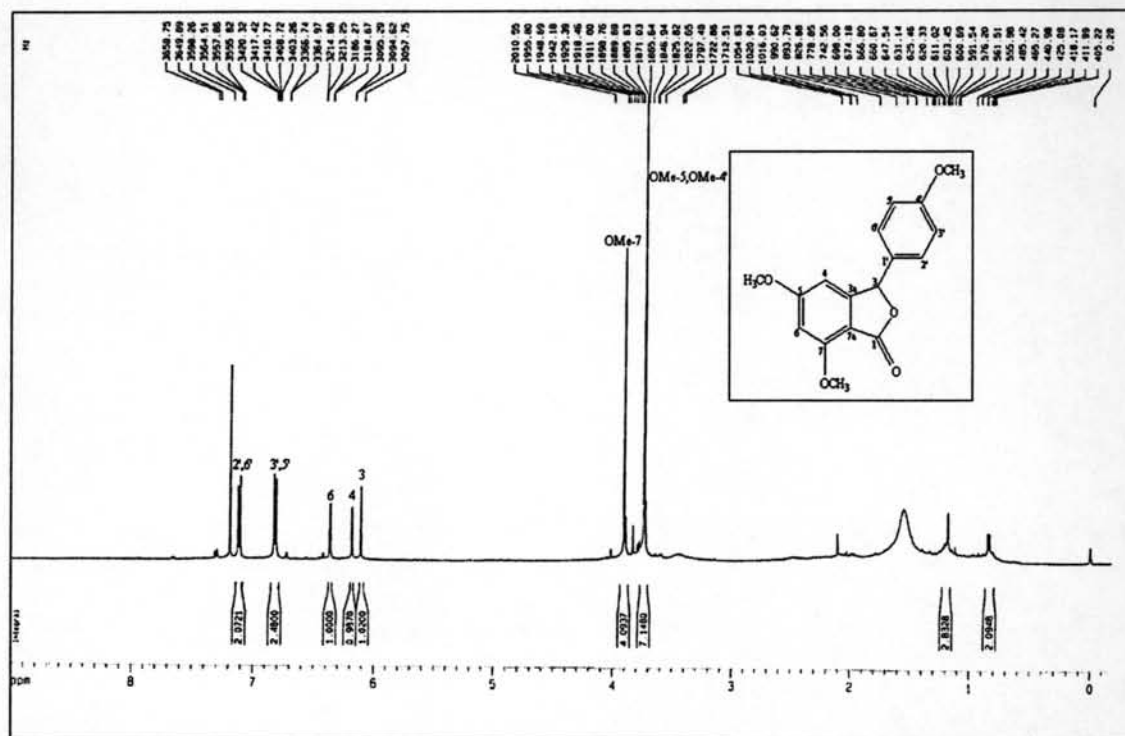


Figure 137a. ¹H NMR (500 MHz) Spectrum of compound AE-4 (in CDCl₃)

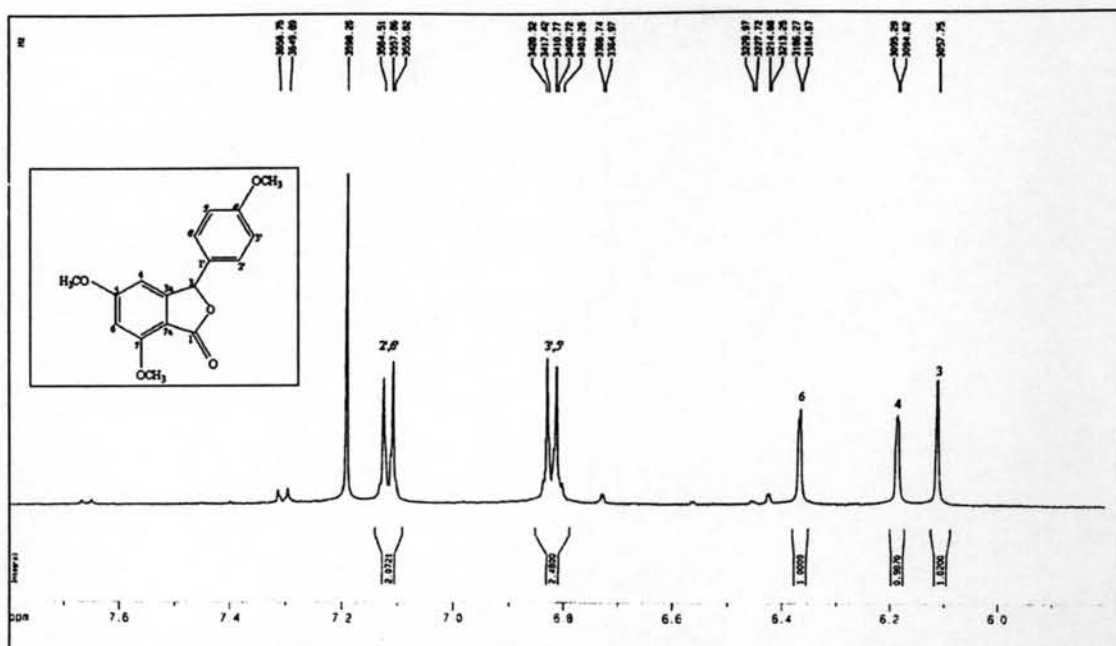


Figure 137b. ¹H NMR (500 MHz) Spectrum of compound AE-4 (in CDCl₃) (expansion δ 6.0-7.4 ppm)

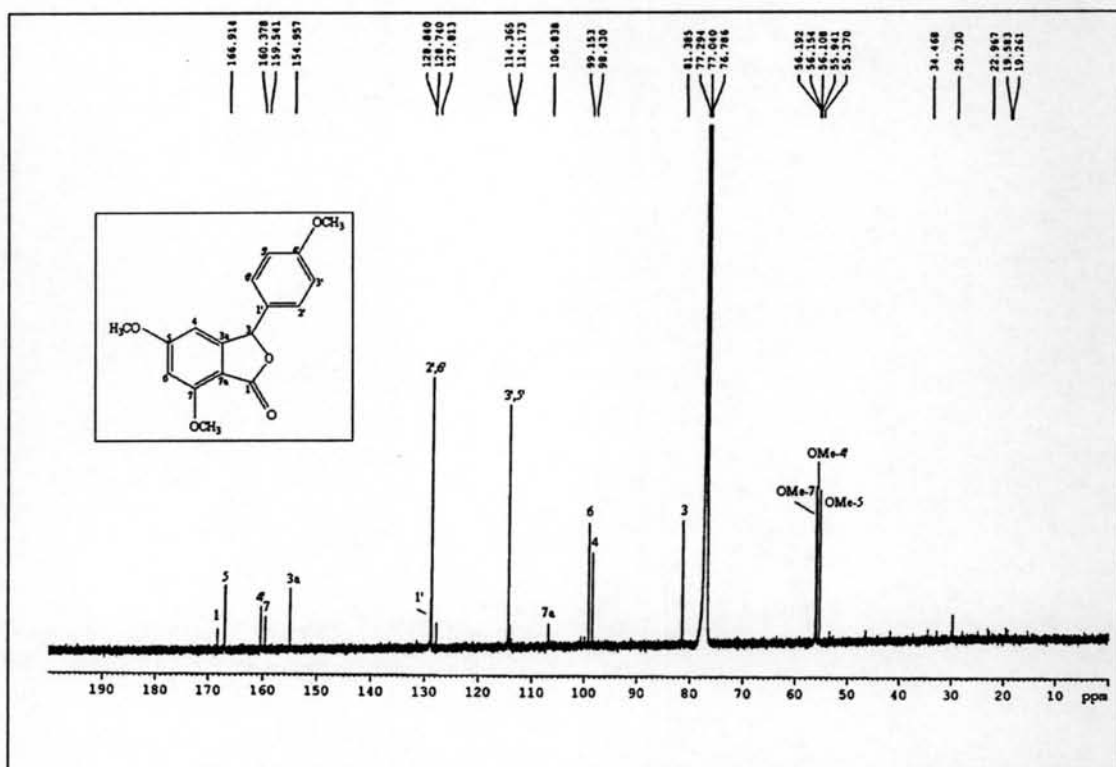


Figure 138. ¹³C NMR (125 MHz) Spectrum of compound AE-4 (in CDCl₃)

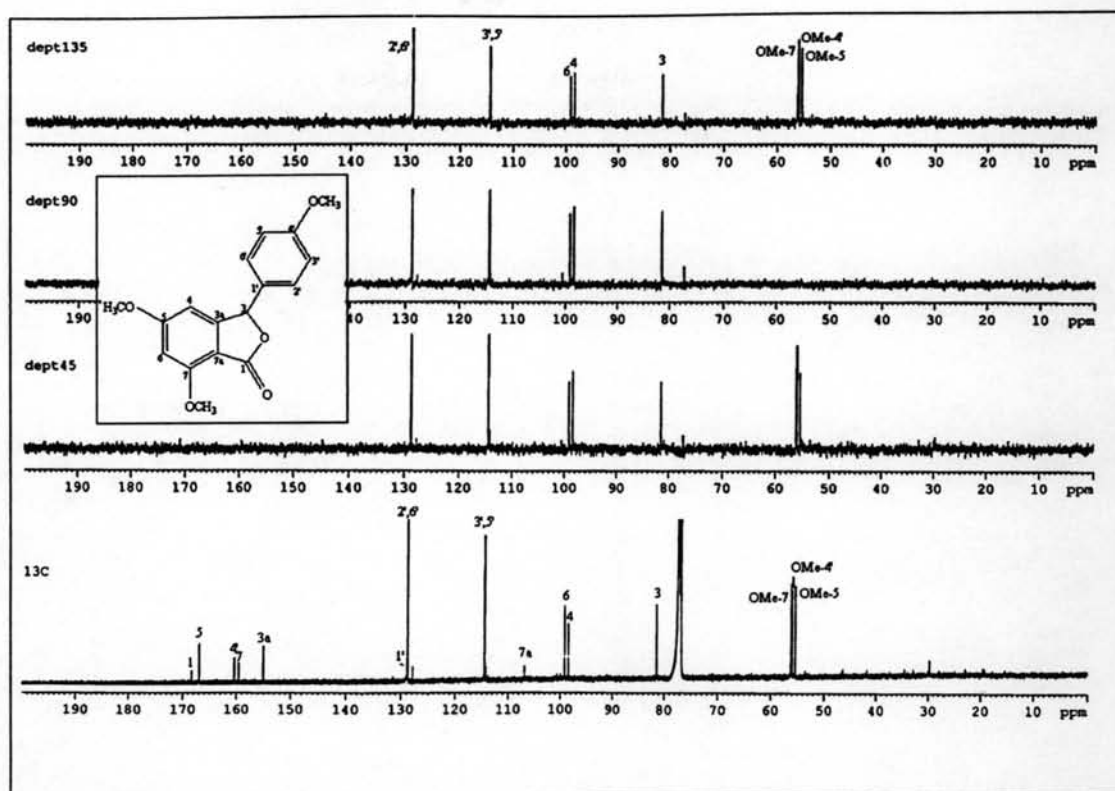


Figure 139. DEPT 135 Spectrum of compound AE-4

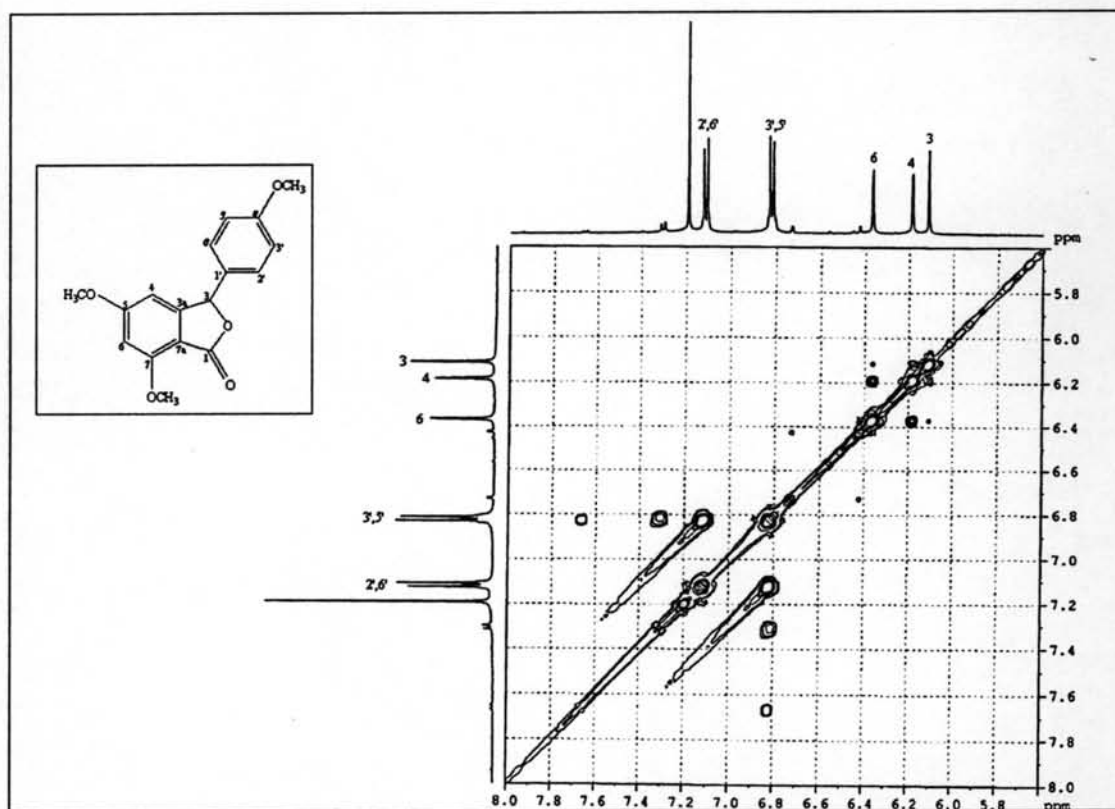


Figure 140. ^1H - ^1H COSY Spectrum of compound AE-4

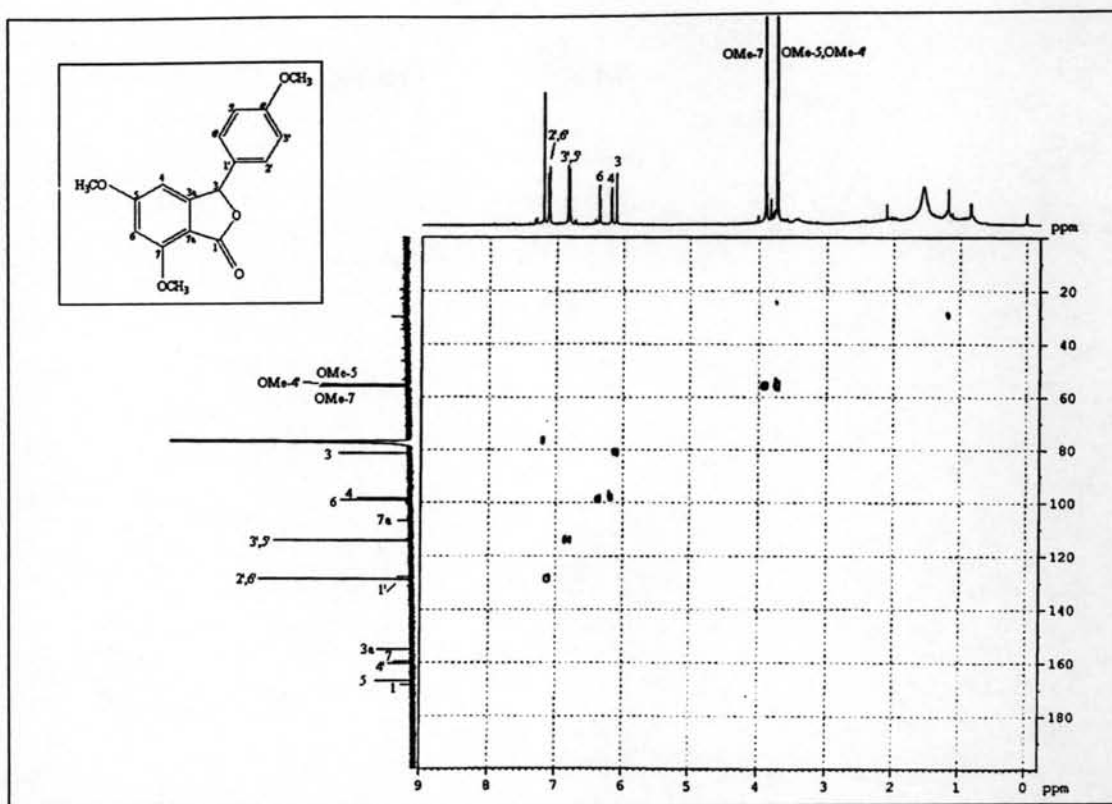


Figure 141. HMBC Spectrum of compound AE-4

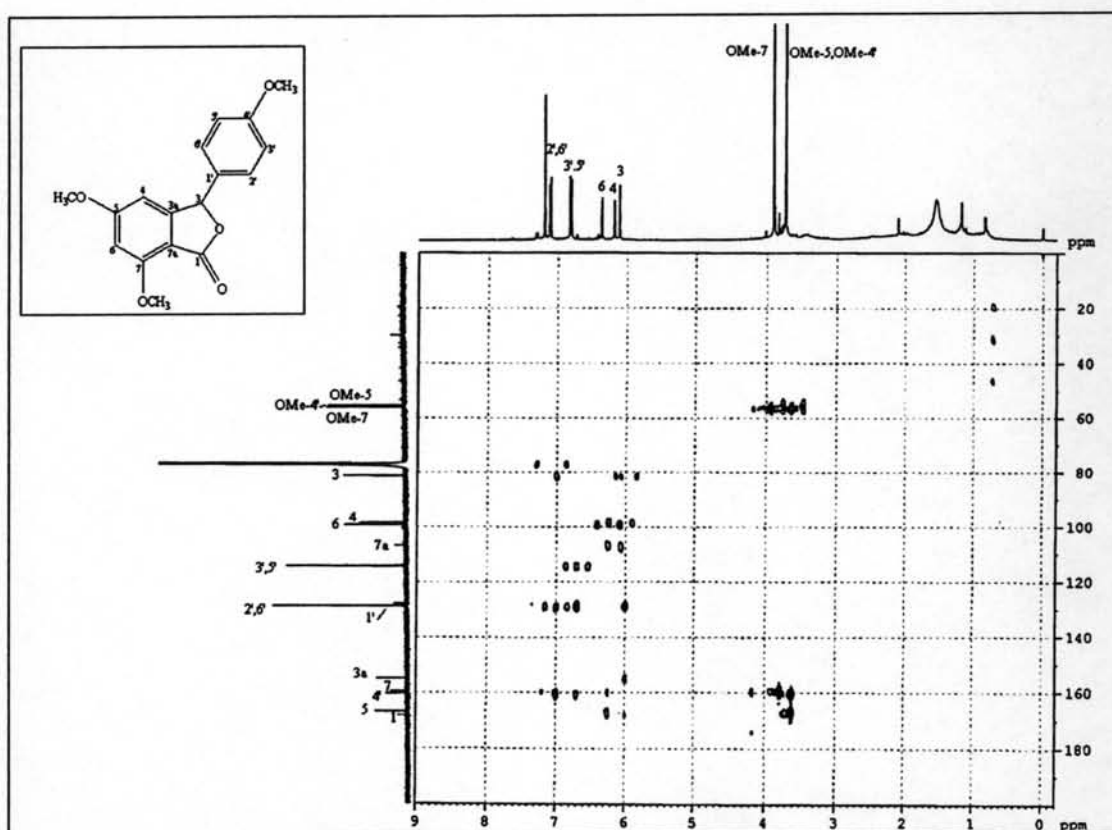


Figure 142. HMBC Spectrum of compound AE-4

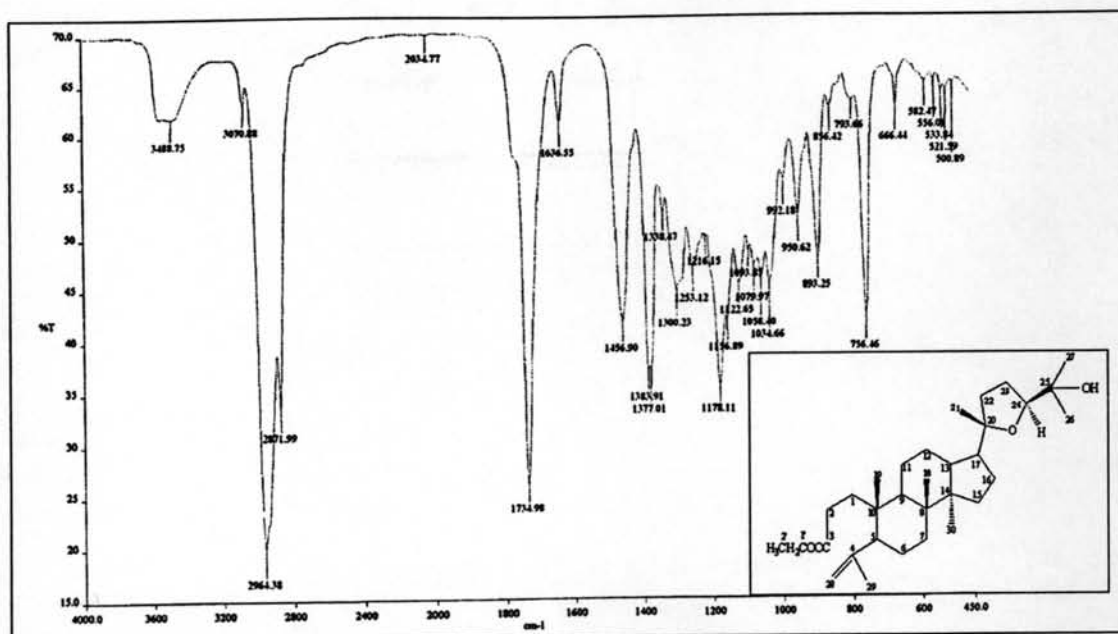


Figure 143. IR Spectrum of compound AE-5 (KBr disc)

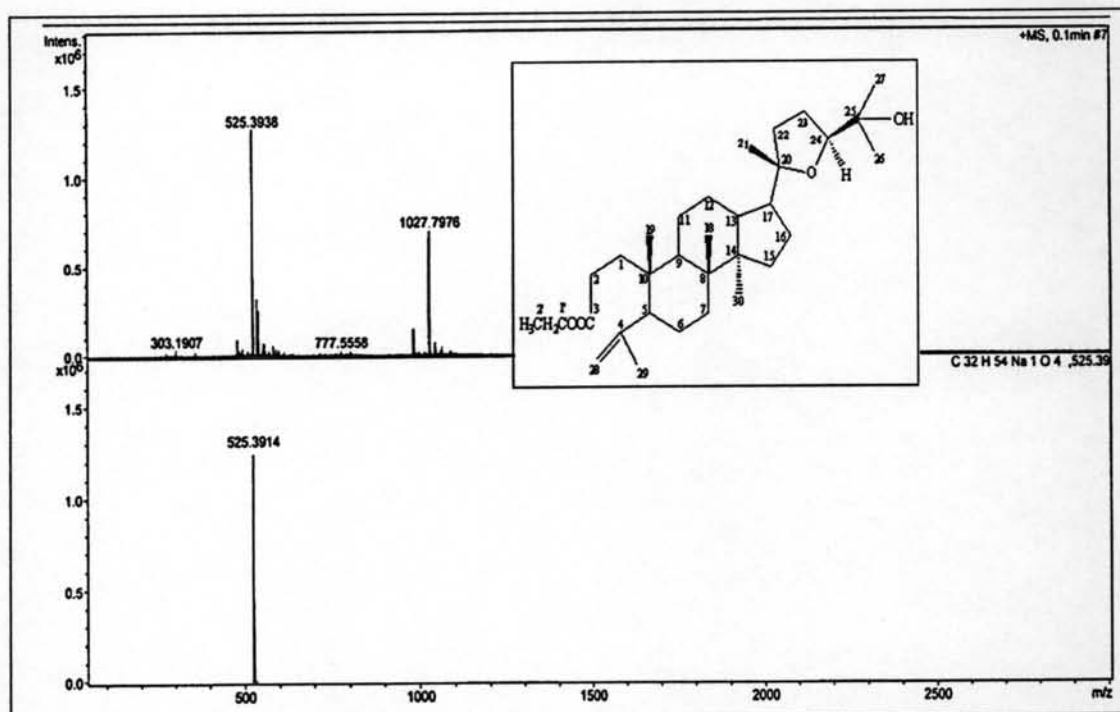


Figure 144. ESI-TOF mass spectrum of compound AE-5

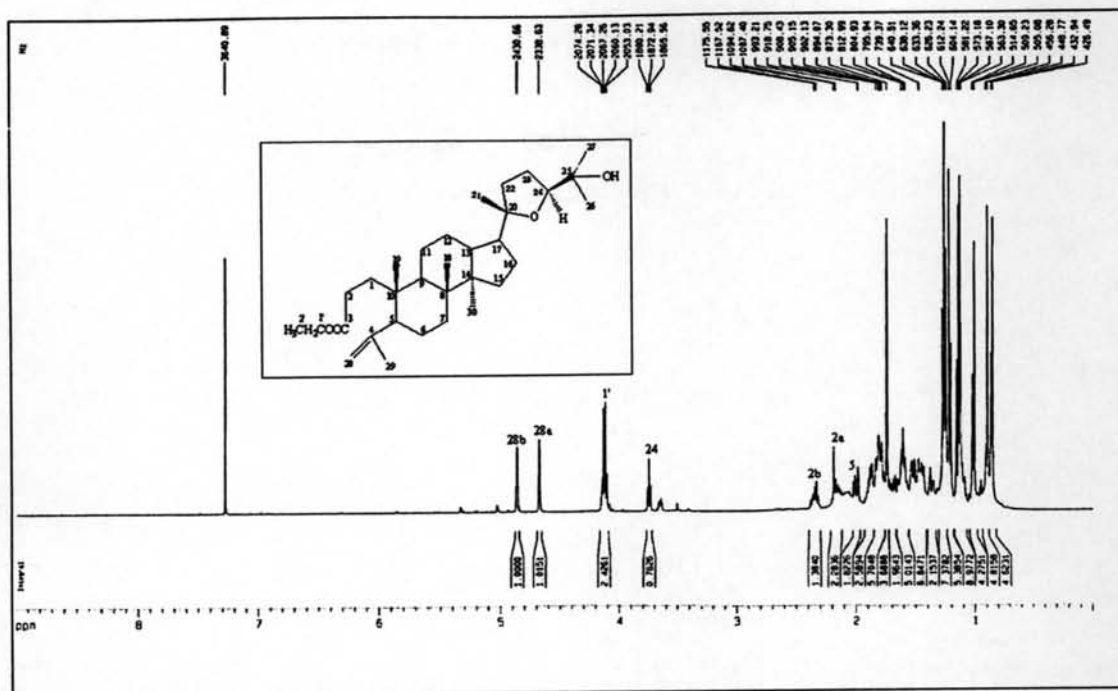


Figure 145a. ^1H NMR (500 MHz) Spectrum of compound AE-5 (in CDCl_3)

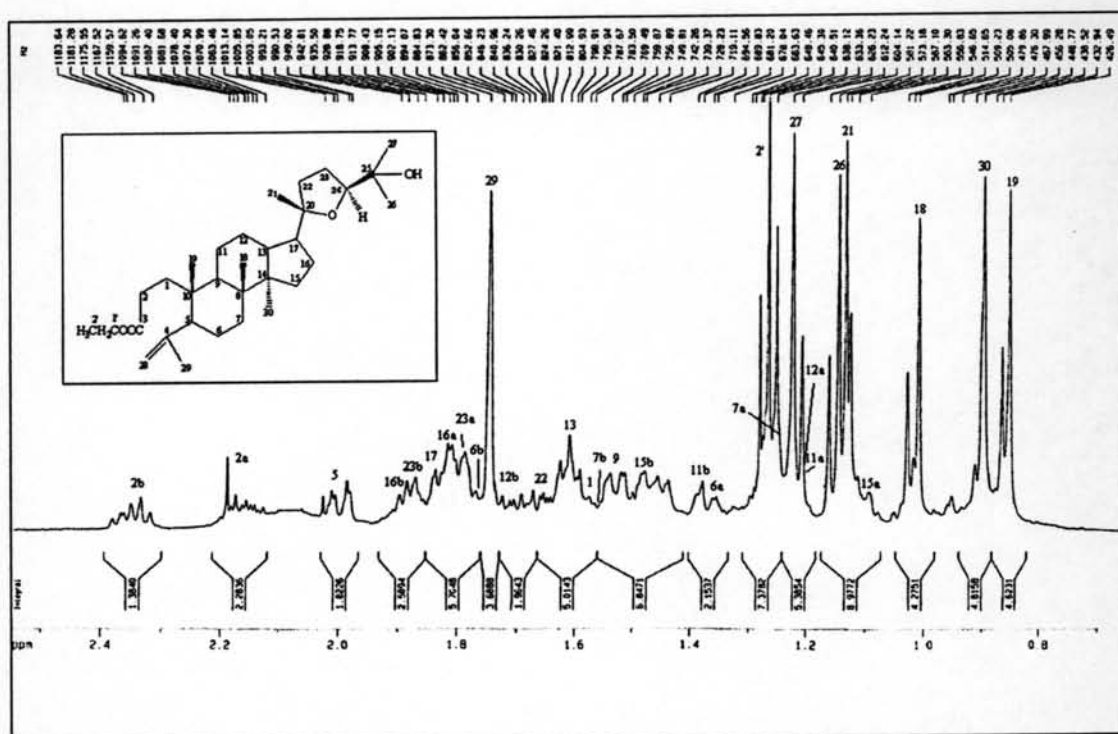


Figure 145b. ^1H NMR (500 MHz) Spectrum of compound AE-5 (in CDCl_3) (expansion δ 0.8-2.4 ppm)

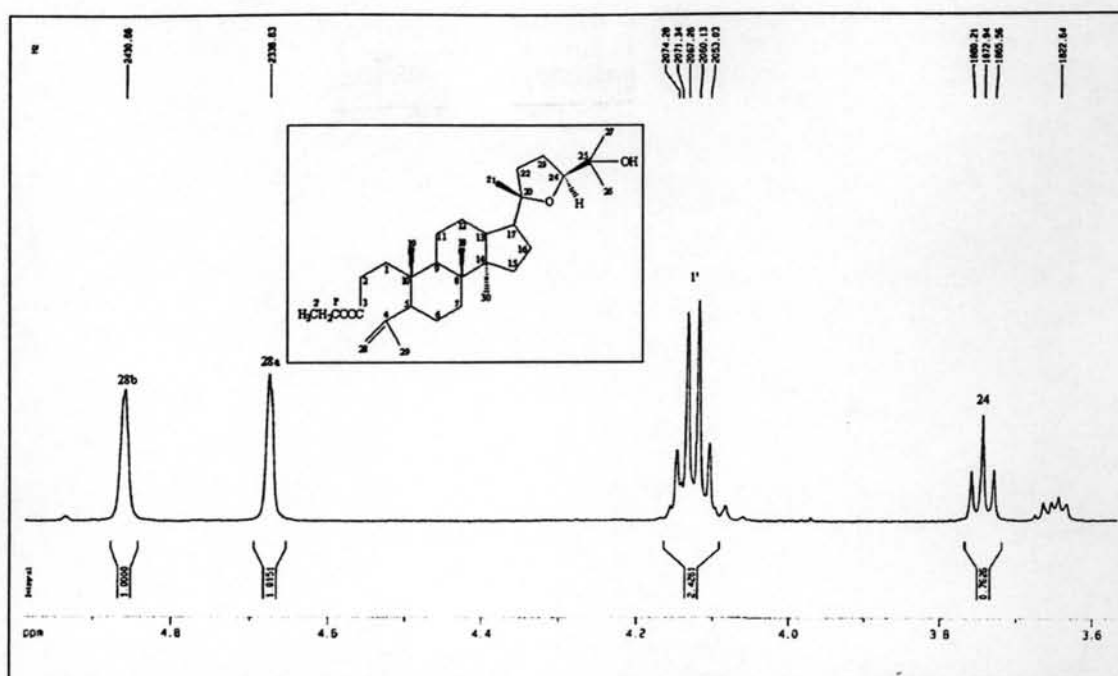


Figure 145c. ^1H NMR (500 MHz) Spectrum of compound AE-5 (in CDCl_3) (expansion δ 3.6-5.0 ppm)

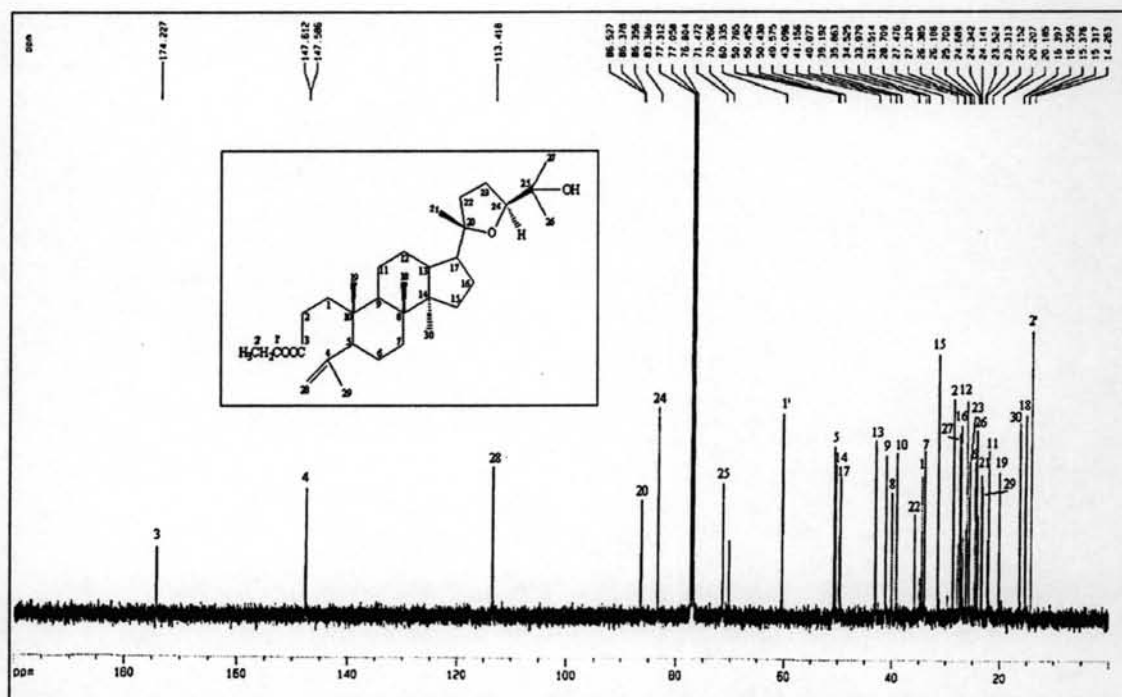


Figure 146. ^{13}C NMR (125 MHz) Spectrum of compound AE-5 (in CDCl_3)

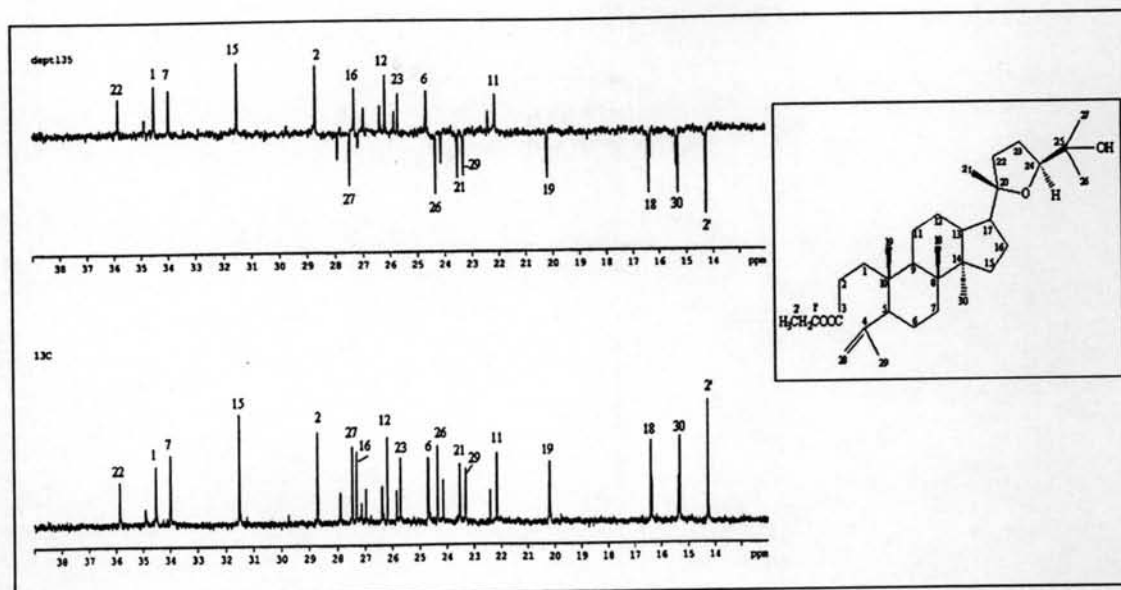


Figure 147a. DEPT 135 Spectrum of compound AE-5
(expansion δ 14-38 ppm)

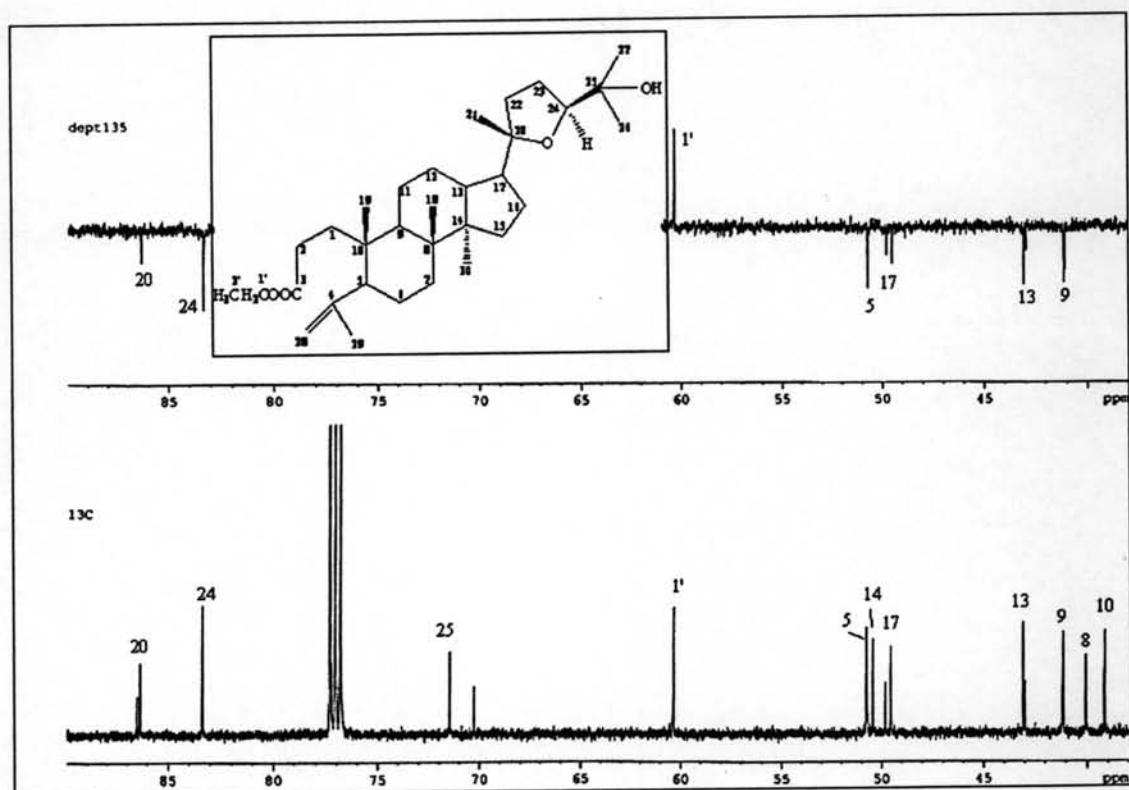


Figure 147b. DEPT 135 Spectrum of compound AE-5
(expansion δ 38-90 ppm)

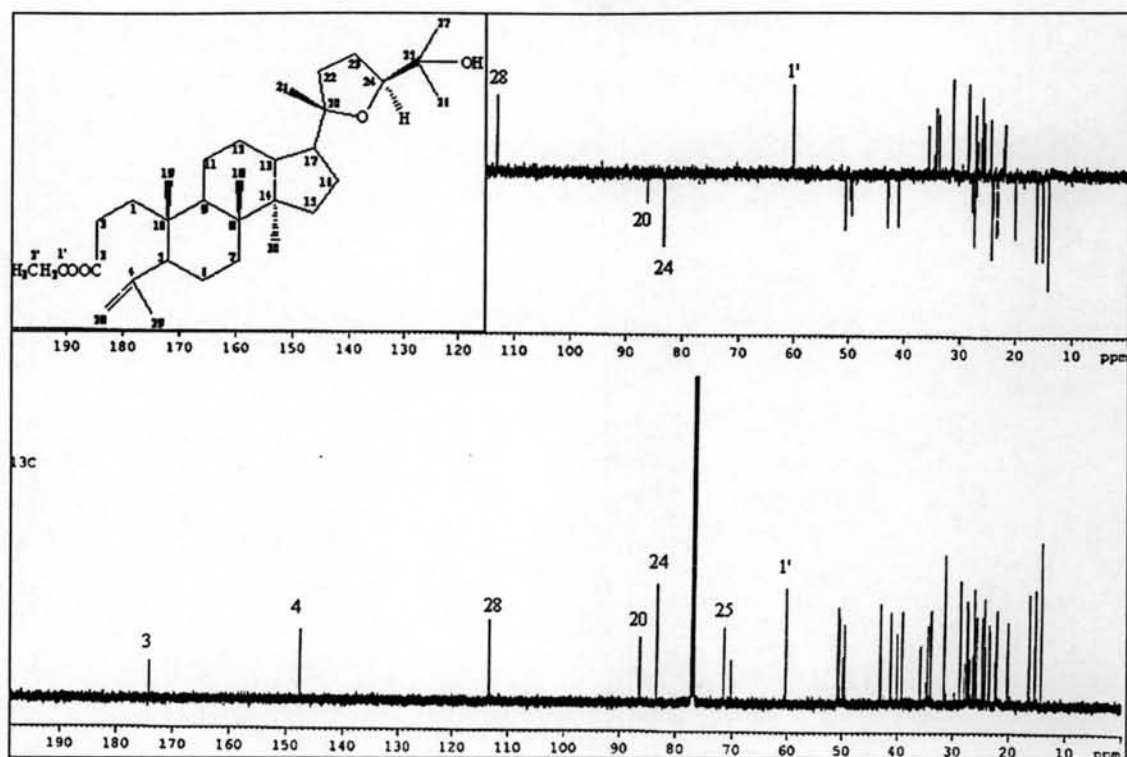


Figure 147c. DEPT 135 Spectrum of compound AE-5

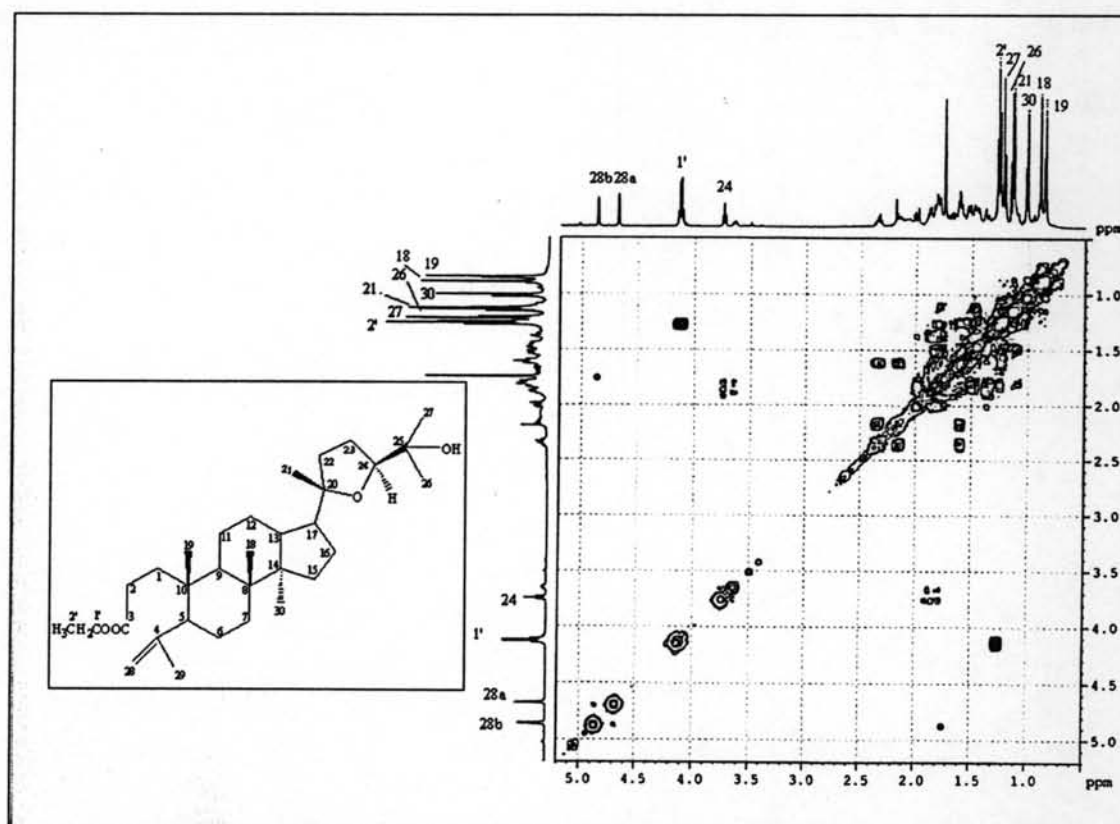


Figure 148. ¹H-¹H COSY Spectrum of compound AE-5

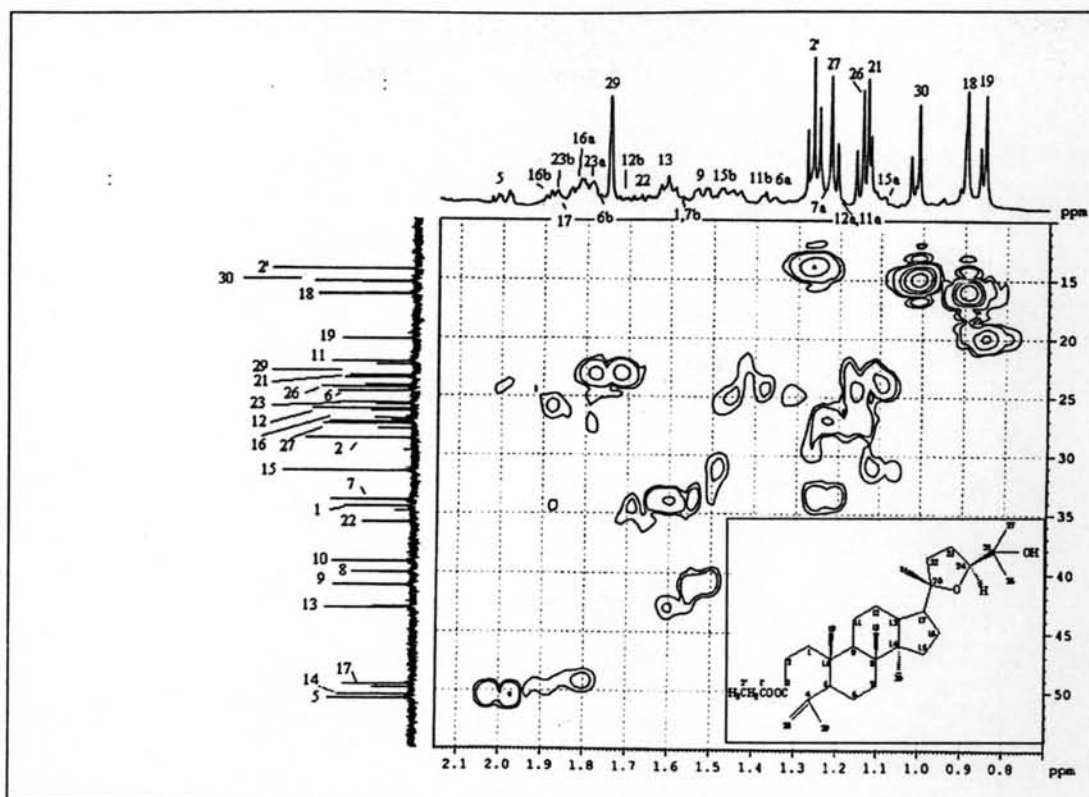


Figure 149a. HMQC Spectrum of compound AE-5

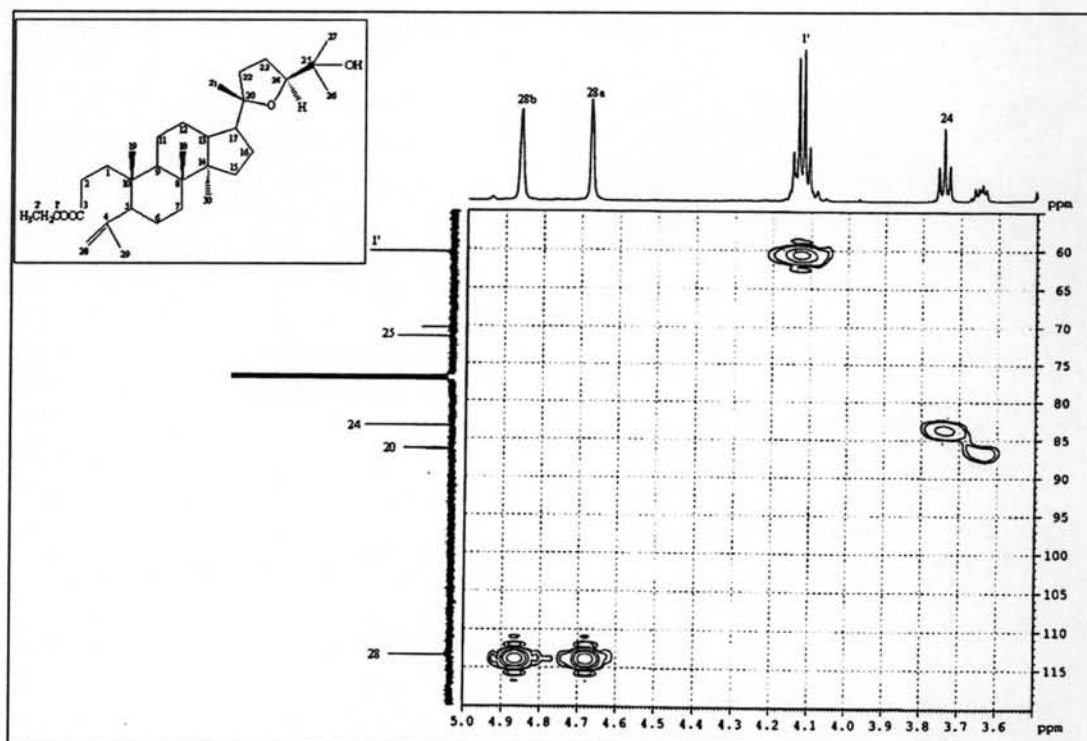


Figure 149b. HMQC Spectrum of compound AE-5
(δ_H 3.5-5.0 ppm, δ_C 55-115 ppm)

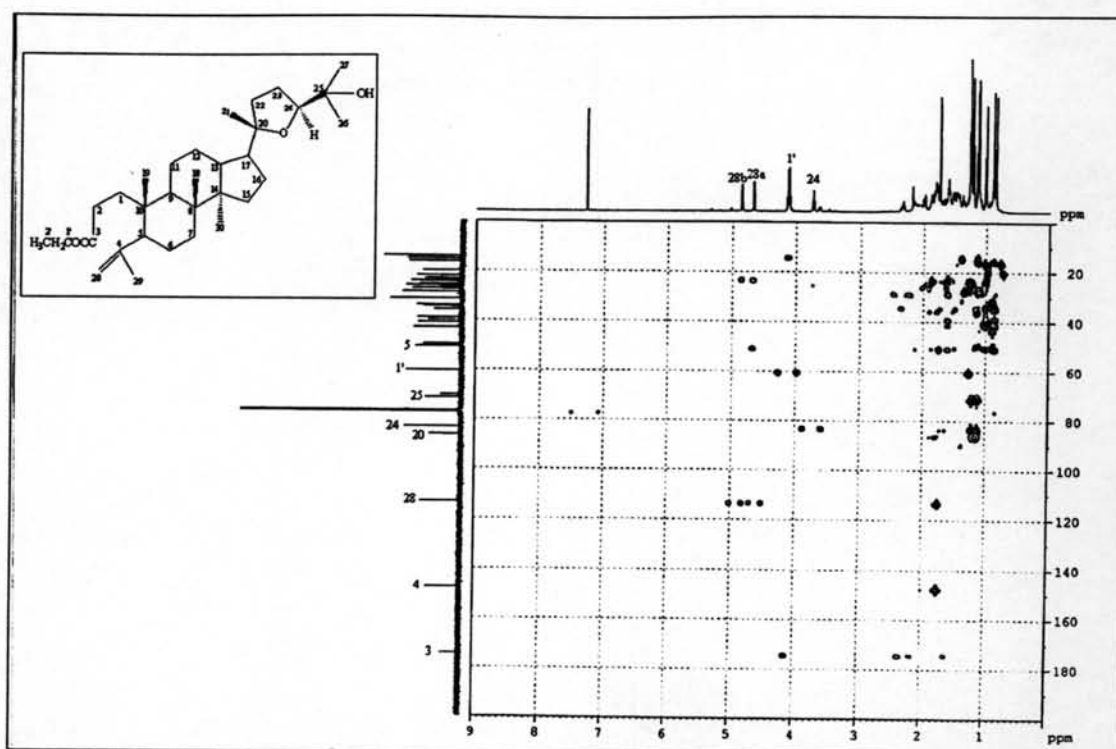


Figure 150a. HMBC Spectrum of compound AE-5

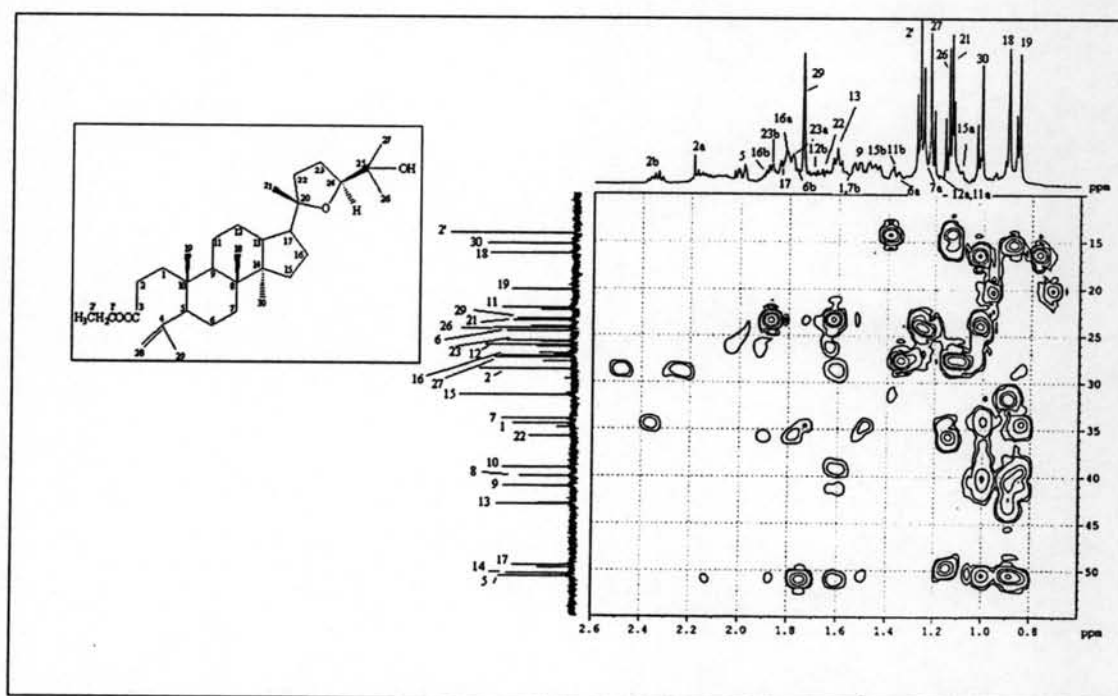


Figure 150b. HMBC Spectrum of compound AE-5
(δ_H 0.6-2.6 ppm, δ_C 10-55 ppm)

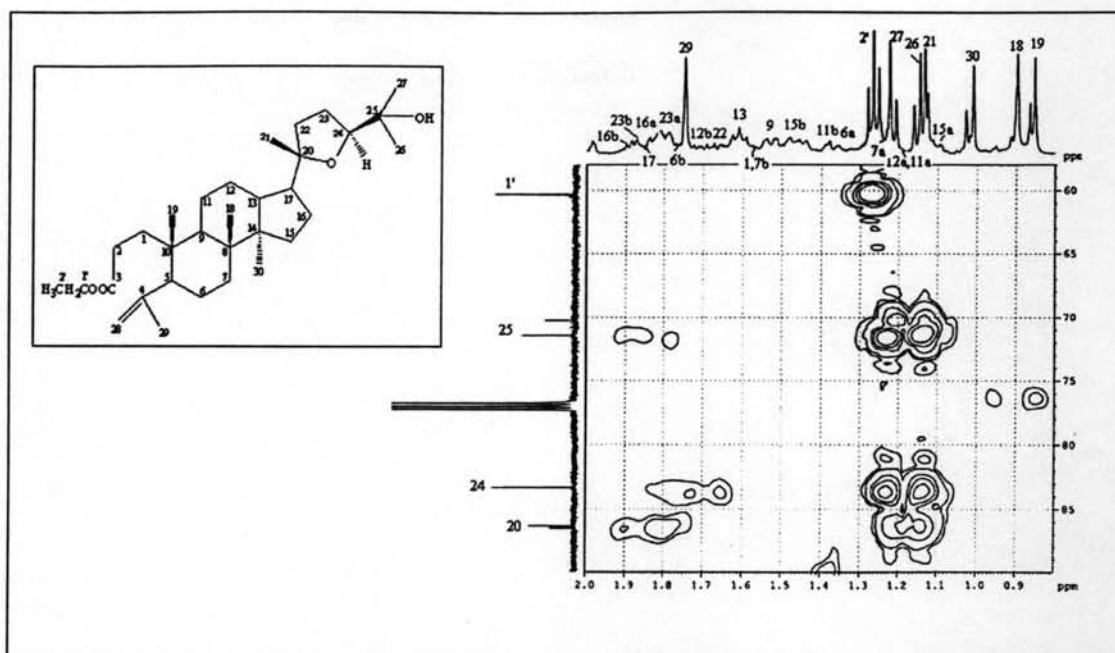


Figure 150c. HMBC Spectrum of compound AE-5
(δ_H 0.8-2.0 ppm, δ_C 59-90 ppm)

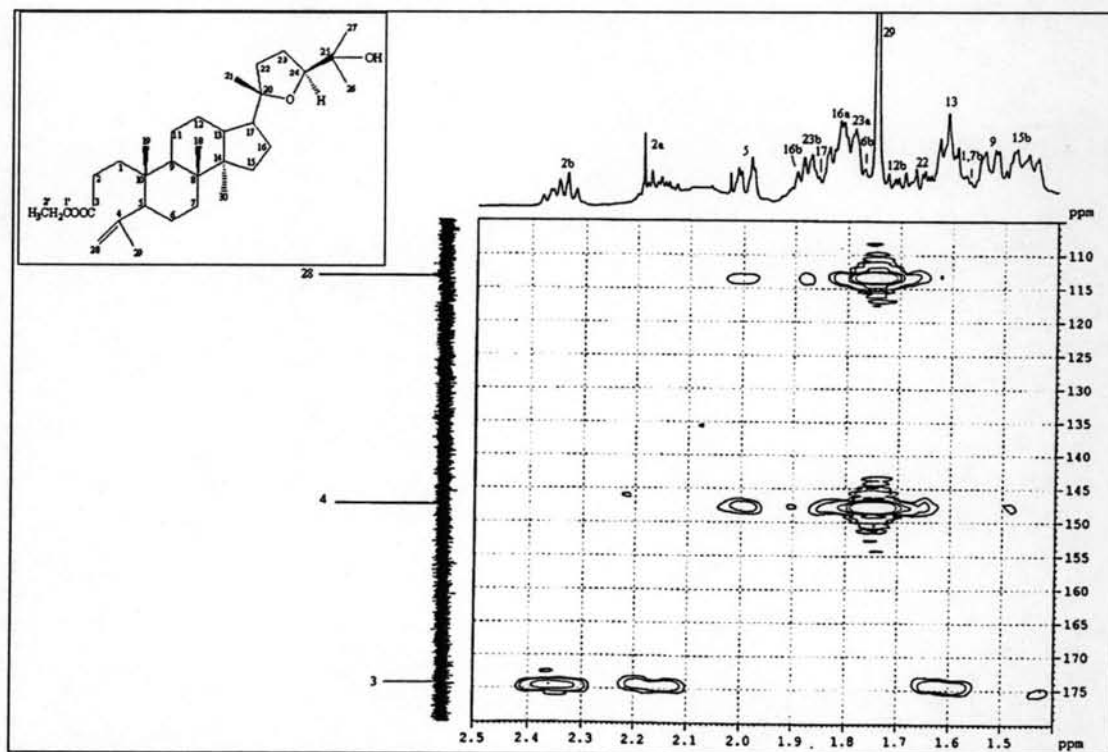


Figure 150d. HMBC Spectrum of compound AE-5
(δ_H 1.4-2.5 ppm, δ_C 110-180 ppm)

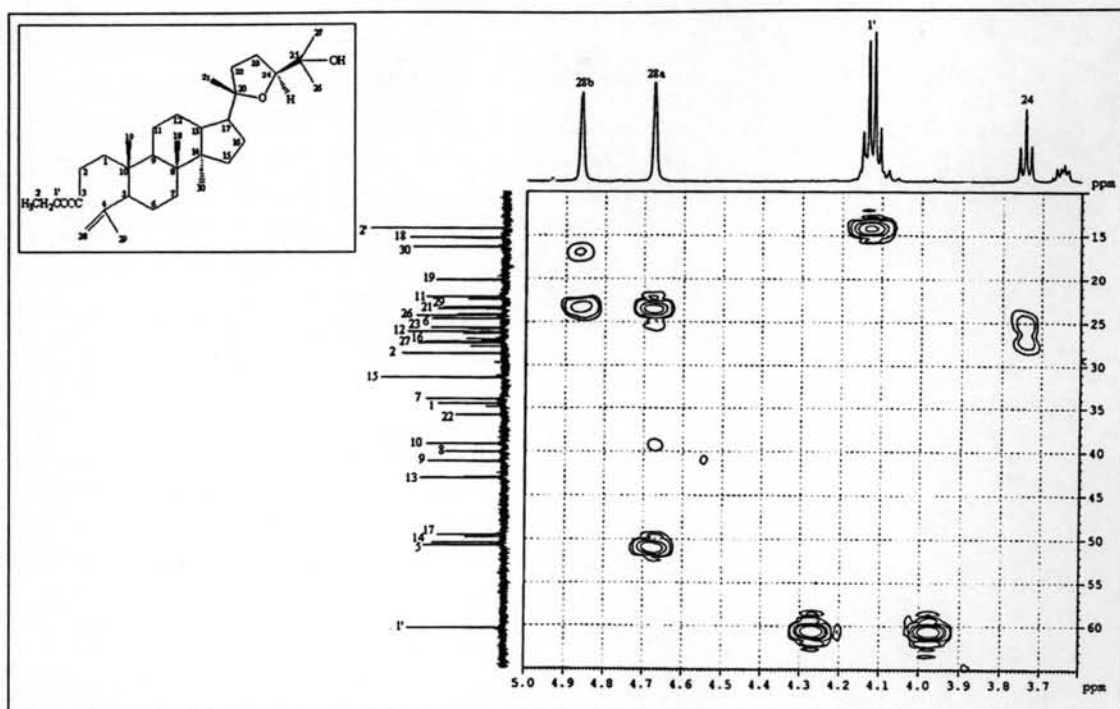


Figure 150e. HMBC Spectrum of compound AE-5
(δ_H 3.6-5.0 ppm, δ_C 10-65 ppm)

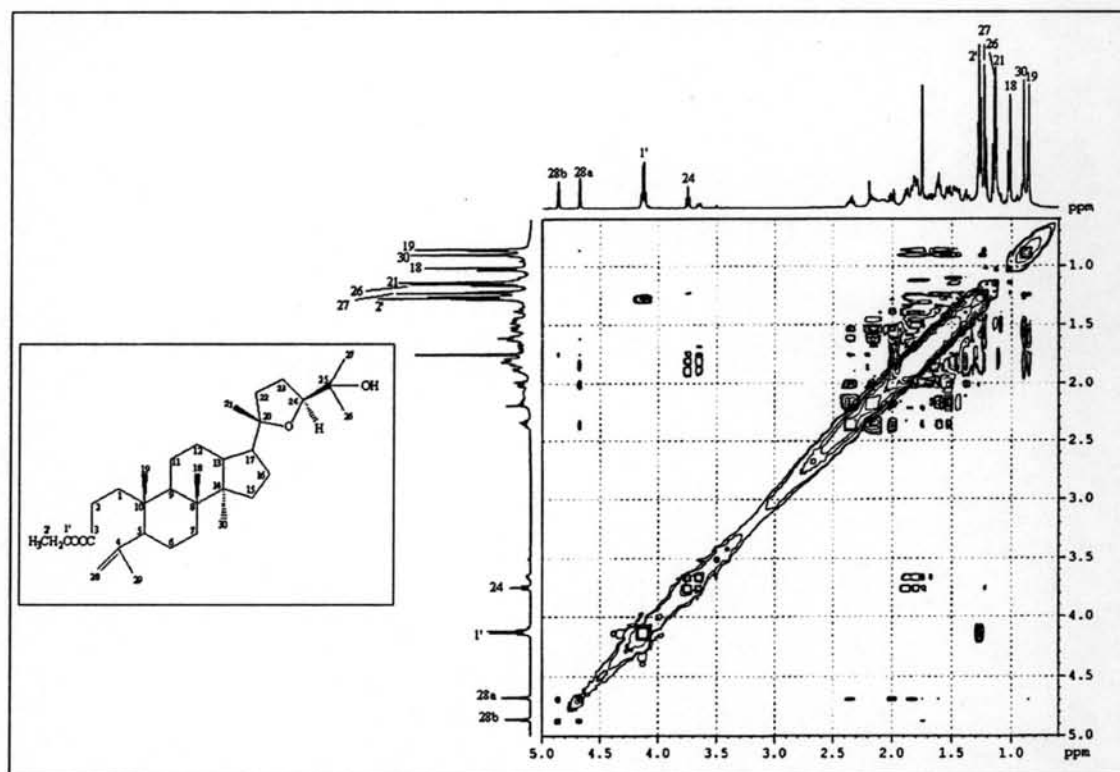


Figure 151a. NOESY Spectrum of compound AE-5

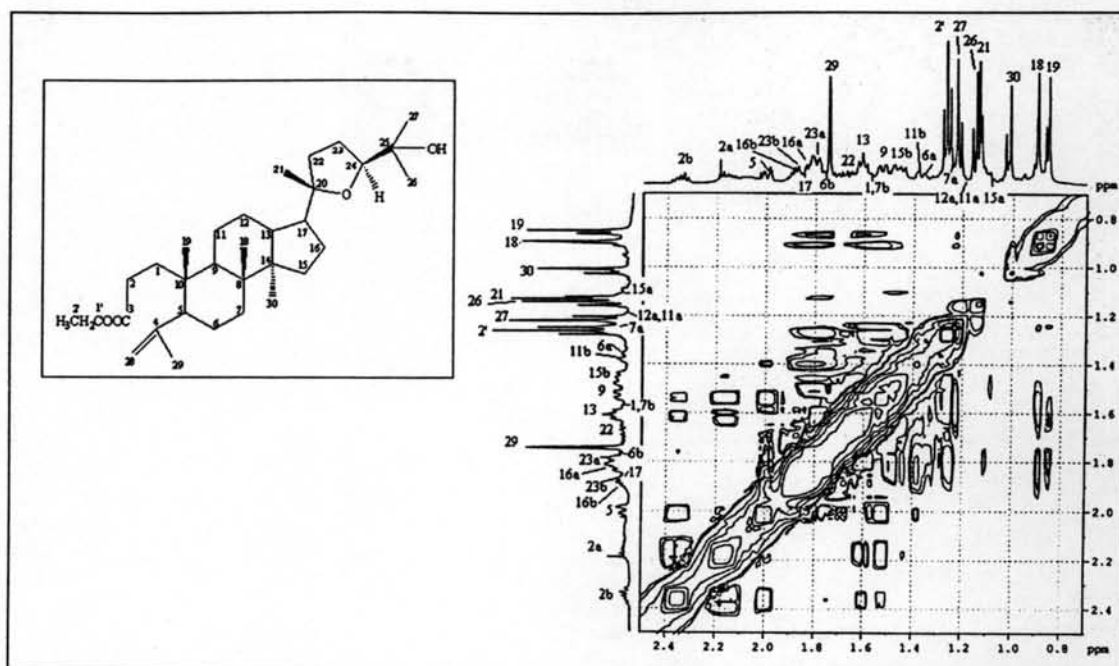


Figure 151b. NOESY Spectrum of compound AE-5
(expansion δ 0.8-2.4 ppm)

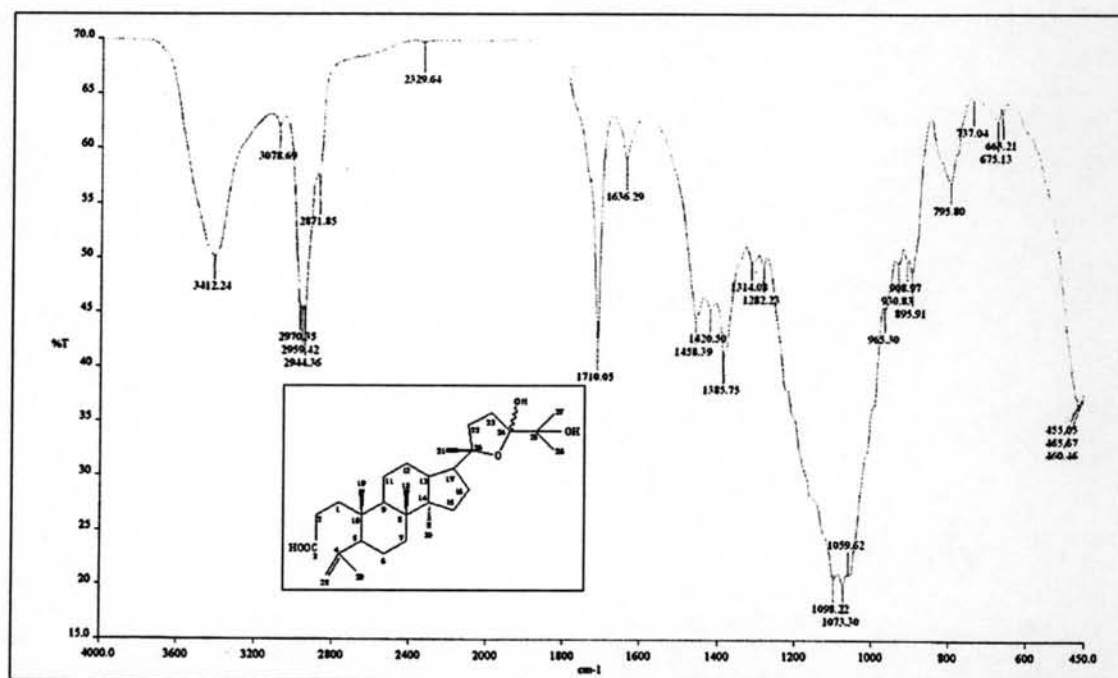


Figure 152. IR Spectrum of compound AE-7 (KBr disc)

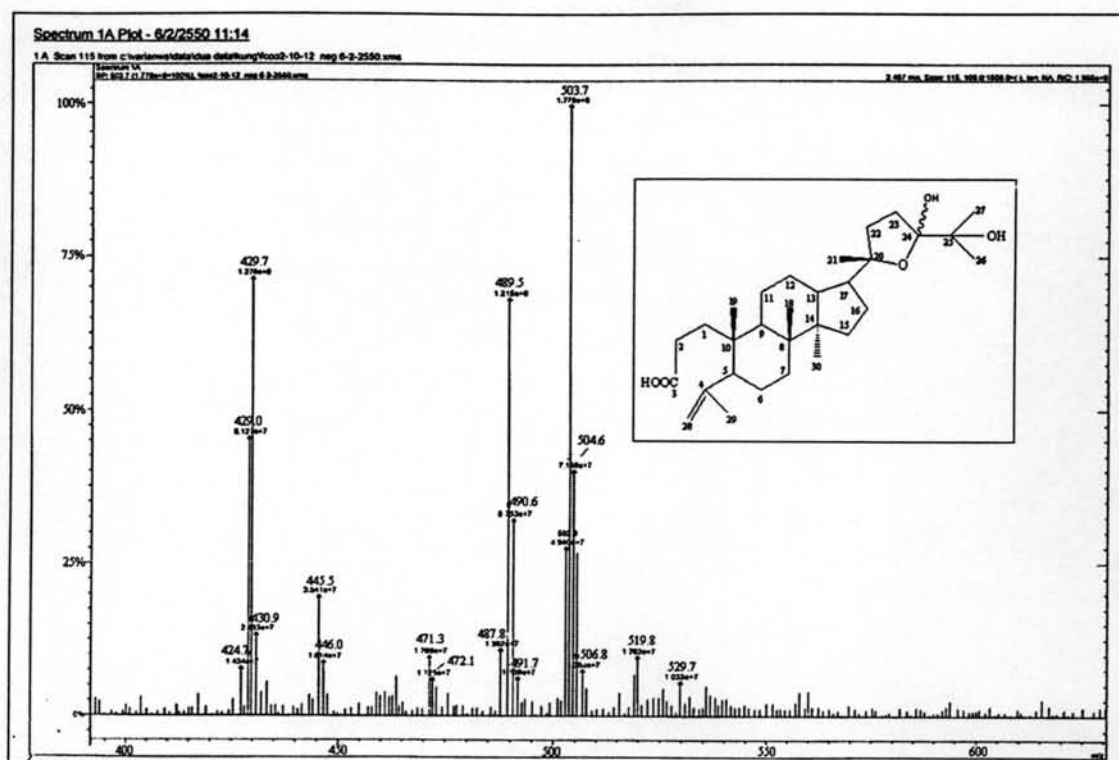


Figure 153. ESI Mass spectrum (Negative mode) of compound AE-7

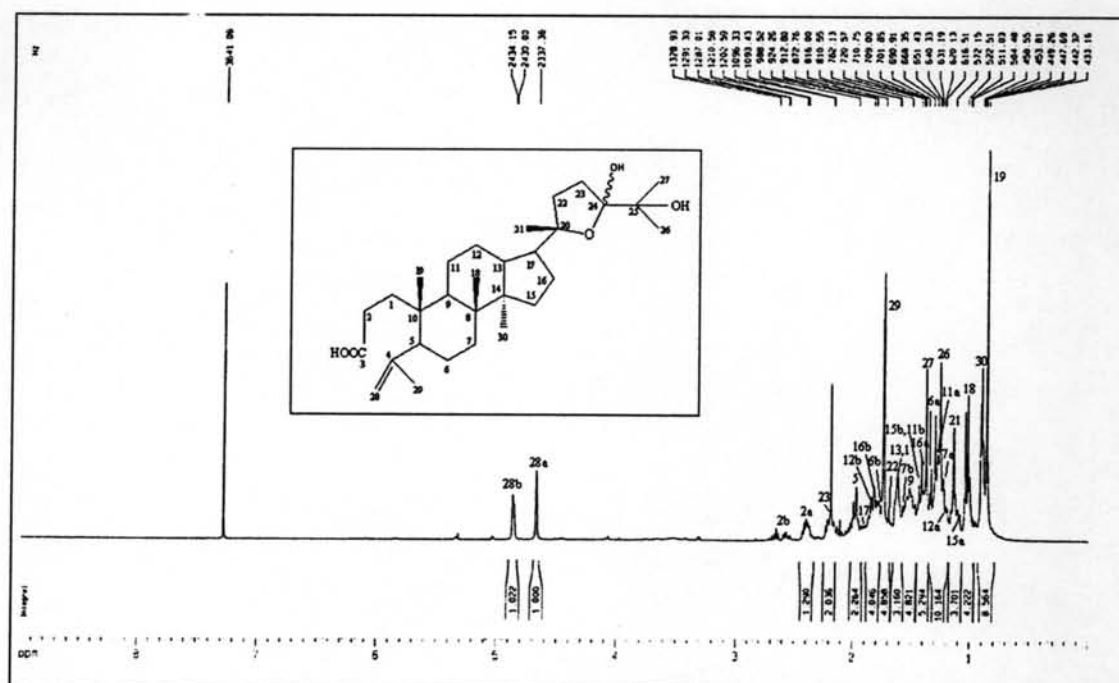


Figure 154a. ^1H NMR (500 MHz) Spectrum of compound AE-7 (in CDCl_3)

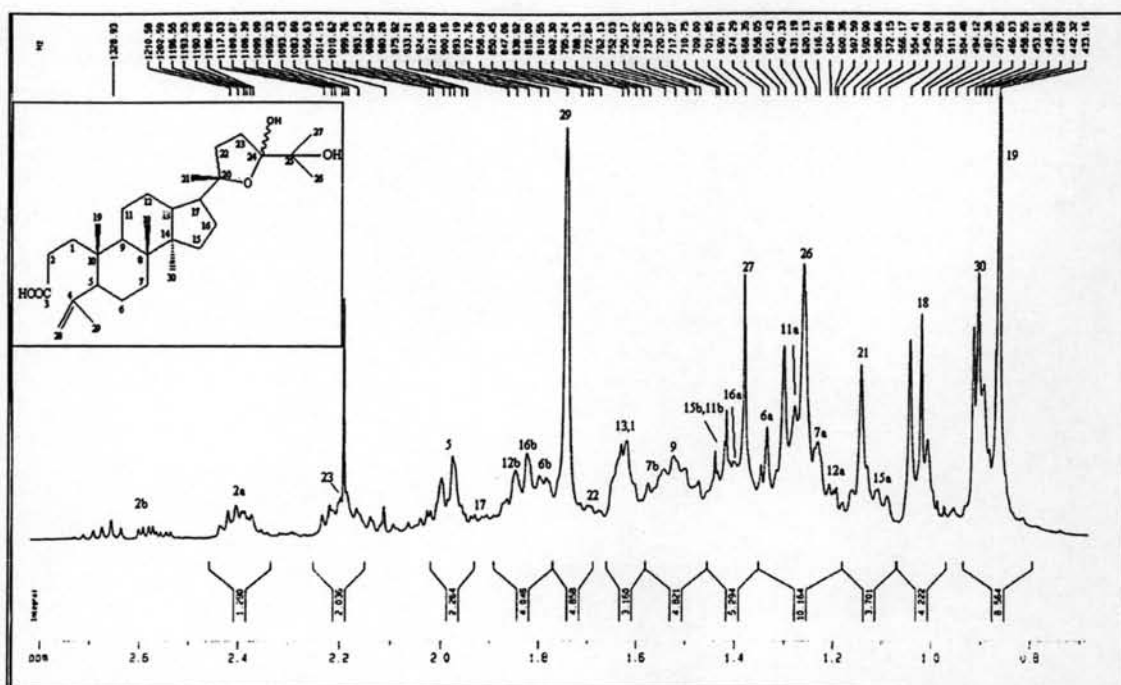


Figure 154b. ^1H NMR (500 MHz) Spectrum of compound AE-7 (in CDCl_3) (expansion δ 0.8-2.8 ppm)

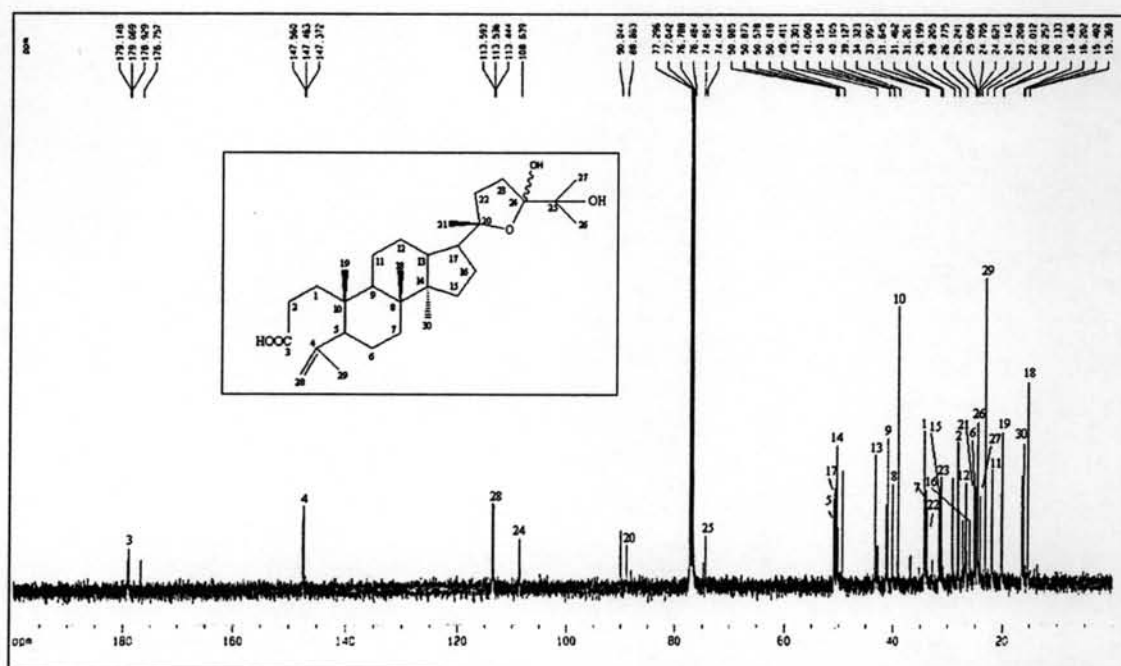


Figure 155. ^{13}C NMR (125 MHz) Spectrum of compound AE-7 (in CDCl_3)

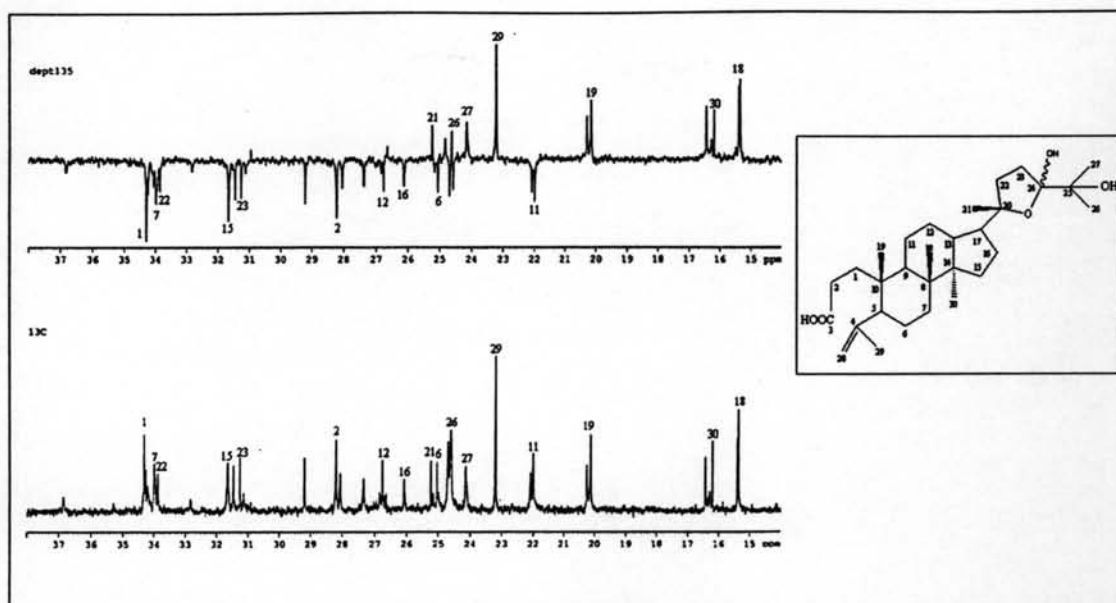


Figure 156a. DEPT 135 Spectrum of compound AE-7
(expansion δ 15-37 ppm)

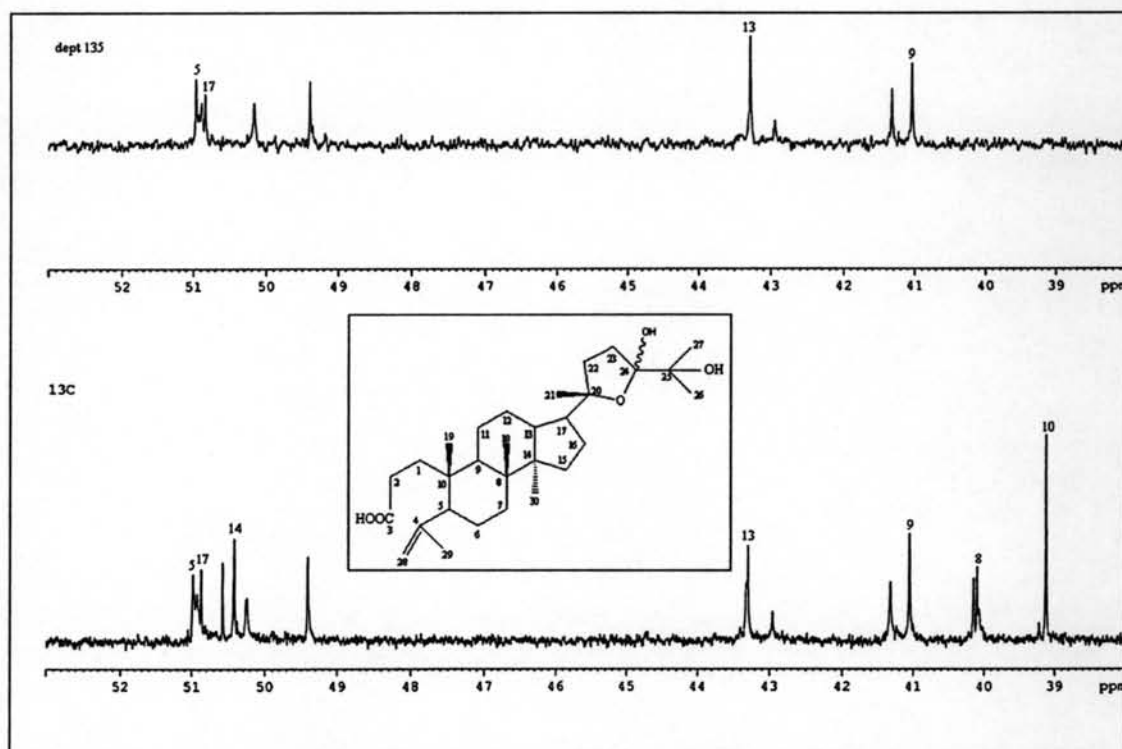


Figure 156b. DEPT 135 Spectrum of compound AE-7
(expansion δ 39-52 ppm)

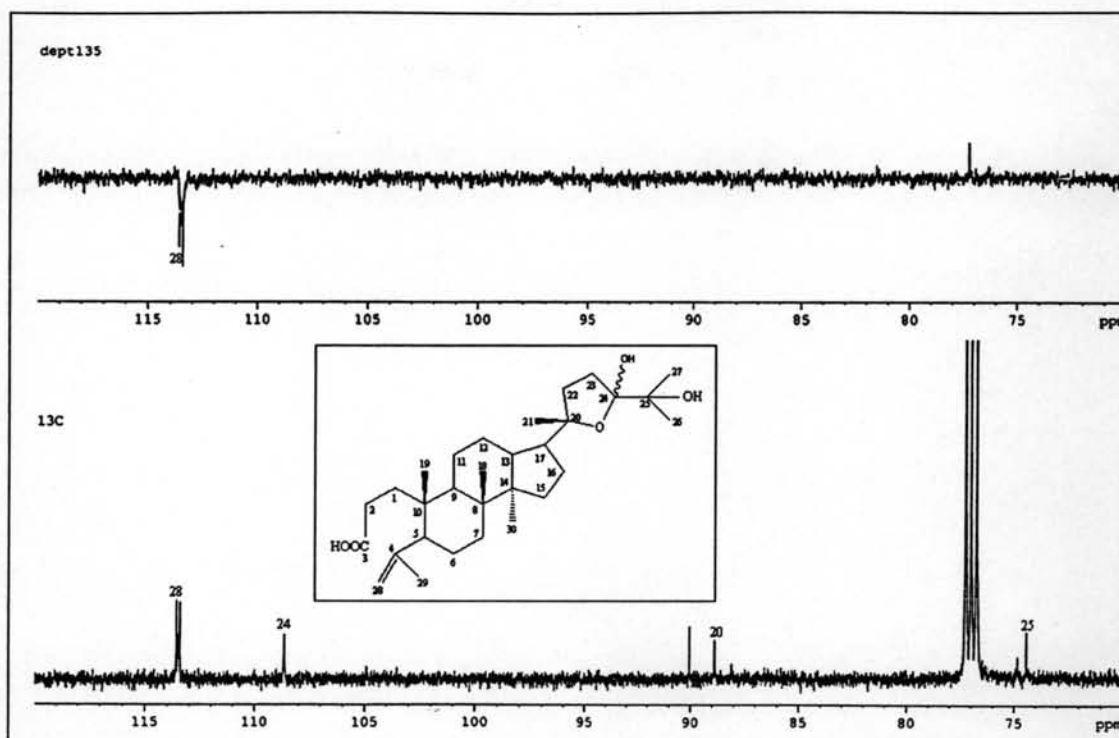


Figure 156c. DEPT 135 Spectrum of compound AE-7
(expansion δ 75-115 ppm)

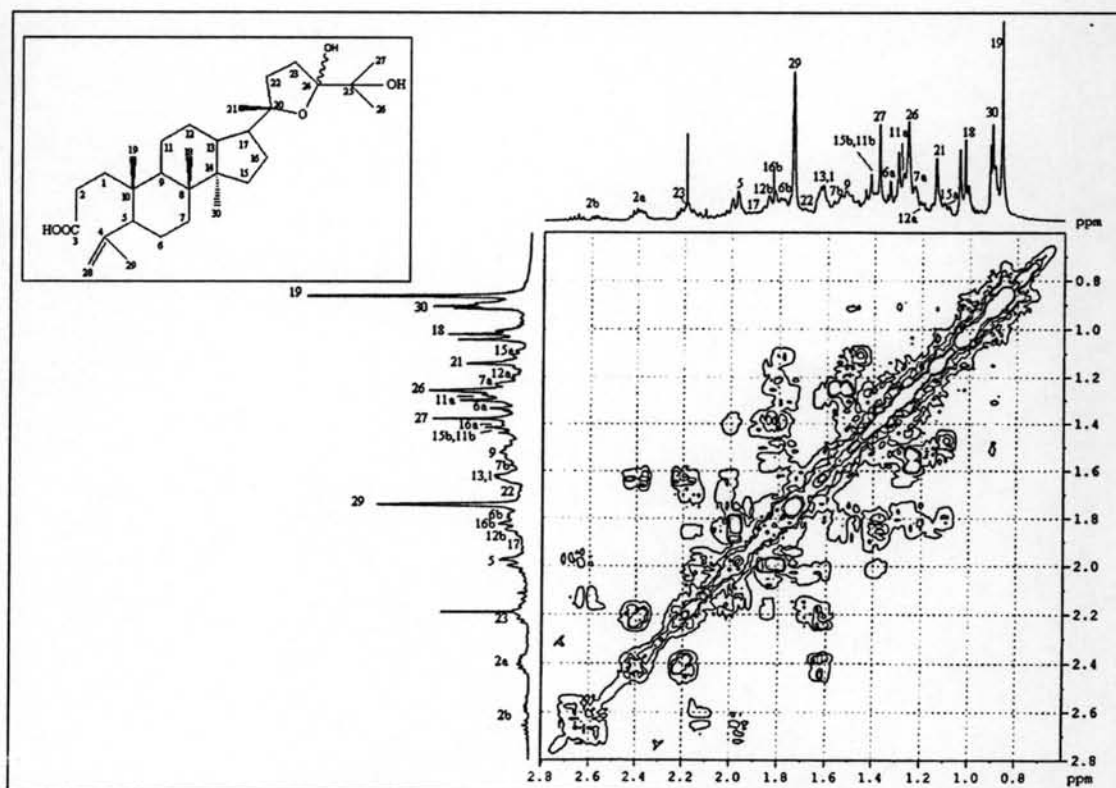


Figure 157. ^1H - ^1H COSY Spectrum of compound AE-7

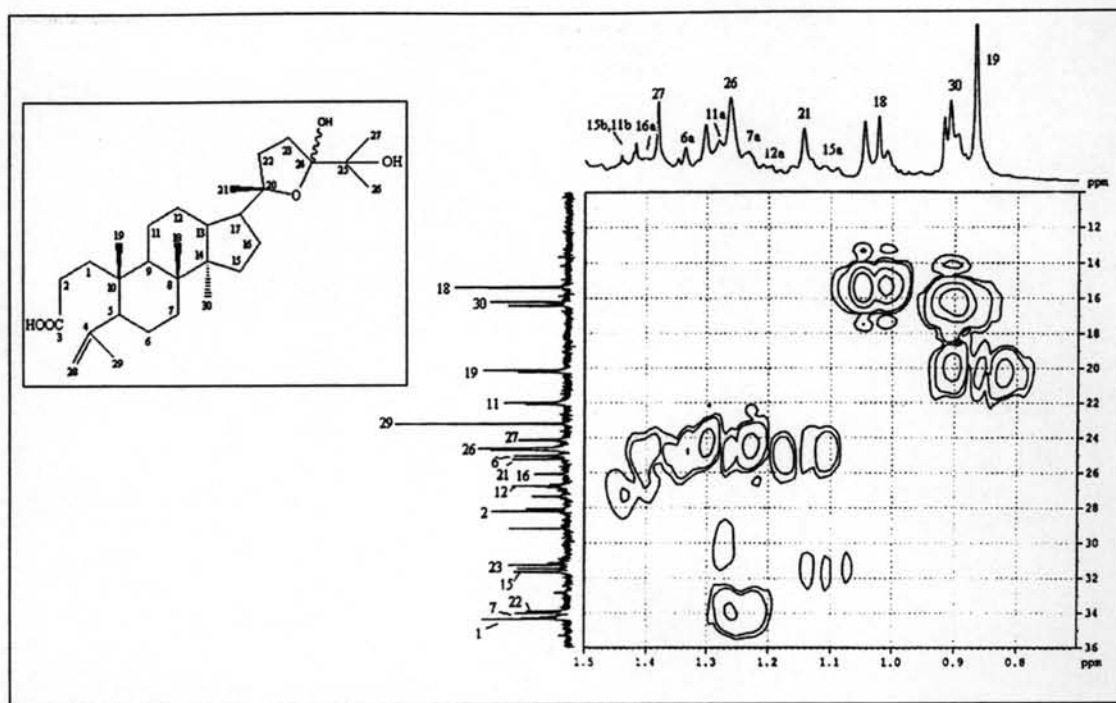


Figure 158a. HMQC Spectrum of compound AE-7

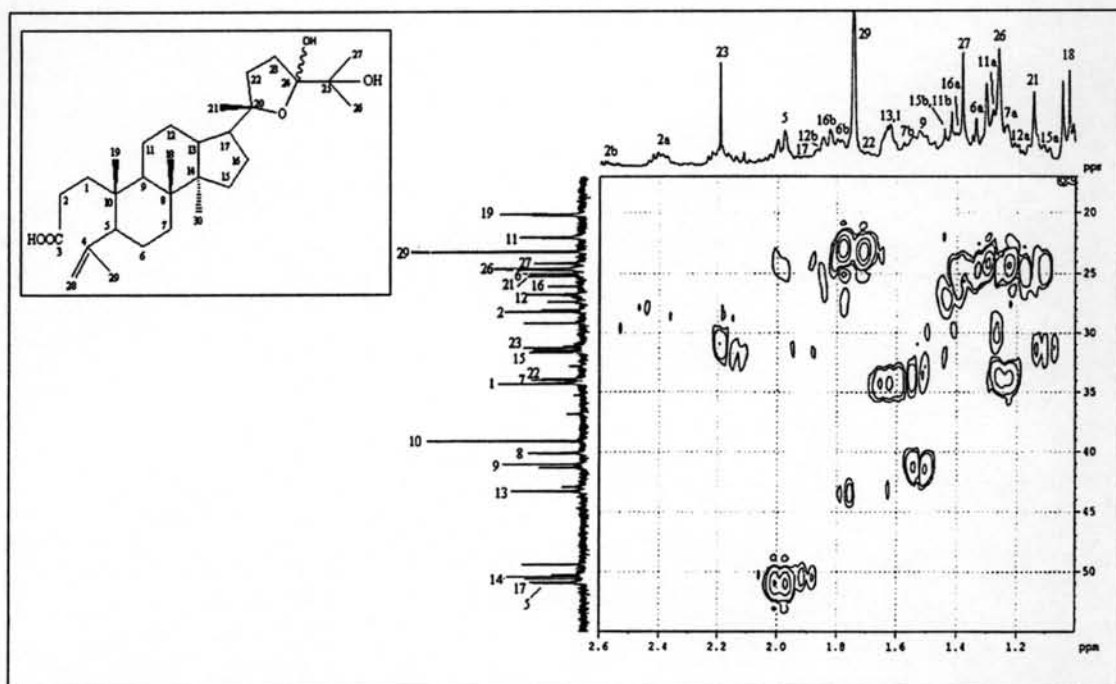


Figure 158b. HMQC Spectrum of compound AE-7
(δ_H 1.0-2.6 ppm, δ_C 20-55 ppm)

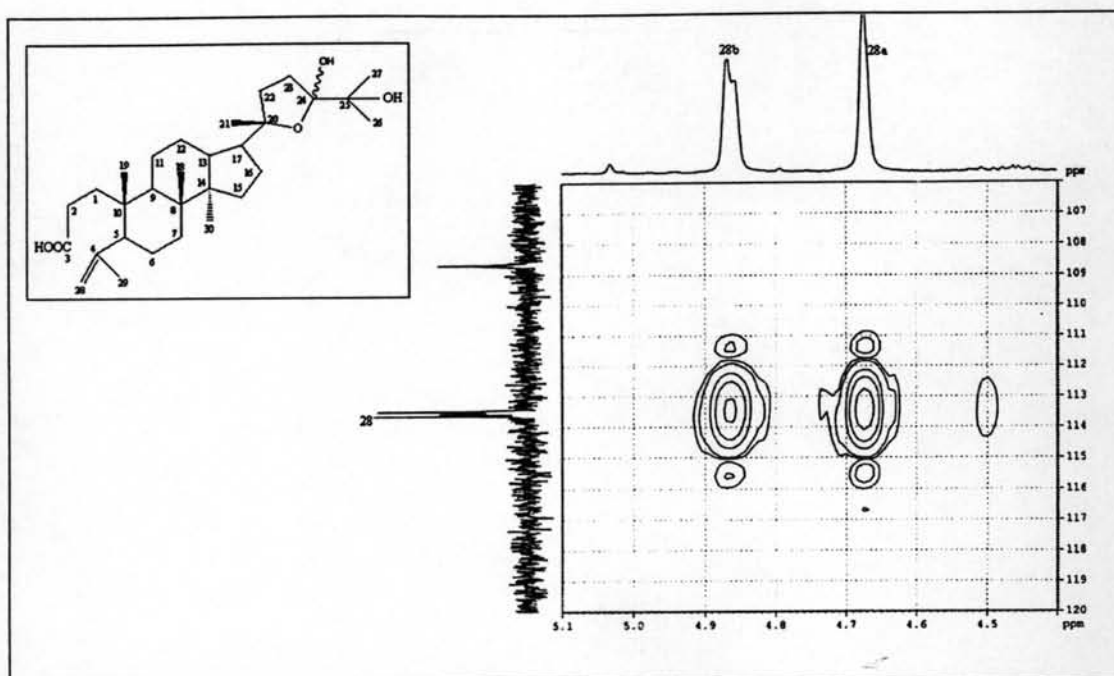


Figure 158c. HMBC Spectrum of compound AE-7
(δ_H 4.4-5.1 ppm, δ_C 106-120 ppm)

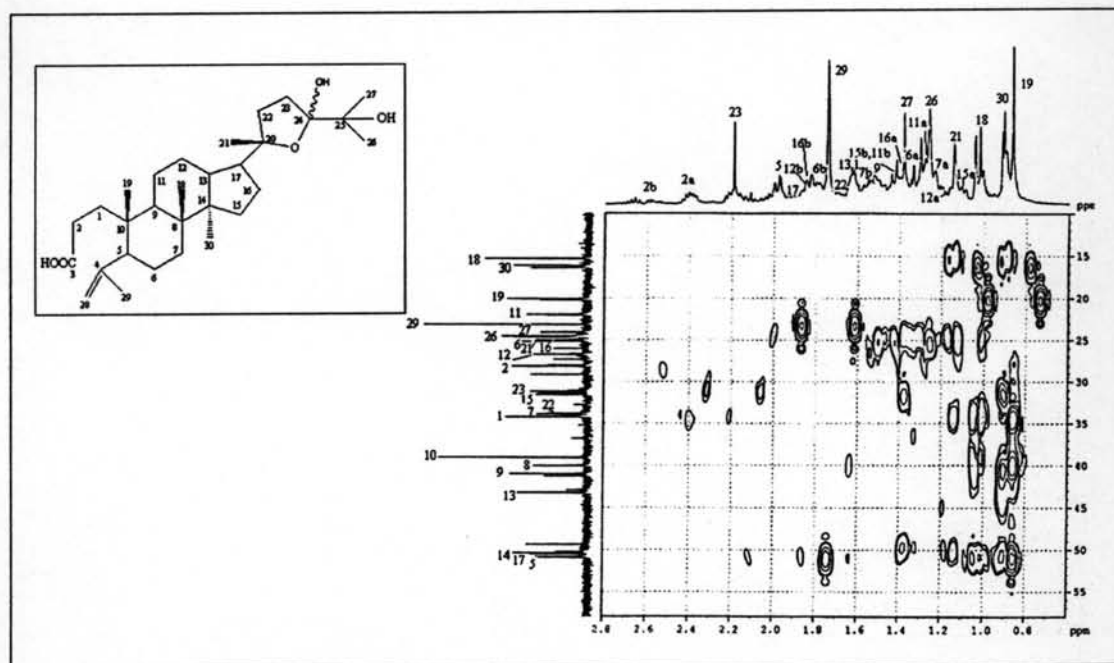


Figure 159a. HMBC Spectrum of compound AE-7

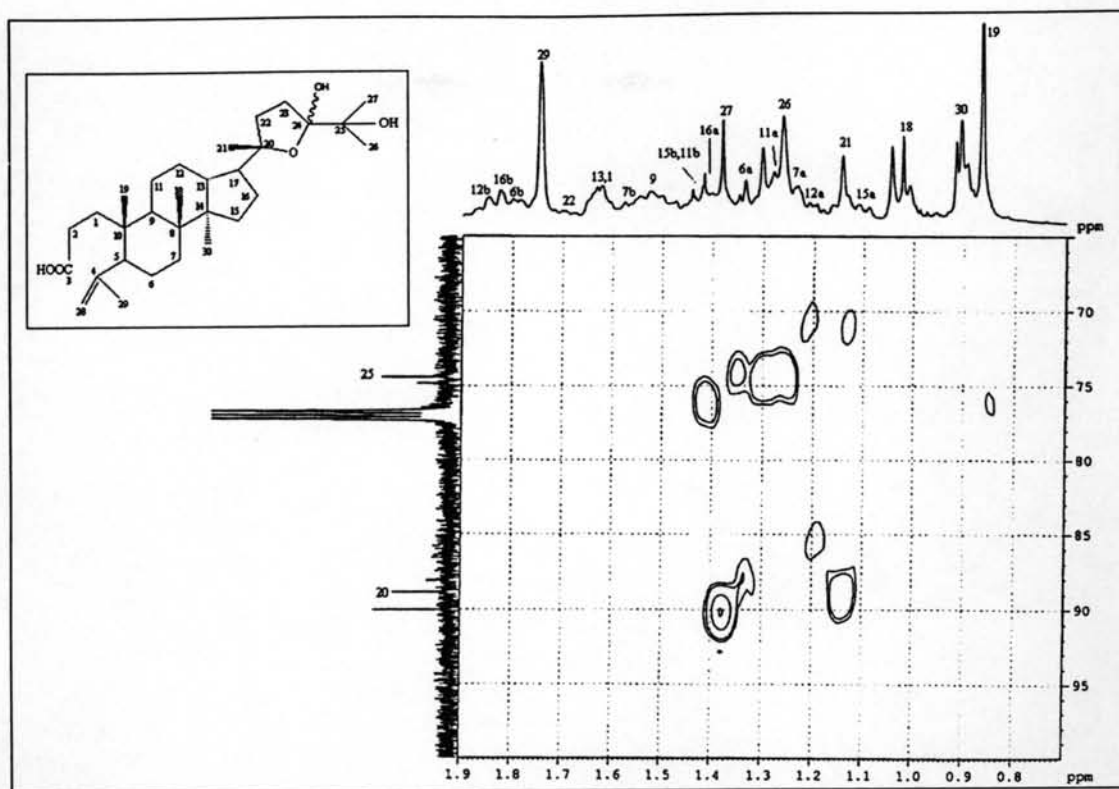


Figure 159b. HMBC Spectrum of compound AE-7
(δ_H 0.7-1.9 ppm, δ_C 65-100 ppm)

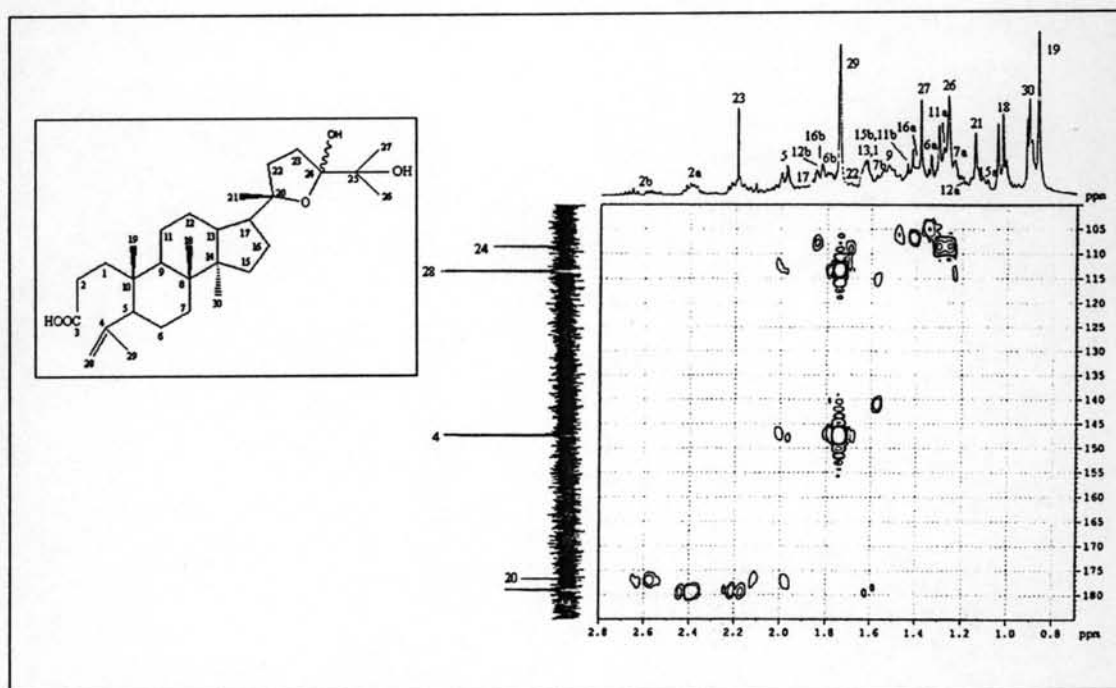


Figure 159c. HMBC Spectrum of compound AE-7
(δ_H 0.7-2.8 ppm, δ_C 100-185 ppm)

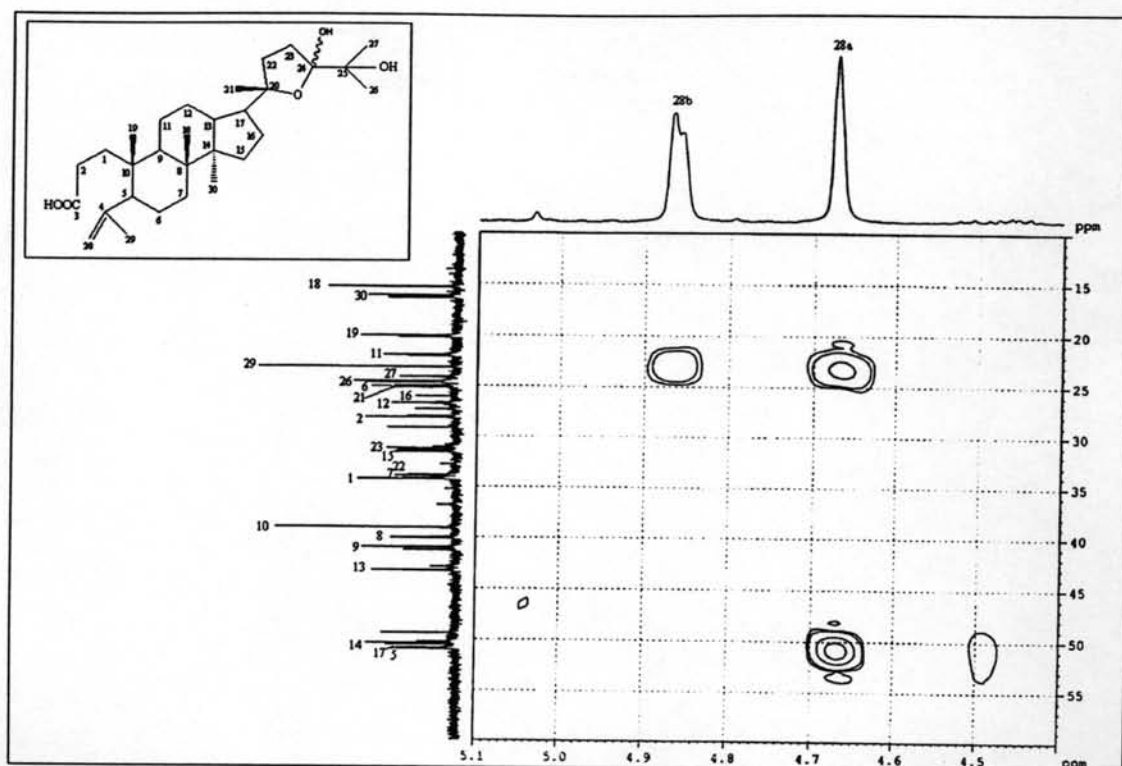


Figure 159d. HMBC Spectrum of compound AE-7
(δ_H 4.4-5.1 ppm, δ_C 10-60 ppm)

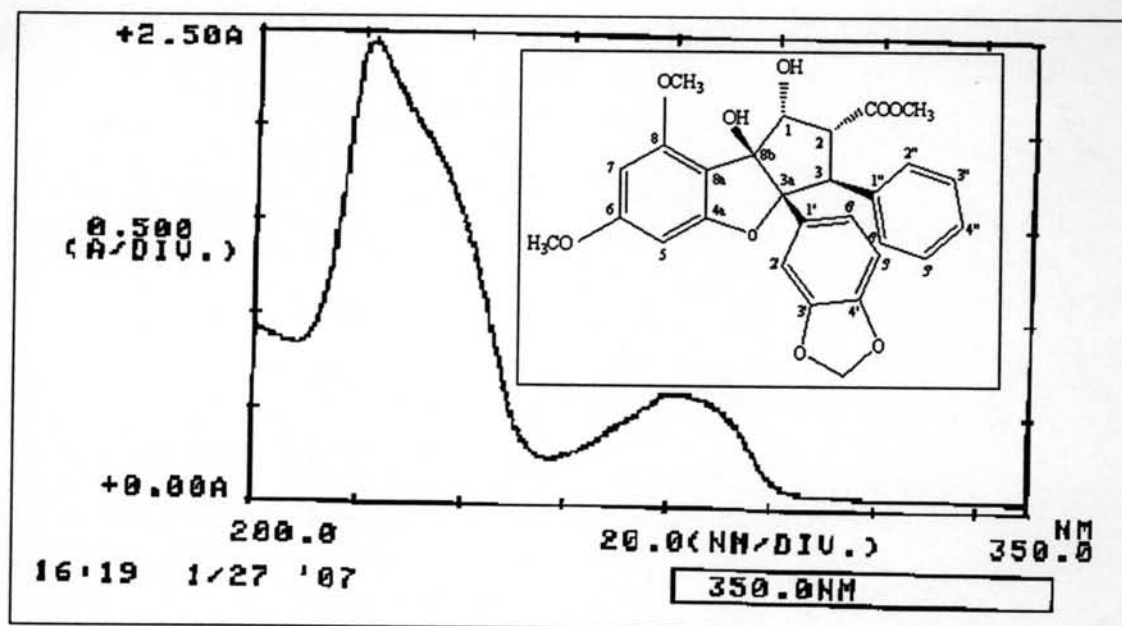


Figure 160. UV Spectrum of compound AE-10 (MeOH)

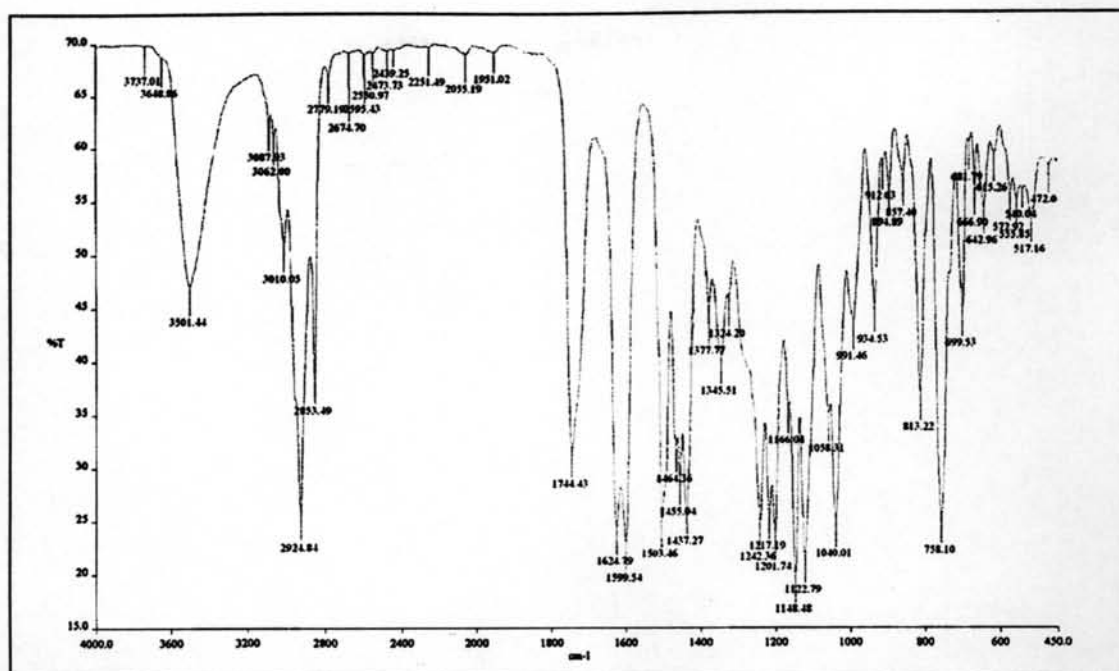


Figure 161. IR Spectrum of compound AE-10 (KBr disc)

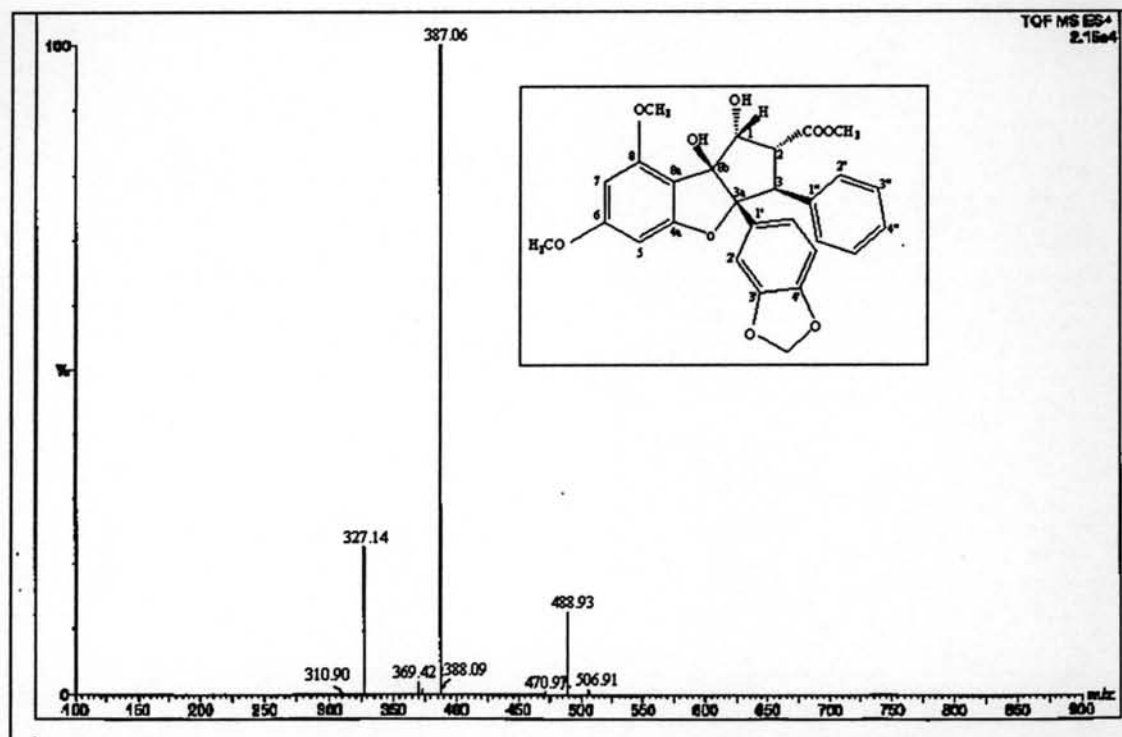


Figure 162. ESI-TOF Mass spectrum of compound AE-10

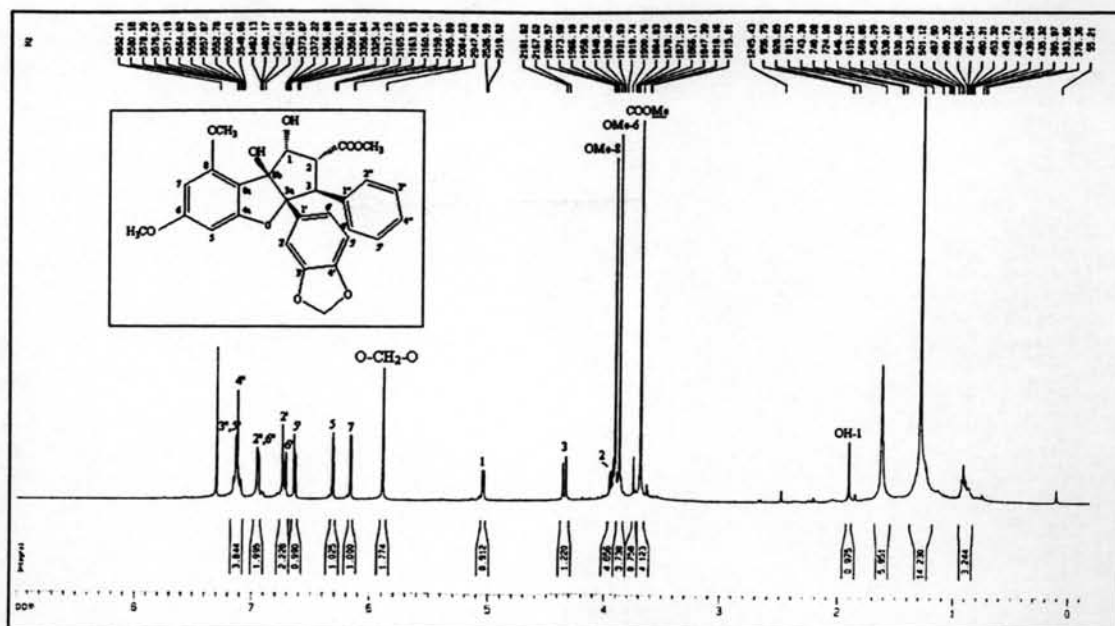


Figure 163a. ^1H NMR (500 MHz) Spectrum of compound AE-10 (in CDCl_3)

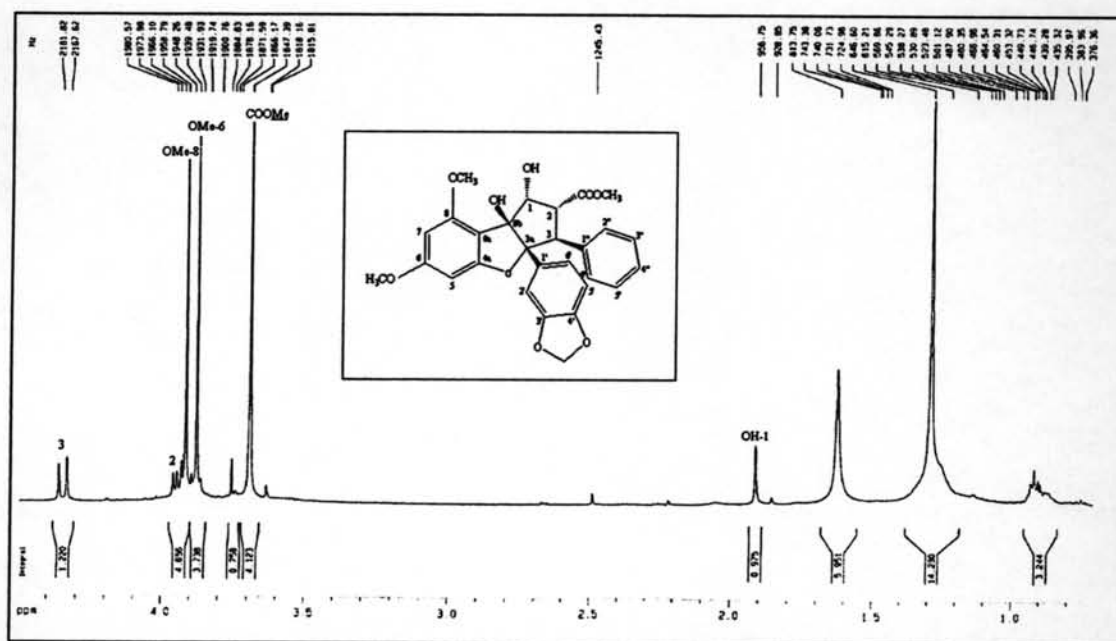


Figure 163b. ^1H NMR (500 MHz) Spectrum of compound AE-10 (in CDCl_3) (expansion δ 0.8-4.5 ppm)

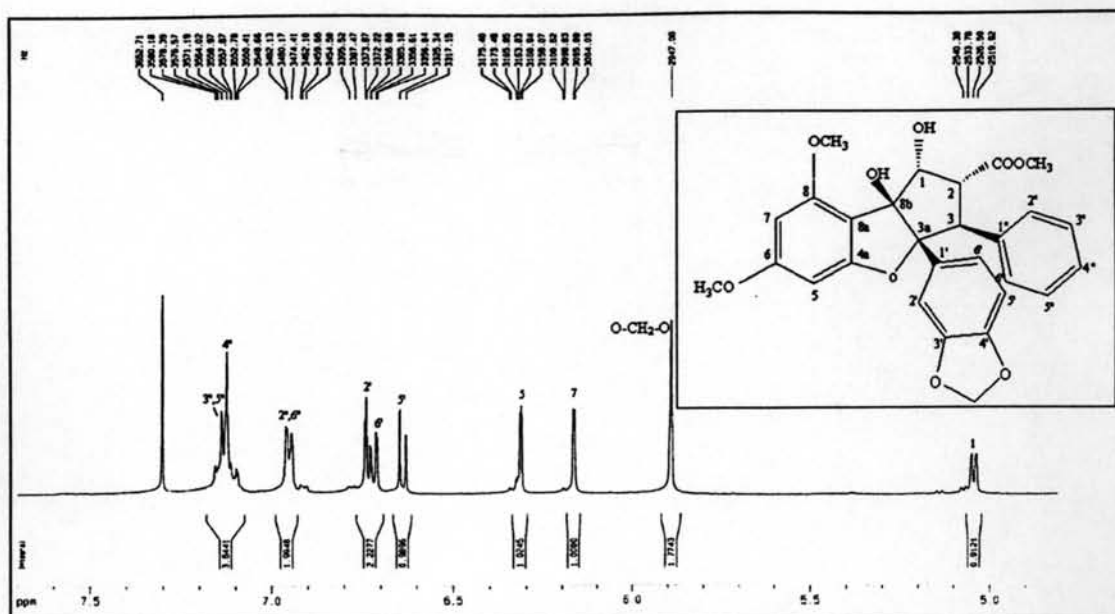


Figure 163c. ^1H NMR (500 MHz) Spectrum of compound AE-10 (in CDCl_3) (expansion δ 5.0-7.5 ppm)

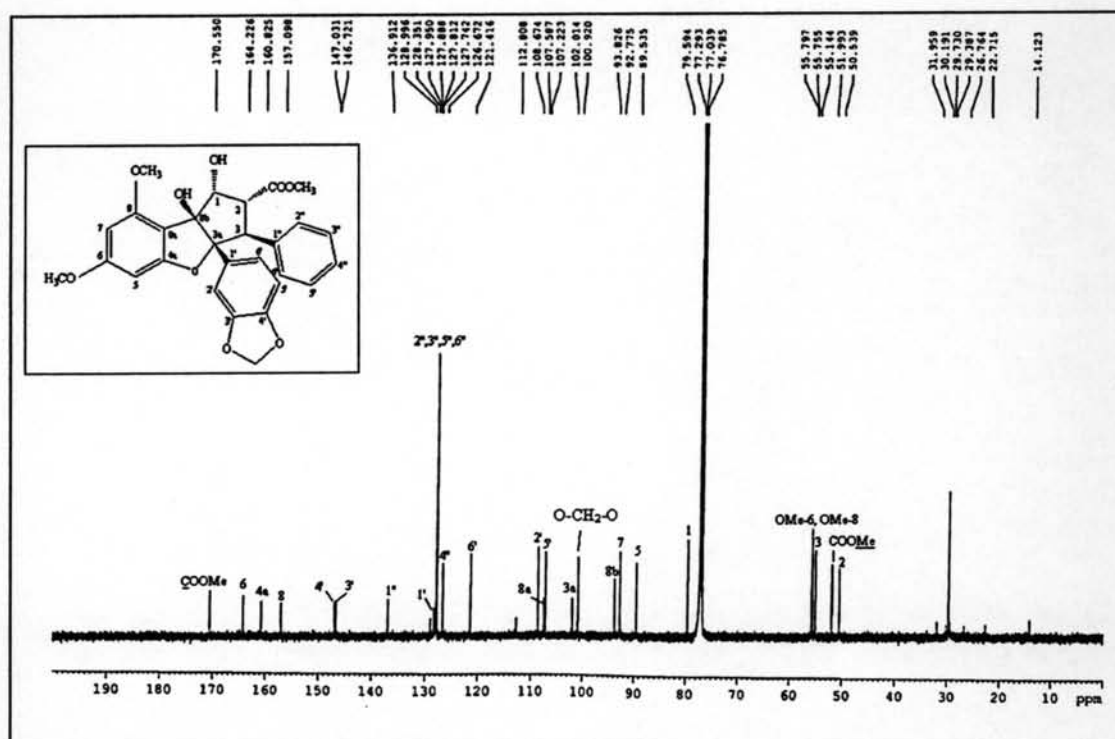


Figure 164a. ^{13}C NMR (125 MHz) Spectrum of compound AE-10 (in CDCl_3)

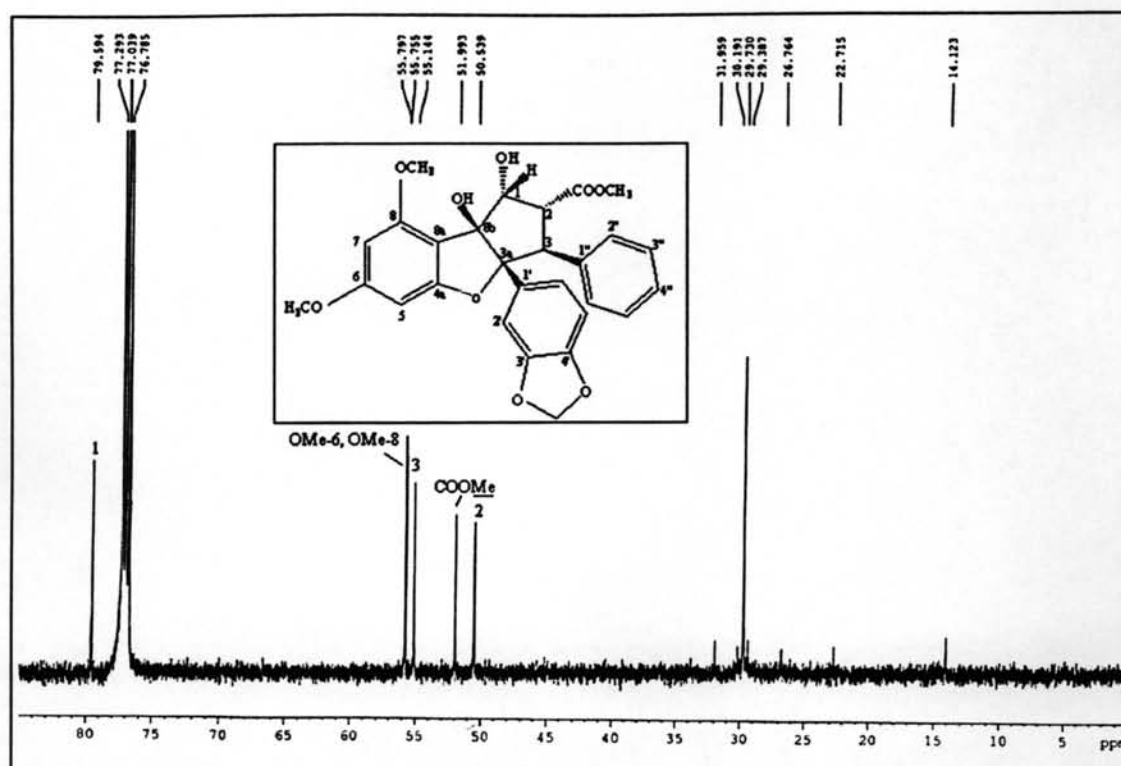


Figure 164b. ^{13}C NMR (125 MHz) Spectrum of compound AE-10 (in CDCl_3) (expansion δ 5-80 ppm)

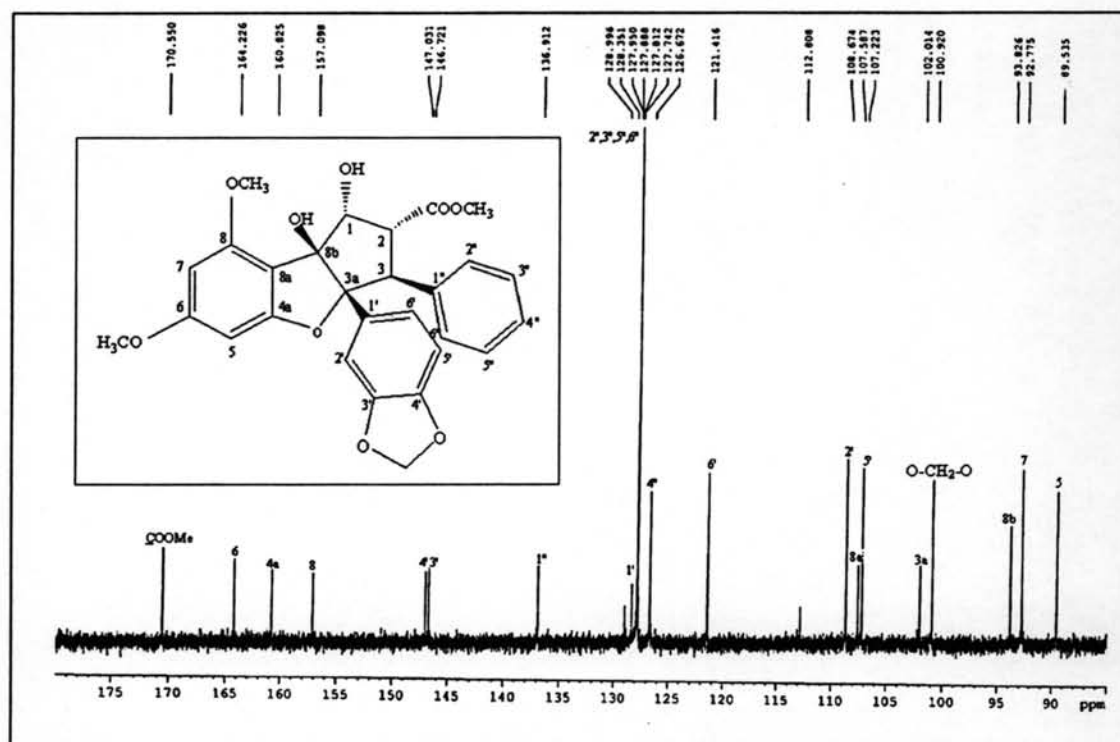


Figure 164c. ^{13}C NMR (125 MHz) Spectrum of compound AE-10 (in CDCl_3) (expansion δ 90-175 ppm)

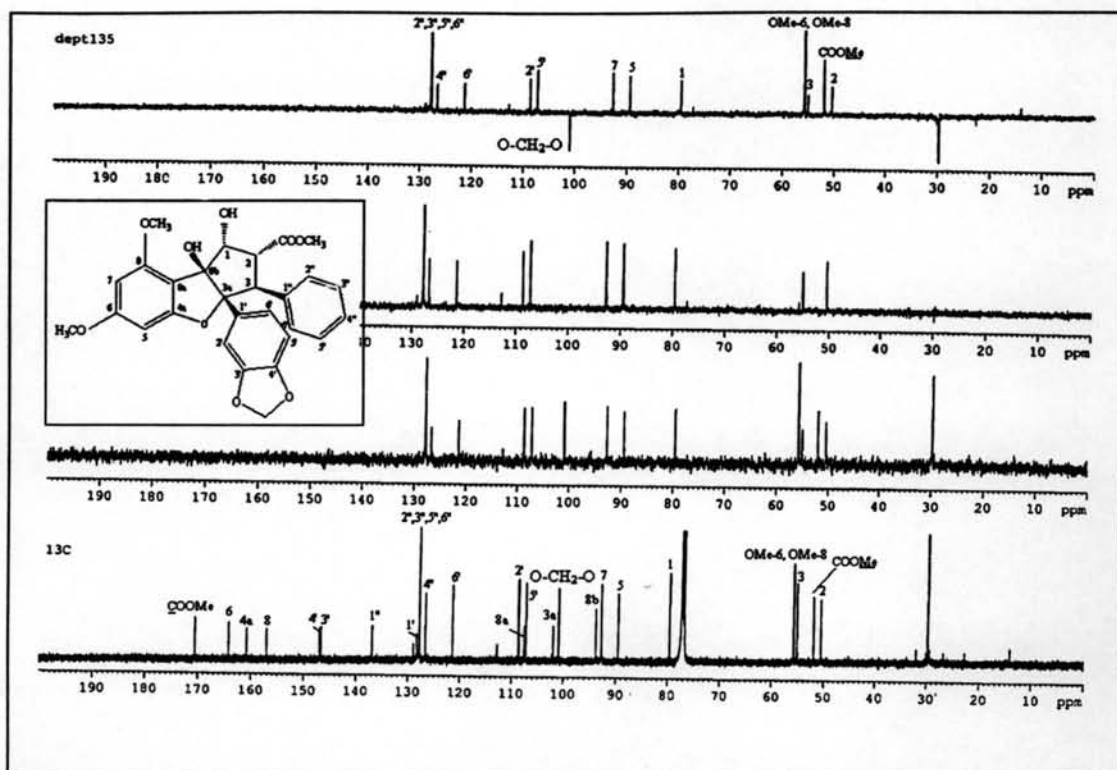


Figure 165. DEPT 135 Spectrum of compound AE-10

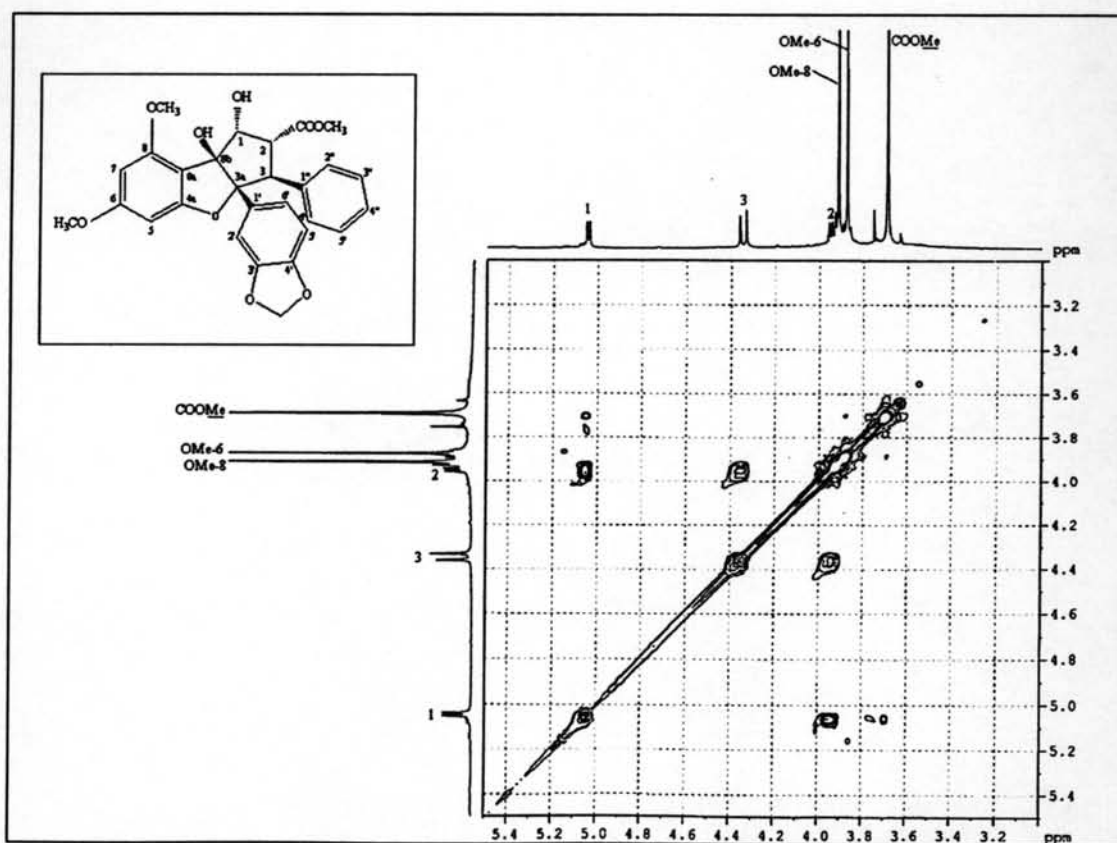


Figure 166a. ¹H-¹H COSY Spectrum of compound AE-10 (expansion δ 3.2-5.4 ppm)

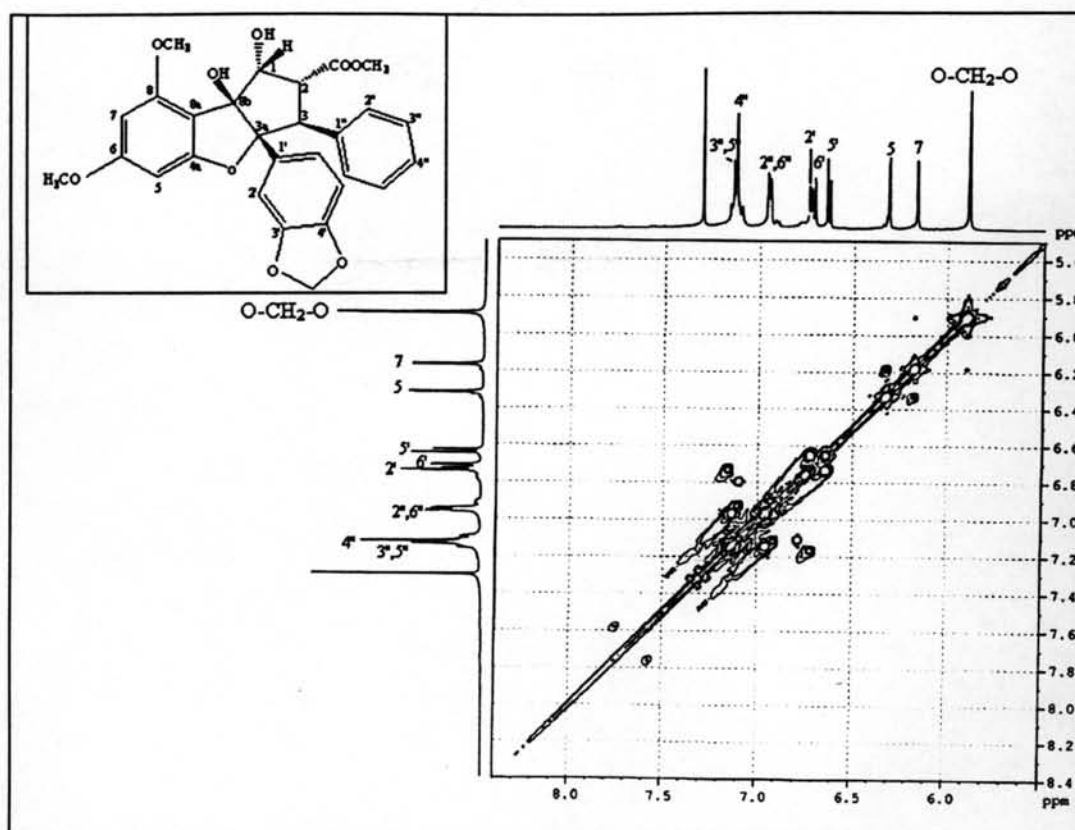


Figure 166b. ^1H - ^1H COSY Spectrum of compound AE-10 (expansion δ 5.5-8.5 ppm)

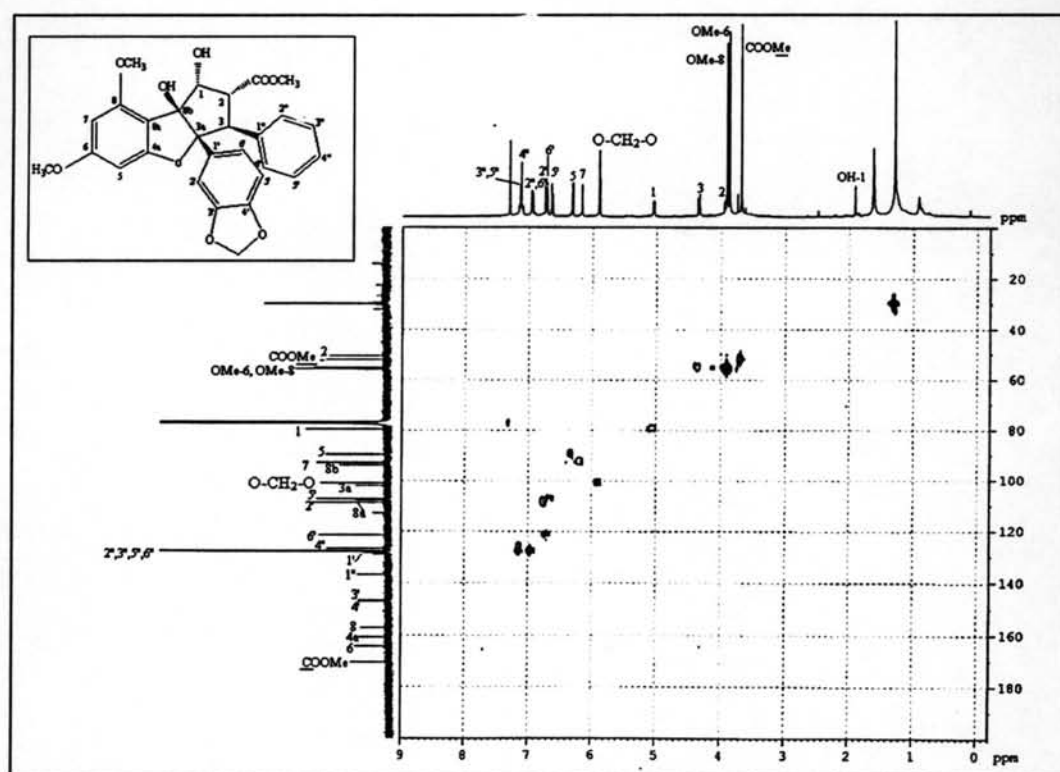


Figure 167. HMQC Spectrum of compound AE-10

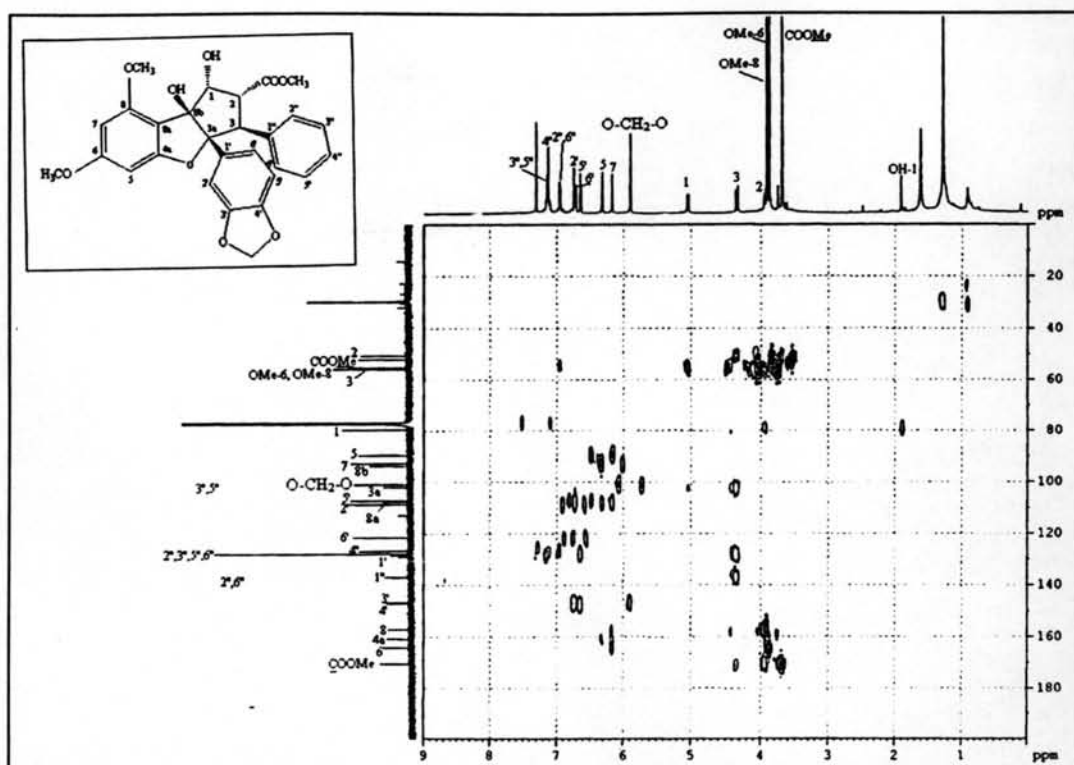


Figure 168a. HMBC Spectrum of compound AE-10

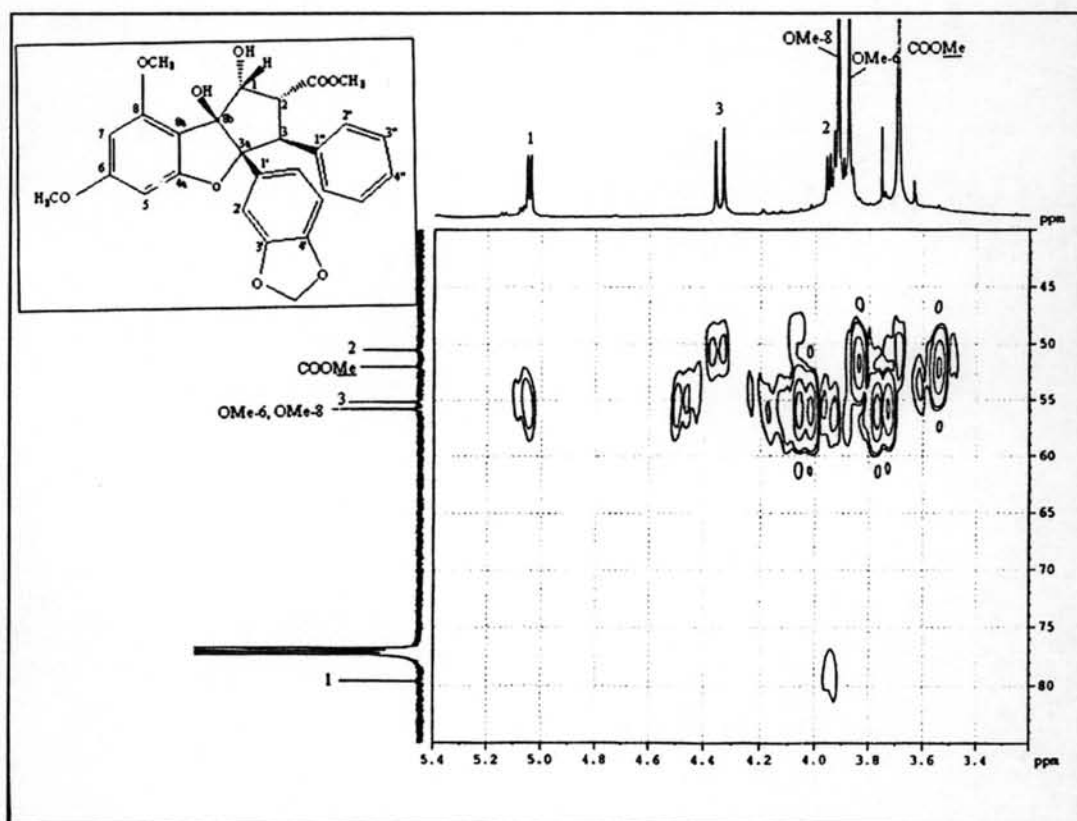


Figure 168b. HMBC Spectrum of compound AE-10 (δ_H 3.2-5.4 ppm, δ_C 40-85 ppm)

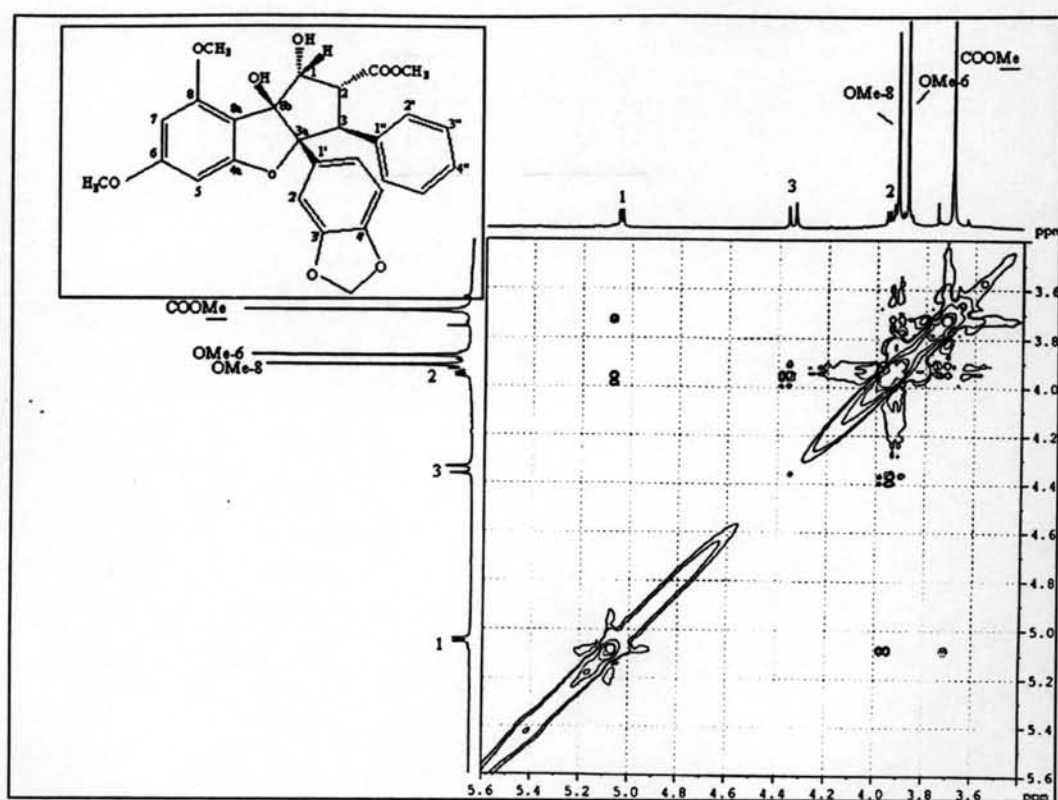


Figure 169. NOESY Spectrum of compound AE-10

VITA

Miss Jarinporn Phongmaykin was born on July 11, 1977 in Bangkok, Thailand. She received her Bachelor Degree of Pharmacy (1st class honor) from the Faculty of Pharmaceutical Sciences, Huachiew University in 1999. She was granted a Royal Golden Jubilee Ph.D. Scholarship from the Thailand Research Fund (TRF) in the year 2001.

Poster Presentations

1. Phongmaykin, J., Suttisri, R., Saifah, E., Kumamoto, T., Ishikawa, T. Chemical Constituents of Fruits of *Chisocheton tomentosus*. RGJ-Ph.D. Congress VII. April 20-22, 2006. Jomtien Palm Beach Resort, Pattaya, Thailand.
2. Phongmaykin, J., Suttisri, R., Saifah, E., Kumamoto, T., Ishikawa, T. Sesquiterpenoids and triterpenoids from *Chisocheton penduliflorus*. Proceeding of the 23rd Annual Research Conference in Pharmaceutical Sciences & JSPS 1st Medical Chemistry Seminar of Asia/Africa Science Platform Program. December 14-15, 2006, Bangkok, Thailand.