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APPENDIX

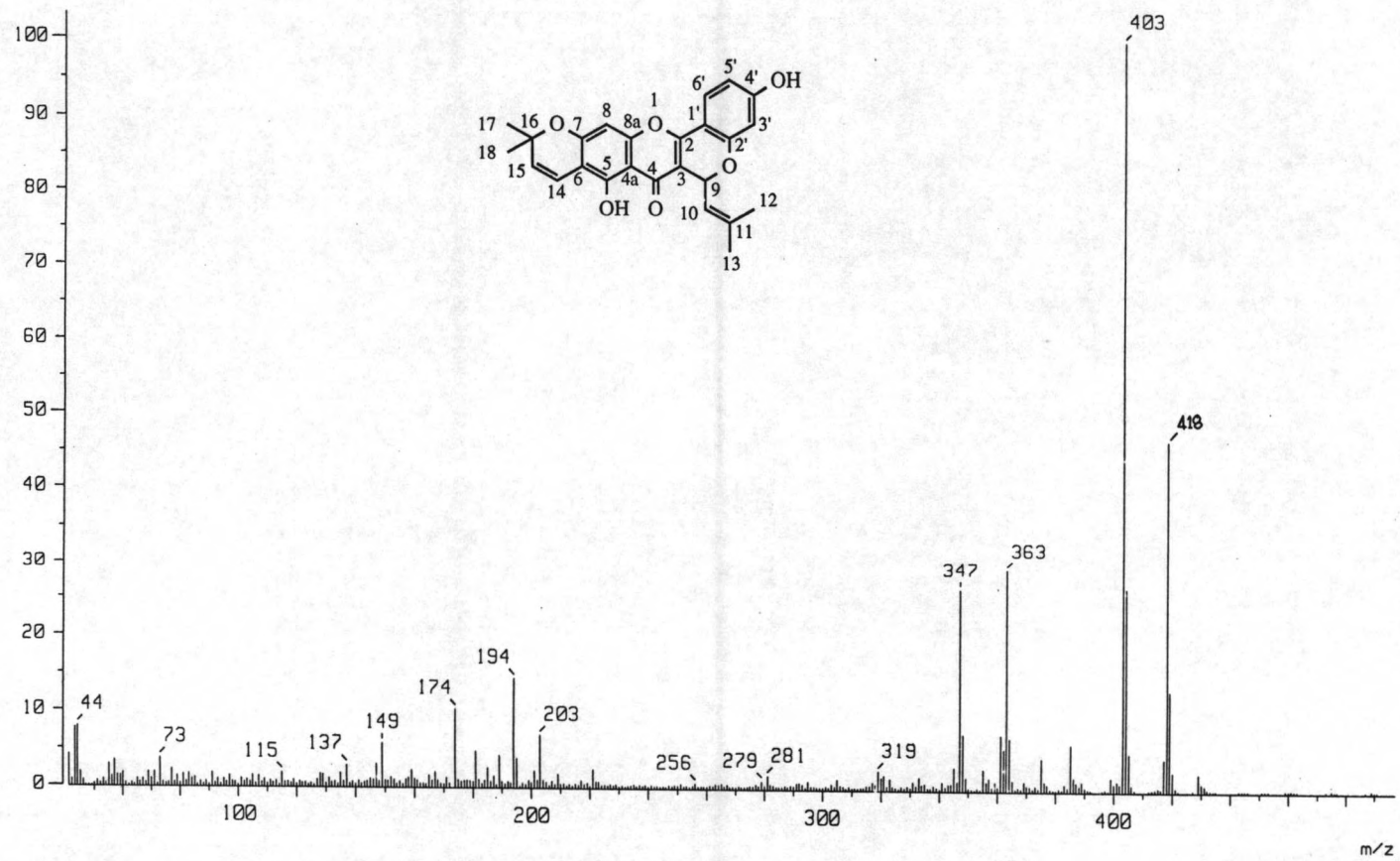


Figure 2 EIMS spectrum of AA-1

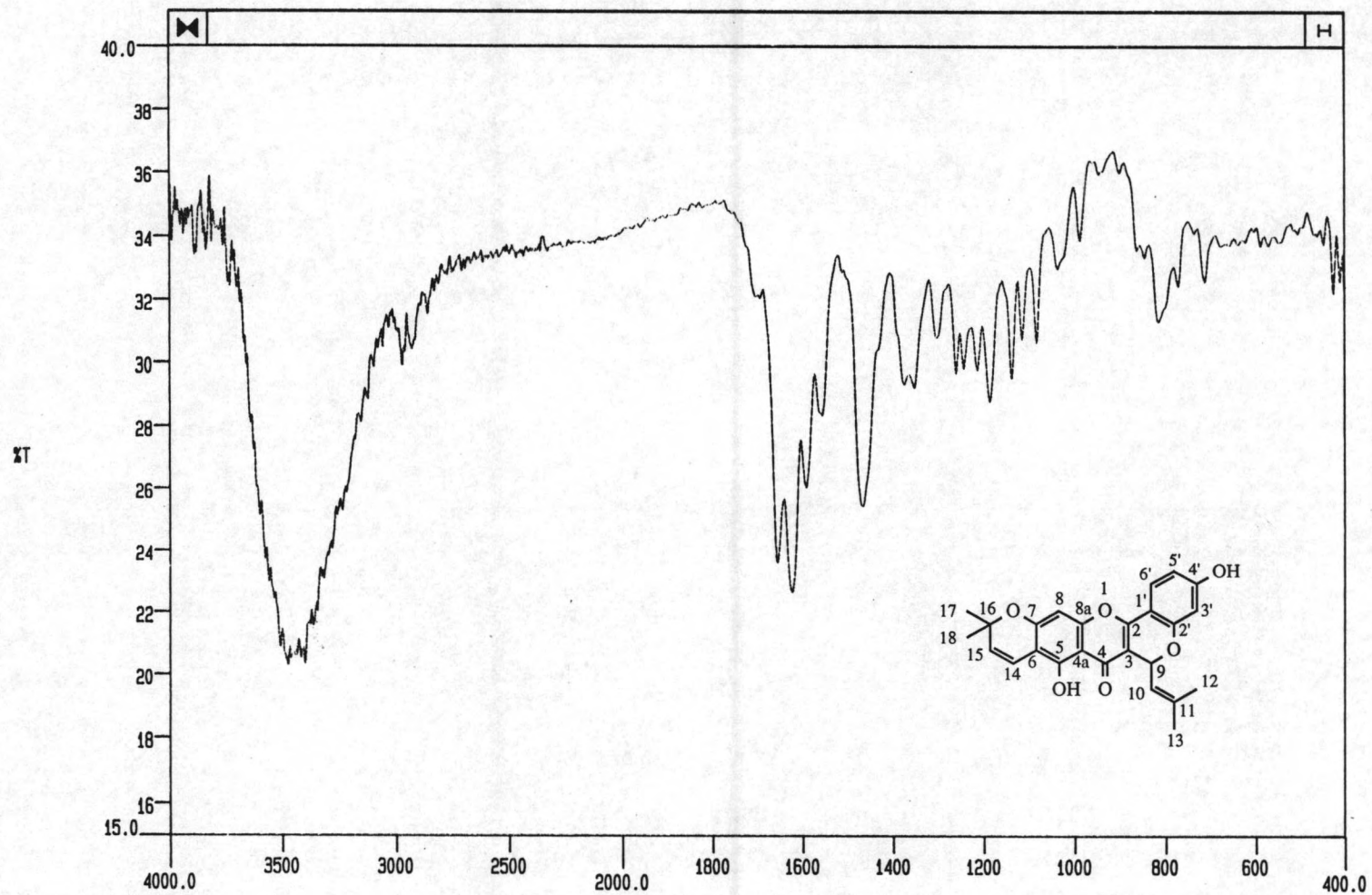


Figure 3 IR spectrum of AA-1 (in acetone)

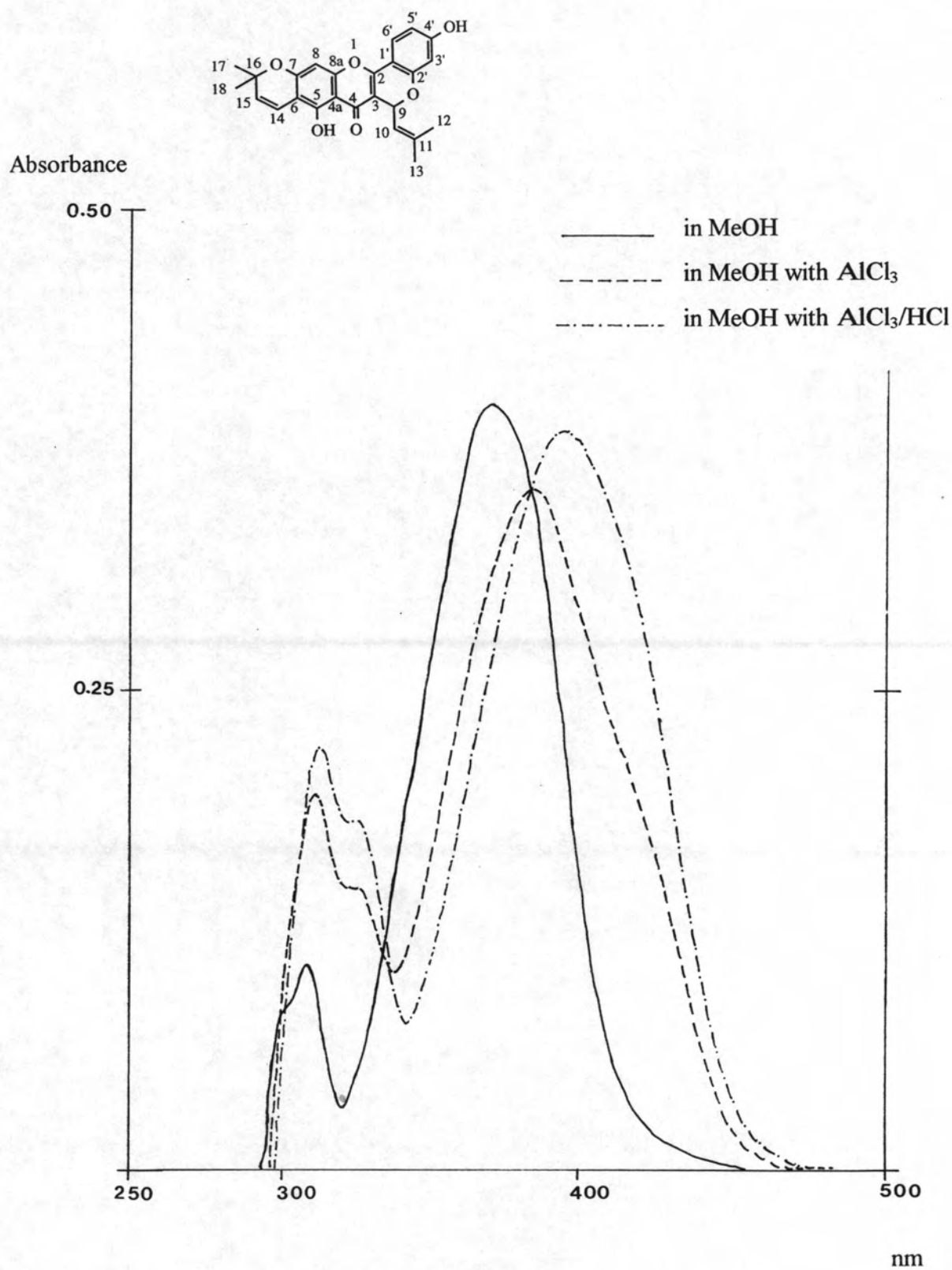


Figure 4 UV spectrum of AA-1 (in methanol)

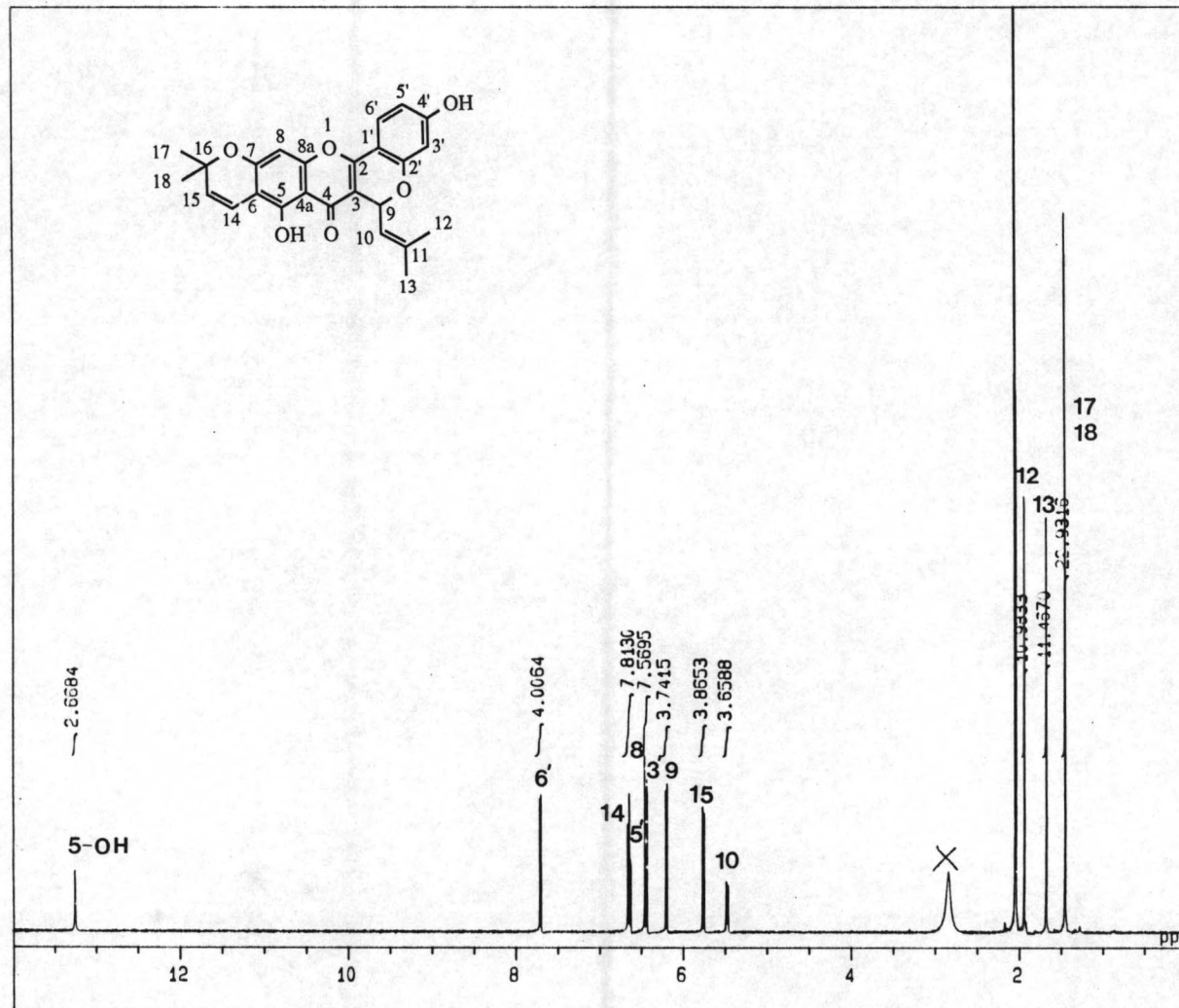


Figure 5 The 500 MHz $^1\text{H-NMR}$ spectrum of AA-1 (in acetone- d_6)

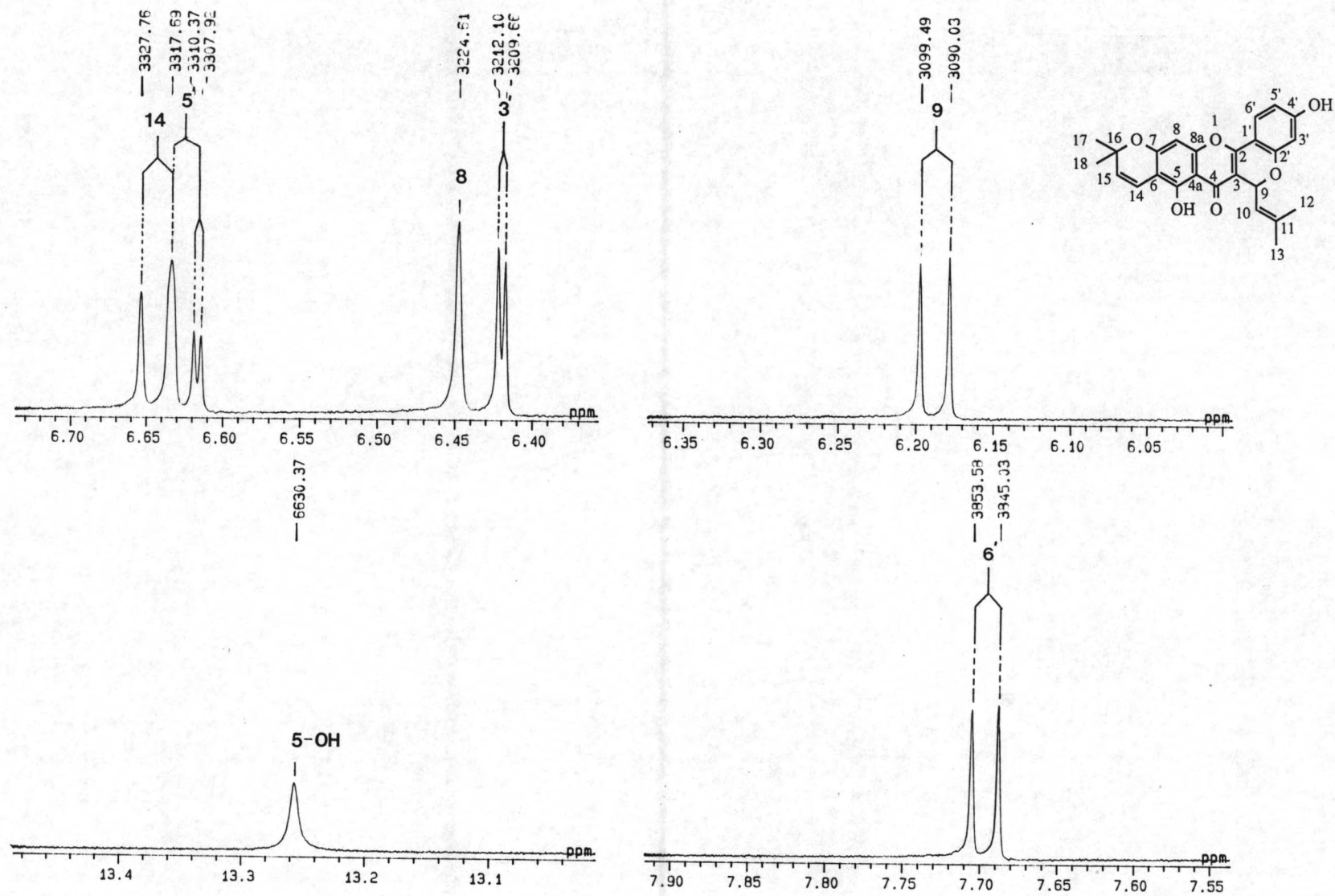


Figure 6 Expansion of the 500 MHz ¹H-NMR spectrum of AA-1 (in acetone-d₆)

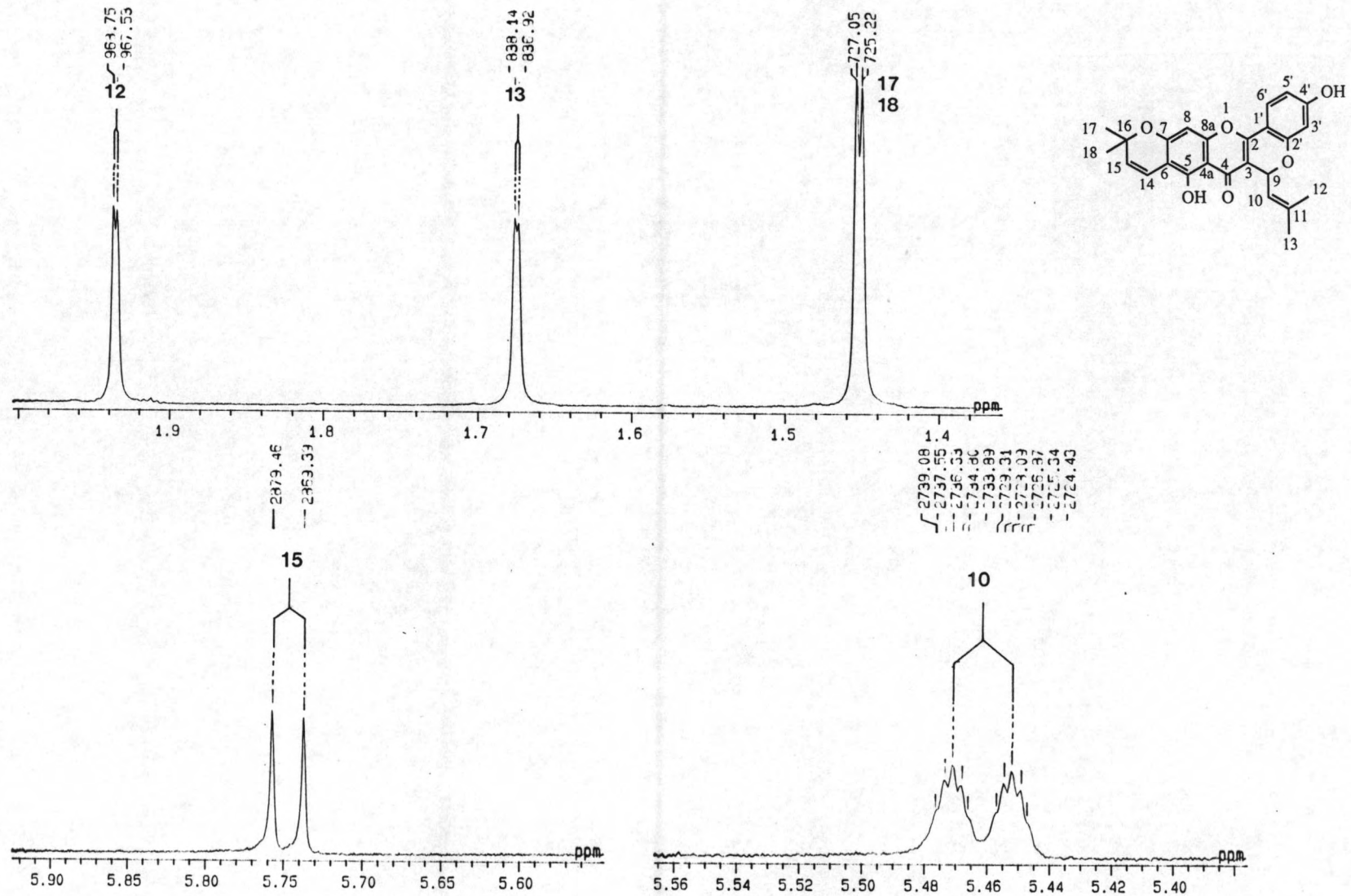


Figure 7 Expansion of the 500 MHz $^1\text{H-NMR}$ spectrum of AA-1 (in acetone- d_6)

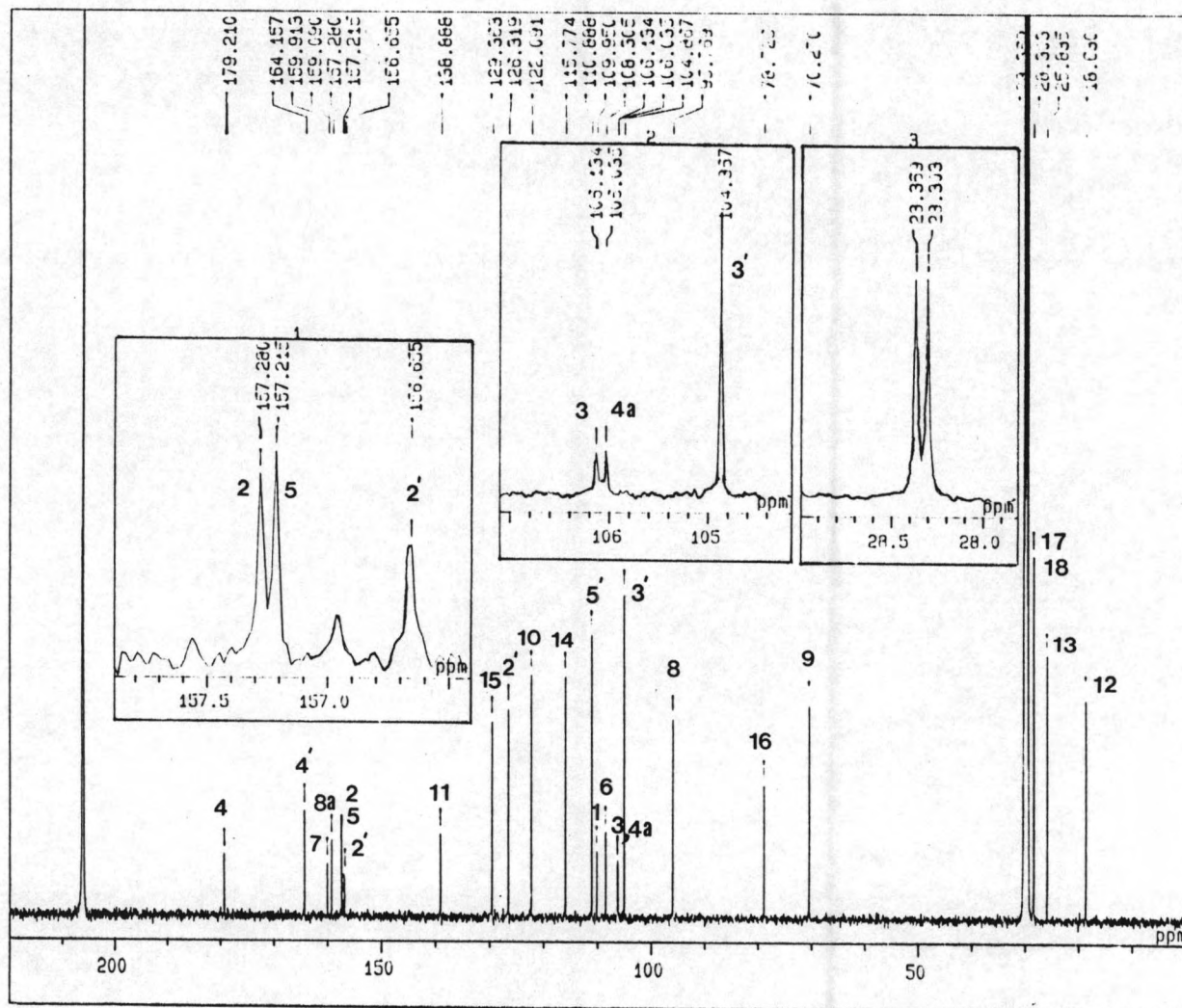


Figure 8 The 125 MHz ^{13}C -NMR spectrum of AA-1 (in acetone- d_6)

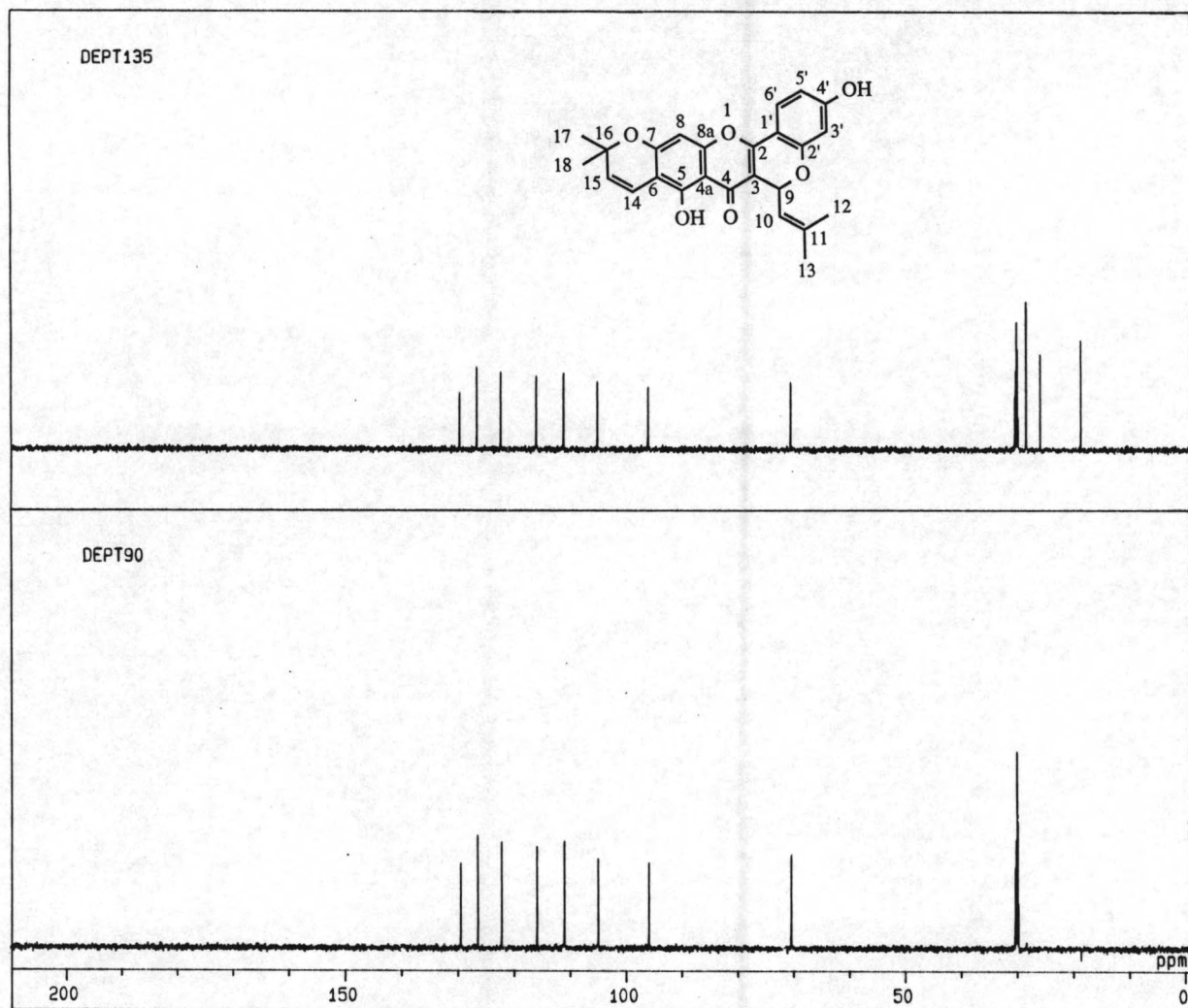


Figure 9 The 125 MHz DEPT spectra of AA-1 (in acetone-d₆)

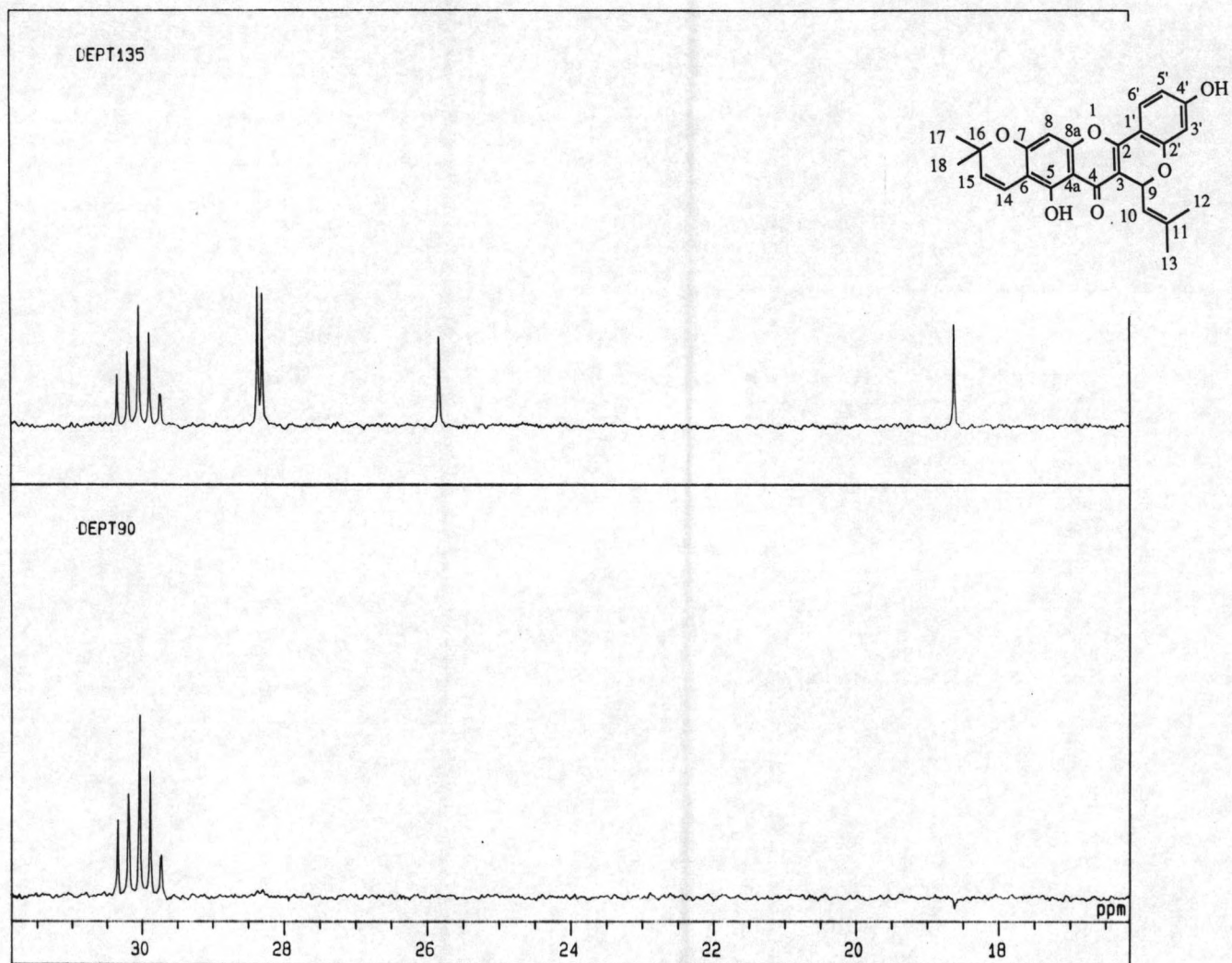


Figure 10 The upfield region of the 125 MHz DEPT spectra of AA-1 (in acetone-d₆)

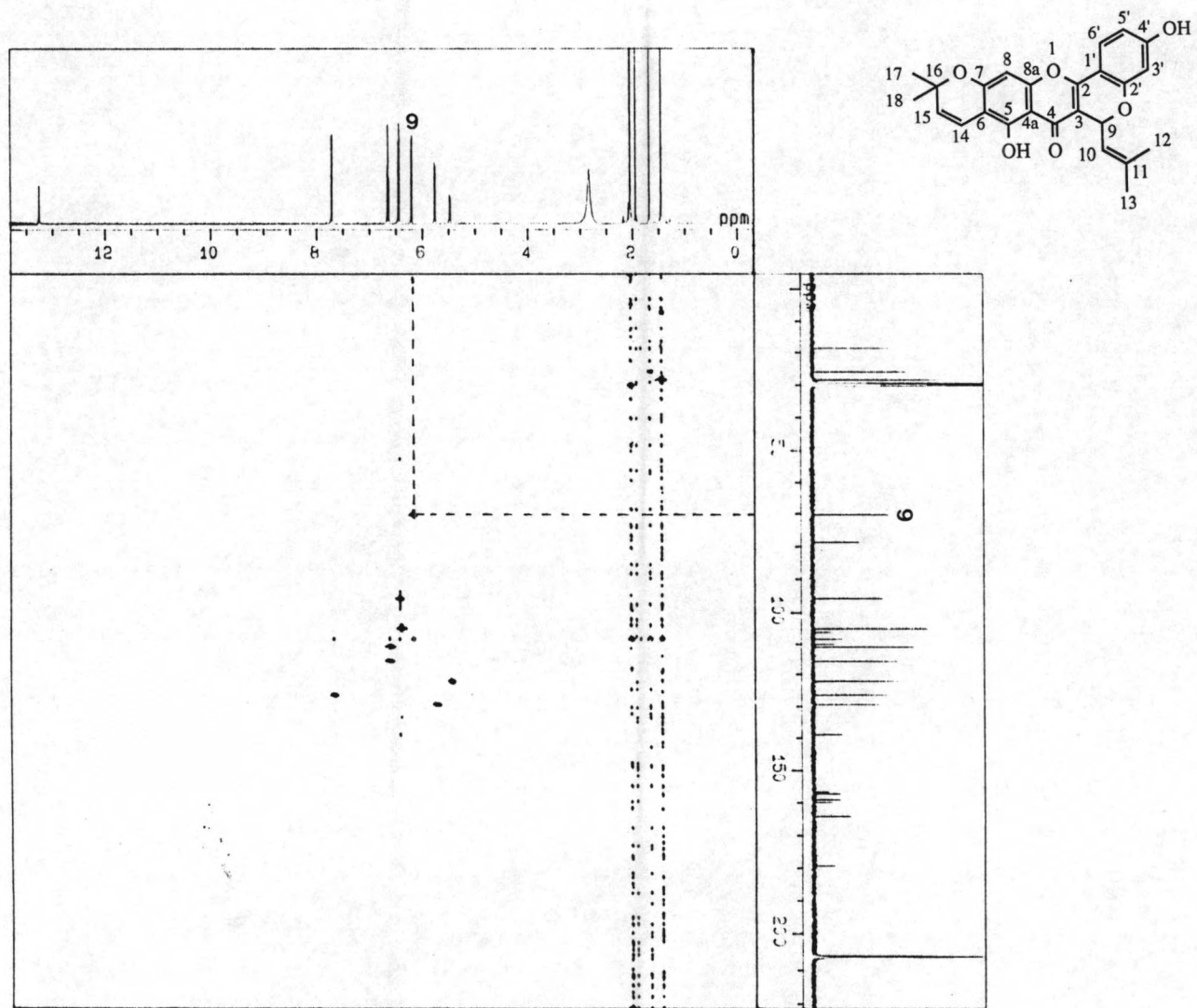


Figure 11 HMQC spectrum of AA-1 (in acetone- d_6)

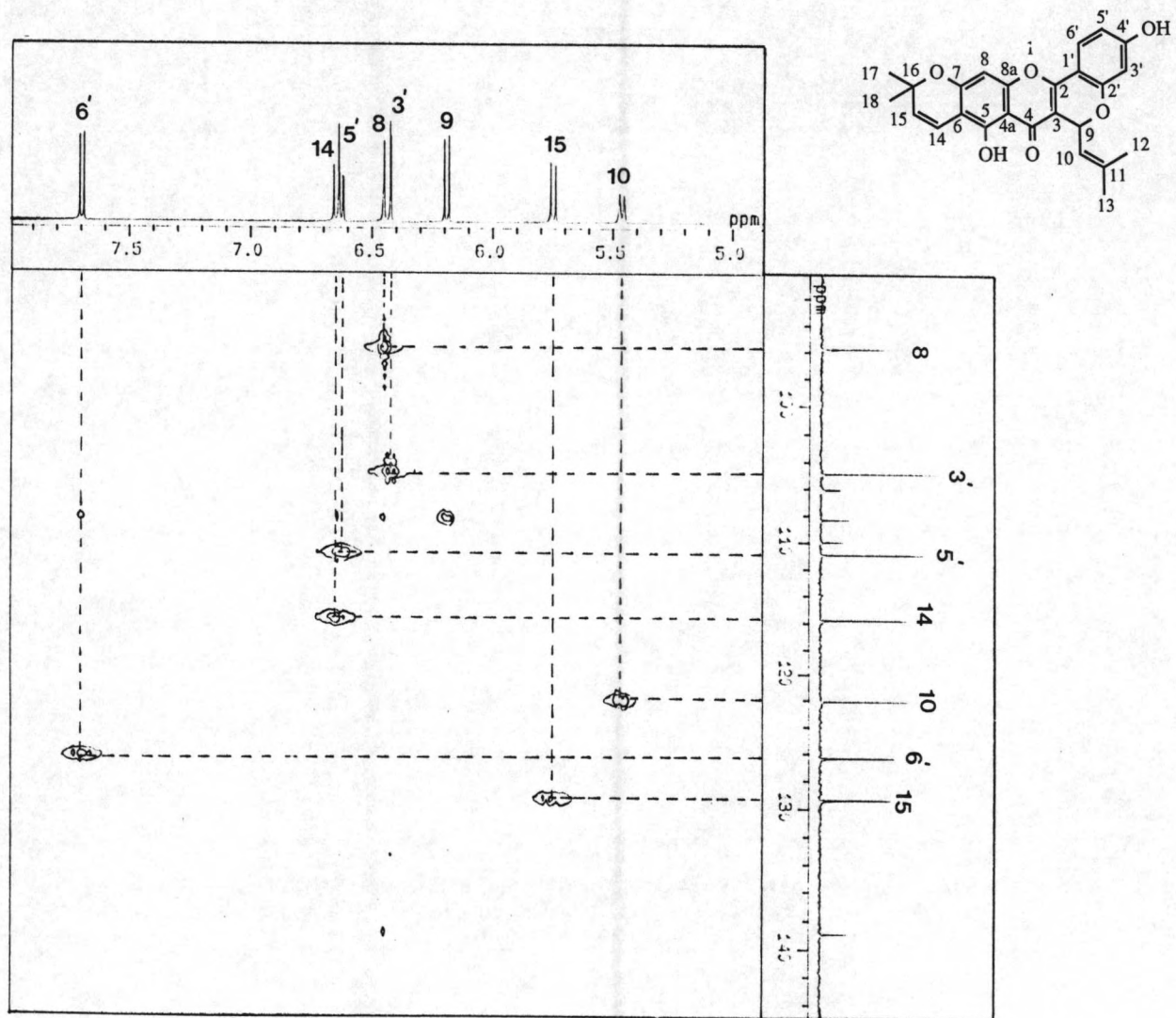


Figure 12 Expansion of a downfield area of the HMQC spectrum of AA-1 (in acetone-d₆)

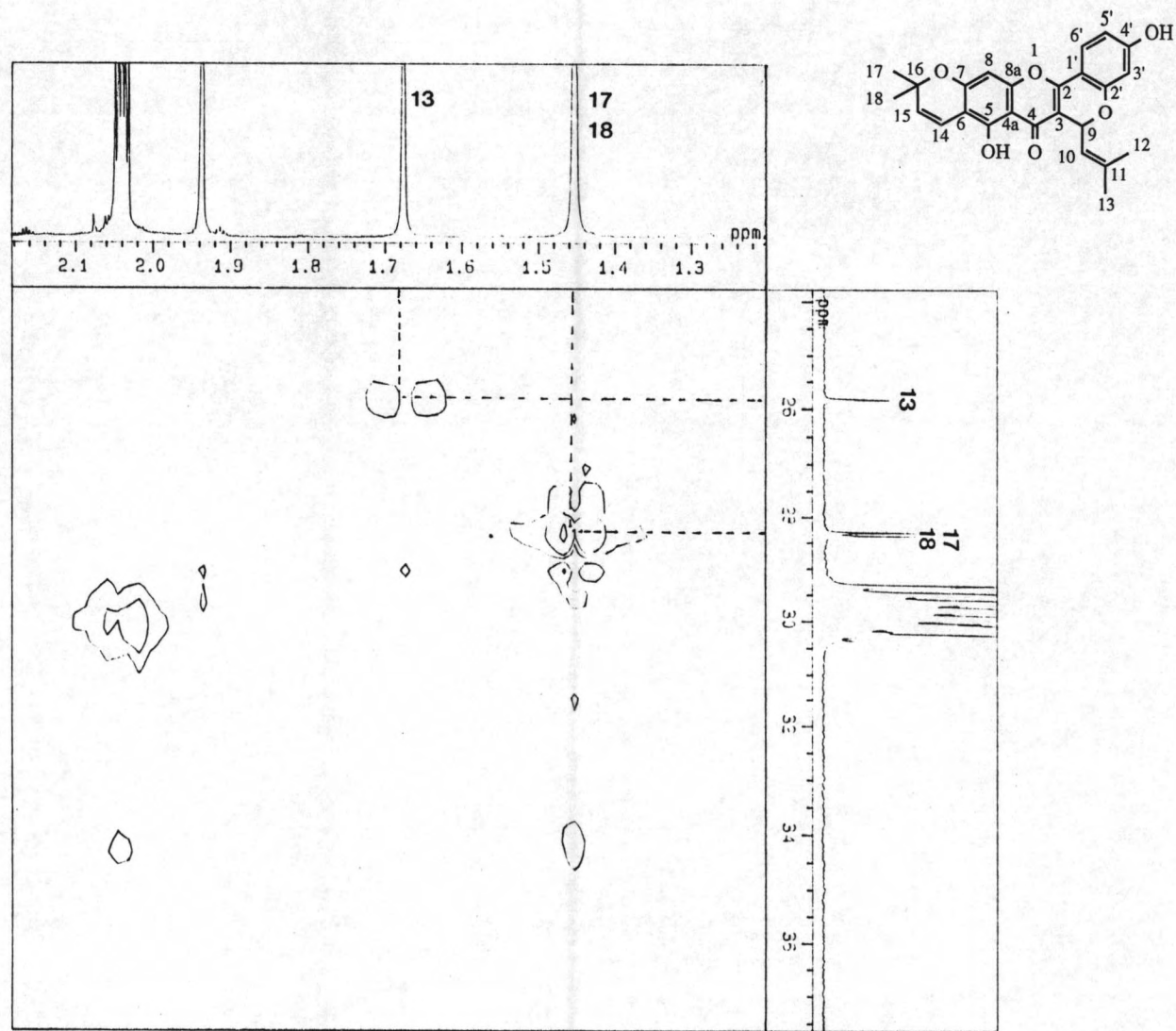


Figure 13 Expansion of an upfield area of the HMQC spectrum of AA-1 (in acetone-d₆)

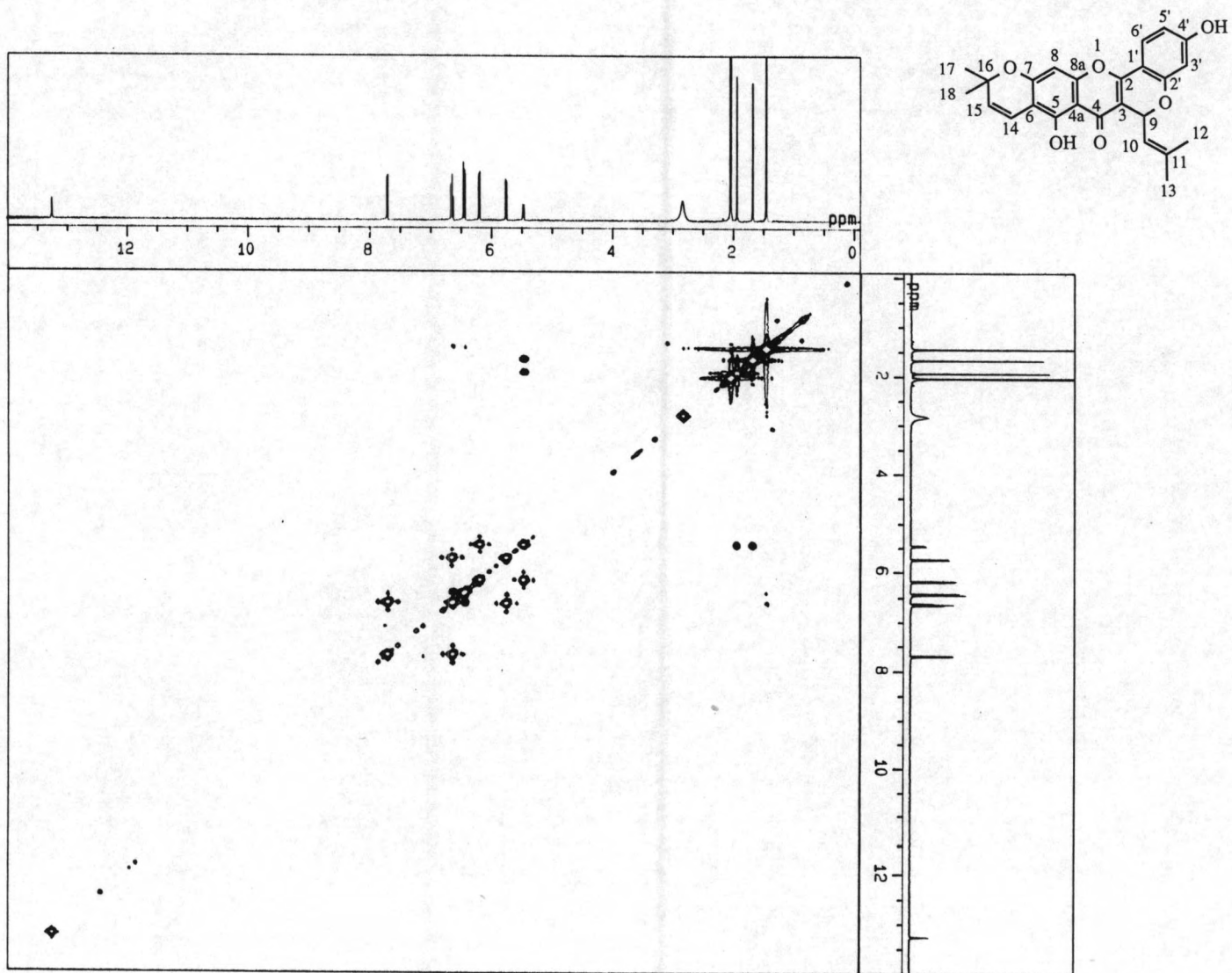


Figure 14 The 500 MHz ^1H - ^1H COSY spectrum of AA-1 (in acetone- d_6)

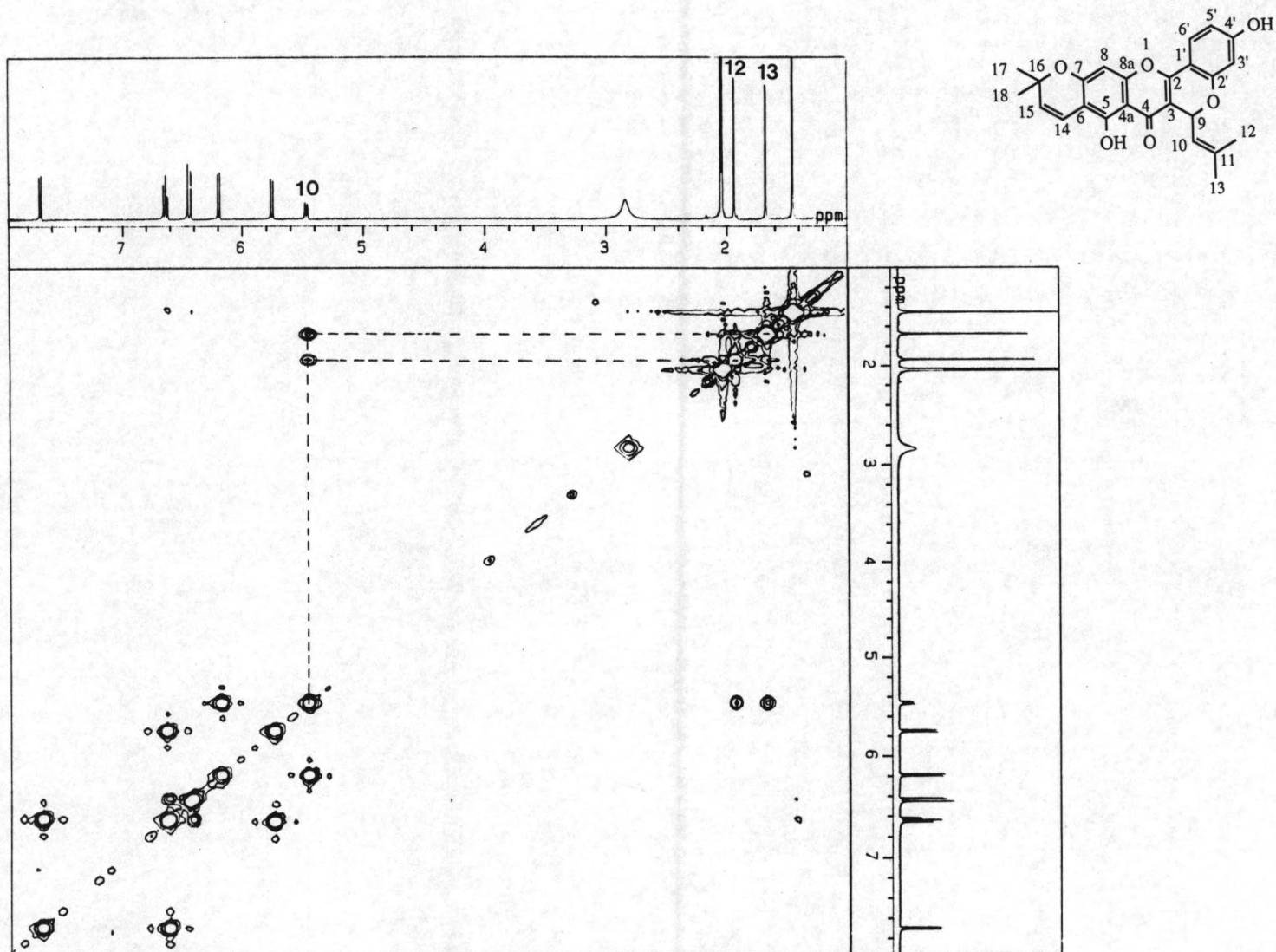


Figure 15 Expansion of the 500 MHz ^1H - ^1H COSY spectrum of AA-1 (in acetone- d_6)

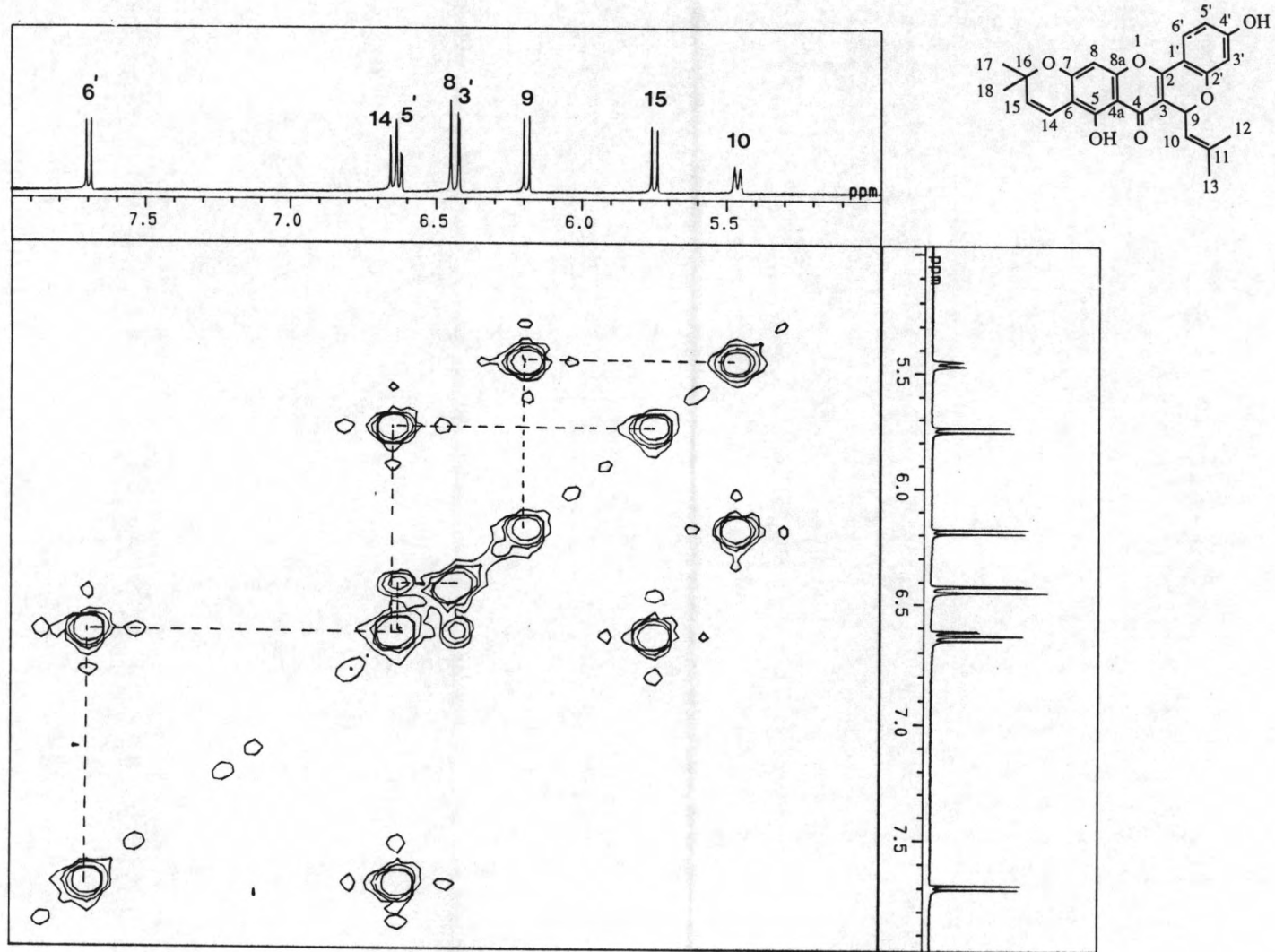


Figure 16 Expansion of a downfield area of the 500 MHz ^1H - ^1H COSY spectrum of AA-1 (in acetone- d_6)

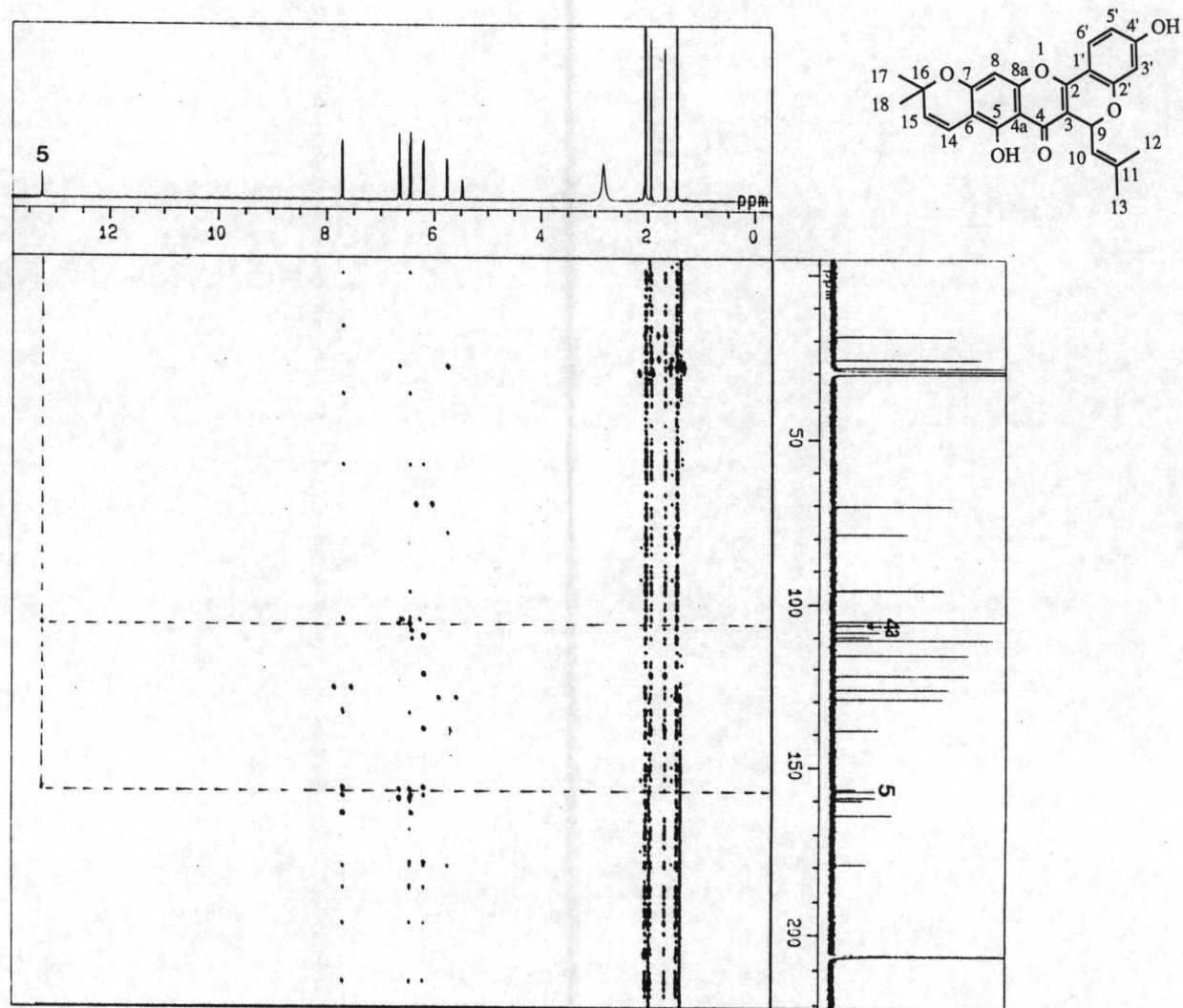


Figure 17 The 125 MHz HMBC spectrum of AA-1 (in acetone-d₆)

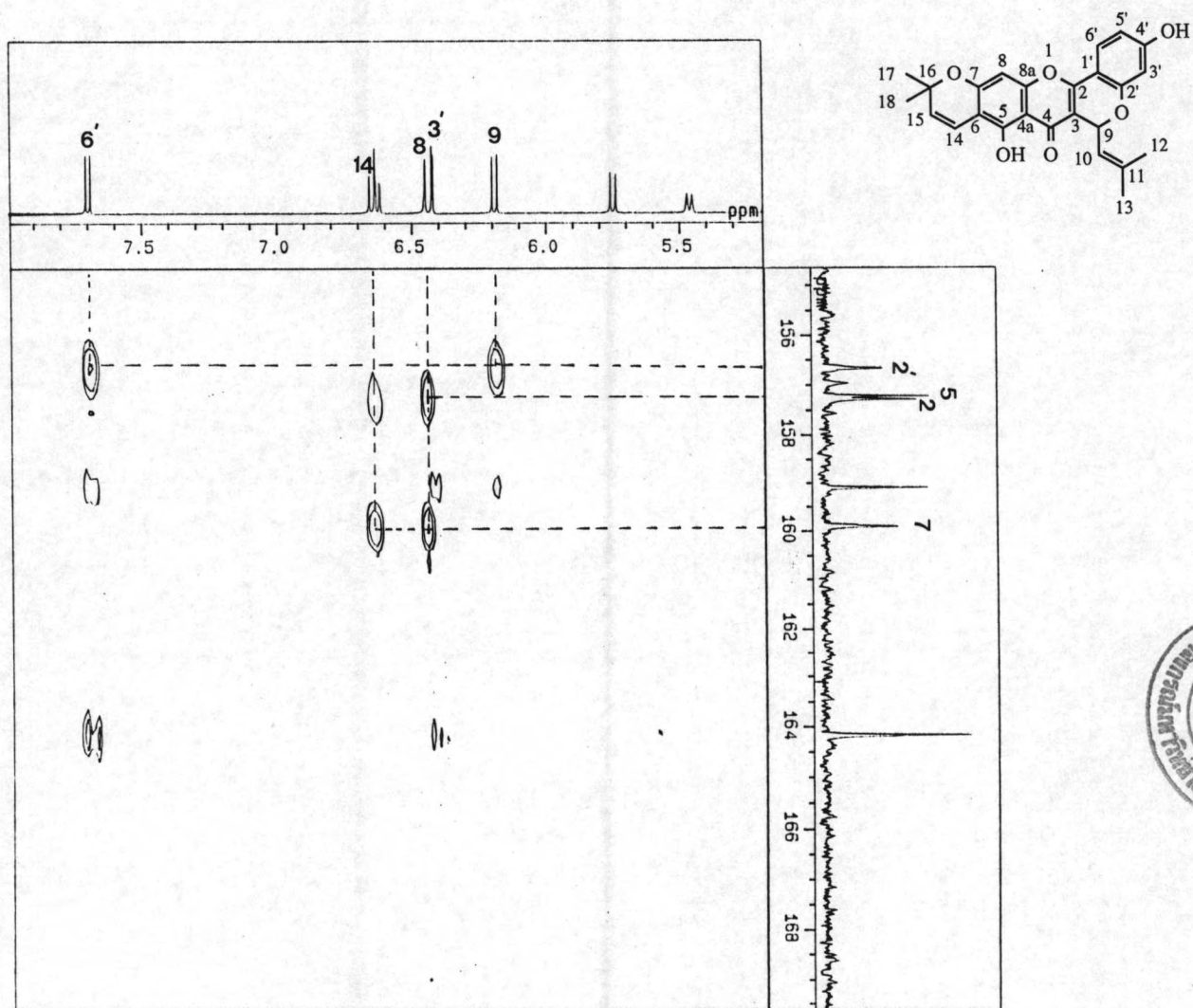


Figure 19 Expansion of an area of the 125 MHz HMBC spectrum of AA-1 (in acetone-d₆)



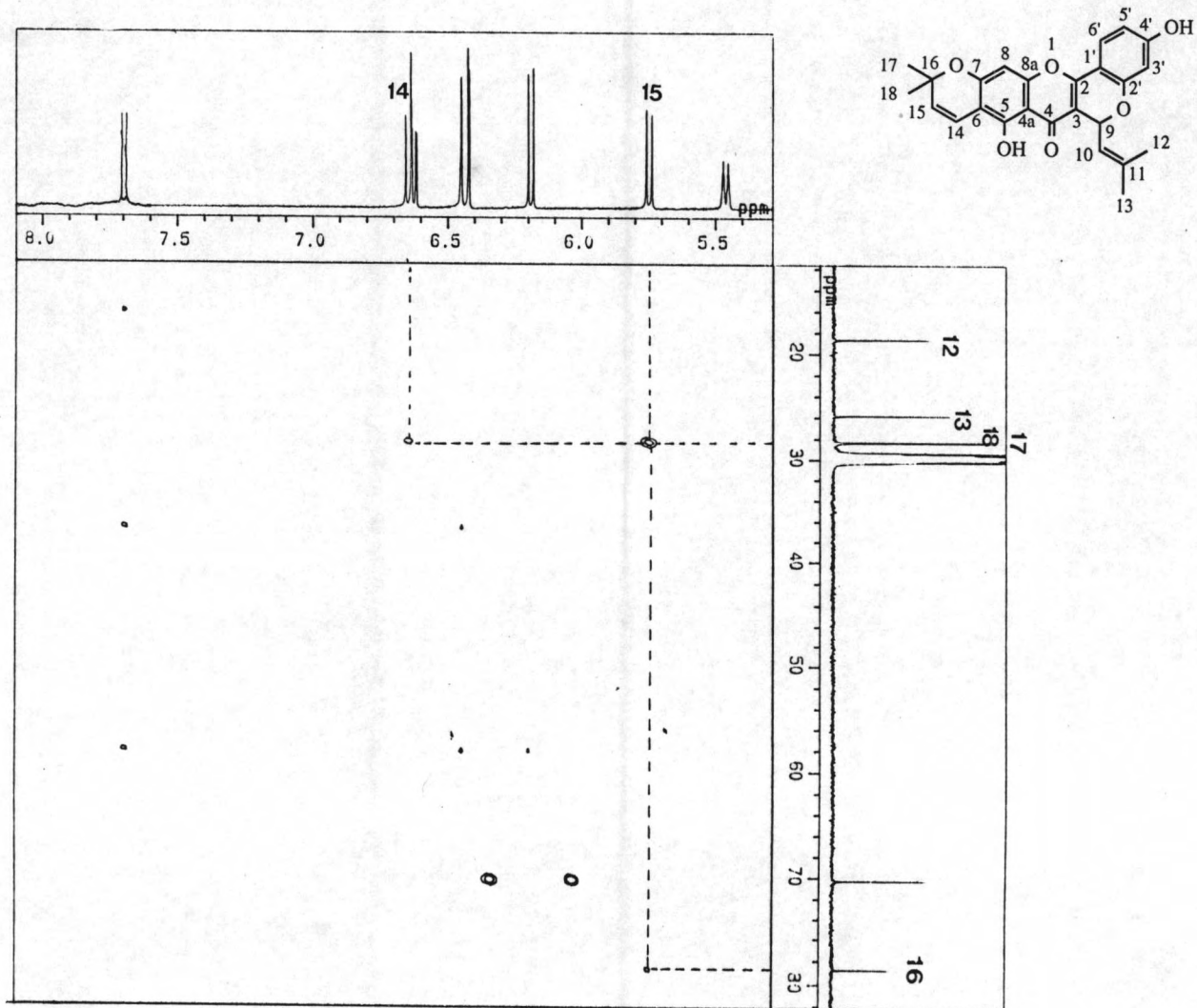


Figure 20 Expansion of an area of the 125 MHz HMBC spectrum of AA-1 (in acetone-d₆)

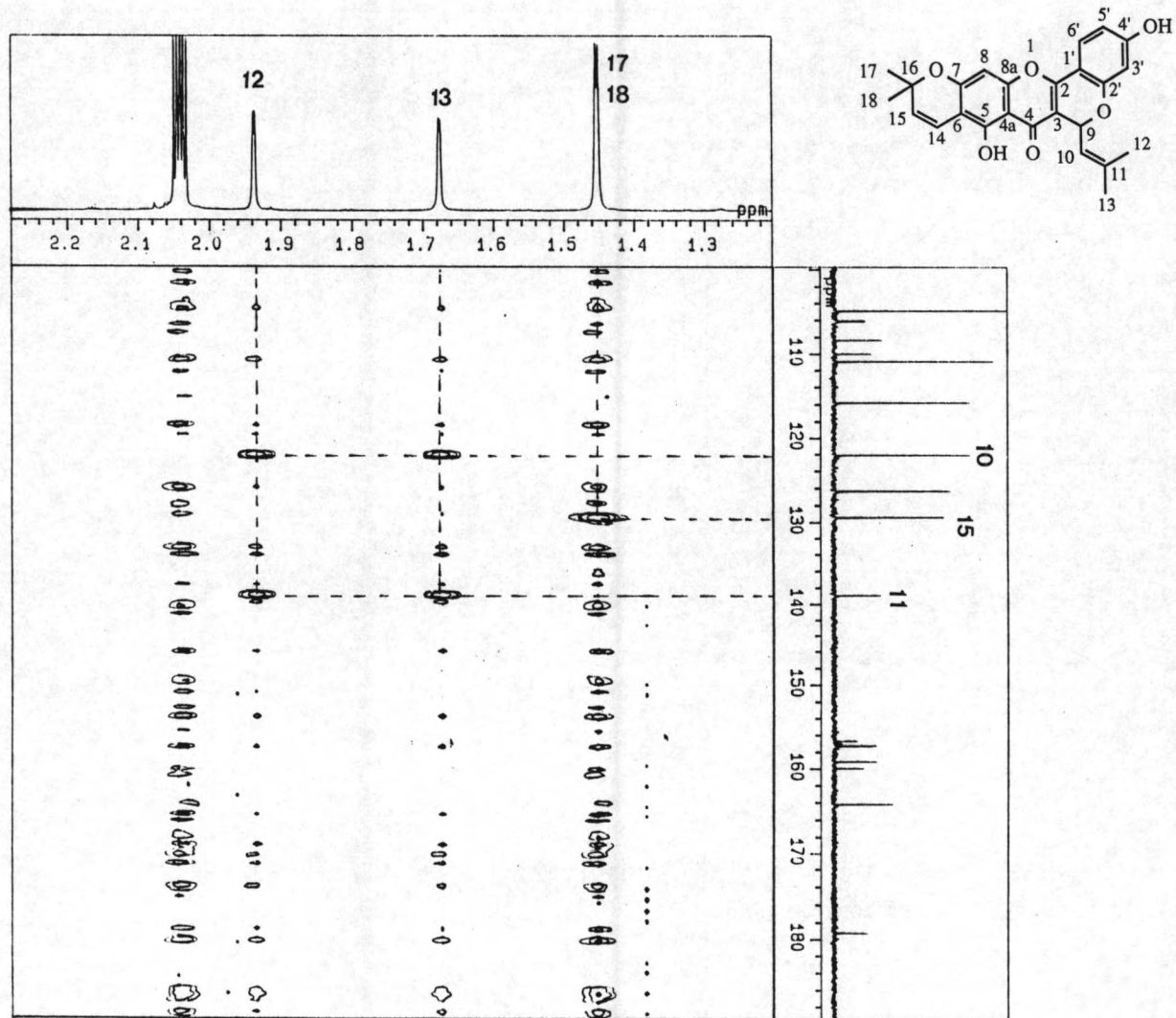


Figure 21 Expansion of an area of the 125 MHz HMBC spectrum of AA-1 (in acetone-d₆)

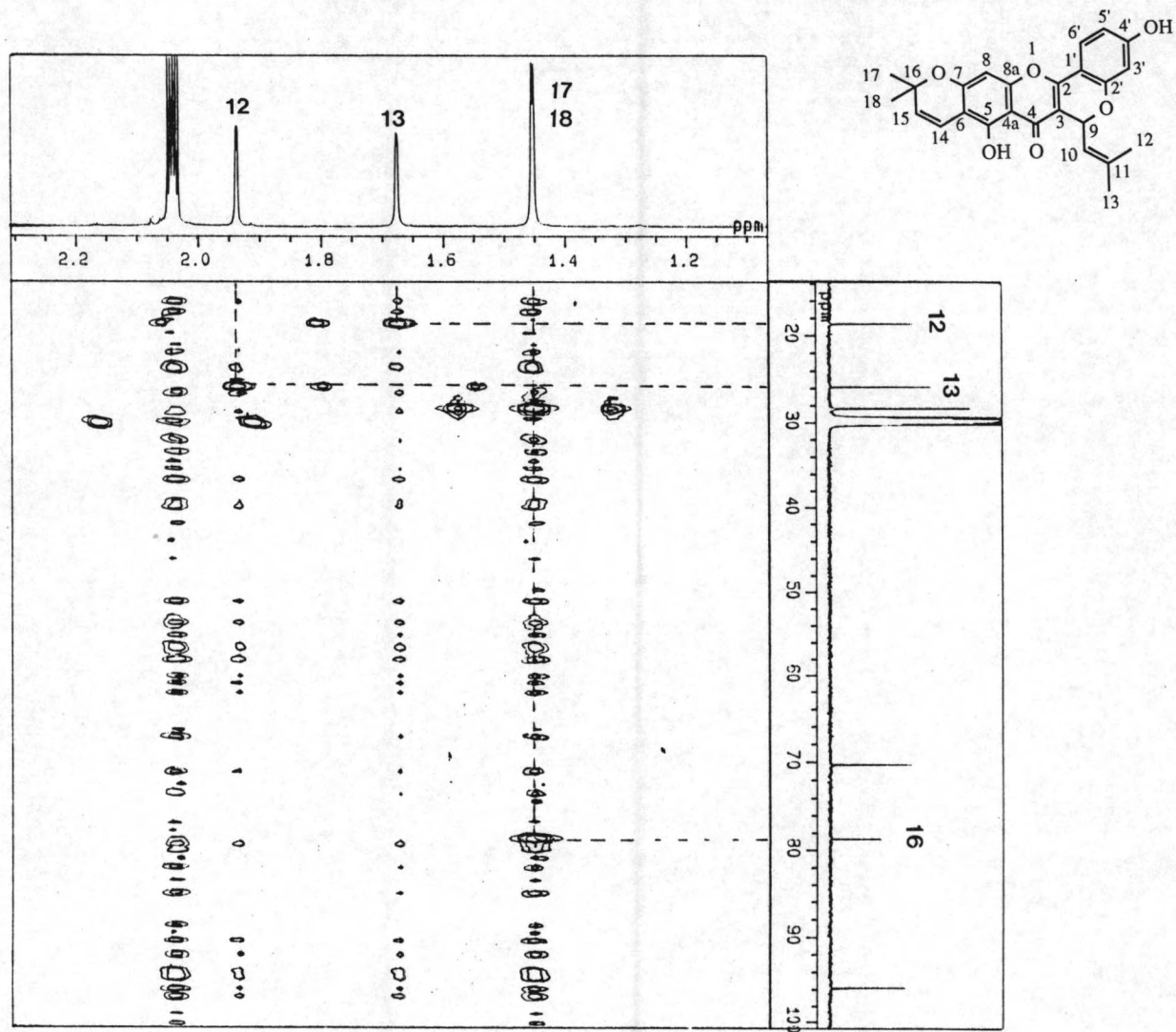


Figure 22 Expansion of an area of the 125 MHz HMBC spectrum of AA-1 (in acetone-d₆)

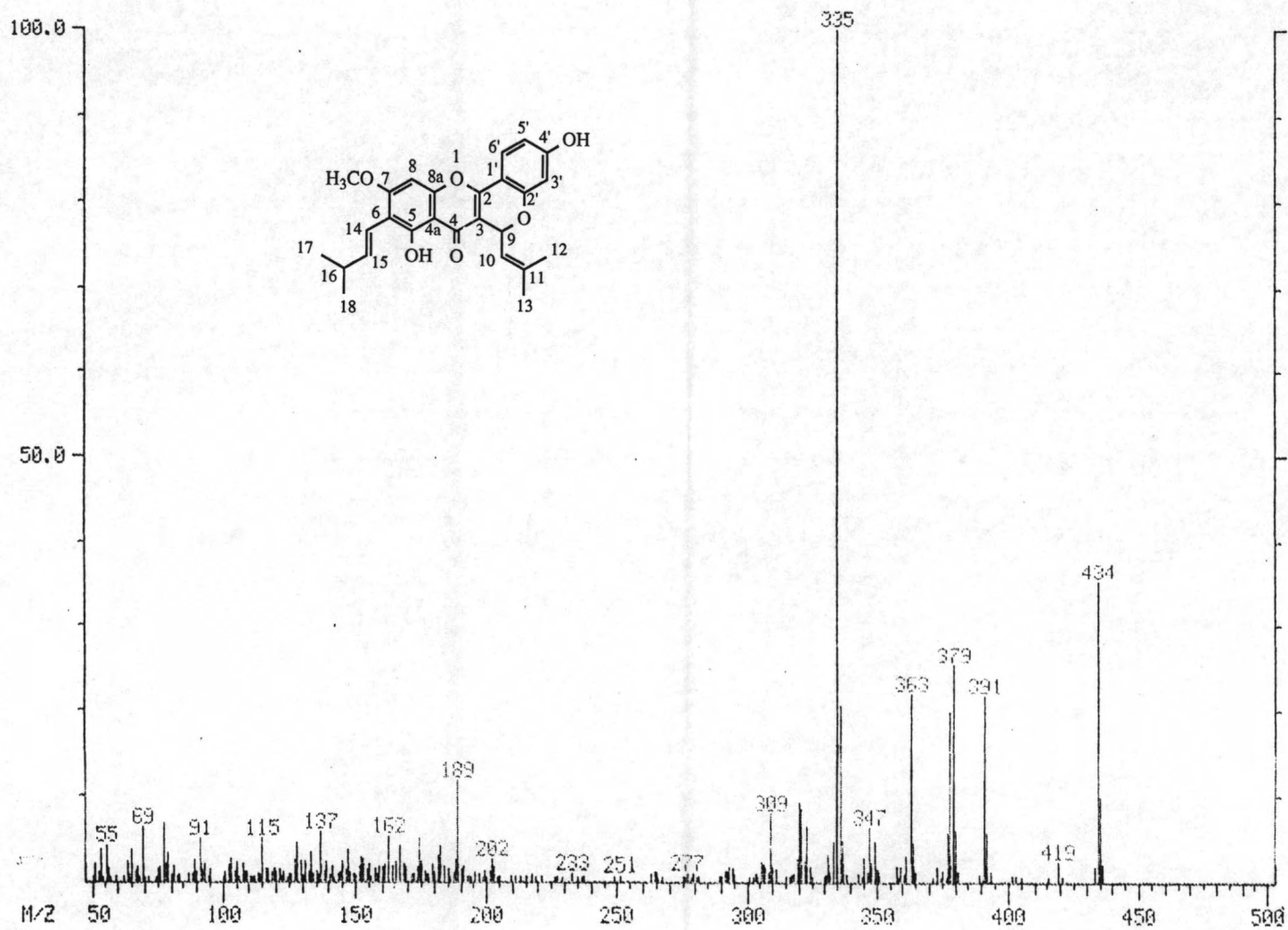


Figure 23 EIMS spectrum of AA-2

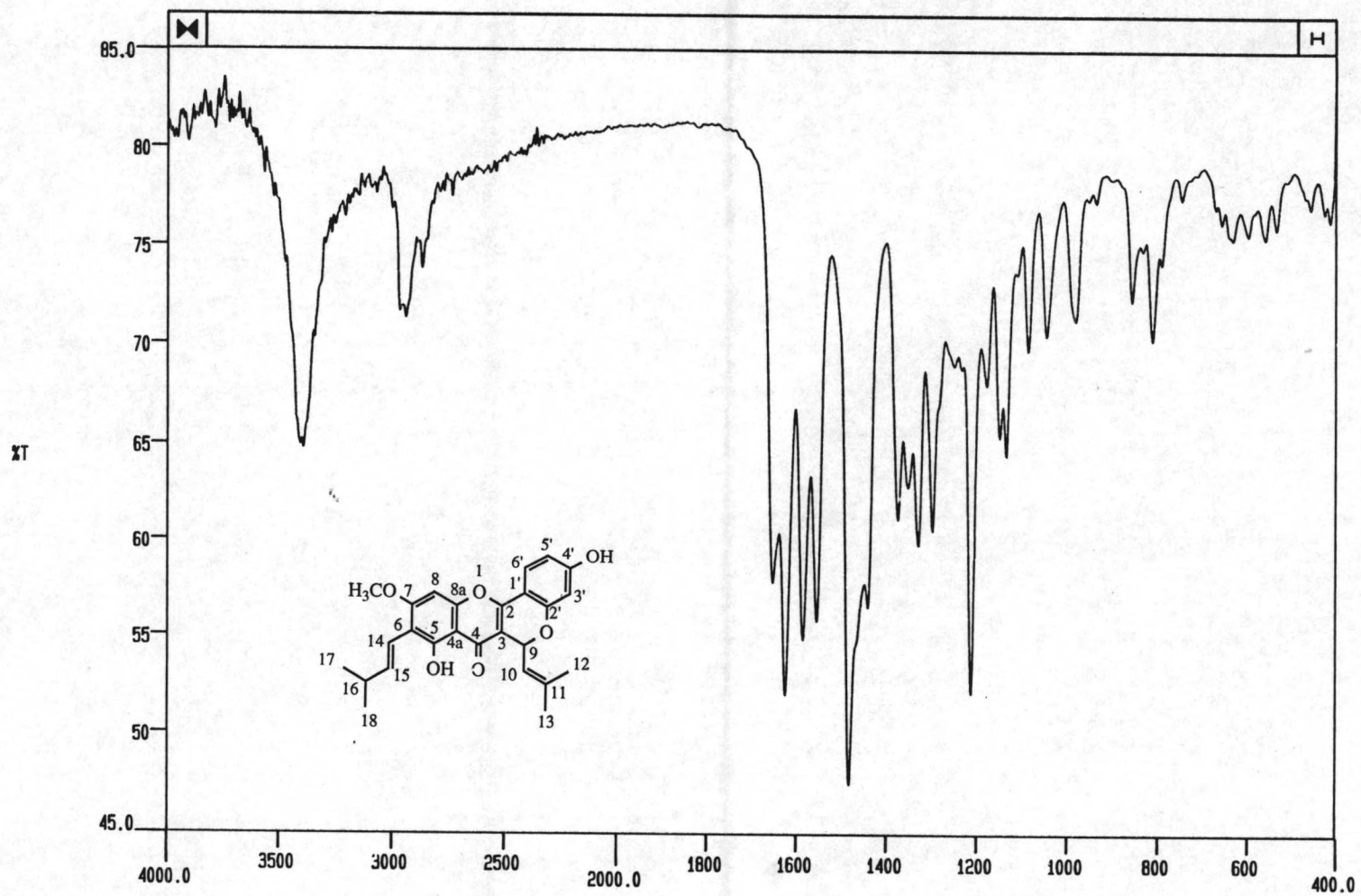


Figure 24 IR spectrum of AA-2 (KBr disc)

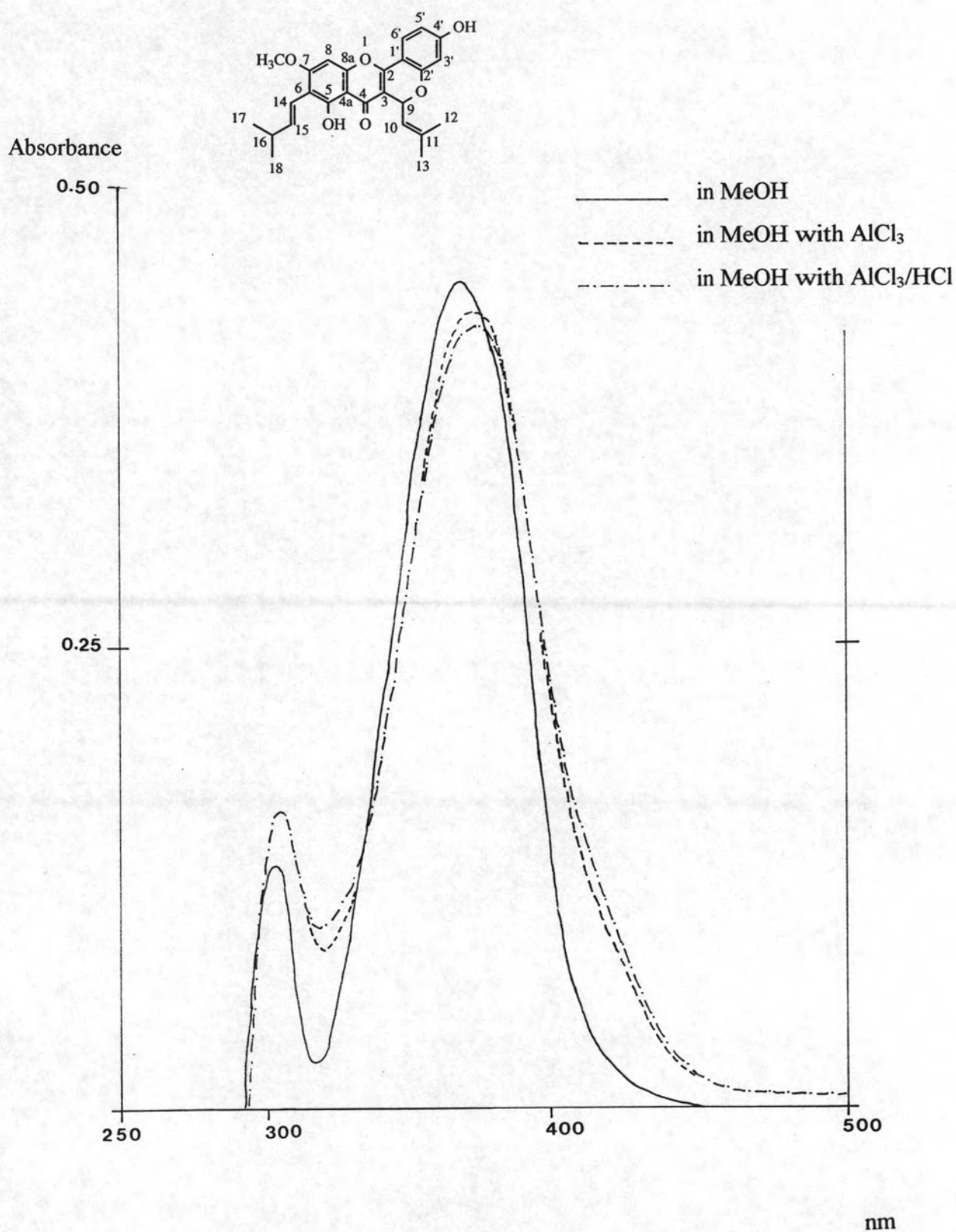


Figure 25 UV spectrum of AA-2 (in methanol)

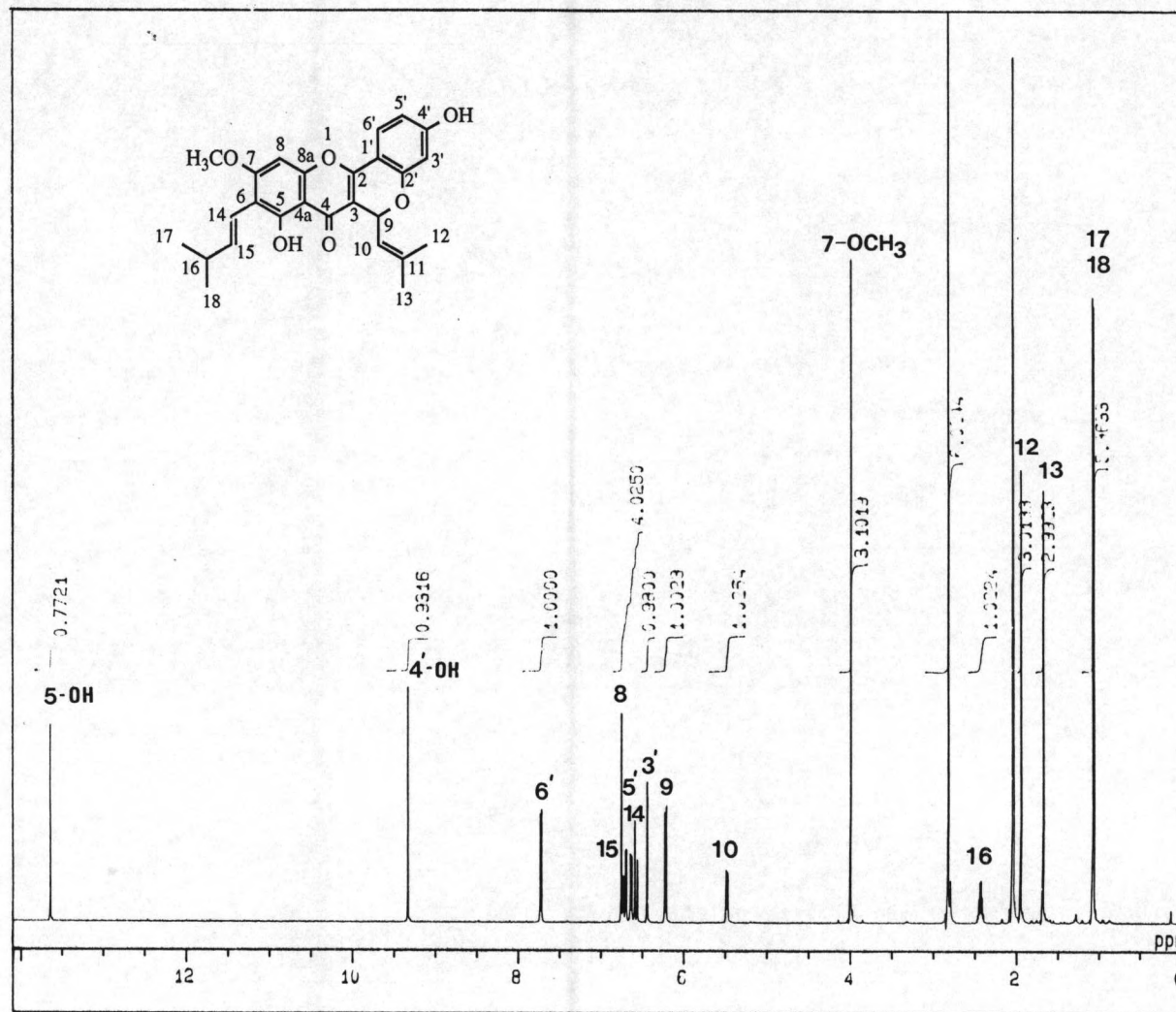


Figure 26 The 500 MHz ¹H-NMR spectrum of AA-2 (in acetone-d₆)

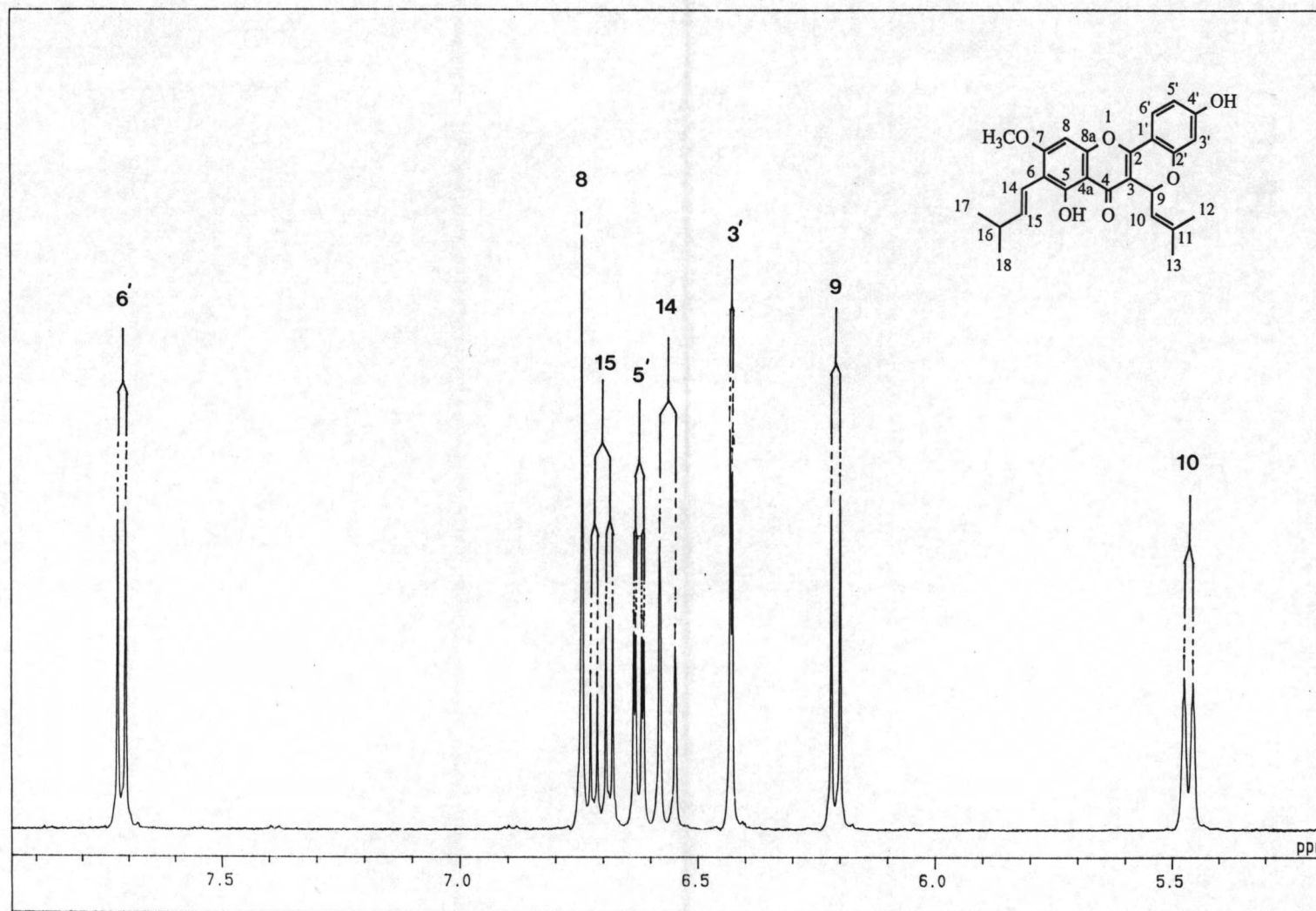


Figure 27 Expansion of the 500 MHz $^1\text{H-NMR}$ spectrum of AA-2 (in acetone- d_6)

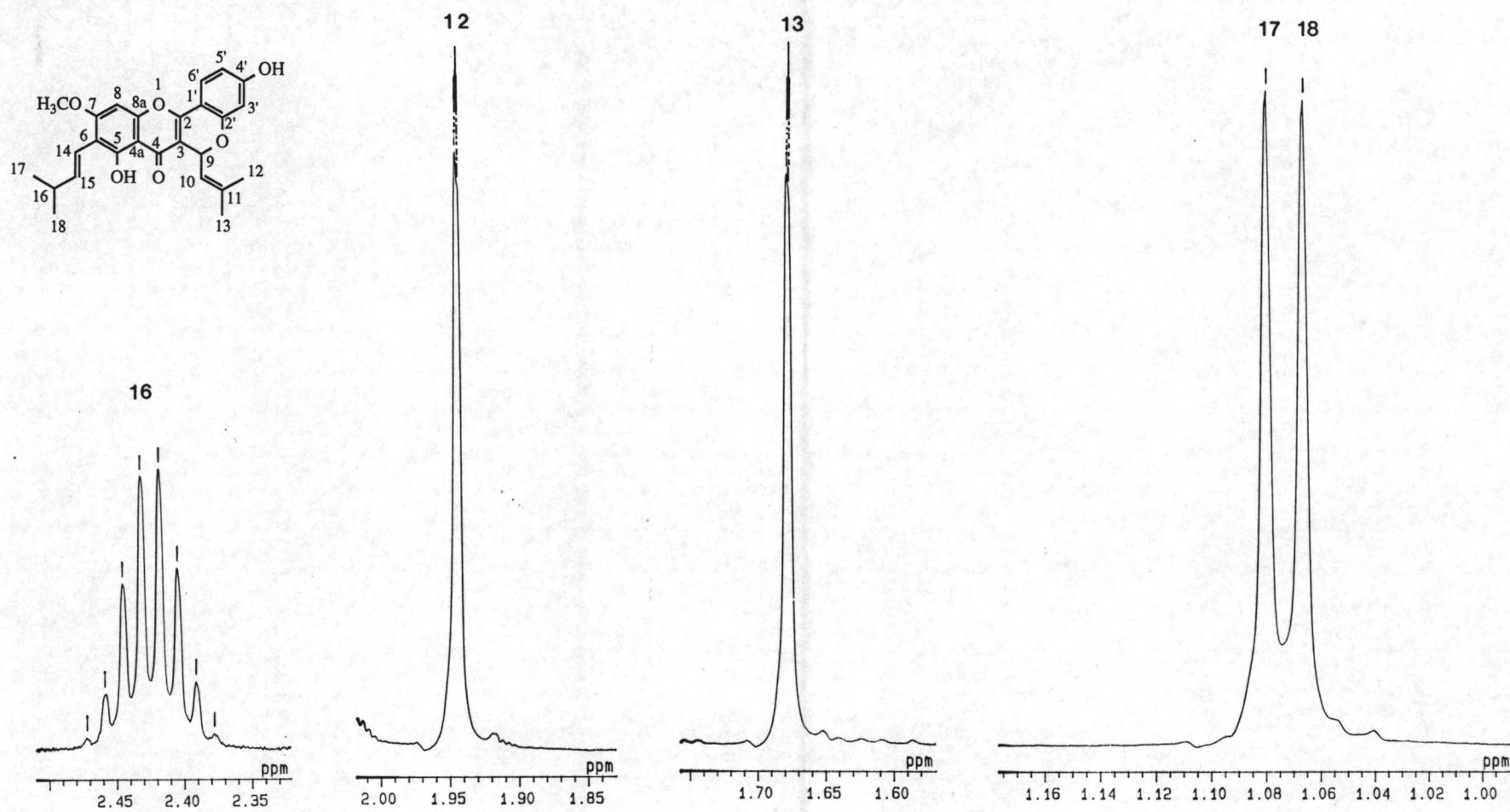


Figure 28 Expansion of the 500 MHz $^1\text{H-NMR}$ spectrum of AA-2 (in acetone- d_6)

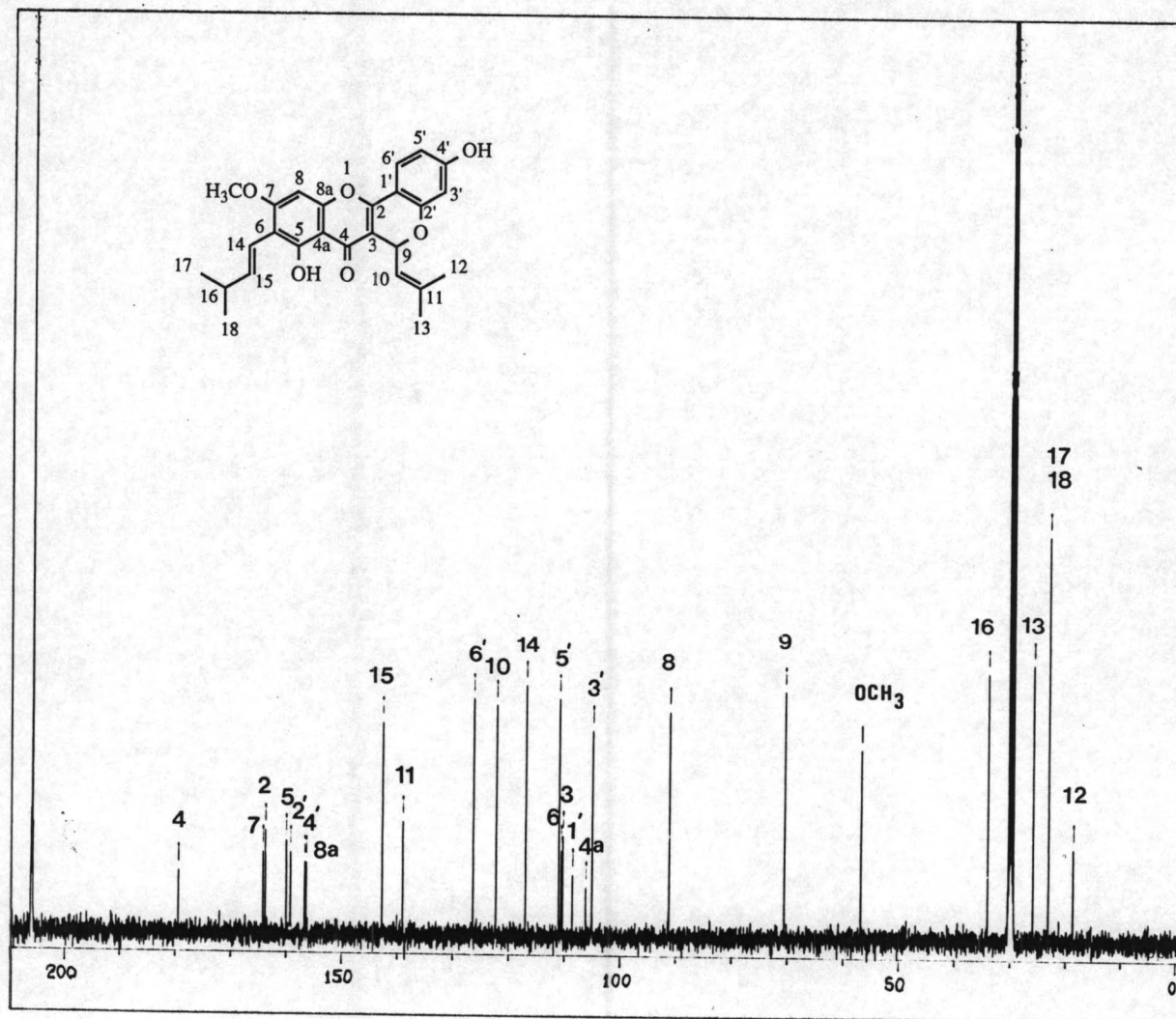


Figure 29 The 125 MHz ^{13}C -NMR spectrum of AA-2 (in acetone- d_6)

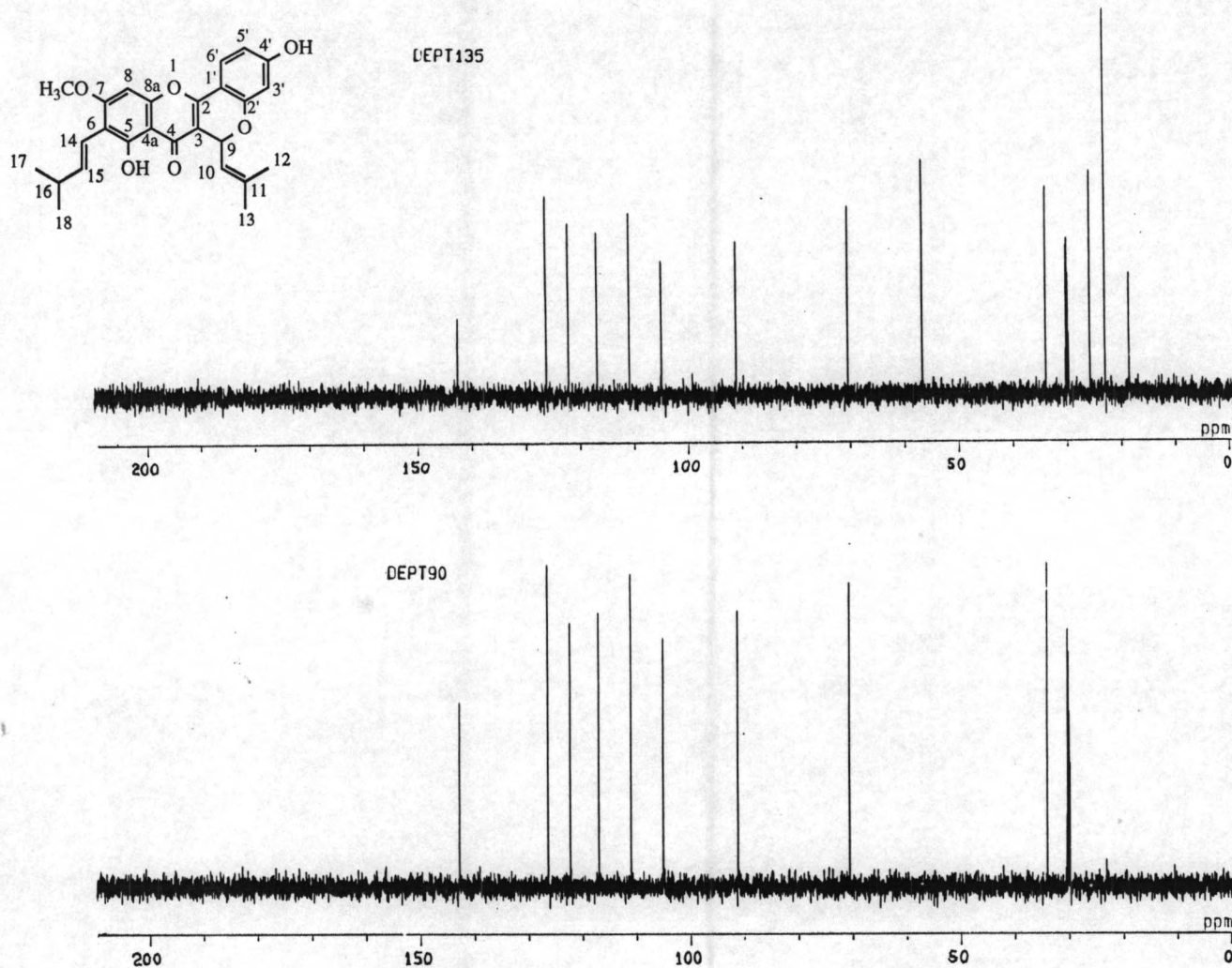


Figure 30 The 125 MHz DEPT spectra of AA-2 (in acetone-d₆)

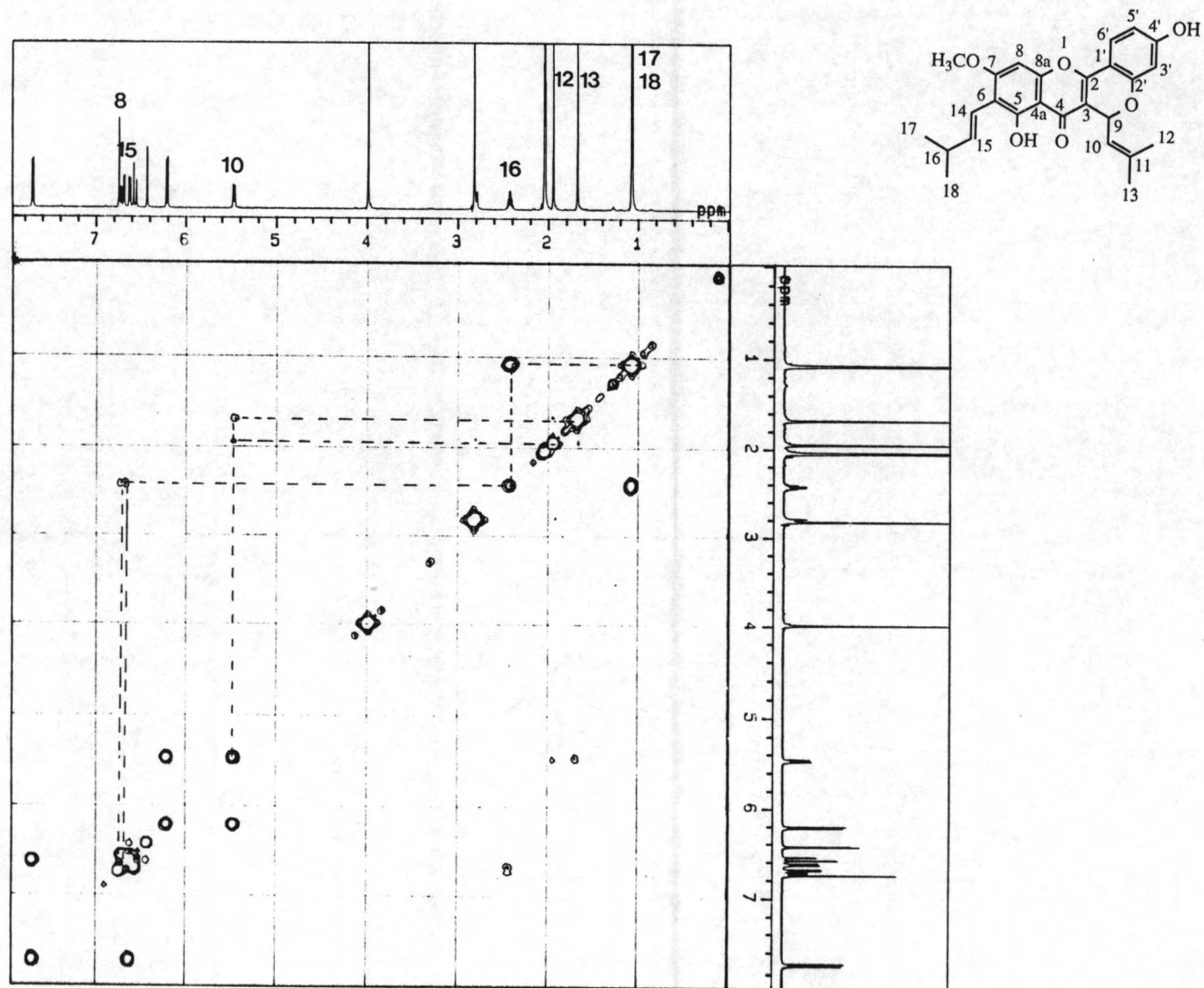


Figure 31 The 500 MHz ^1H - ^1H COSY spectrum of AA-2 (in acetone- d_6)

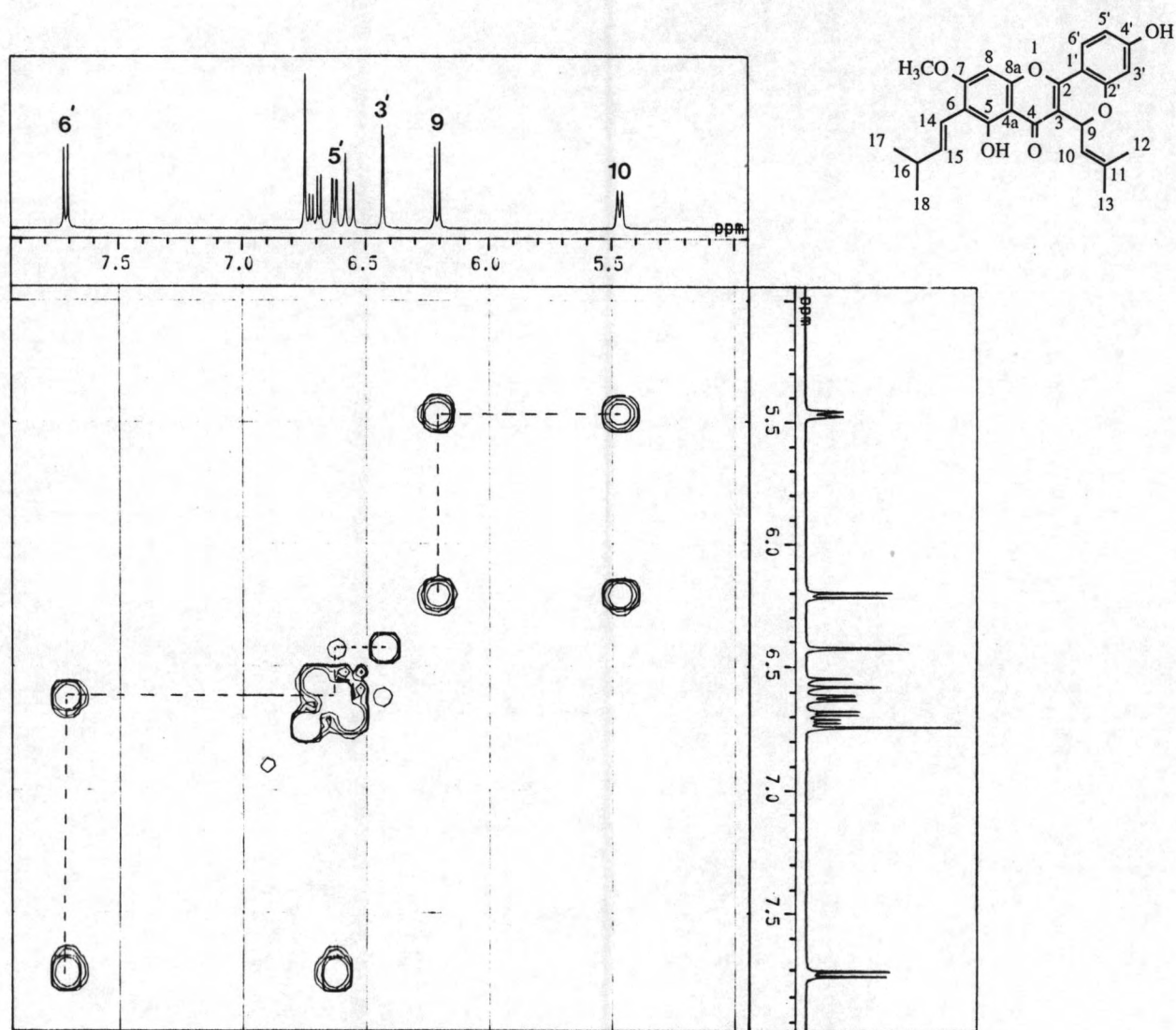


Figure 32 Expansion of a downfield area of the 500 MHz ^1H - ^1H COSY spectrum of AA-2 (in acetone- d_6)

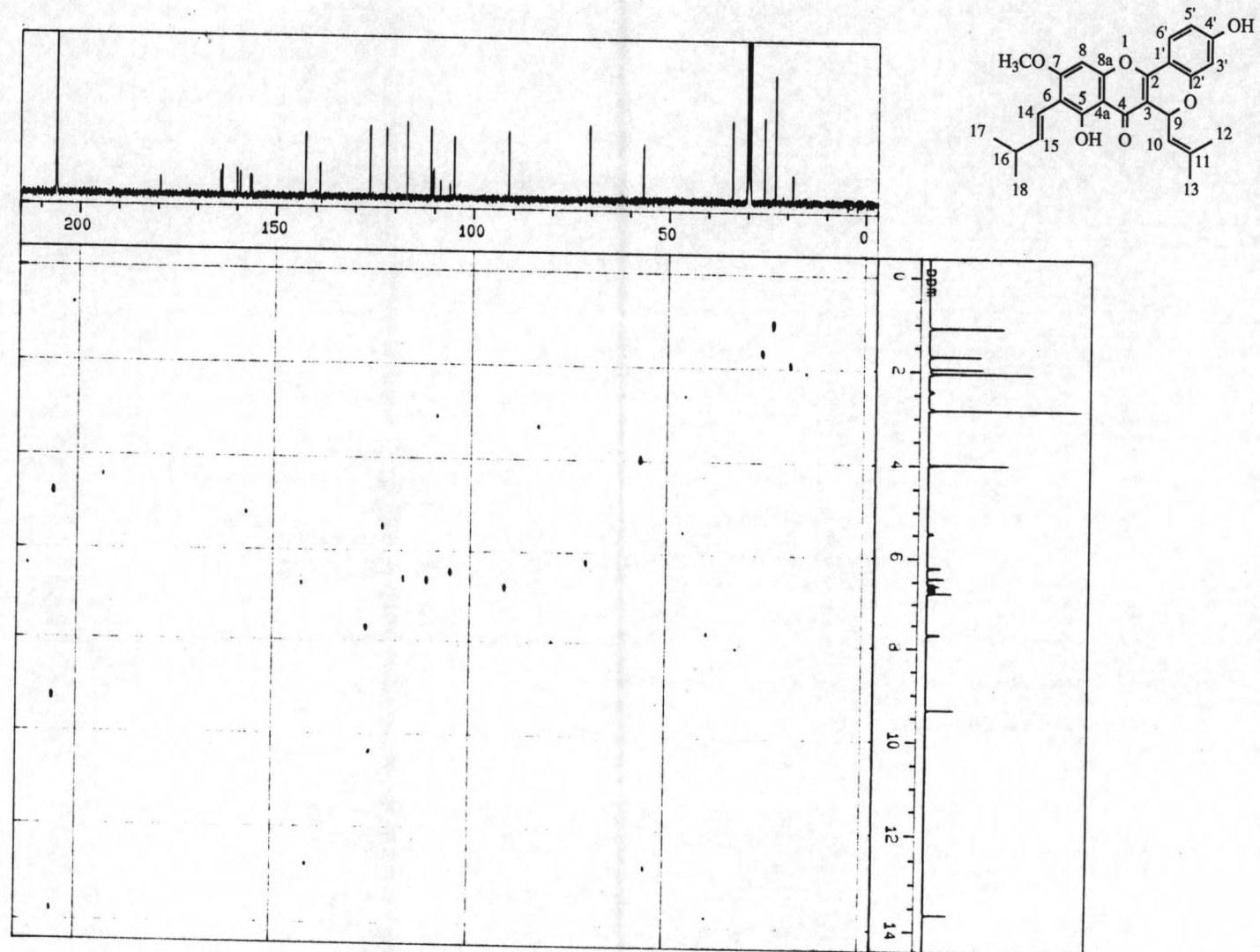


Figure 33 The 125 MHz ^{13}C - ^1H COSY spectrum of AA-2 (in acetone- d_6)

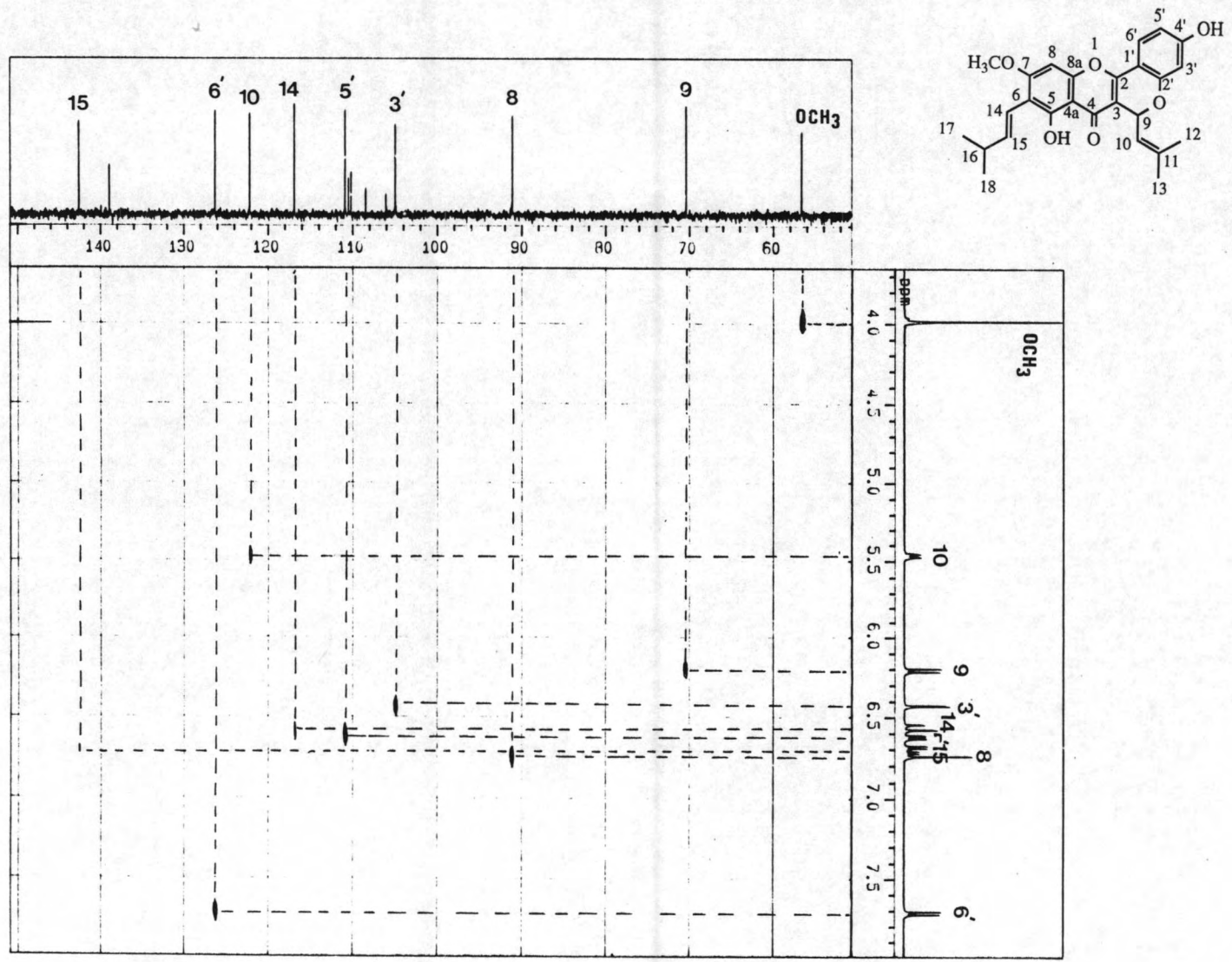


Figure 34 Expansion of an area of the 125 MHz ^{13}C - ^1H COSY spectrum of AA-2 (in acetone- d_6)

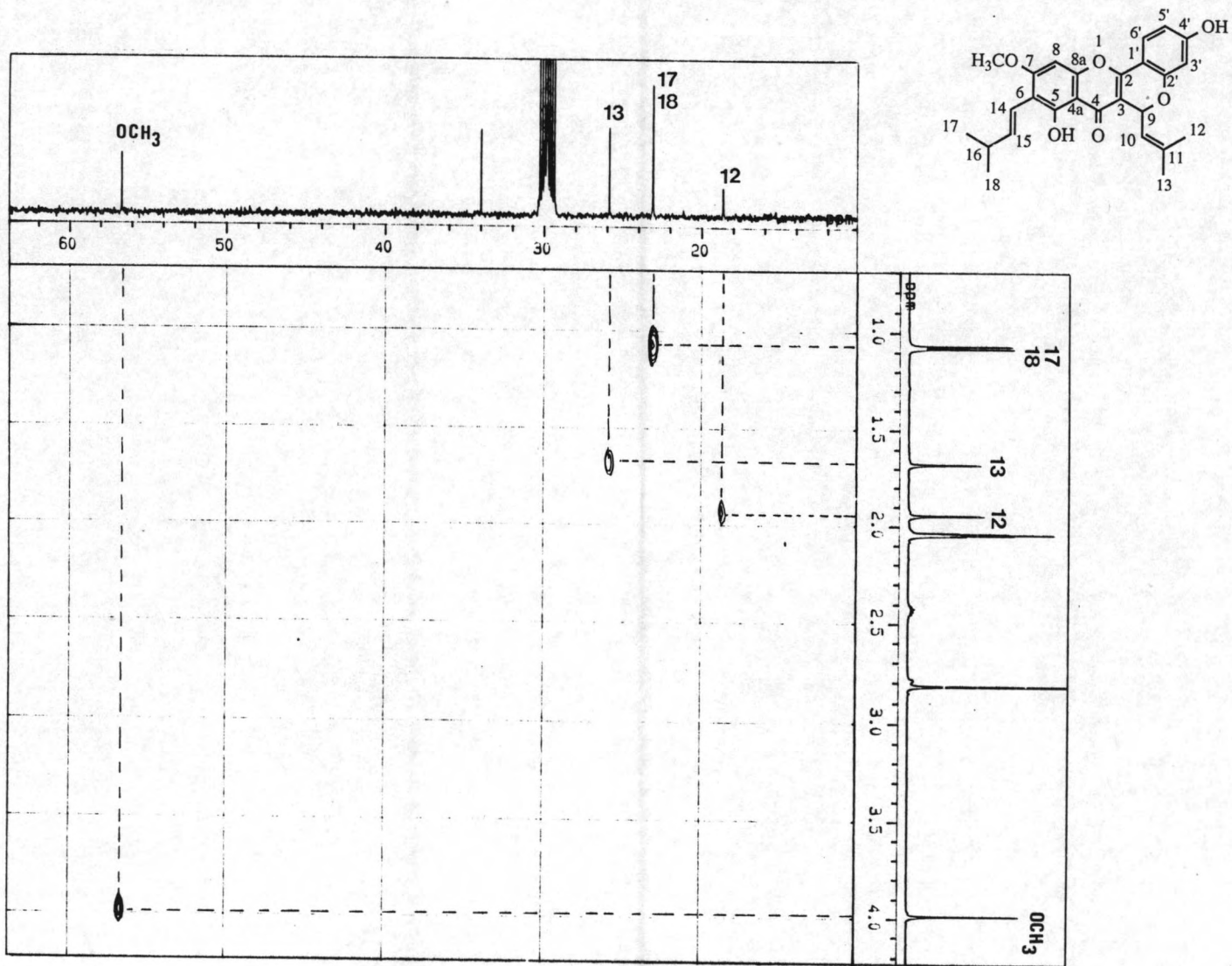


Figure 35 Expansion of an upfield area of the 125 MHz ^{13}C - ^1H COSY spectrum of AA-2 (in acetone- d_6)

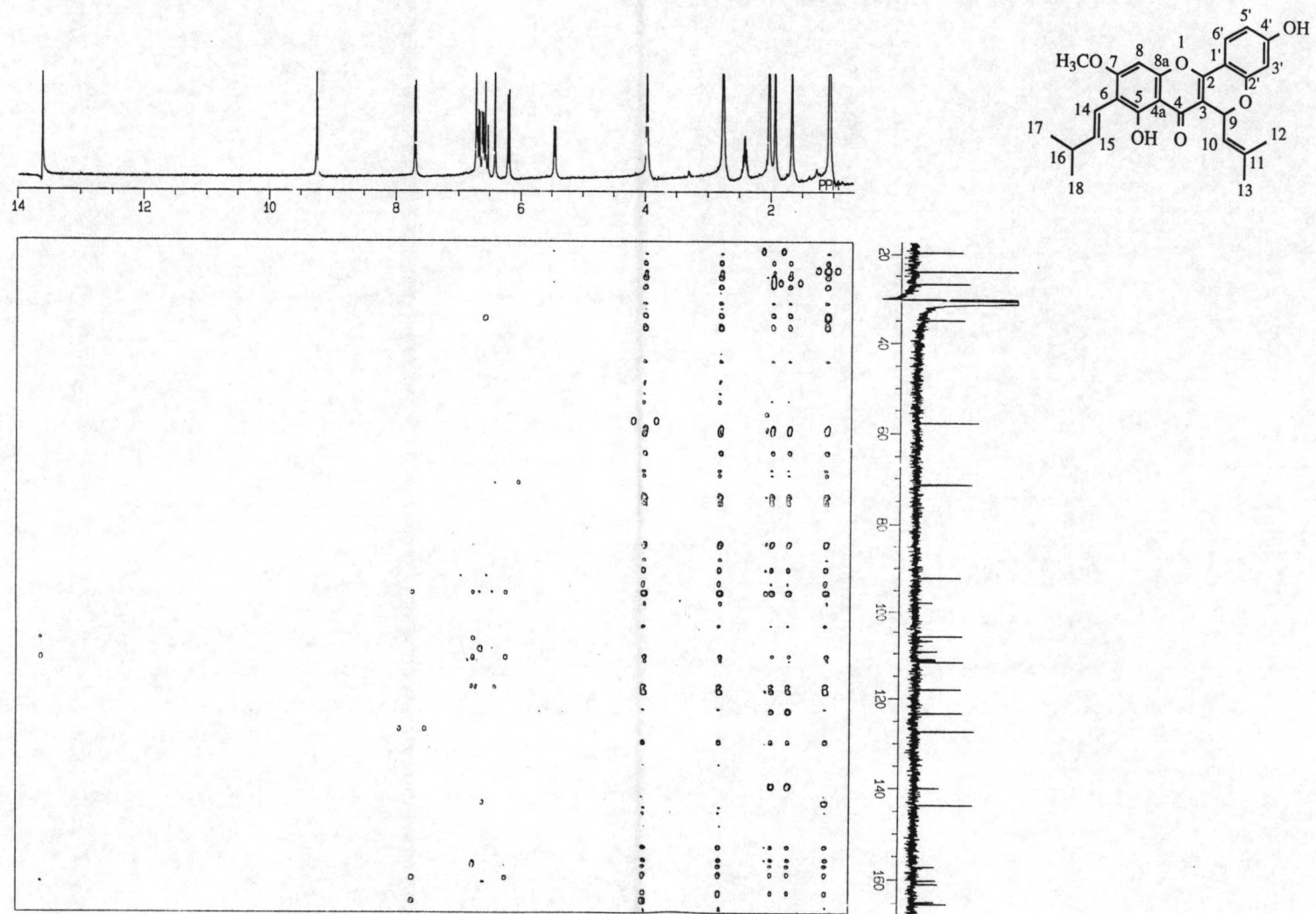


Figure 36 The 125 MHz HMBC spectrum of AA-2 (in acetone-d₆)

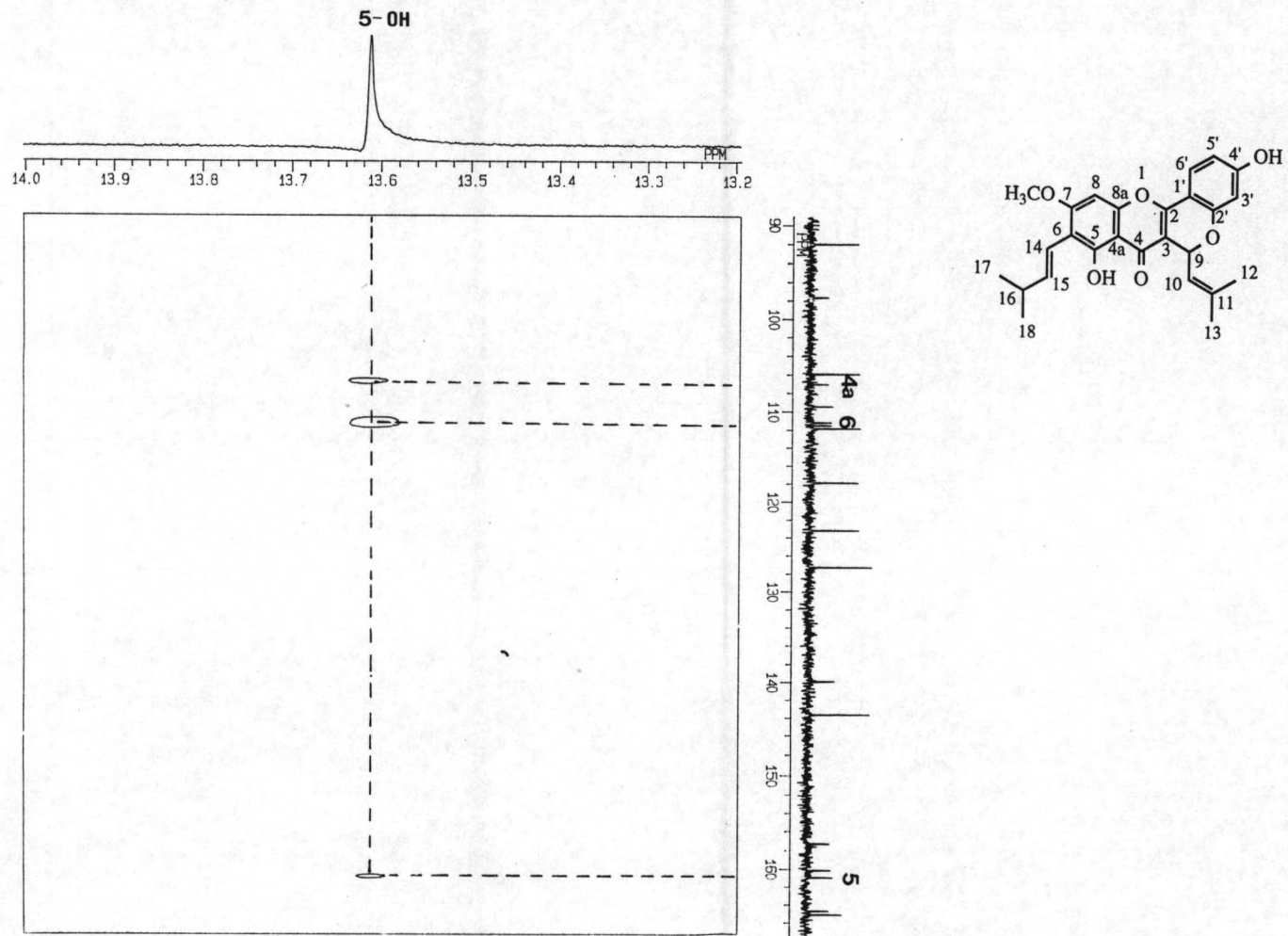


Figure 37 Expansion of an area of the 125 MHz HMBC spectrum of AA-2 (in acetone-d₆)

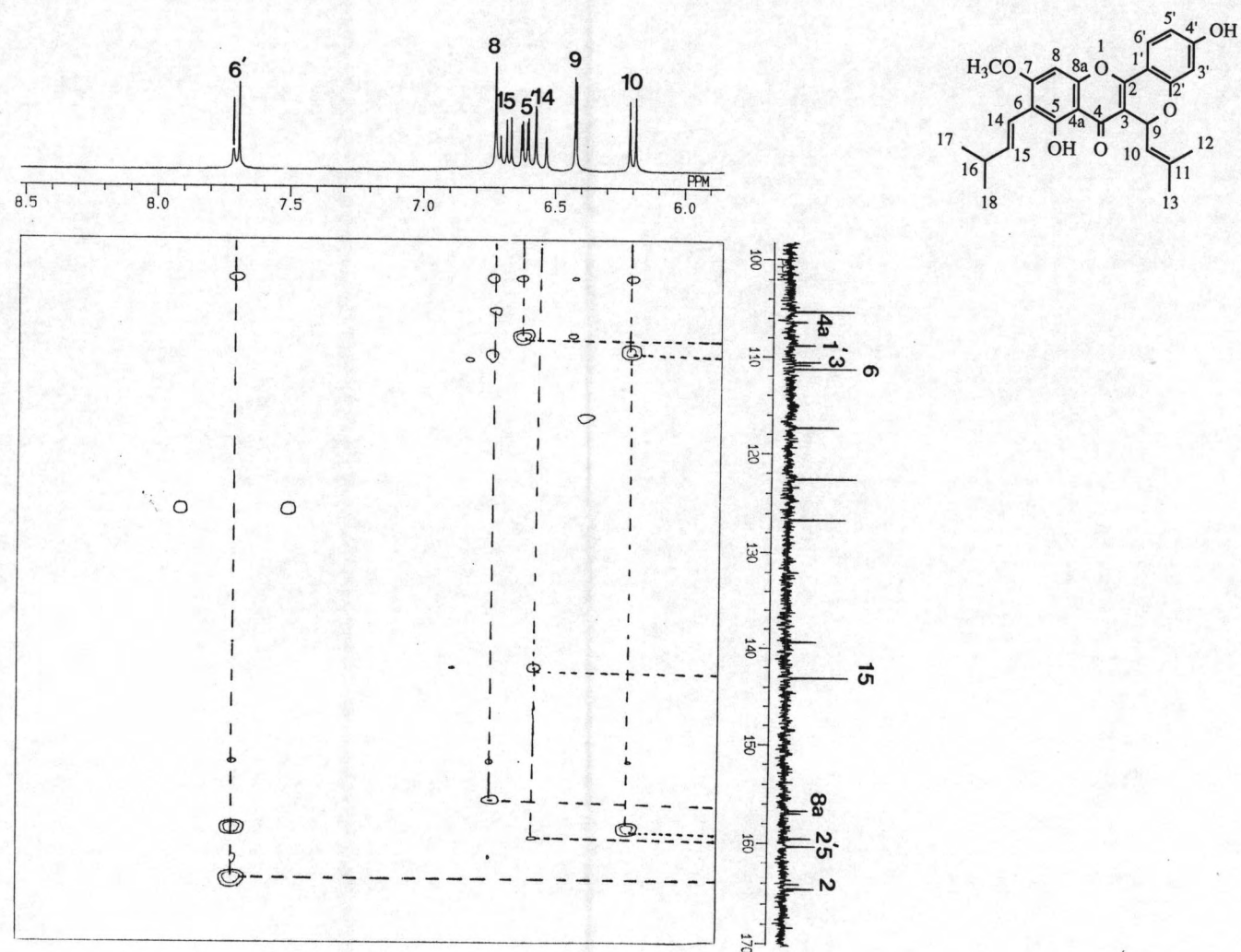


Figure 38 Expansion of an area of the 125 MHz HMBC spectrum of AA-2 (in acetone-d₆)

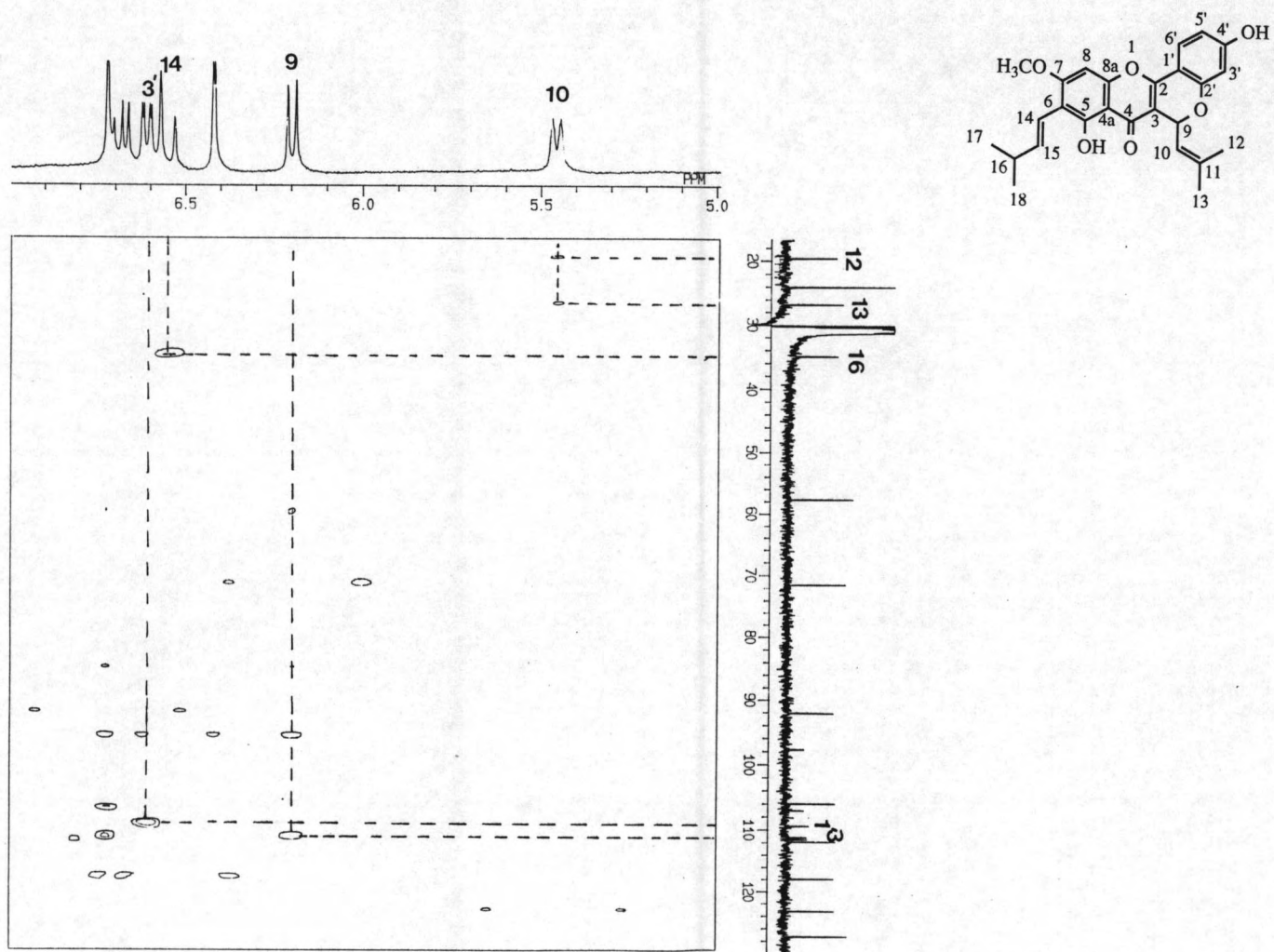


Figure 39 Expansion of an area of the 125 MHz HMBC spectrum of AA-2 (in acetone-d₆)

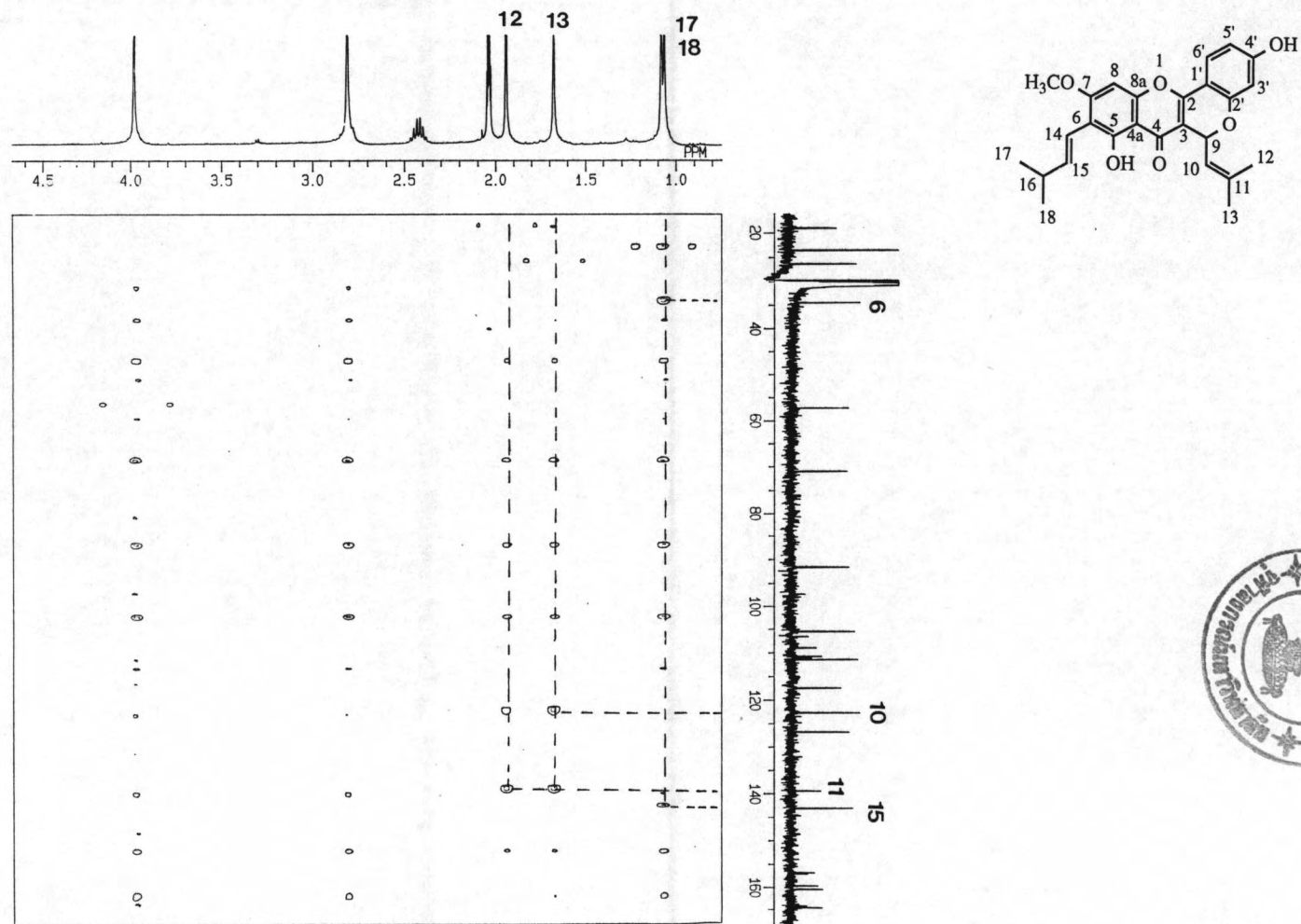


Figure 40 Expansion of an area of the 125 MHz HMBC spectrum of AA-2 (in acetone-d₆)

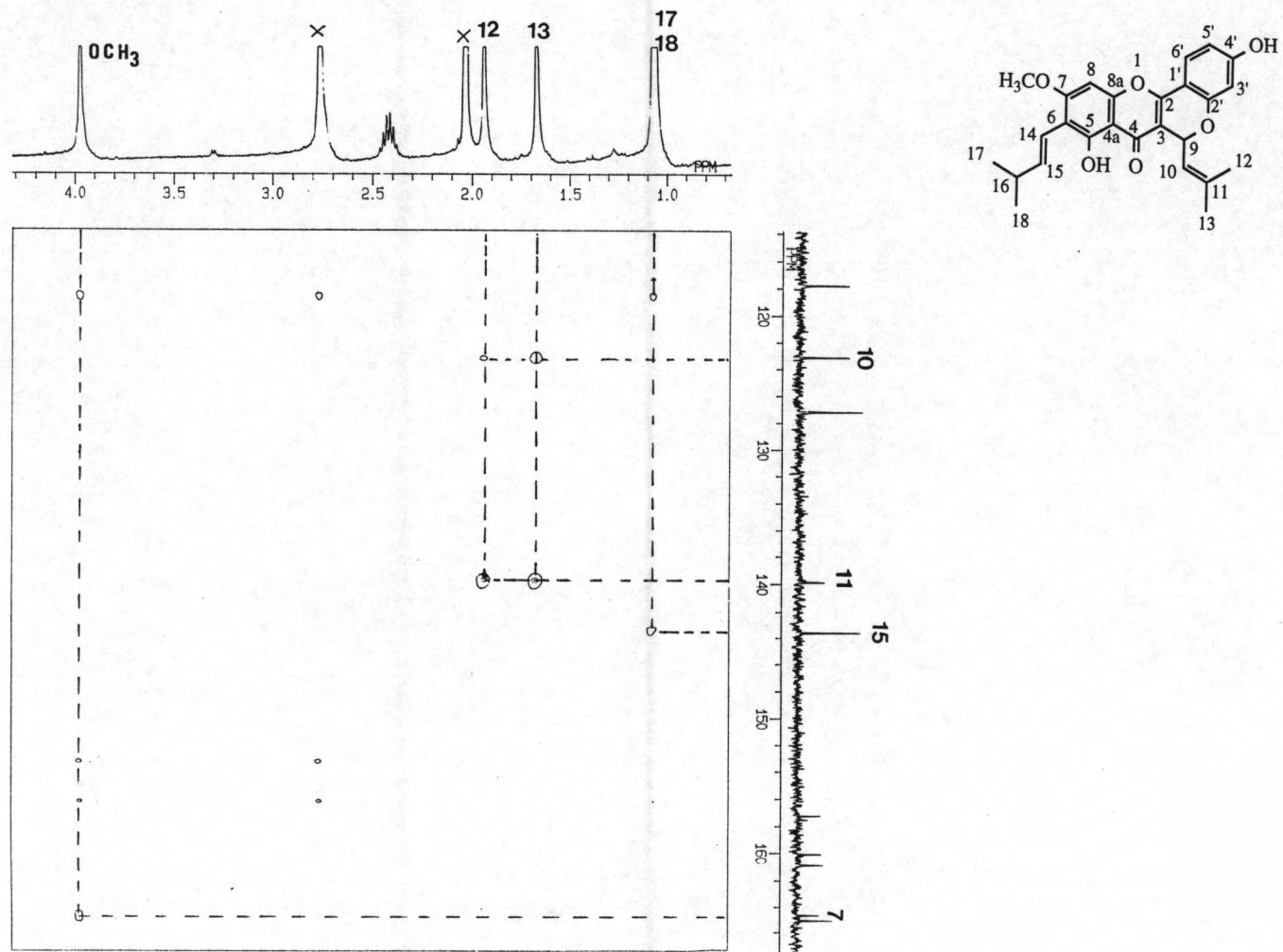


Figure 41 Expansion of an area of the 125 MHz HMBC spectrum of AA-2 (in acetone-d₆)

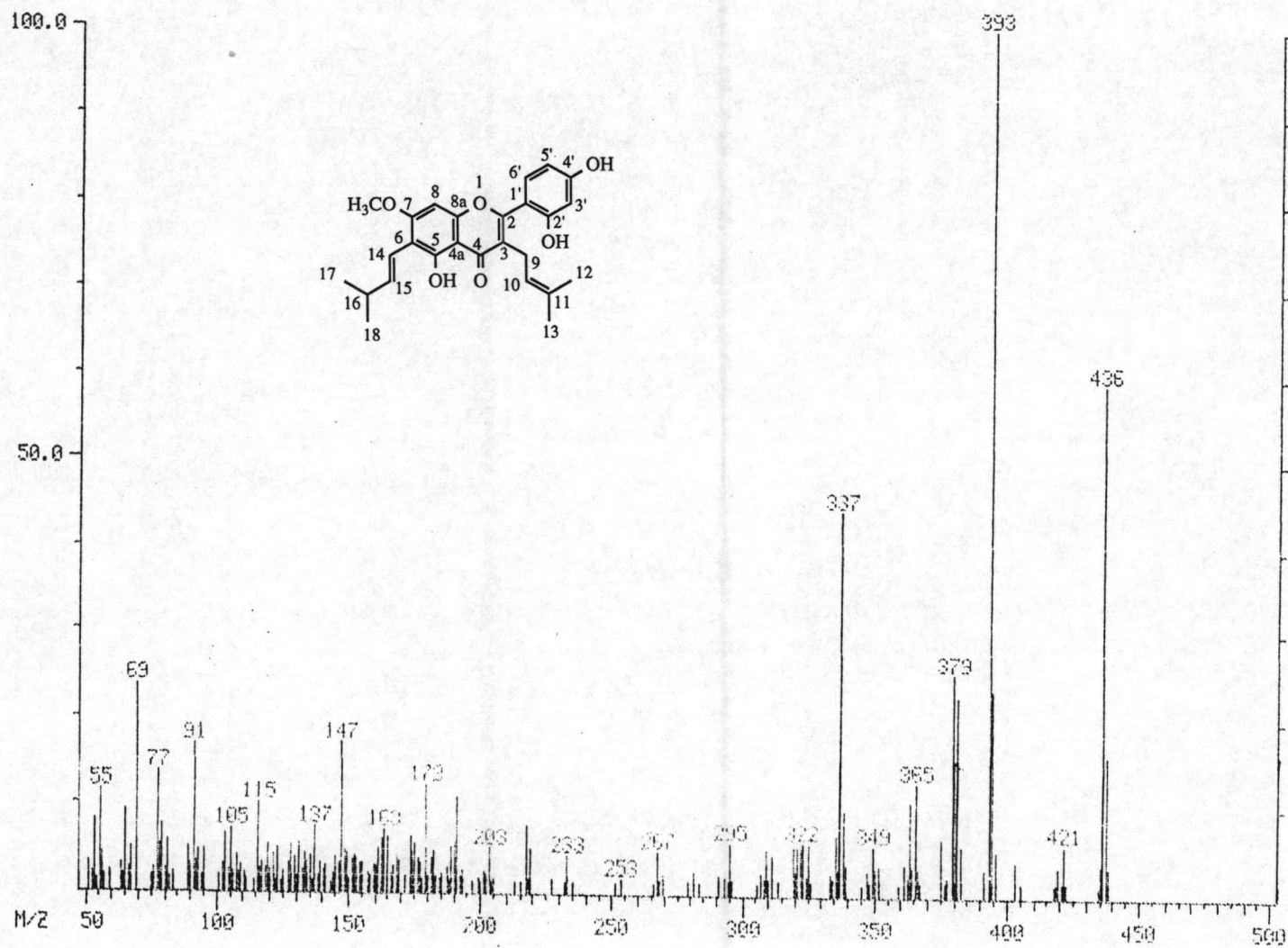


Figure 42 EIMS spectrum of AA-3

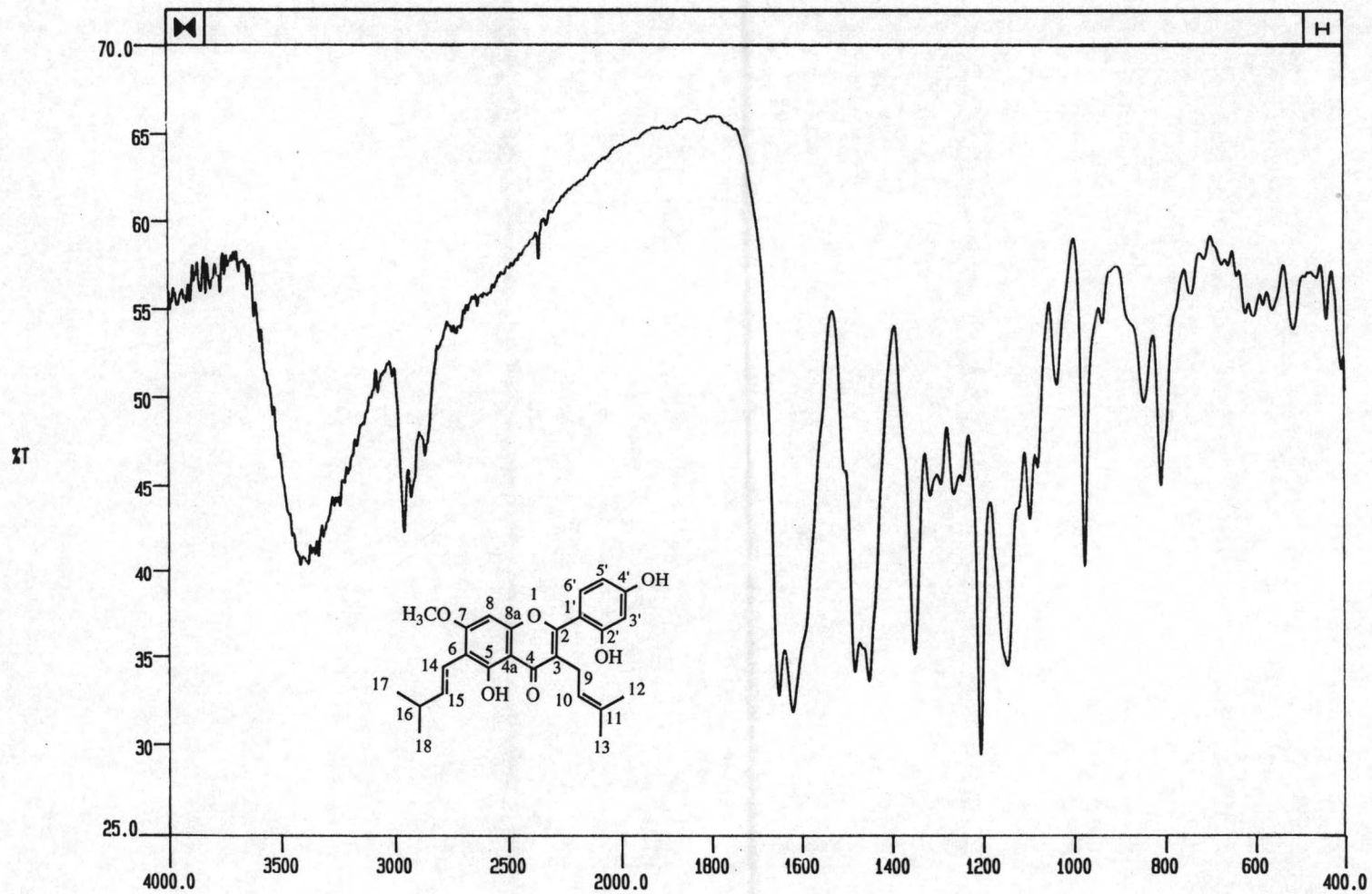


Figure 43 IR spectrum of AA-3 (KBr disc)

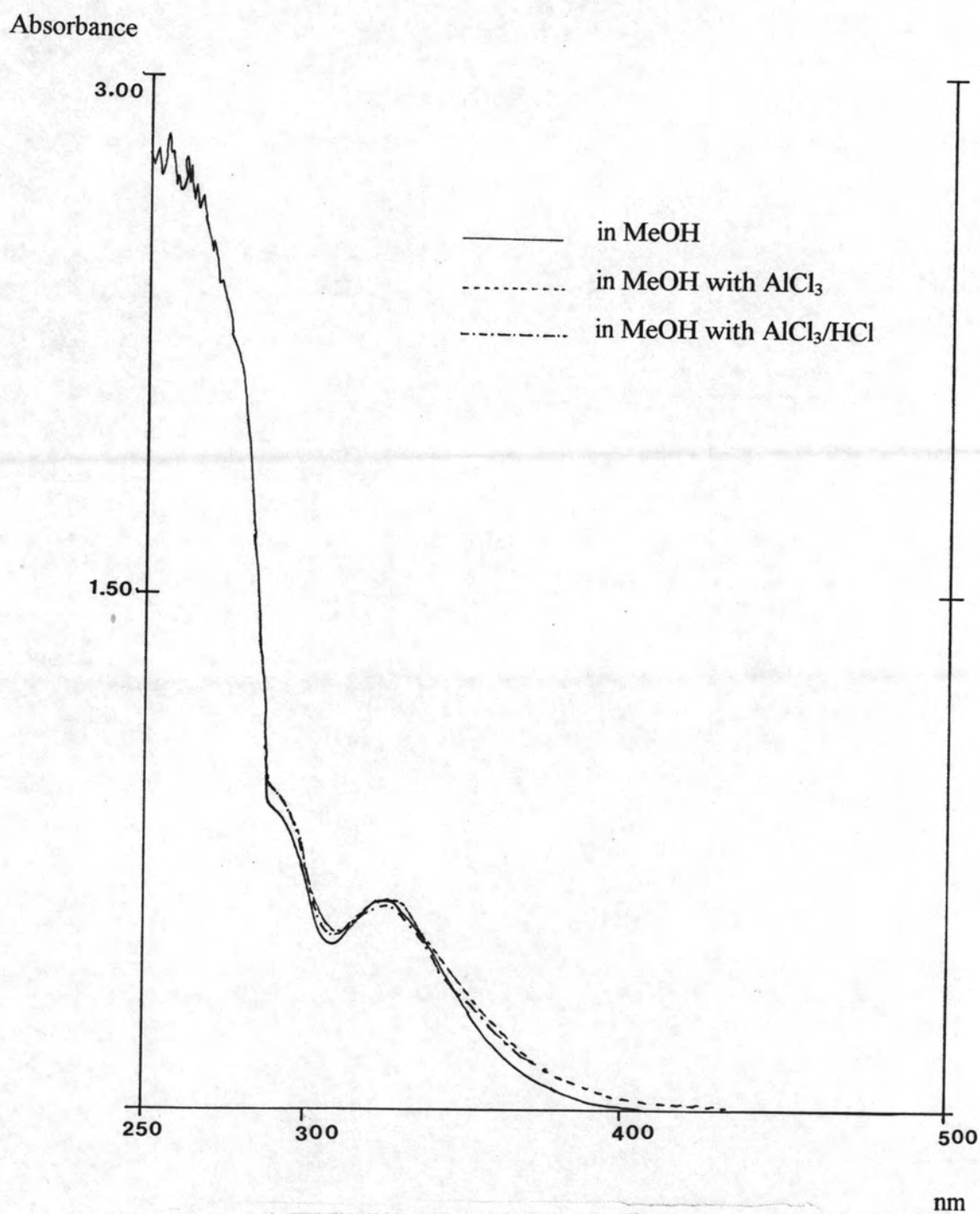
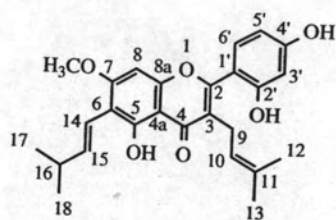


Figure 44 UV spectrum of AA-3 (in methanol)

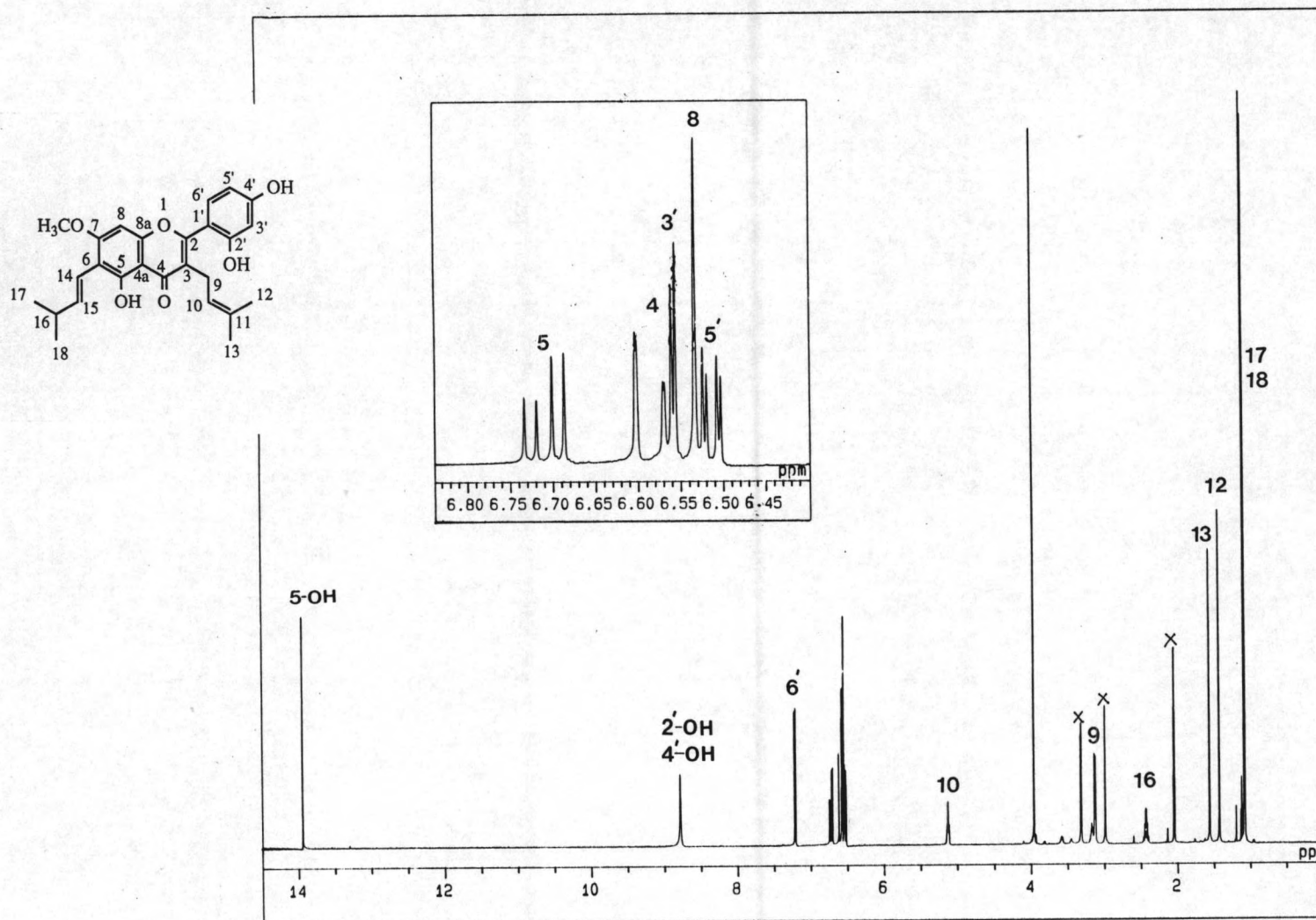


Figure 45 The 500 MHz ¹H-NMR spectrum of AA-3 (in acetone-d₆)

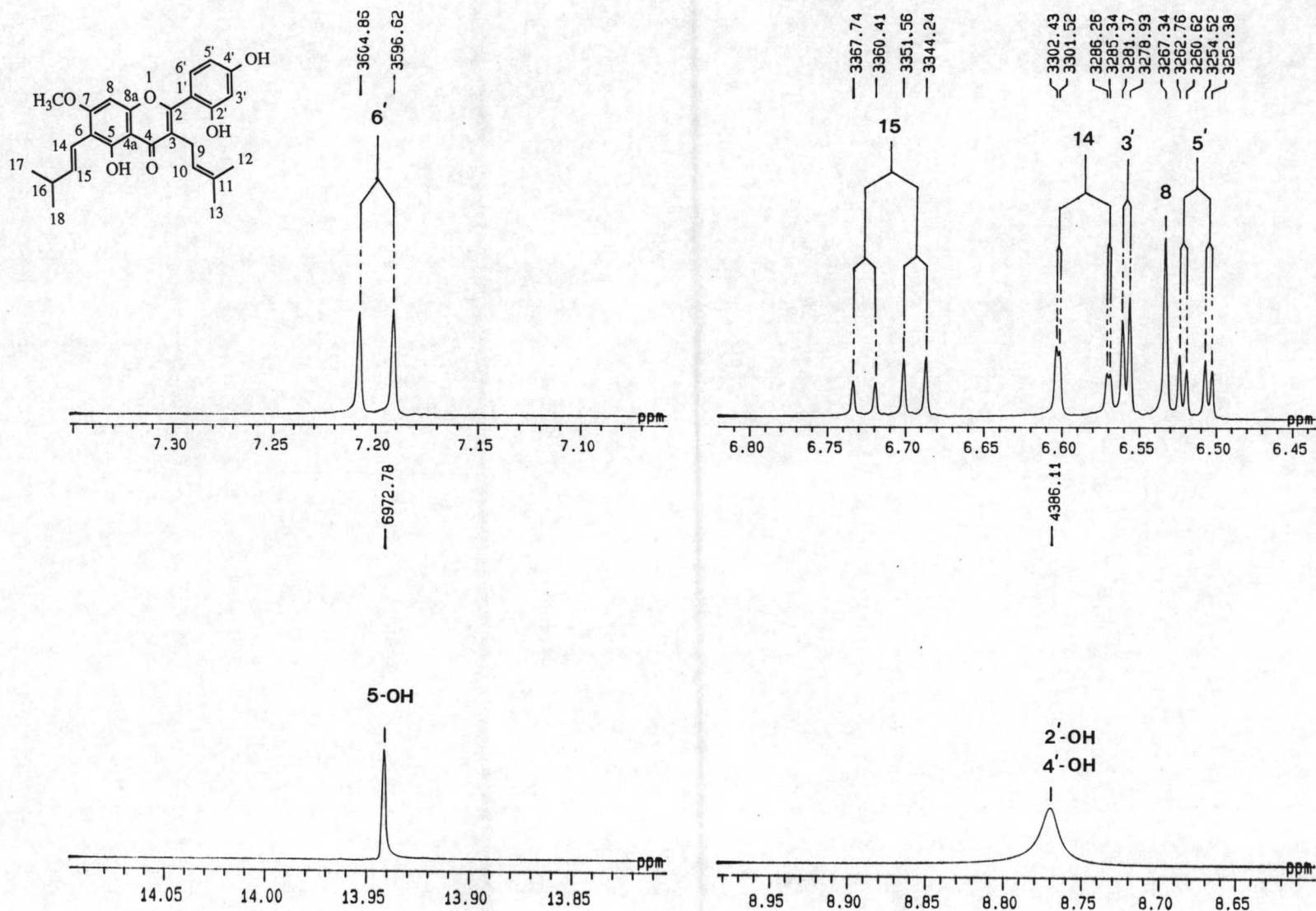


Figure 46 Expansion of the 500 MHz ¹H-NMR spectrum of AA-3 (in acetone-d₆)

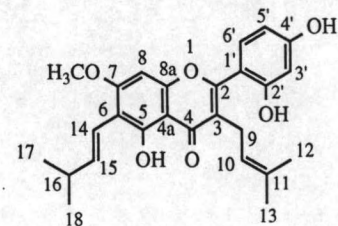
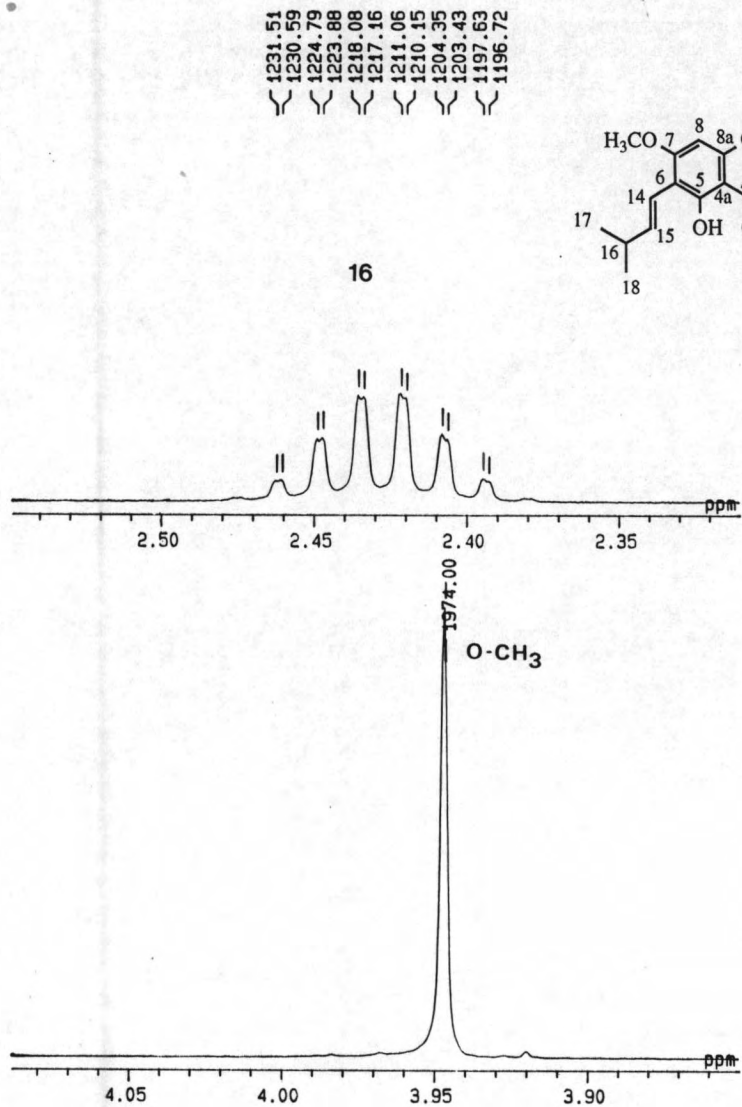
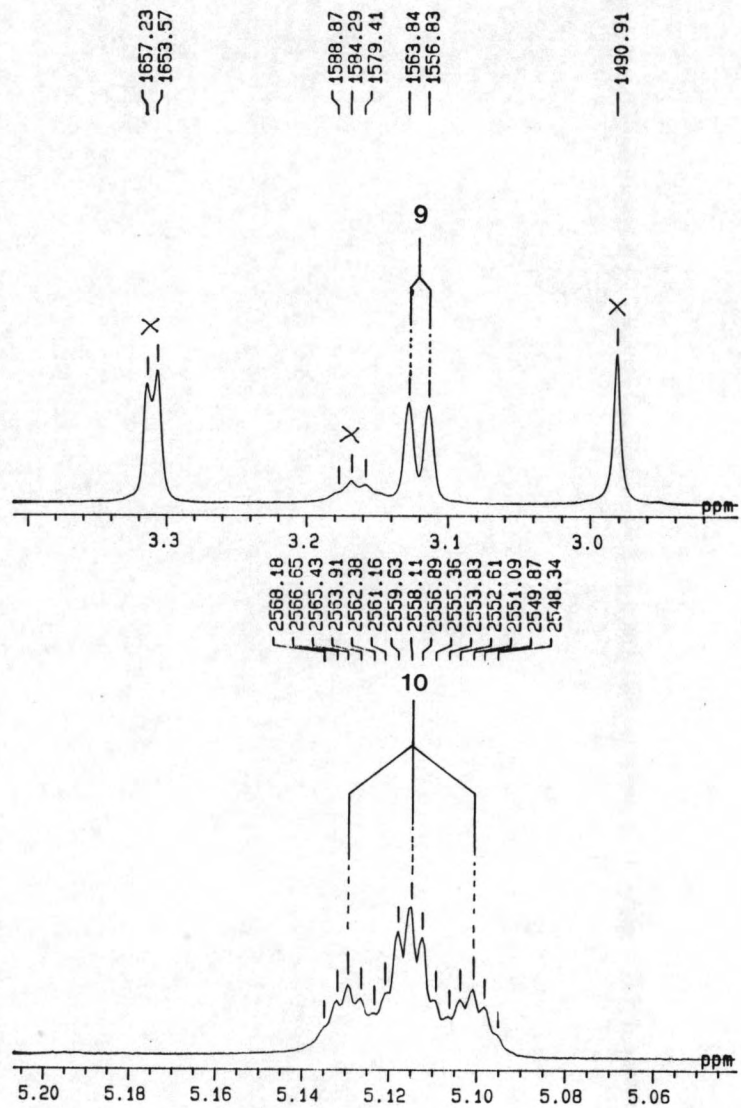


Figure 47 Expansion of the 500 MHz ^1H -NMR spectrum of AA-3 (in acetone- d_6)

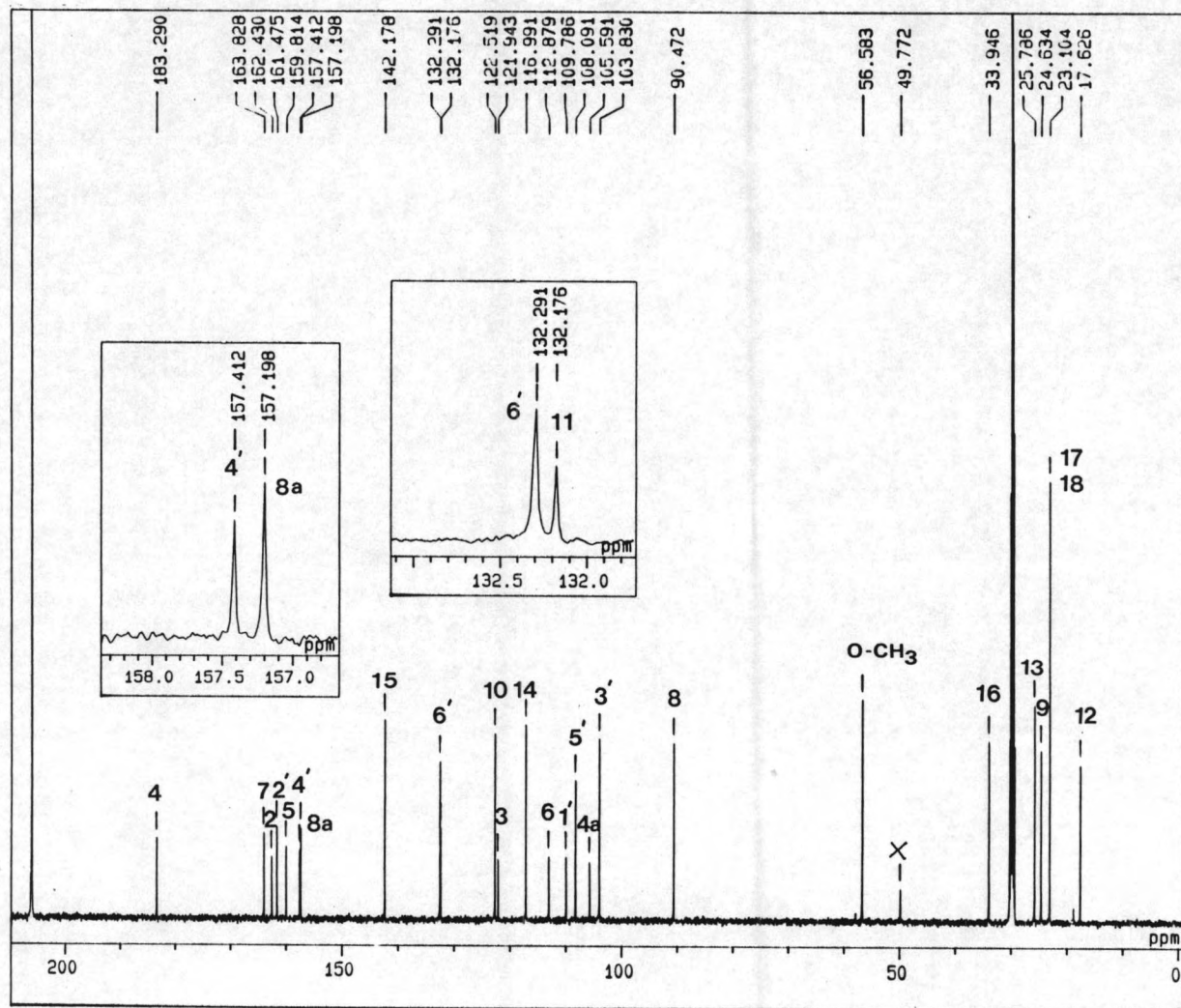


Figure 48 The 125 MHz ^{13}C -NMR spectrum of AA-3 (in acetone- d_6)

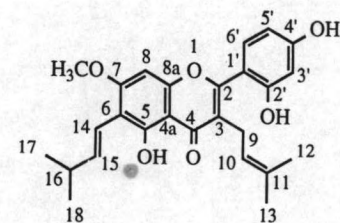
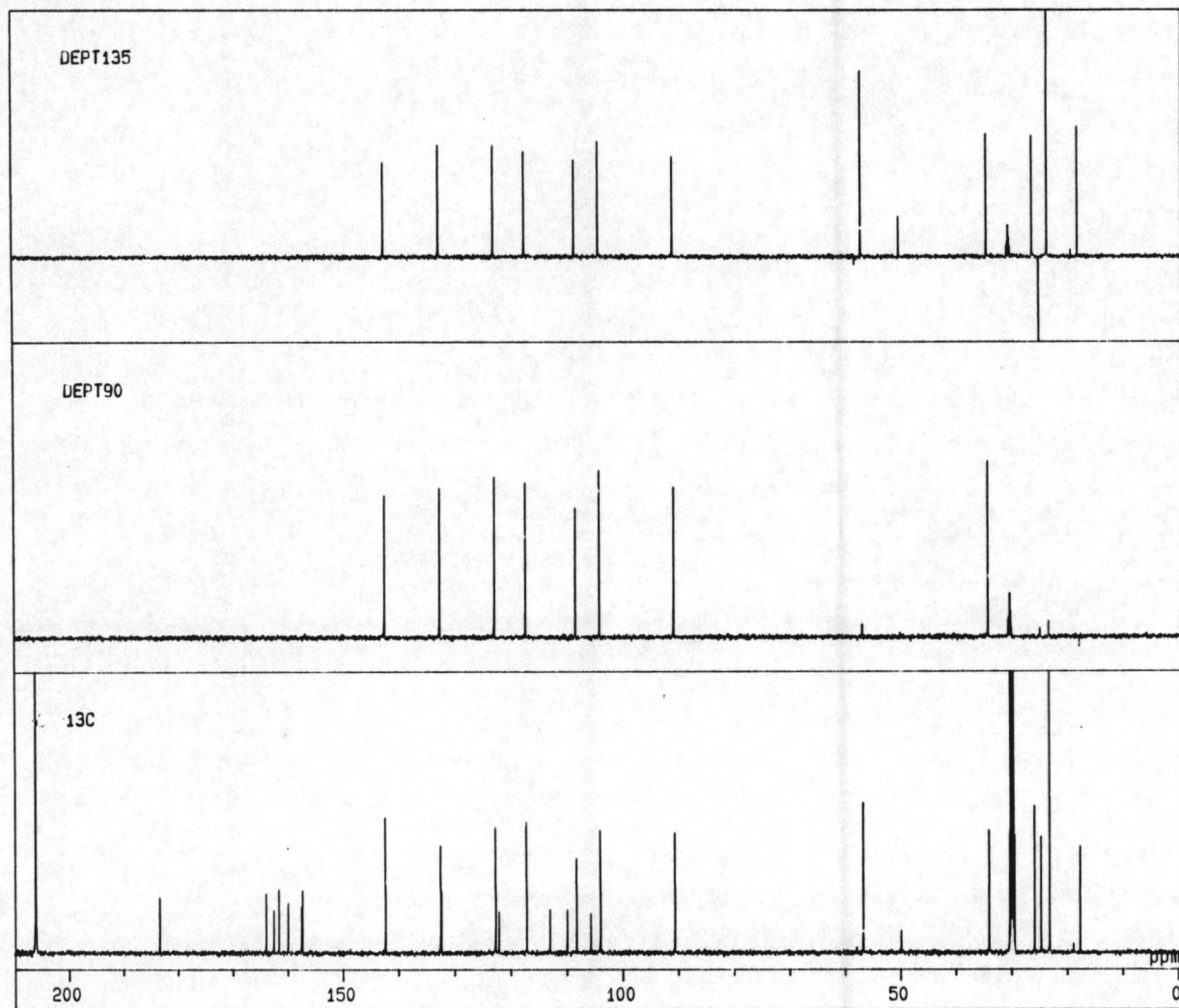


Figure 49 The 125 MHz DEPT spectra of AA-3 (in acetone-d₆)

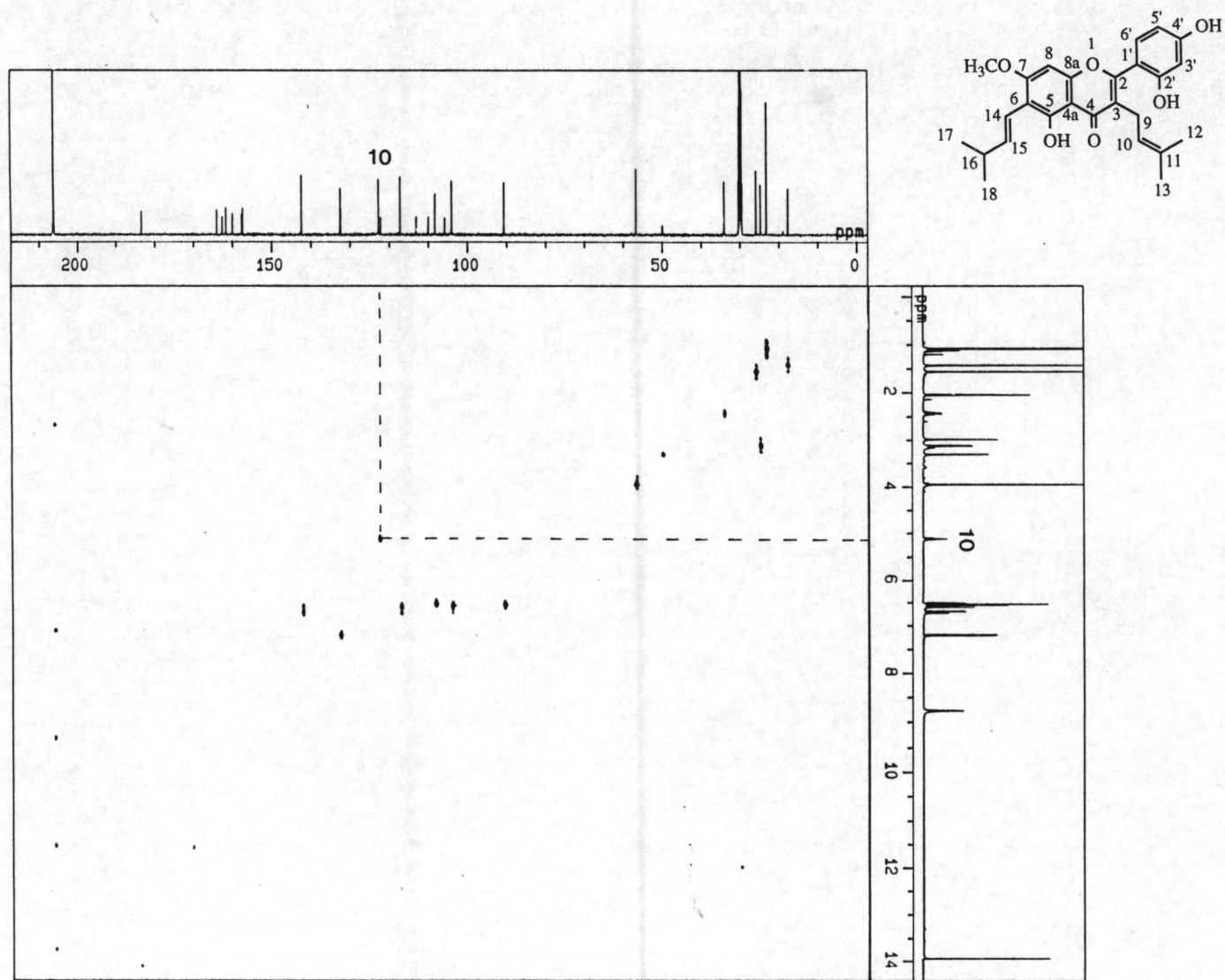


Figure 50 The 125 MHz ^{13}C - ^1H COSY spectrum of AA-3 (in acetone- d_6)

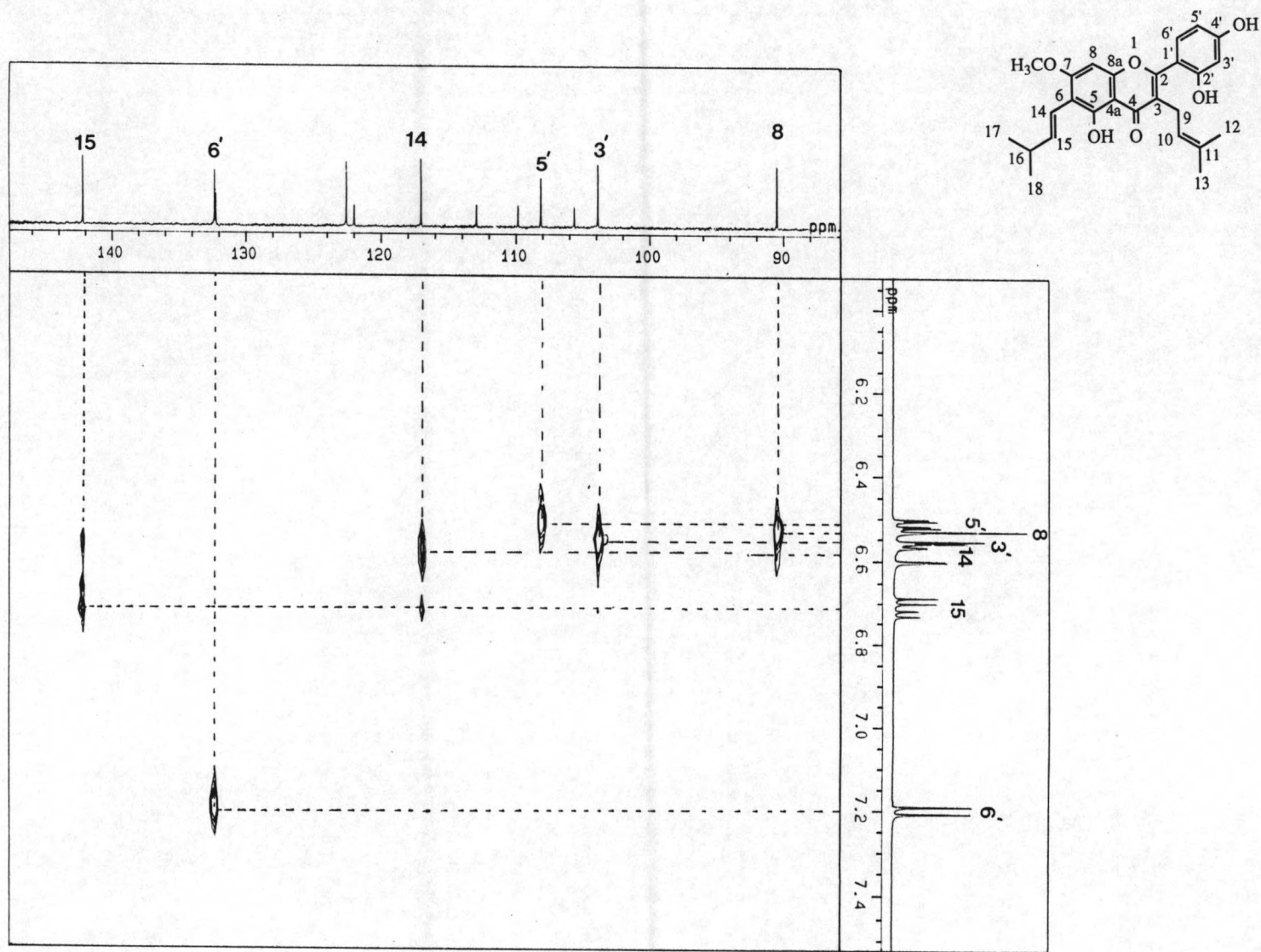


Figure 51 Expansion of an area of the 125 MHz ^{13}C - ^1H COSY spectrum of AA-3 (in acetone- d_6)

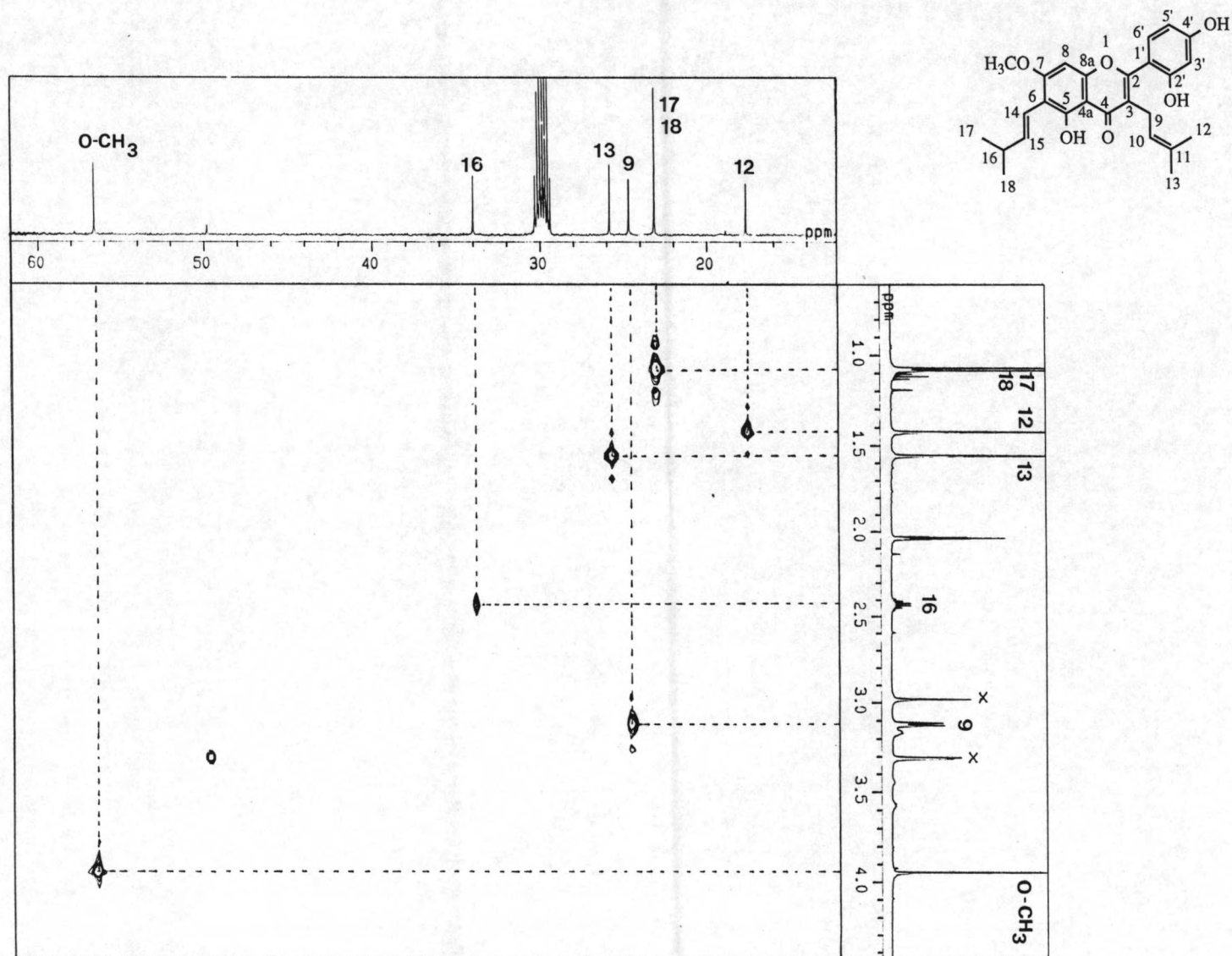


Figure 52 Expansion of an area of the 125 MHz ^{13}C - ^1H COSY spectrum of AA-3 (in acetone- d_6)

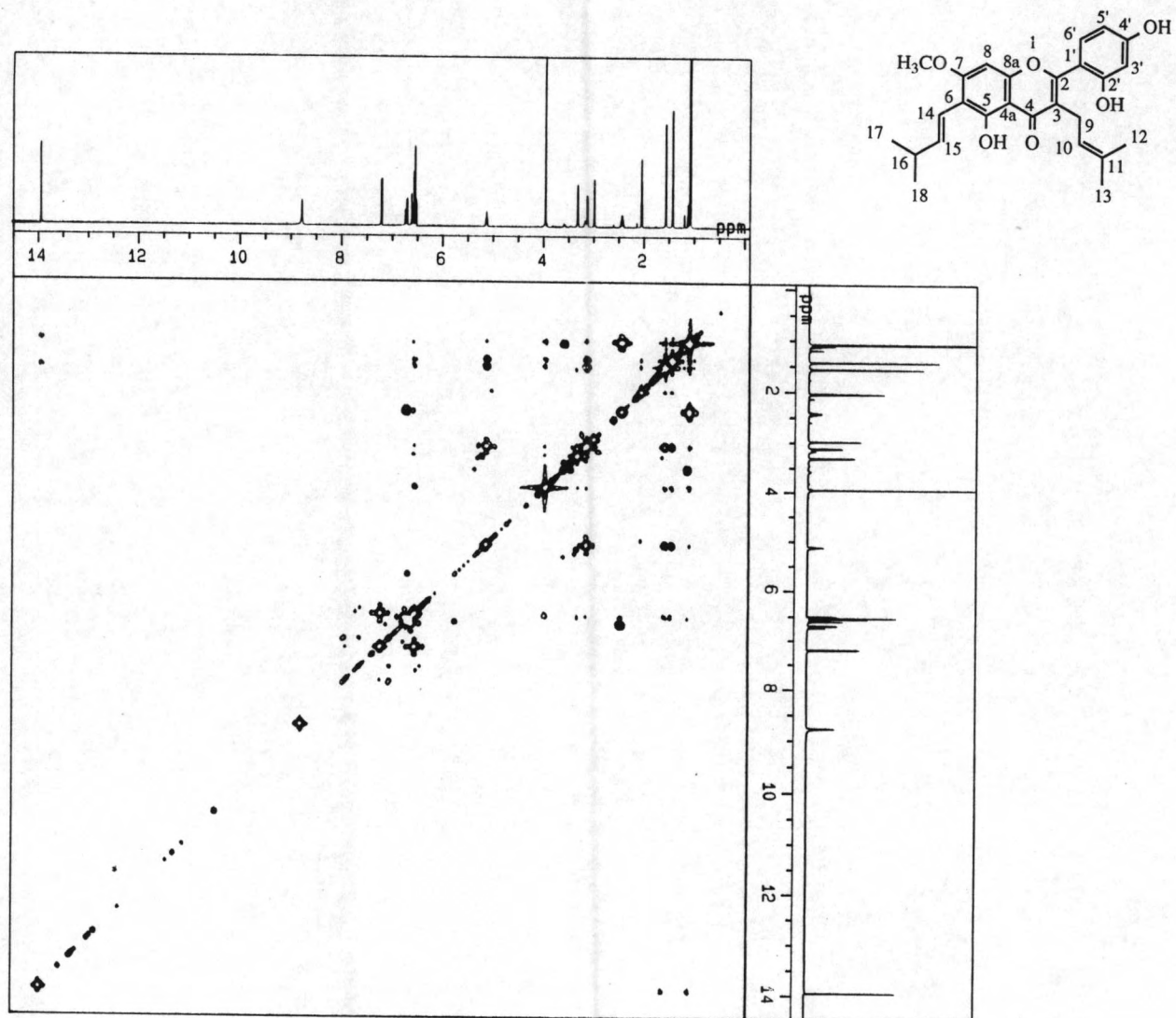


Figure 53 The 500 MHz ^1H - ^1H COSY spectrum of AA-3 (in acetone- d_6)

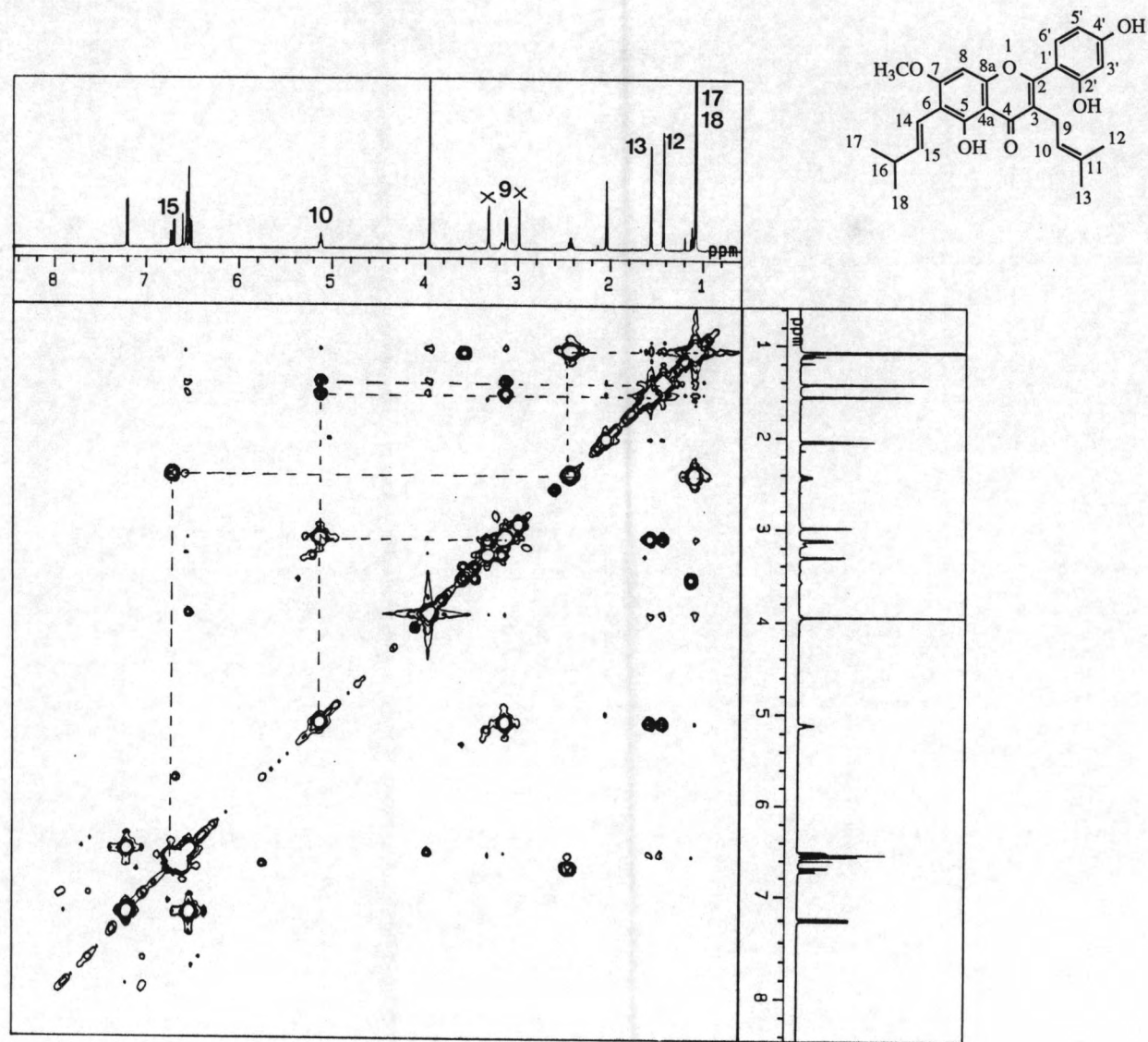


Figure 54 Expansion of an upfield area of the 500 MHz ^1H - ^1H COSY spectrum of AA-3 (in acetone- d_6)

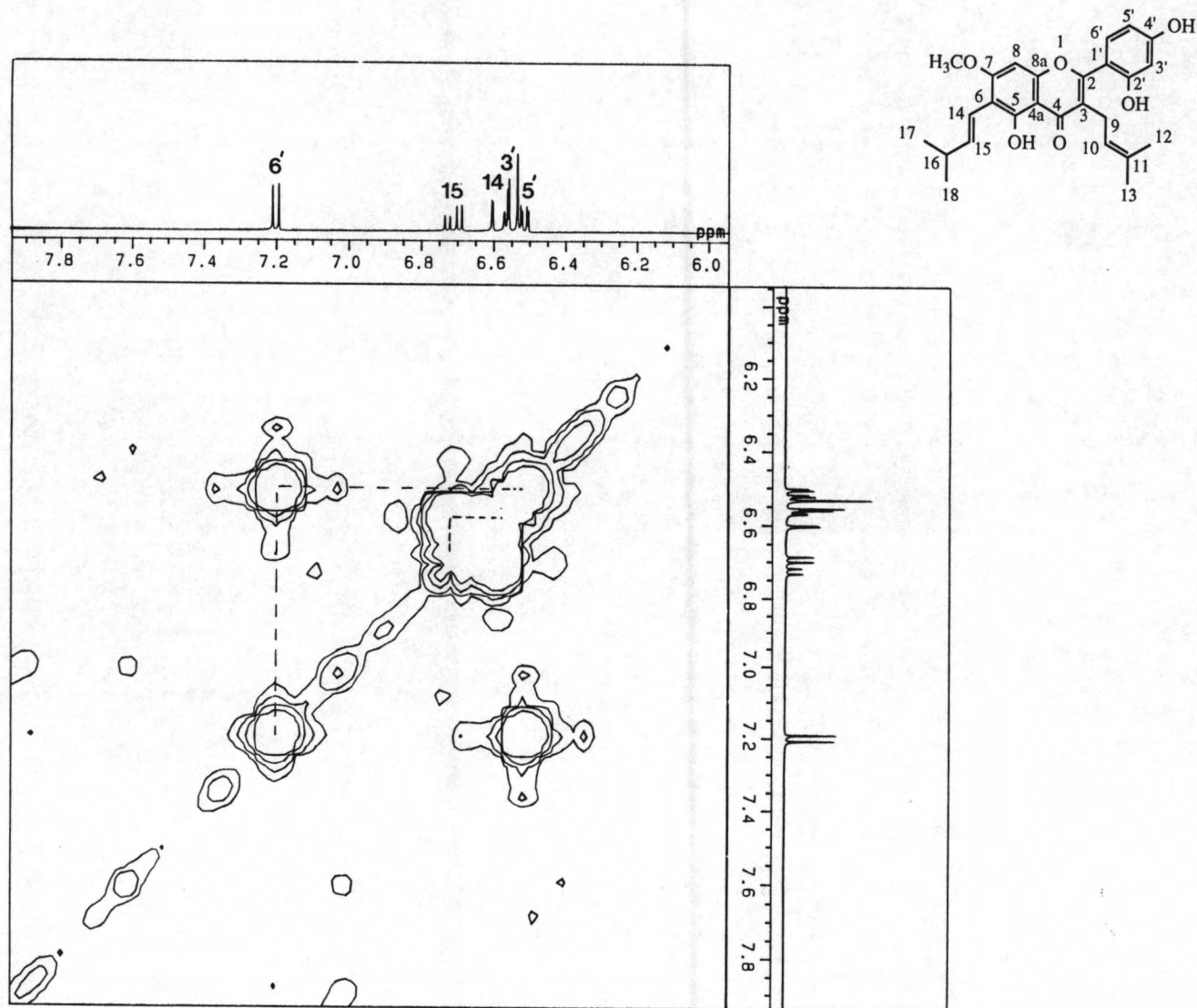


Figure 55 Expansion of a downfield area of the 500 MHz ^1H - ^1H COSY spectrum of AA-3 (in acetone- d_6)

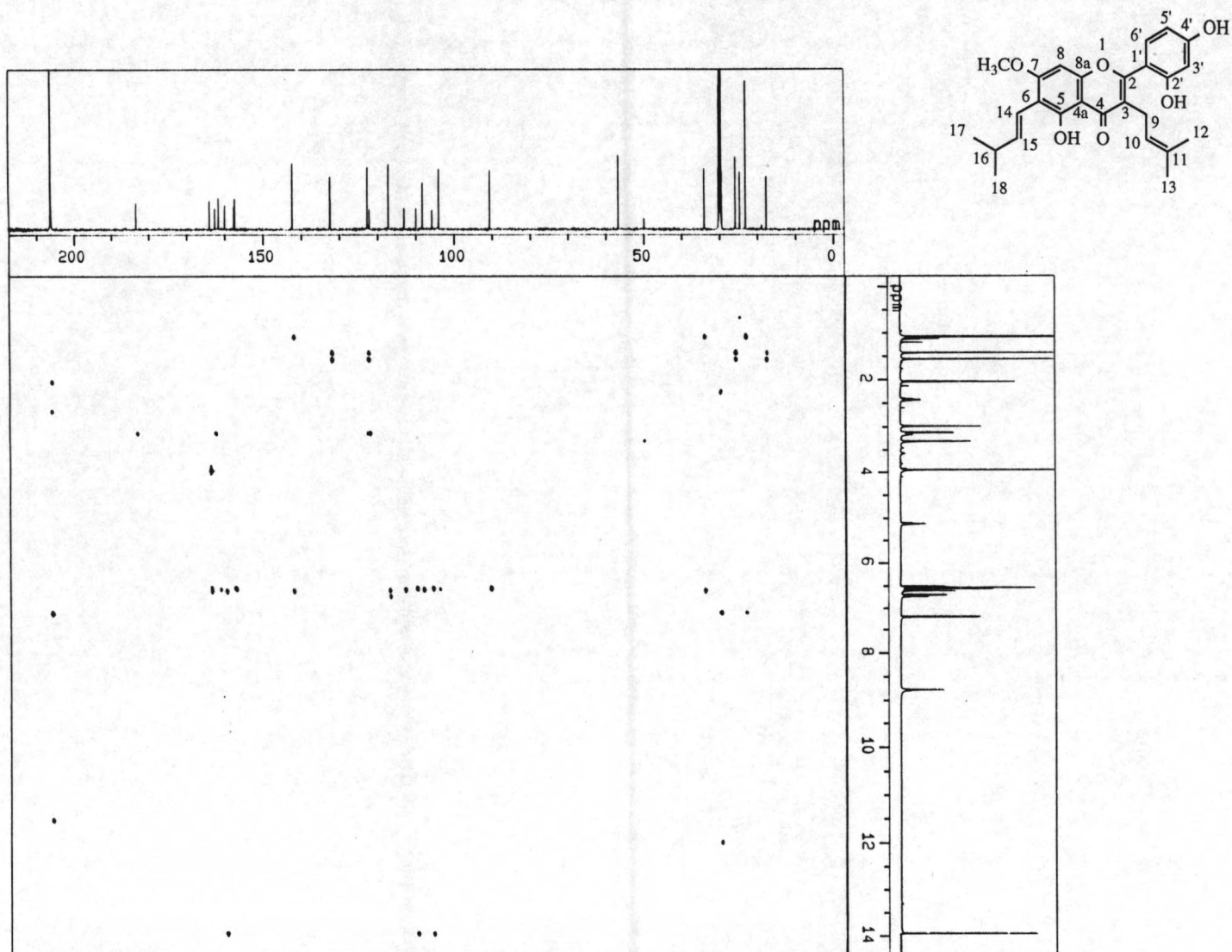


Figure 56 The 125 MHz COLOC spectrum of AA-3 (in acetone-d₆)

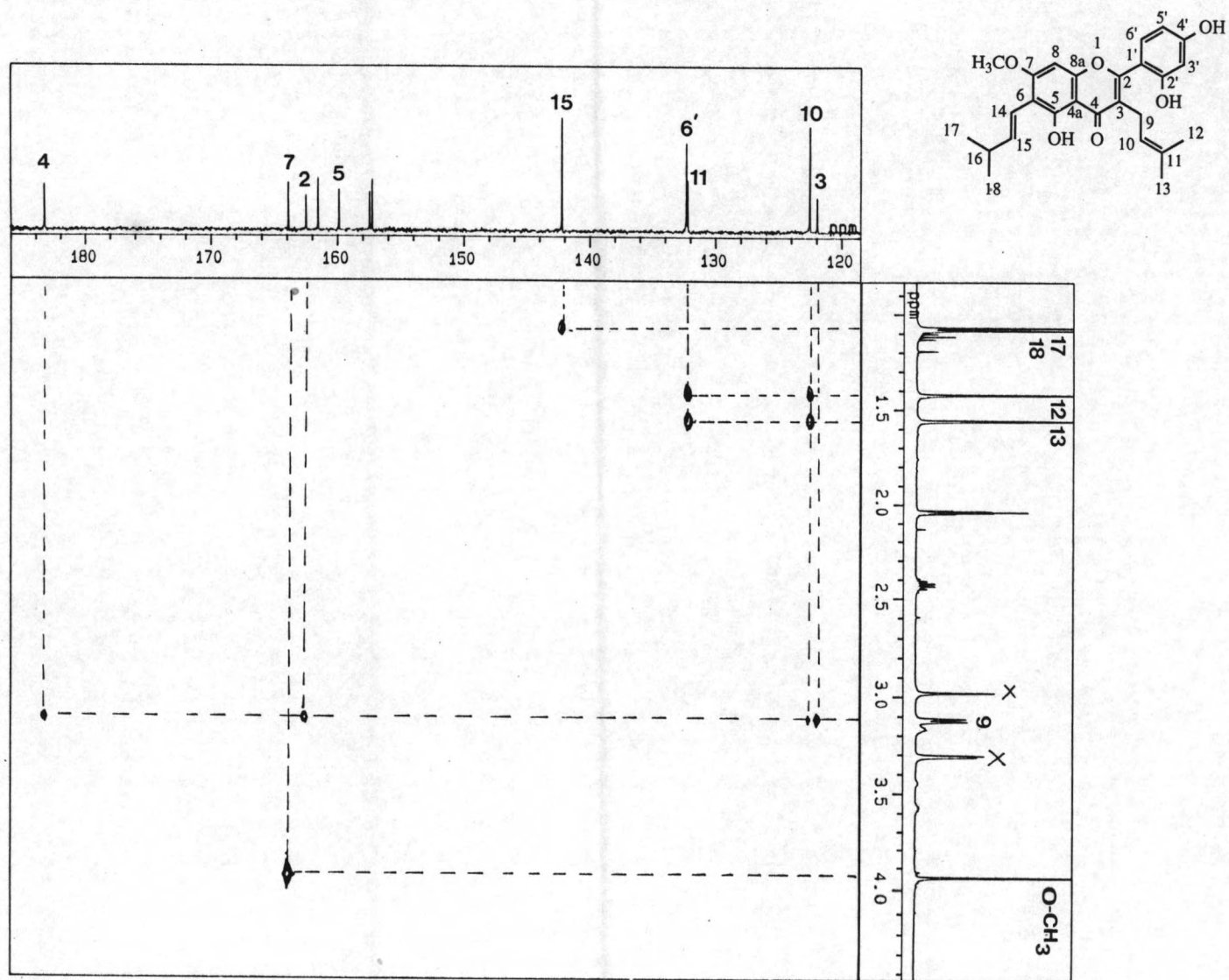


Figure 57 Expansion of an area of the 125 MHz COLOC spectrum of AA-3 (in acetone- d_6)

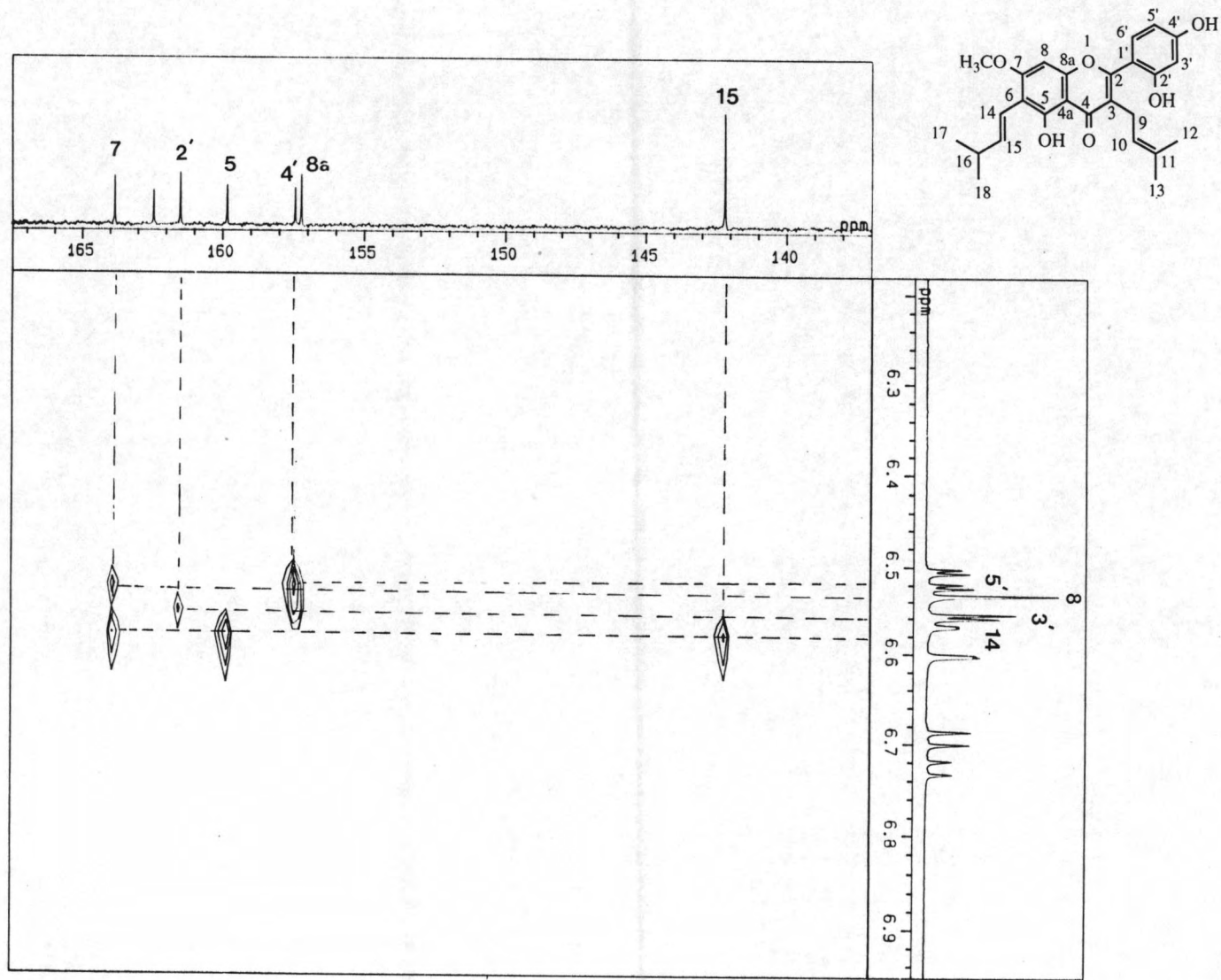


Figure 58 Expansion of an area of the 125 MHz COLOC spectrum of AA-3 (in acetone-d₆)

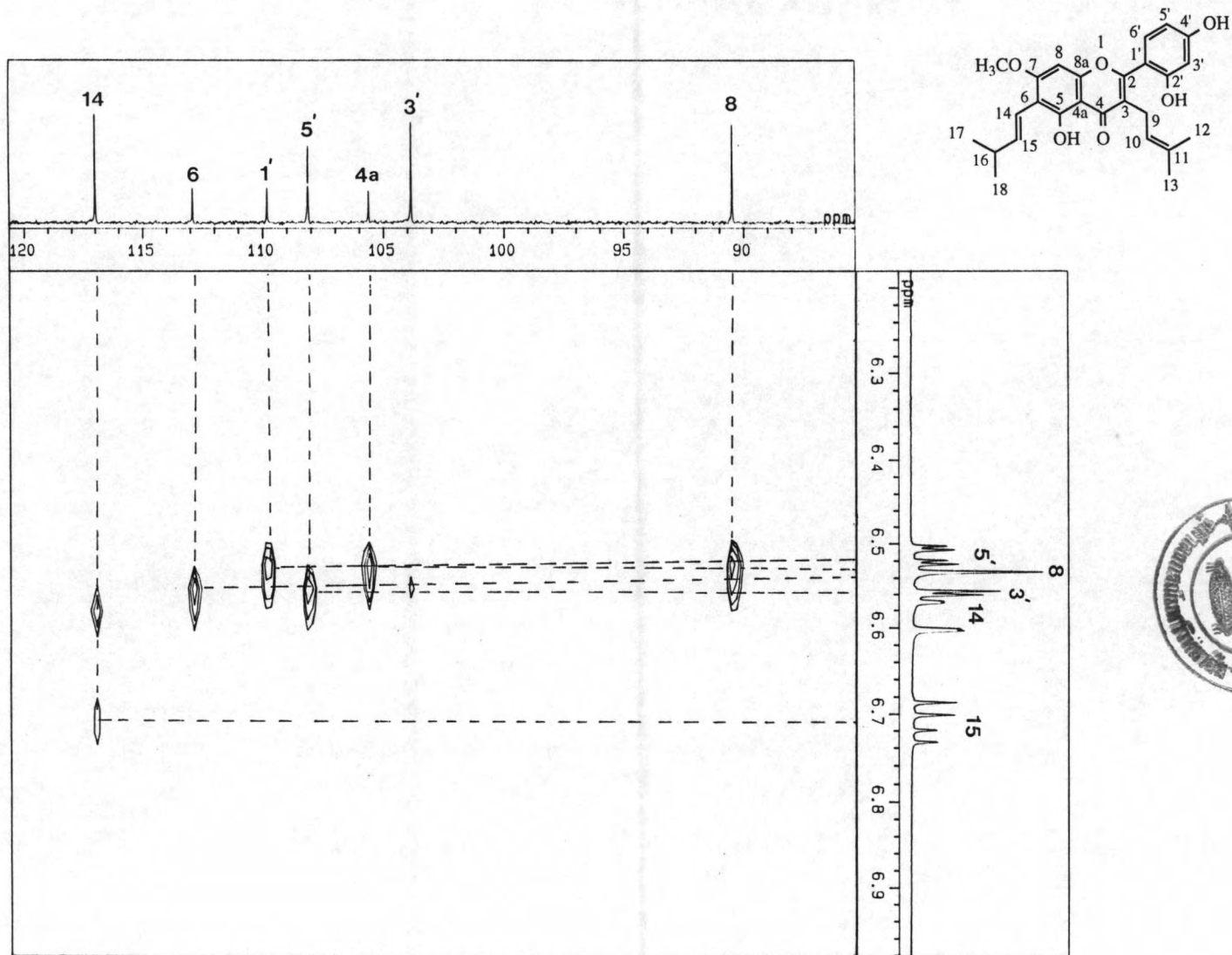


Figure 59 Expansion of an area of the 125 MHz COLOC spectrum of AA-3 (in acetone-d₆)



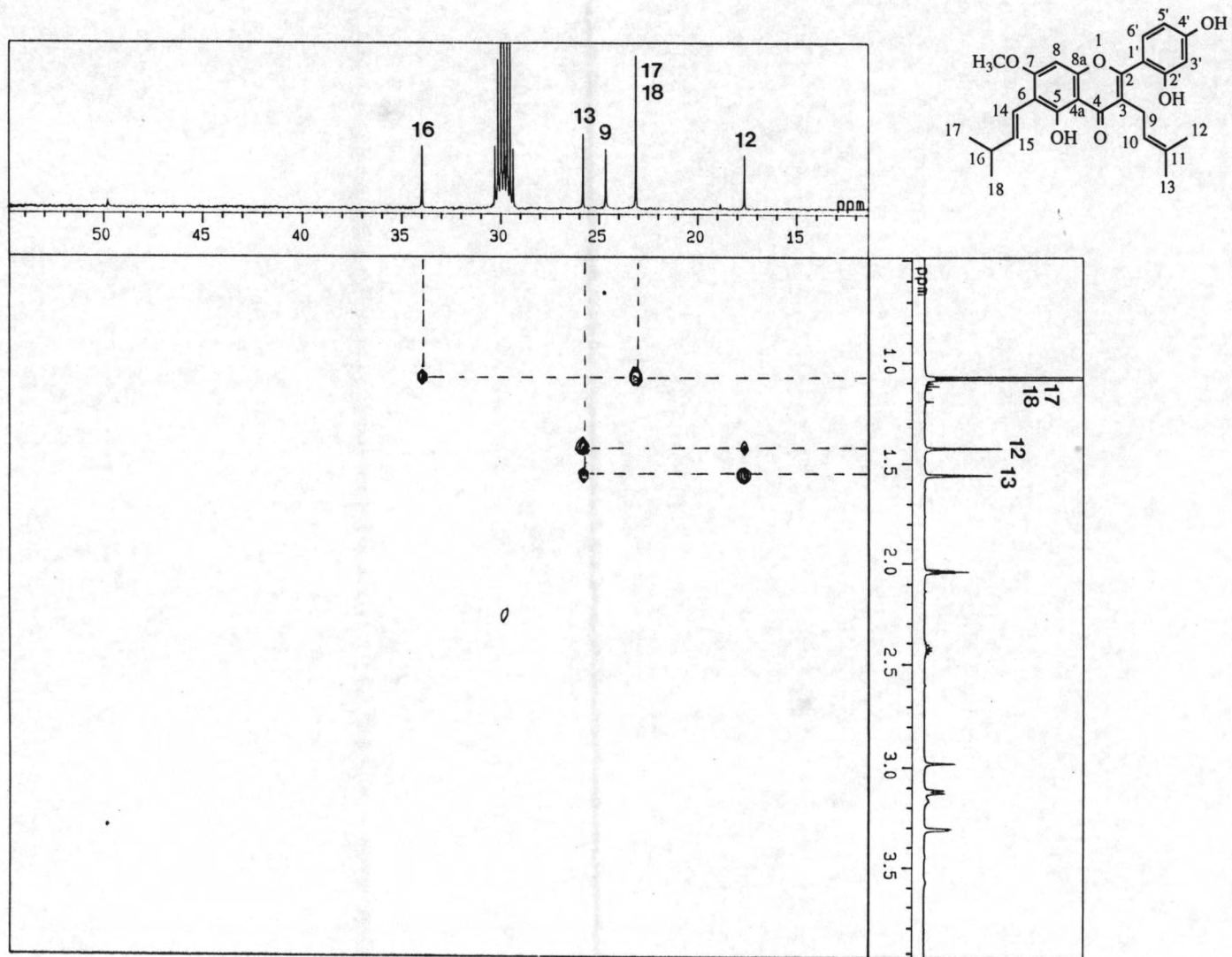


Figure 60 Expansion of an area of the 125 MHz COLOC spectrum of AA-3 (in acetone-d₆)

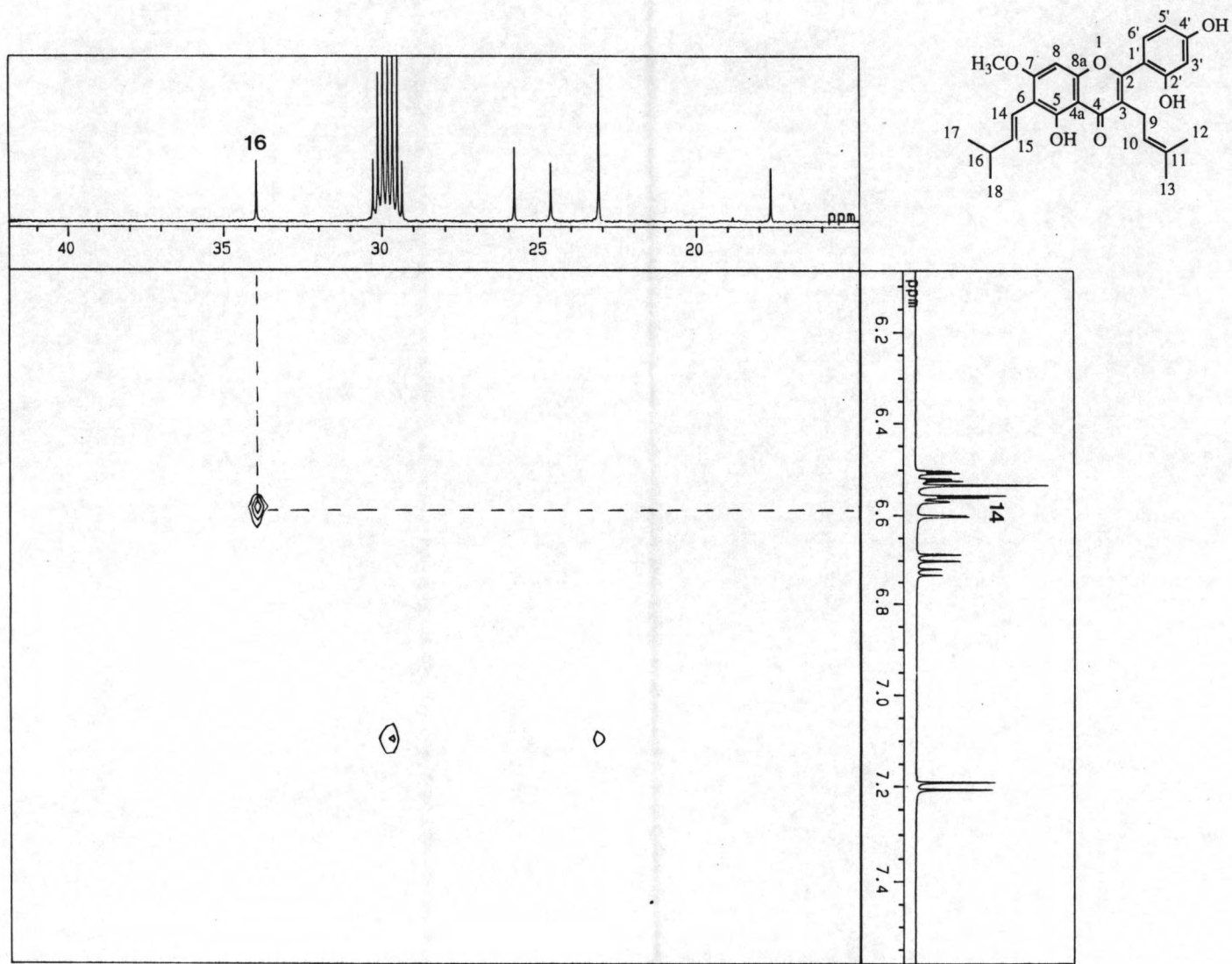


Figure 61 Expansion of an area of the 125 MHz COLOC spectrum of AA-3 (in acetone-d₆)

VITA

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