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## APPENDIX

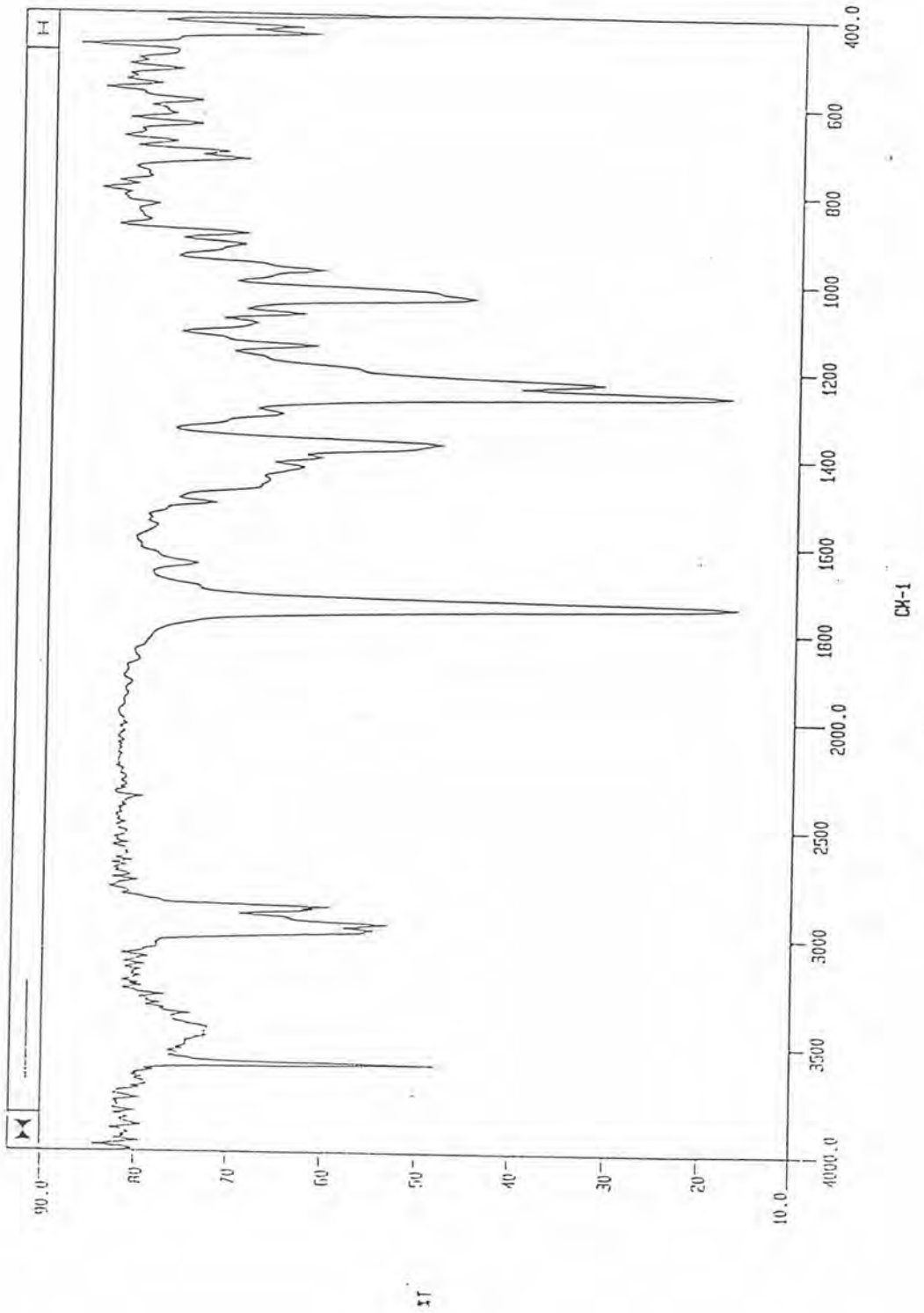


Figure 3 The IR spectrum of Compound I

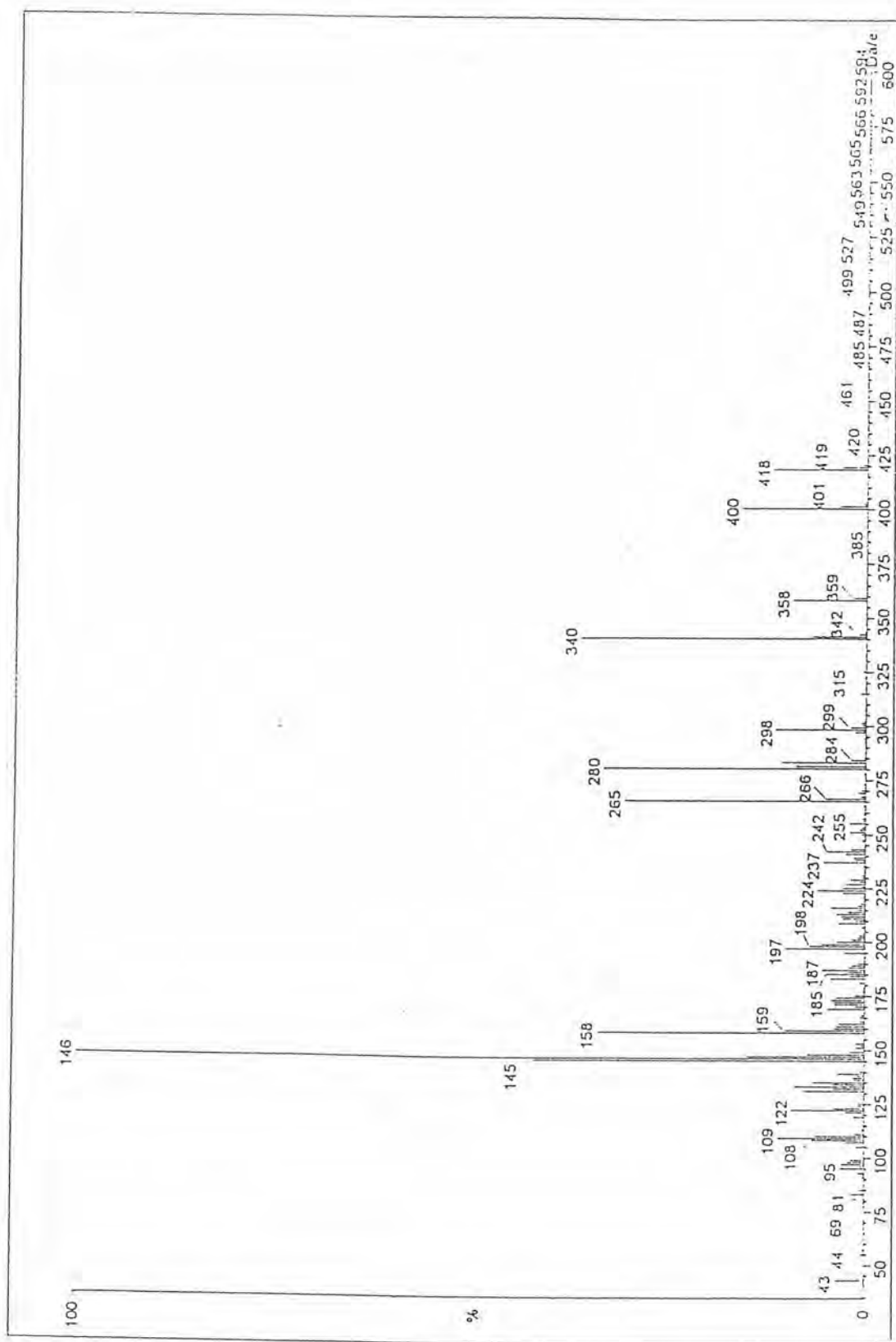


Figure 4 The mass spectrum (EI) of Compound I

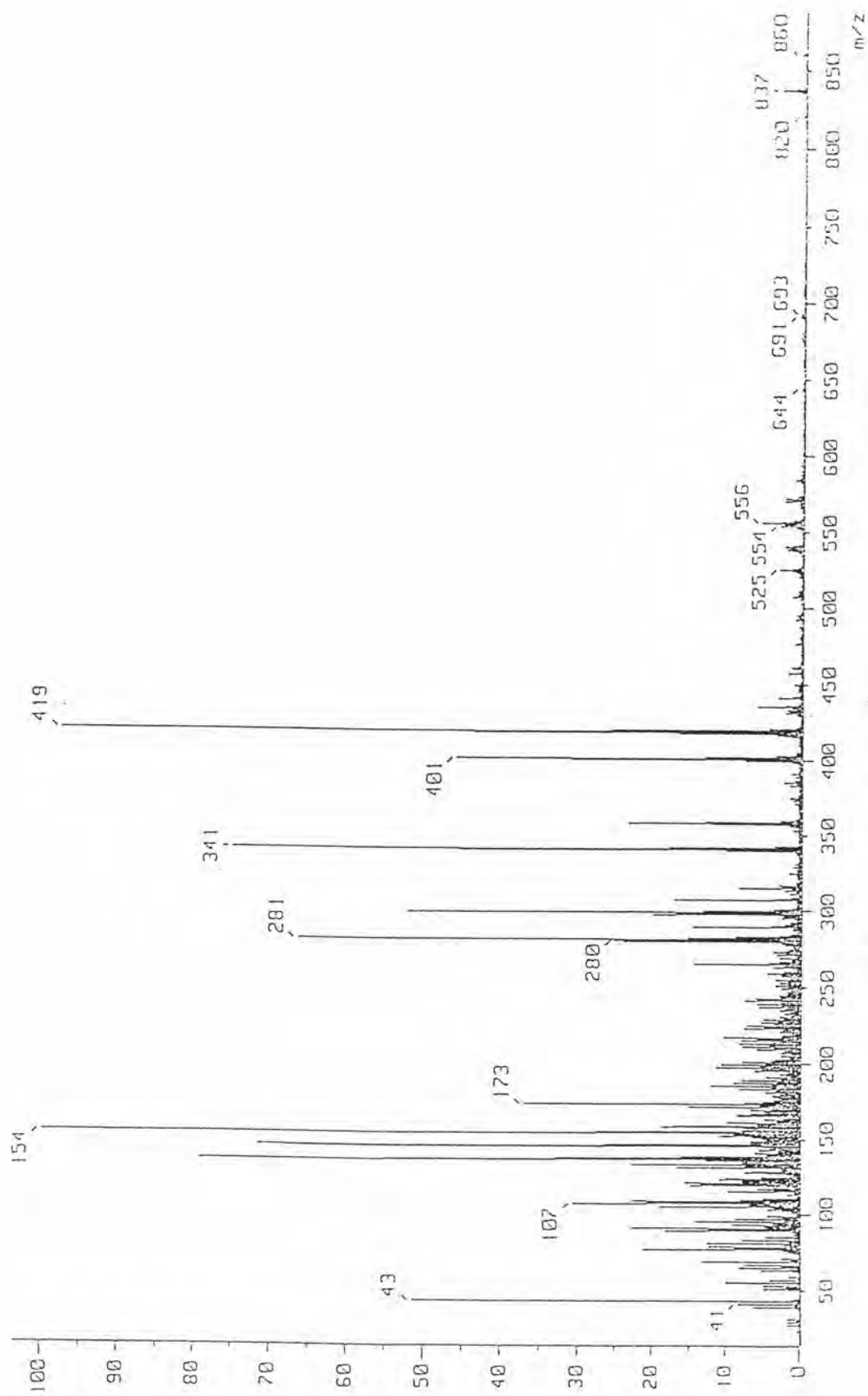


Figure 5 The mass spectrum (FAB) of Compound I

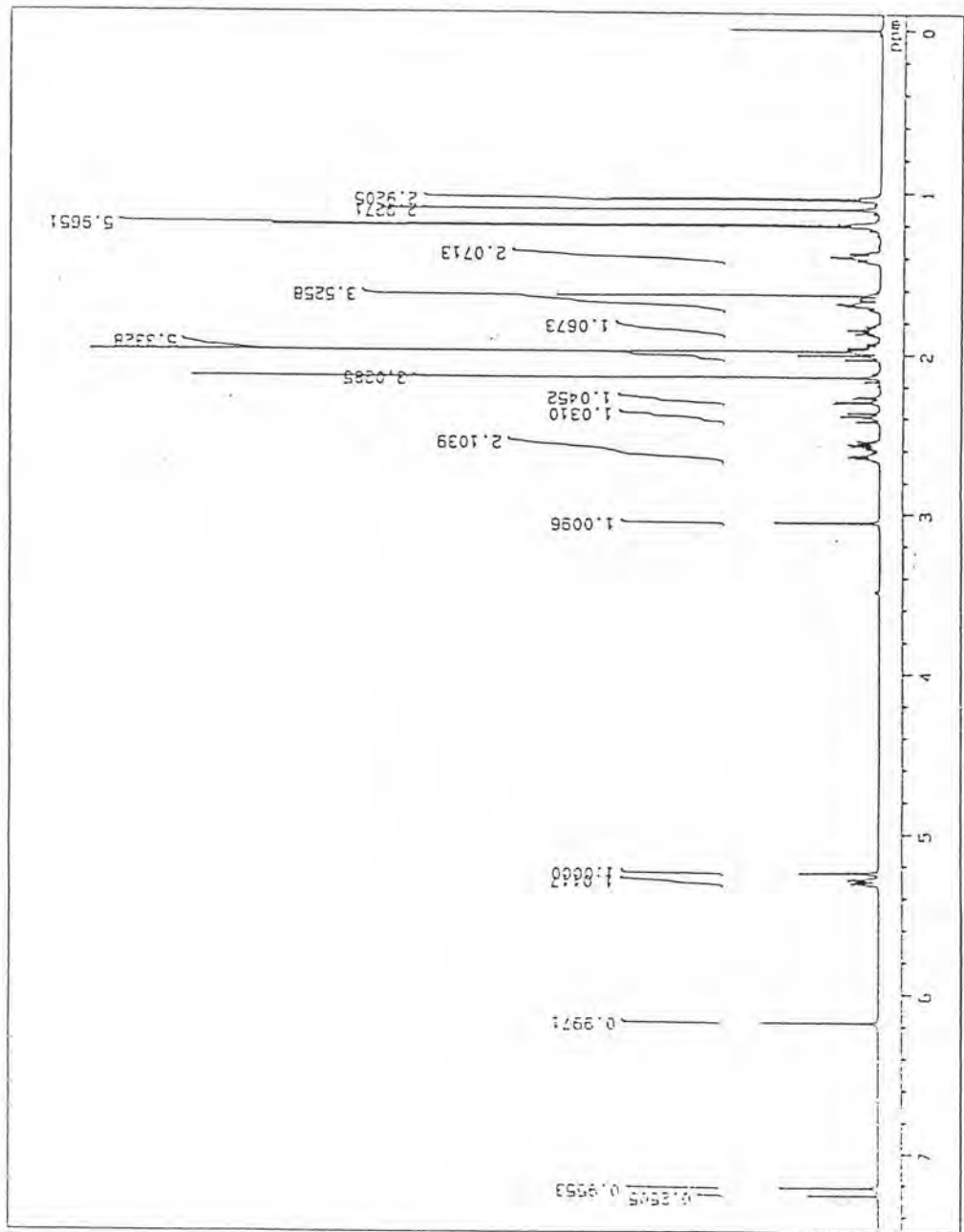


Figure 6 The <sup>1</sup>H NMR spectrum of Compound I



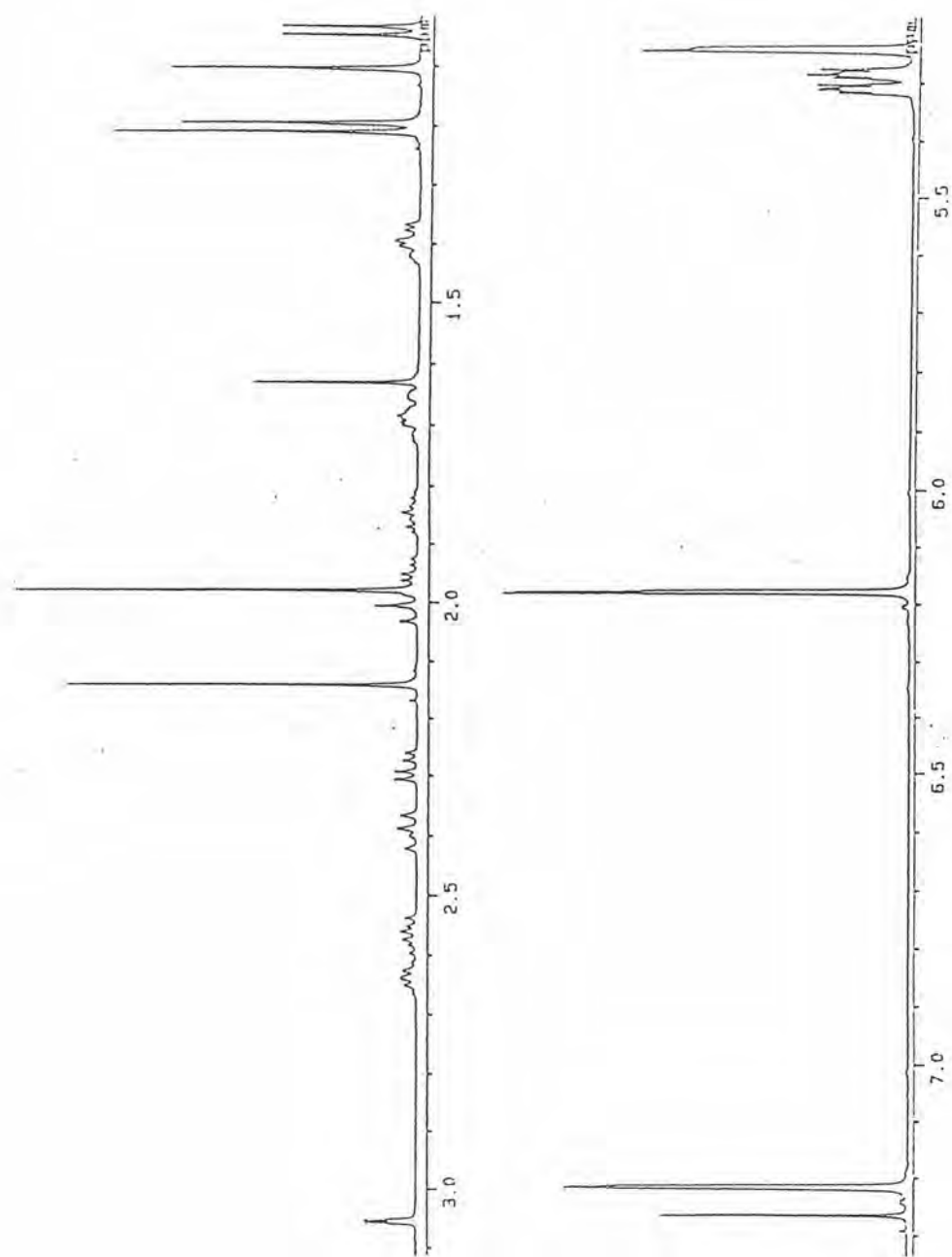


Figure 7 The expanded  $^1\text{H}$  NMR spectrum of Compound I

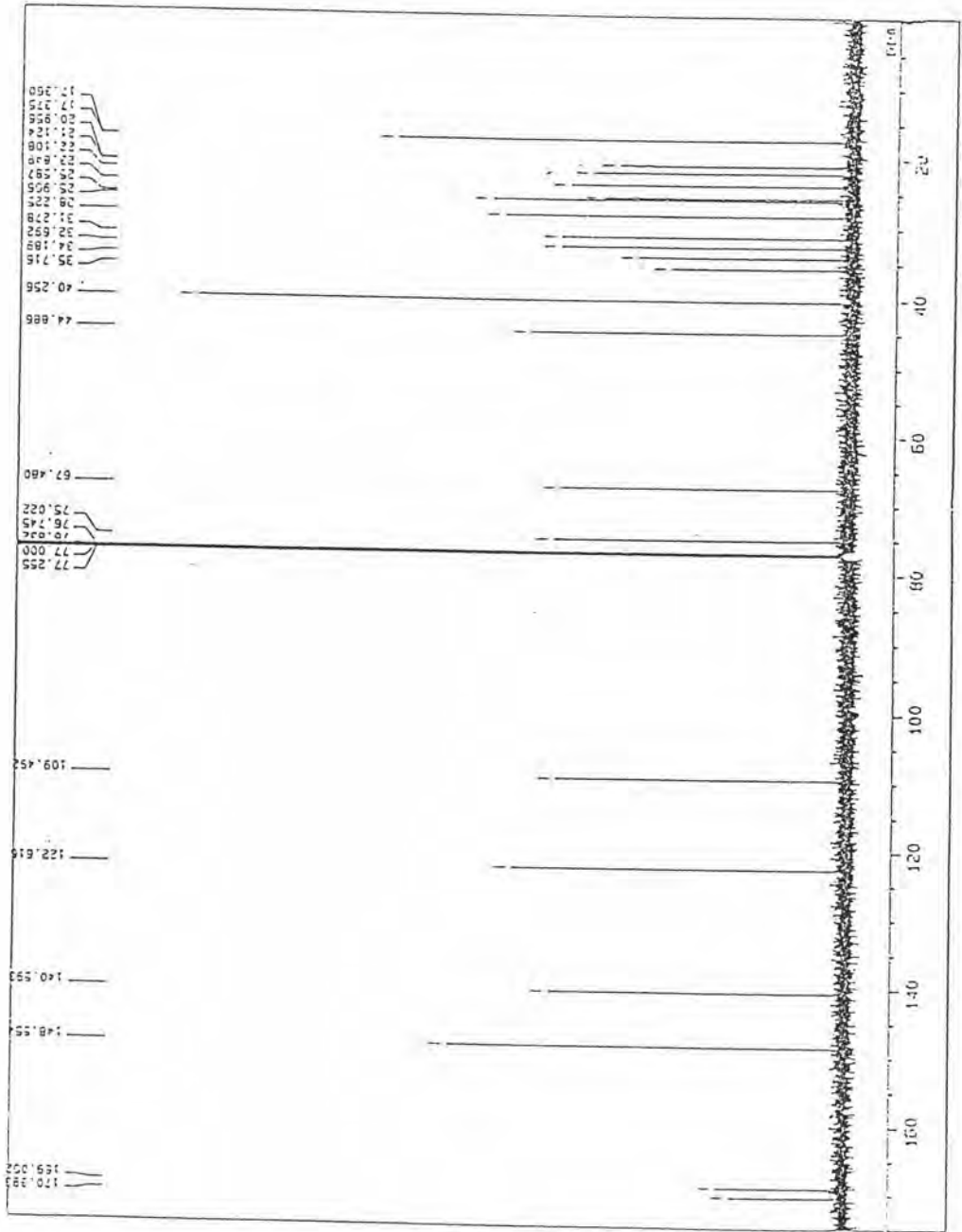


Figure 8 The  $^{13}\text{C}$  NMR spectrum of Compound I

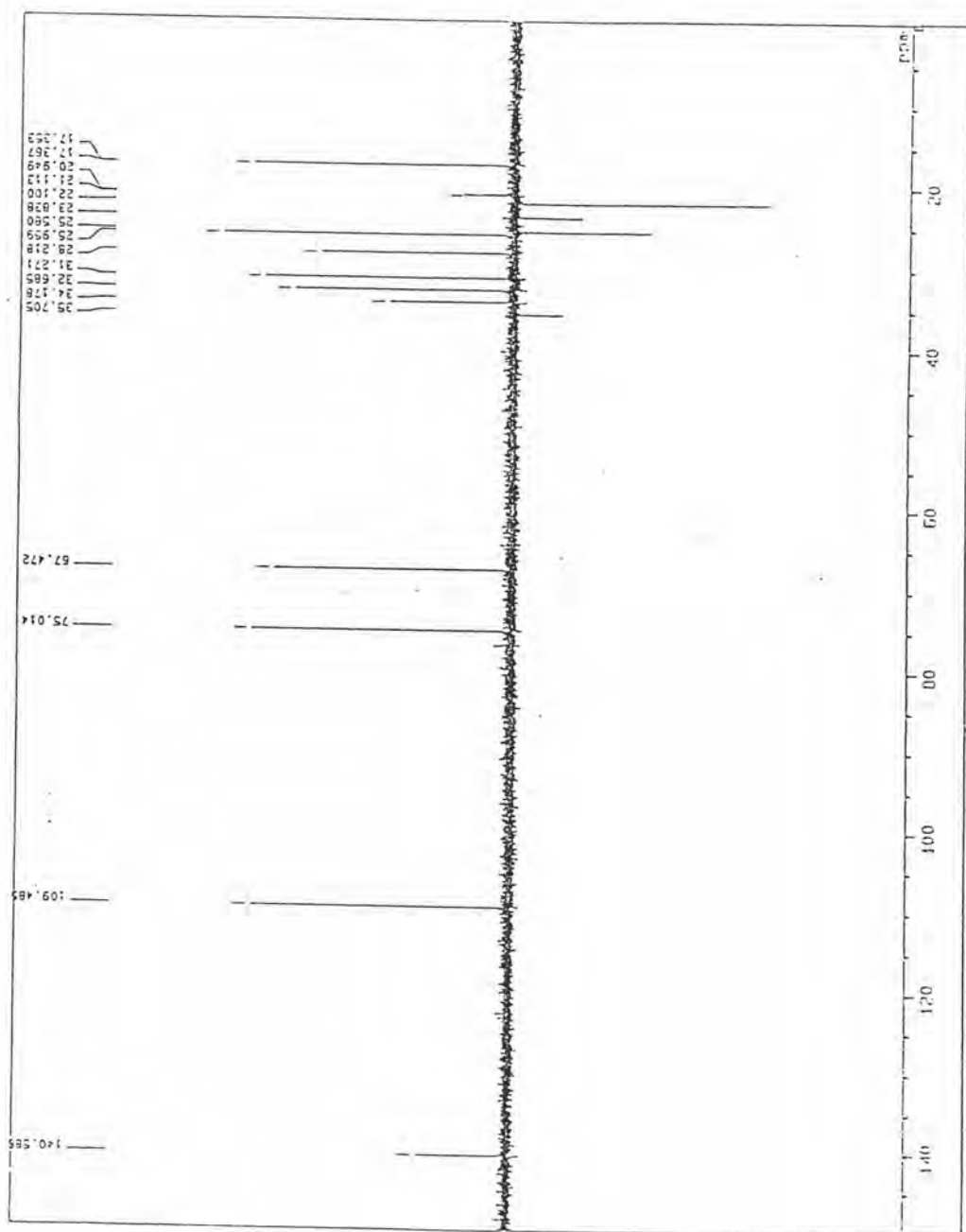


Figure 9 The DEPT 135 NMR spectrum of Compound I

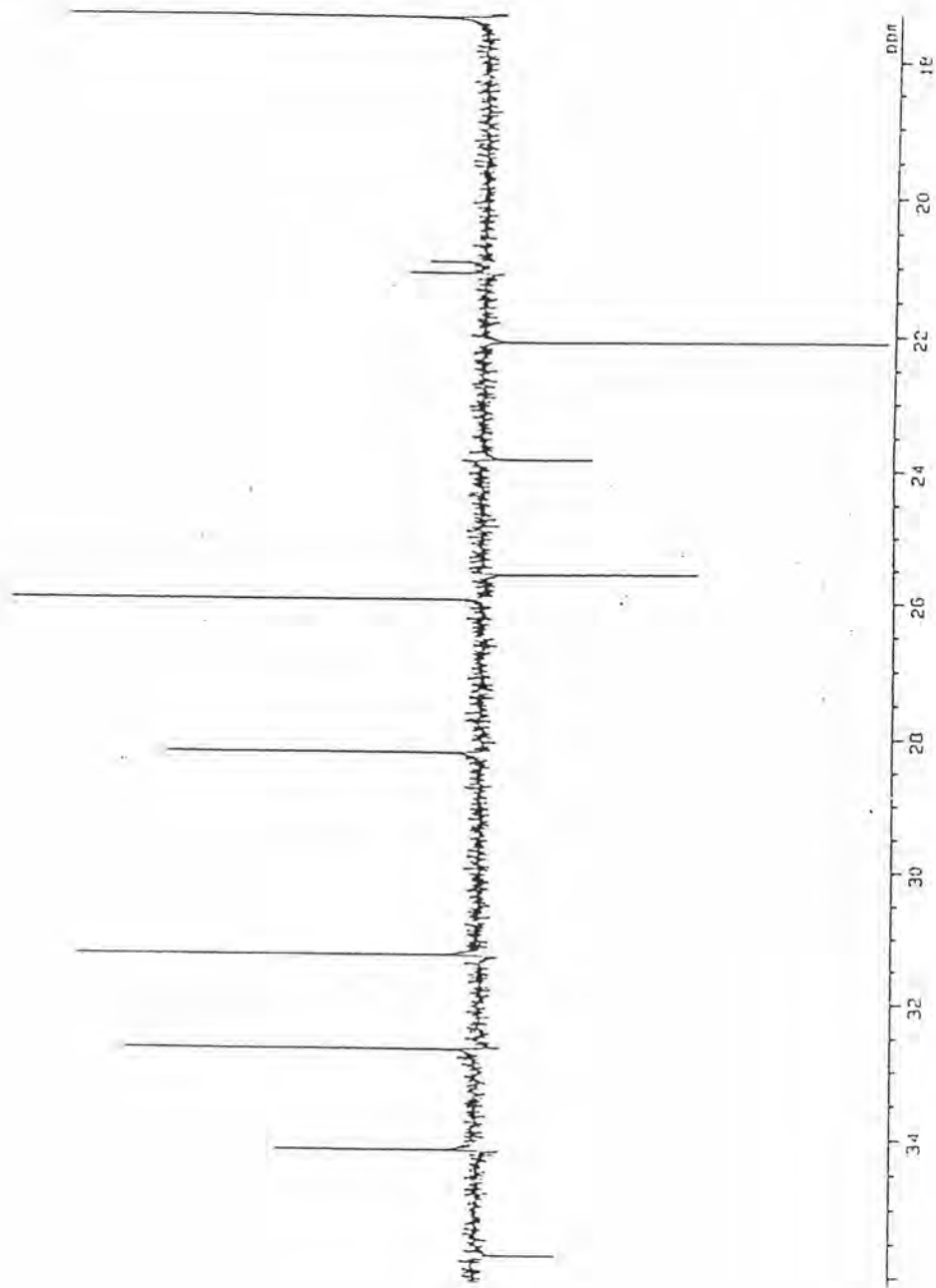
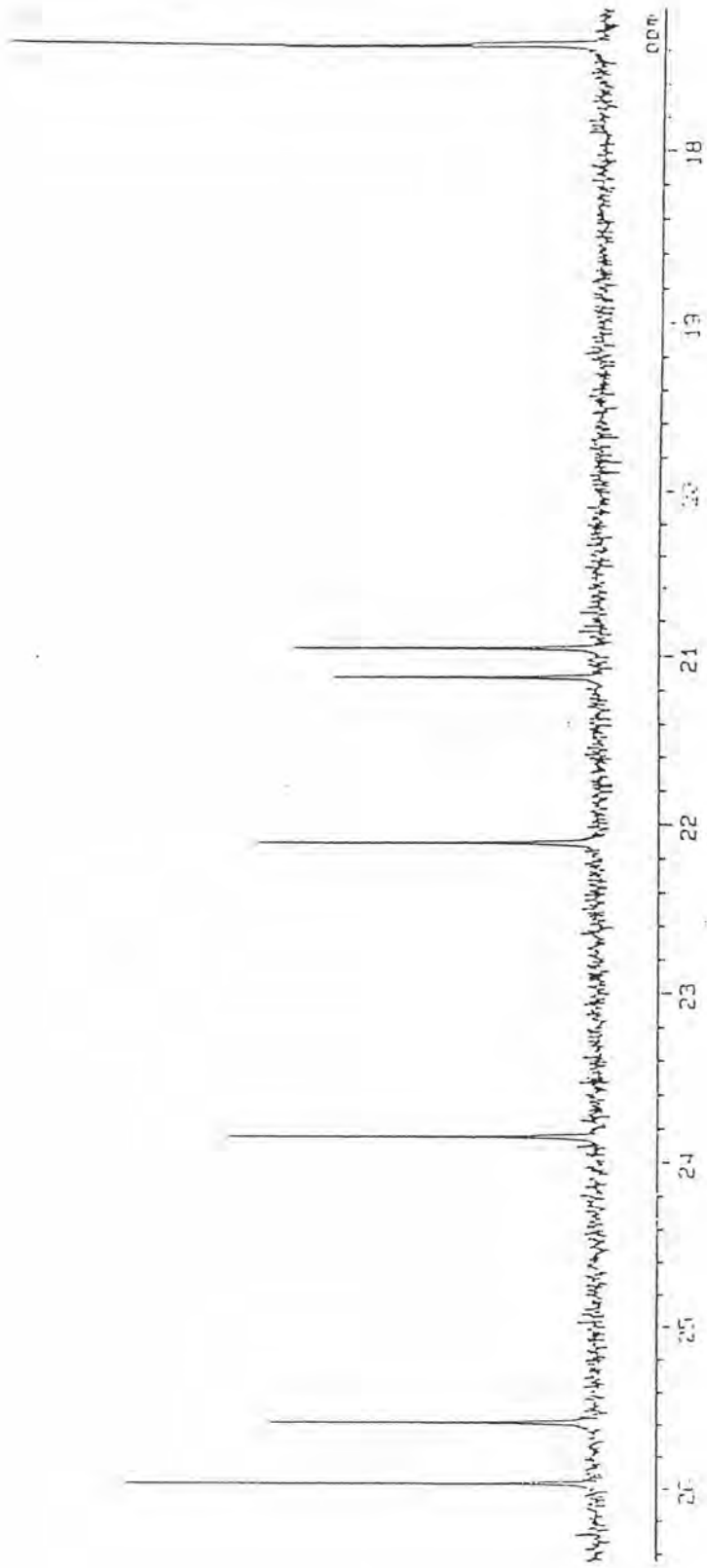


Figure 10 The expanded DEPT 135 NMR spectrum of Compound I



**Figure 11** The expanded  $^{13}\text{C}$  NMR spectrum of Compound I

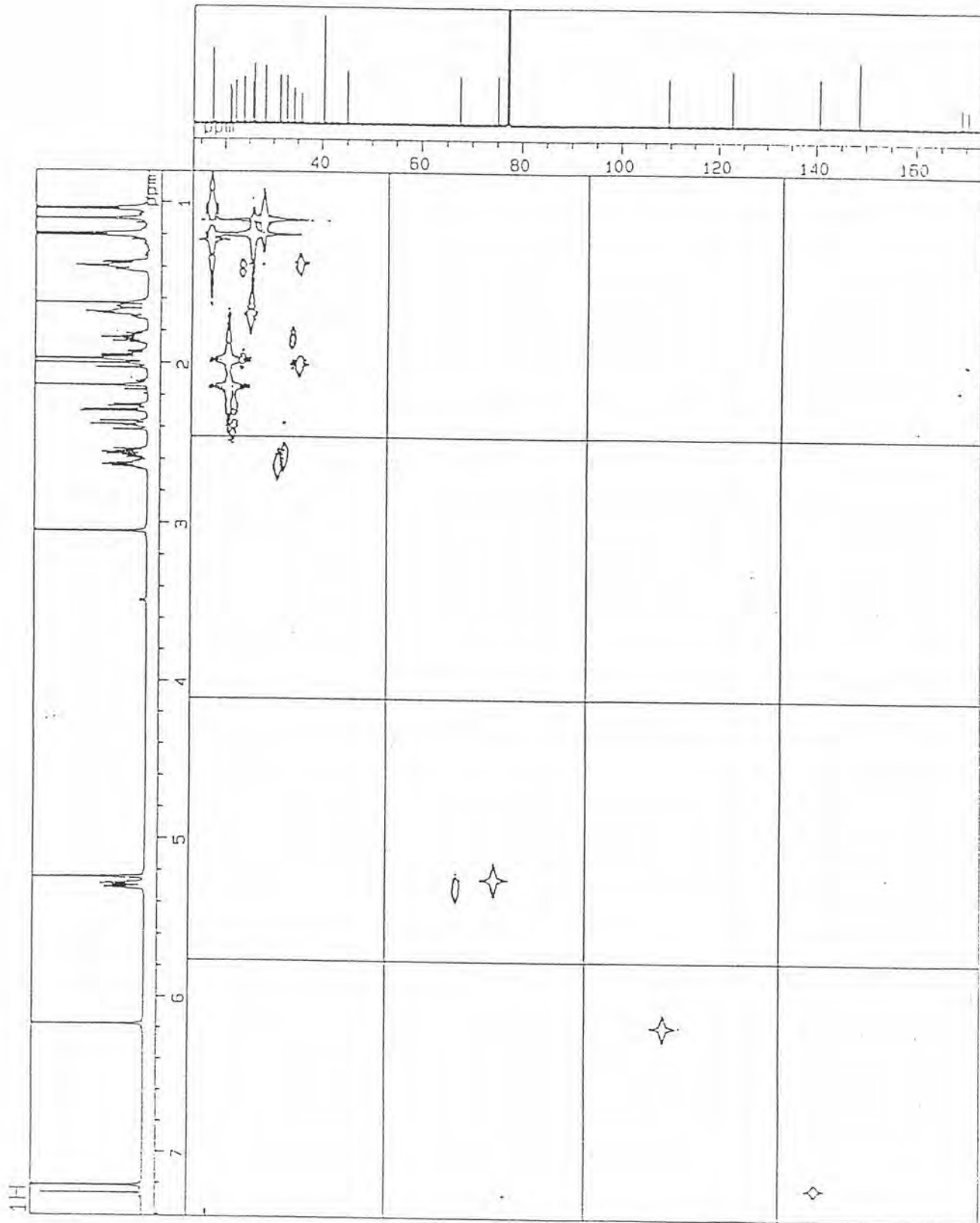


Figure 12 The HMQC spectrum of Compound I

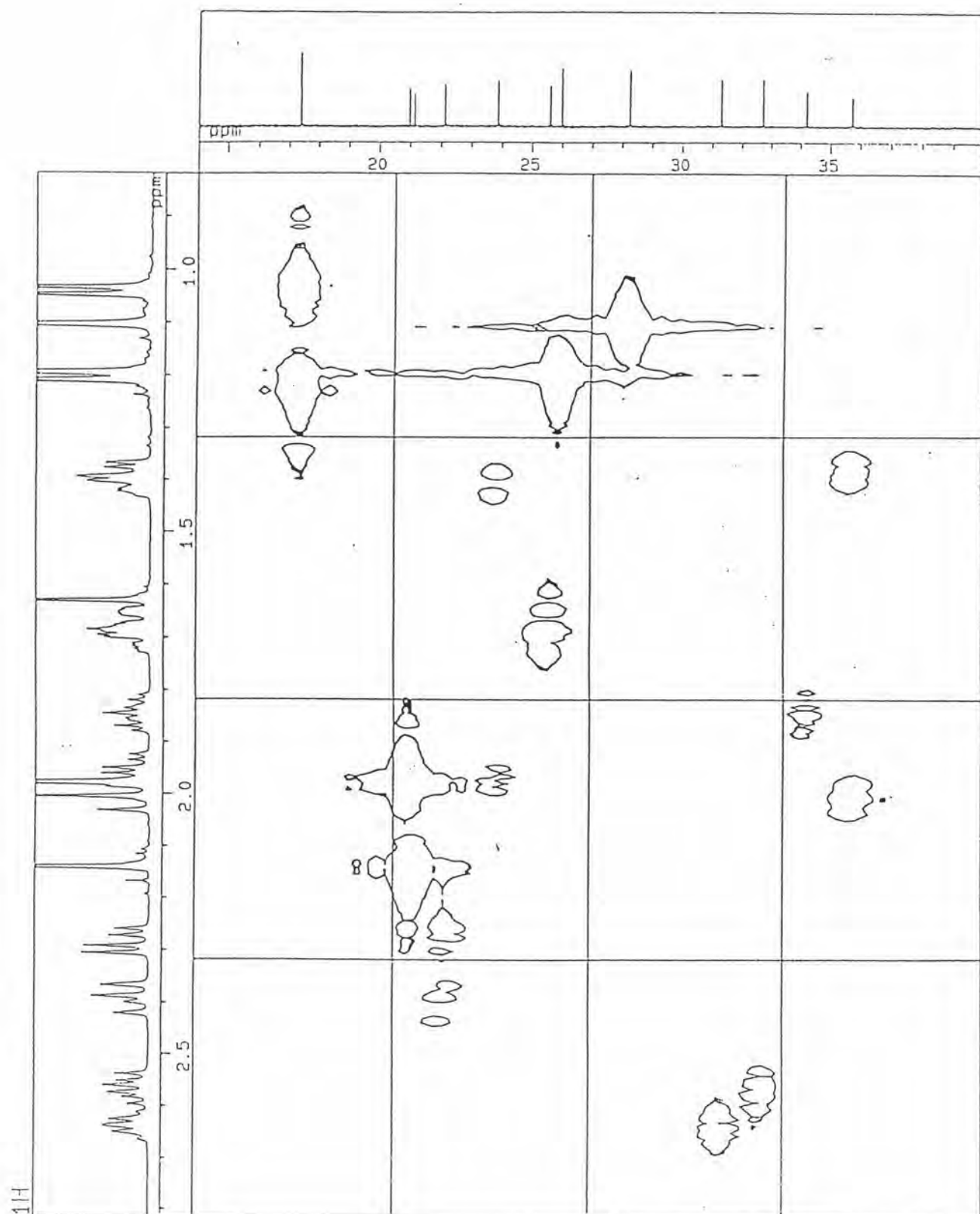


Figure 13 The expanded HMQC spectrum of Compound I

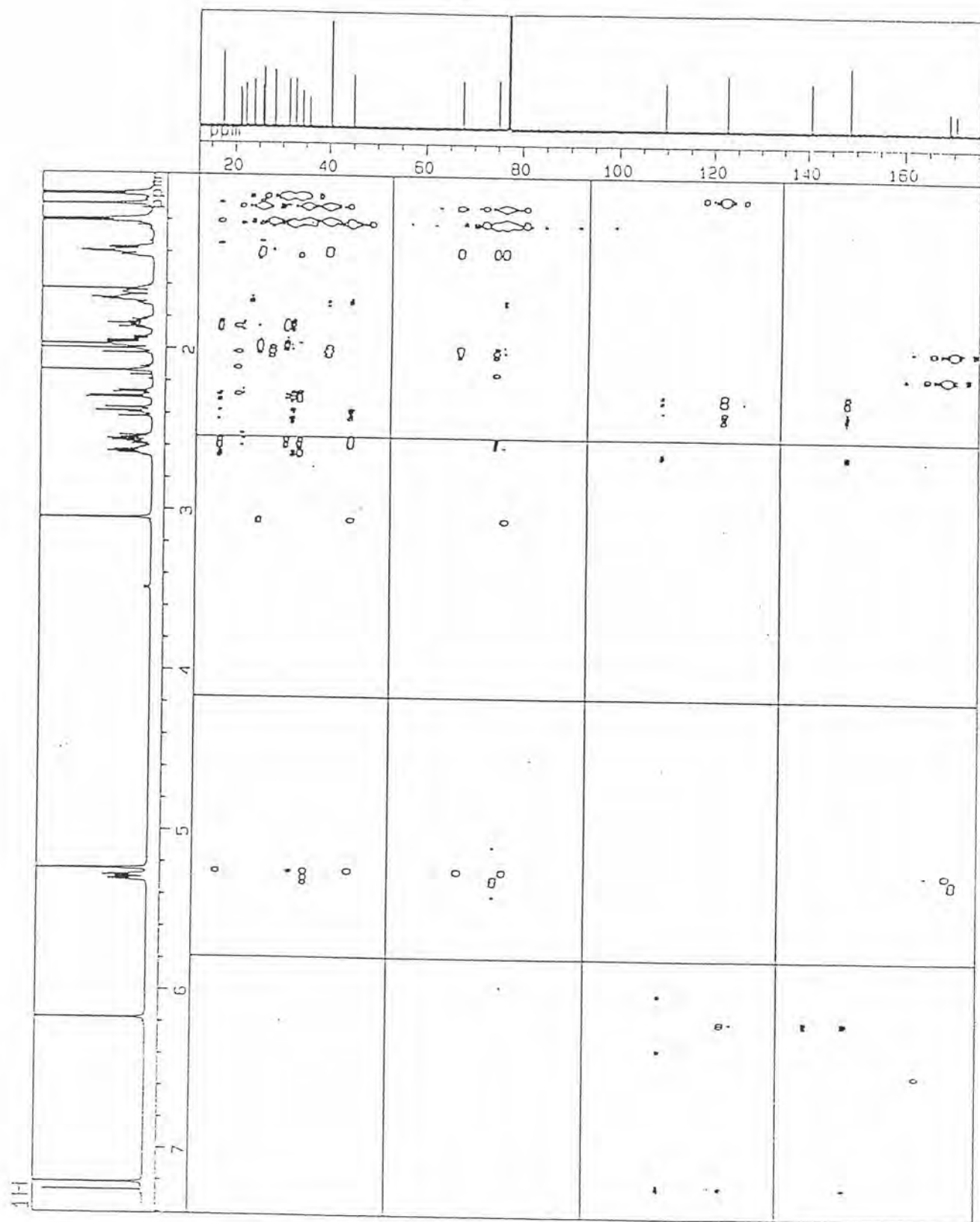


Figure 14 The HMBC spectrum of Compound I



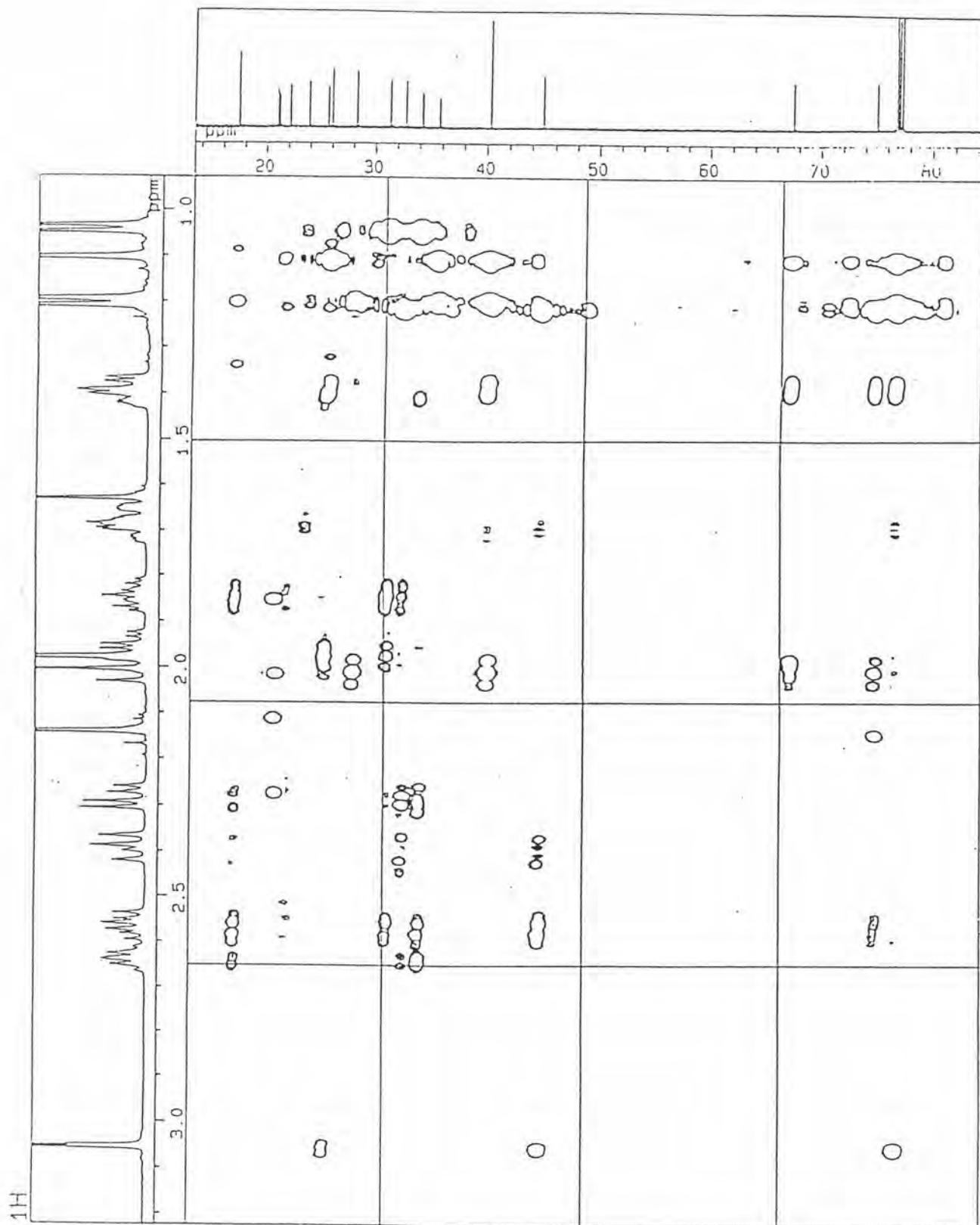


Figure 15 The expanded HMBC spectrum of Compound I

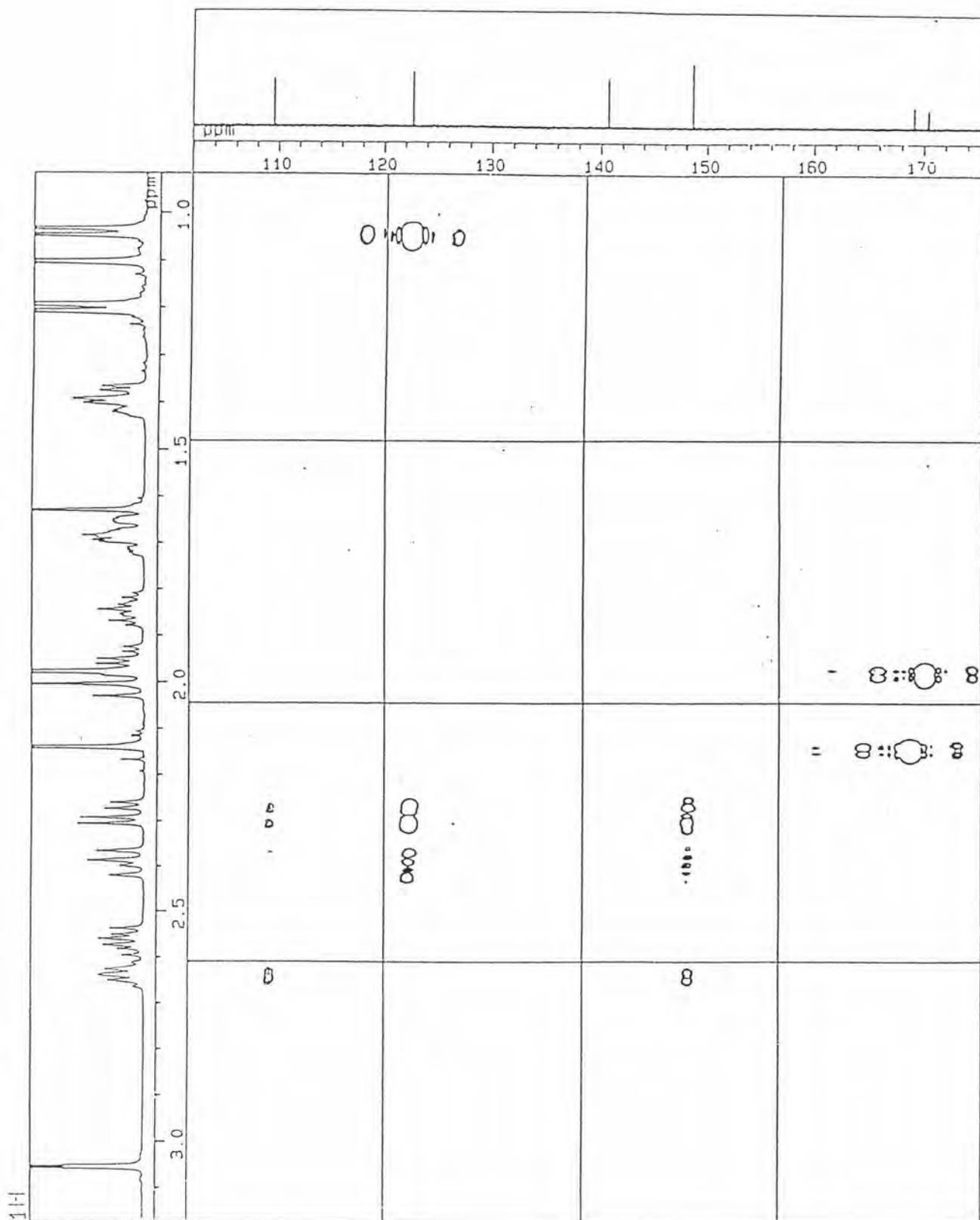


Figure 16 The expanded HMBC spectrum of Compound I

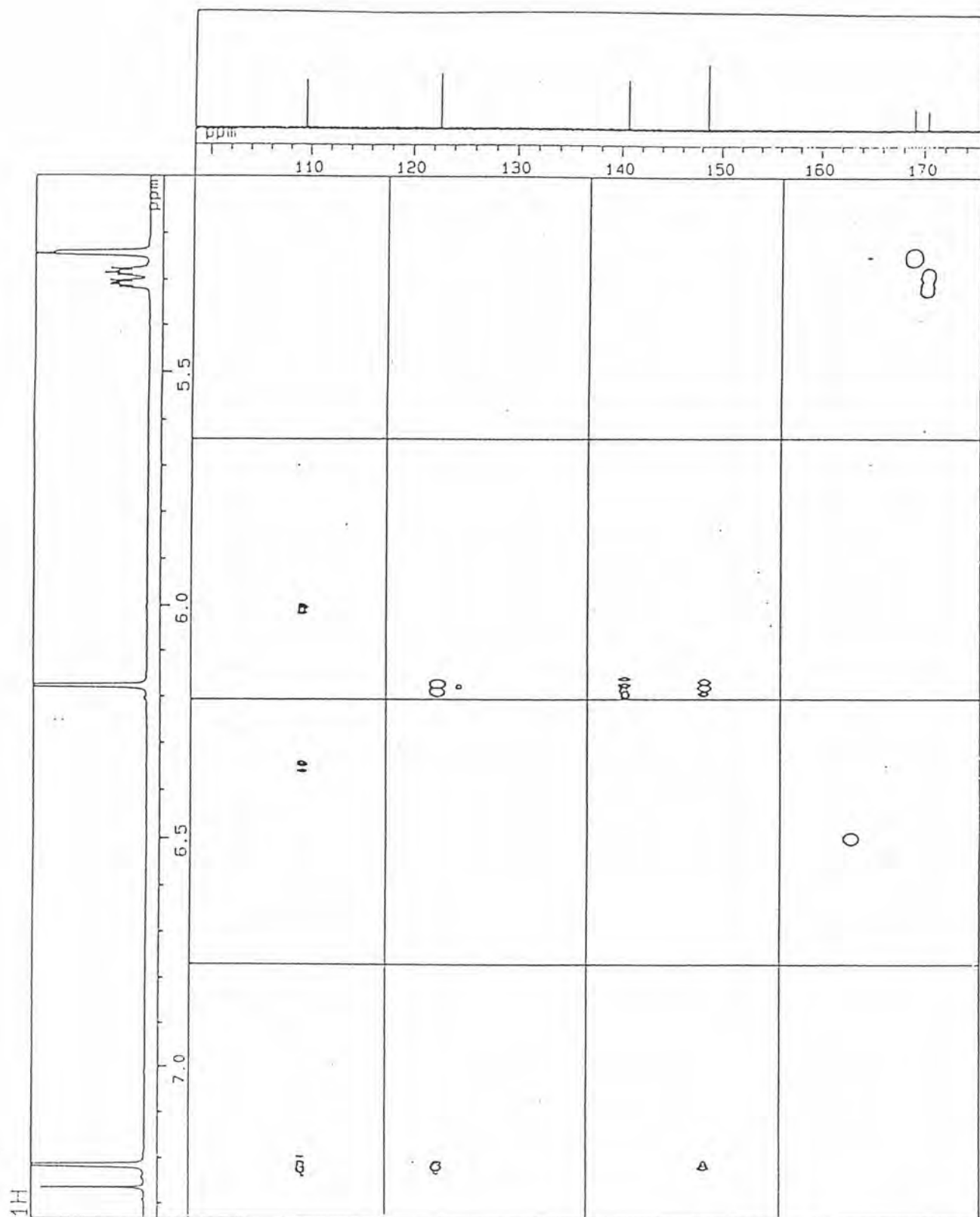


Figure 17 The expanded HMBC spectrum of Compound I

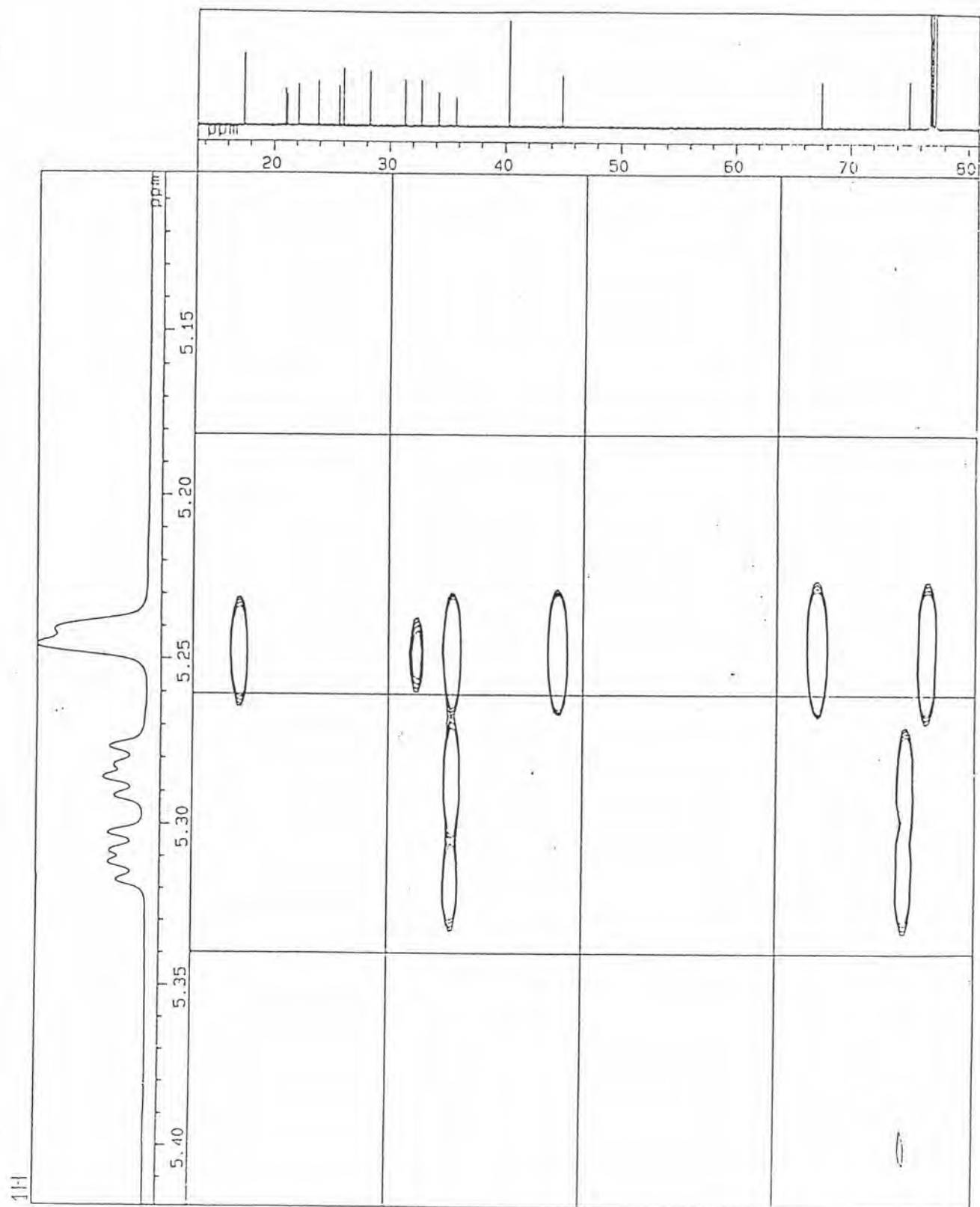


Figure 18 The expanded HMBC spectrum of Compound I



Figure 19 The COSY spectrum of Compound I

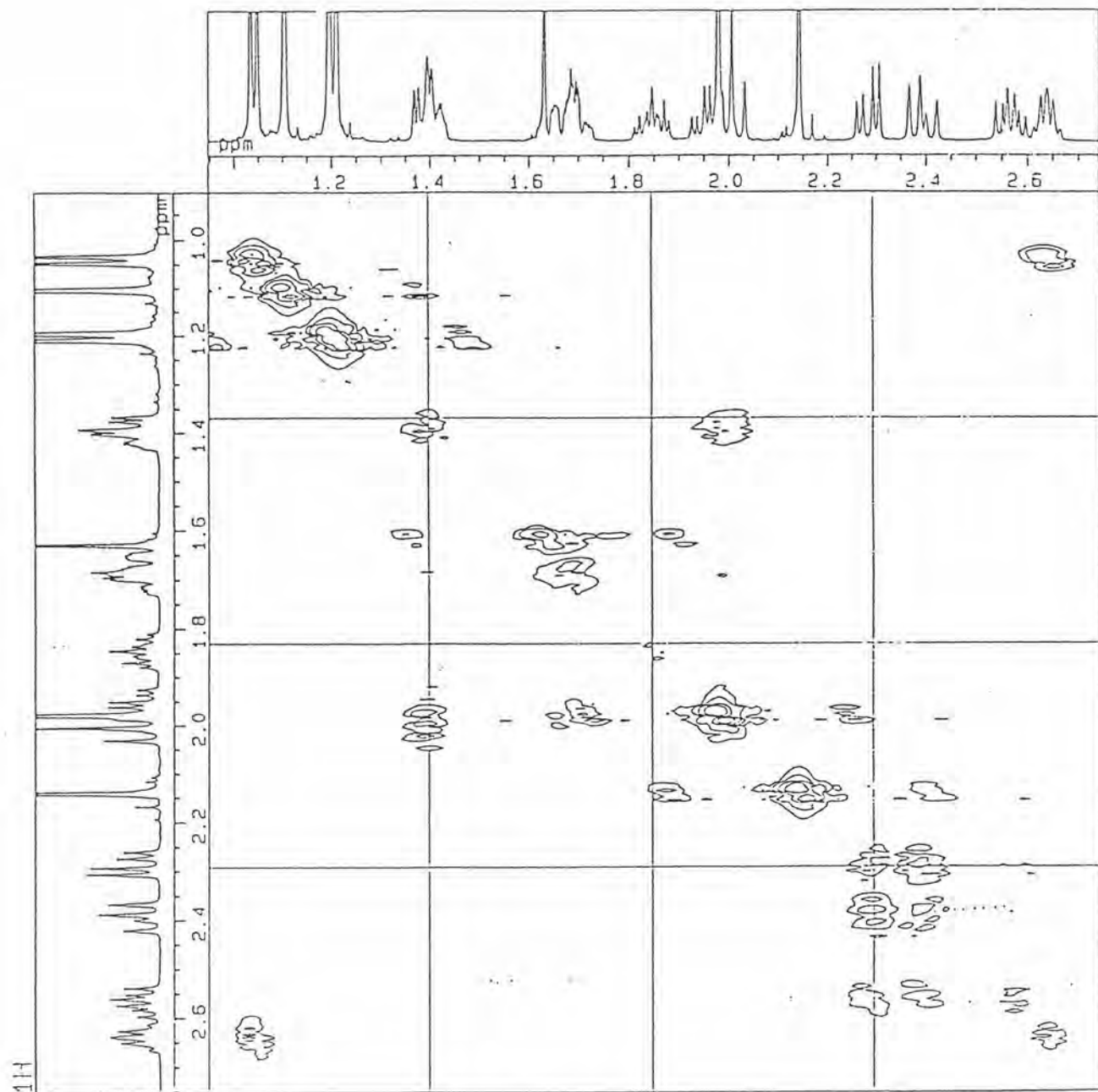
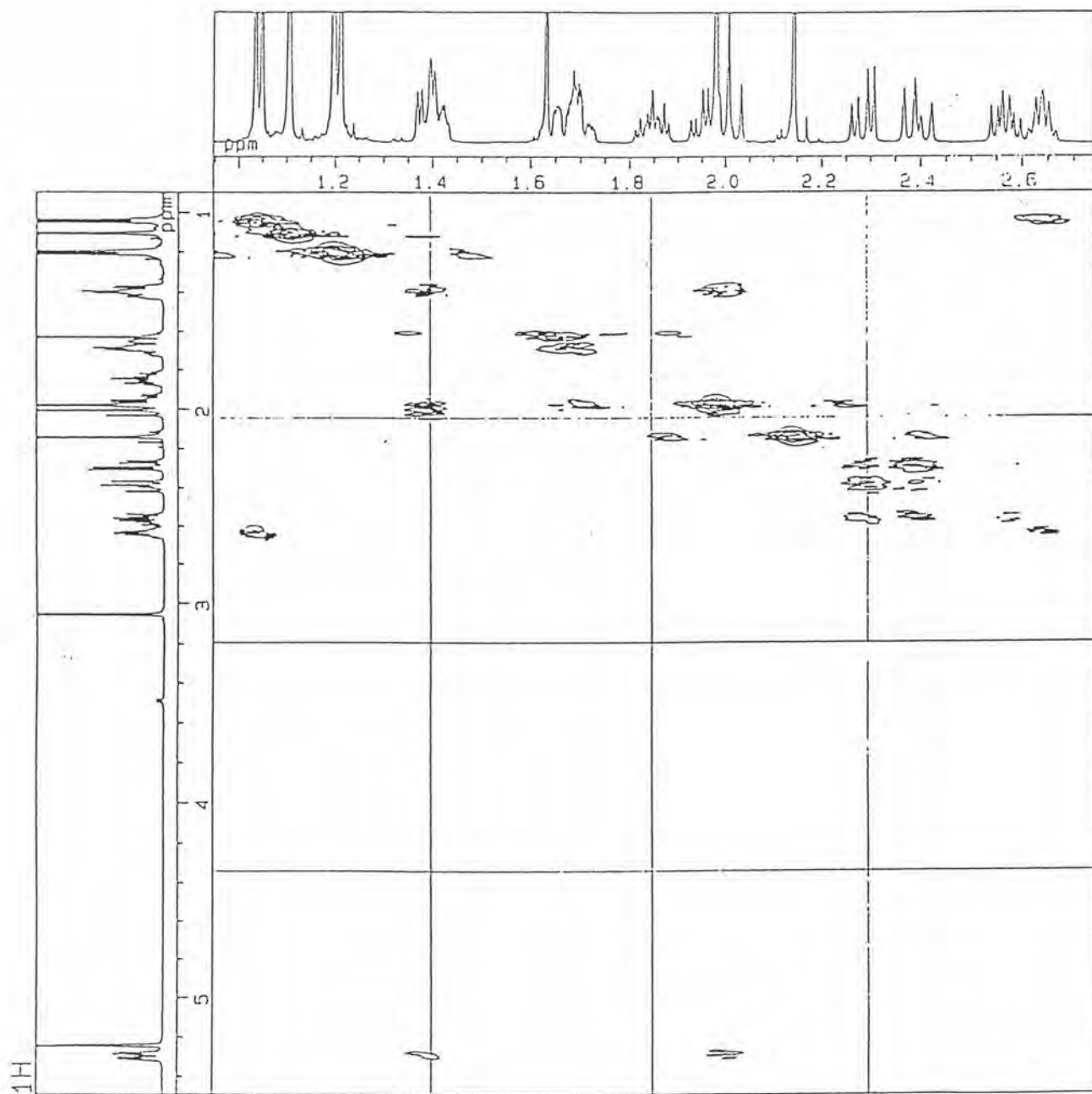


Figure 20 The expanded COSY spectrum of Compound I



**Figure 21** The expanded COSY spectrum of Compound I

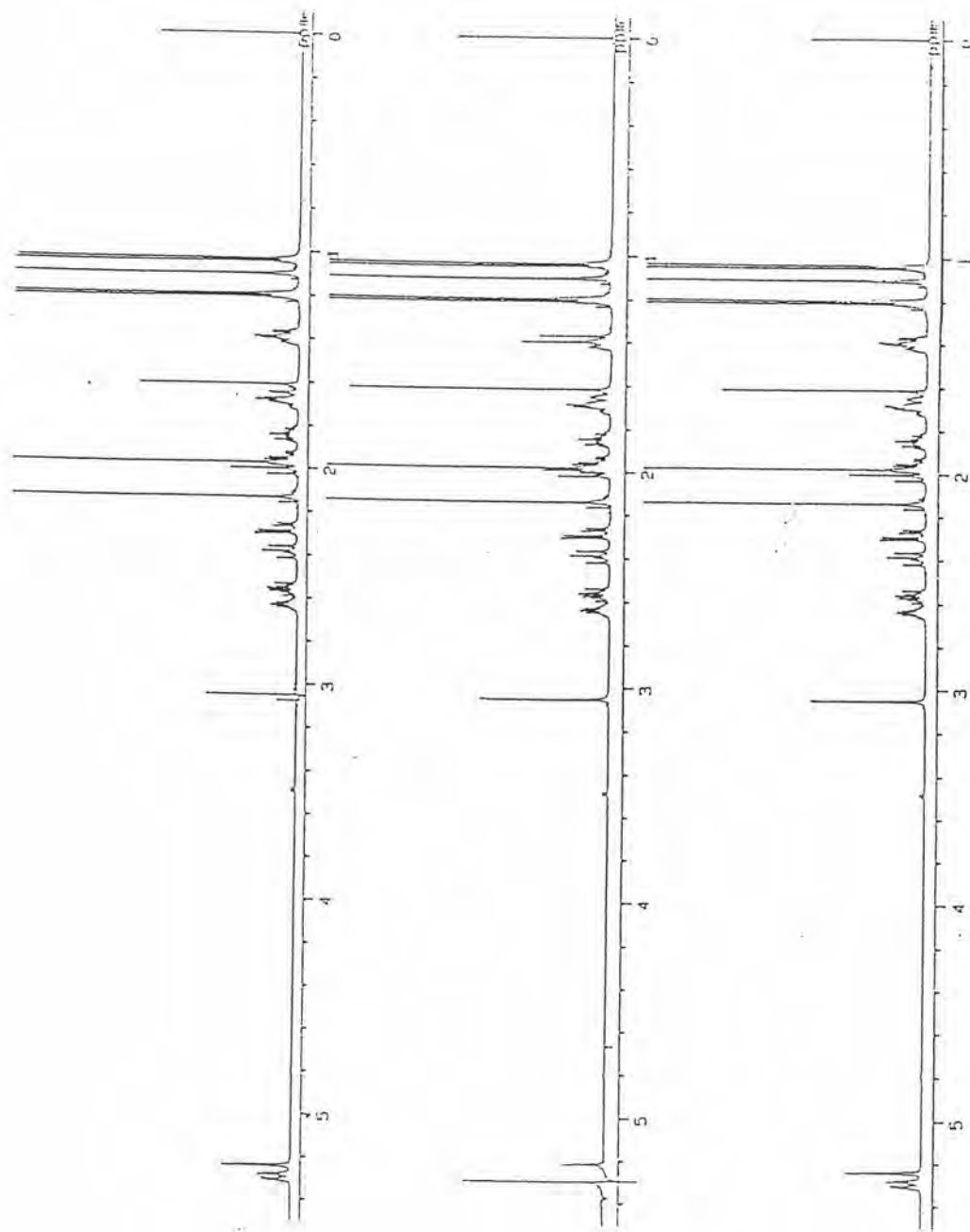


Figure 22 The spin decoupling spectrum of Compound I



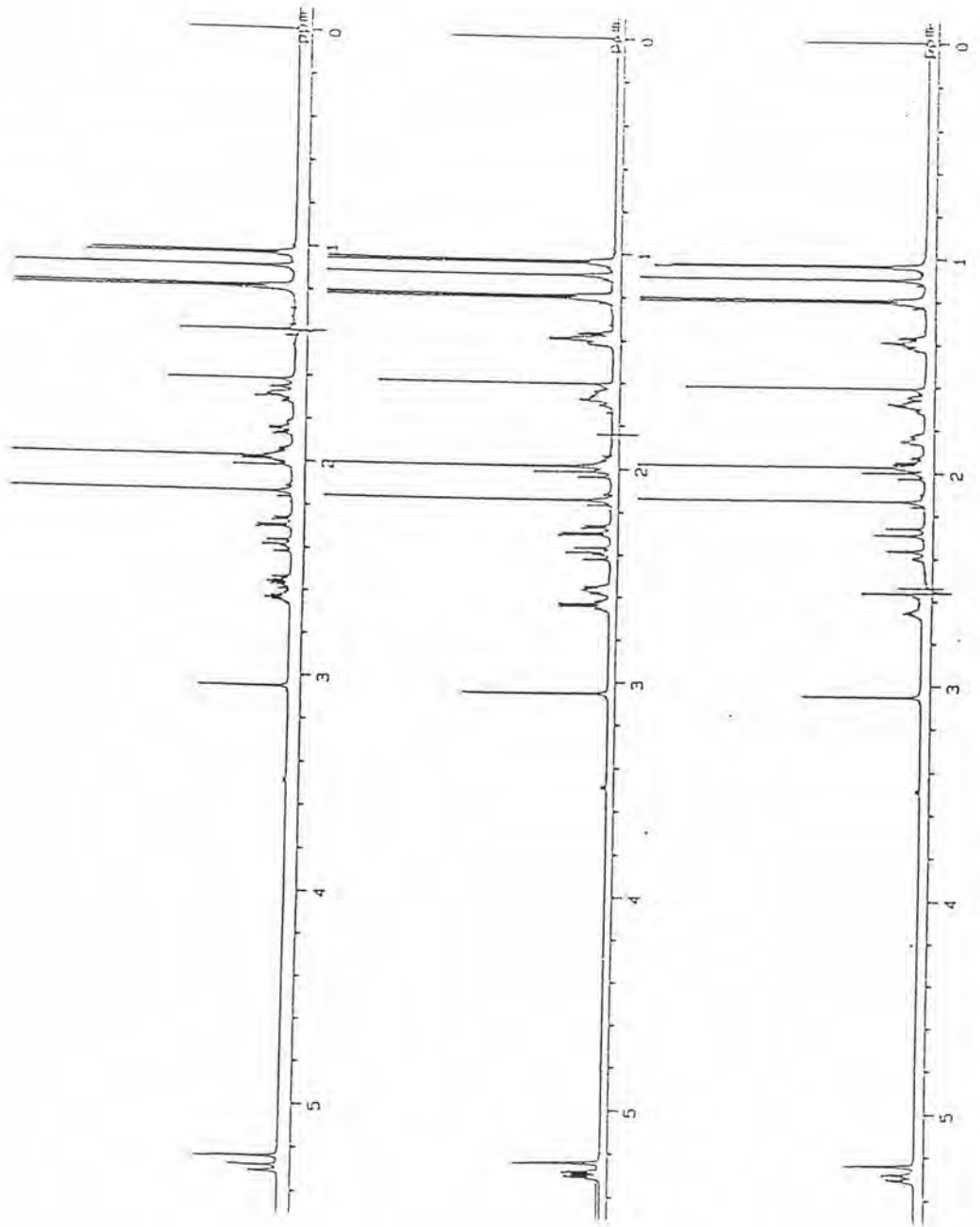


Figure 23 The spin decoupling spectrum of Compound I (continued)

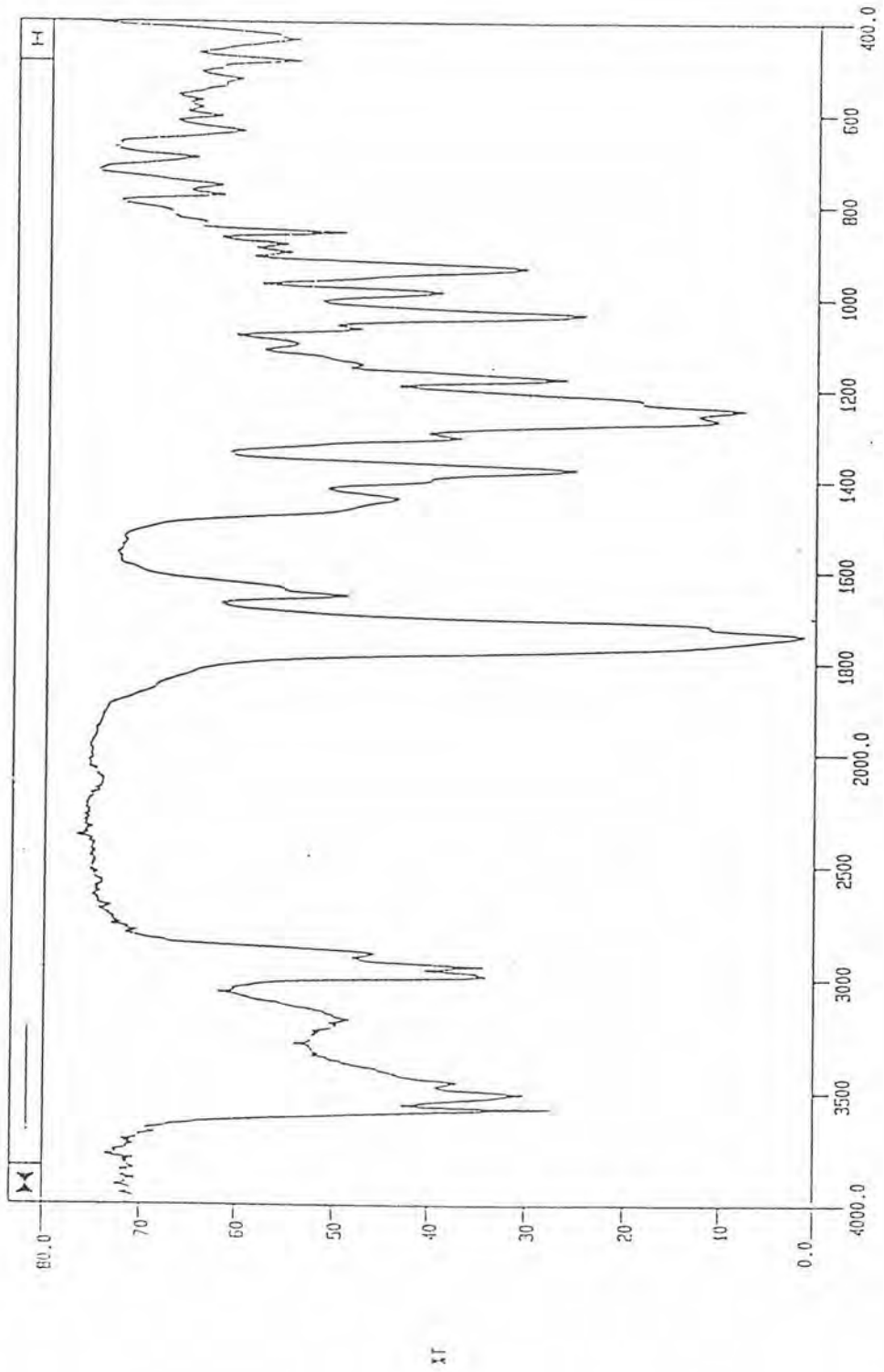


Figure 24 The IR spectrum of Compound II

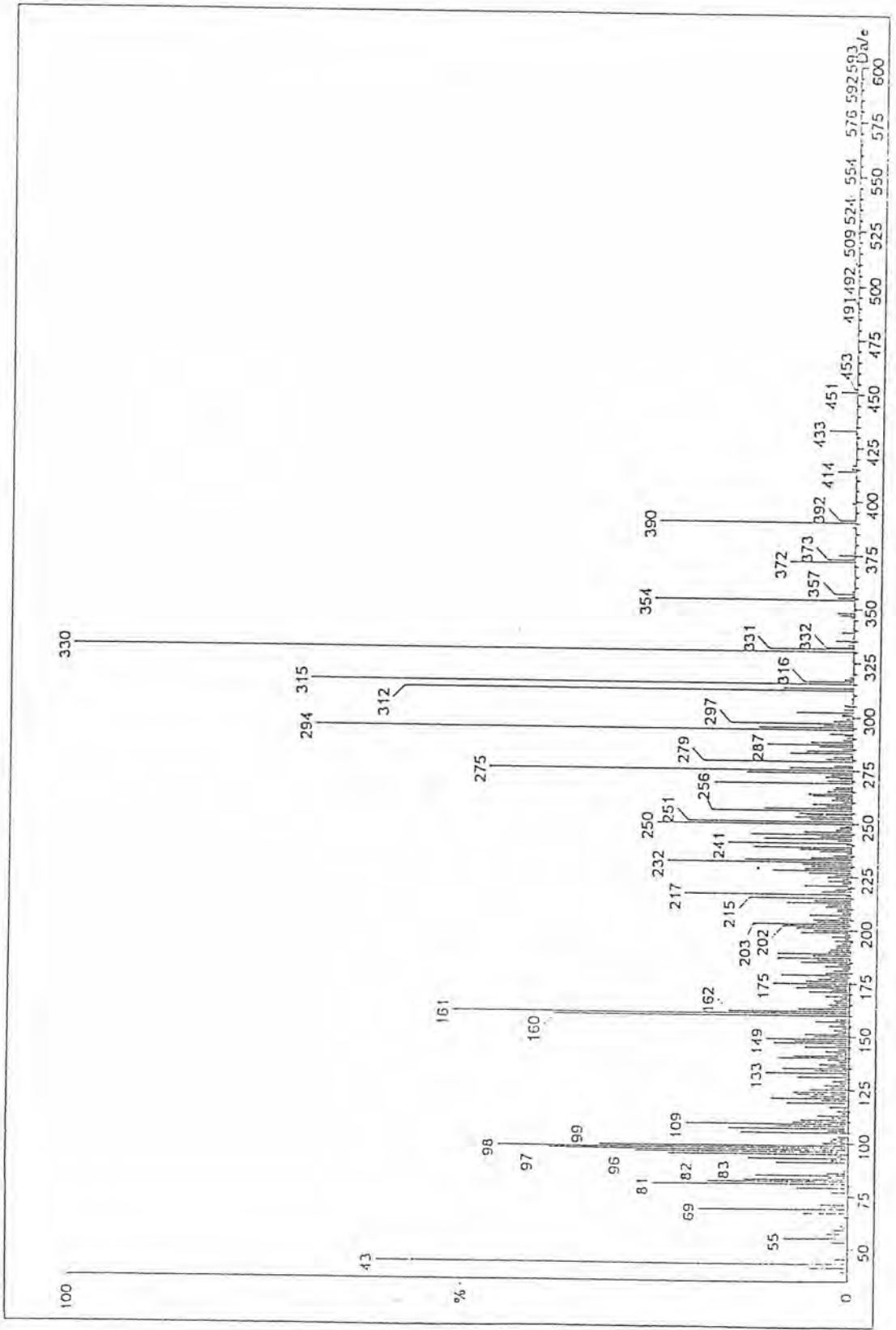


Figure 25 The mass spectrum (EI) of Compound II

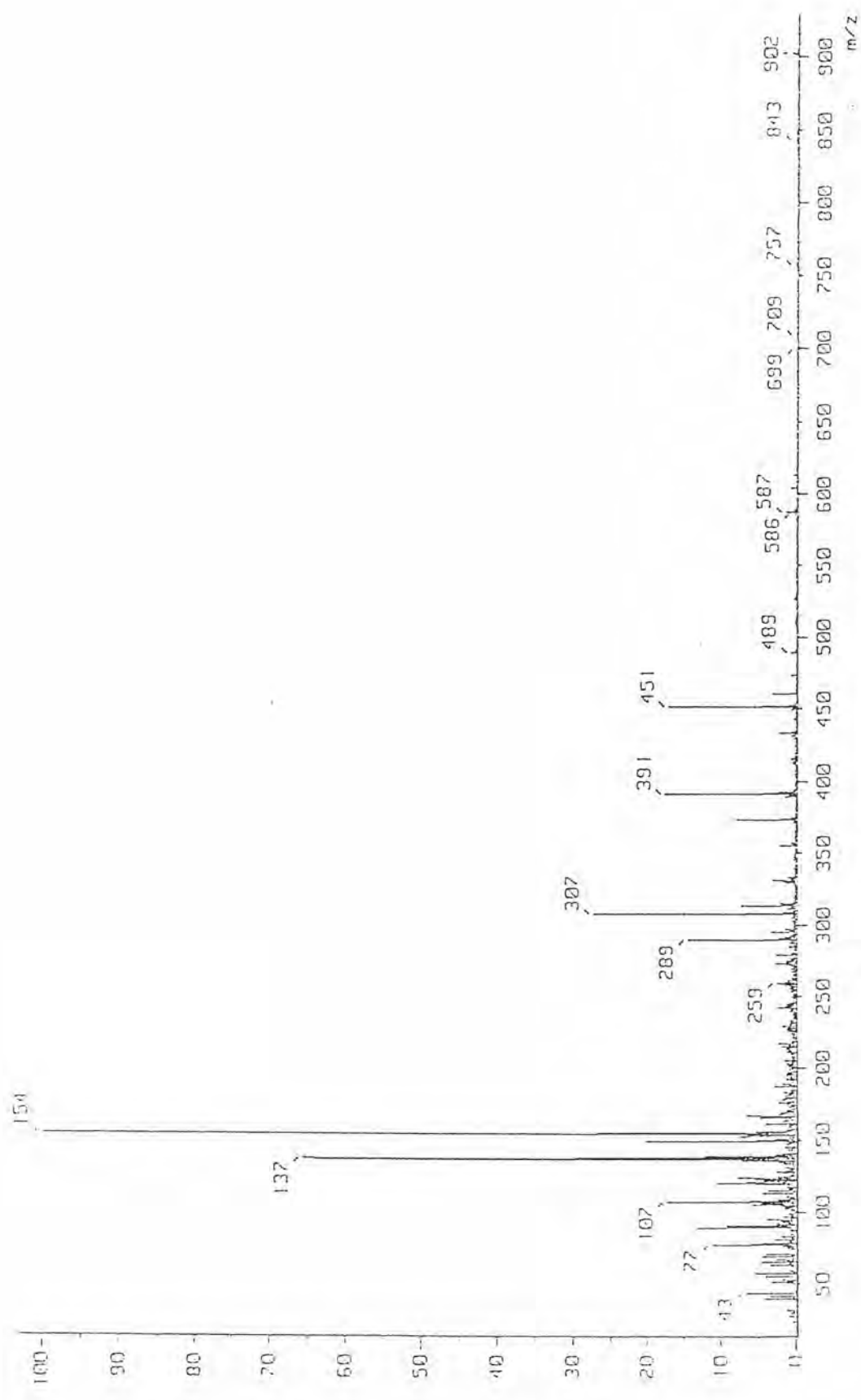
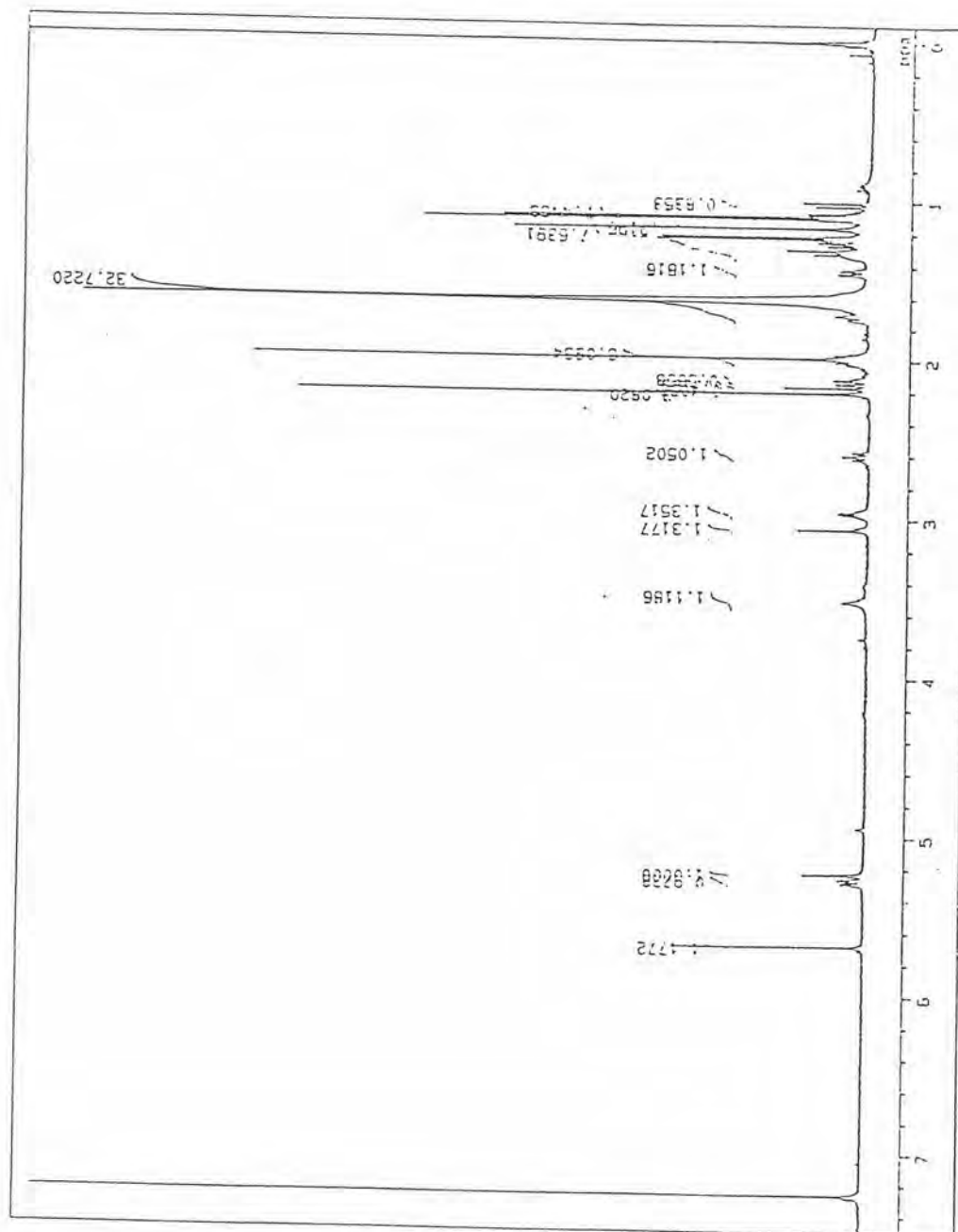


Figure 26 The mass spectrum (FAB) of Compound II

Figure 27 The  $^1\text{H}$  NMR spectrum of Compound II

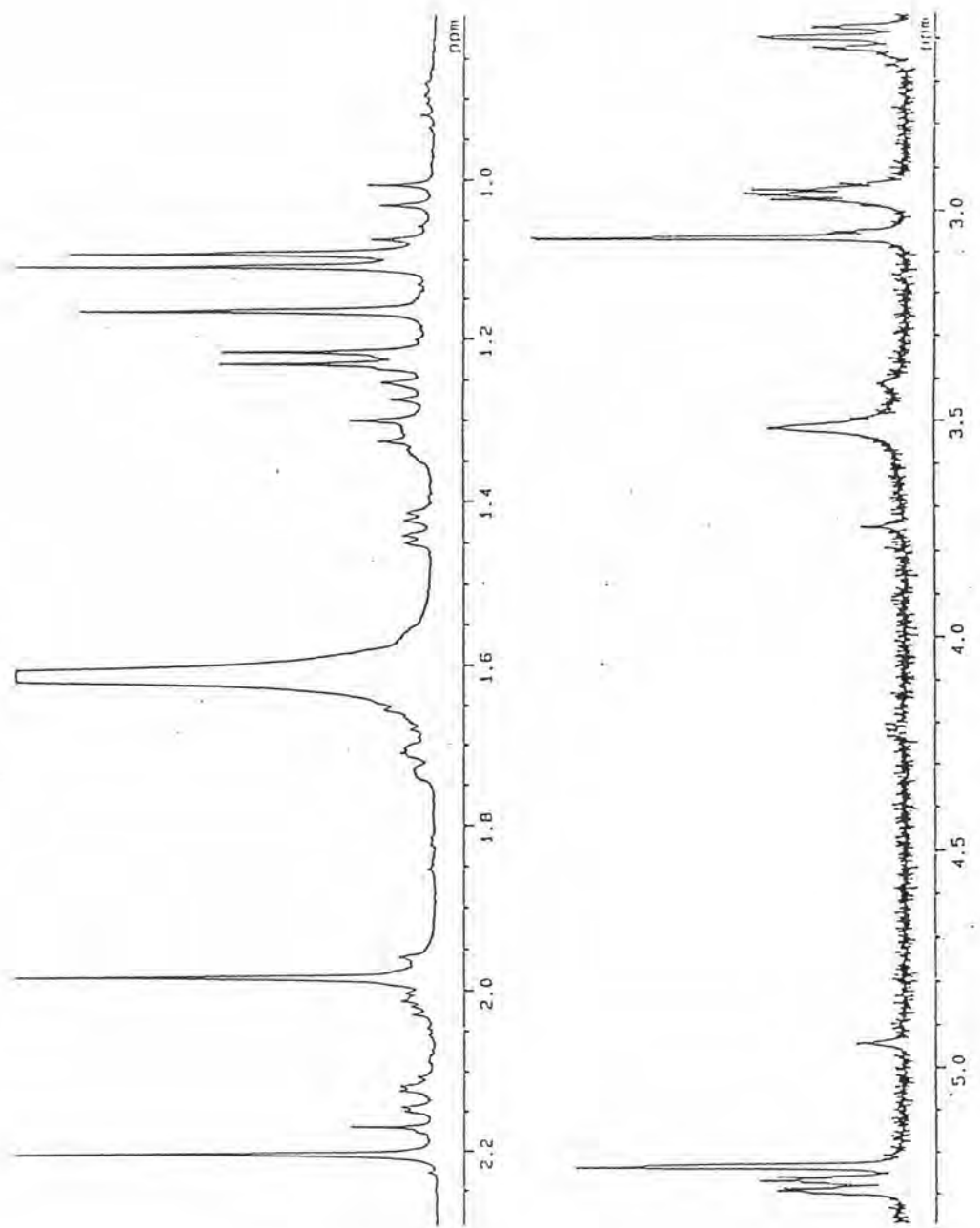


Figure 28 The expanded  $^1\text{H}$  NMR spectrum of Compound II

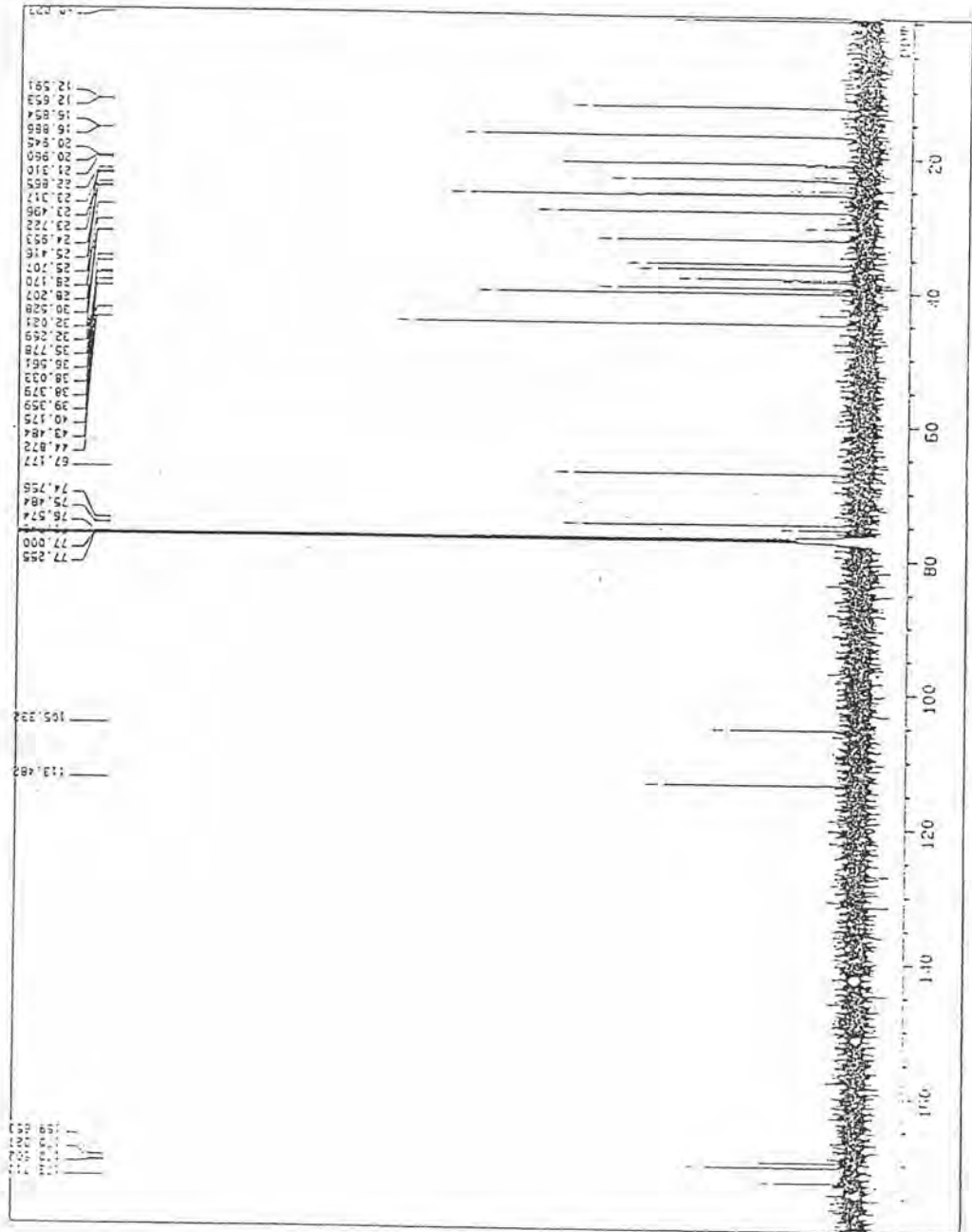


Figure 29 The  $^{13}\text{C}$  NMR spectrum of Compound II

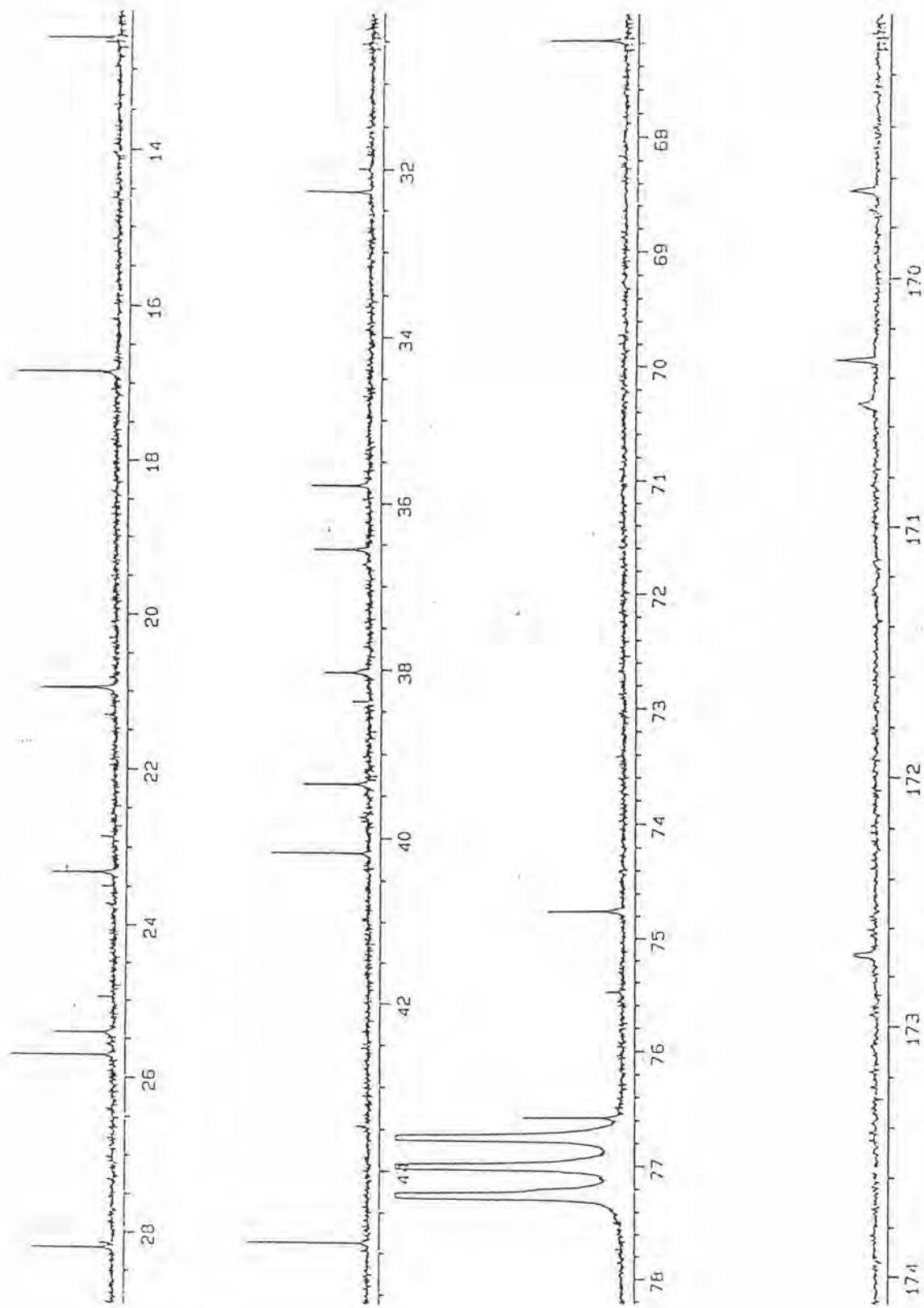
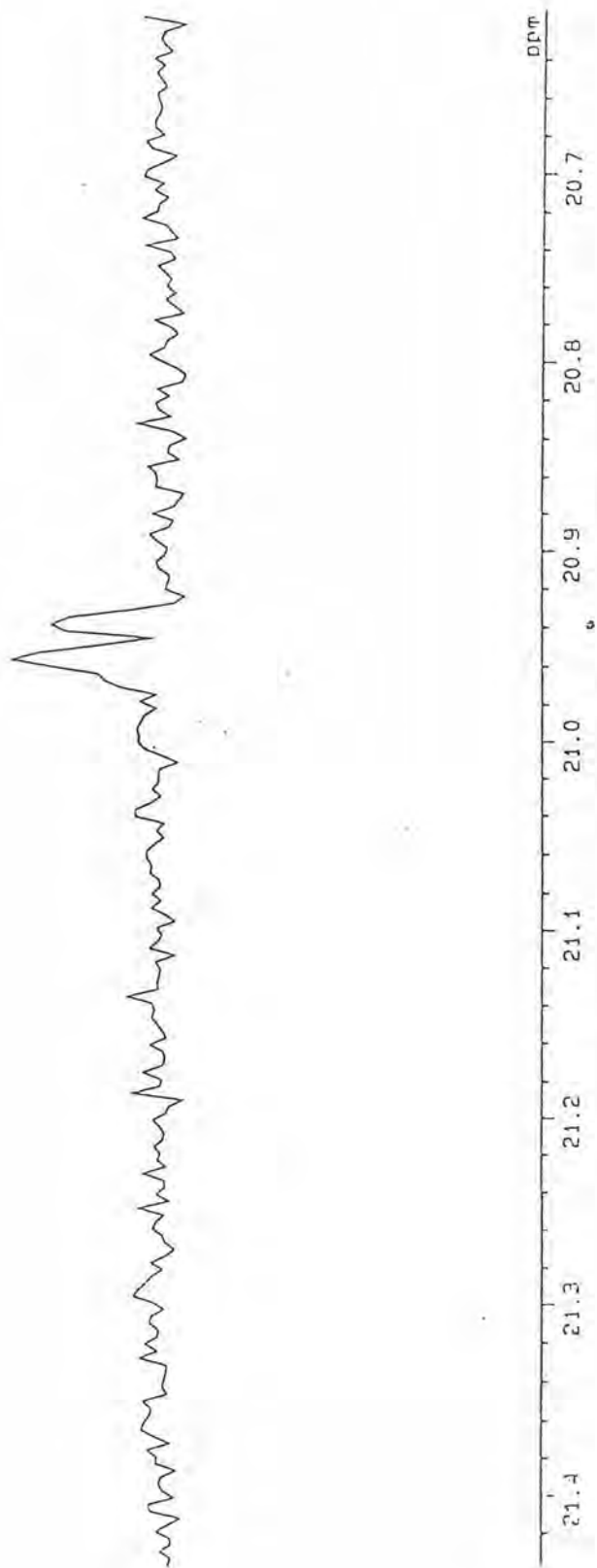


Figure 30 The expanded  $^{13}\text{C}$  NMR spectrum of Compound II





**Figure 31** The expanded  $^{13}\text{C}$  NMR spectrum of Compound II

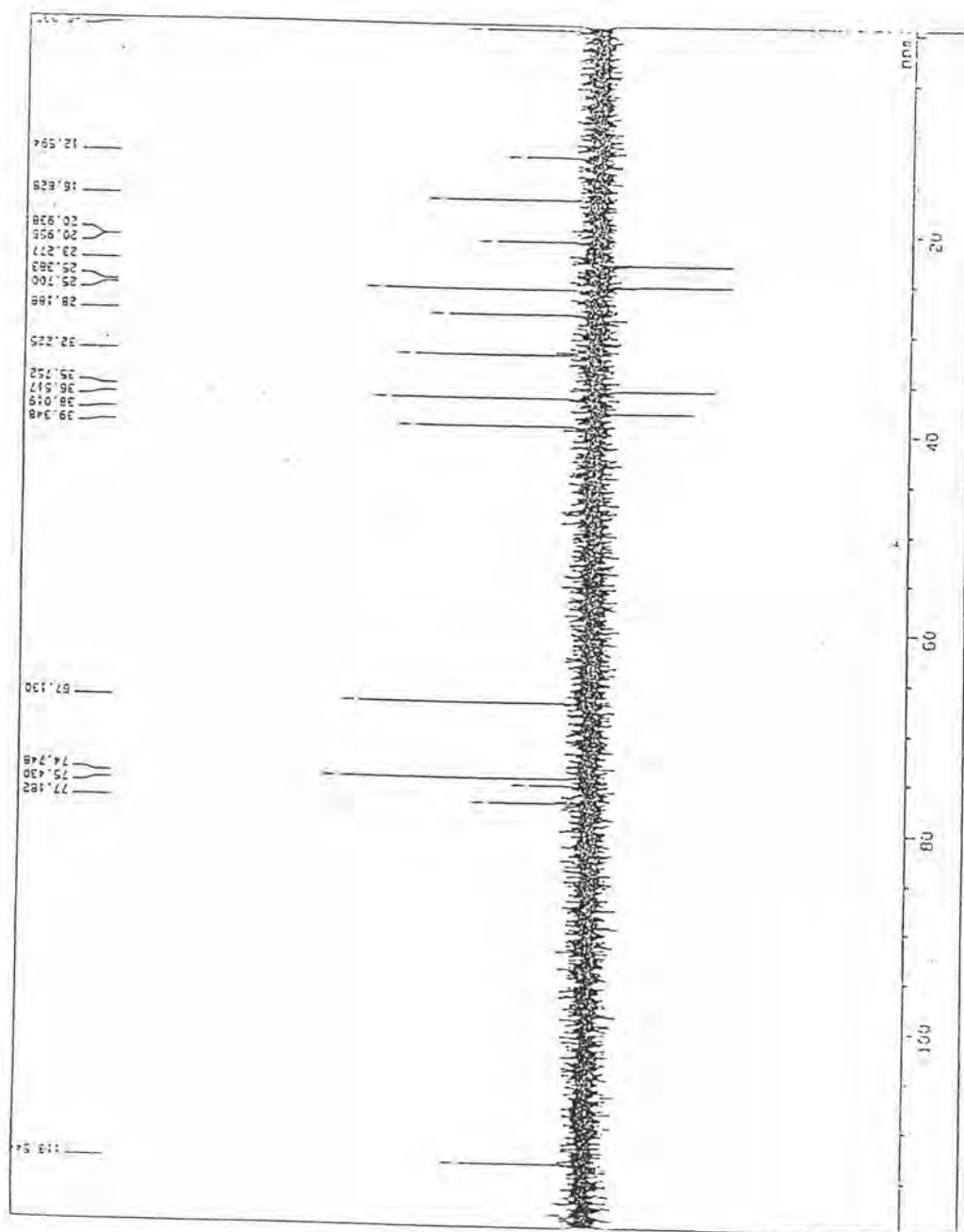


Figure 32 The DEPT 135 NMR spectrum of Compound II

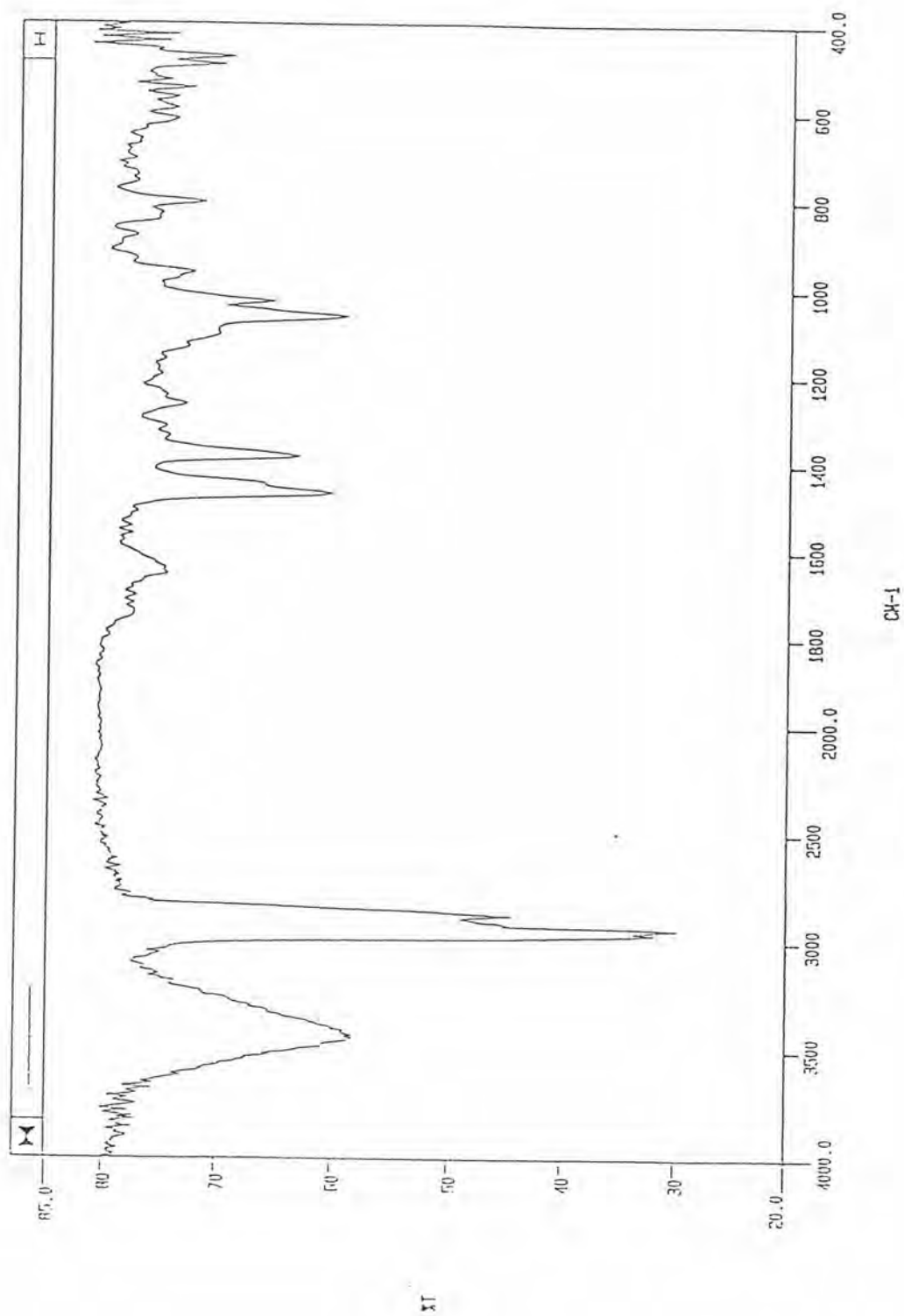


Figure 33 The IR spectrum of Mixture III

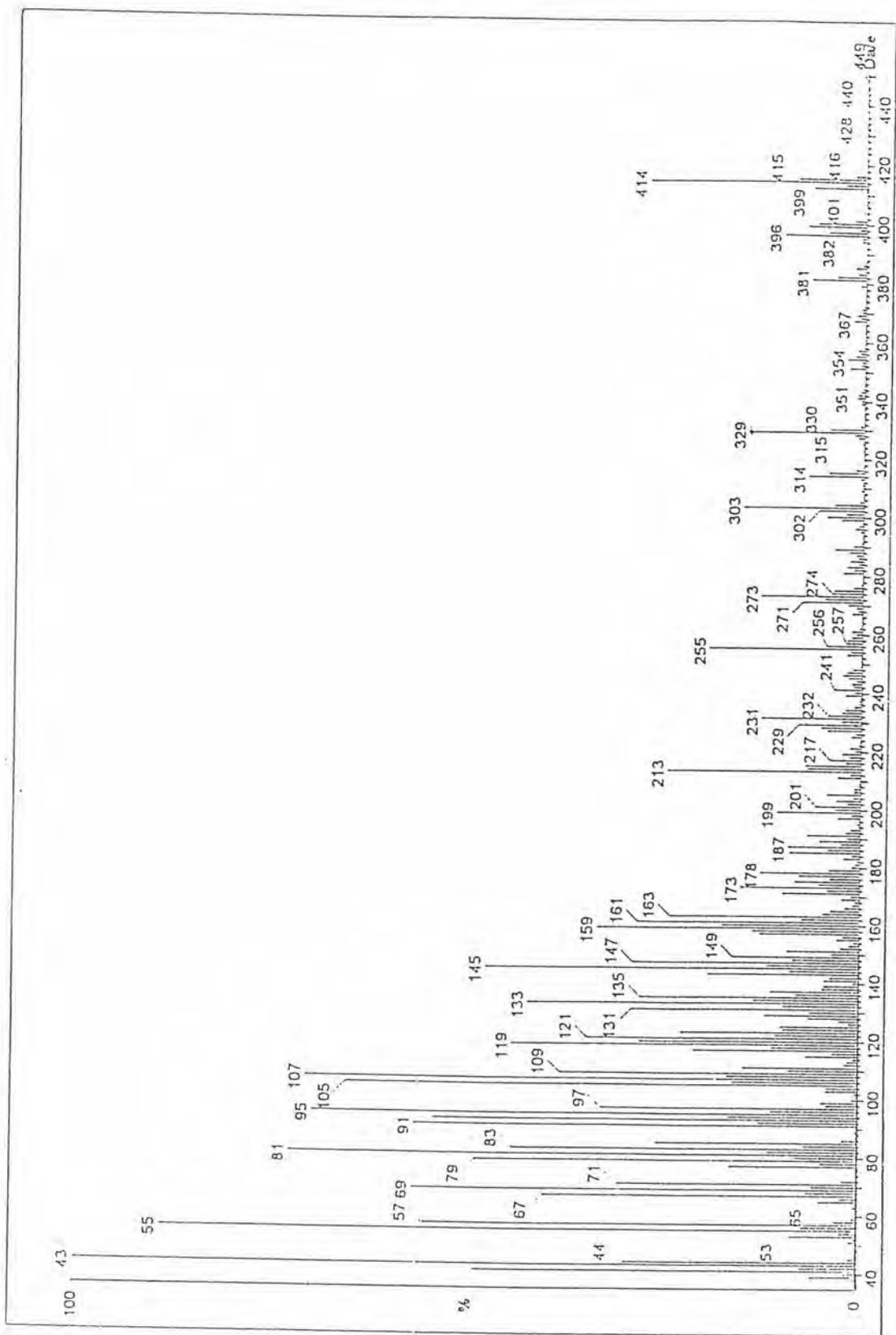
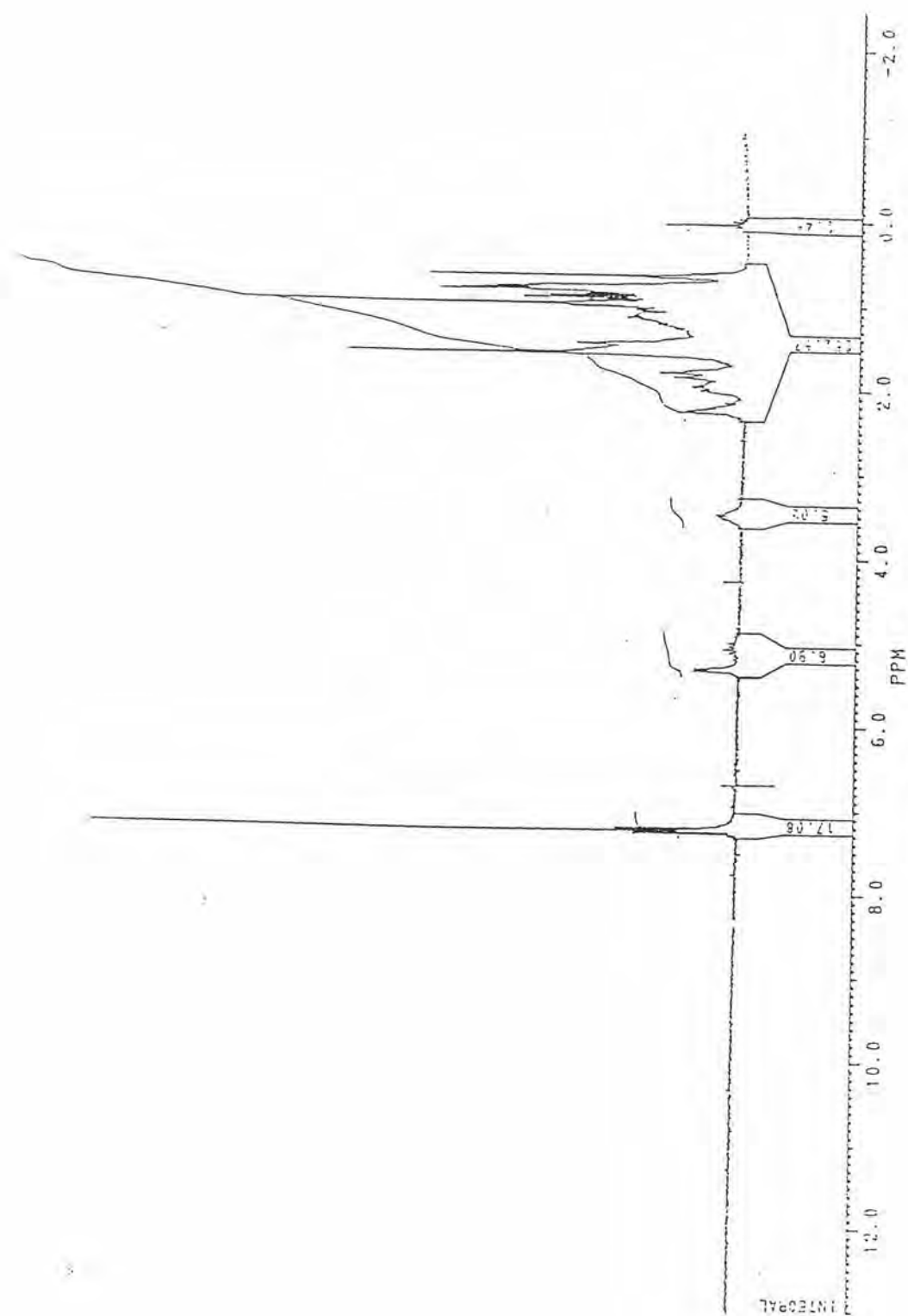


Figure 34 The mass spectrum (EI) of Mixture III

Figure 35 The  $^1\text{H}$  NMR spectrum of Mixture III

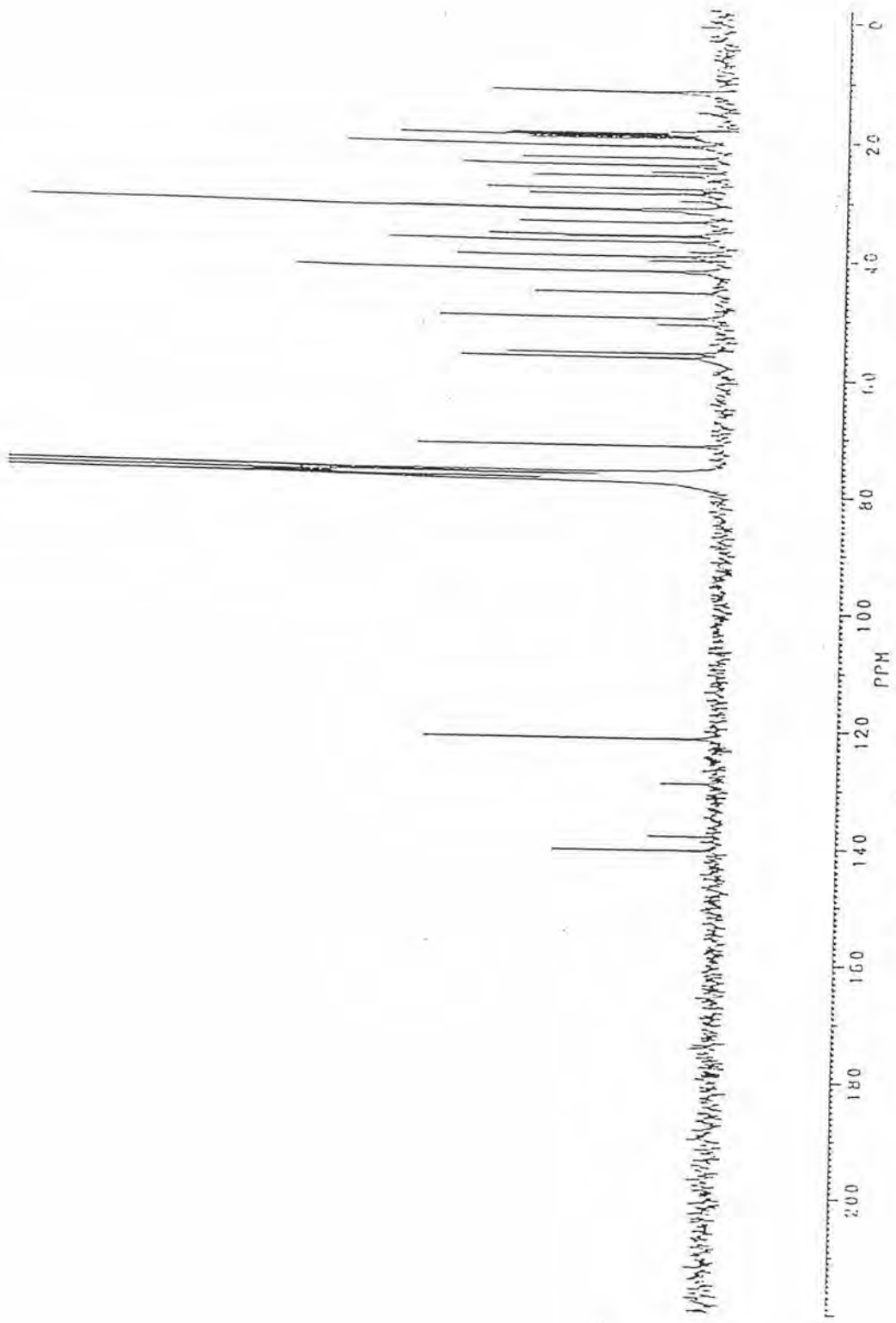


Figure 36 The  $^{13}\text{C}$  NMR spectrum of Mixture III

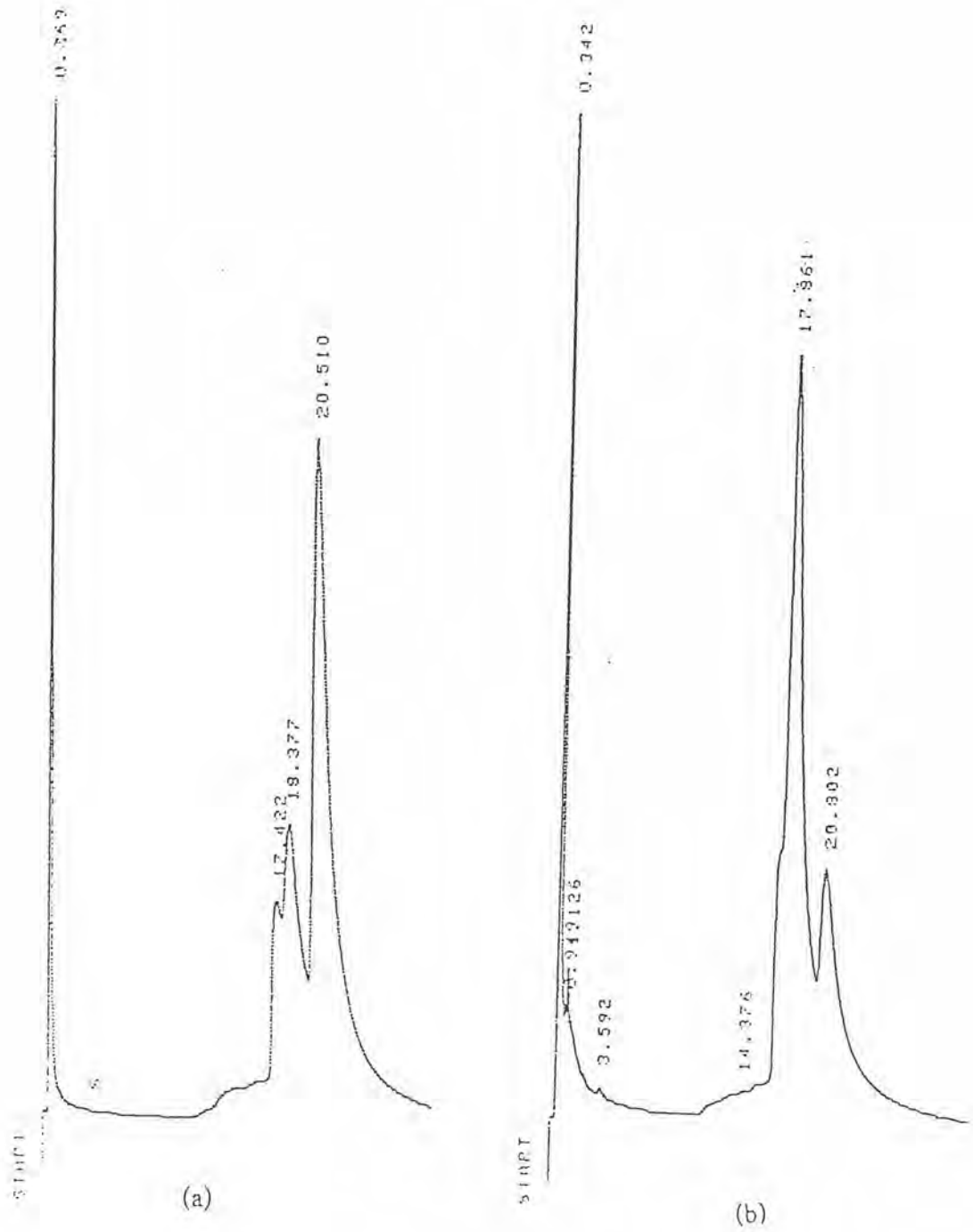


Figure 37 The GLC chromatograms of

(a) standard steroid: campesterol, stigmasterol,  $\beta$ -sitosterol

(b) Mixture III

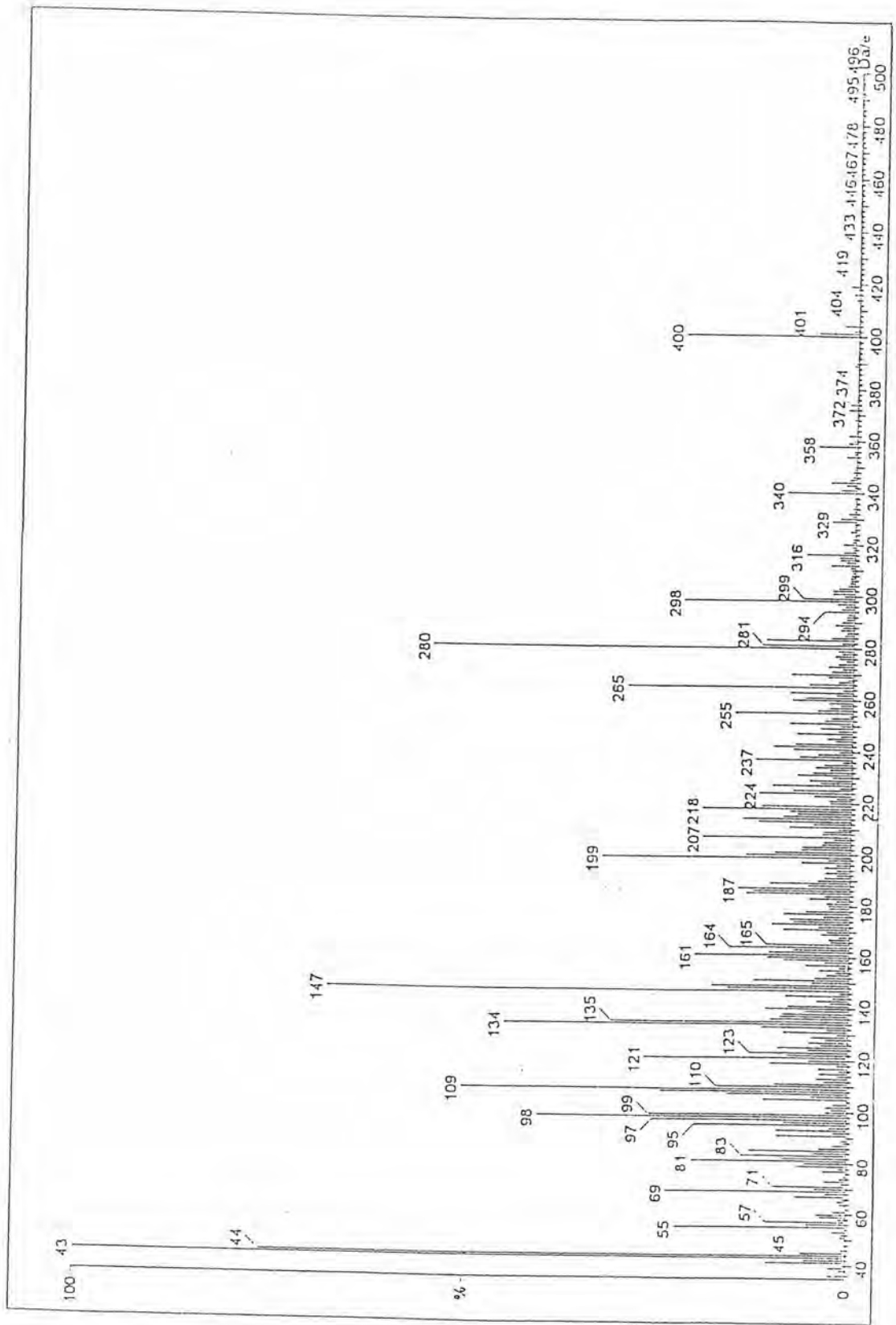
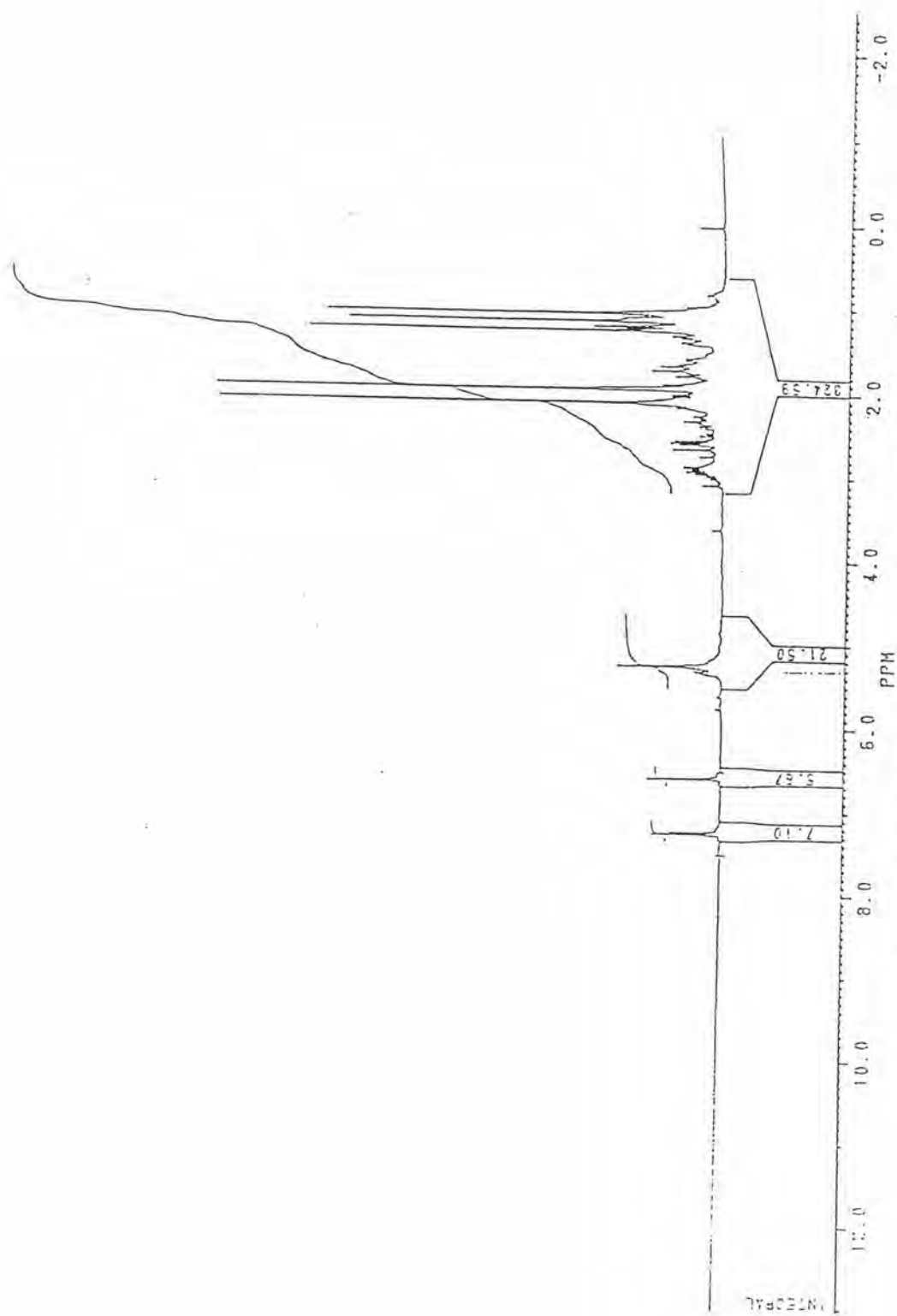


Figure 38 The mass spectrum (EI) of Compound IV



Figure 39 The  $^1\text{H}$  NMR spectrum of Compound IV

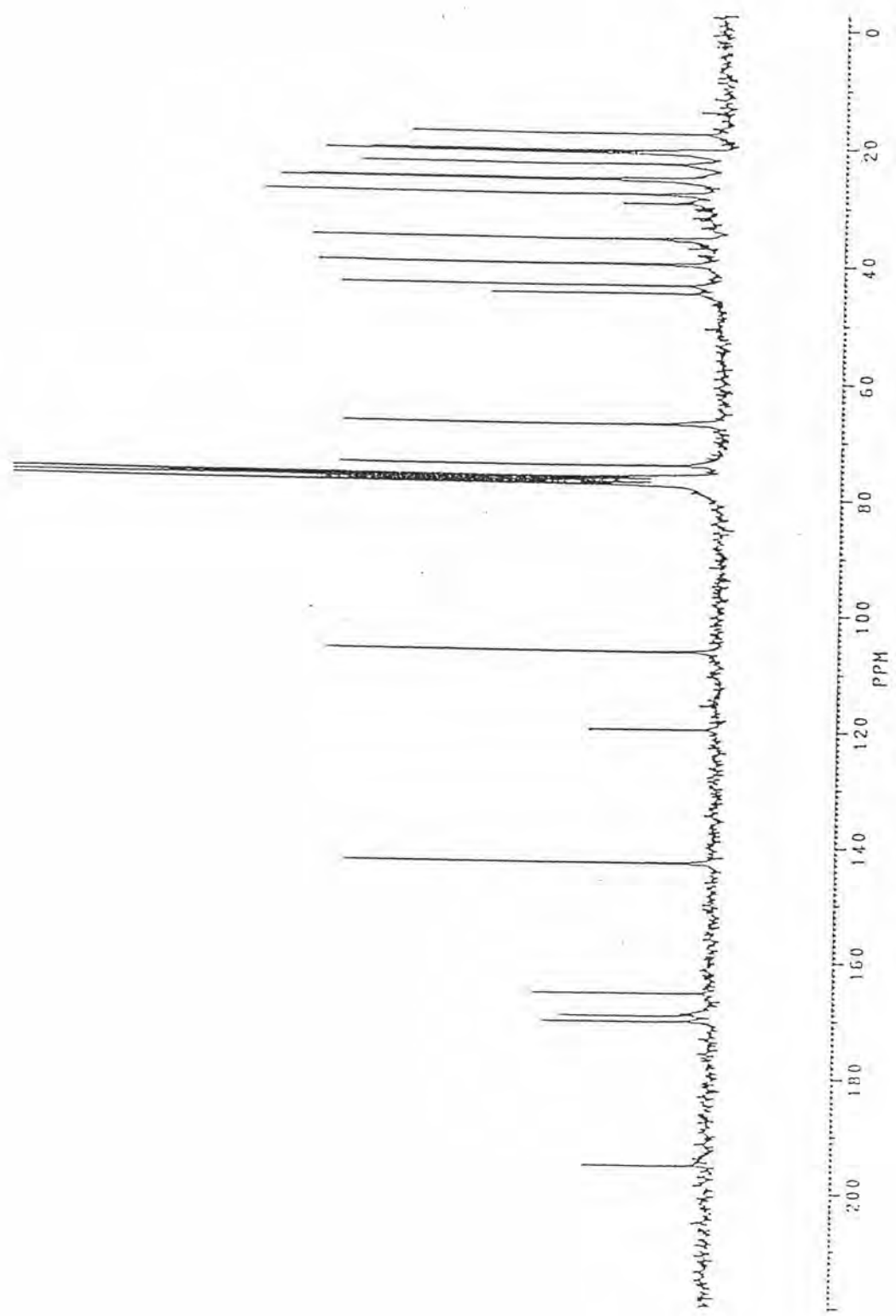


Figure 40 The <sup>13</sup>C NMR spectrum of Compound IV

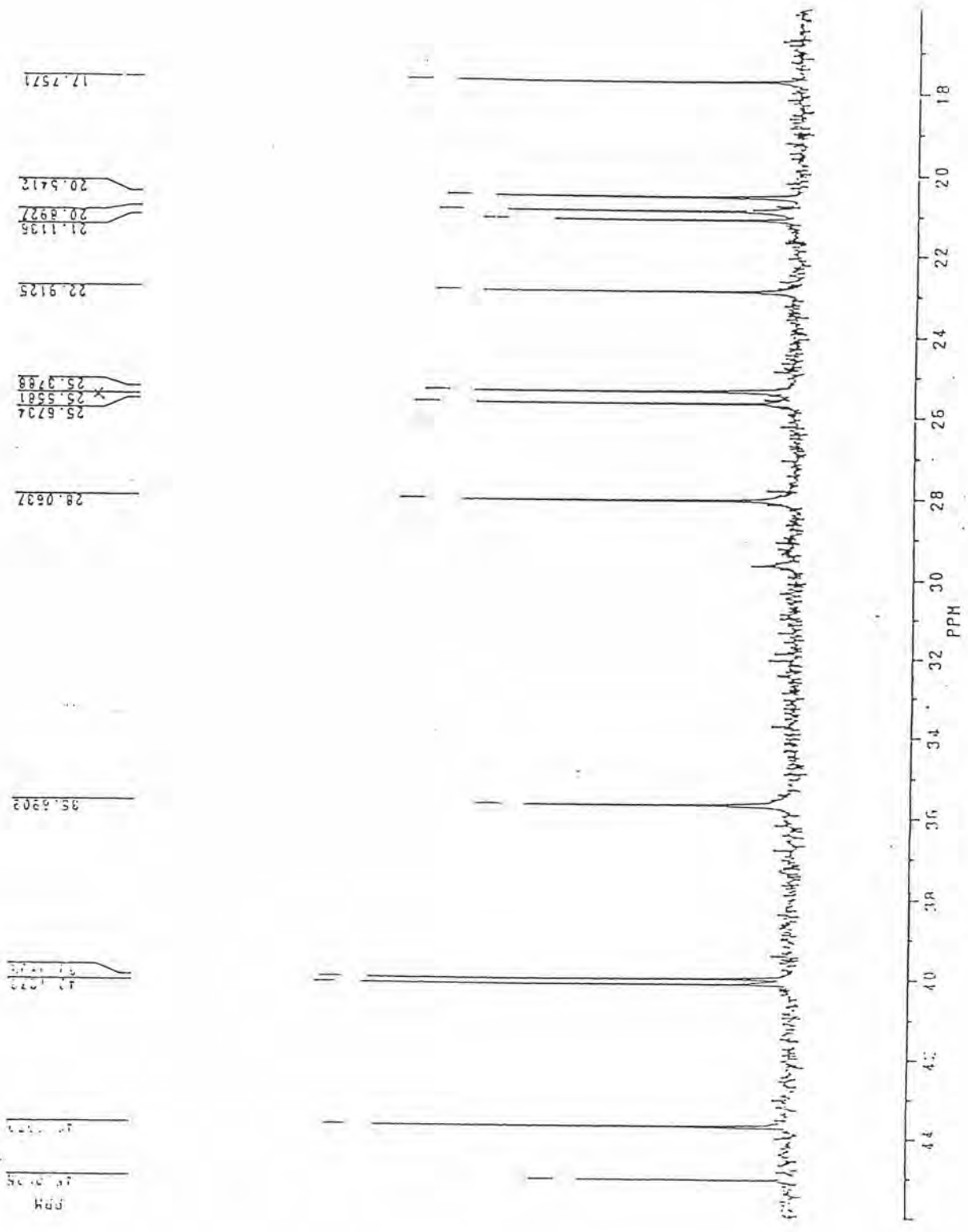


Figure 41. The expanded <sup>13</sup>C NMR spectrum of Compound IV

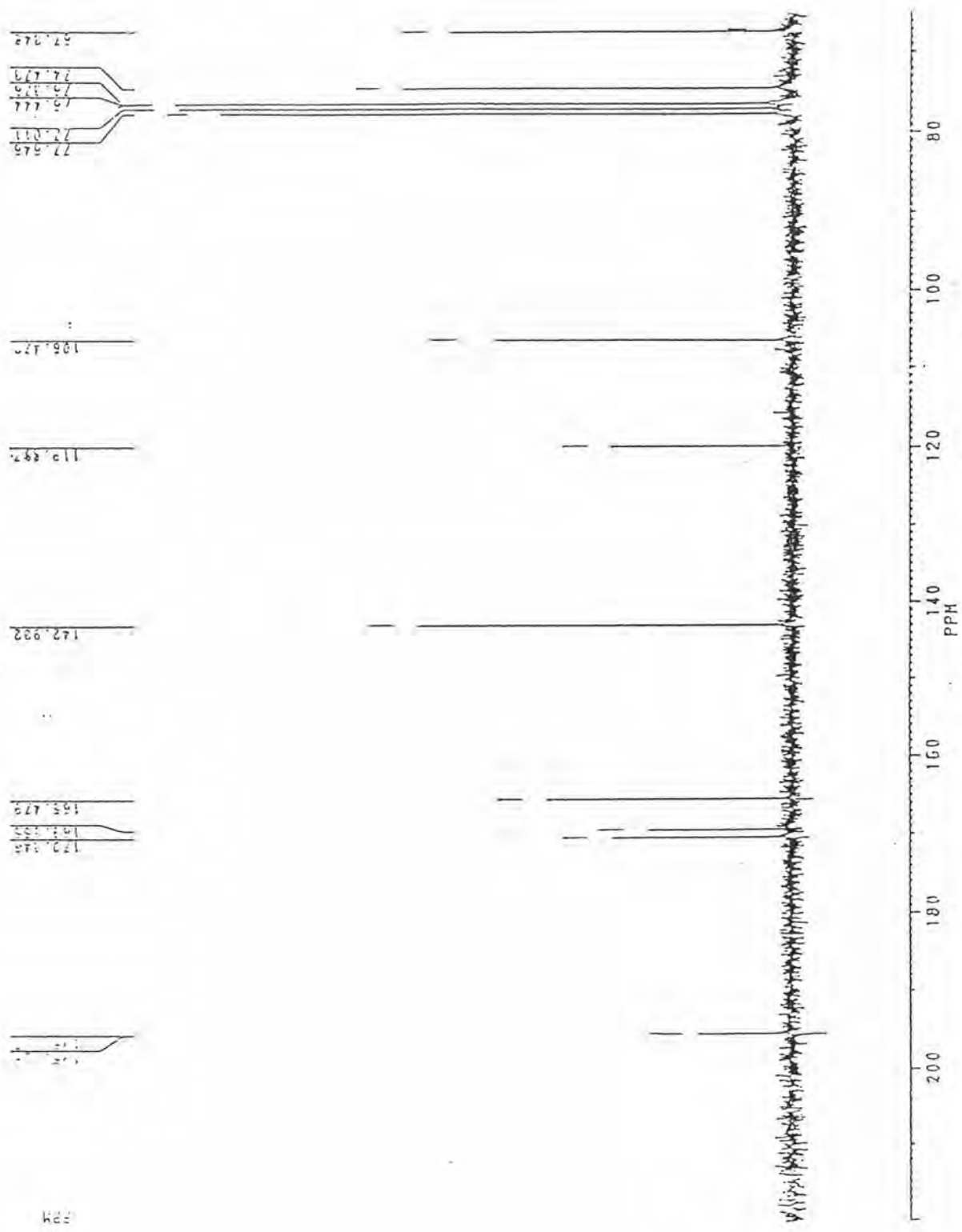


Figure 42 The expanded  $^{13}\text{C}$  NMR spectrum of Compound IV

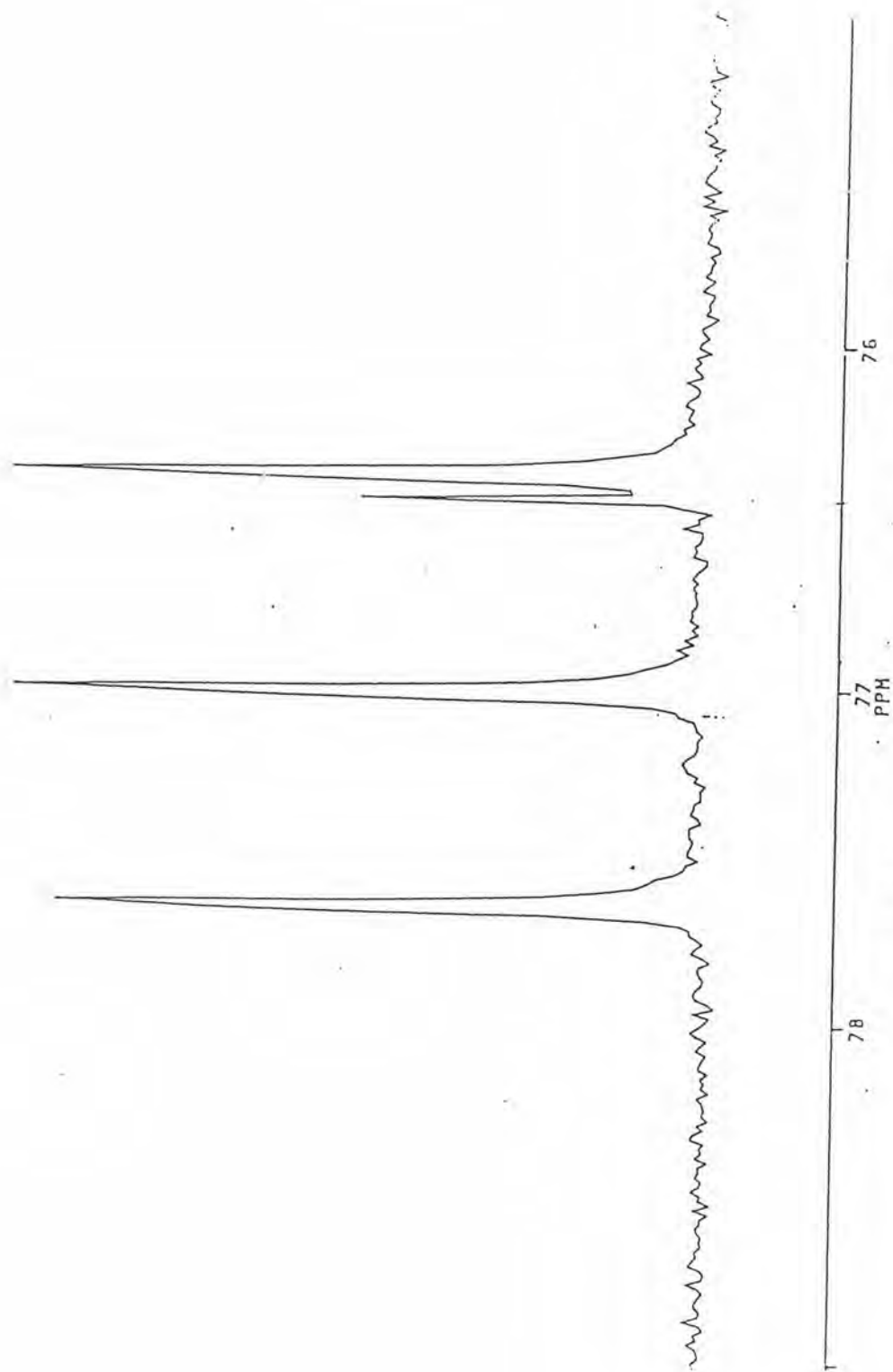


Figure 43 The expanded  $^{13}\text{C}$  NMR spectrum of Compound IV

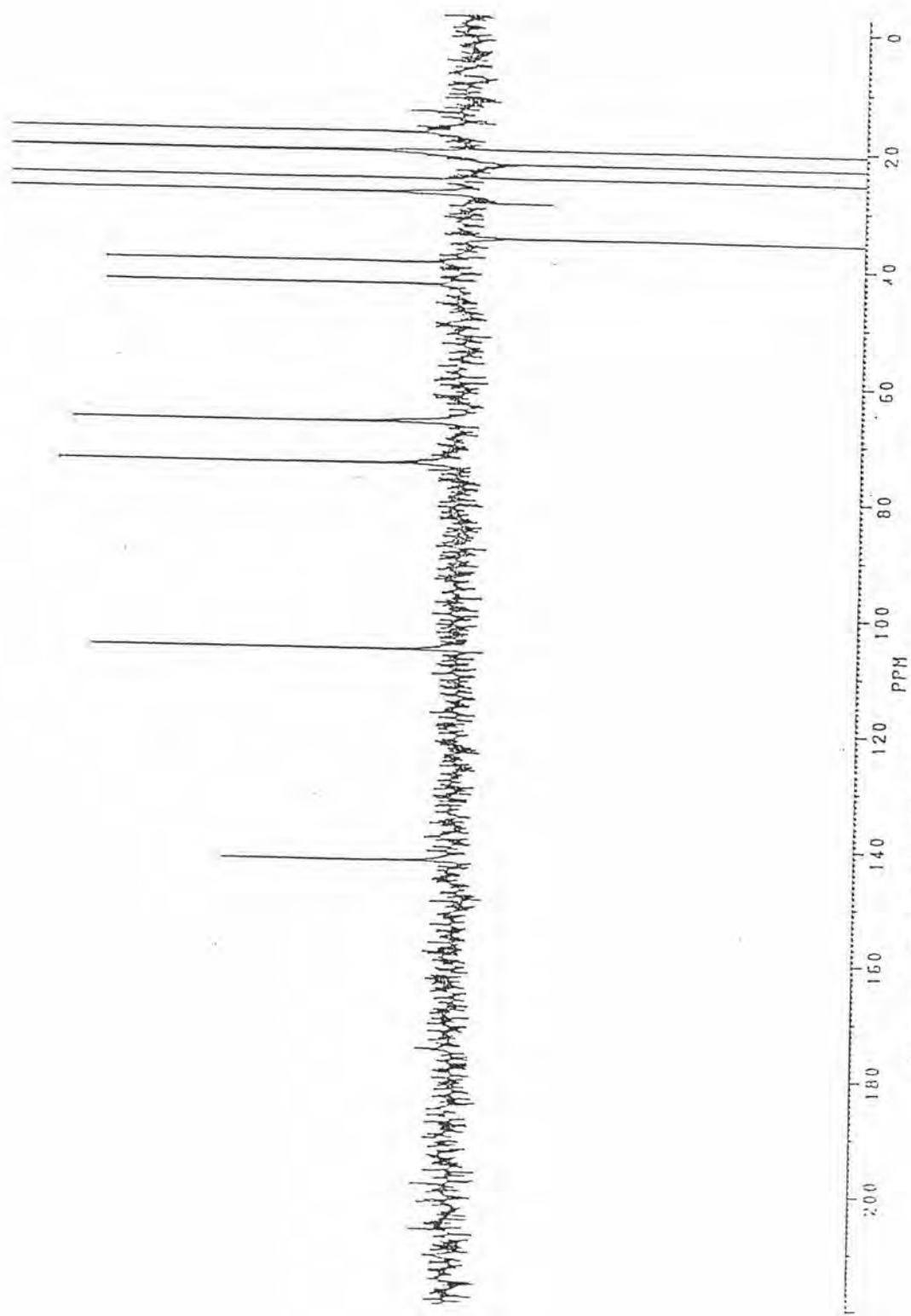


Figure 44 The DEPT 135 NMR spectrum of Compound IV

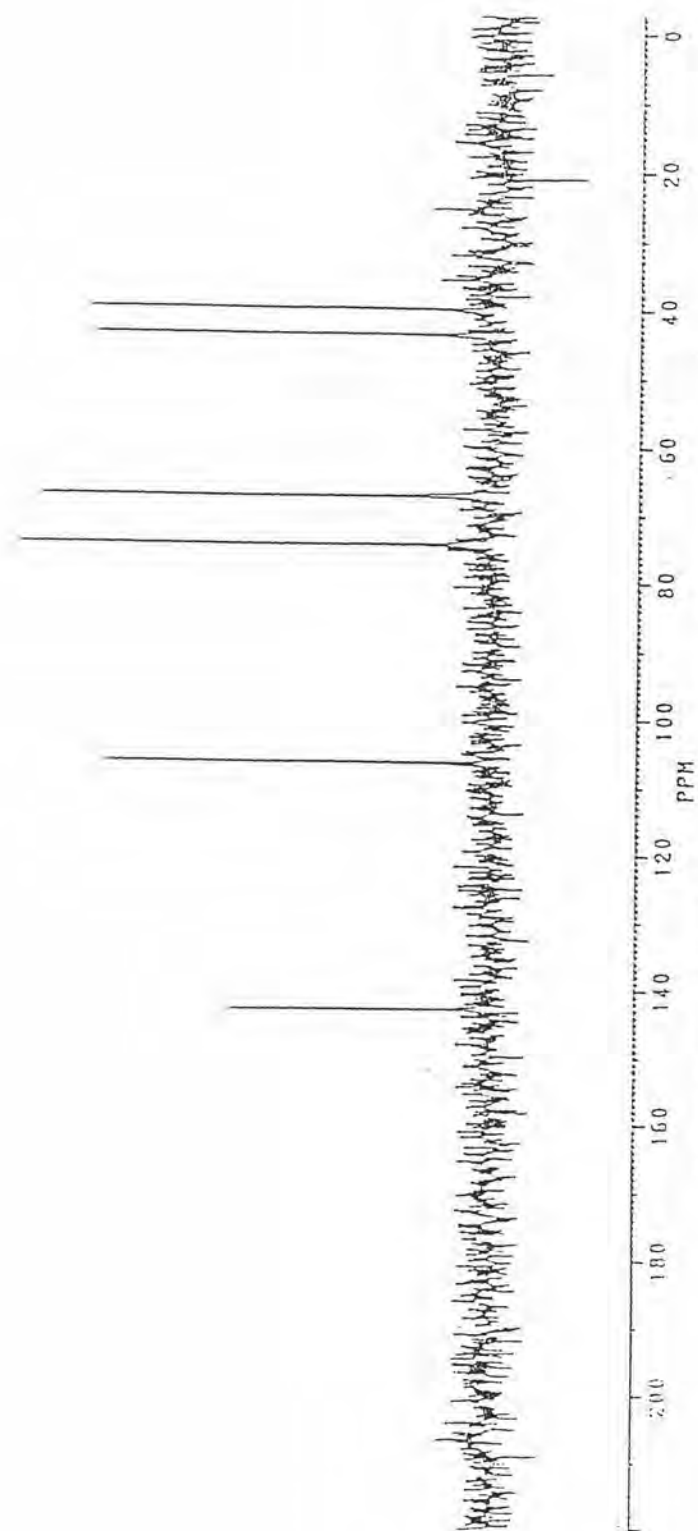


Figure 45 The DEPT 90 NMR spectrum of Compound IV

## VITA

Miss Supassara Limsuwankesorn was born on May 22, 1972 in Bangkok, Thailand. She received her Bachelor of Science in chemistry in 1994 from the Department of Chemistry, Faculty of Science, Chulalongkorn University, Thailand.