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APPENDIX



Figure 1 *Pycnarrhena lucida* (Teijsm. & Binn.) Miq.
(Forman, 1991)

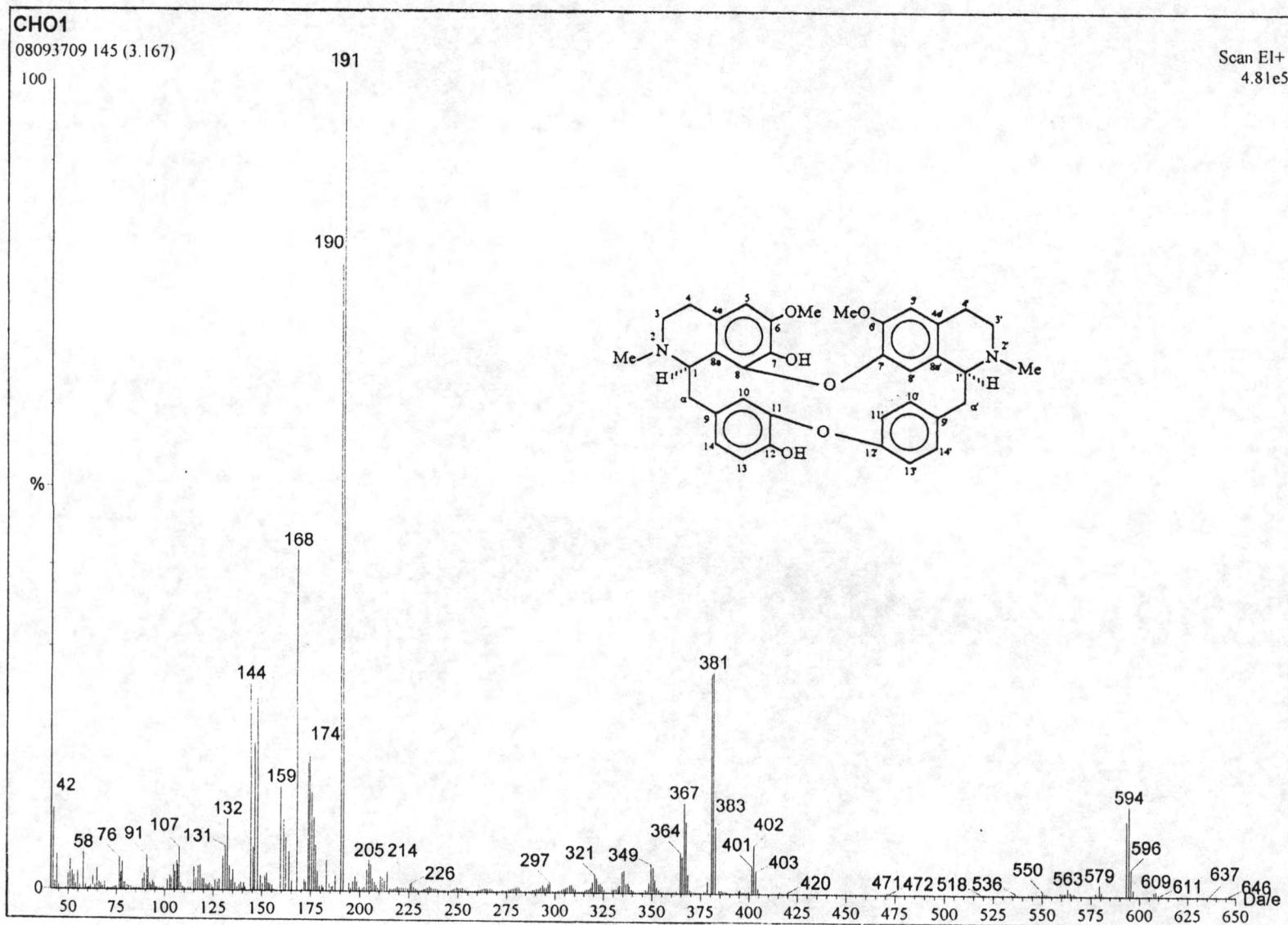


Figure 2 The EIMS spectrum of CH01

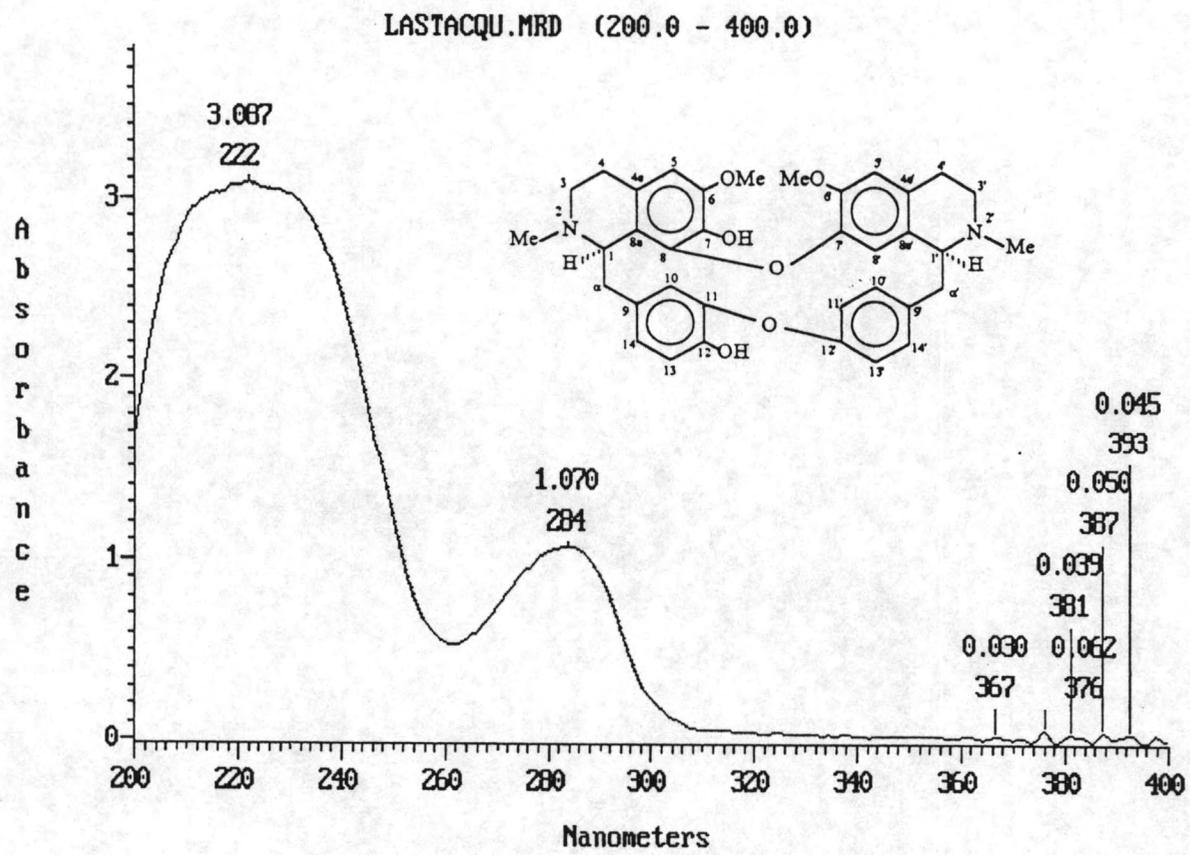


Figure 3 The UV spectrum of CH01 (in ethanol)

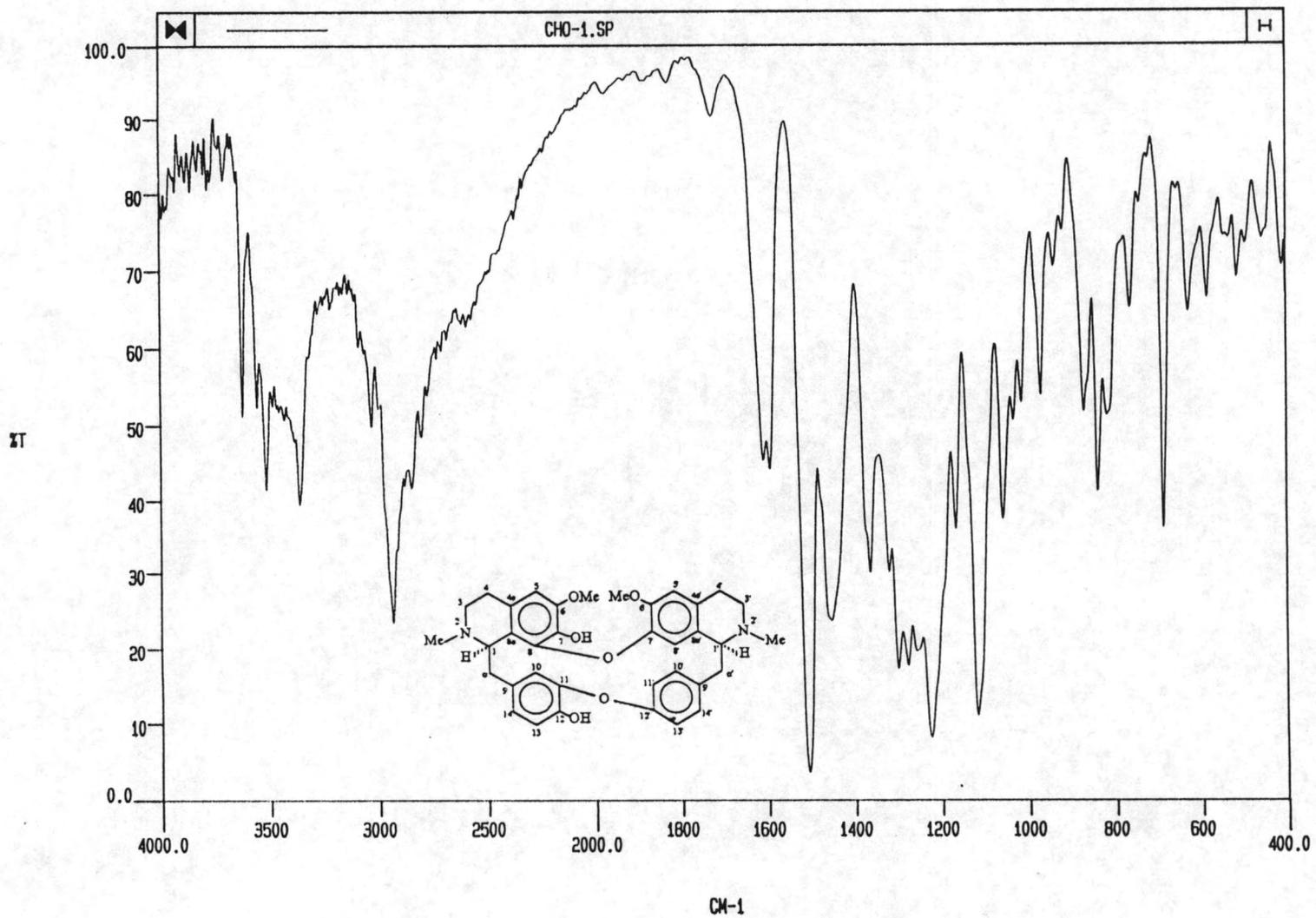


Figure 4 The IR spectrum of CH01 (KBr disc)

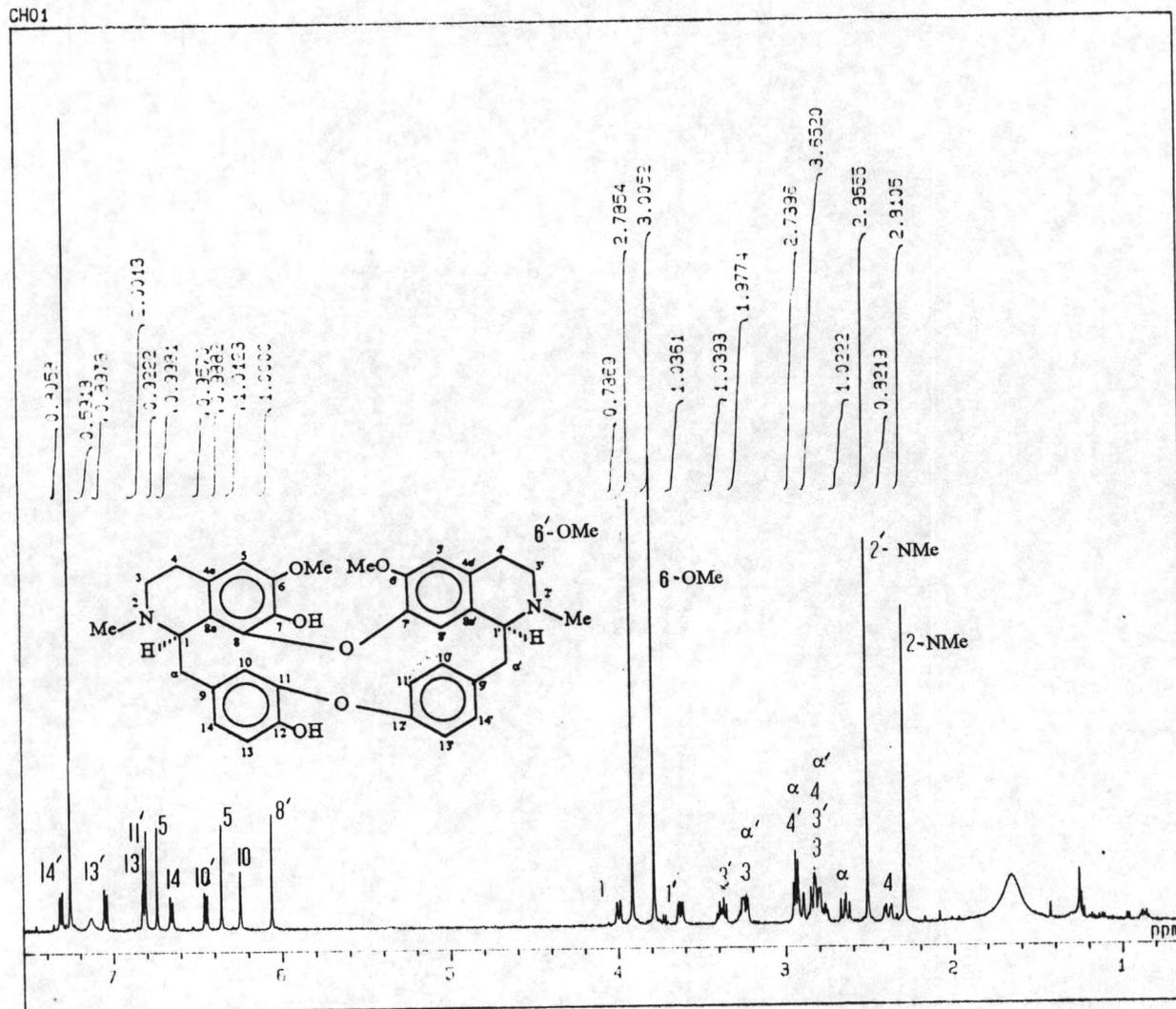


Figure 5 The 500 MHz ^1H NMR spectrum of CH01 (in CDCl_3)

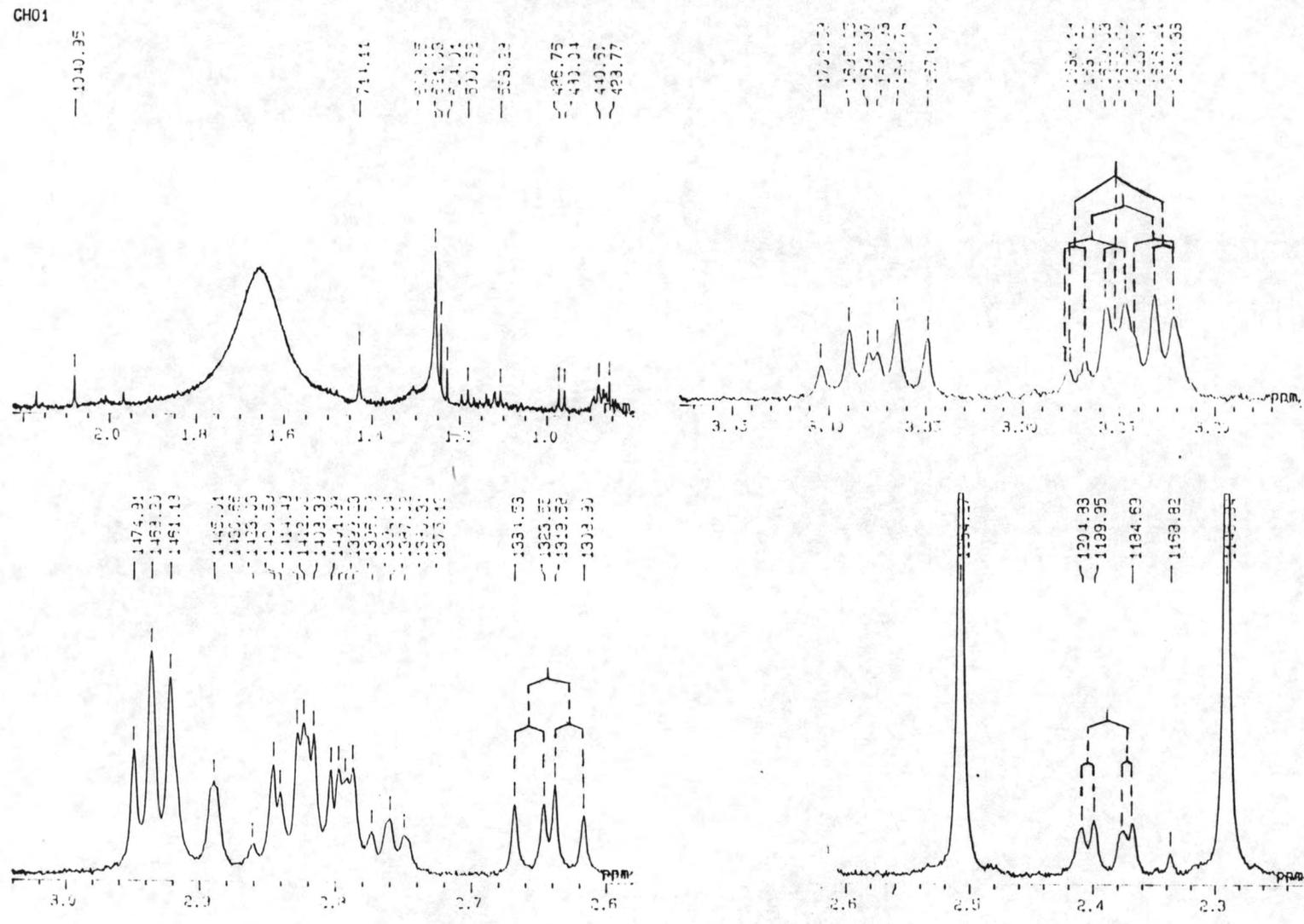


Figure 6 The expansion of 500 MHz ^1H NMR spectrum of CH01 (in CDCl_3)

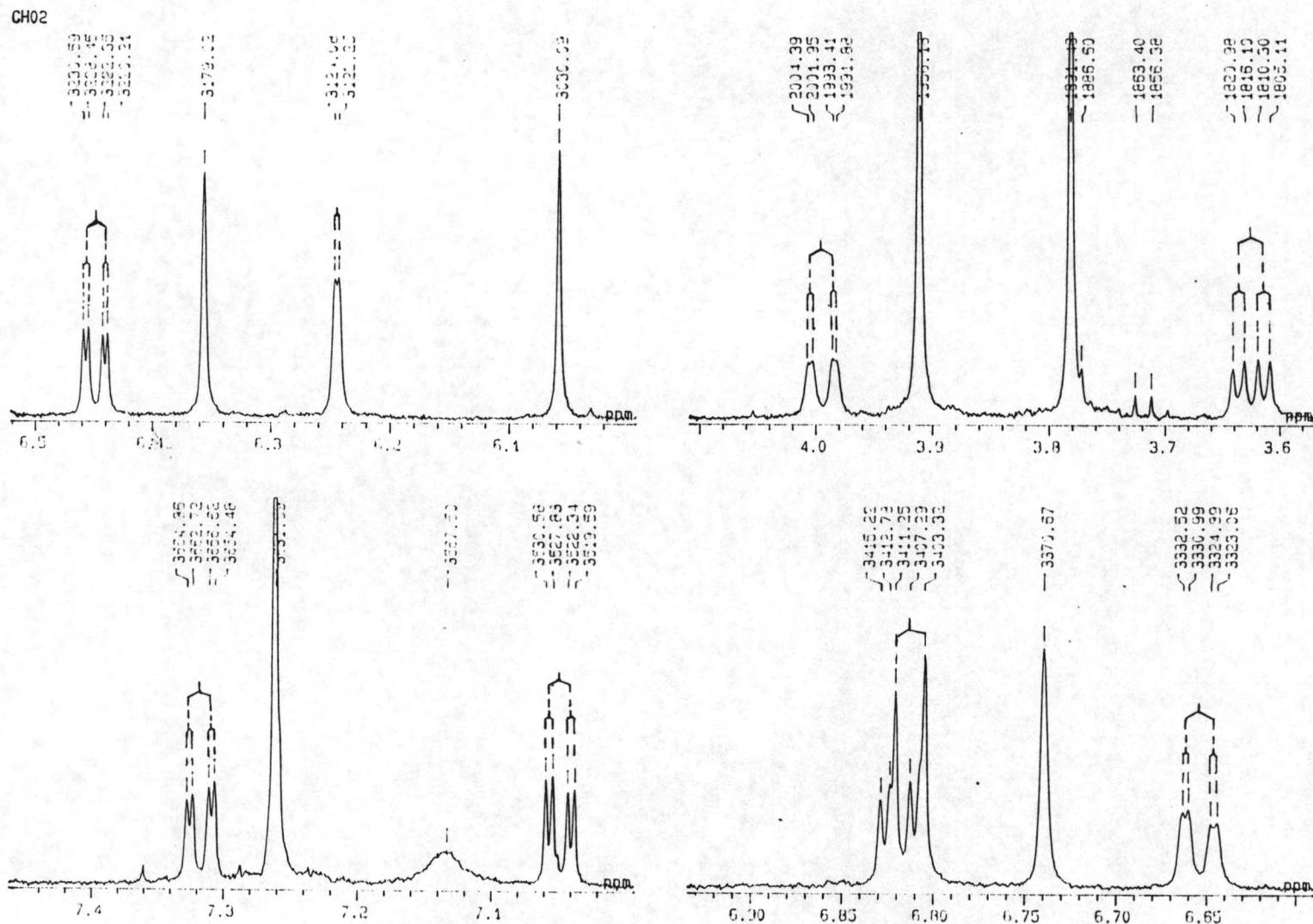


Figure 6 The expansion of 500 MHz ^1H NMR spectrum of CH01 (in CDCl_3)

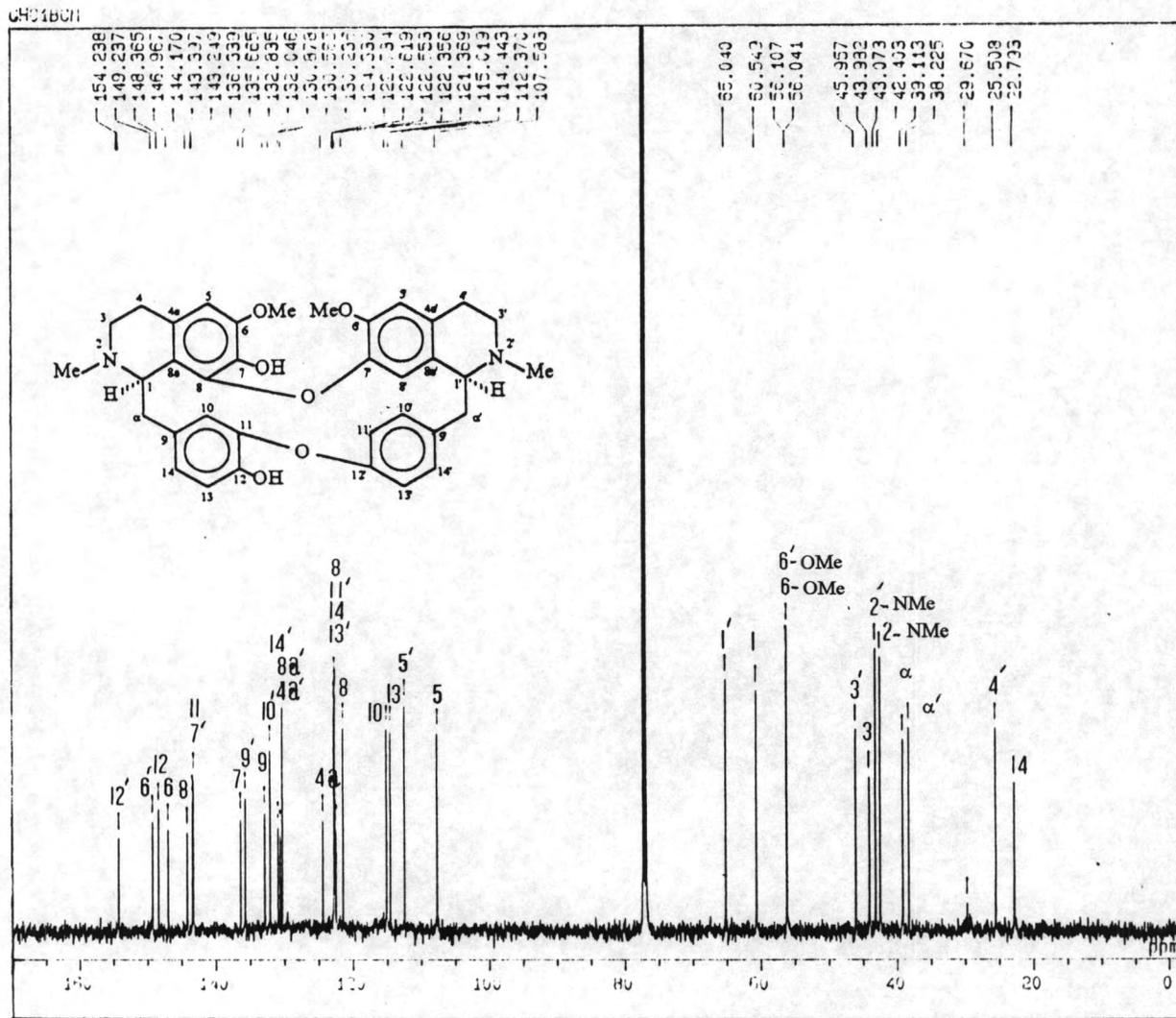


Figure 7 The 125 MHz ¹³C NMR spectrum of CH01 (in CDCl₃)

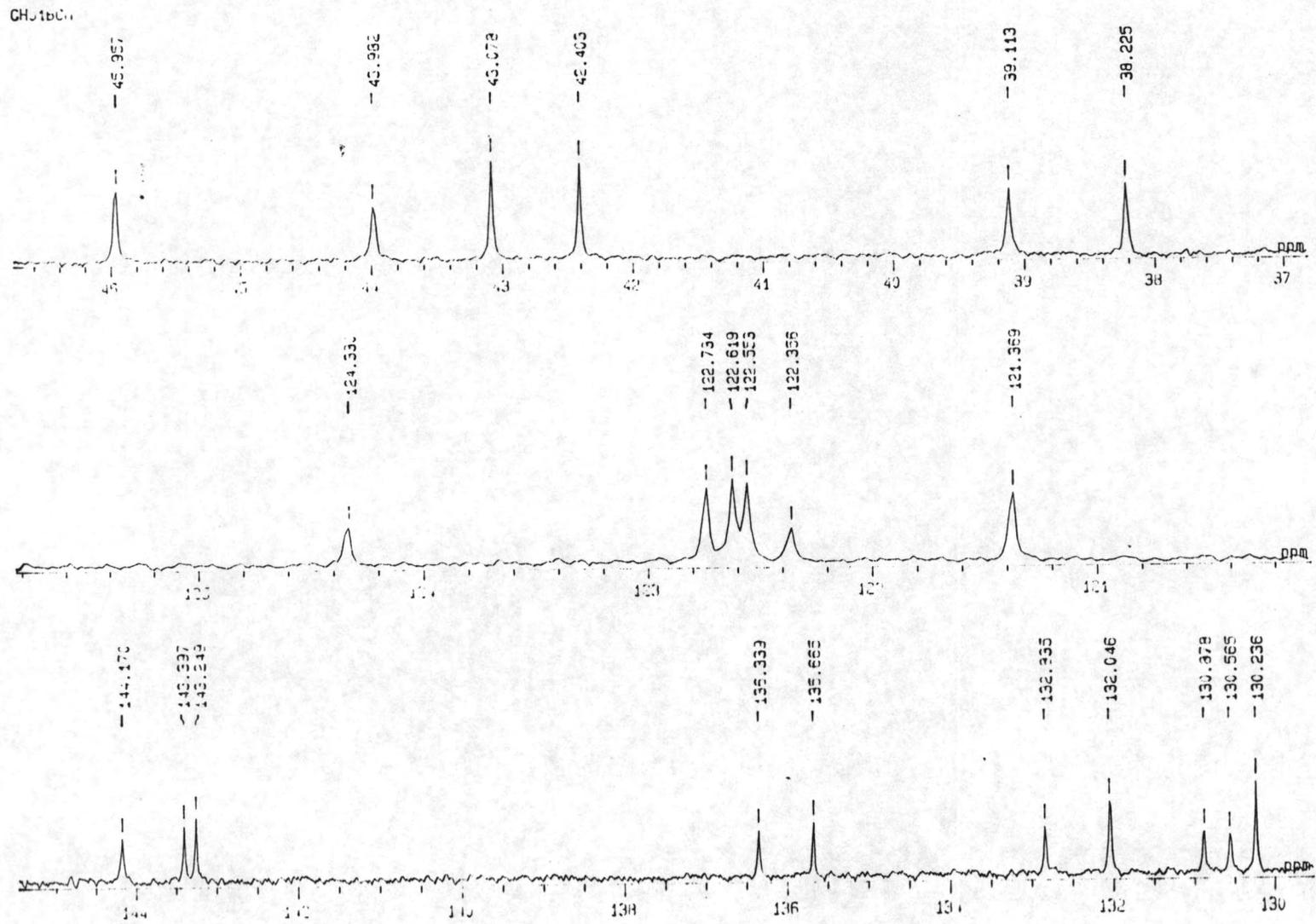


Figure 8 The expansion of 125 MHz ¹³C NMR spectrum of CH01 (in CDCl₃)

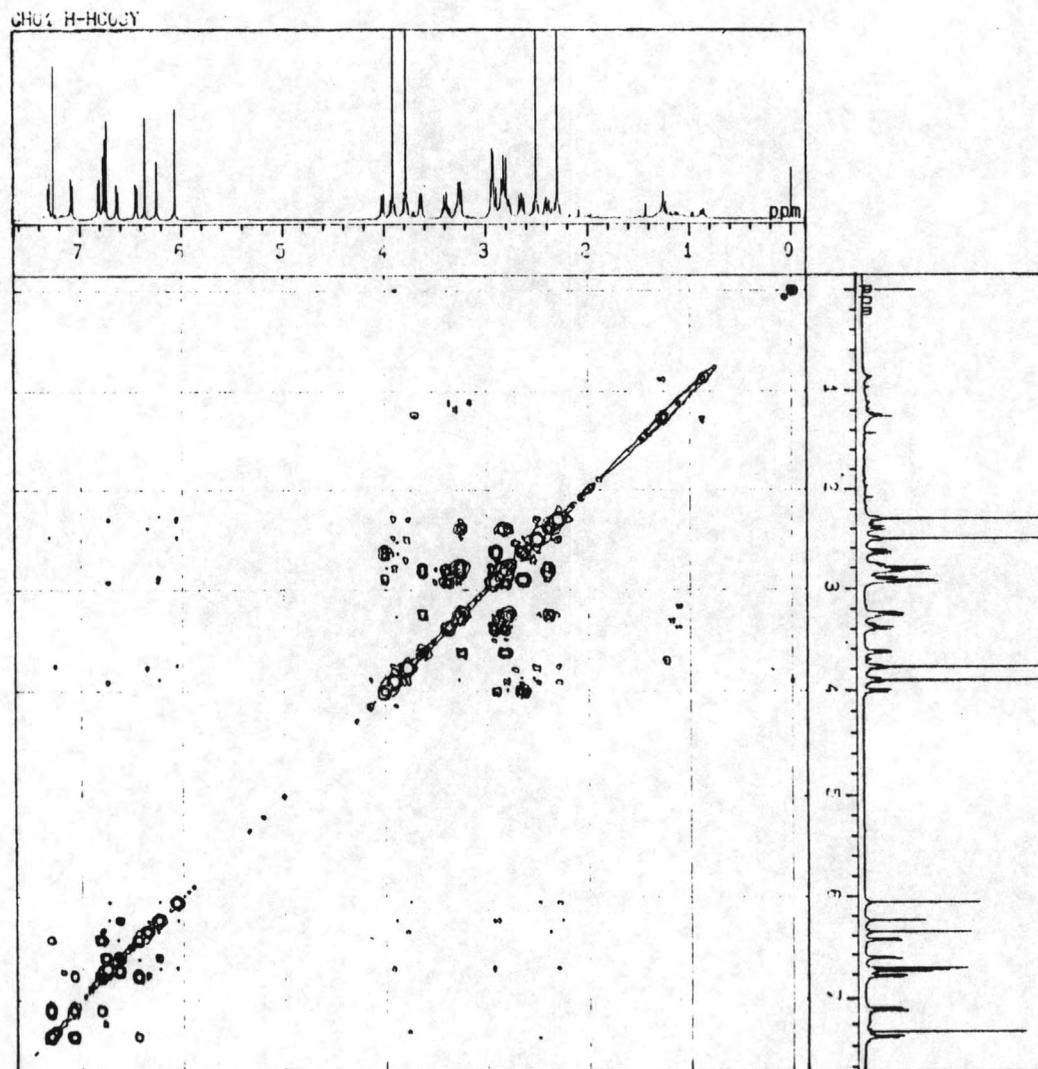
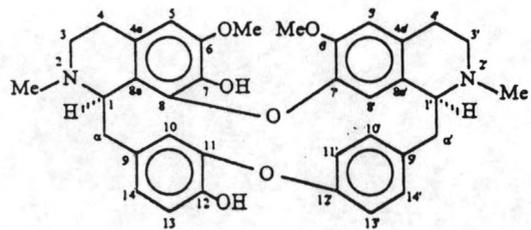


Figure 9 The $^1\text{H},^1\text{H}$ COSY spectrum of CH01 (in CDCl_3)

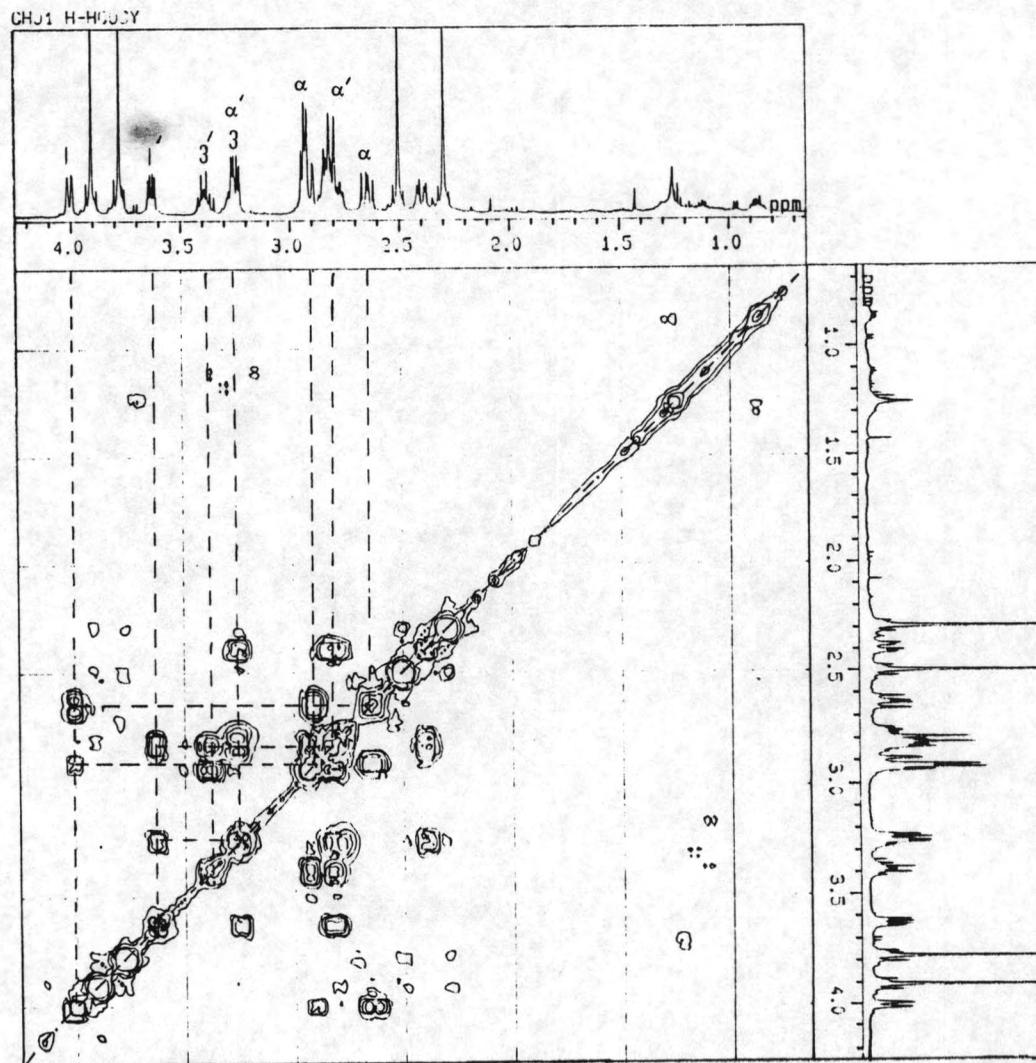
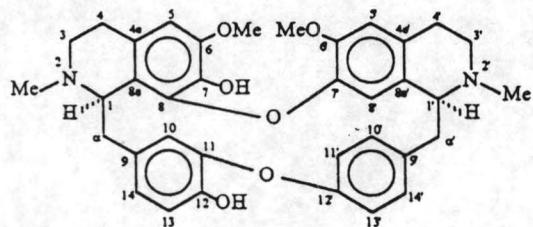


Figure 10 The expansion of $^1\text{H}, ^1\text{H}$ COSY spectrum of CH01 (in CDCl_3)

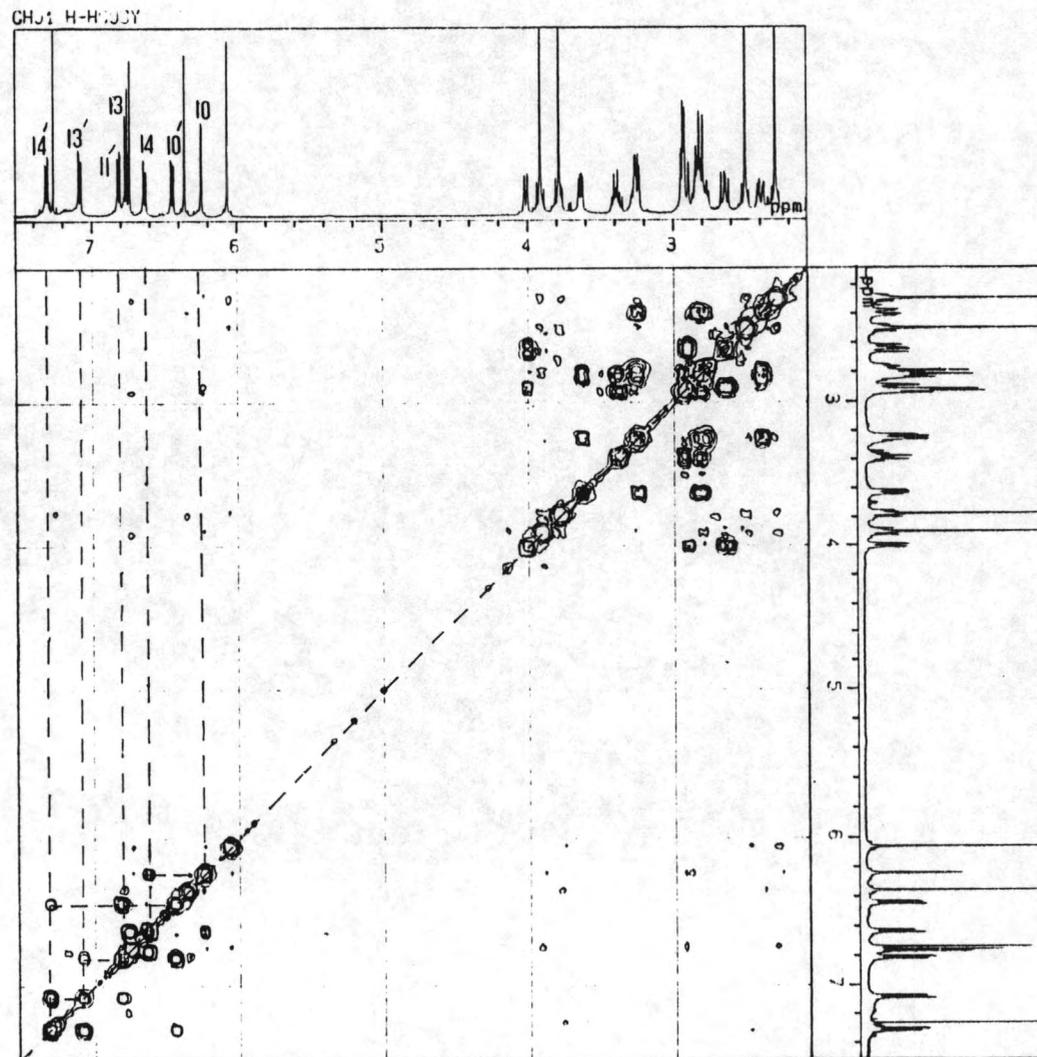
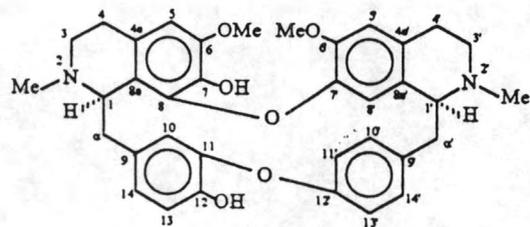


Figure 10 The expansion of ^1H , ^1H COSY spectrum of CH01 (in CDCl_3)

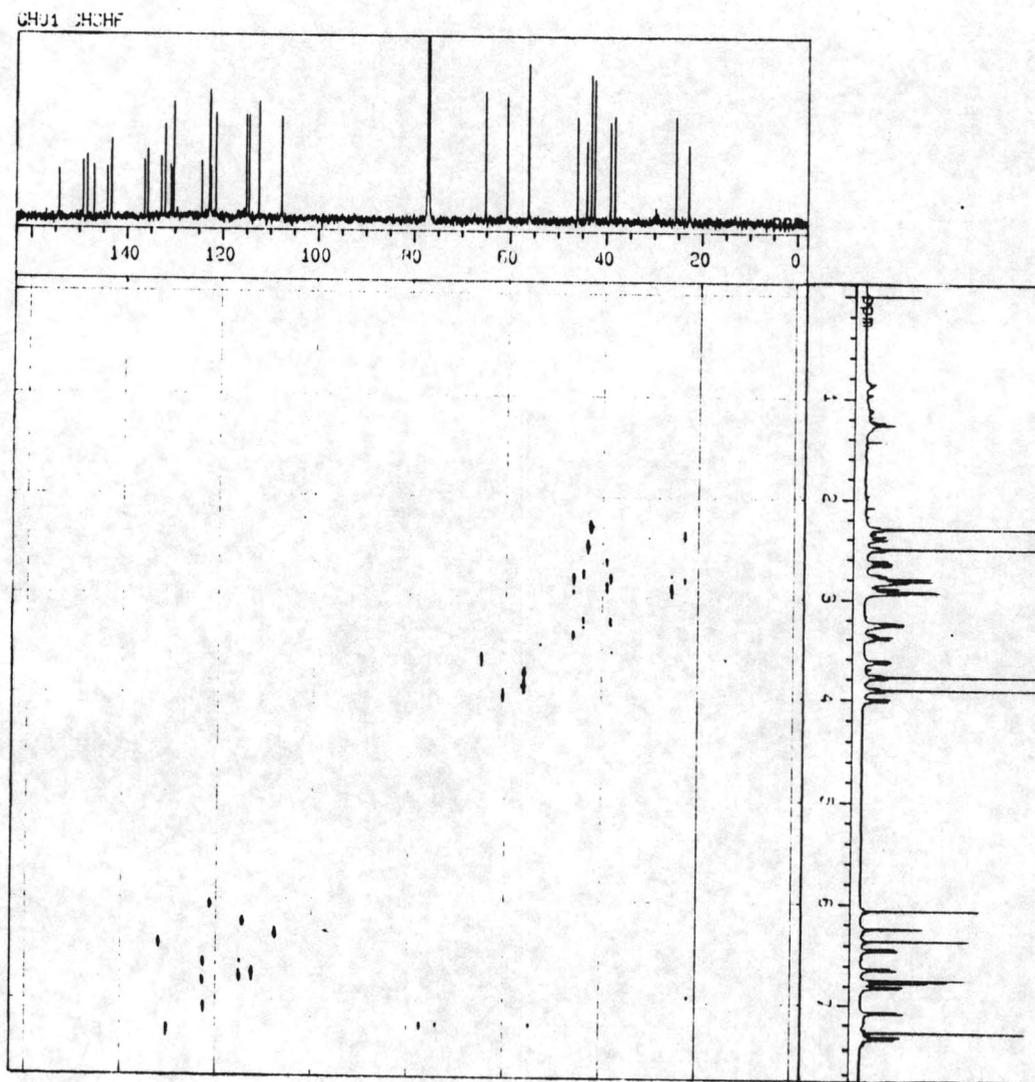
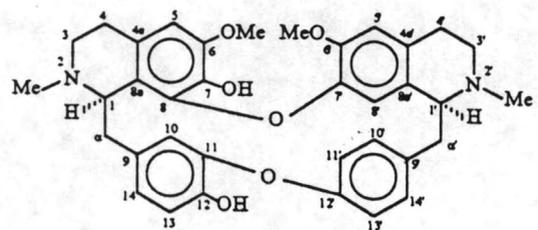


Figure 11 The $^1\text{H},^{13}\text{C}$ COSY spectrum of CH01 (in CDCl_3)

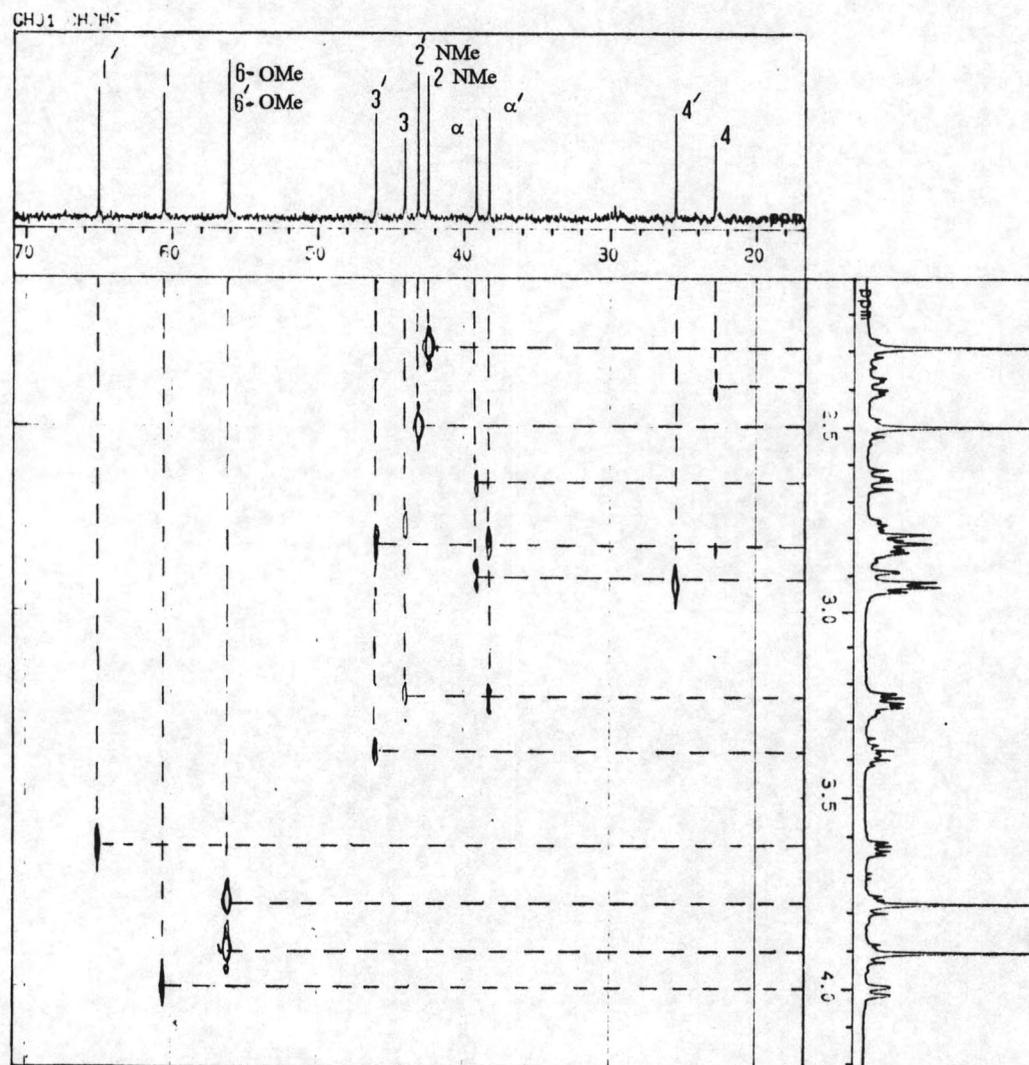
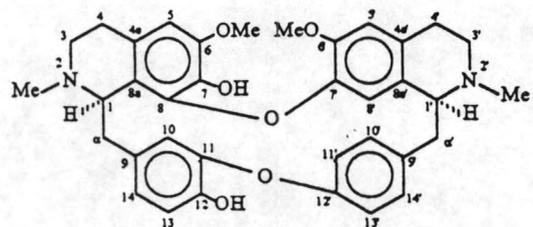


Figure 12 The expansion of ^1H , ^{13}C COSY spectrum of CH01 (in CDCl_3)

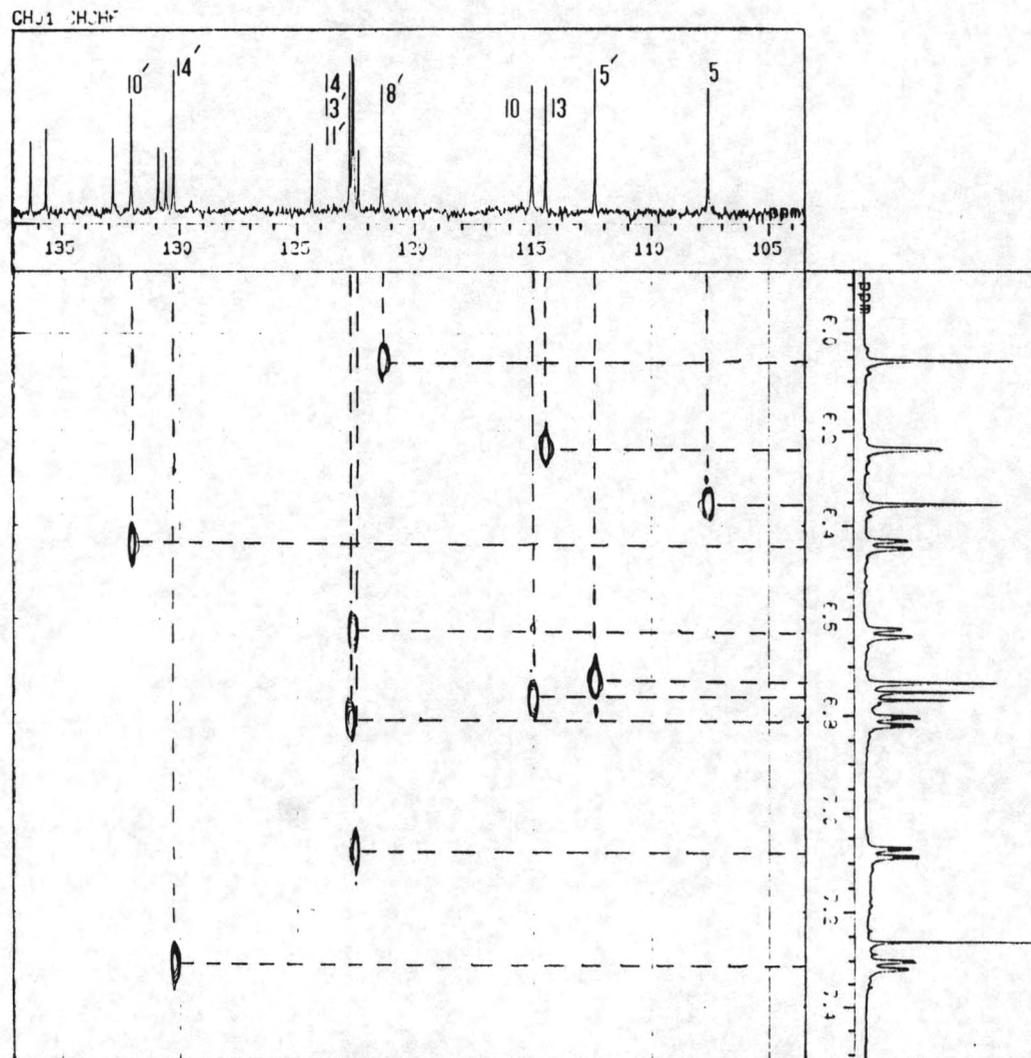
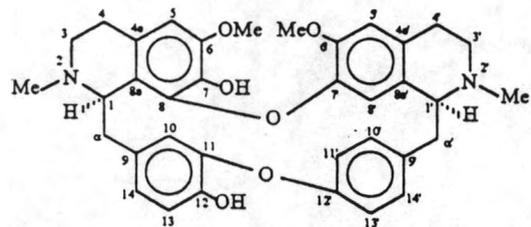


Figure 12 The expansion of ^1H , ^{13}C COSY spectrum of CH01 (in CDCl_3)

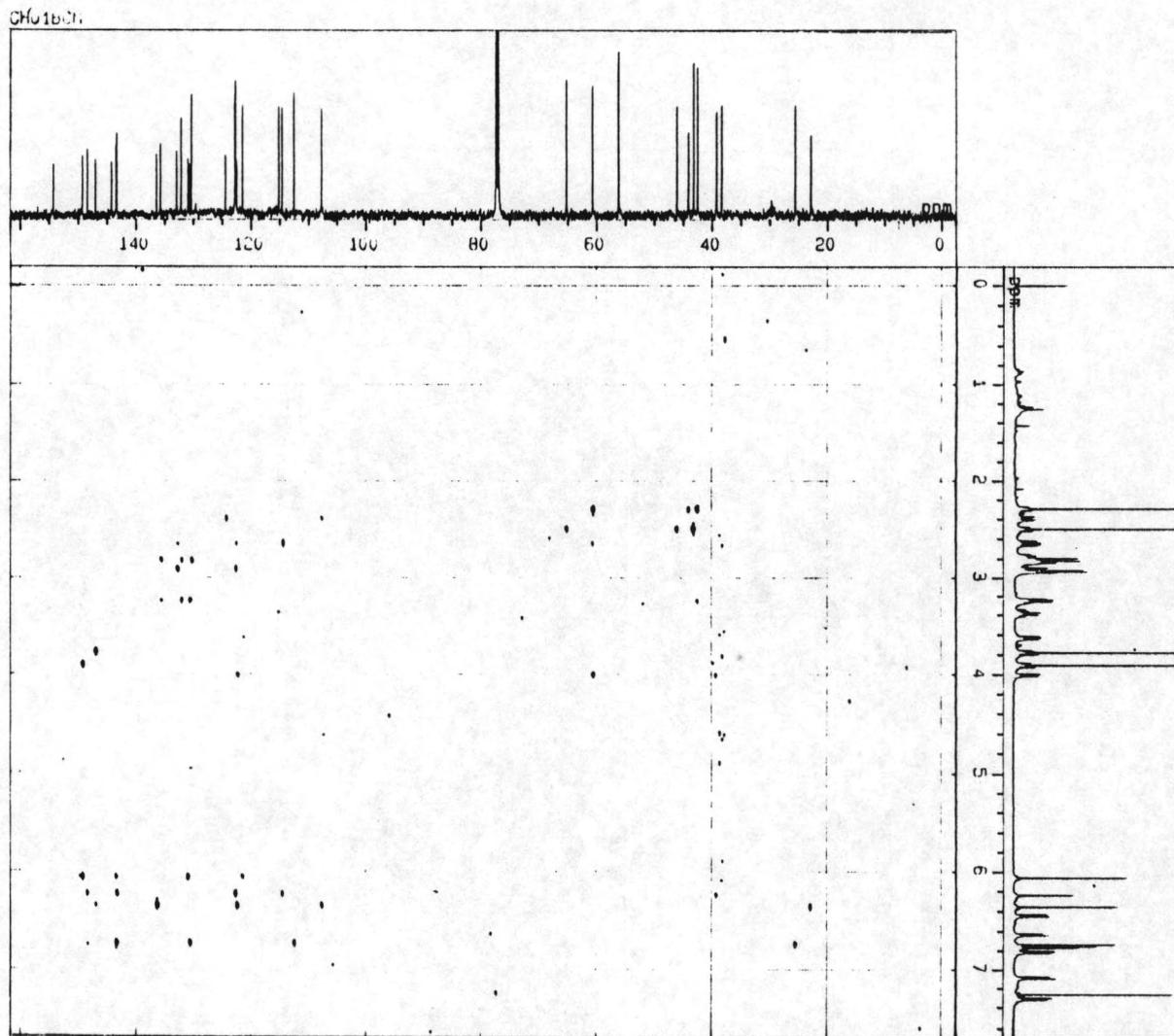
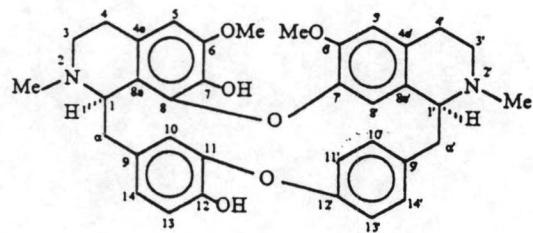


Figure 13 The ^1H , ^{13}C COLOC spectrum of CH01 (in CDCl_3)

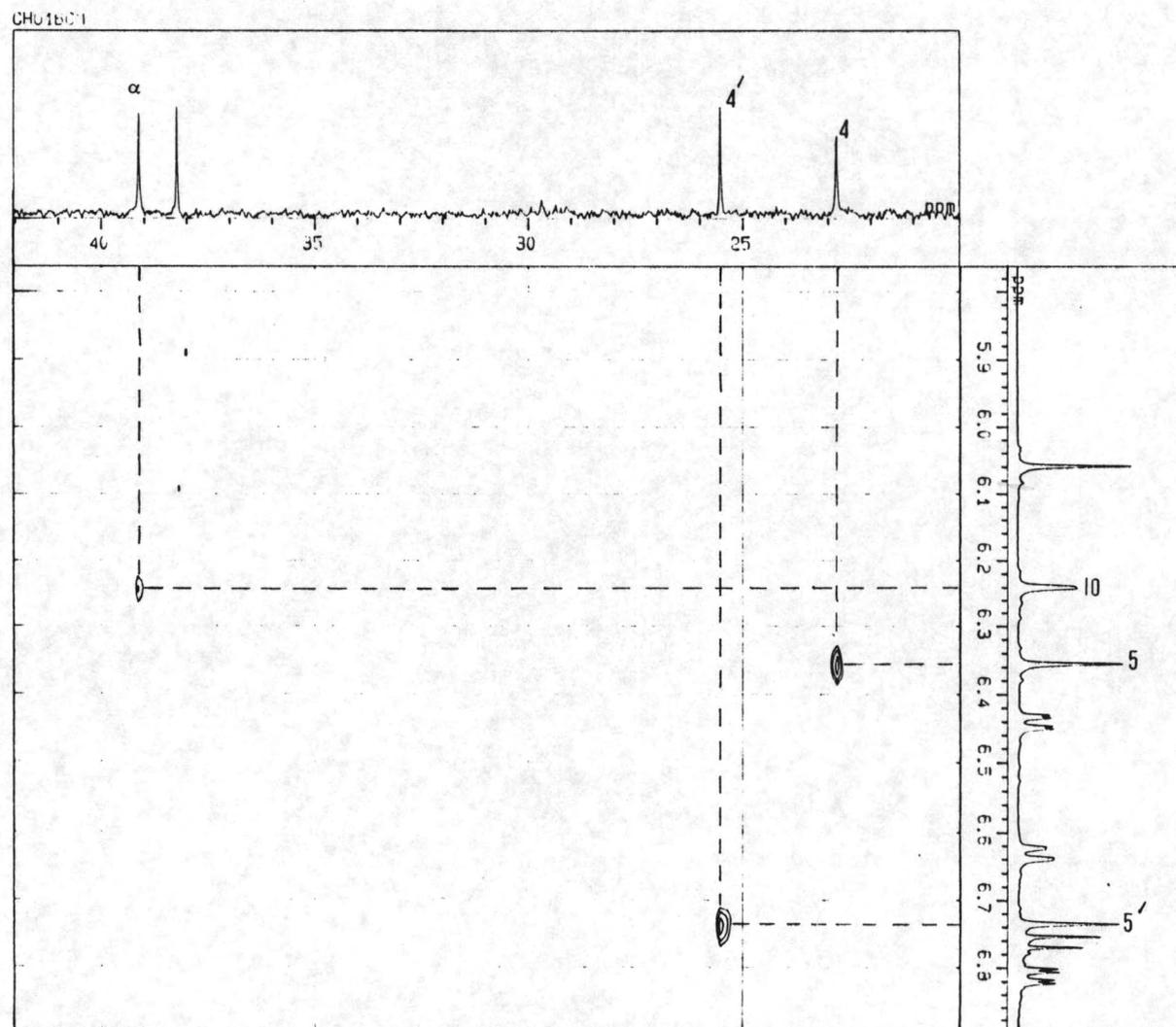
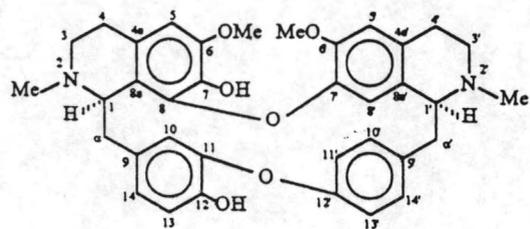


Figure 14 The expansion of ^1H , ^{13}C COLOC spectrum of CH01 (in CDCl_3)

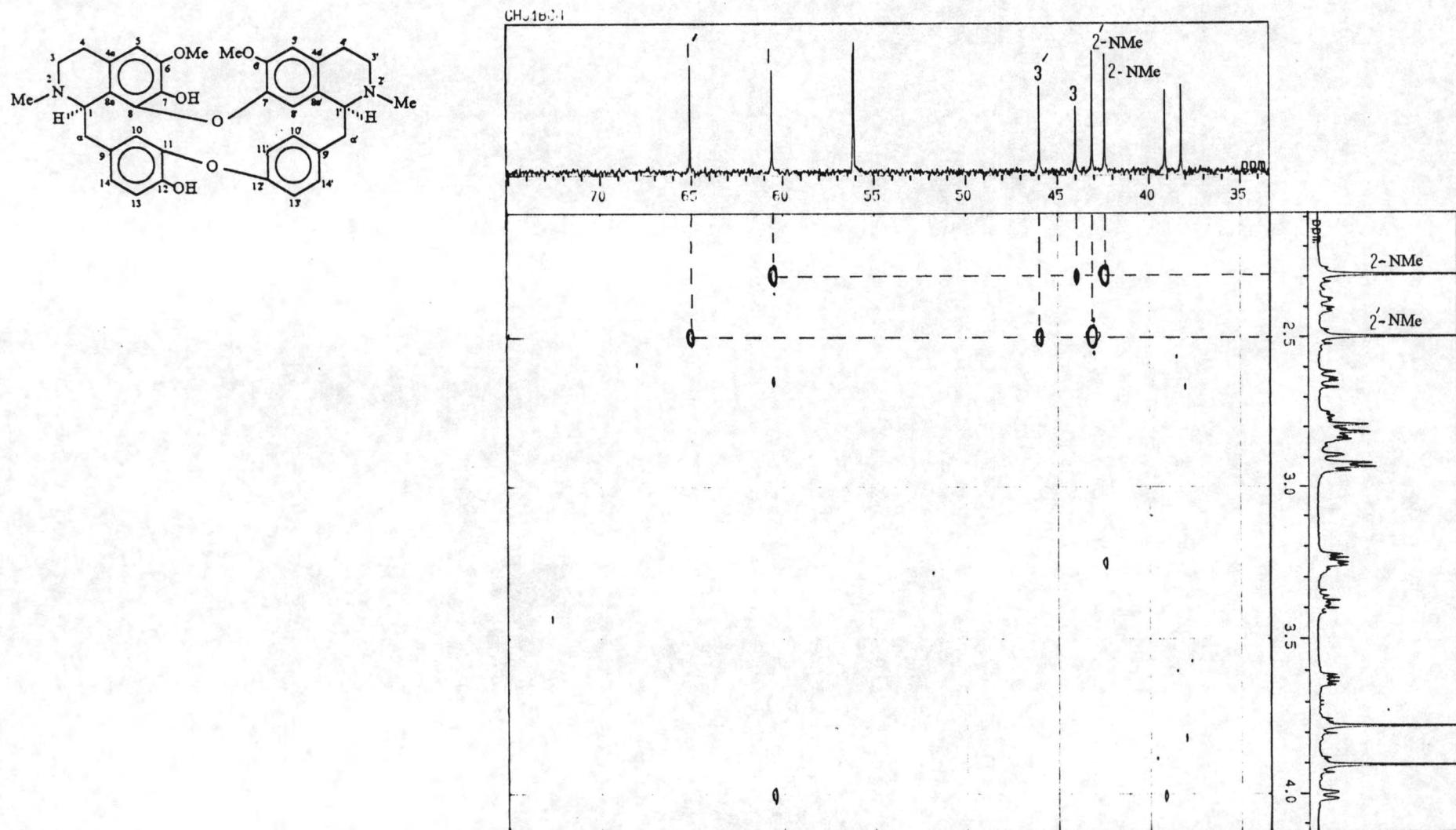


Figure 14 The expansion of ¹H, ¹³C COLOC spectrum of CH01 (in CDCl₃)

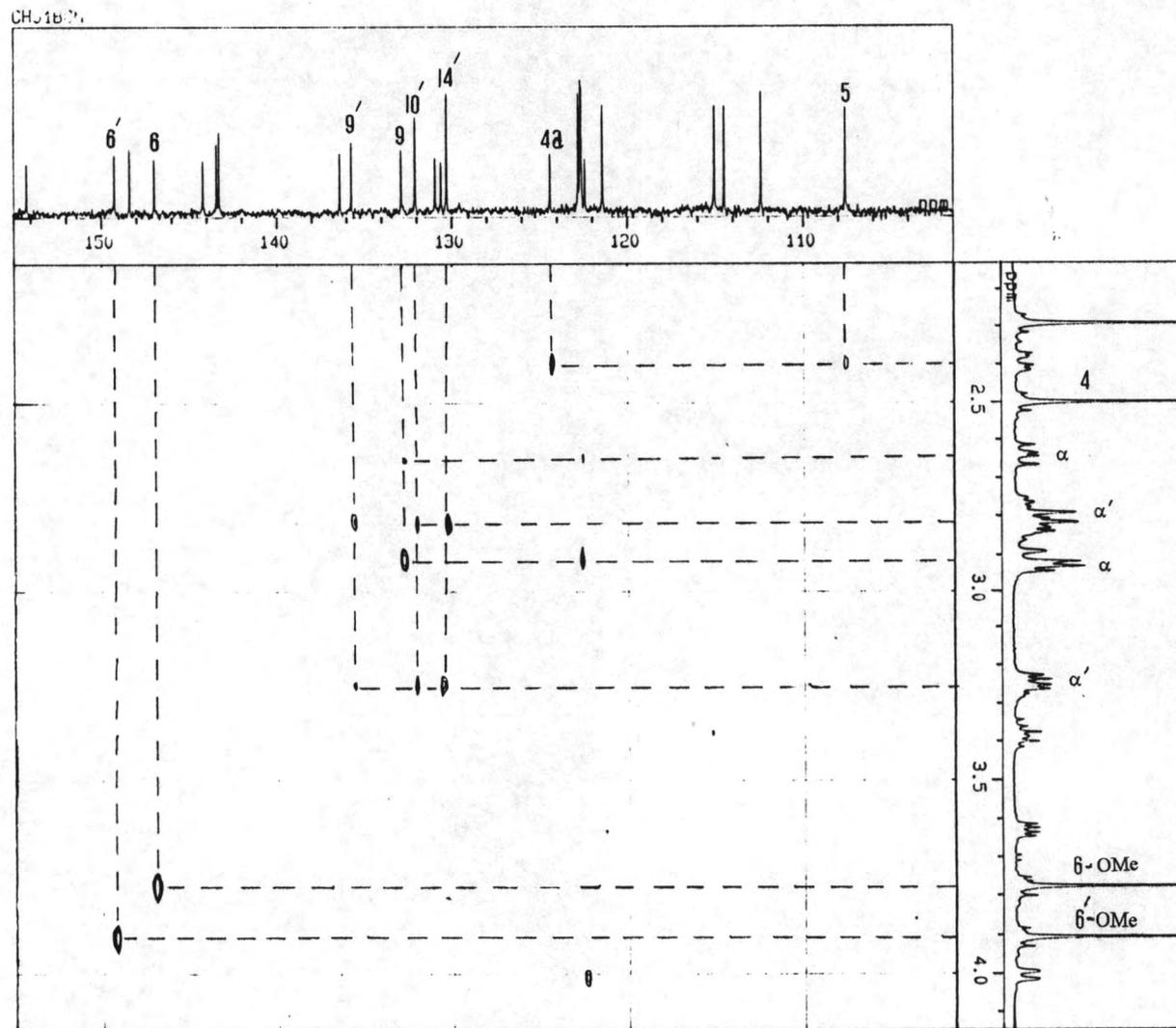
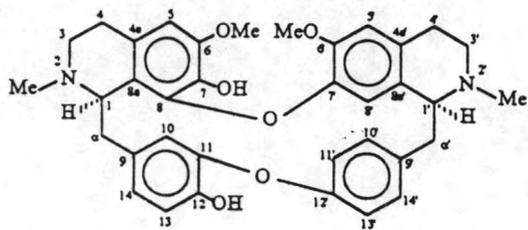


Figure 14 The expansion of ^1H , ^{13}C COLOC spectrum of CH01 (in CDCl_3)

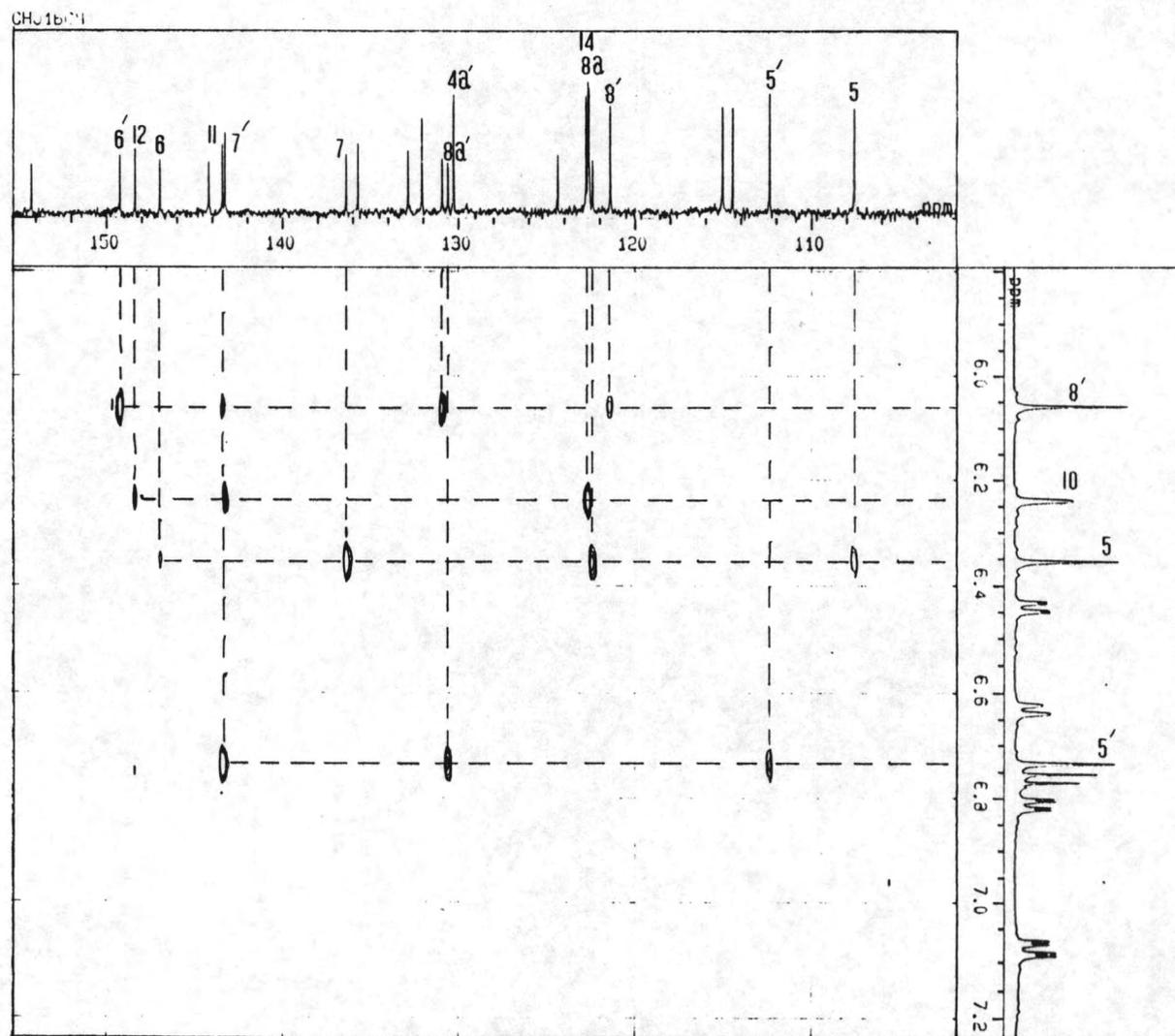
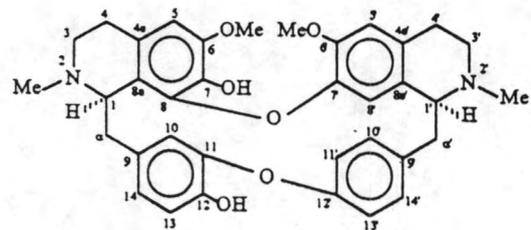


Figure 14 The expansion of $^1\text{H}, ^{13}\text{C}$ COLOC spectrum of CH01 (in CDCl_3)

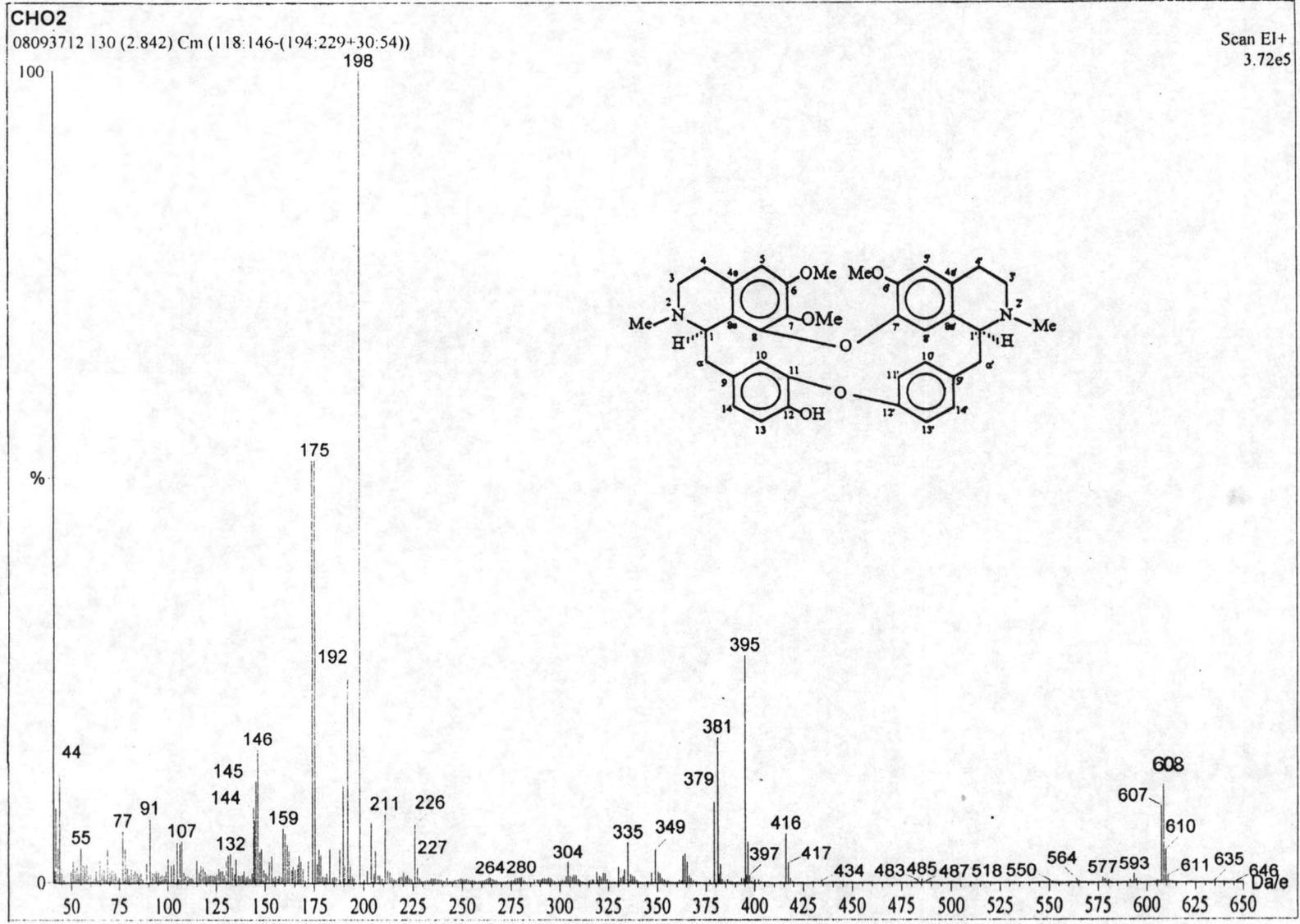


Figure 15 The EIMS spectrum of CHO2

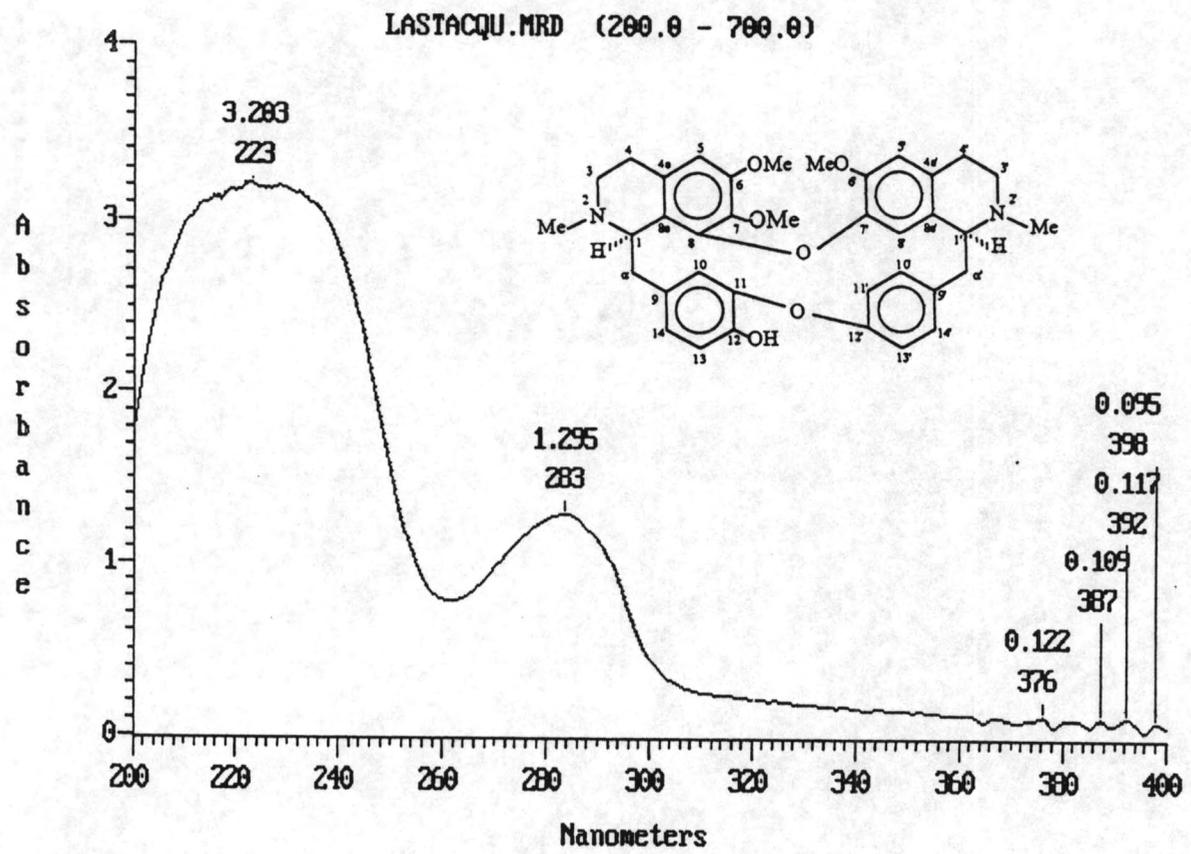


Figure 16 The UV spectrum of CH02 (in ethanol)

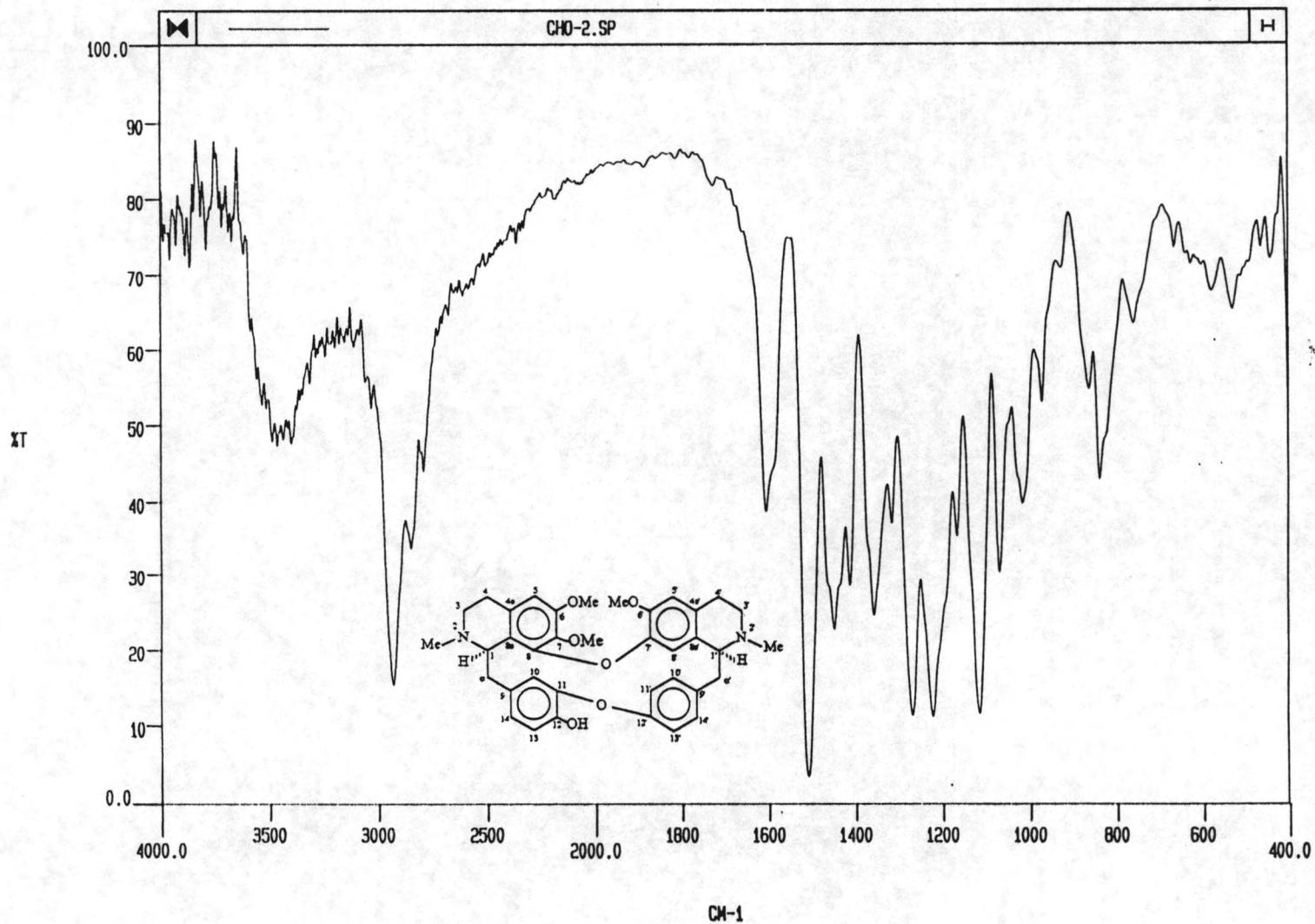


Figure 17 The IR spectrum of CH02 (KBr disc)

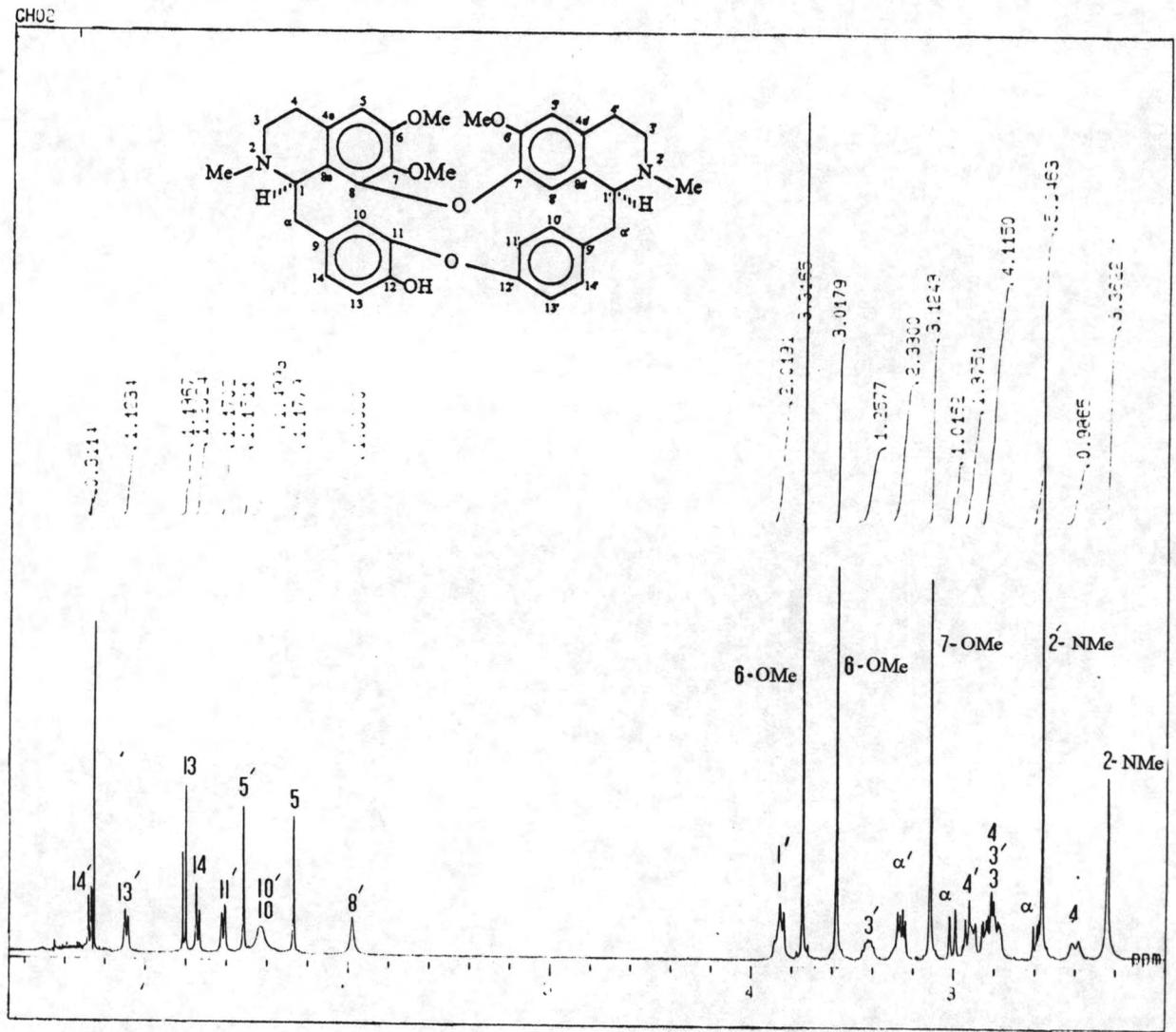


Figure 18 The 500 MHz ^1H NMR spectrum of CH02 (in CDCl_3)

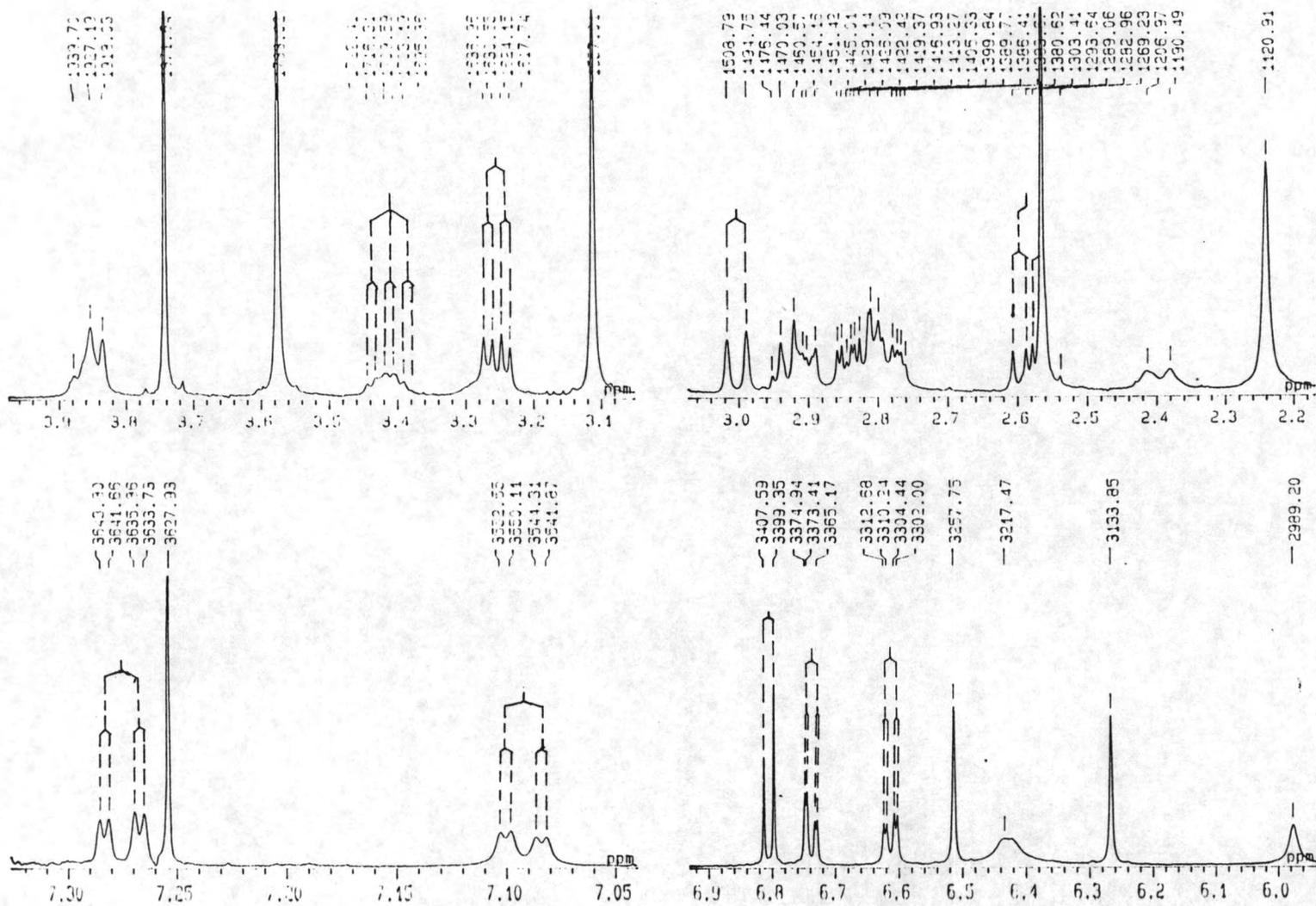


Figure 19 The expansion of 500 MHz ^1H NMR spectrum of CH02 (in CDCl_3)

CH02BCM

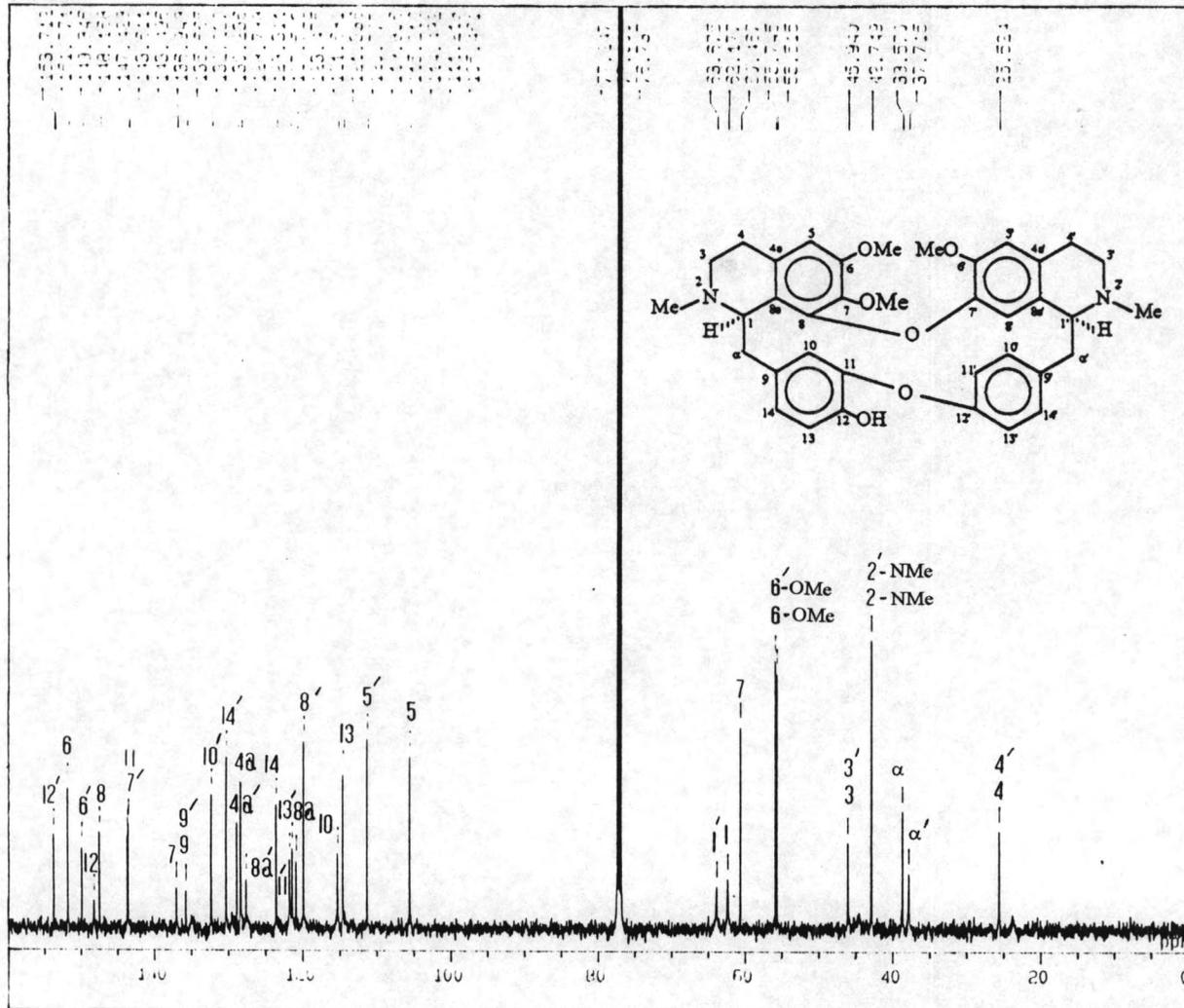


Figure 20 The 125 MHz ^{13}C NMR spectrum of CH02 (in CDCl_3)

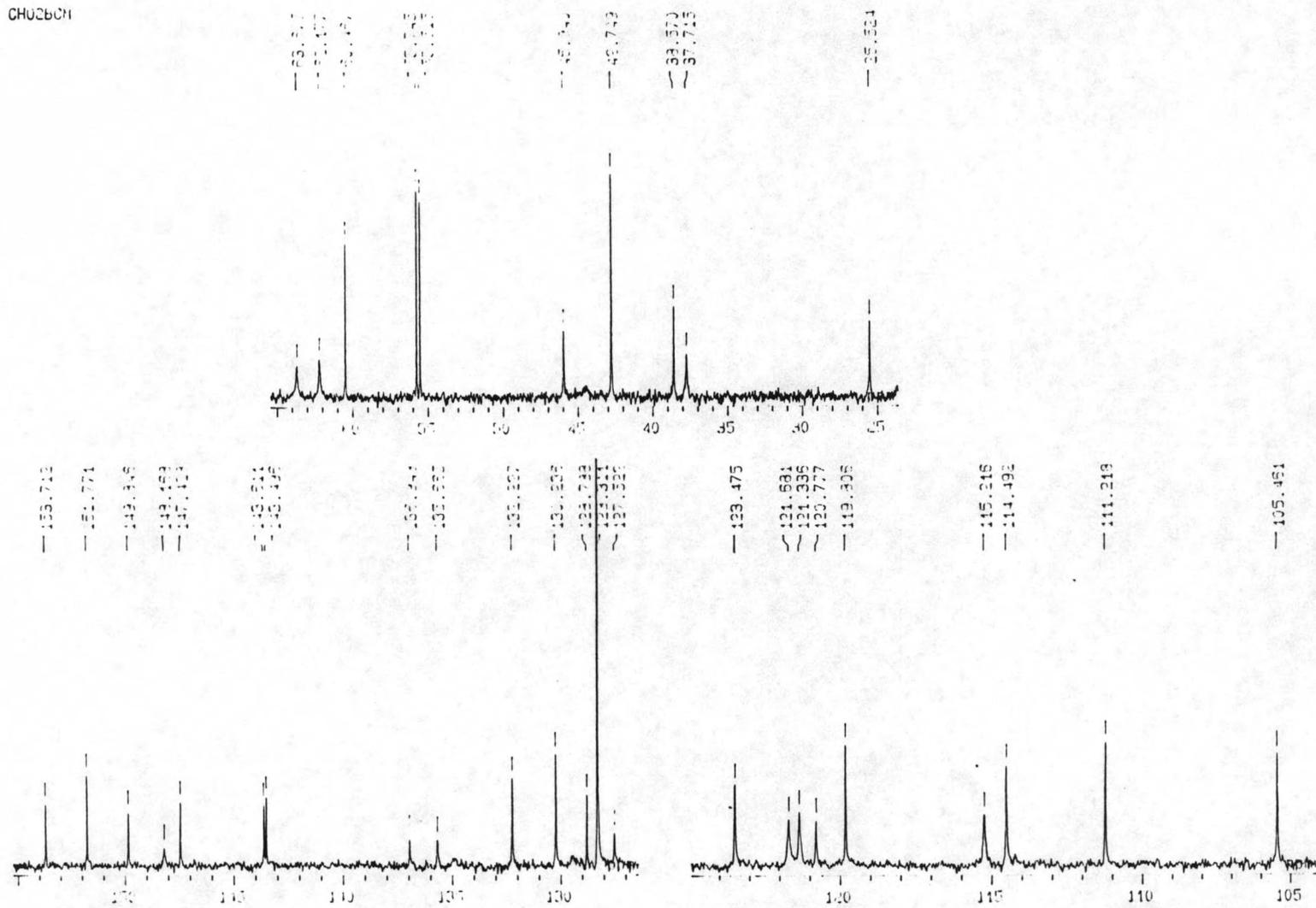
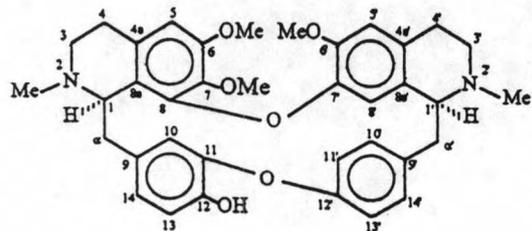


Figure 21 The expansion of 125 MHz ¹³C NMR spectrum of CH₂BrCH₂ (in CDCl₃)



CH02 H-HCOSY

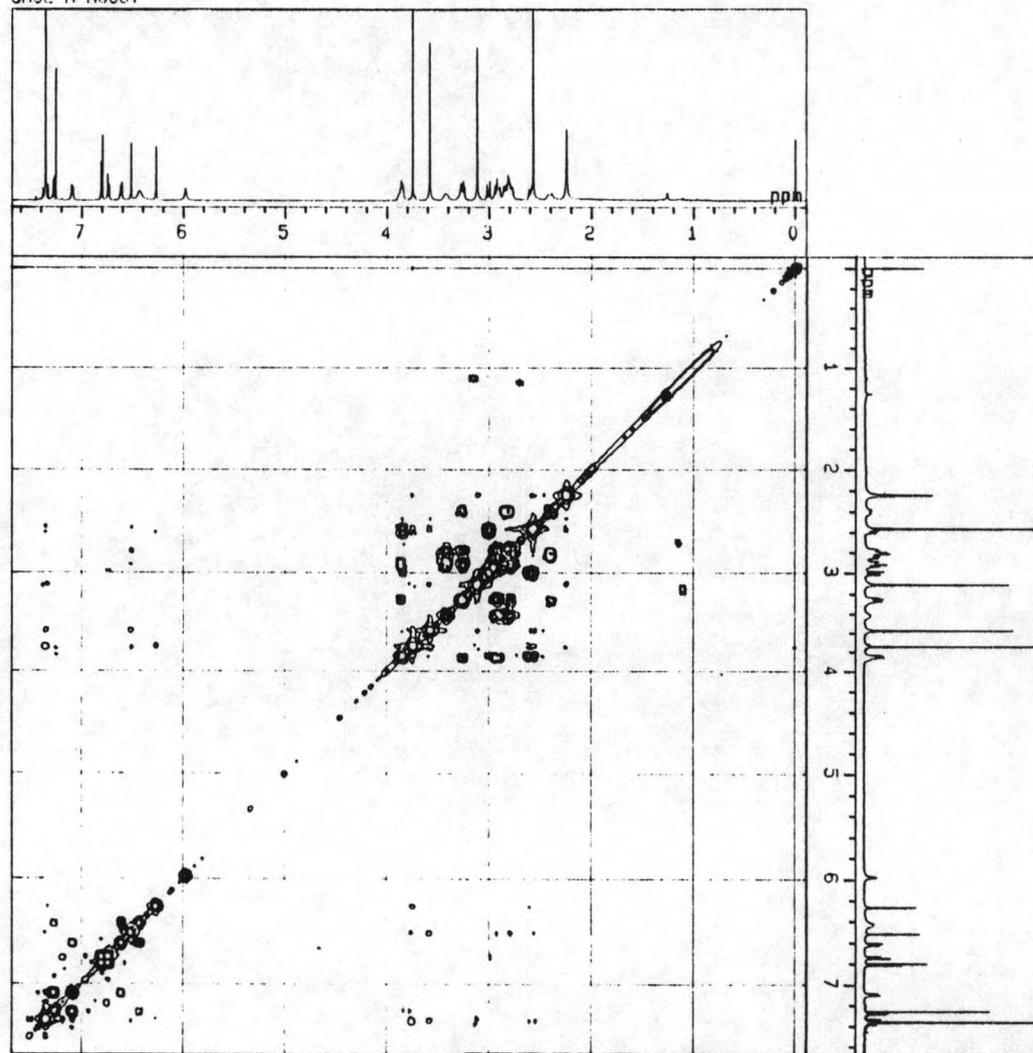


Figure 22 The $^1\text{H}, ^1\text{H}$ COSY spectrum of CH02 (in CDCl_3)

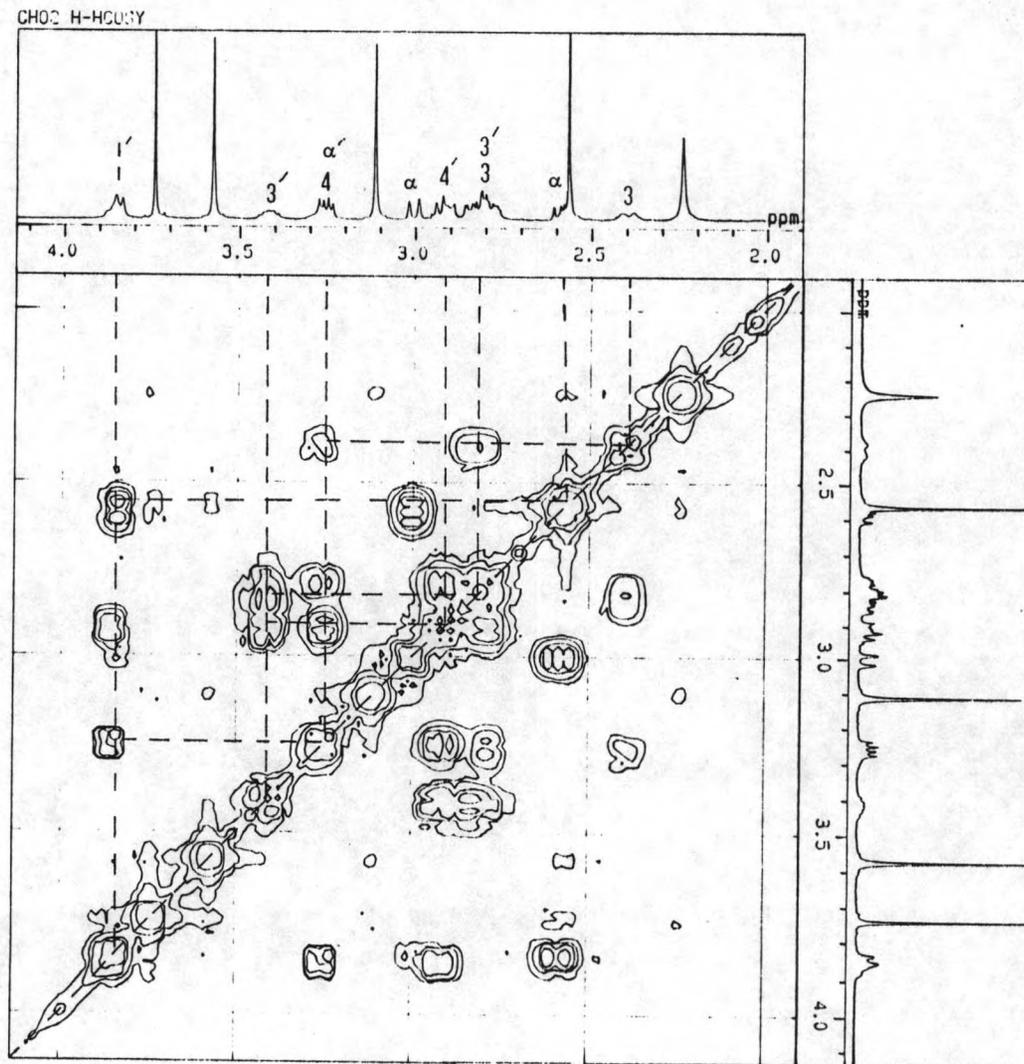
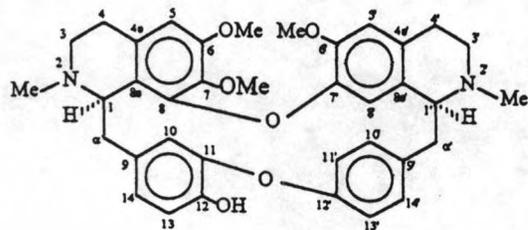


Figure 23 The expansion of $^1\text{H}, ^1\text{H}$ COSY spectrum of CH02 (in CDCl_3)

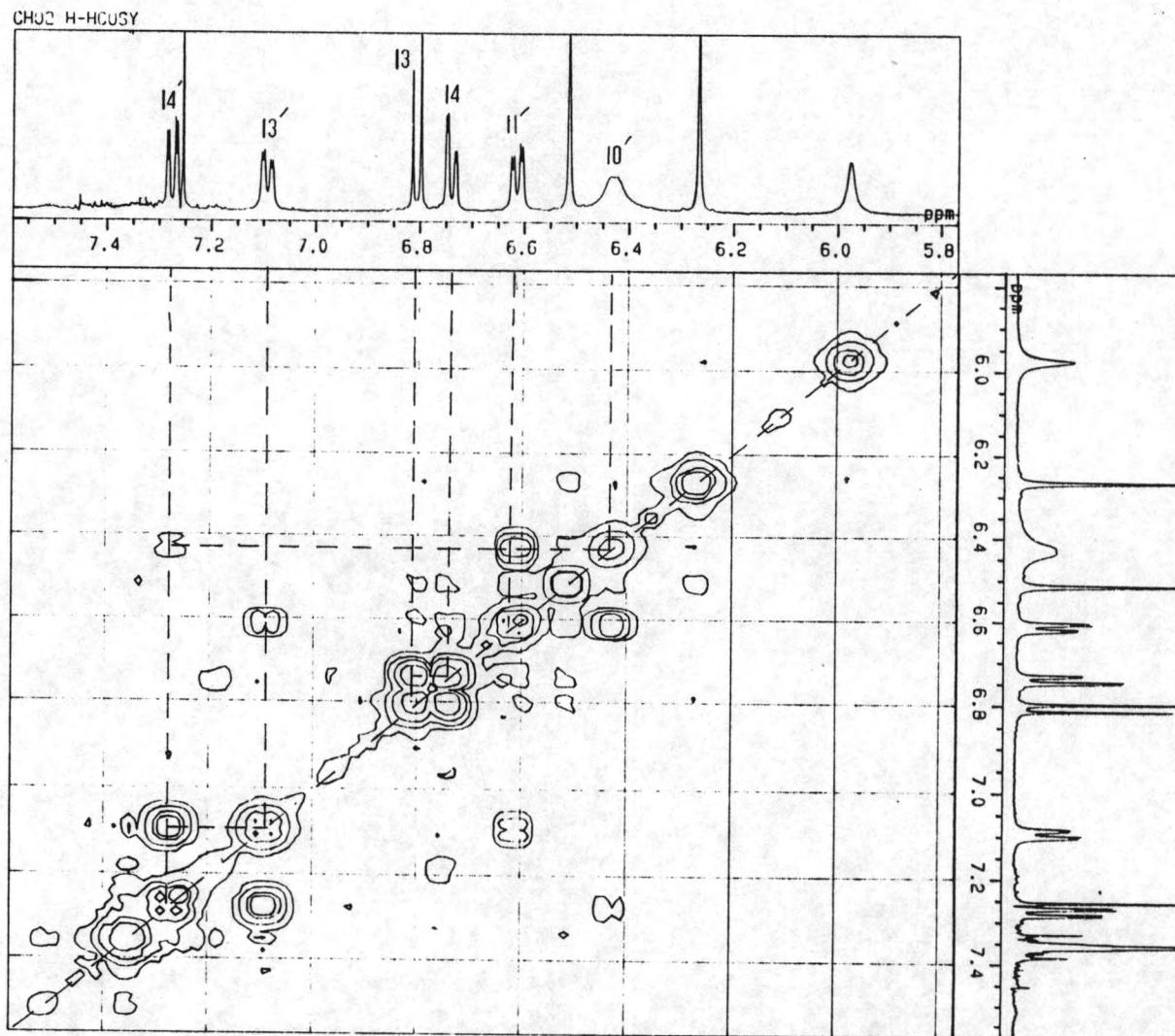
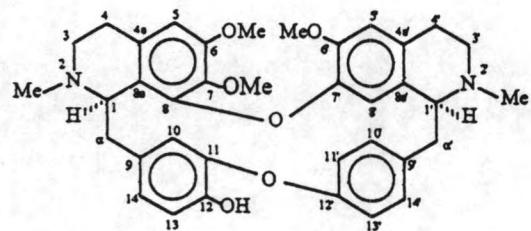


Figure 23 The expansion of $^1\text{H}, ^1\text{H}$ COSY spectrum of CH02 (in CDCl_3)

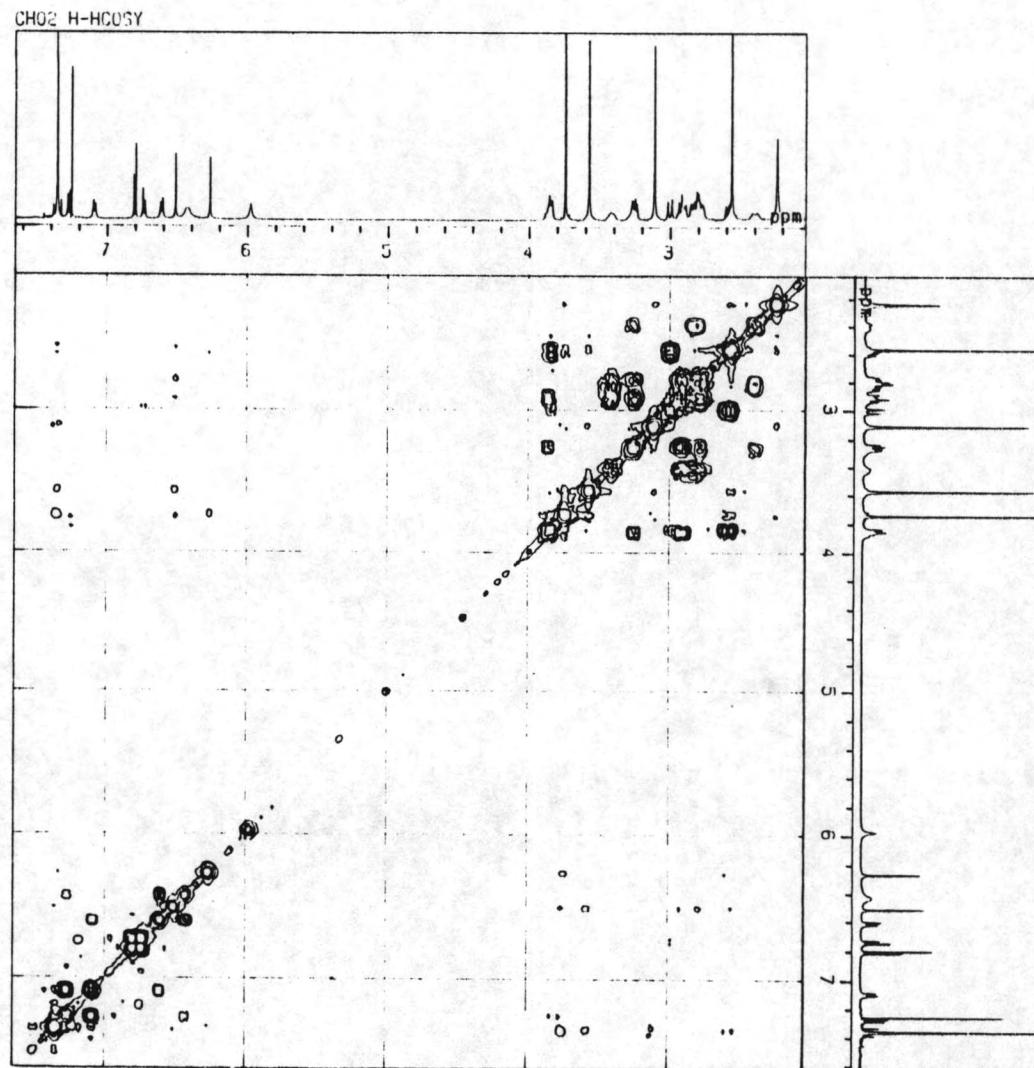
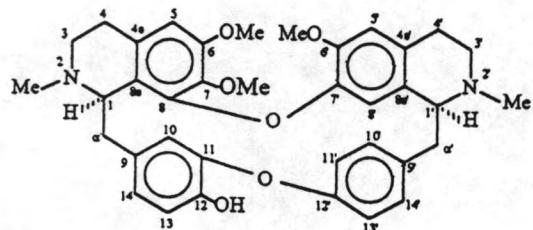


Figure 23 The expansion of ¹H,¹H COSY spectrum of CH02 (in CDCl₃)

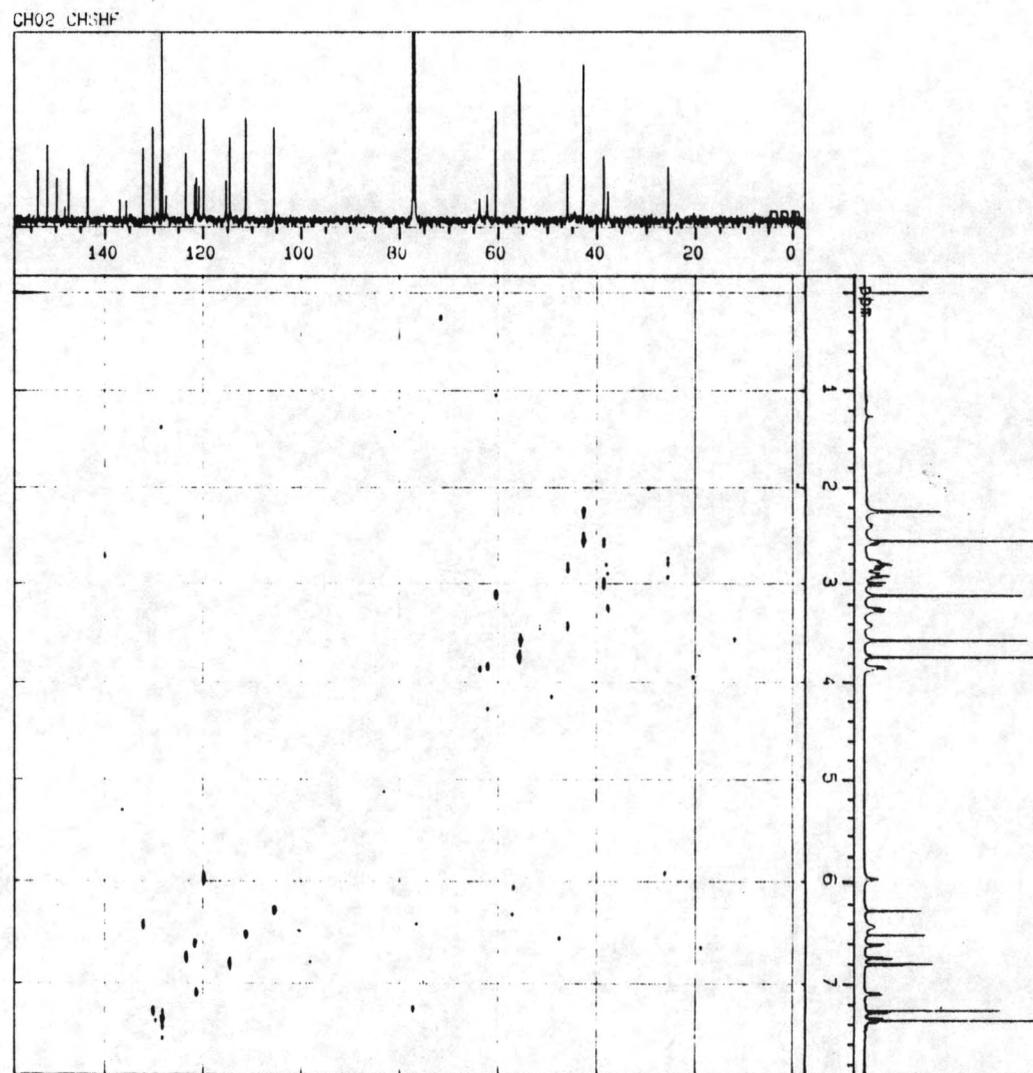
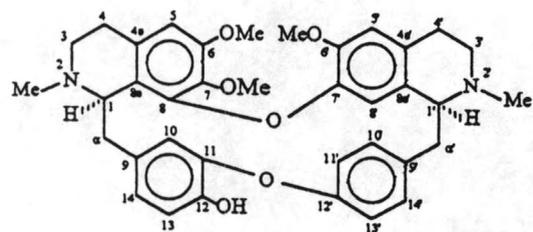


Figure 24 The ^1H , ^{13}C COSY spectrum of CH02 (in CDCl_3)

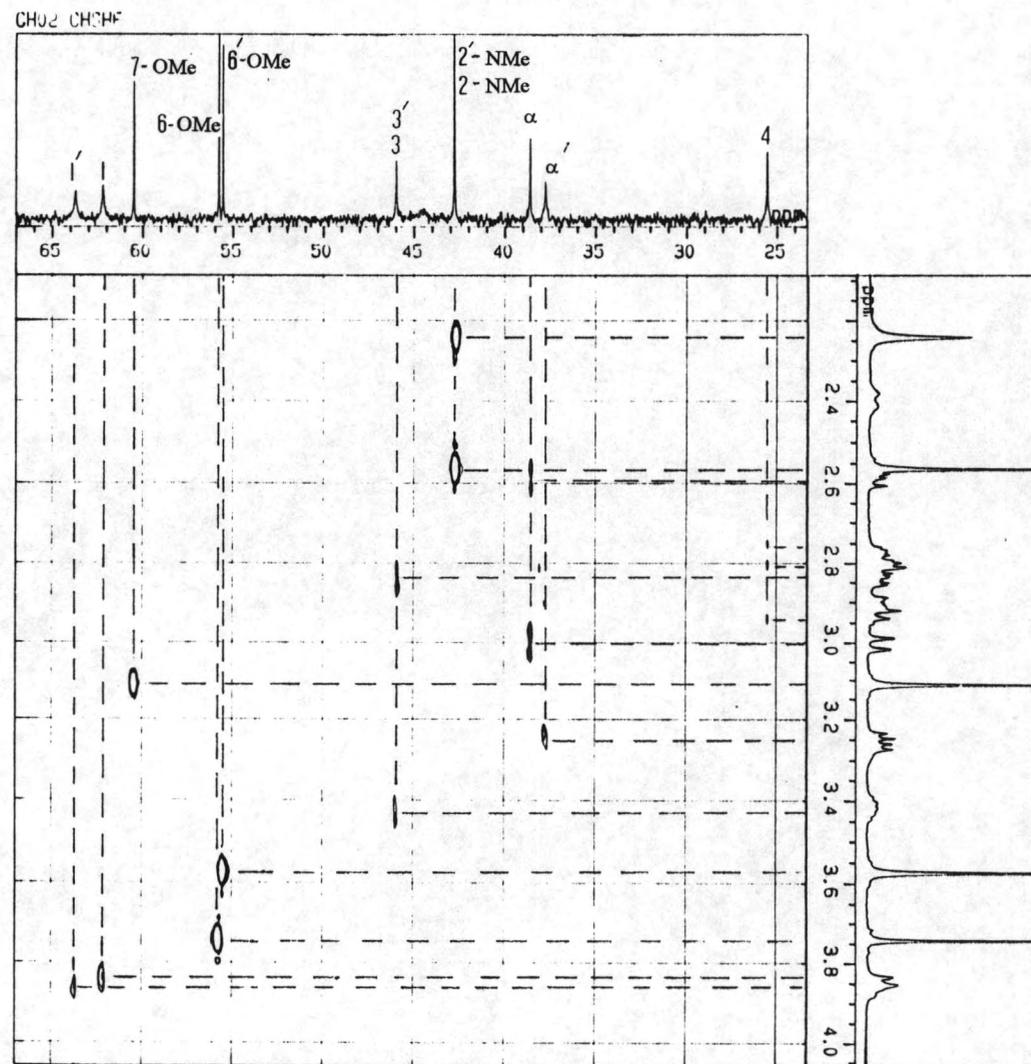
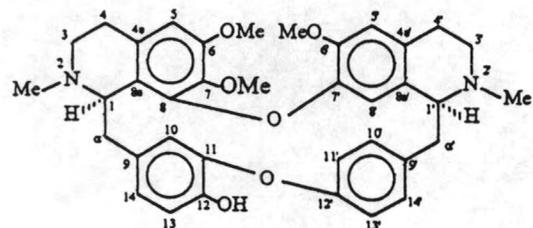


Figure 25 The expansion of ^1H , ^{13}C COSY spectrum of CH02 (in CDCl_3)

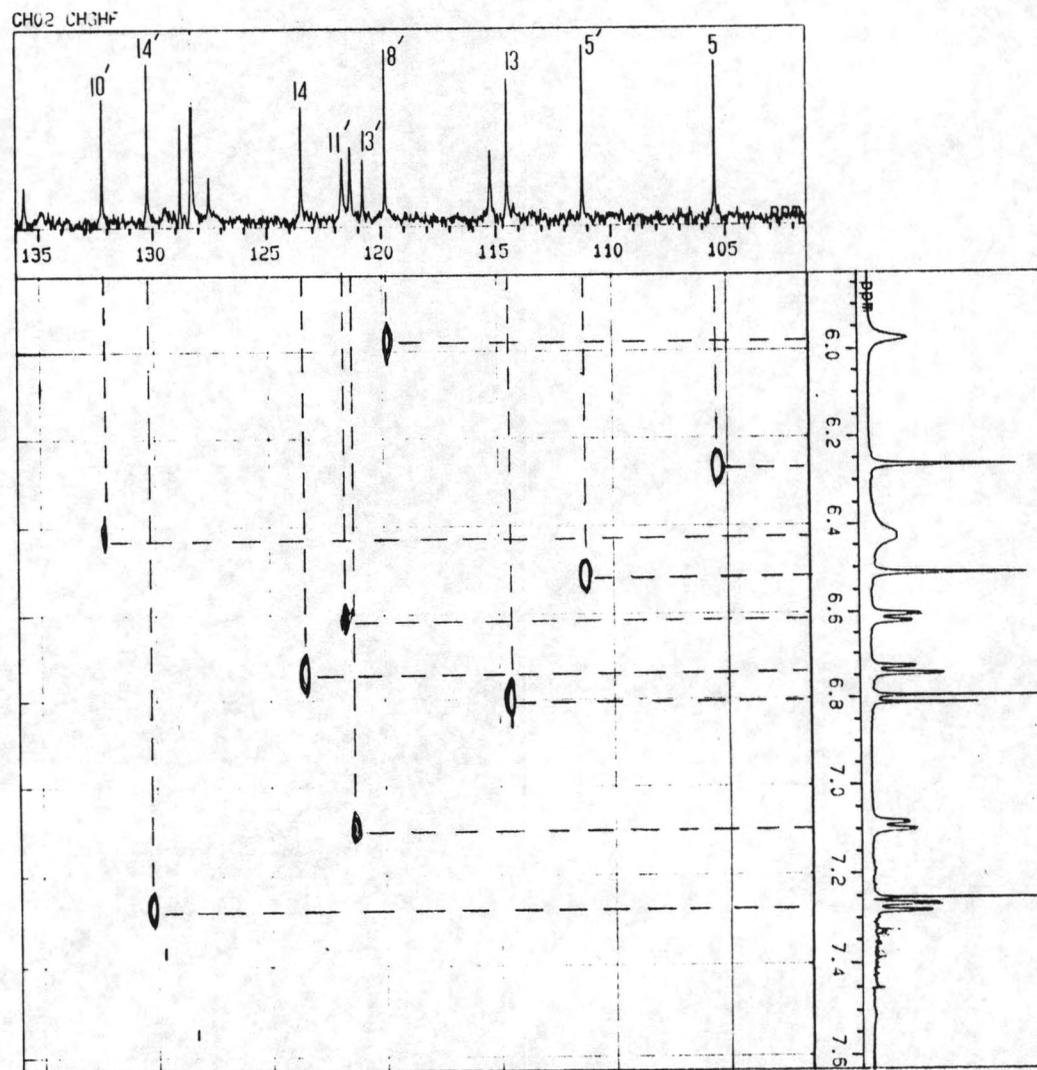
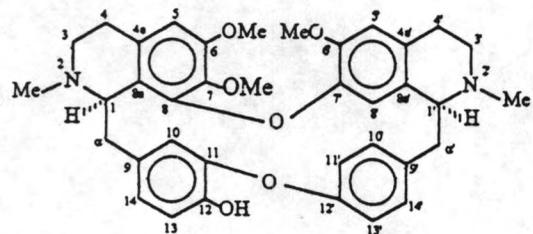


Figure 25 The expansion of ^1H , ^{13}C COSY spectrum of CH02 (in CDCl_3)

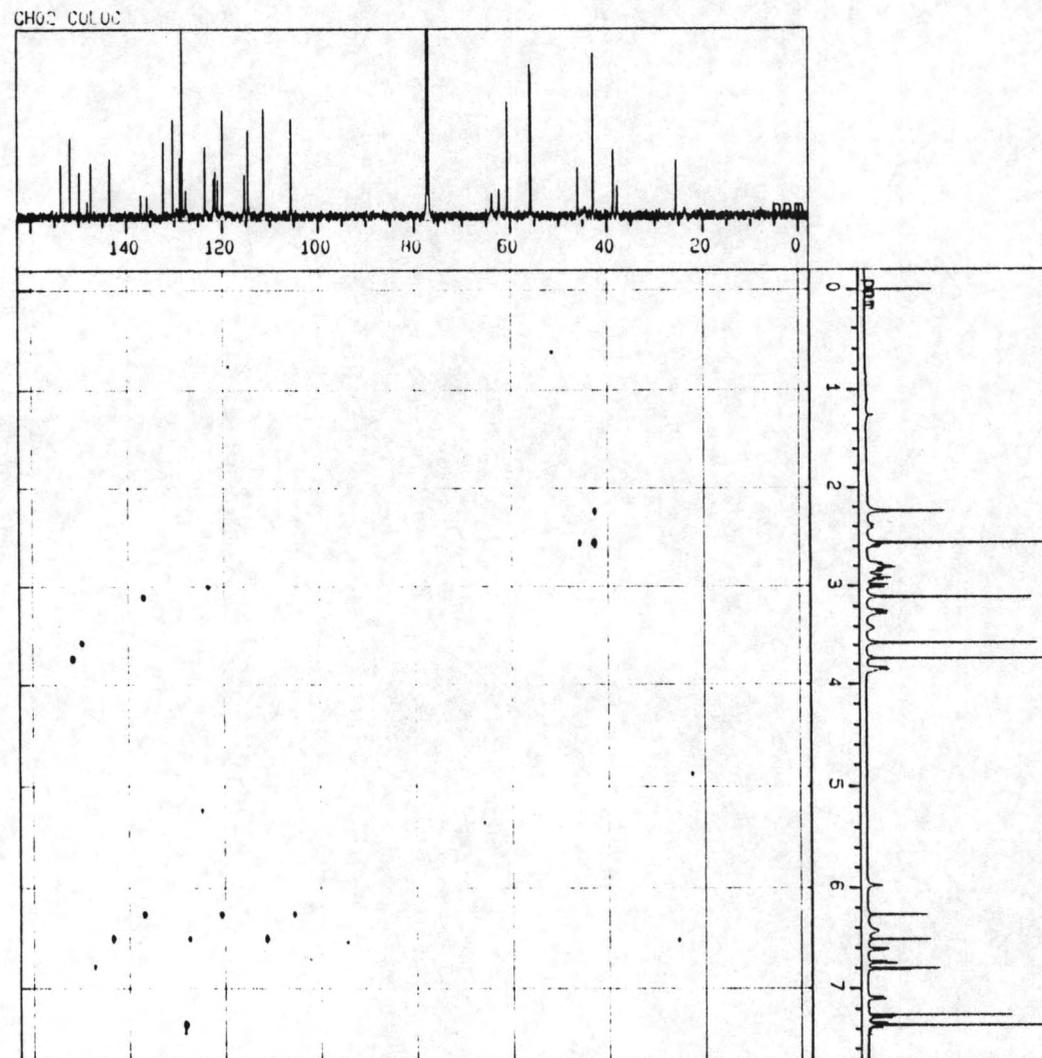
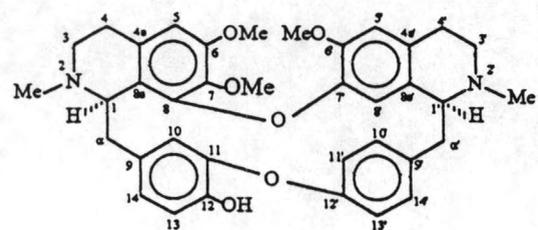


Figure 26 The ^1H , ^{13}C COLOC spectrum of CH02 (in CDCl_3)

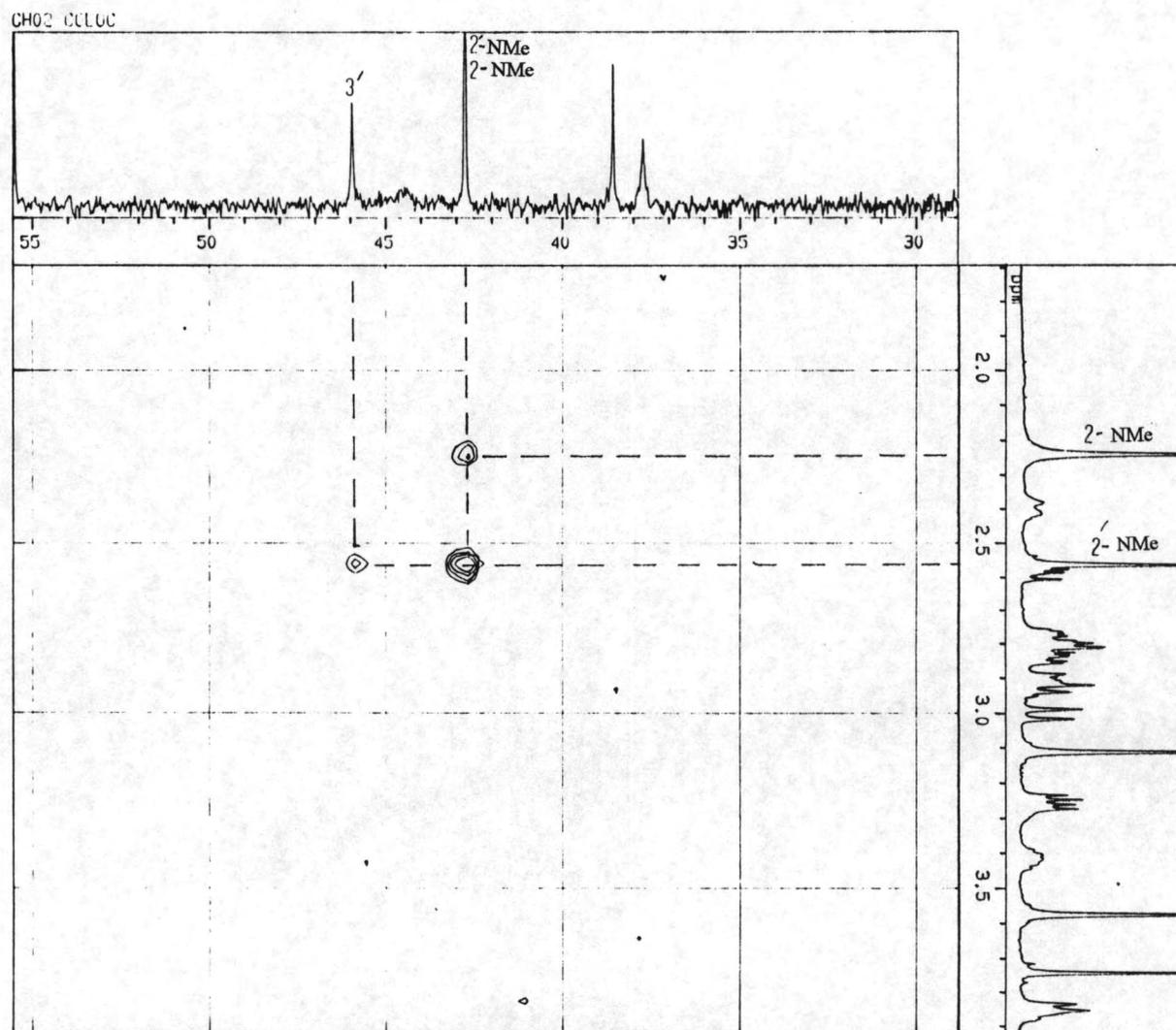
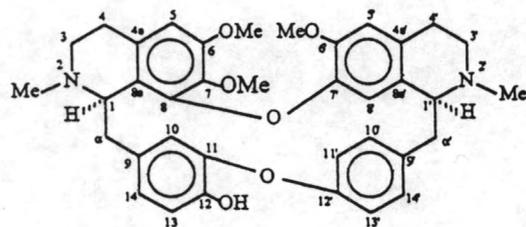


Figure 27 The expansion of ^1H , ^{13}C COLOC spectrum of CH02 (in CDCl_3)

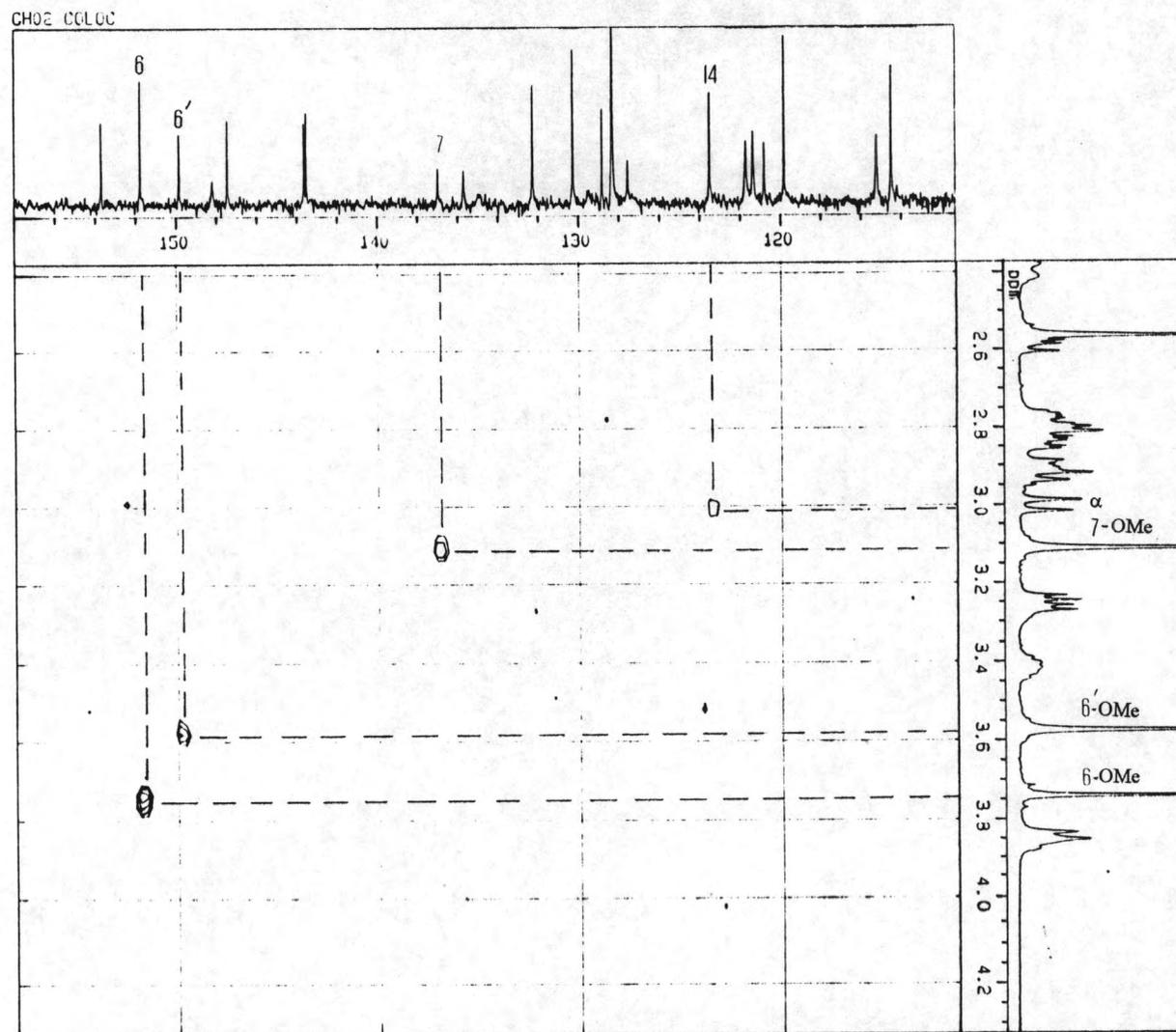
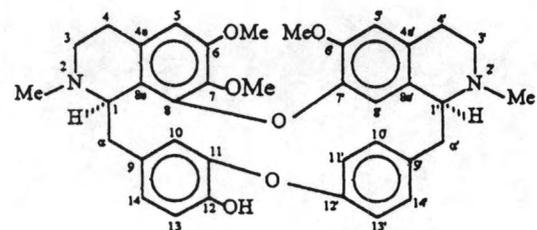


Figure 27 The expansion of ^1H , ^{13}C COLOC spectrum of CH02 (in CDCl_3)

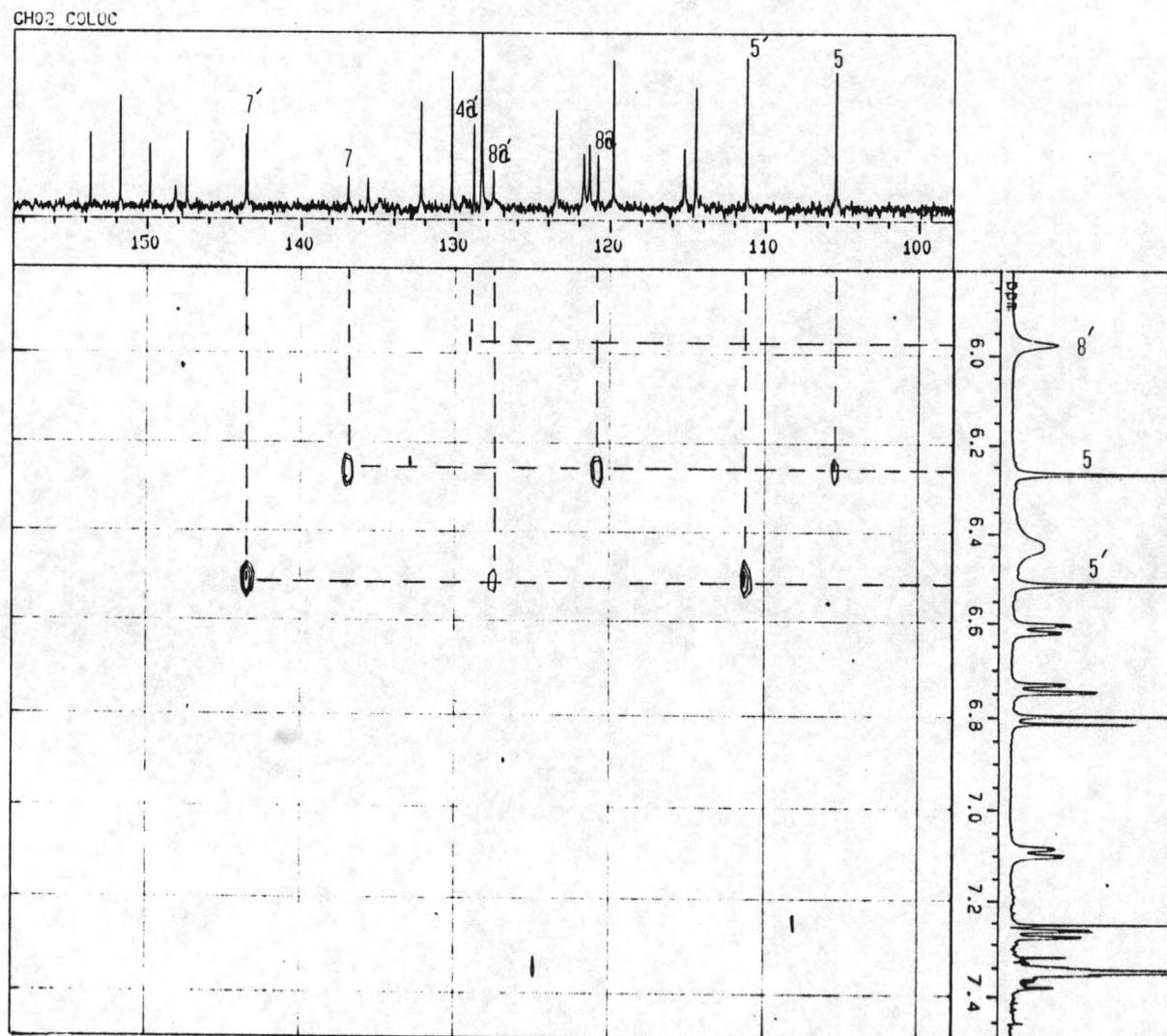
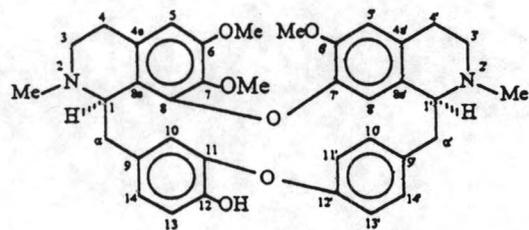


Figure 27 The expansion of $^1\text{H},^{13}\text{C}$ COLOC spectrum of CH02 (in CDCl_3)

CHO3

08093713 143 (3.124) Cm (135:158-(201:278+1:74))

Scan EI+
4.77e5

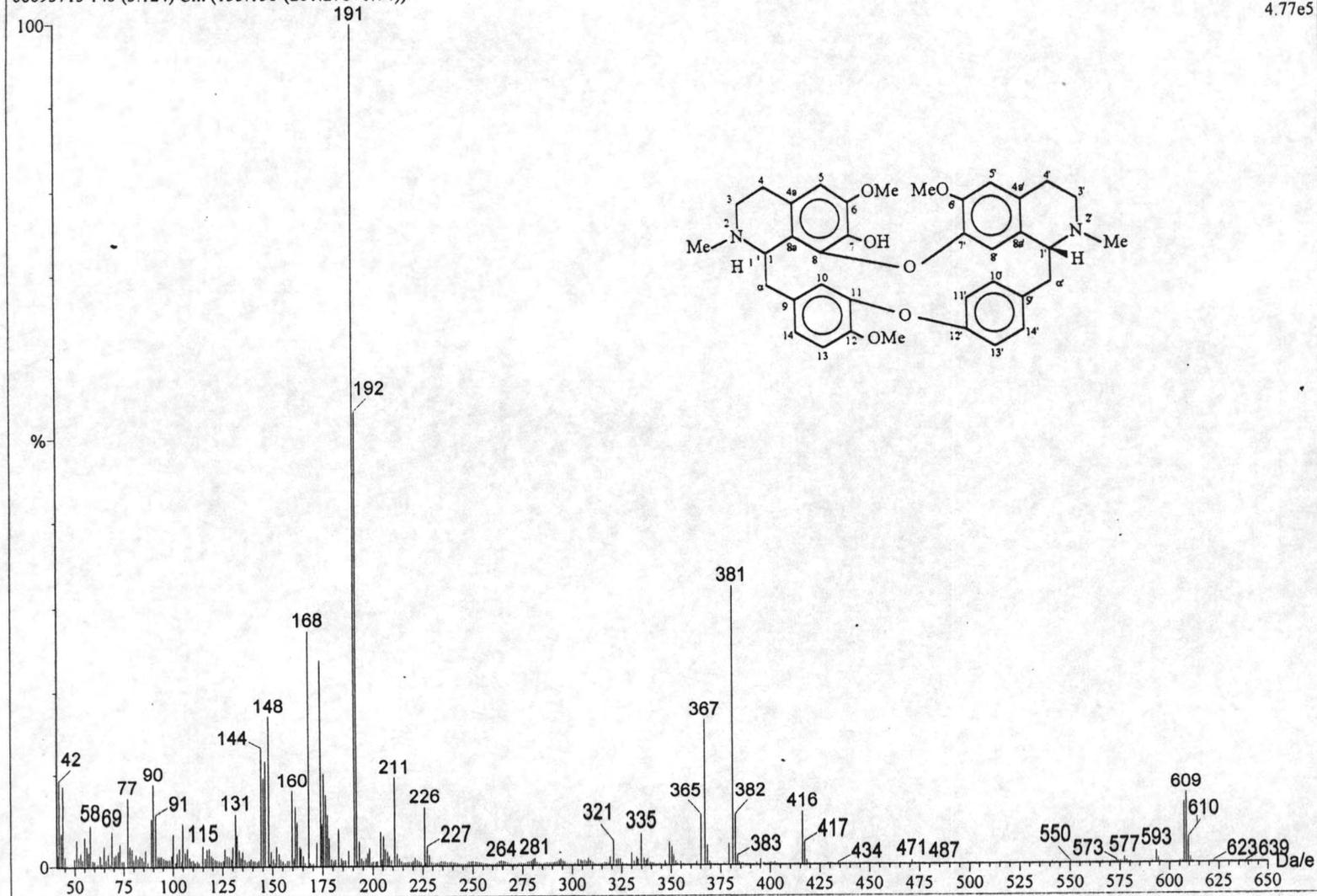


Figure 28 The EIMS spectrum of CHO3

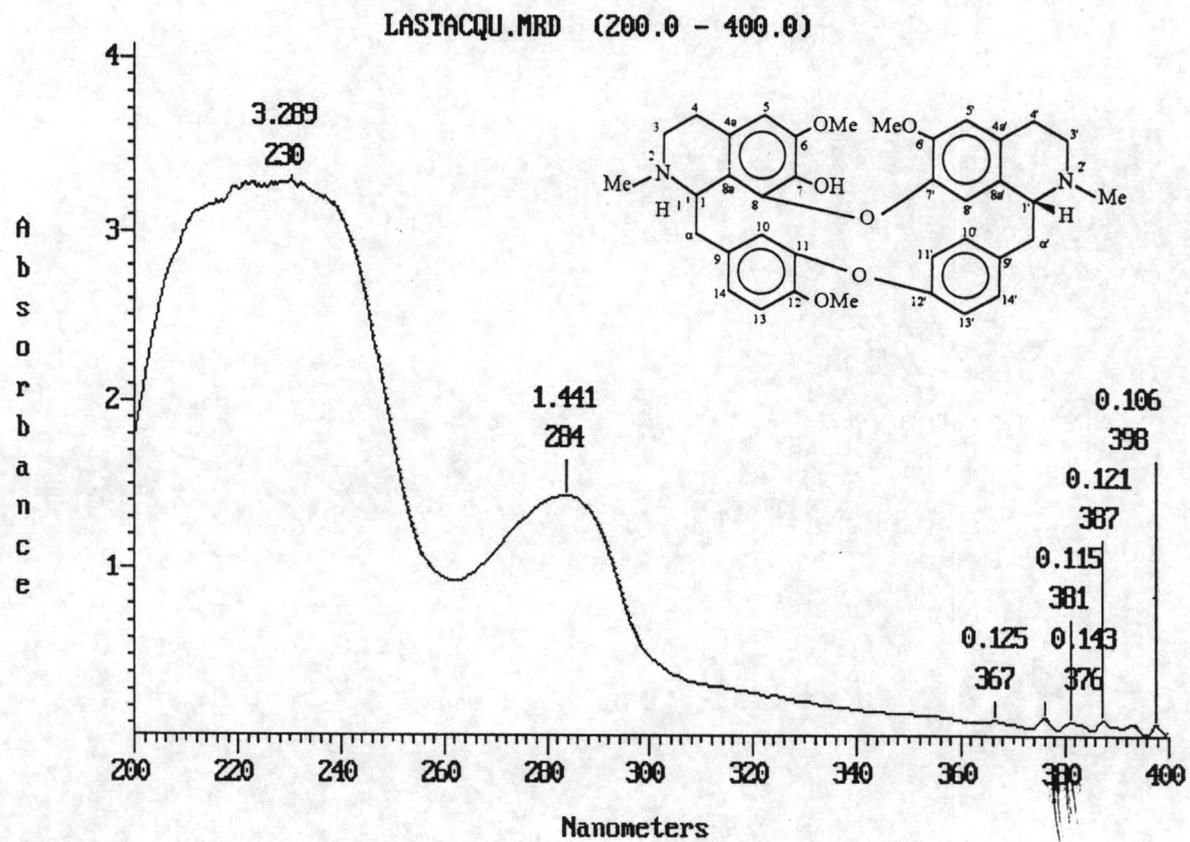


Figure 29 The UV spectrum of CH03

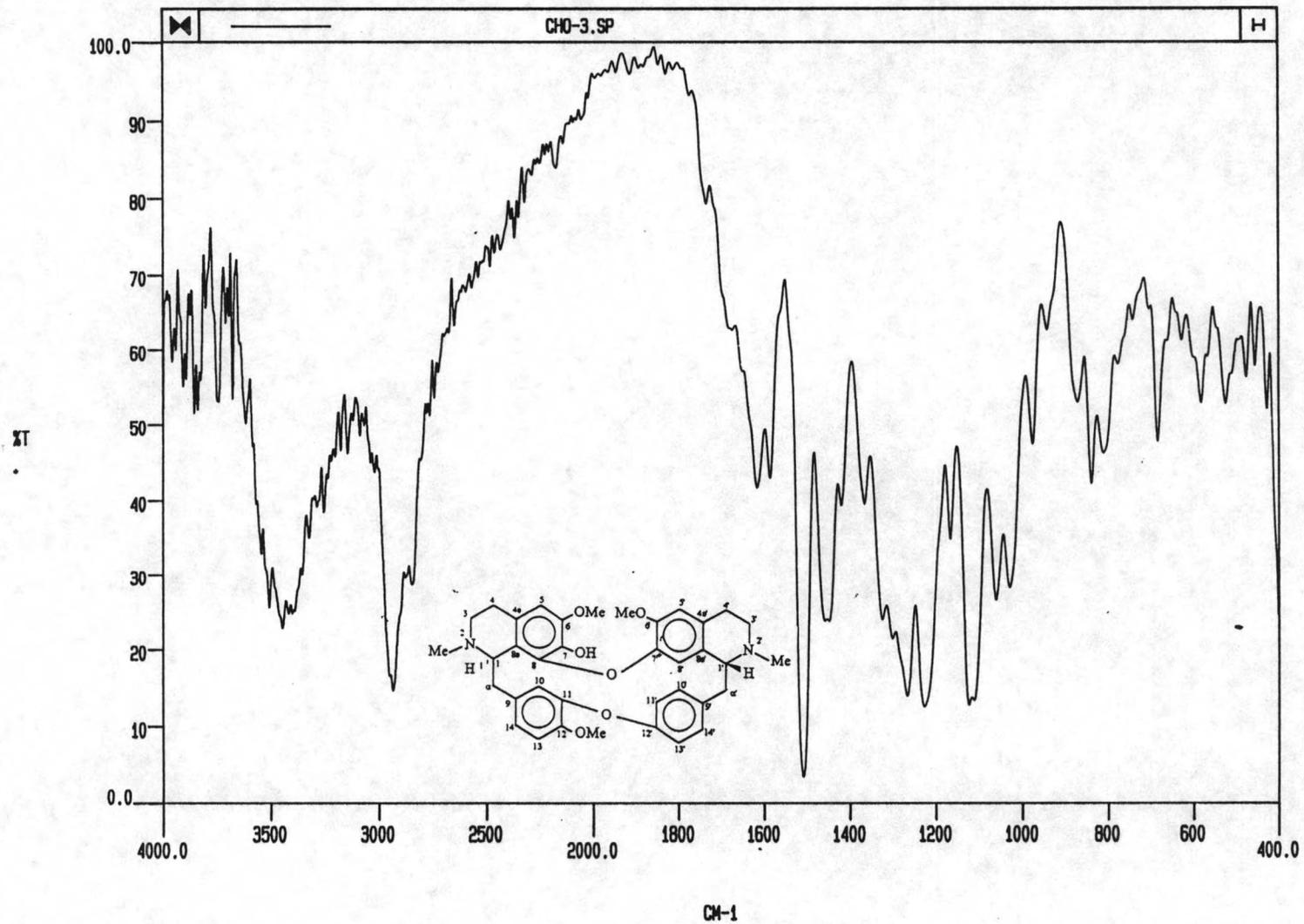


Figure 30 The IR spectrum of CH03

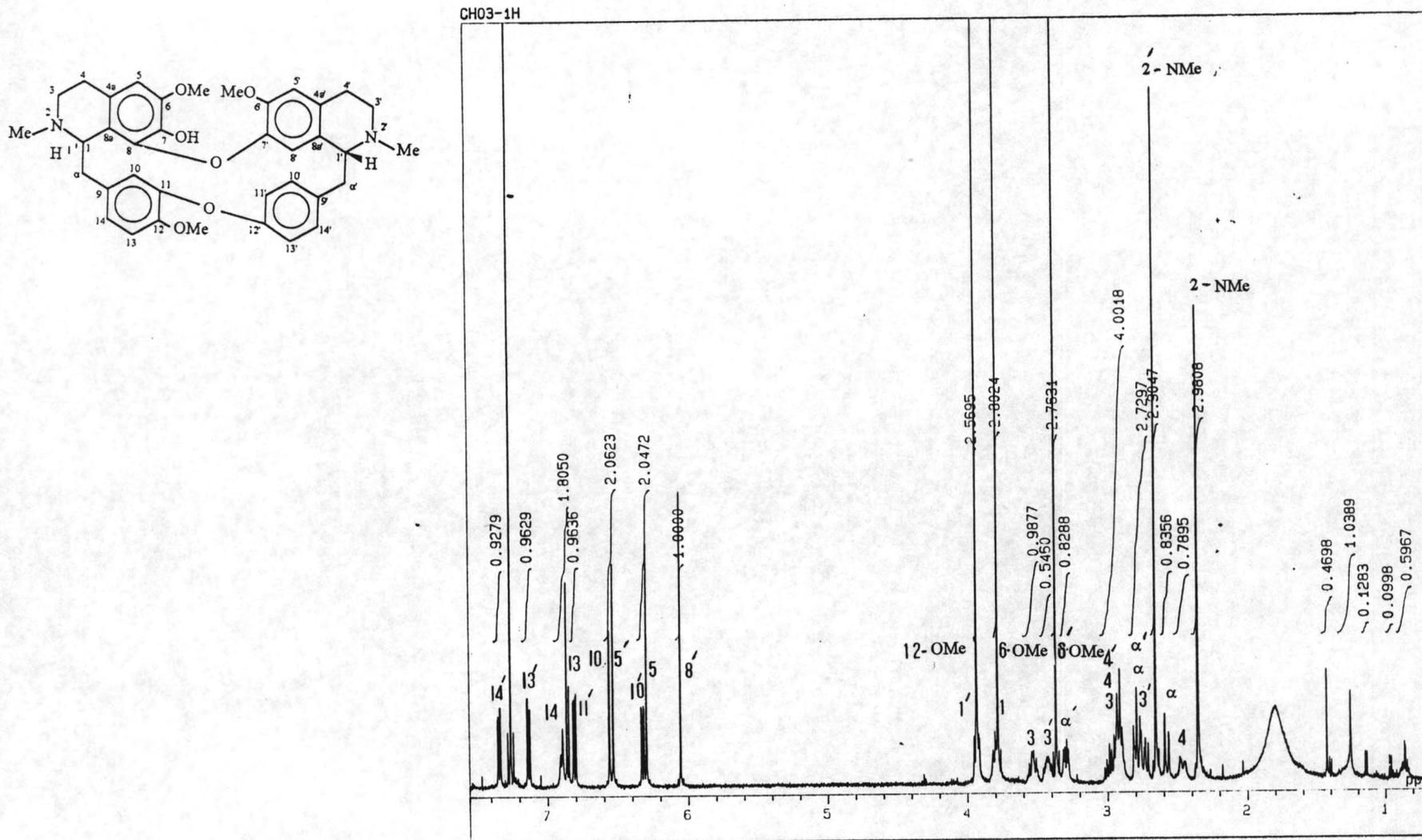


Figure 31 The 500 MHz ^1H NMR spectrum of CH03 (in CDCl_3)

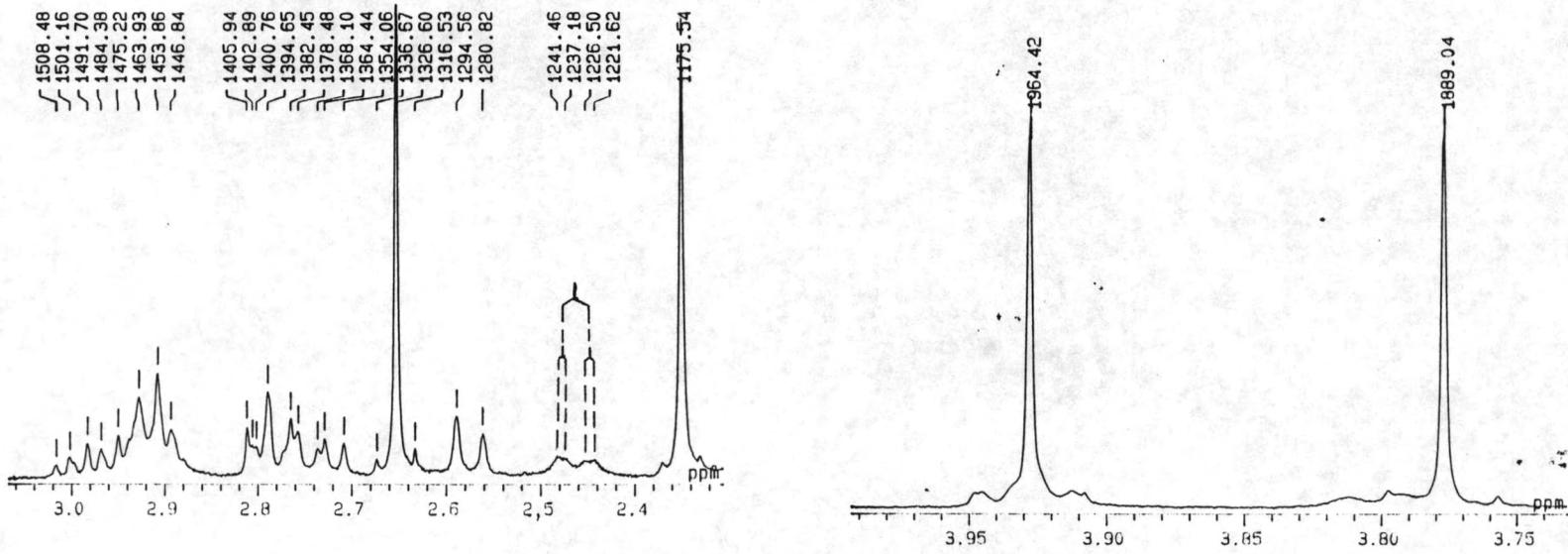


Figure 32 The expansion of 500 MHz ¹H NMR spectrum of CH03 (in CDCl₃)

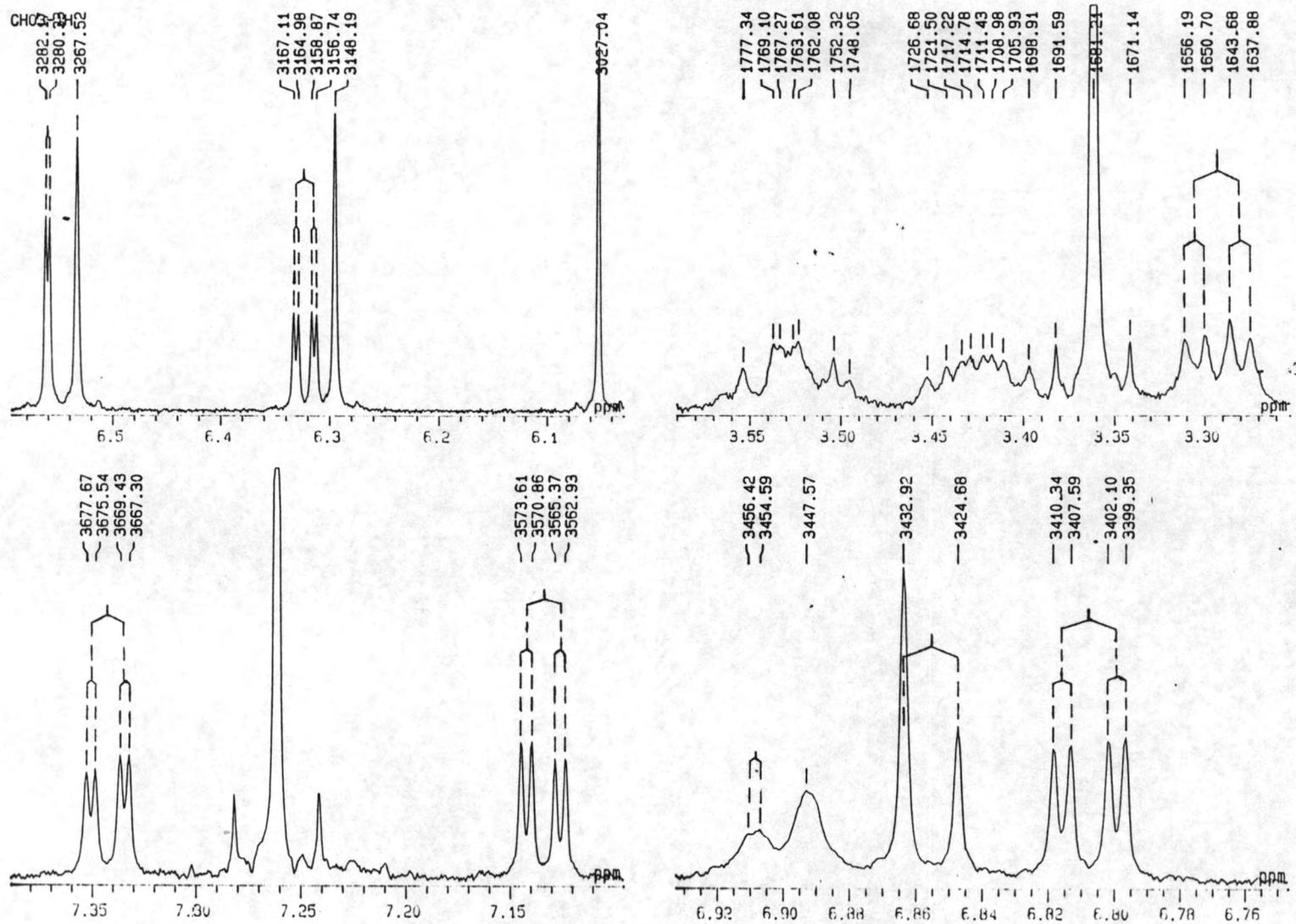


Figure 32 The expansion of 500 MHz ^1H NMR spectrum of CH_3O_3 (in CDCl_3)

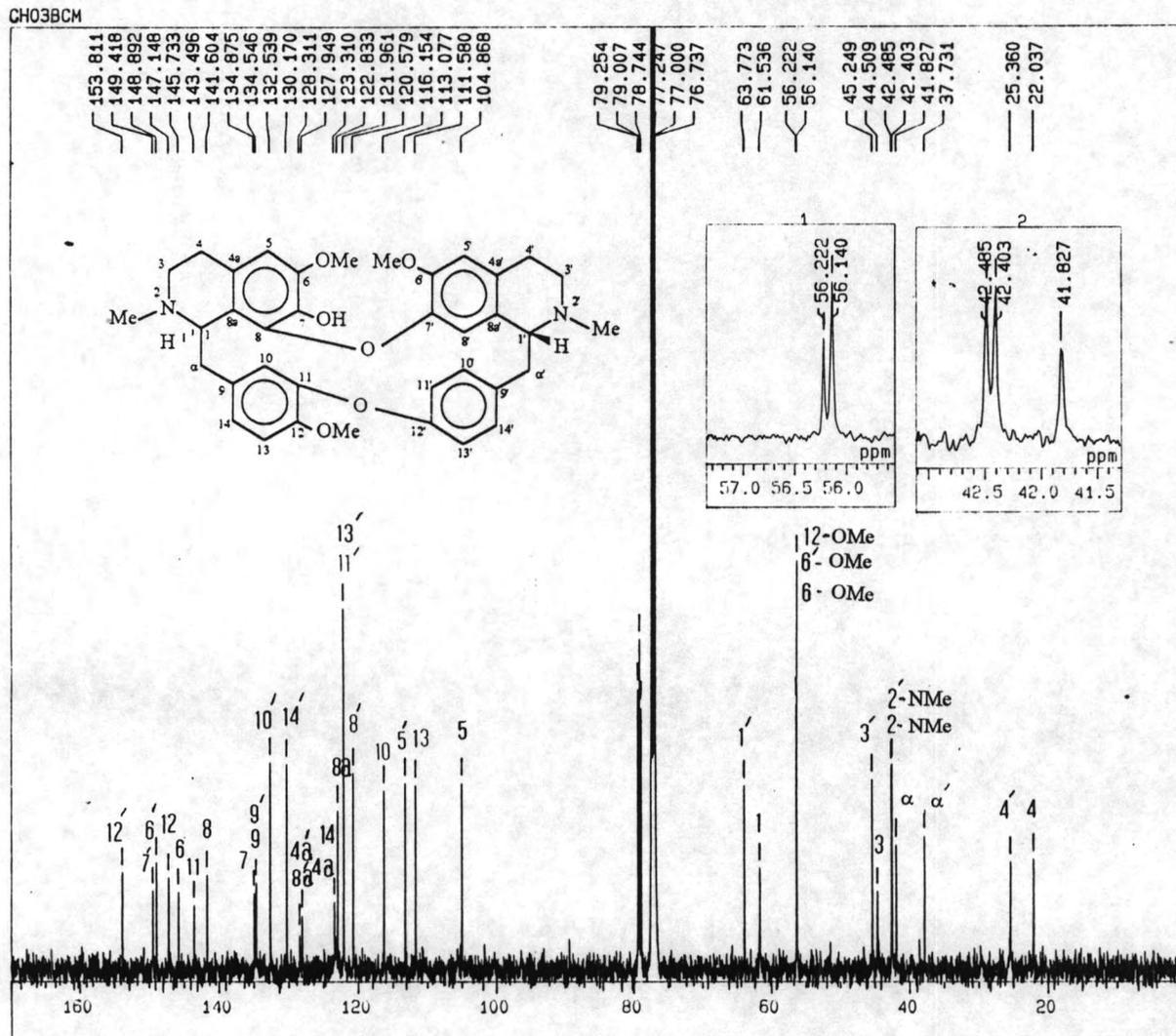


Figure 33 The 125 MHz ¹³C NMR spectrum of CH03 (in CDCl₃)

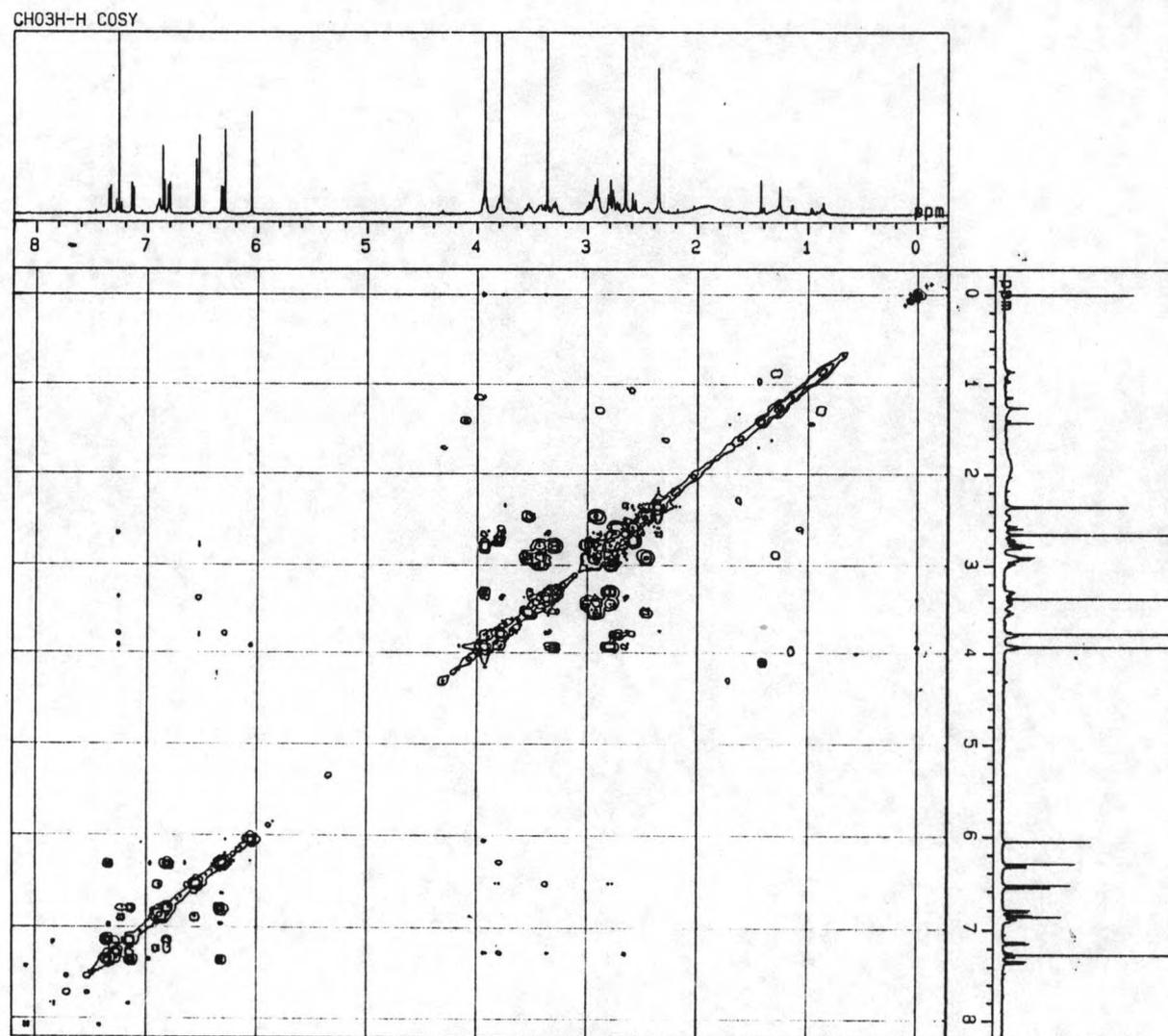
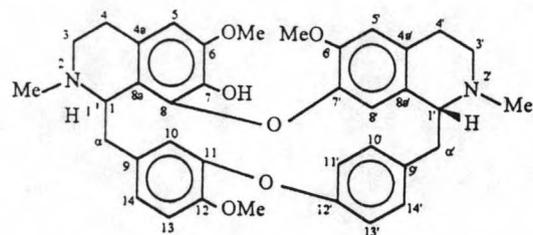


Figure 34 The ^1H , ^1H COSY spectrum of CH03 (in CDCl_3)

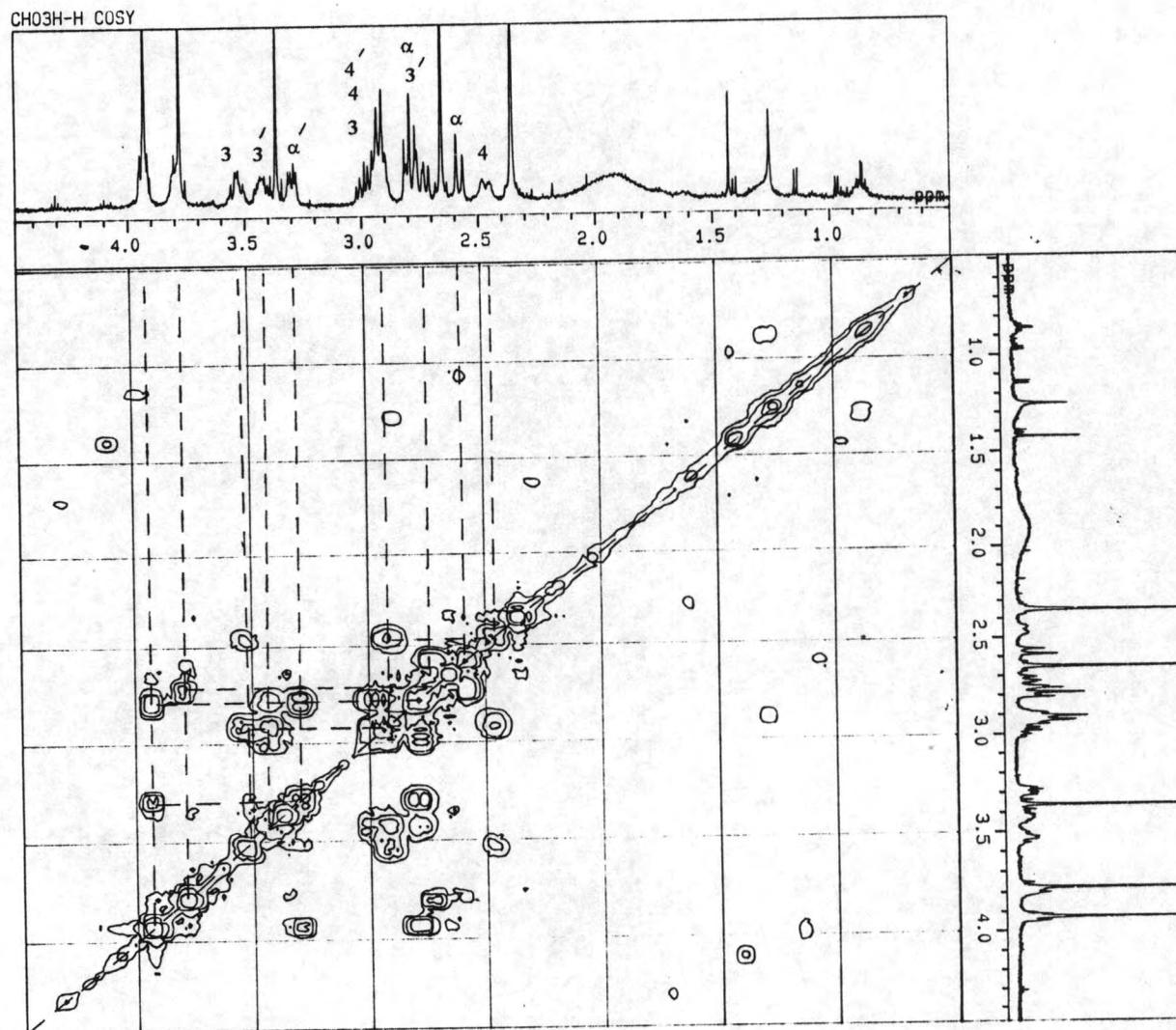
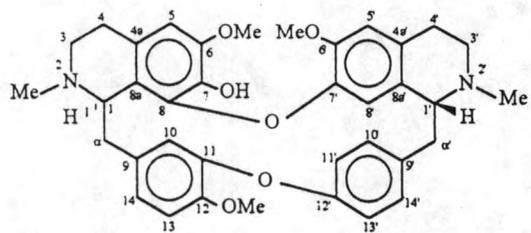


Figure 35 The expansion of ^1H , ^1H COSY spectrum of CH03 (in CDCl_3)

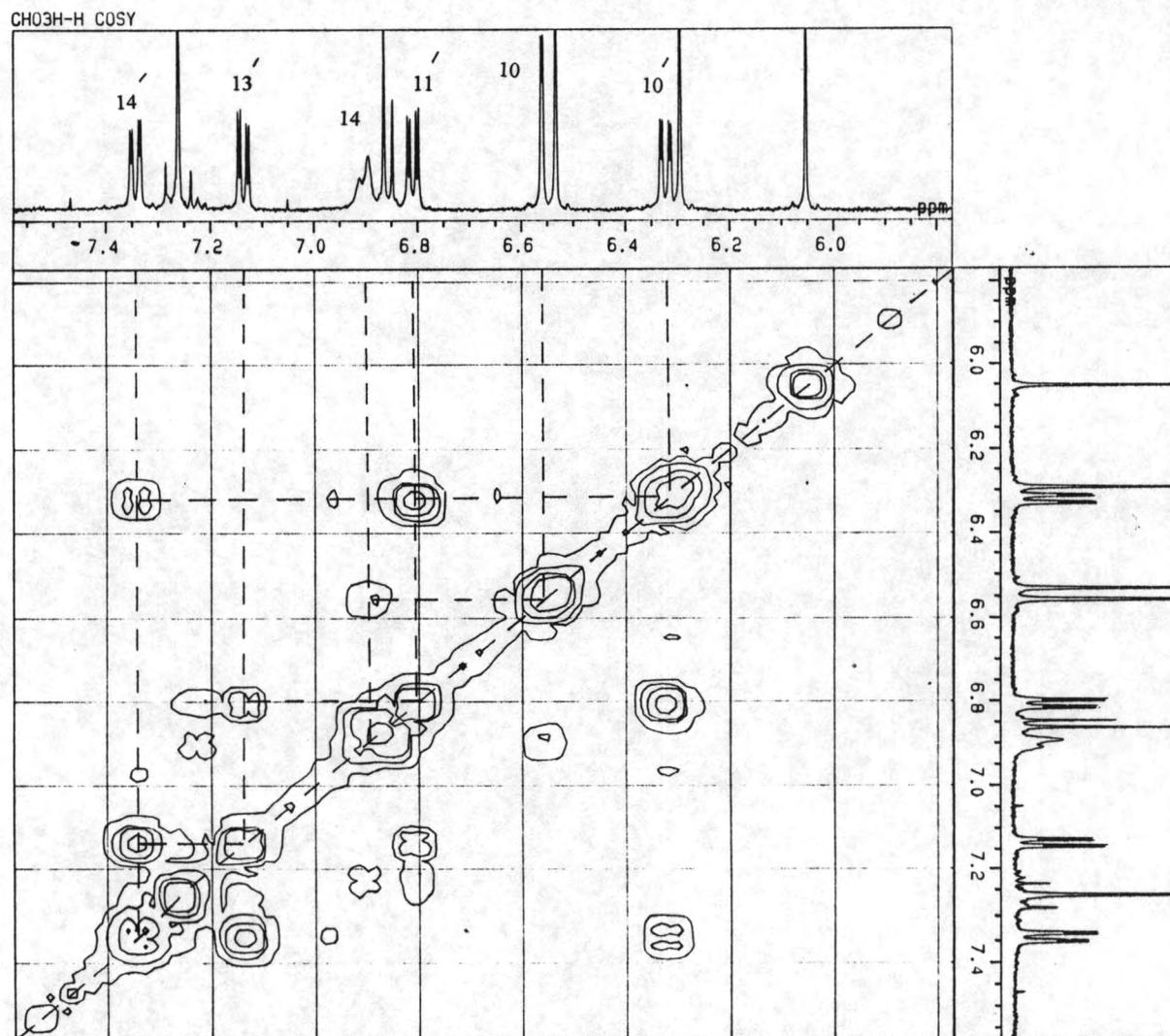
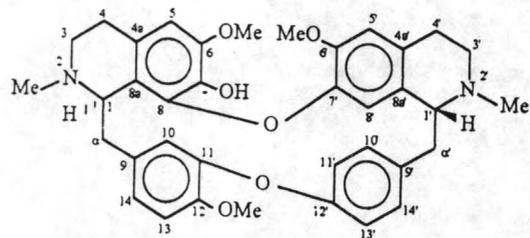


Figure 35 The expansion of ¹H,¹H COSY spectrum of CH03 (inCDCl₃)

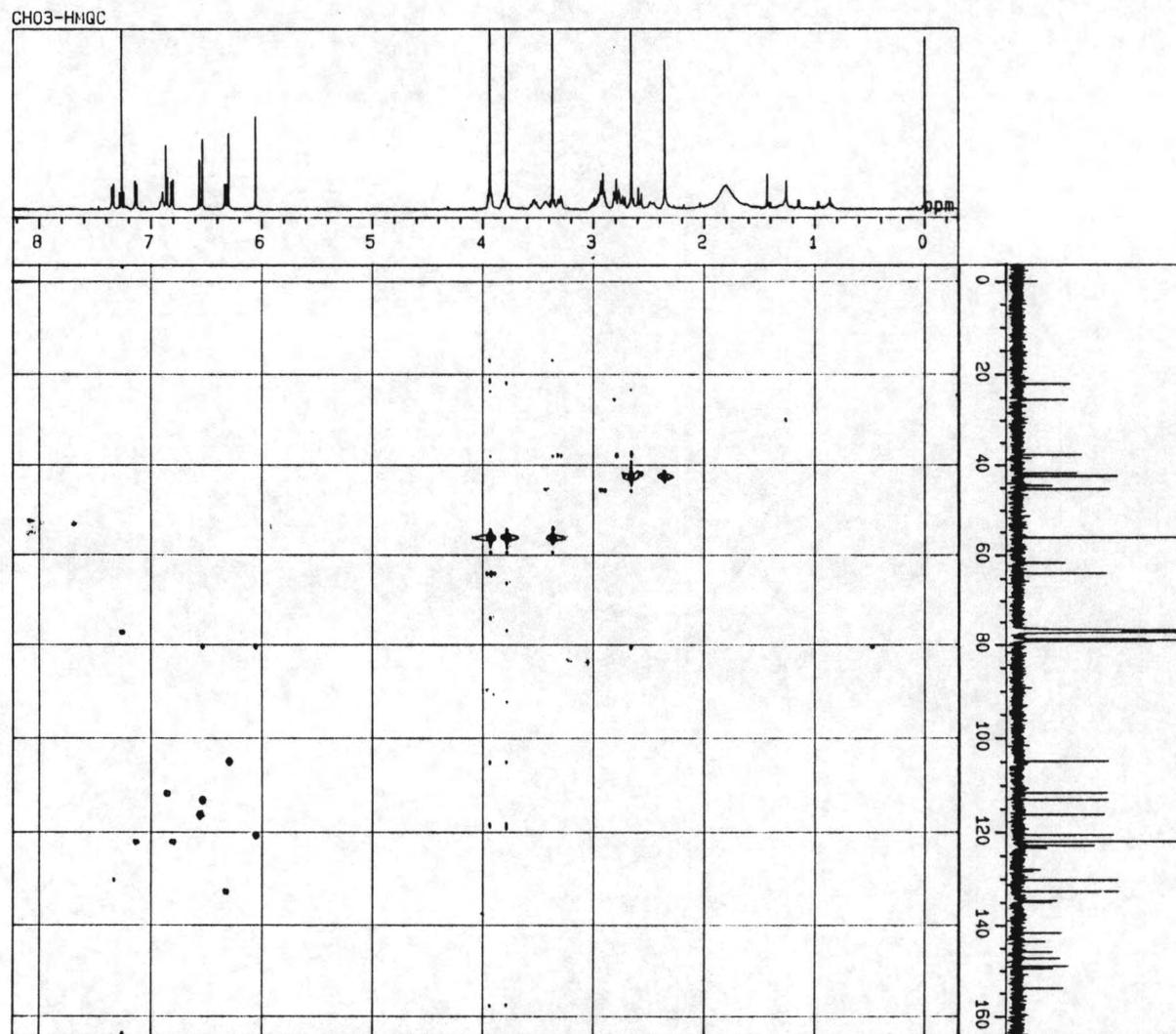
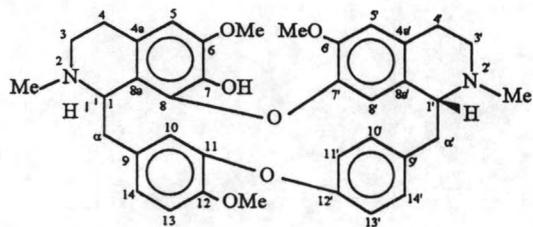


Figure 36 The HMQC spectrum of CH03 (in CDCl₃)

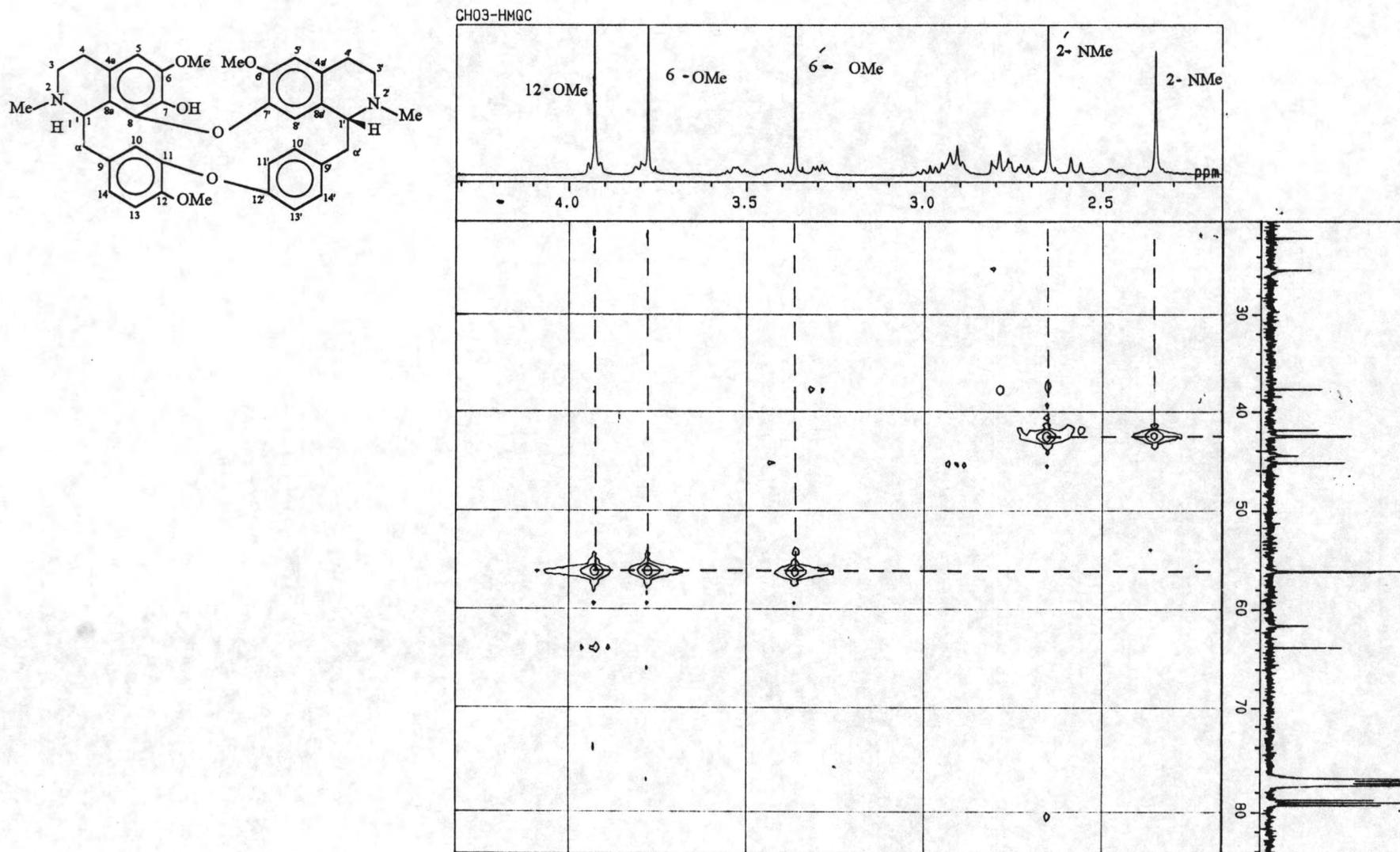


Figure 37 The expansion of HMQC spectrum of CH03 (in CDCl₃)

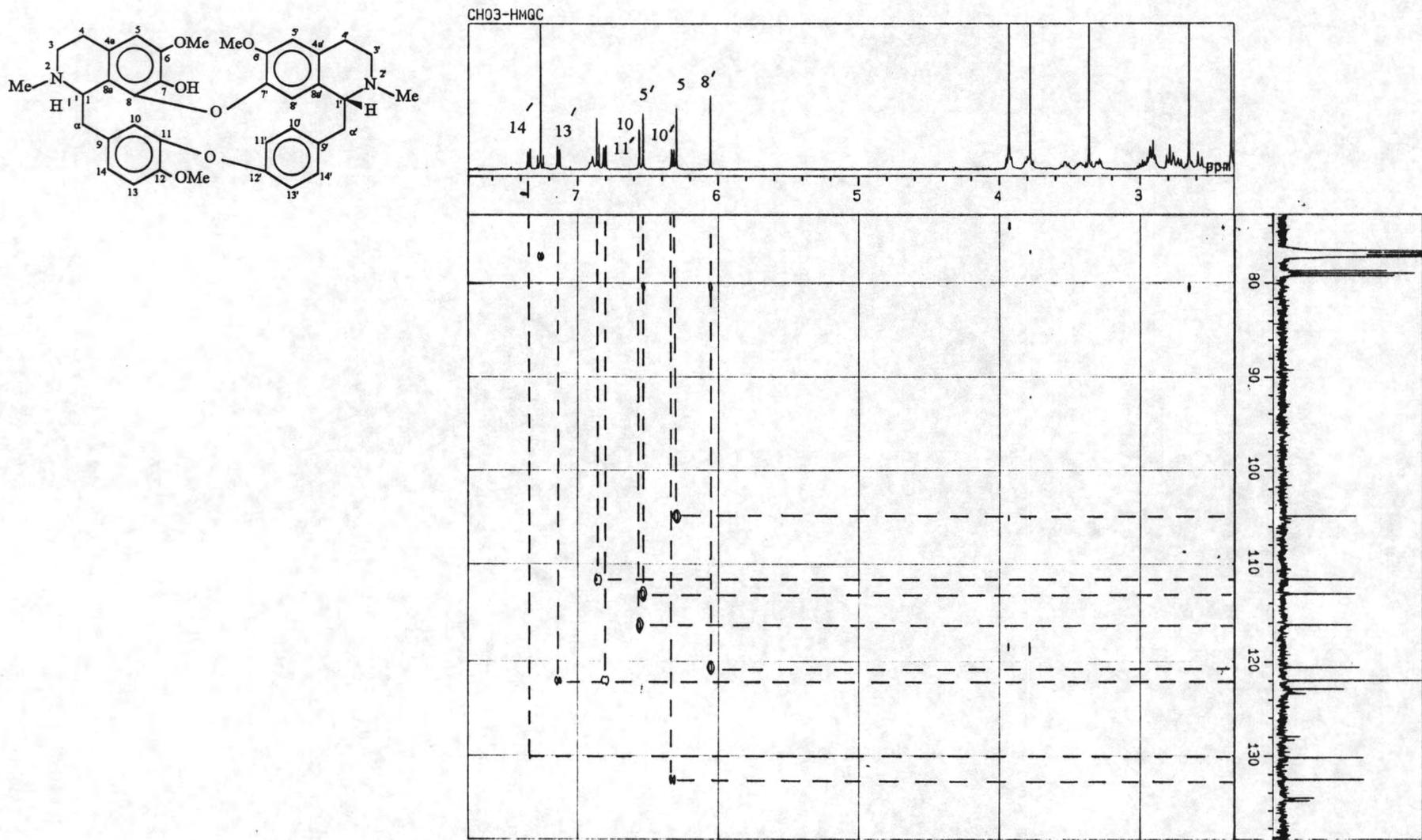


Figure 37 The expansion of HMQC spectrum of CH03 (in CDCl_3)

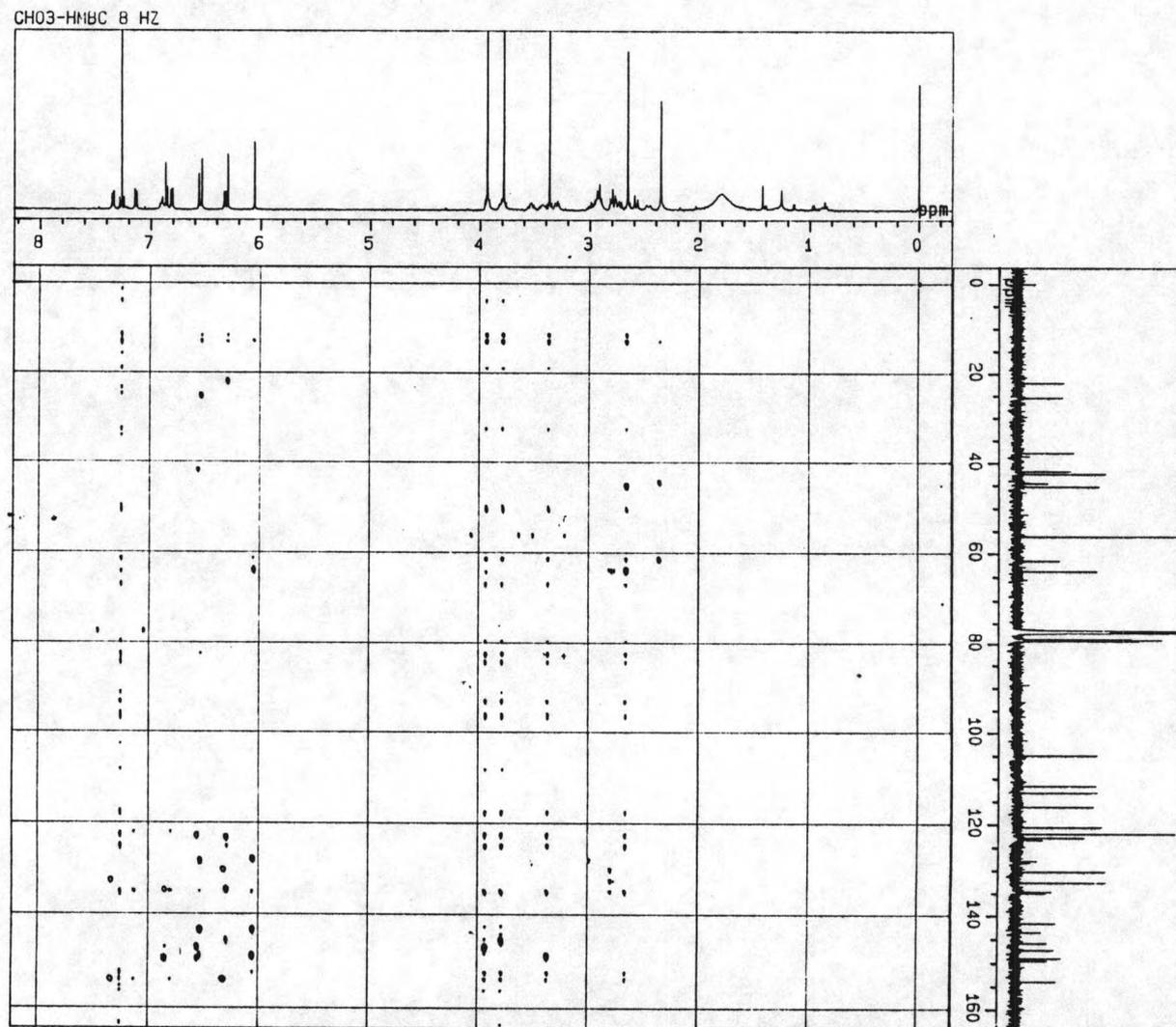
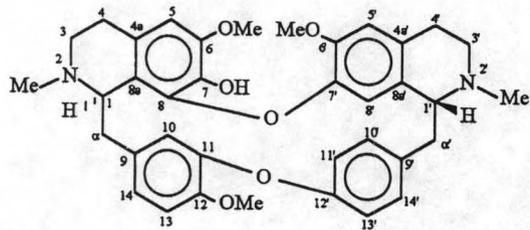


Figure 38 The HMBC spectrum of CH03 (in CDCl_3)

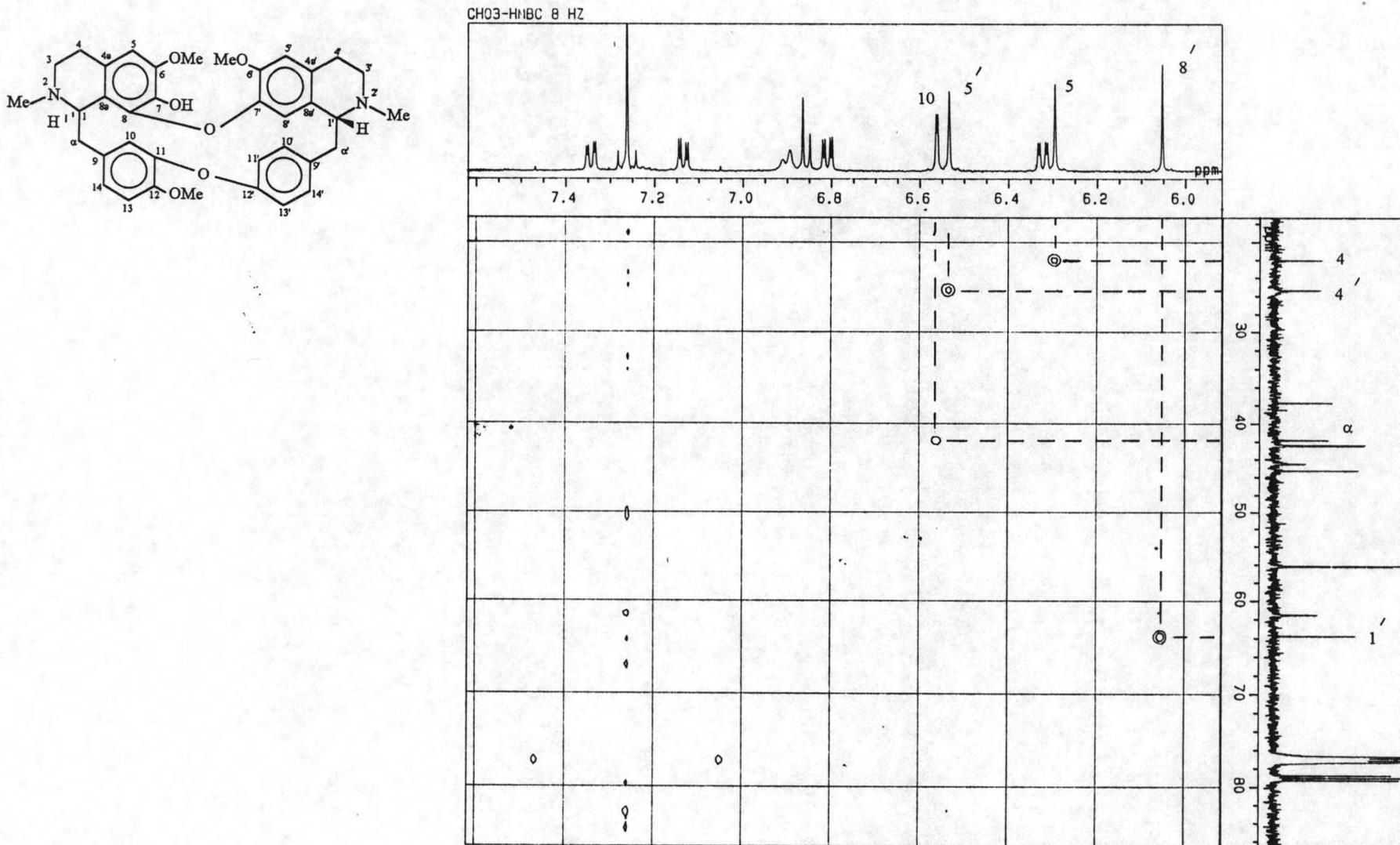
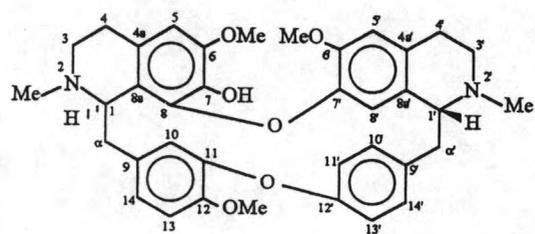


Figure 39 The expansion of HMBC spectrum of CH03 (in CDCl_3)



CH03-HMBC 8 HZ

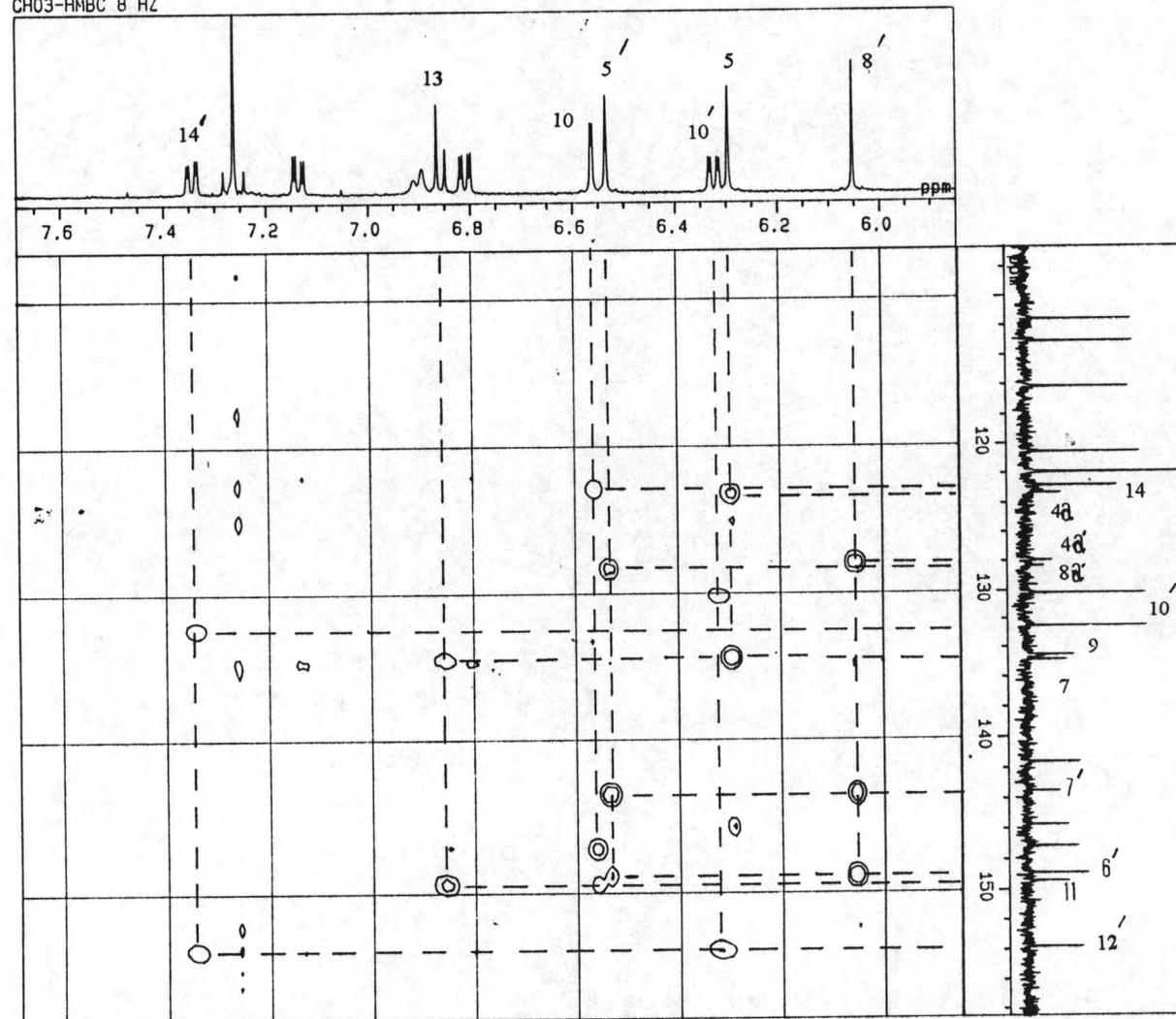


Figure 39 The expansion of HMBC spectrum of CH03 (in CDCl₃)

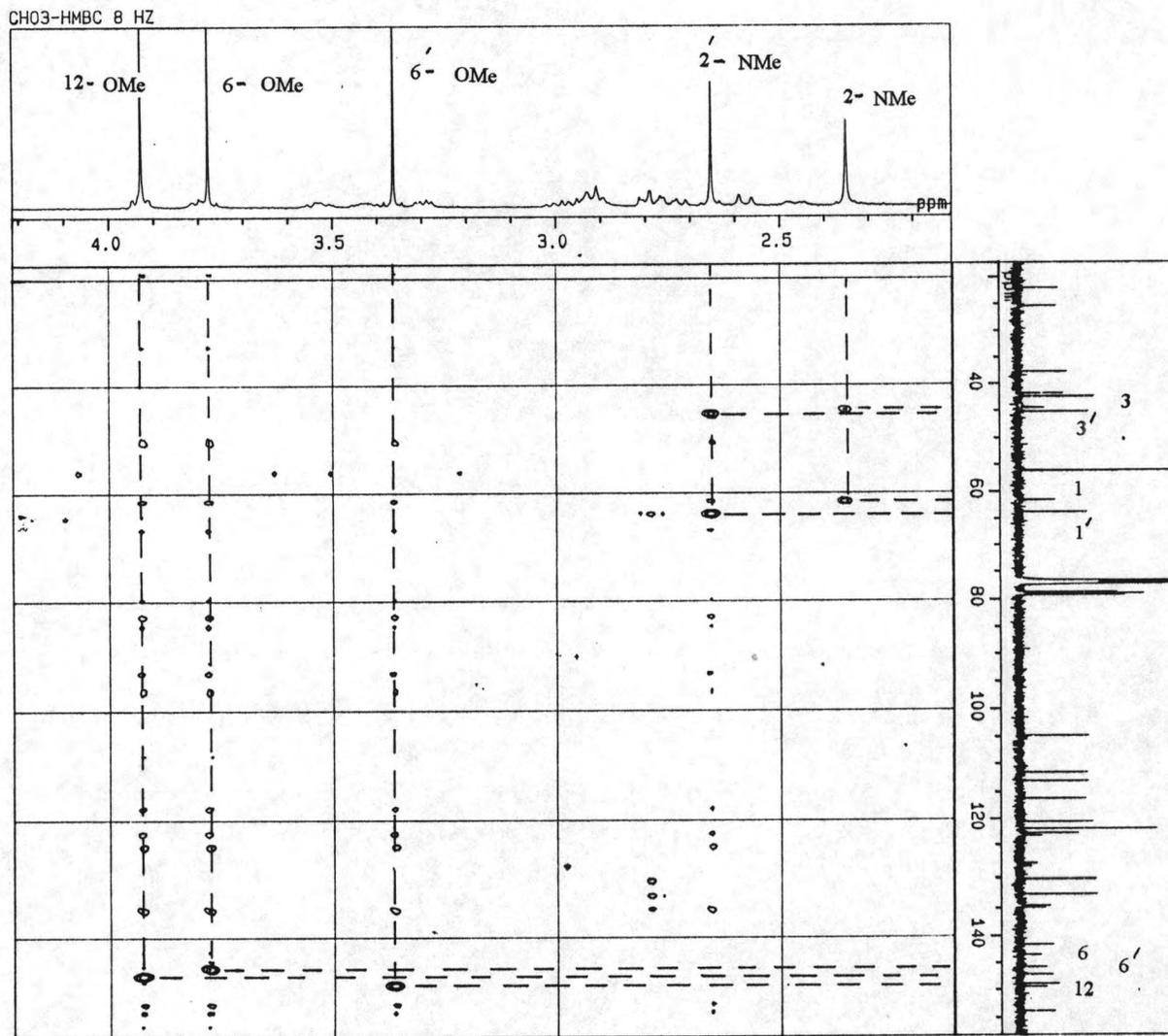
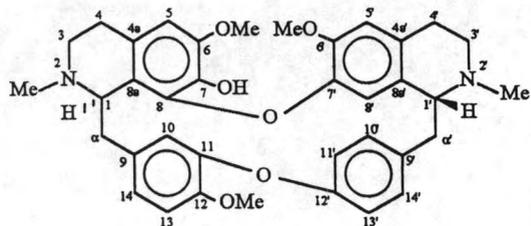


Figure 39 The expansion of HMBC spectrum of CH03 (in CDCl₃)

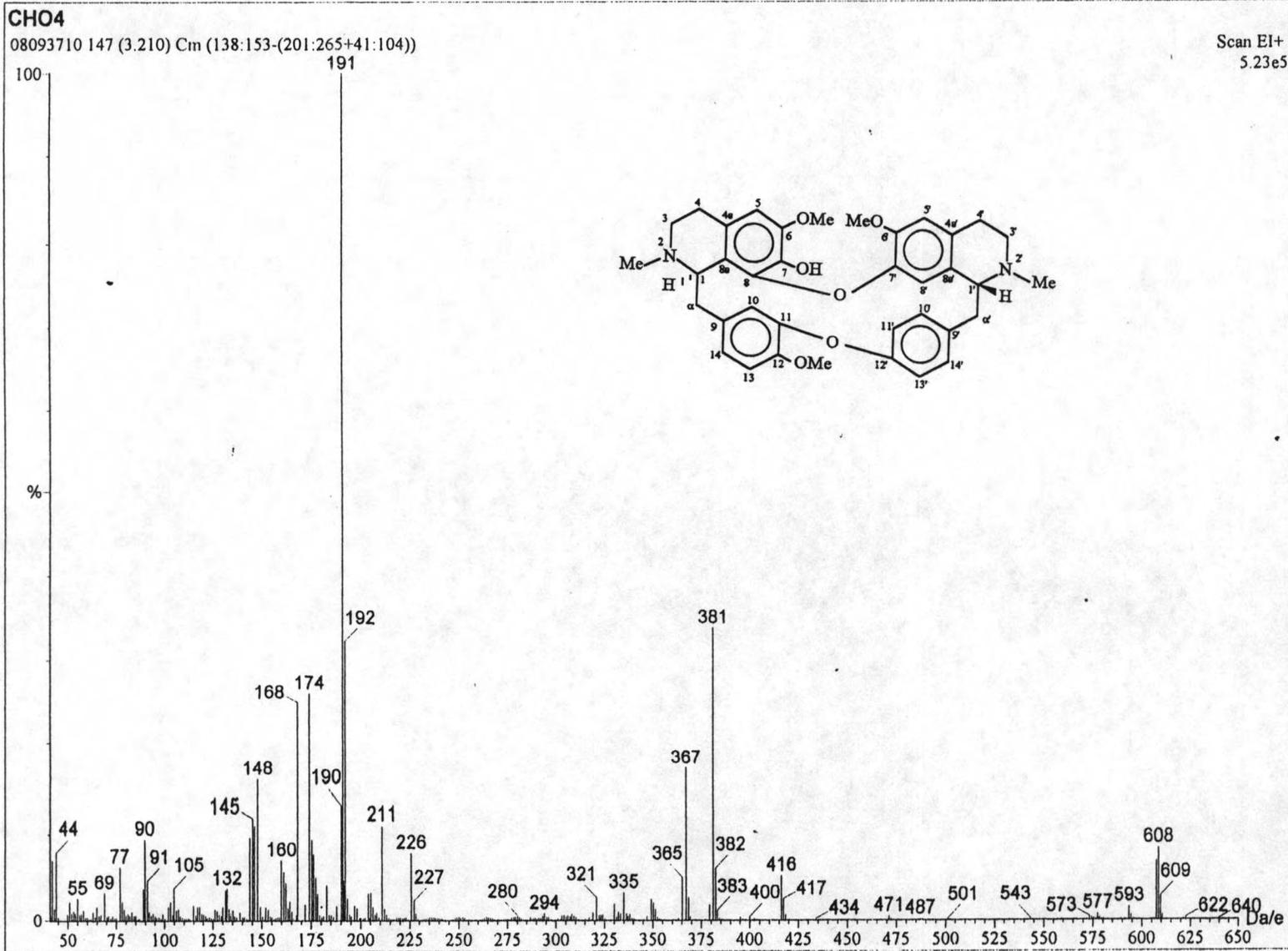


Figure 40 The EIMS spectrum of CHO4

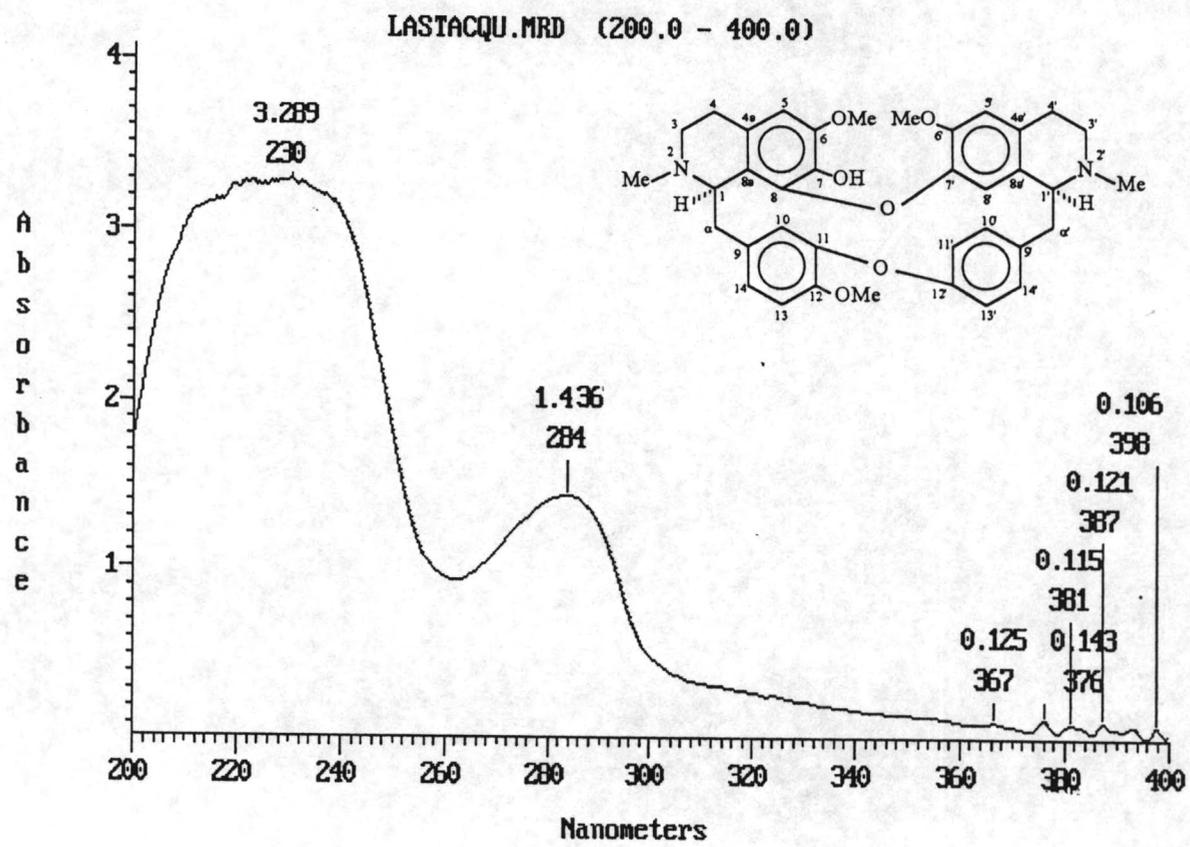


Figure 41 The UV spectrum of CH04

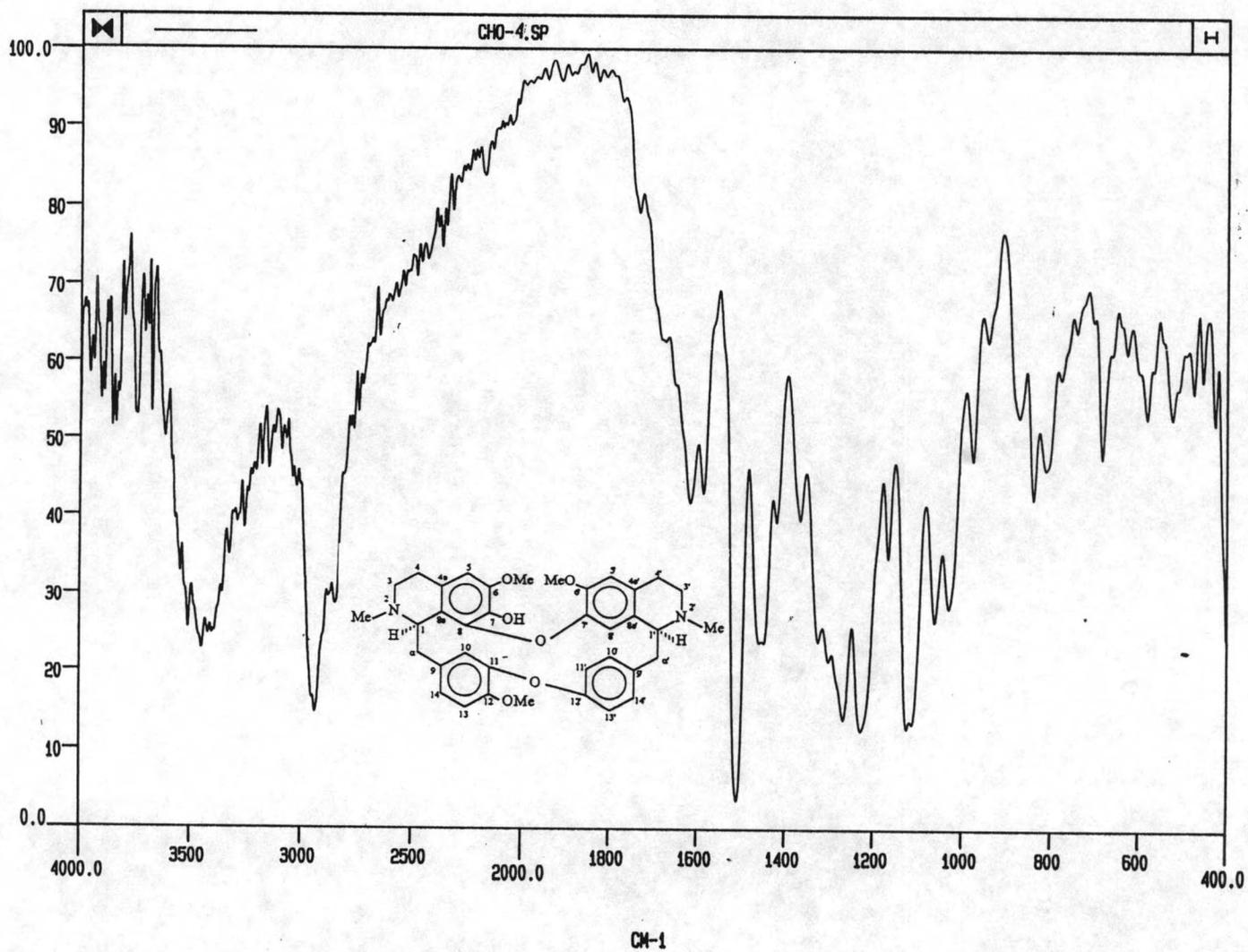


Figure 42 The IR spectrum of CH04

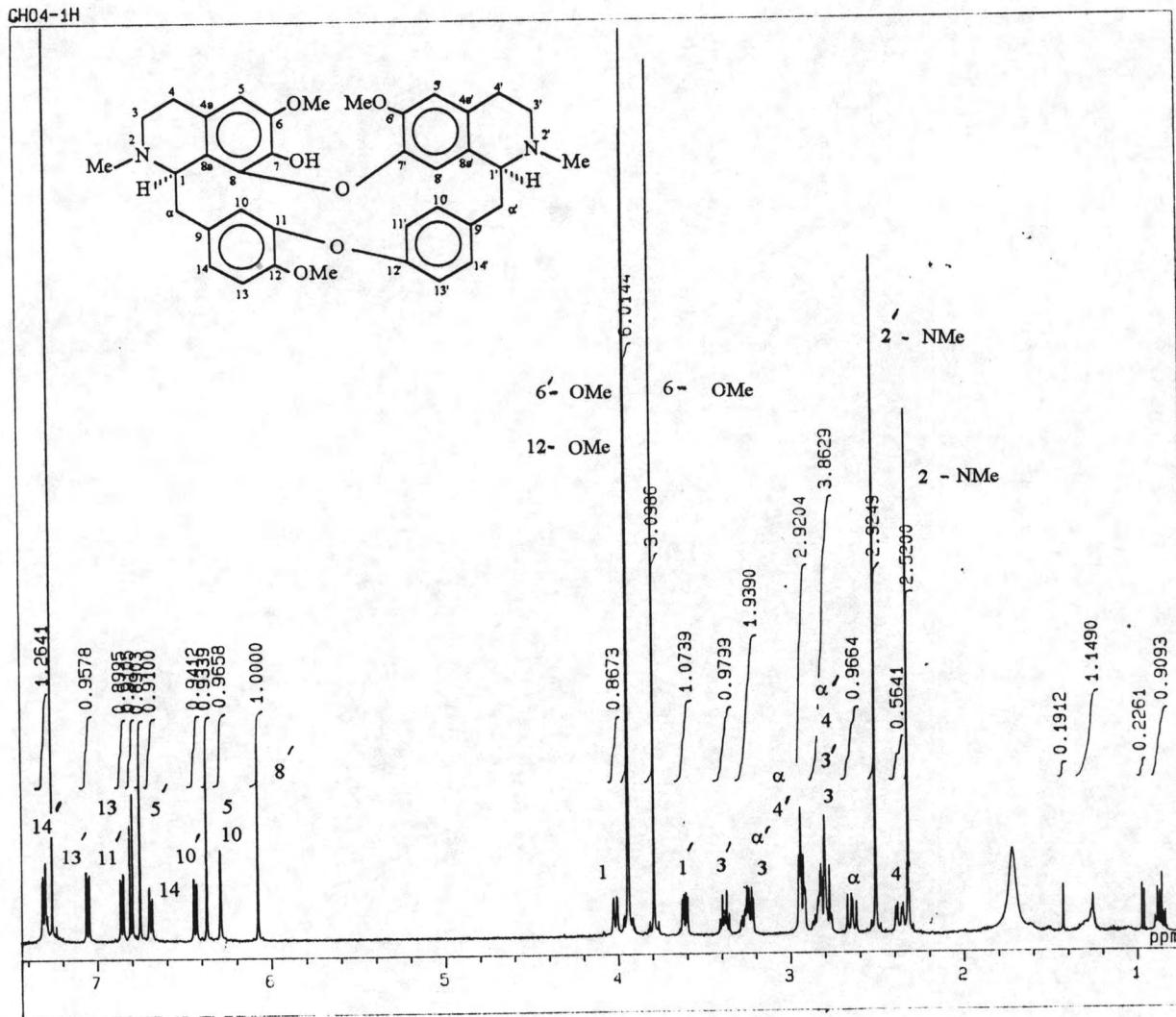


Figure 43 The 500 MHz ¹H NMR spectrum of CH04 (in CDCl₃)

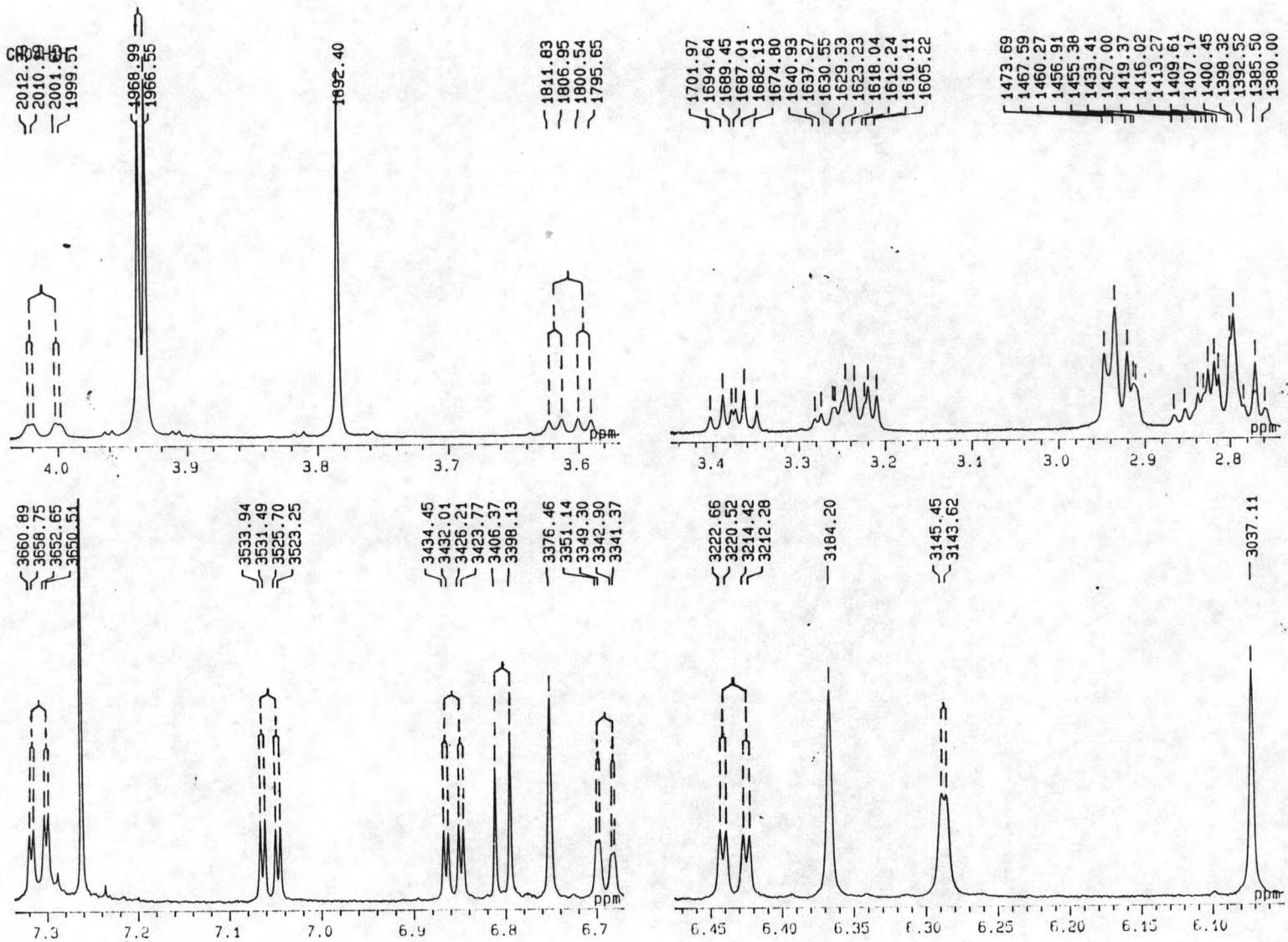


Figure 44 The expansion of 500 MHz ^1H NMR spectrum of CH04 (in CDCl_3)

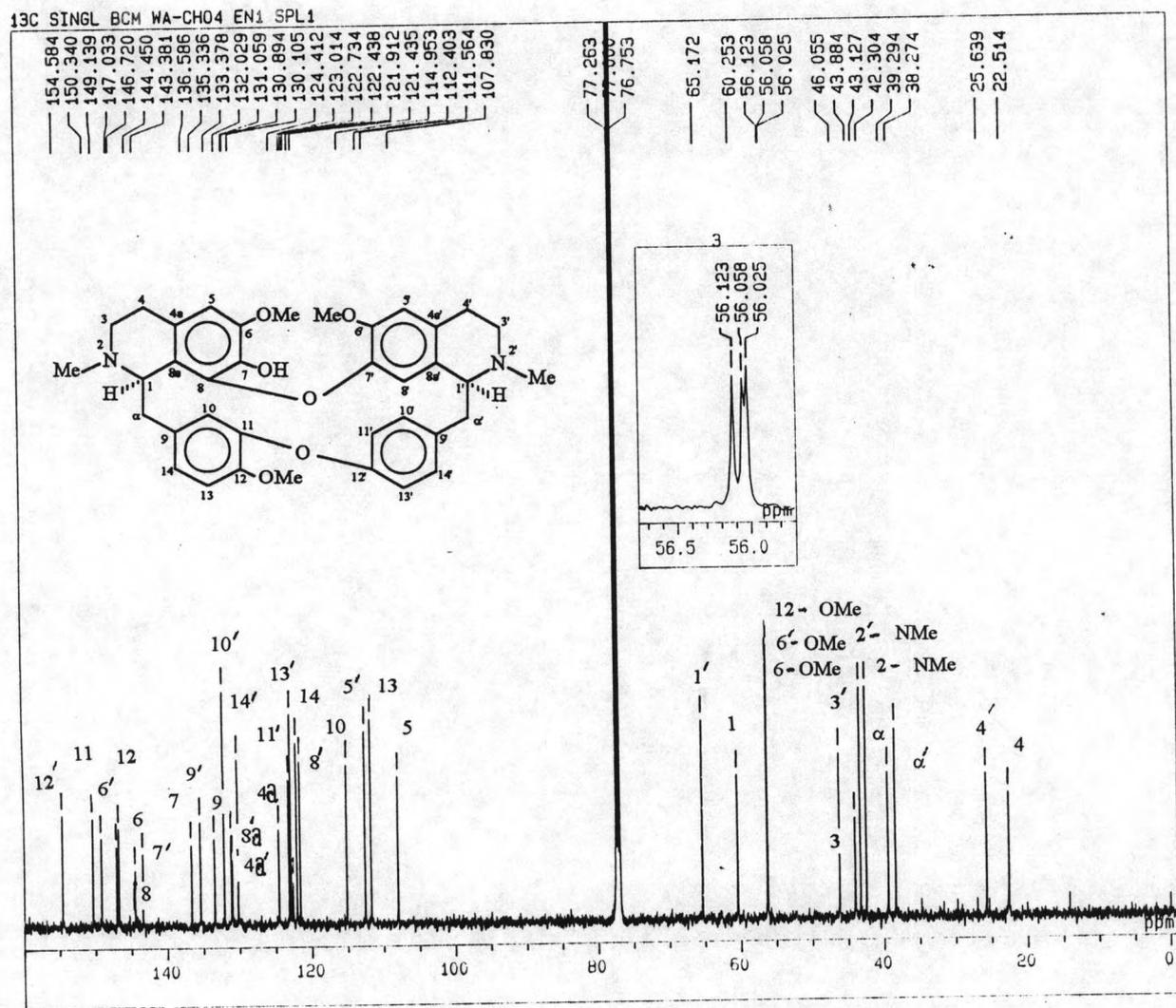


Figure 45 The 125 MHz ¹³C NMR spectrum of CH04 (in CDCl₃)

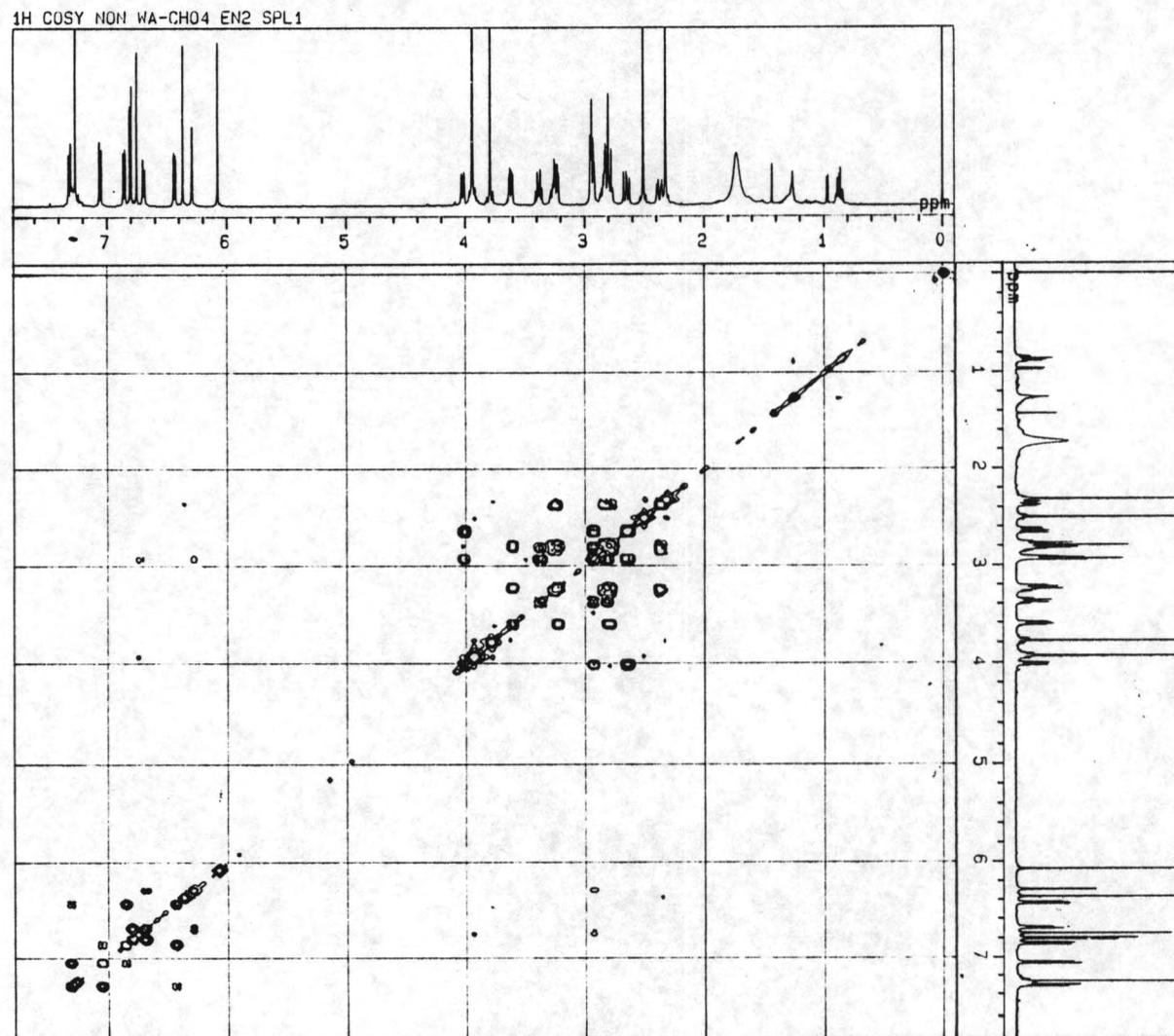
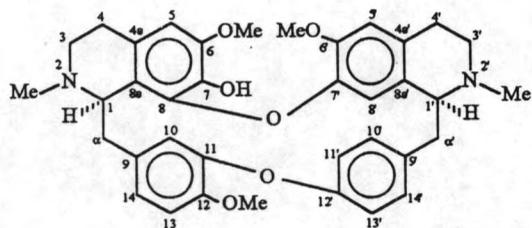


Figure 46 The ¹H,¹H COSY spectrum of CH04 (inCDCl₃)

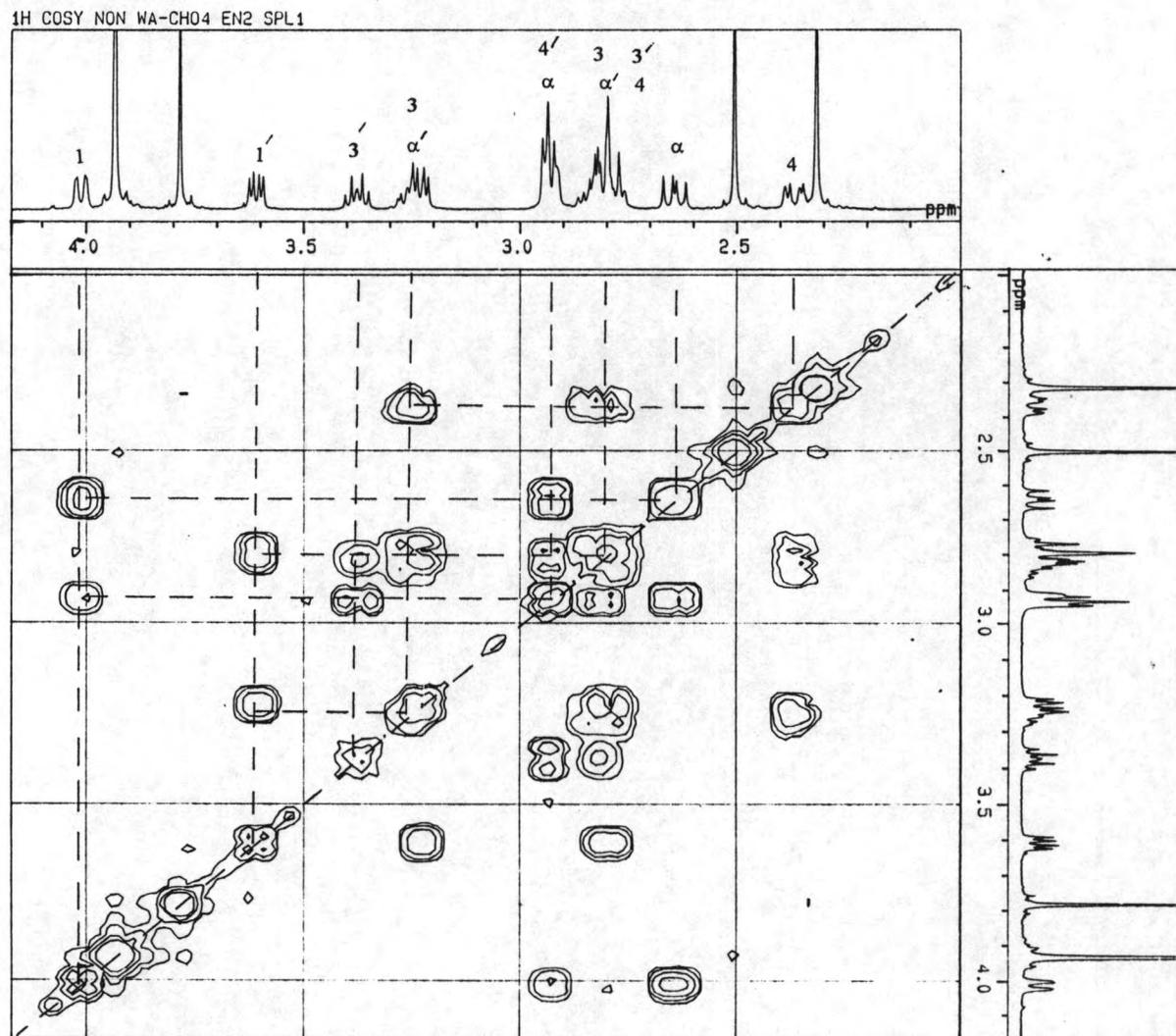
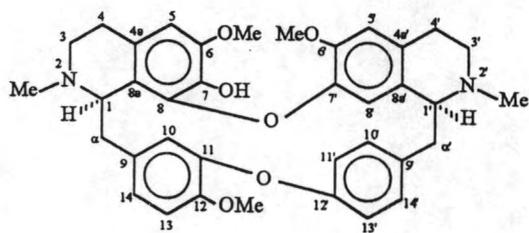
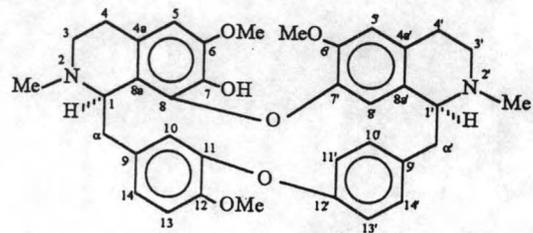


Figure 47 The expansion of ^1H , ^1H COSY spectrum of CH04 (in CDCl_3)



1H COSY NON WA-CH04 EN2 SPL1

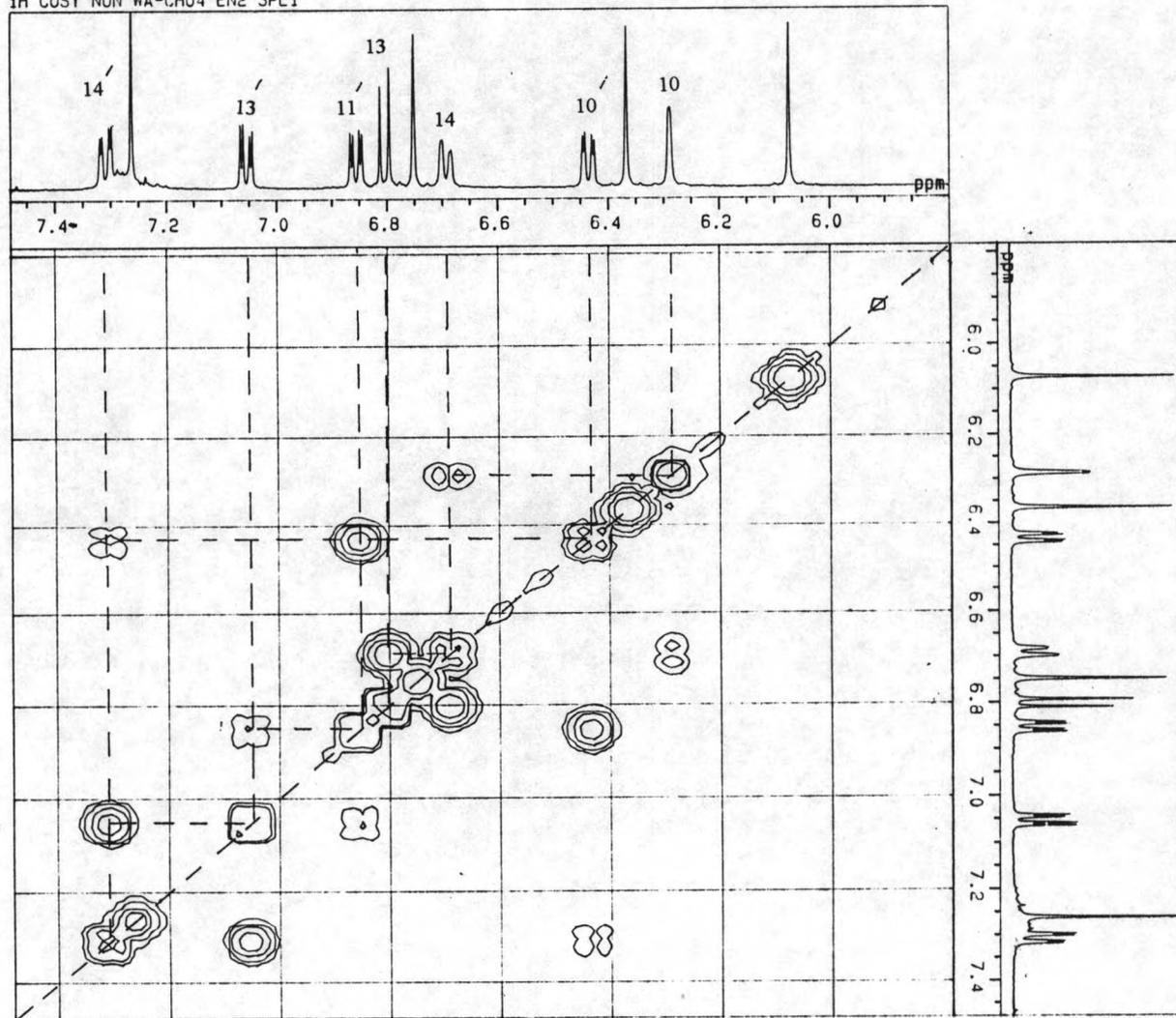


Figure 47 The expansion of ¹H, ¹H COSY spectrum of CH04 (inCDCl₃)

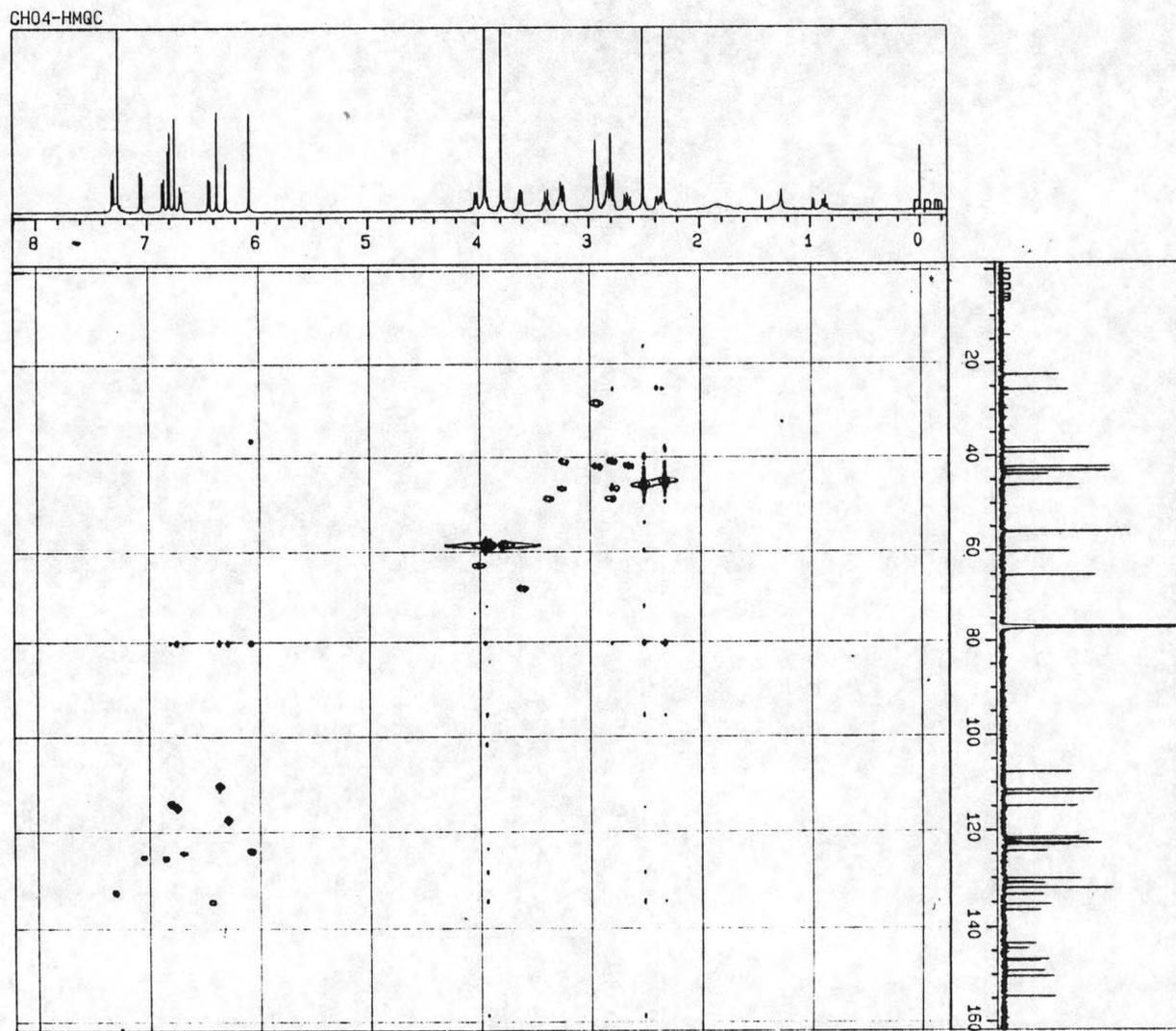
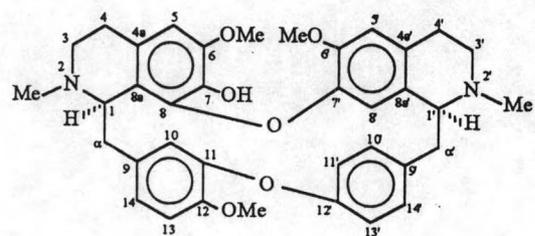


Figure 48 The HMQC spectrum of CH04 (in CDCl_3)

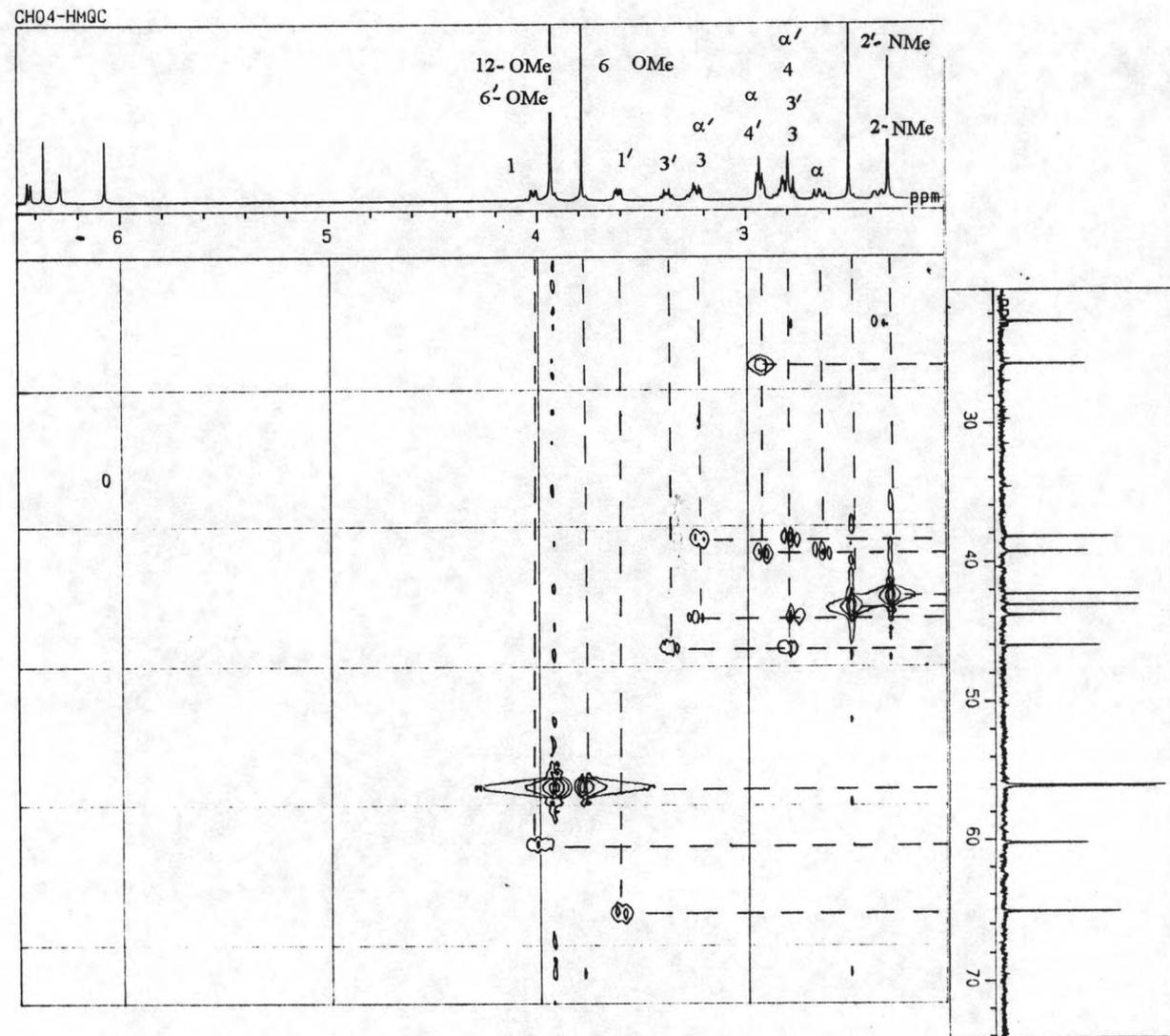
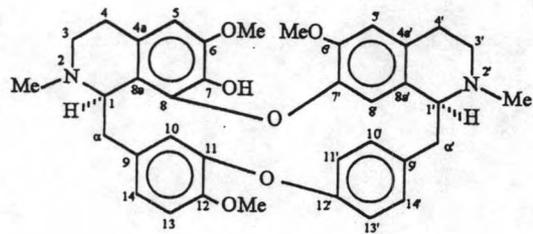


Figure 49 The expansion of HMQC spectrum of CH04 (in CDCl_3)

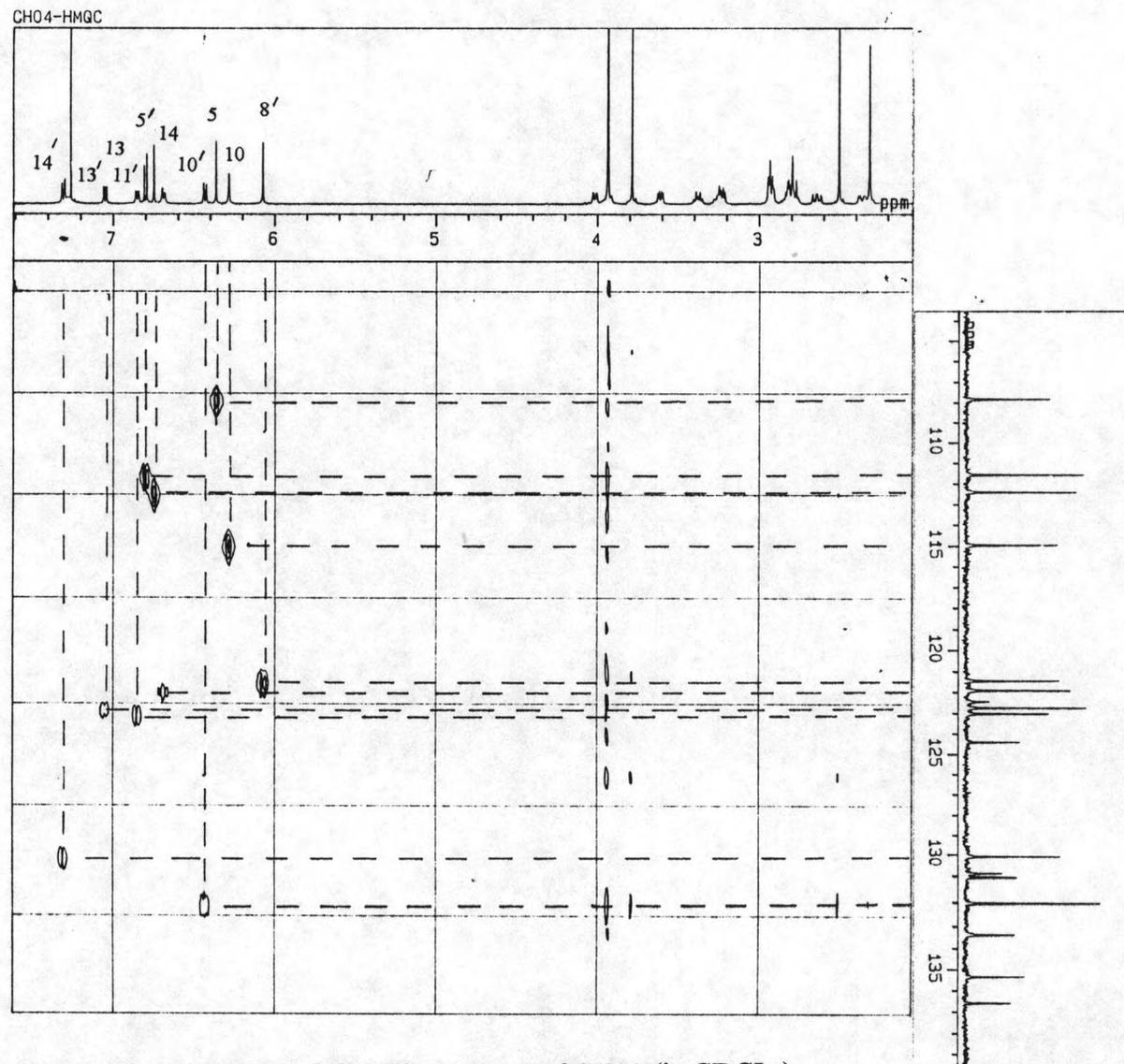
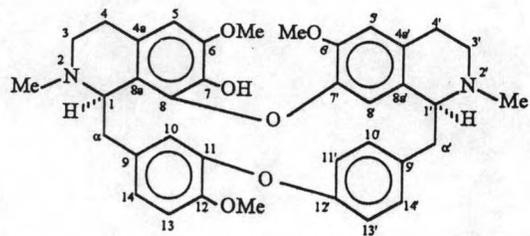


Figure 49 The expansion of HMQC spectrum of CH03 (in CDCl₃)

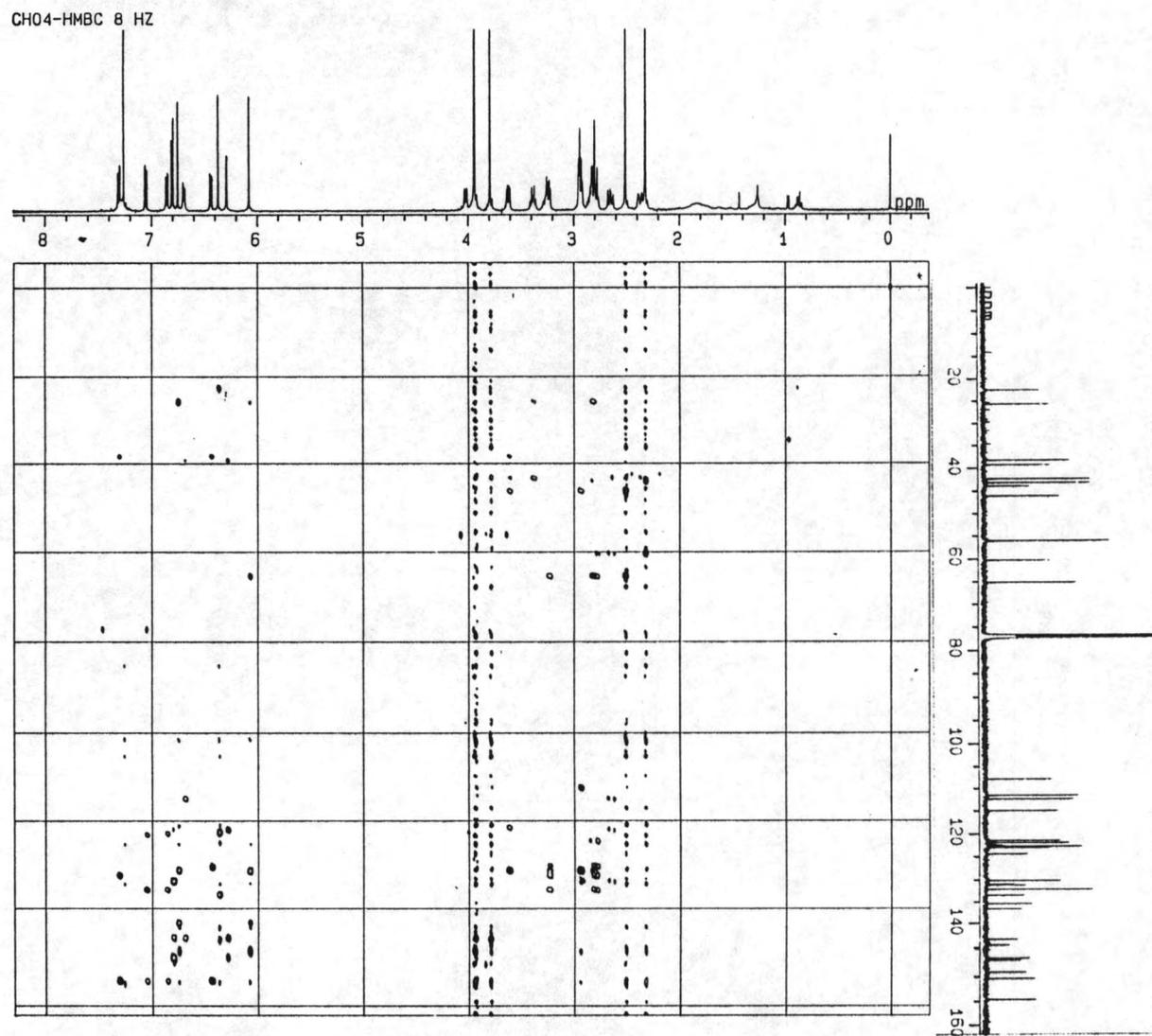
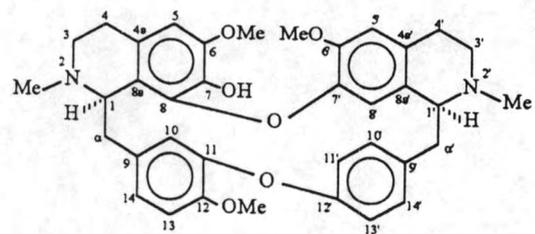


Figure 50 The HMBC spectrum of CH04 (in CDCl_3)

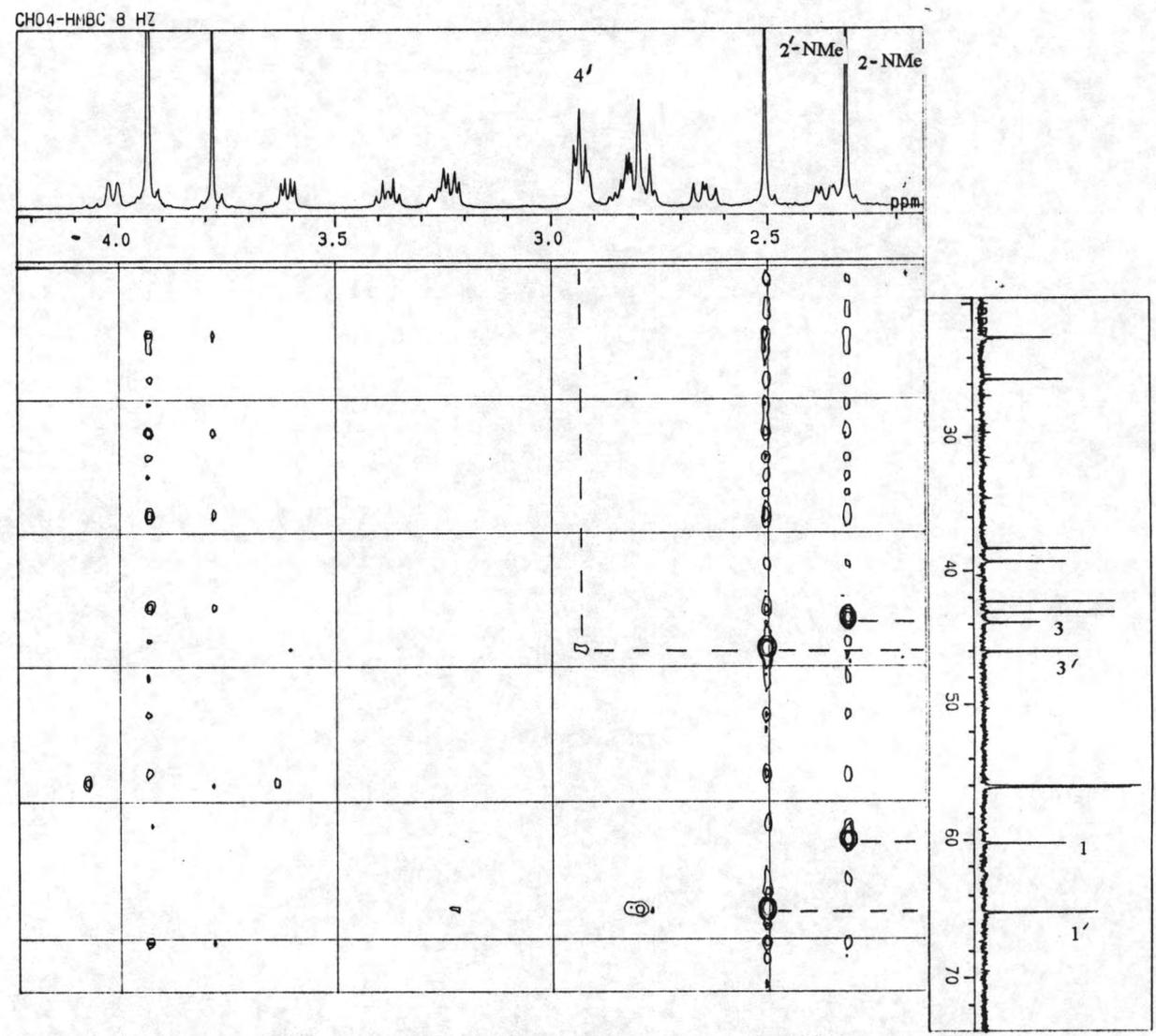
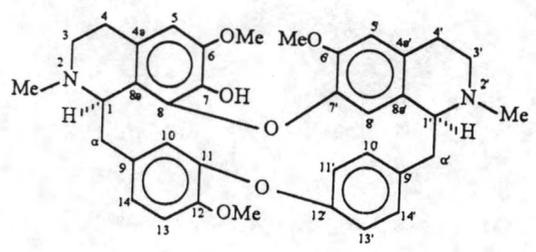


Figure 51 The expansion of HMBC spectrum of CH04 (in CDCl₃)

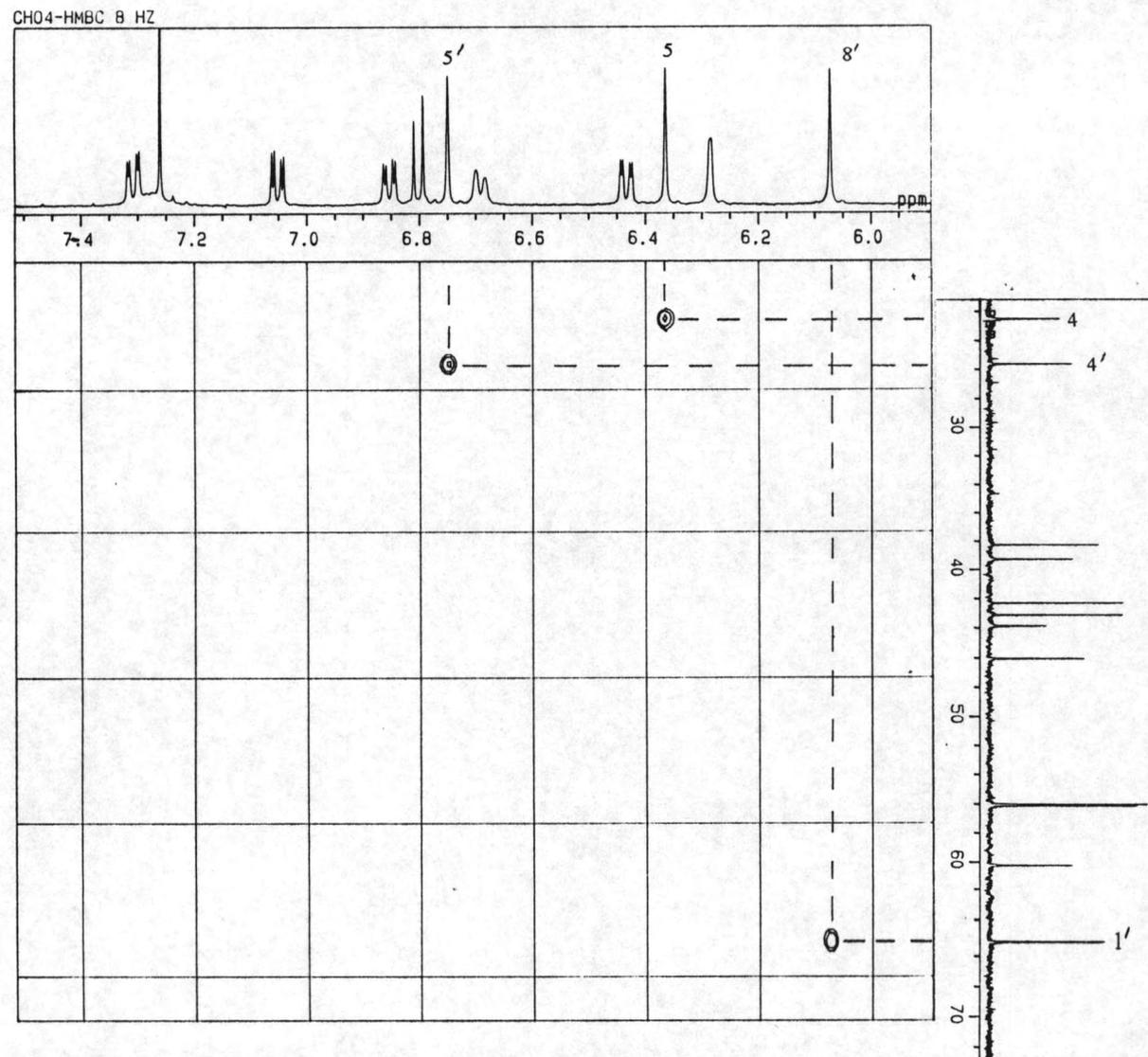
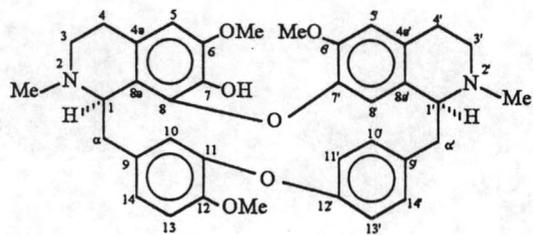
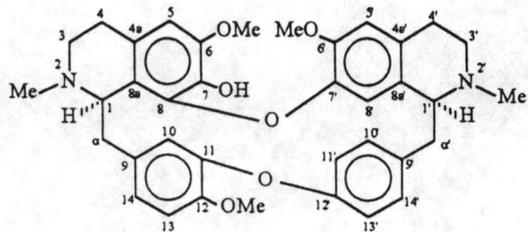


Figure 51 The expansion of HMBC spectrum of CH04 (in CDCl_3)



CH04-HMBC 8 HZ

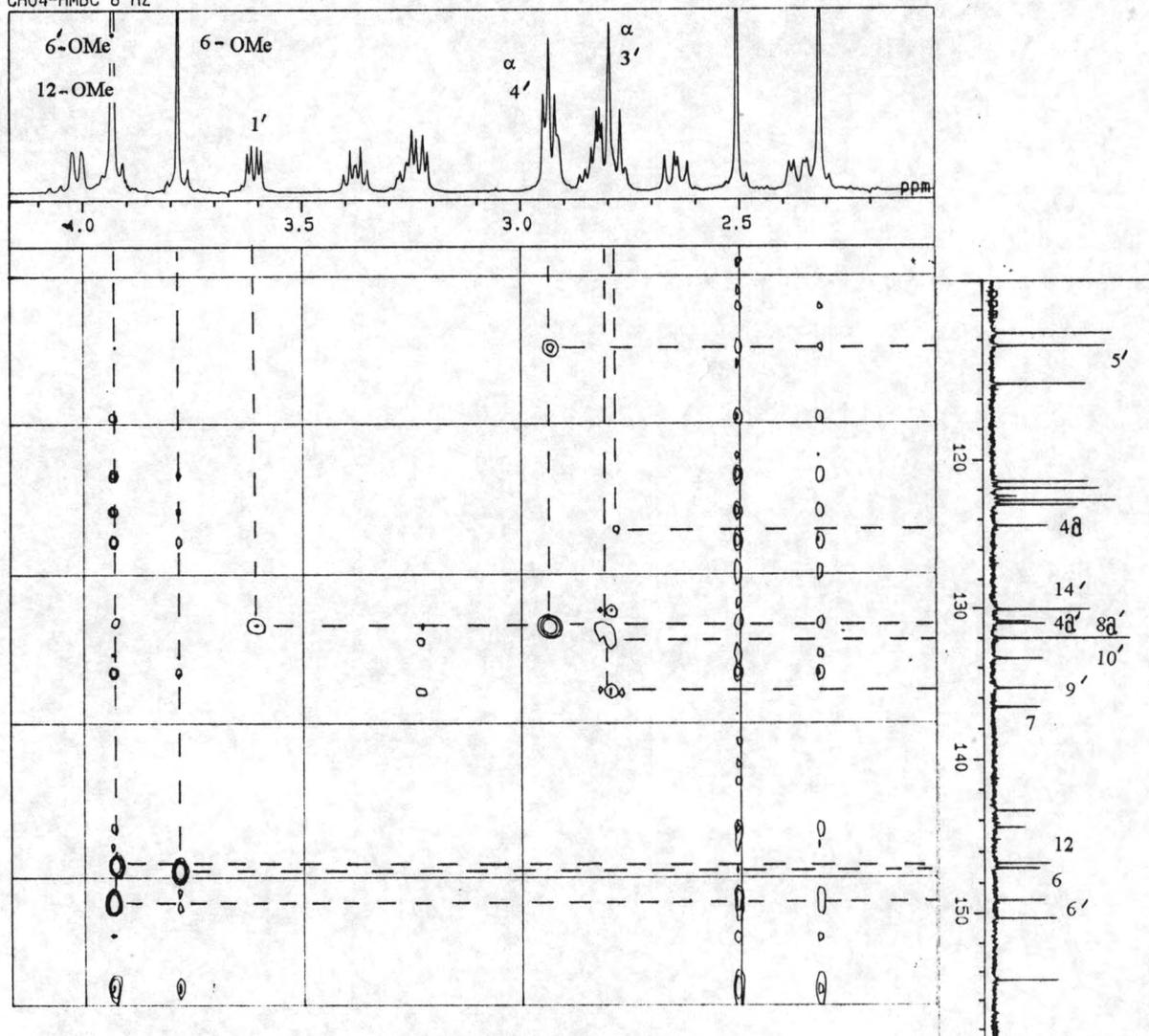


Figure 51 The expansion of HMBC spectrum of CH04 (in CDCl_3)

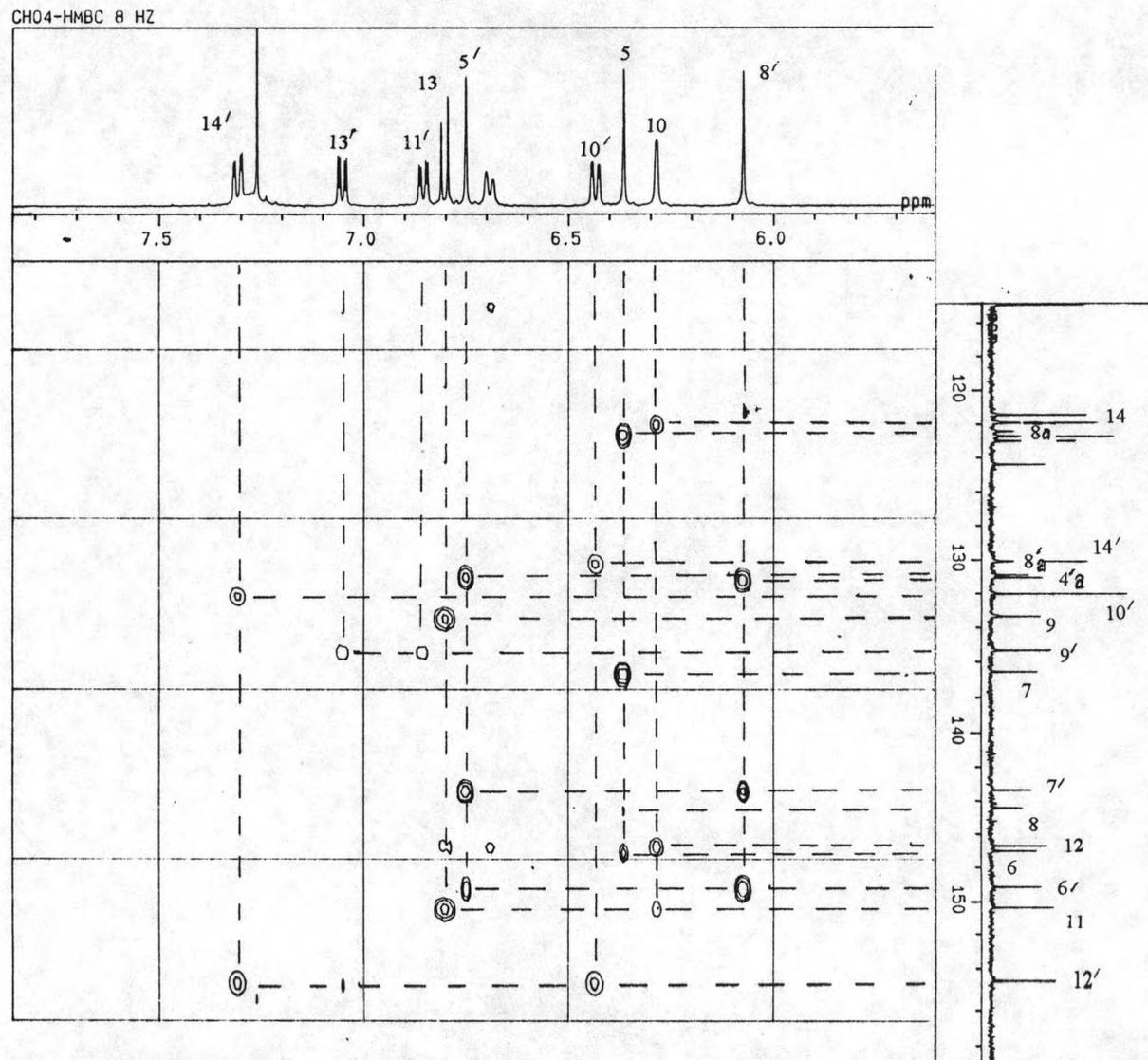
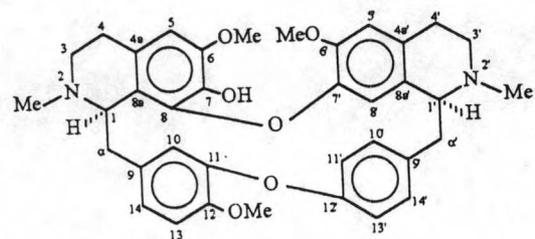


Figure 51 The expansion of HMBC spectrum of CH04 (in CDCl_3)

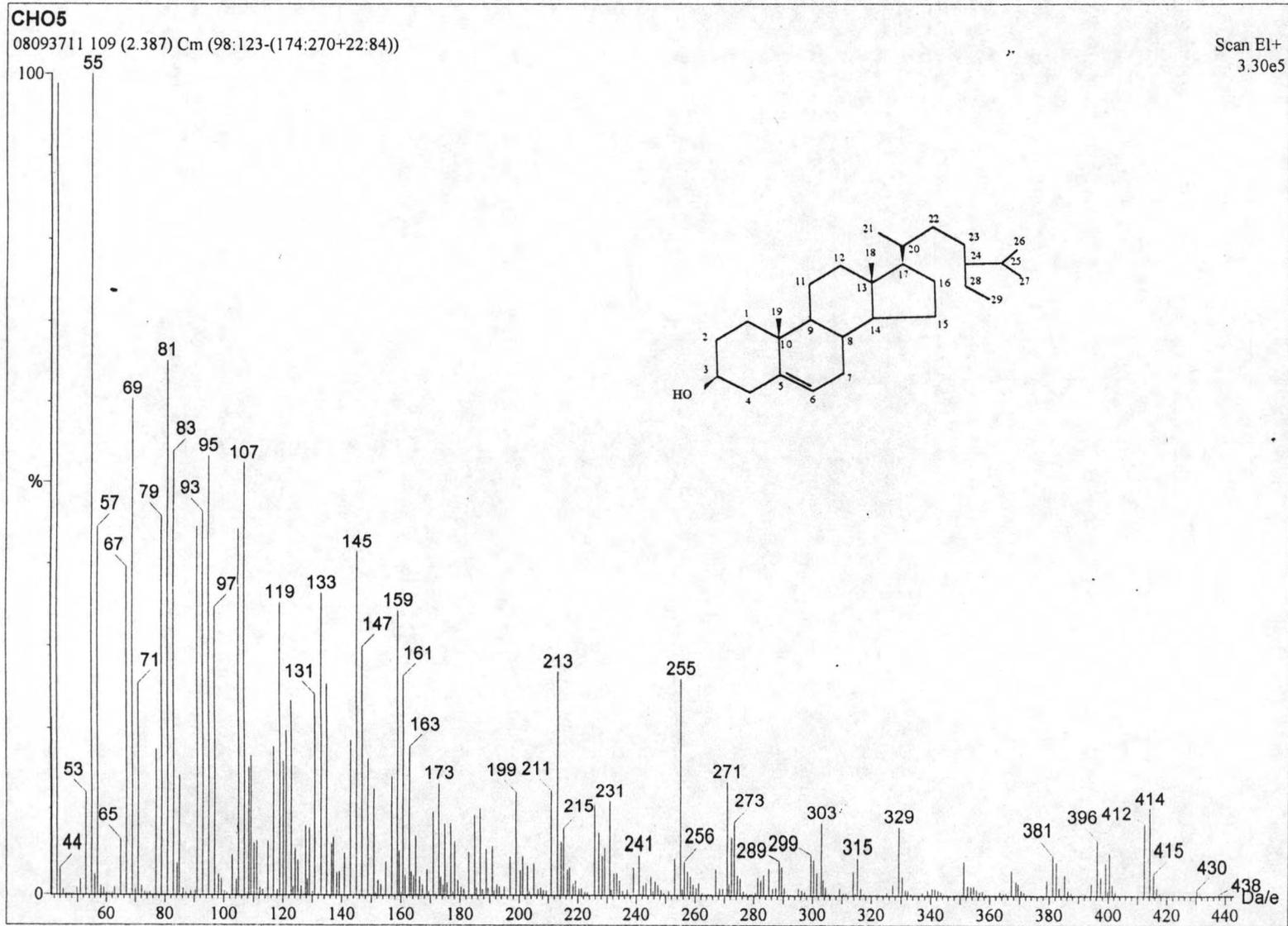


Figure 52 The EIMS spectrum of CH05

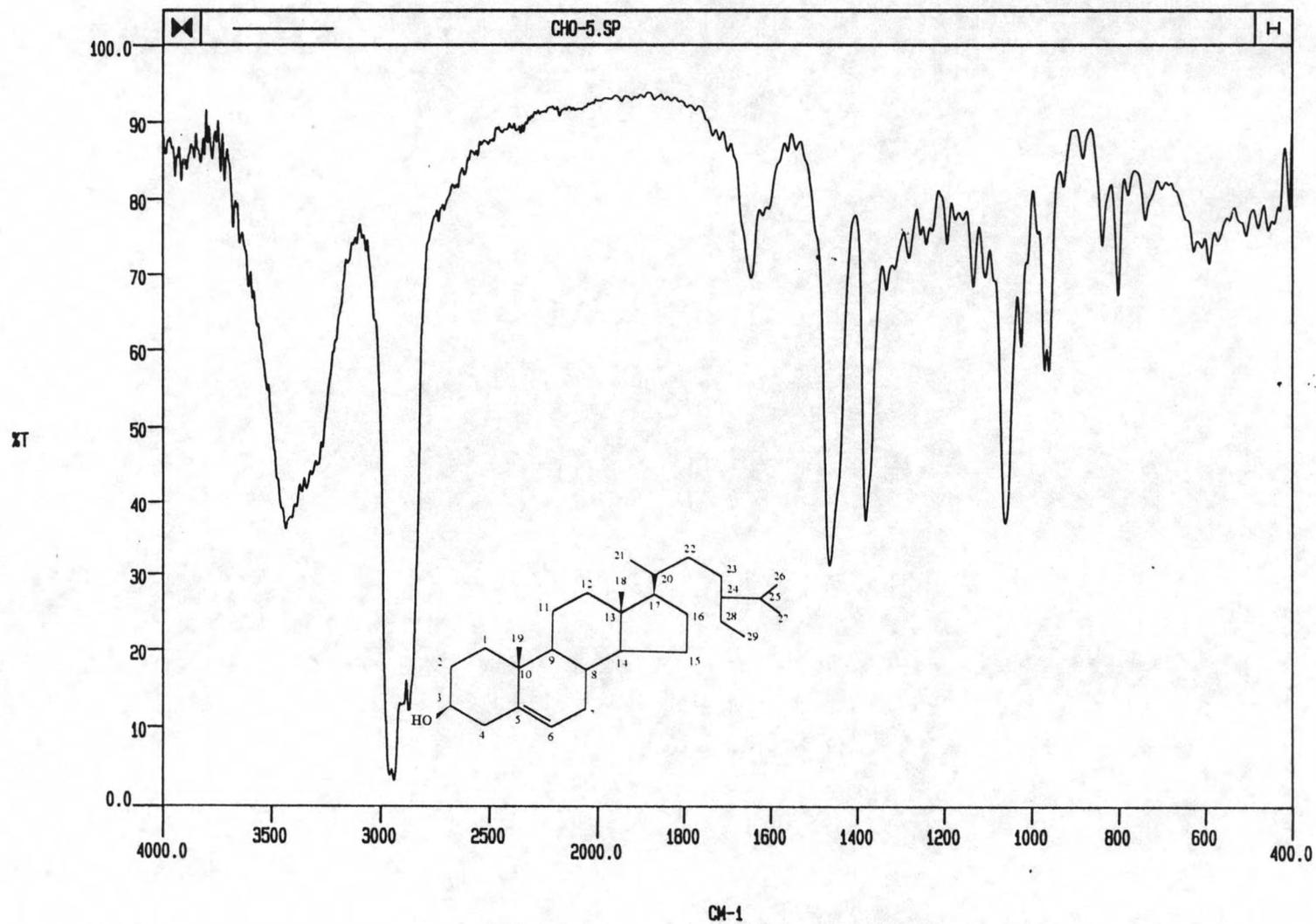


Figure 53 The IR spectrum of CH05

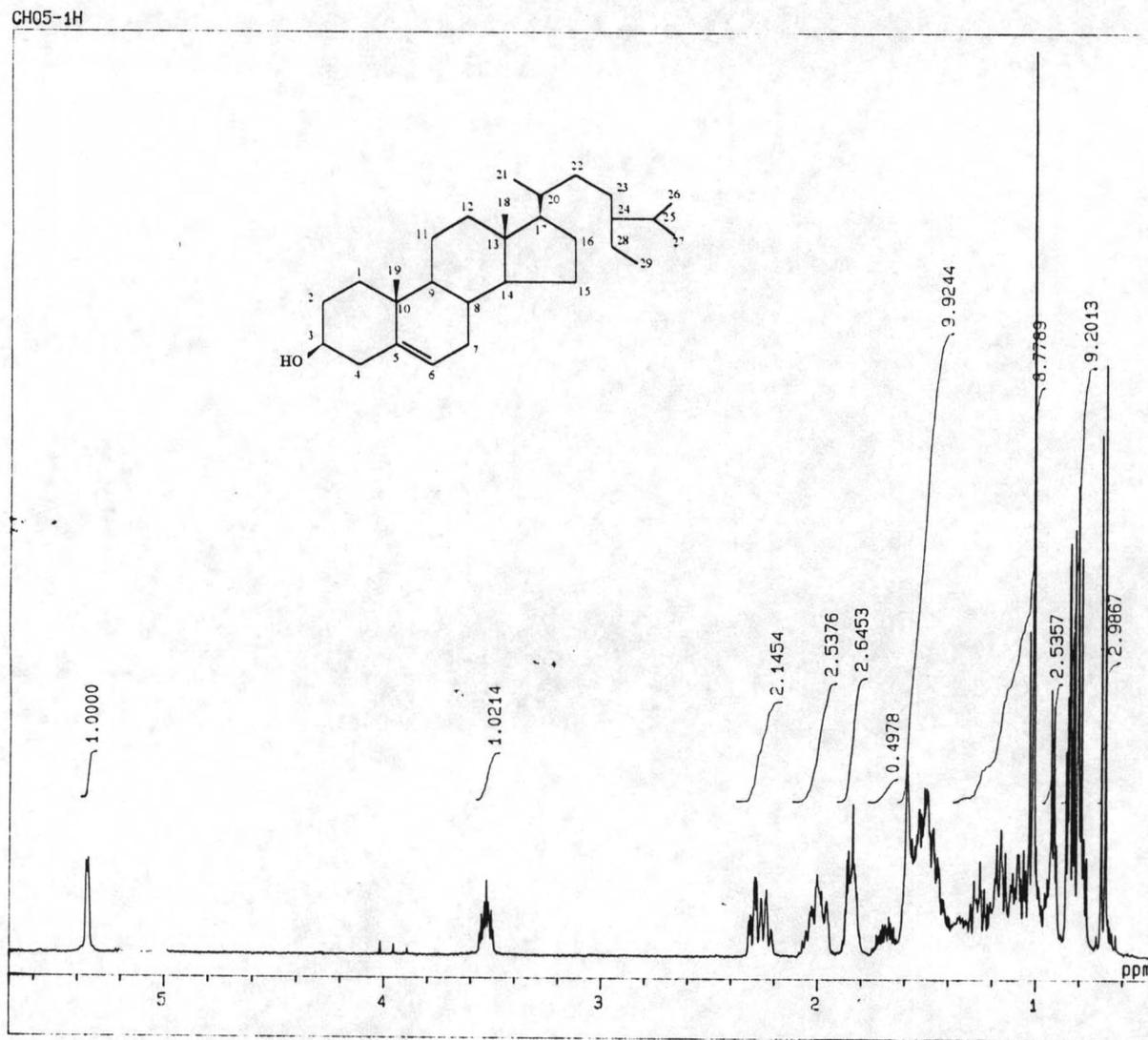


Figure 54 The 500 MHz ¹H NMR spectrum of CH05 (in CDCl₃)

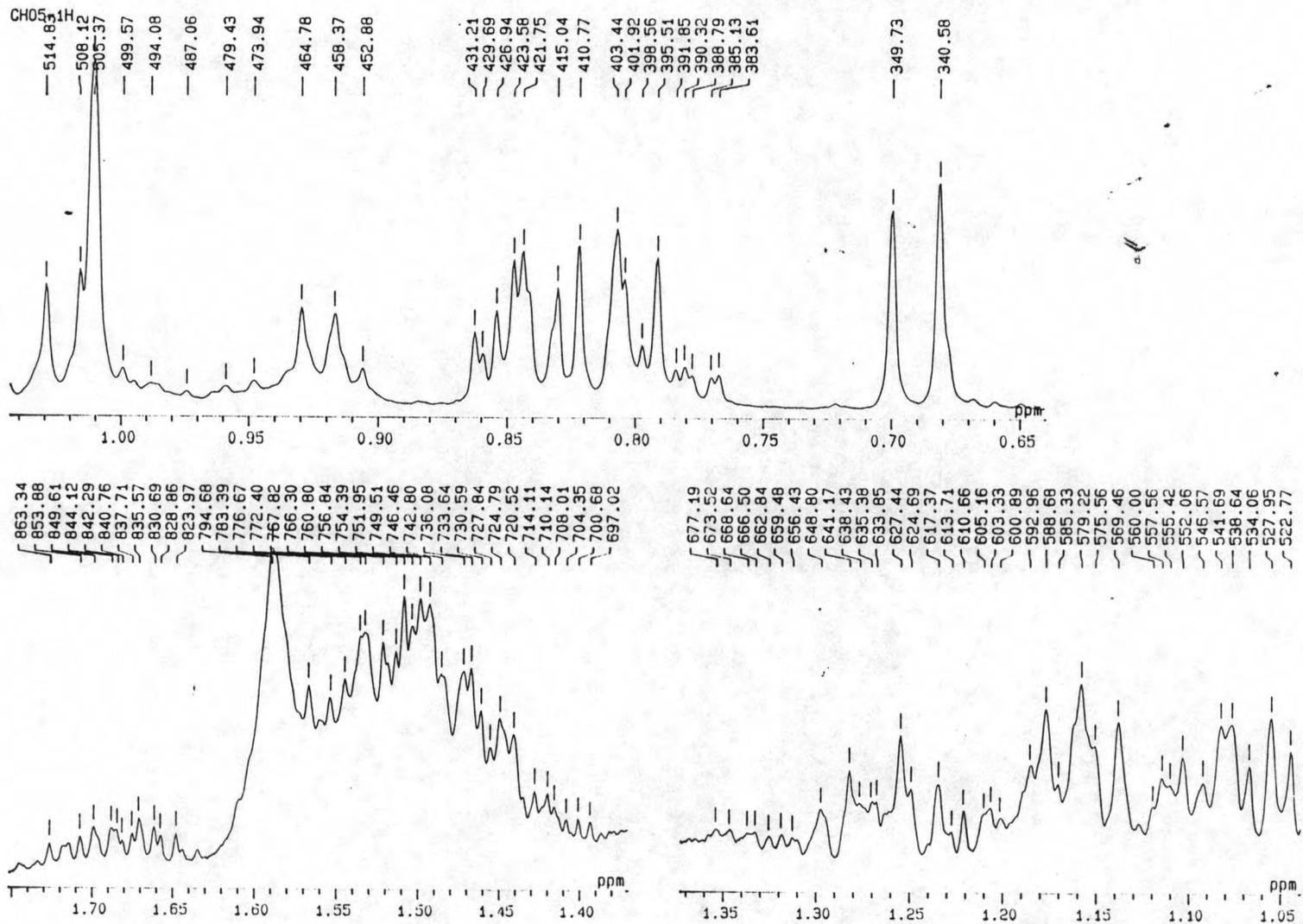


Figure 55 The expansion of 500 MHz ^1H NMR spectrum of CH05 (in CDCl_3)

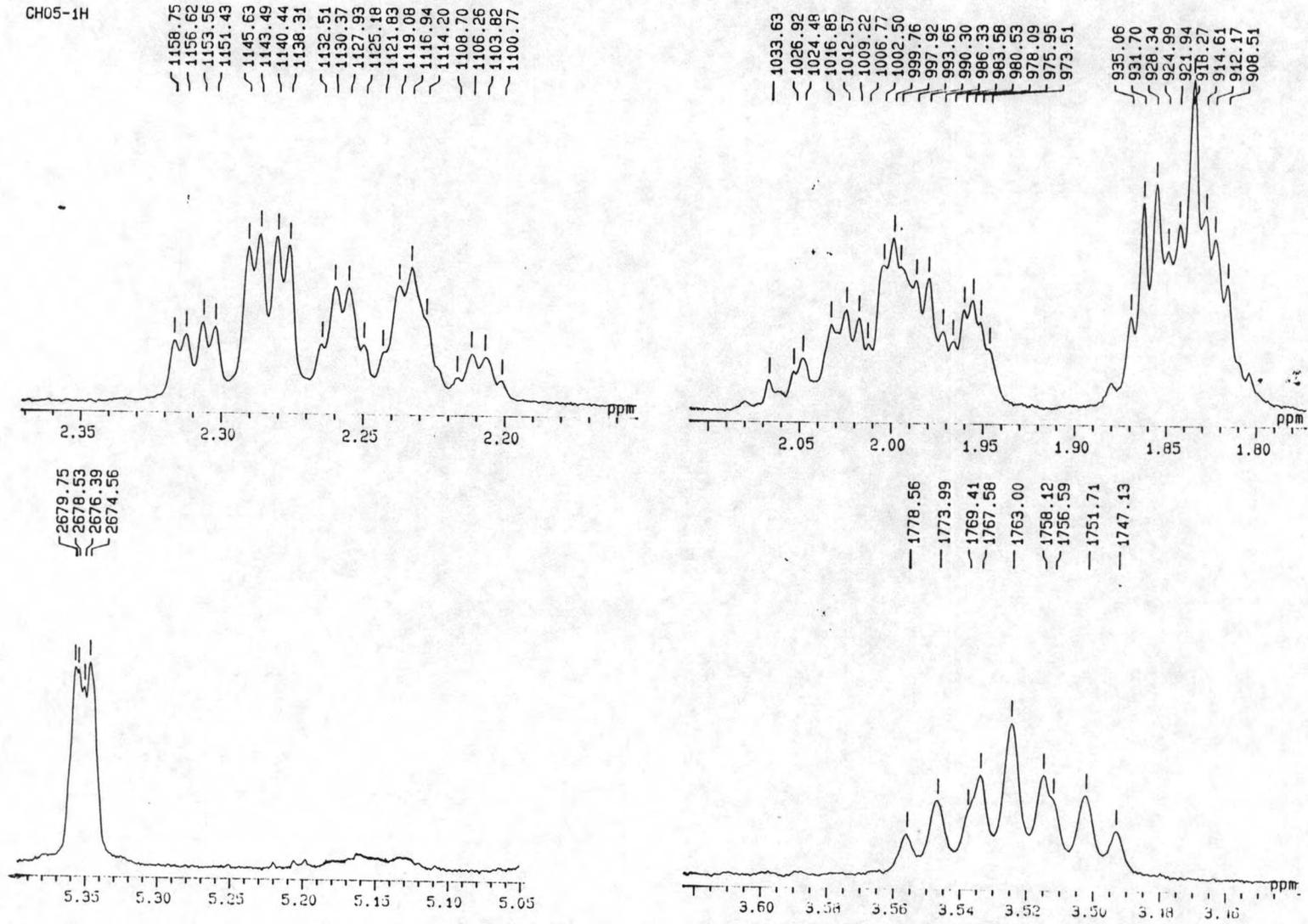


Figure 55 The expansion of 500 MHz ¹H NMR spectrum of CH05 (in CDCl₃)

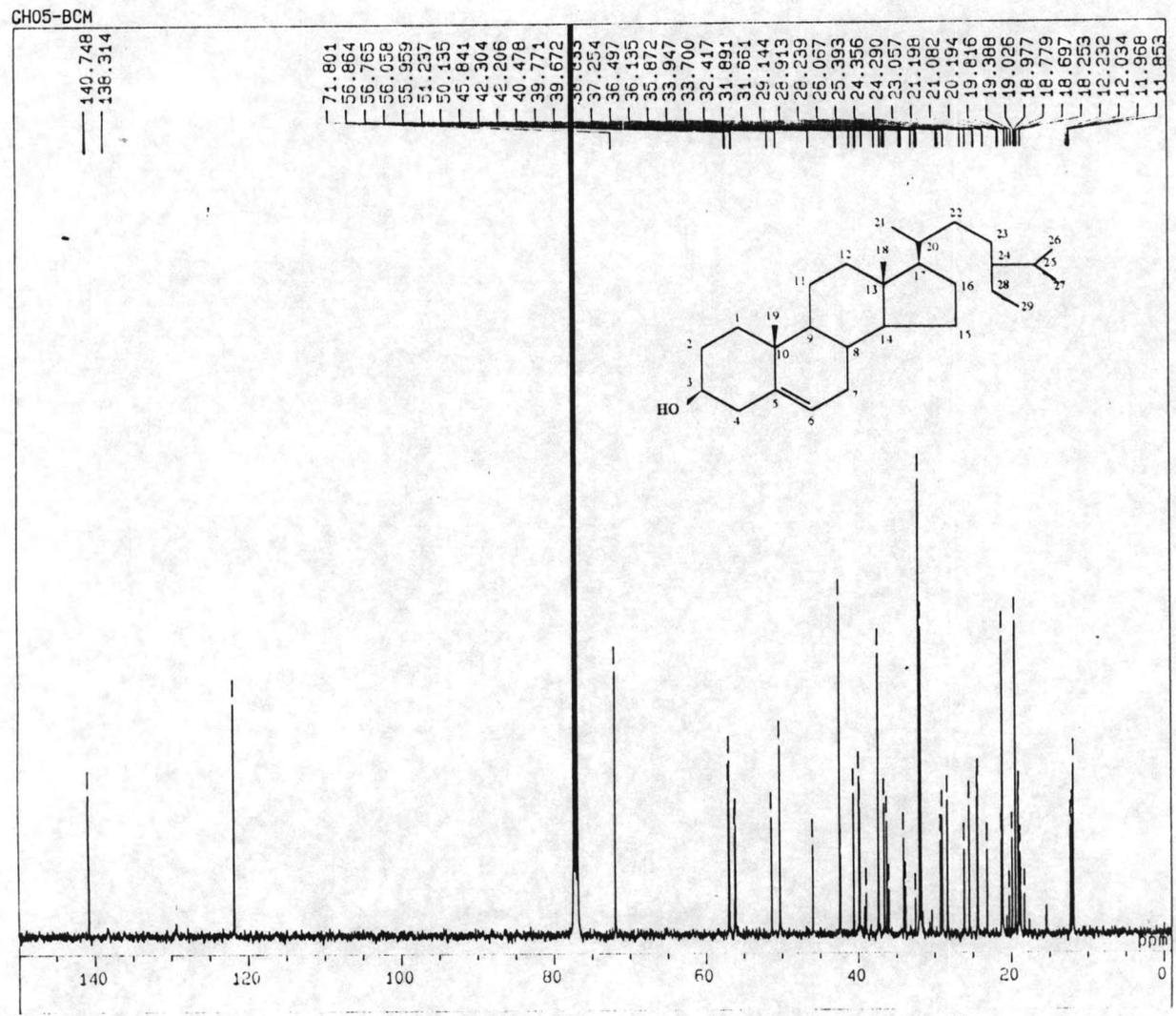


Figure 56 The 125 MHz ^{13}C NMR spectrum of CH05 (in CDCl_3)

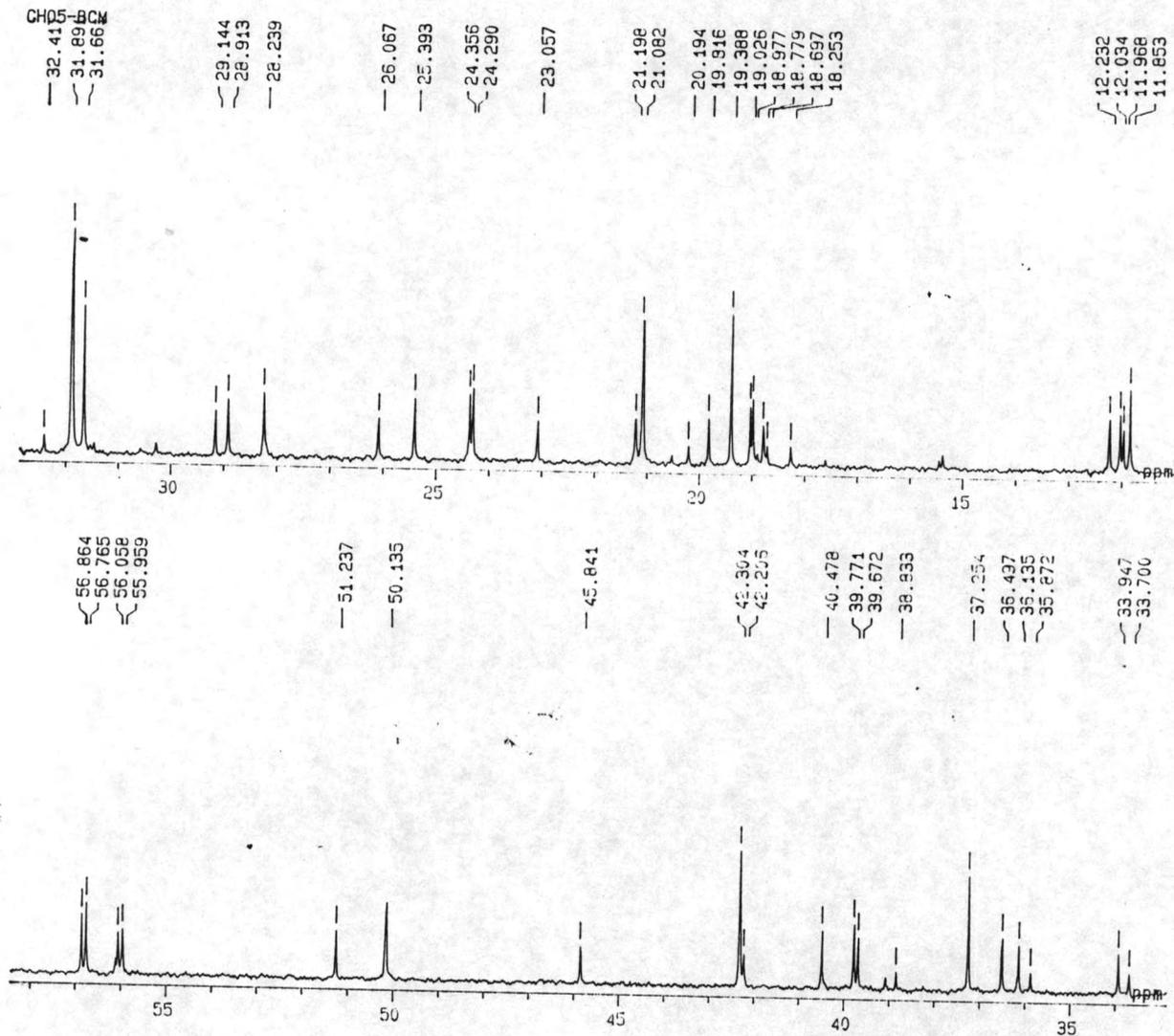


Figure 57 The expansion of 125 MHz ^{13}C NMR spectrum of CH05 (in CDCl_3)



VITA

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