

# **APPENDIX**

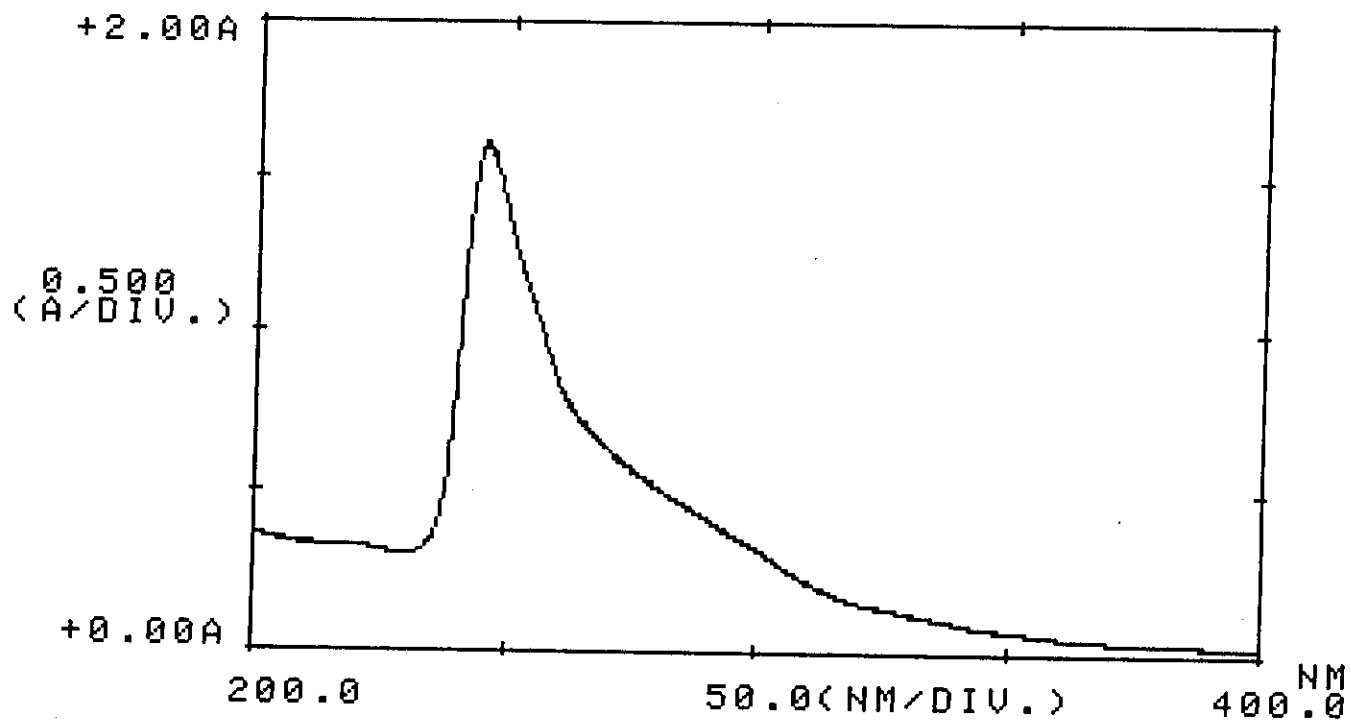


Figure 7 UV (CHCl<sub>3</sub>) spectrum of compound SCO1

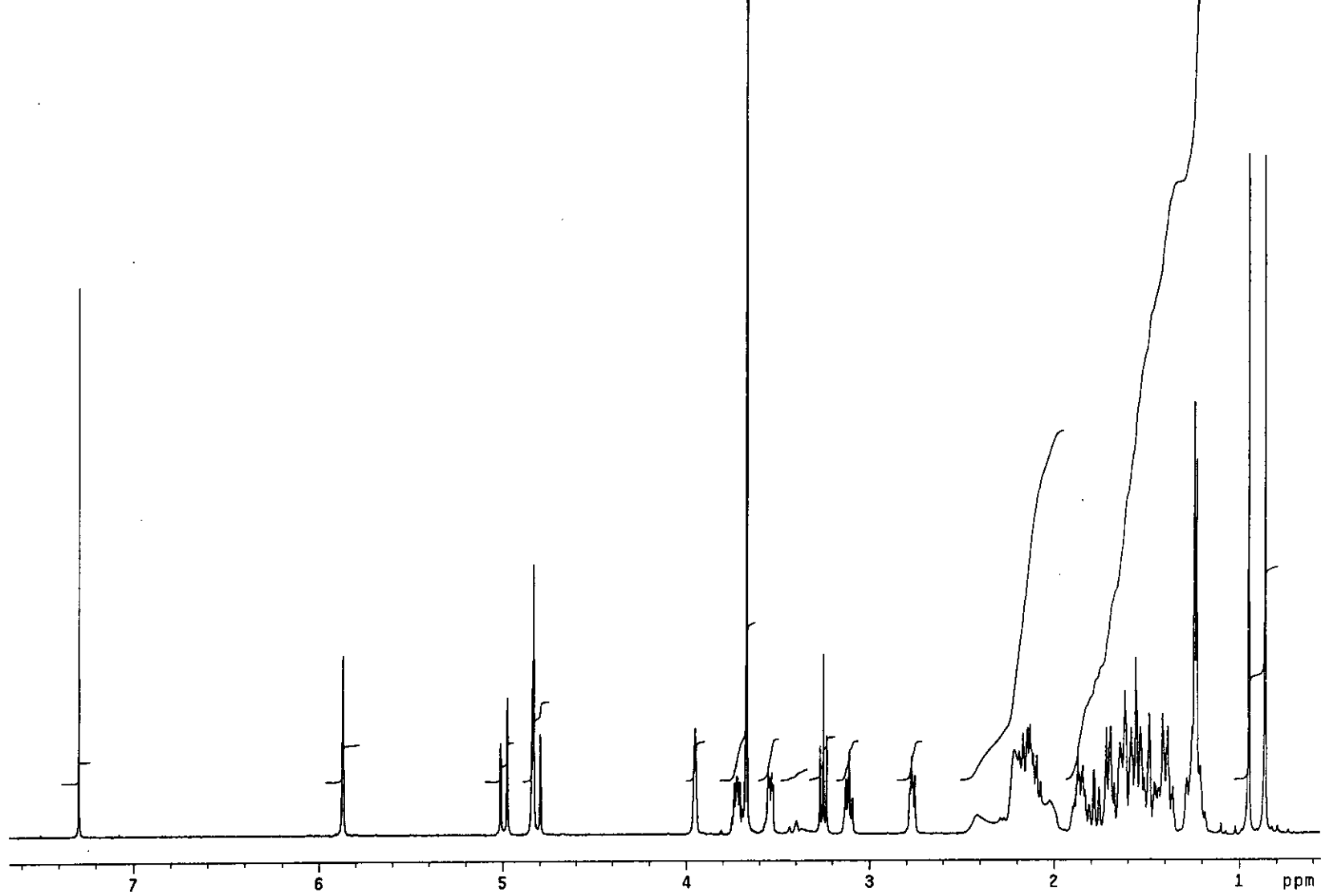


Figure 9  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ) spectrum of compound SCO1

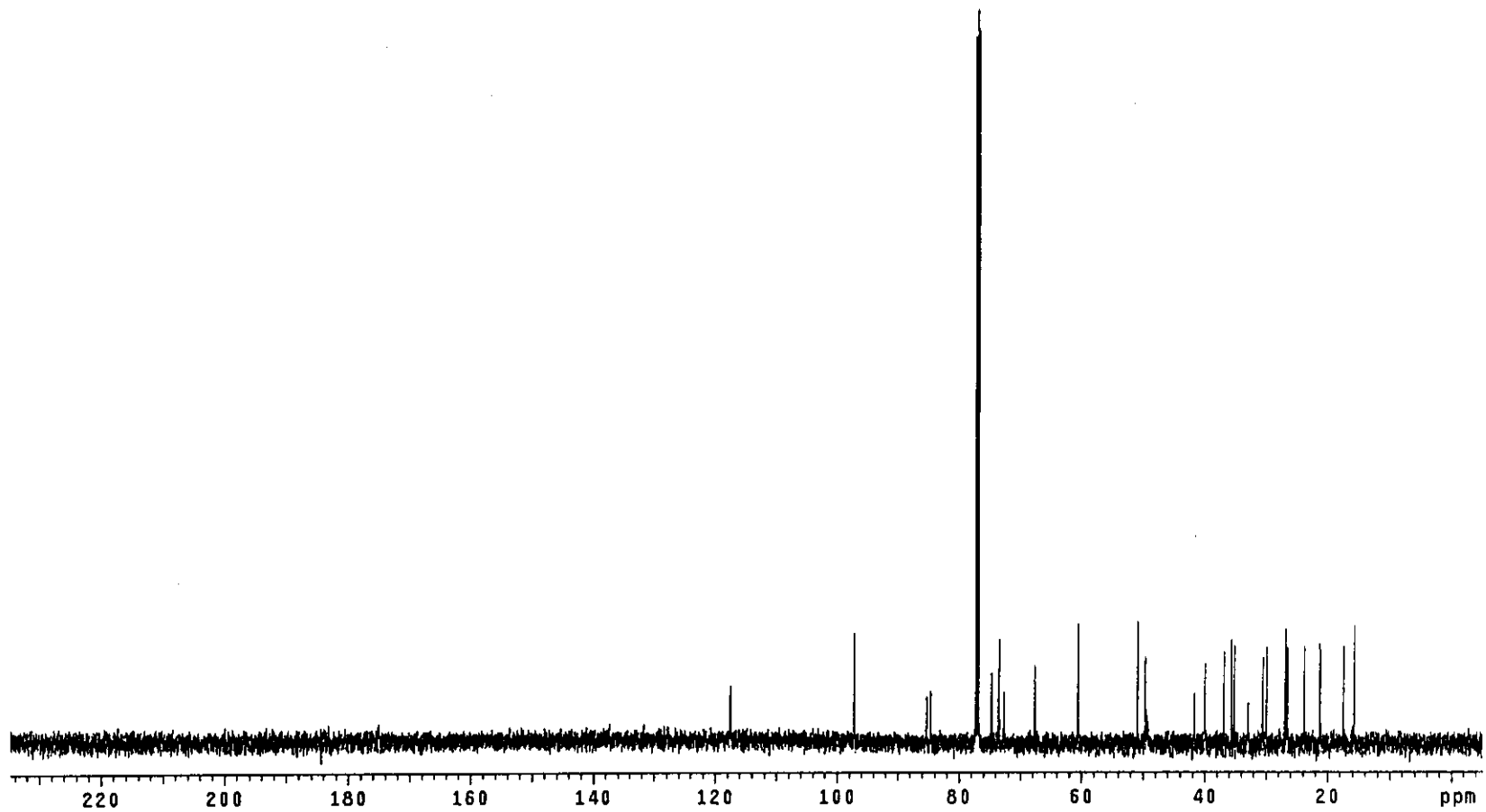


Figure 10  $^{13}\text{C}$  NMR (125 MHz,  $\text{CDCl}_3$ ) spectrum of compound SCO1

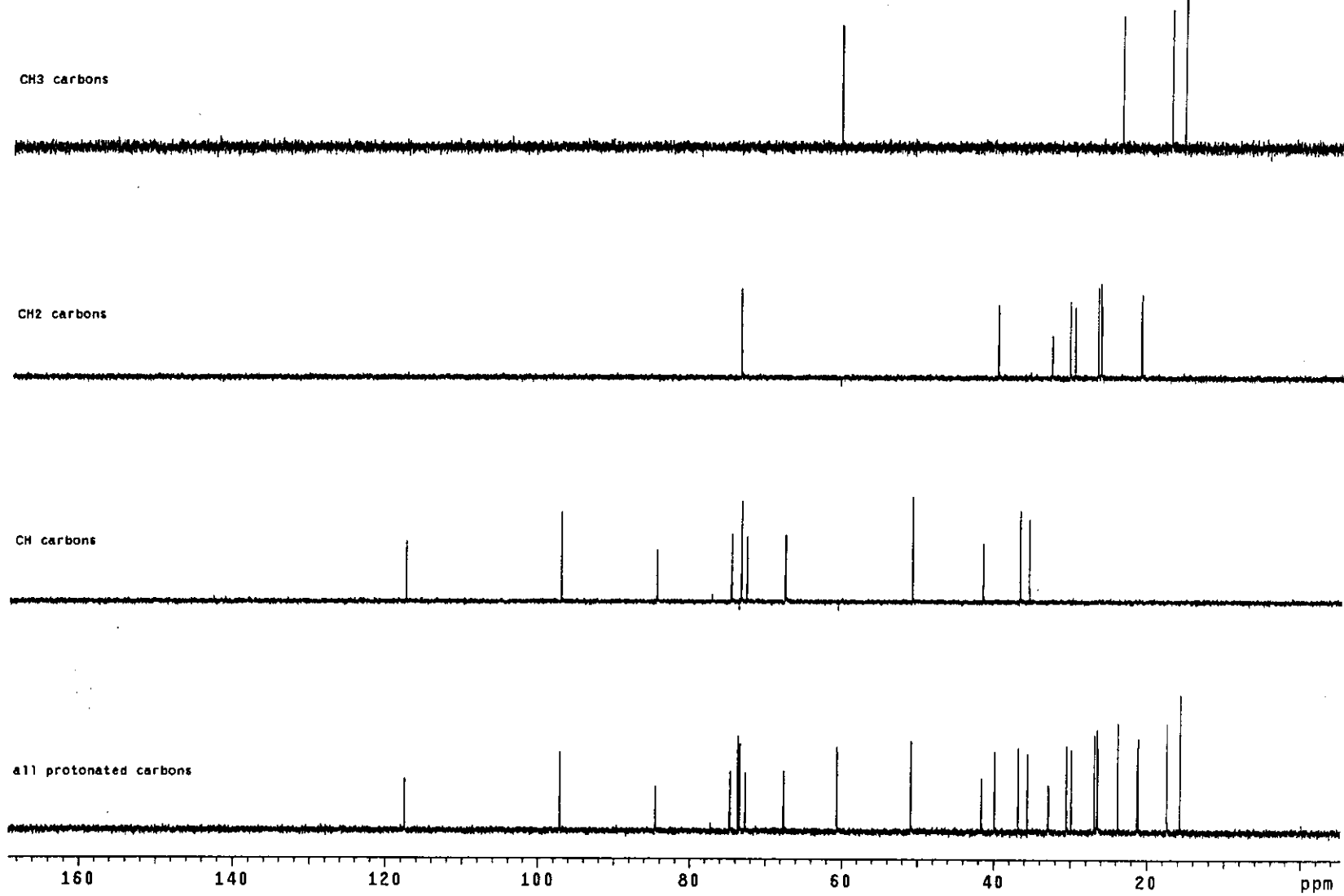


Figure 11 DEPT (CDCl<sub>3</sub>) spectrum of compound SCO1

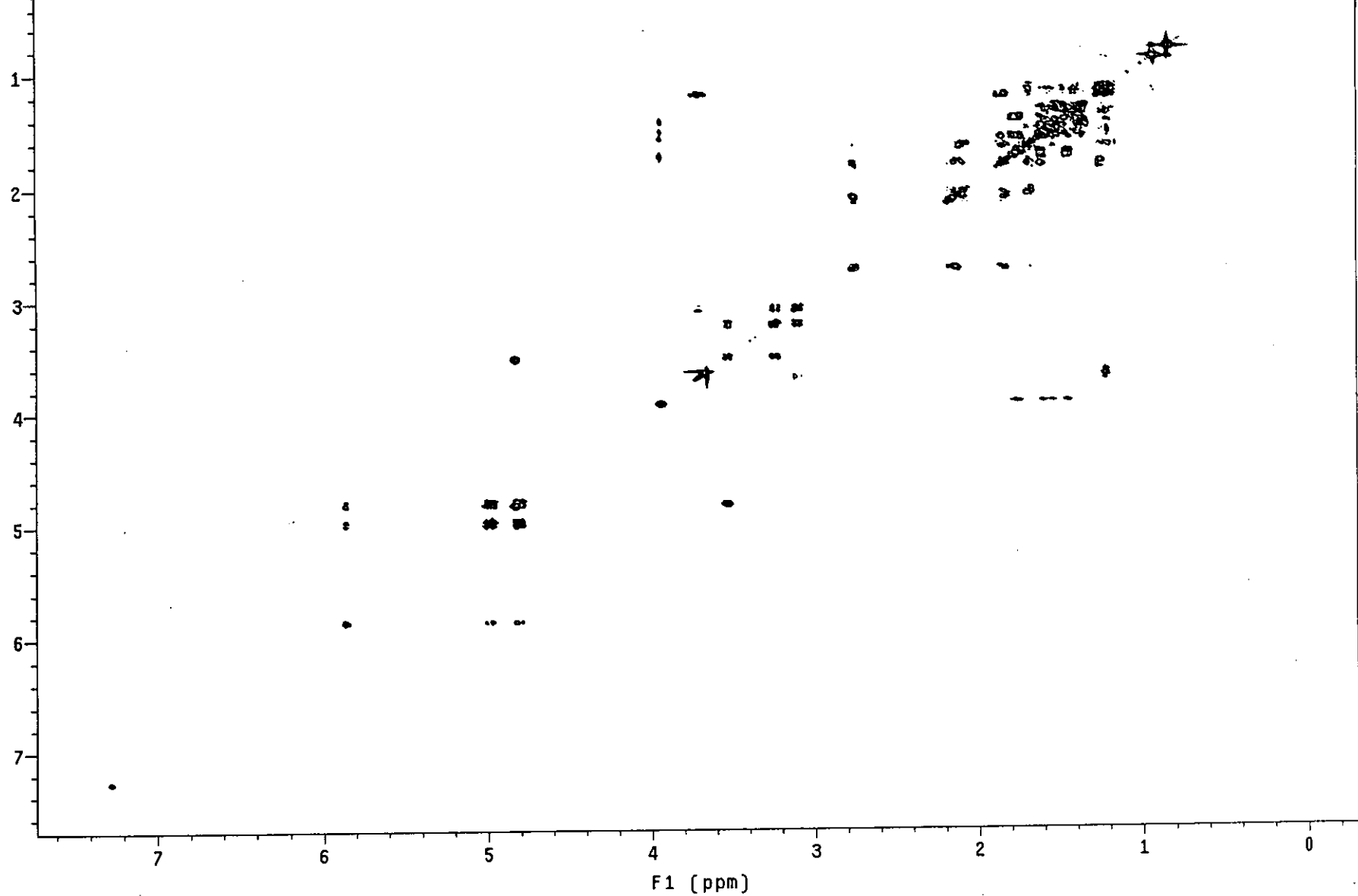


Figure 12 2D COSY spectrum of compound SCO1

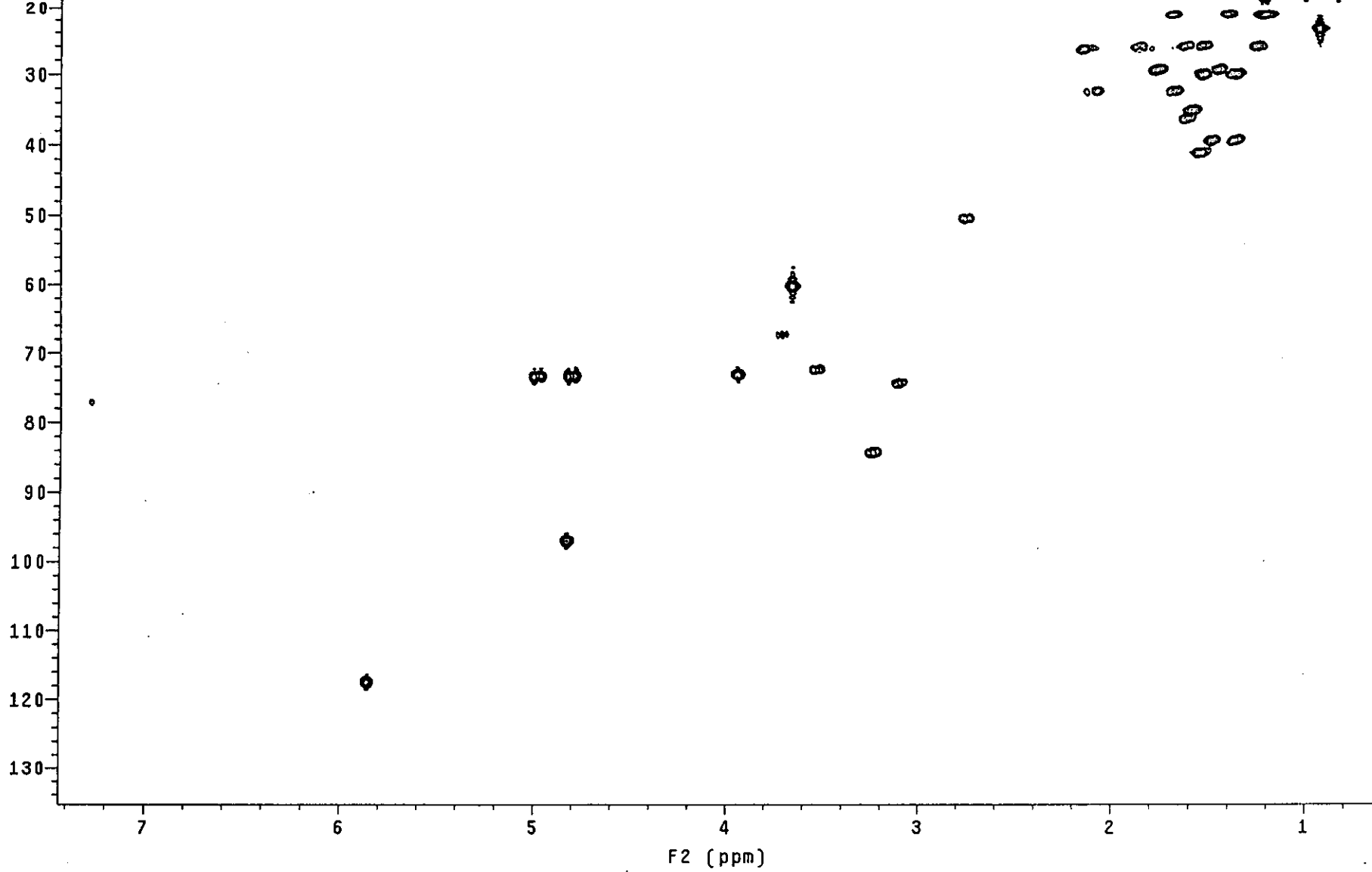


Figure 13 2D HMQC spectrum of compound SCO1

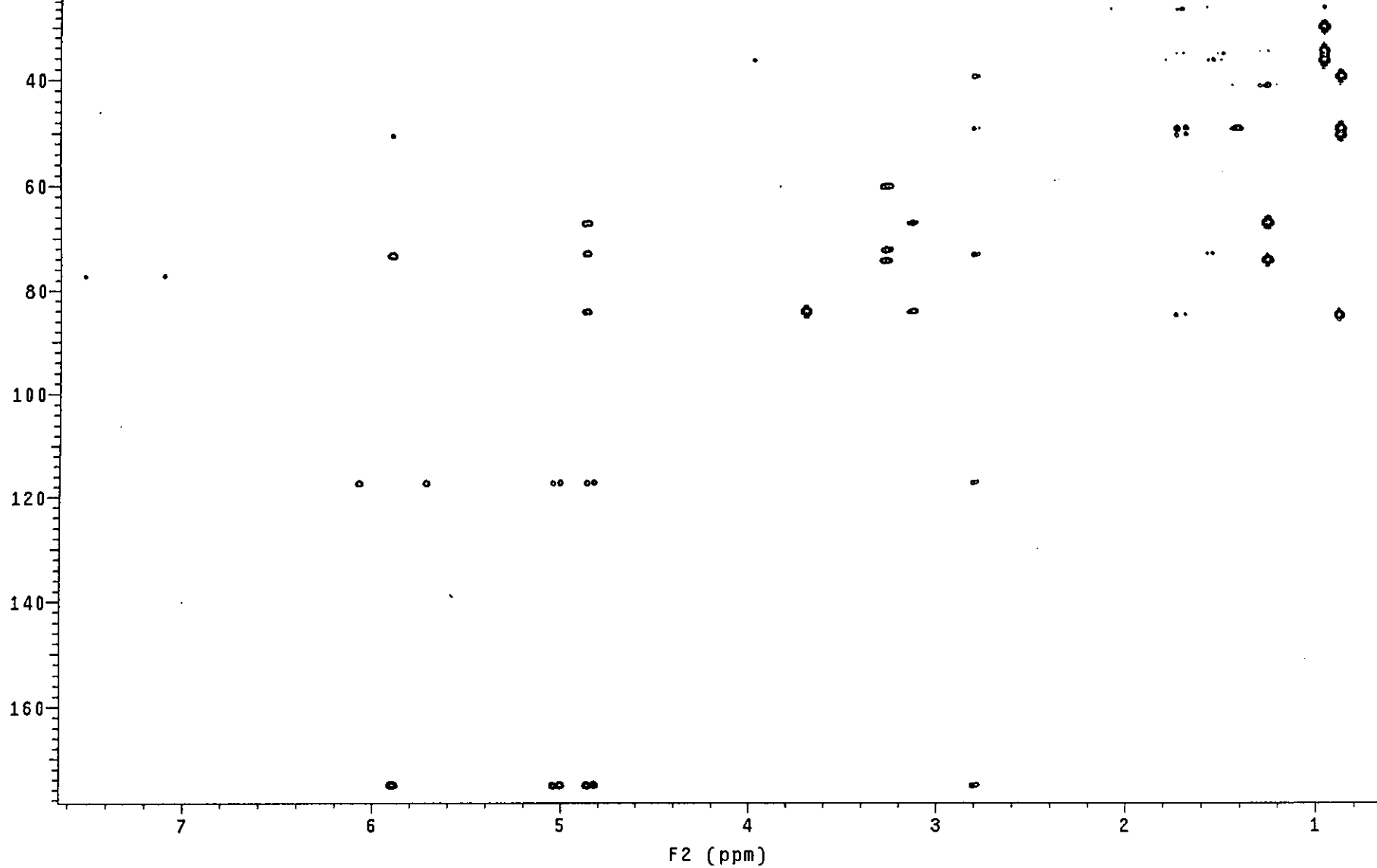


Figure 14 2D HMBC spectrum of compound SCO1



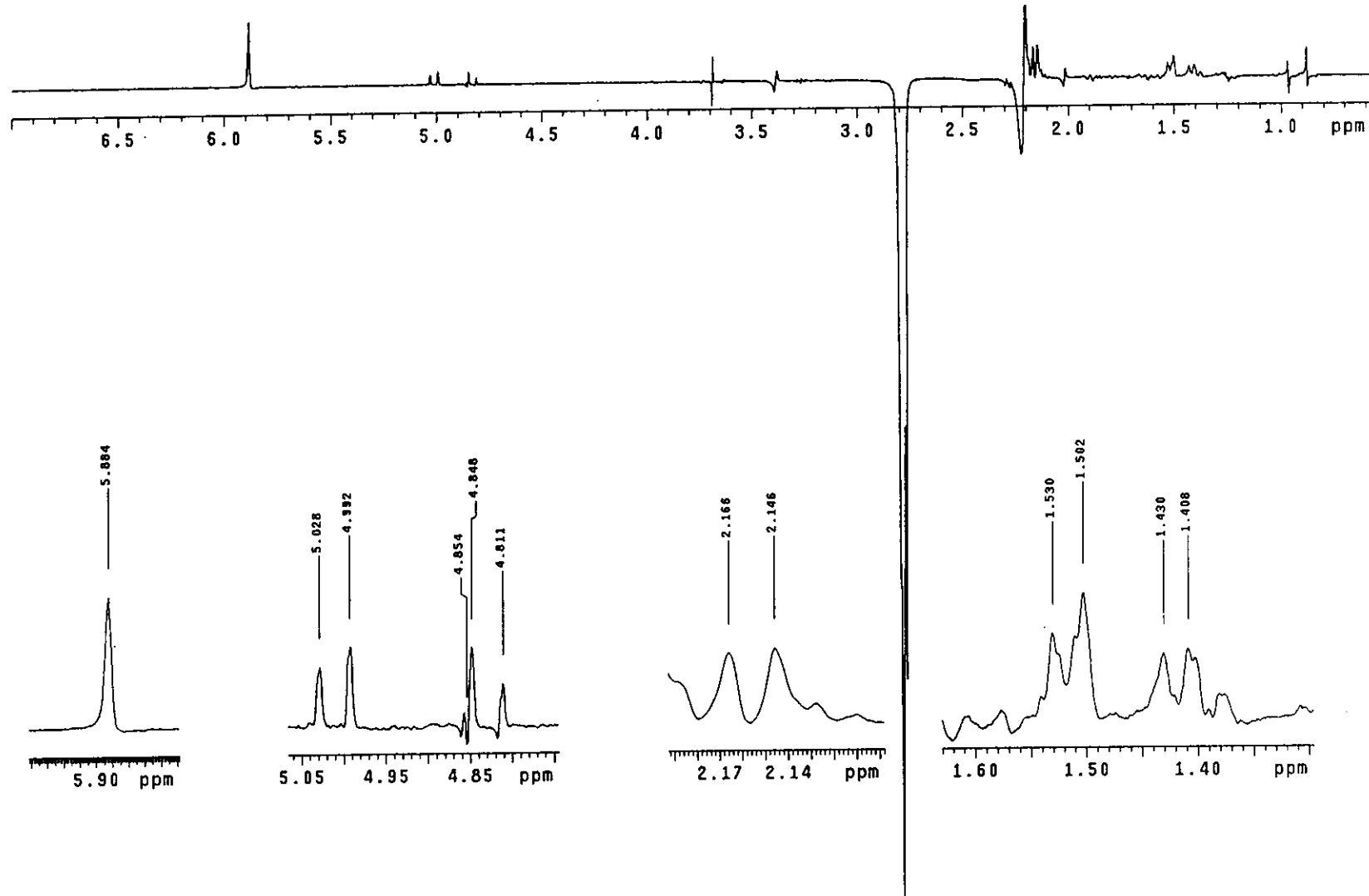


Figure 15 NOE spectrum of compound SCO1 (Irradiated at  $\delta$ 2.77, (1))

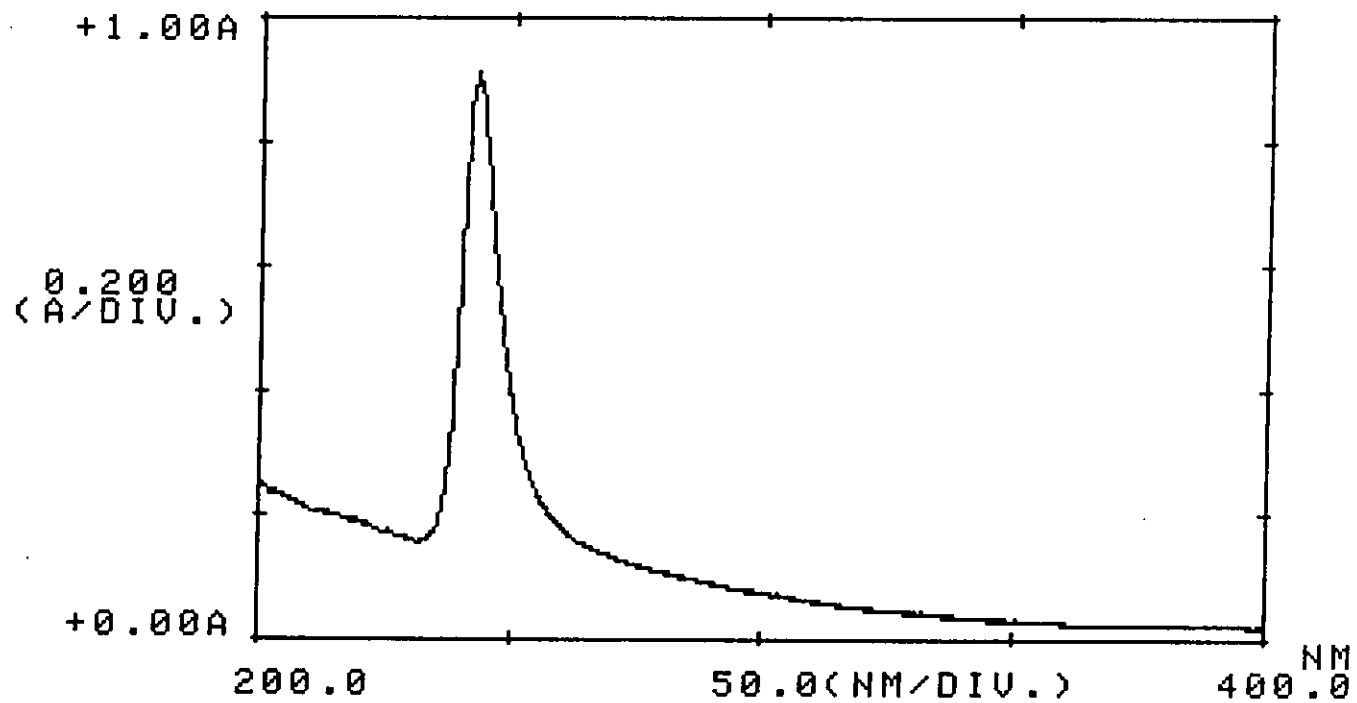


Figure 16 UV (CHCl<sub>3</sub>) spectrum of compound SCO2

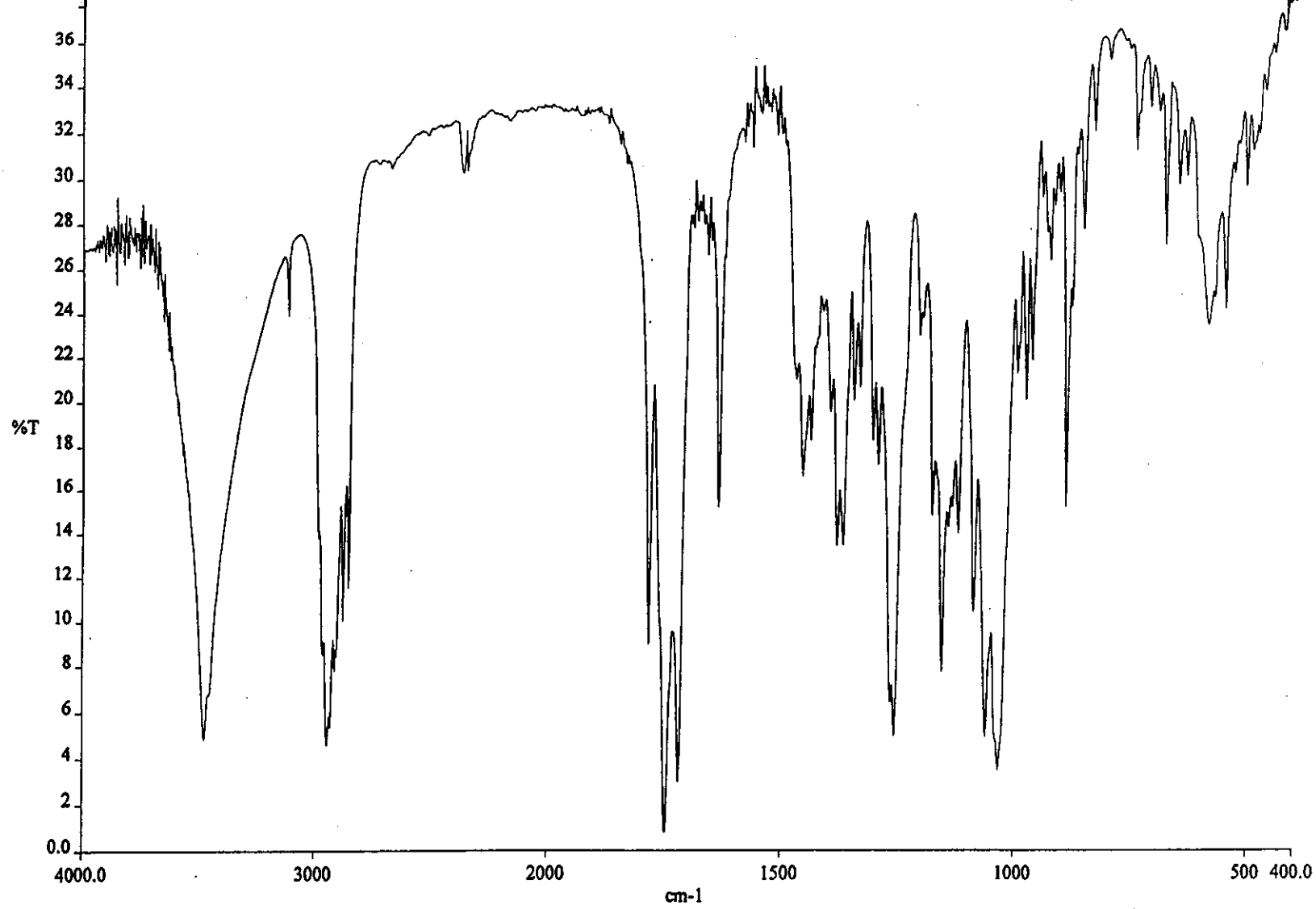


Figure 17 IR (KBr) spectrum of compound SCO<sub>2</sub>

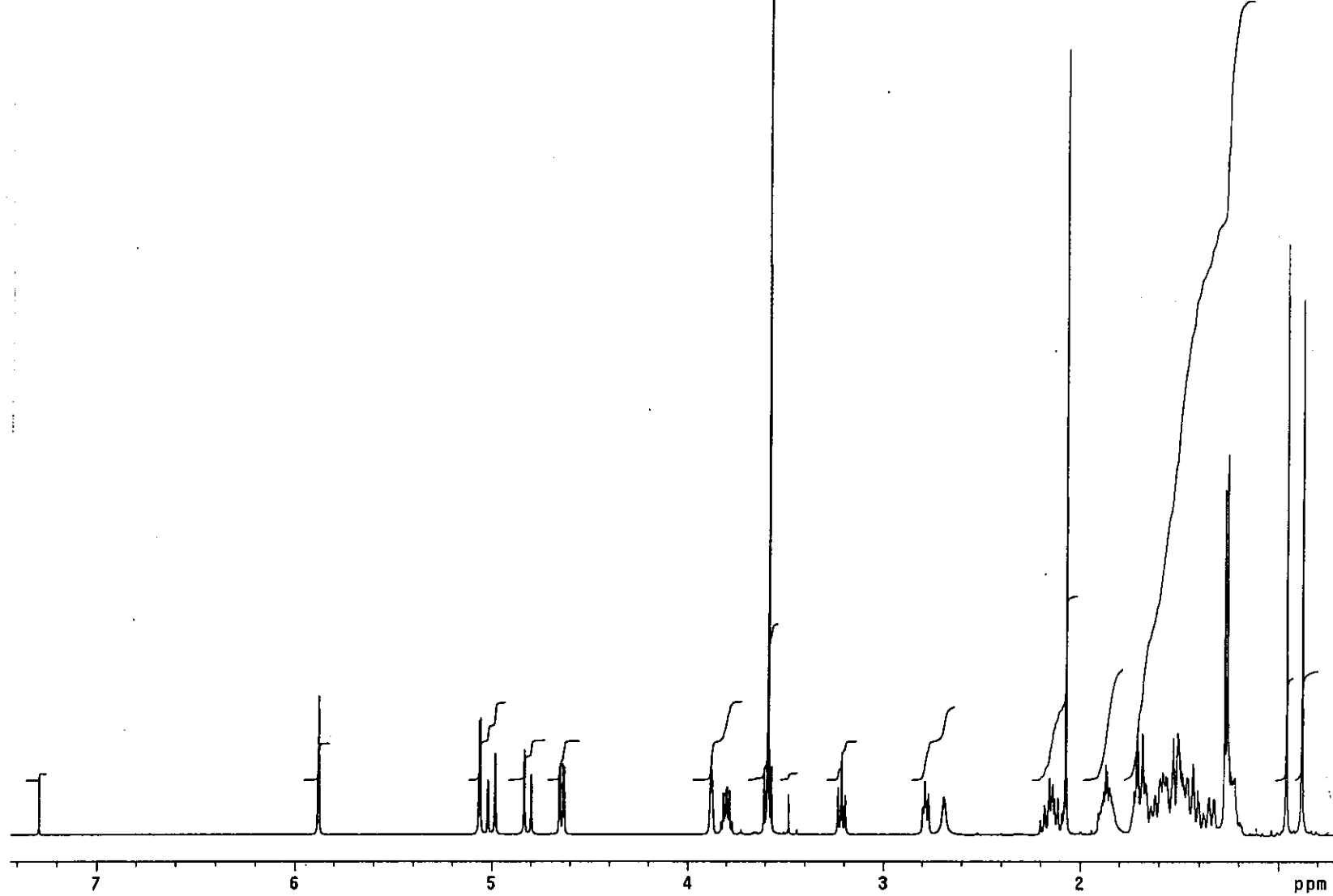


Figure 18  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ) spectrum of compound SCO2

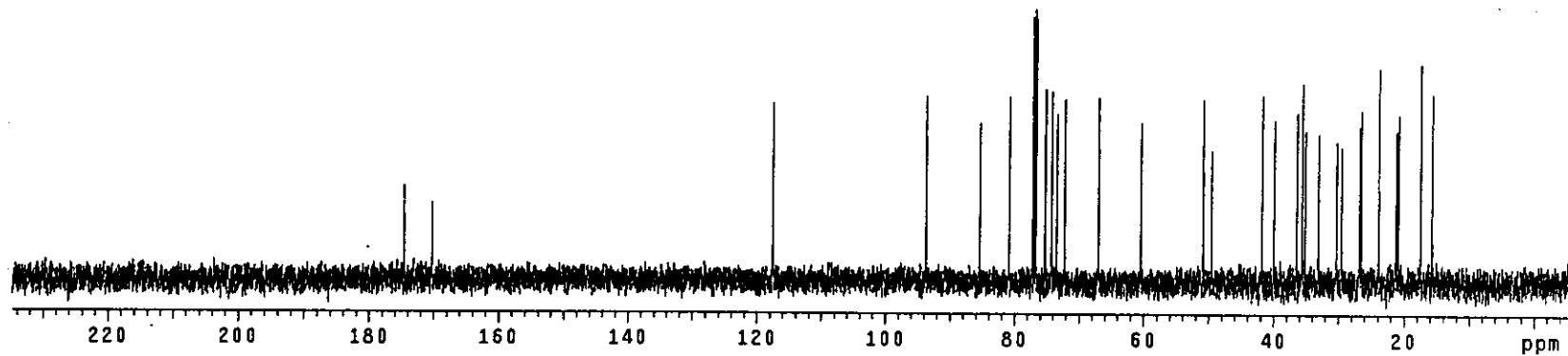


Figure 19  $^{13}\text{C}$  NMR (125 MHz,  $\text{CDCl}_3$ ) spectrum of compound SCO2

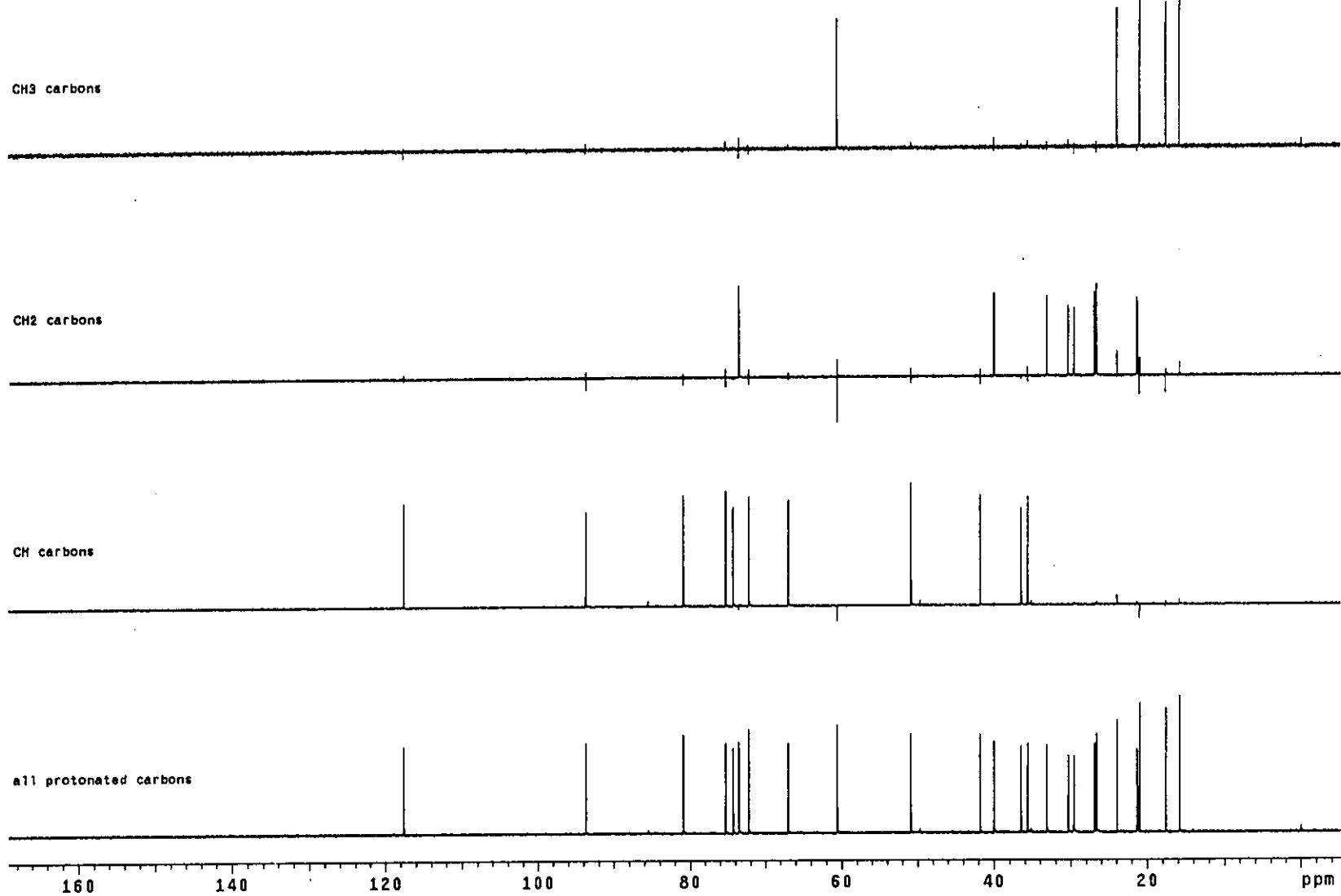


Figure 20 DEPT (CDCl<sub>3</sub>) spectrum of compound SCO<sub>2</sub>

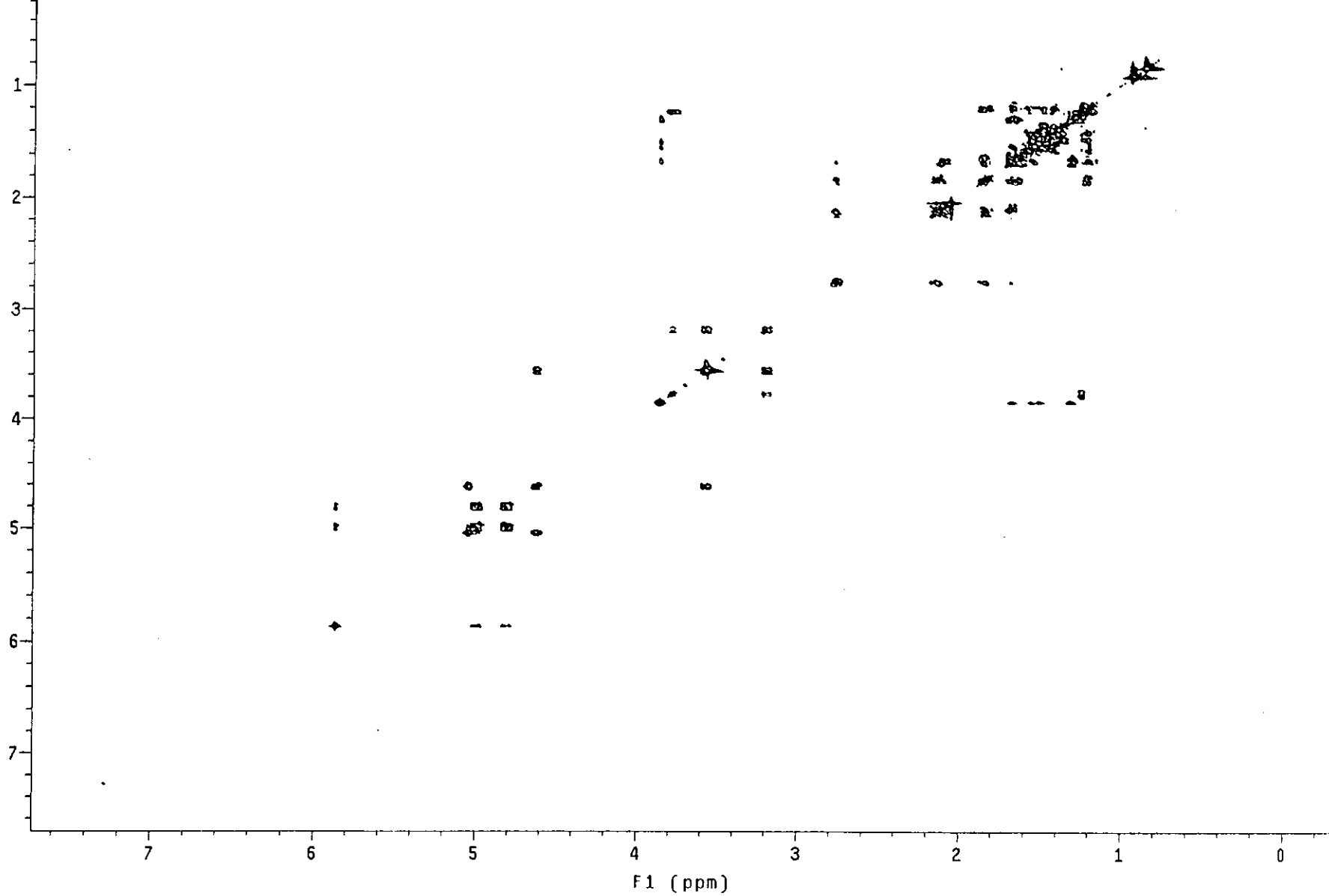


Figure 21 COSY (CDCl<sub>3</sub>) spectrum of compound SCO2

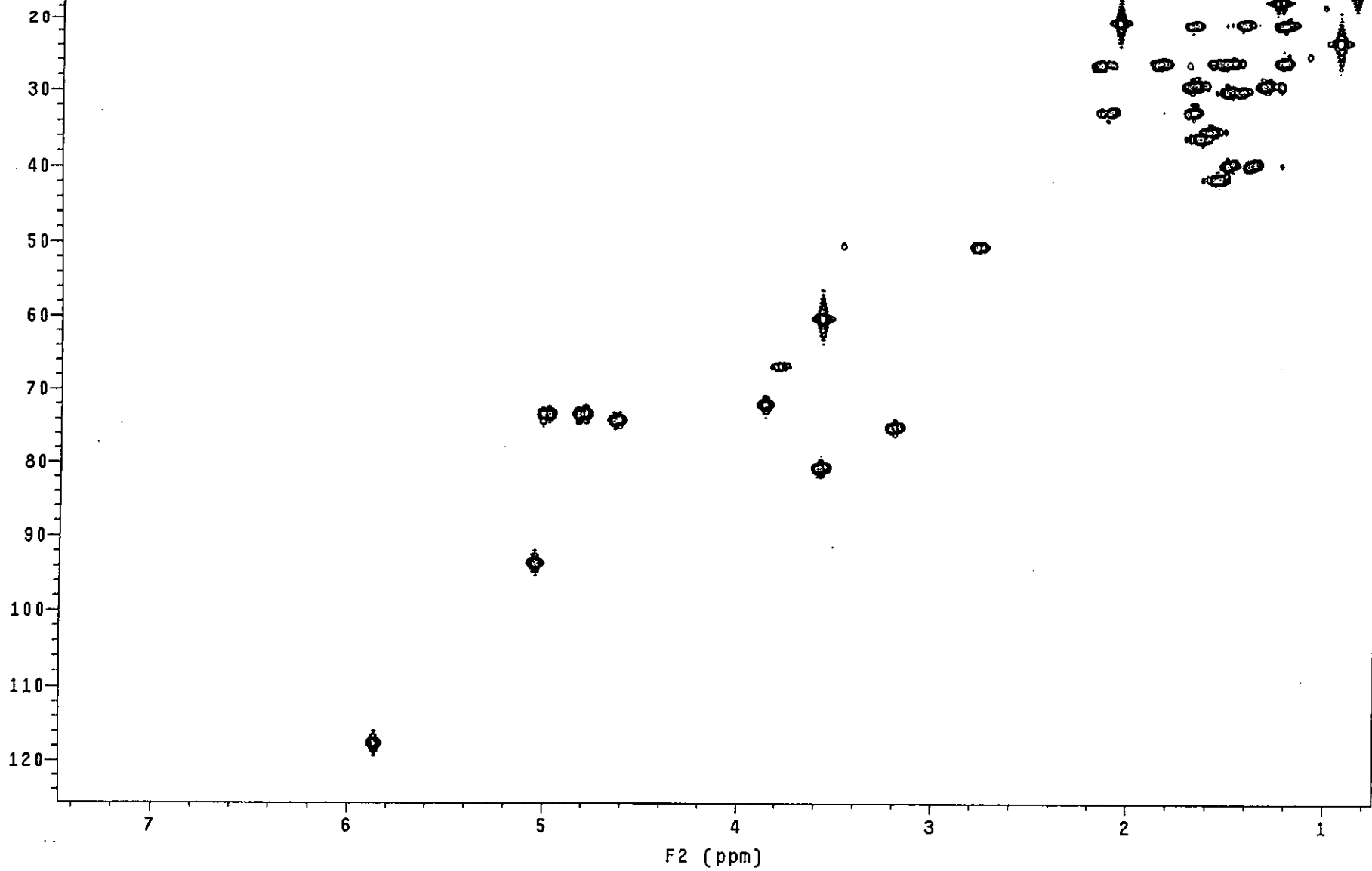


Figure 22 2D HMQC spectrum of compound SCO2



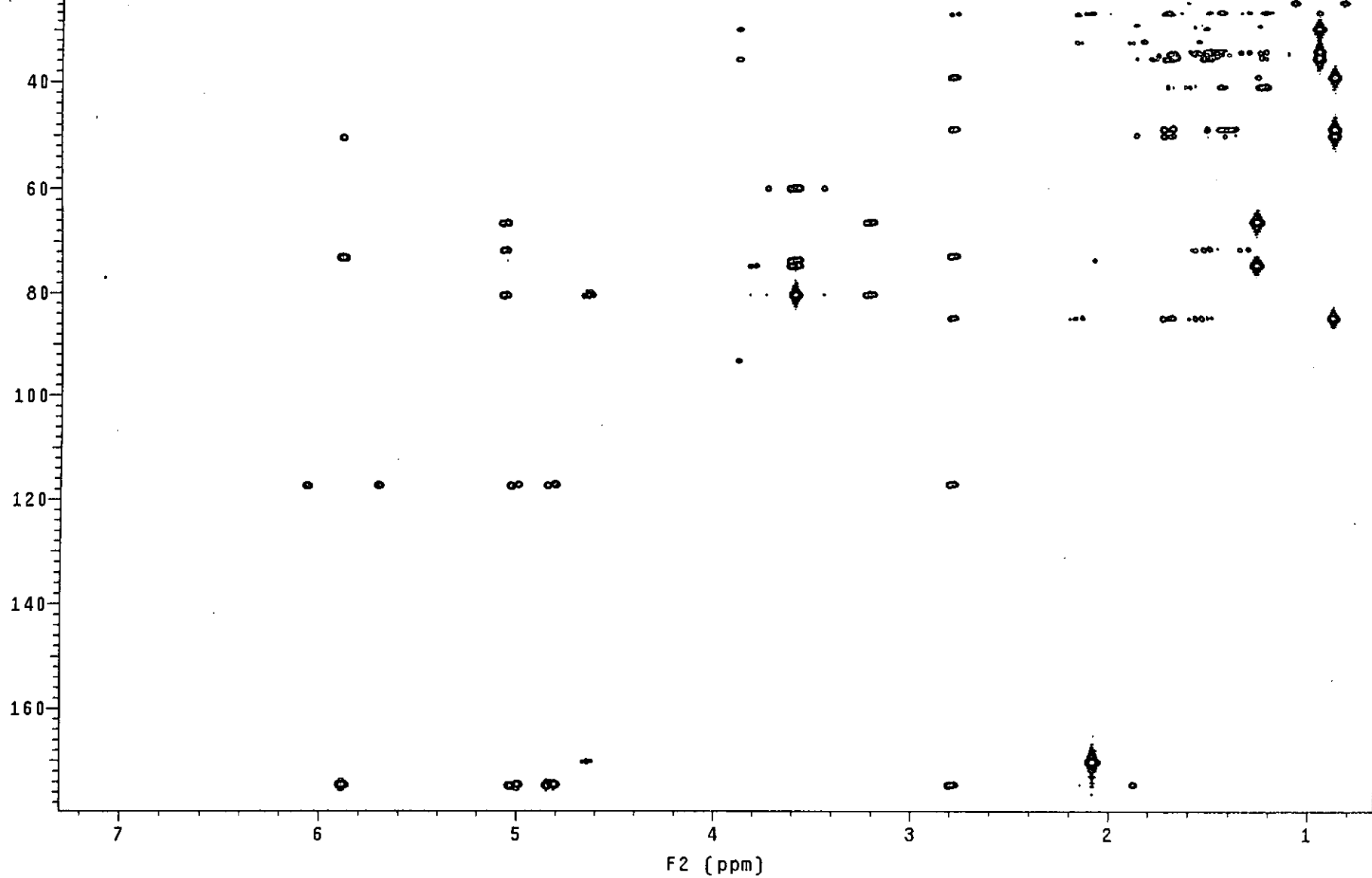


Figure 23 2D HMBC spectrum of compound SCO2

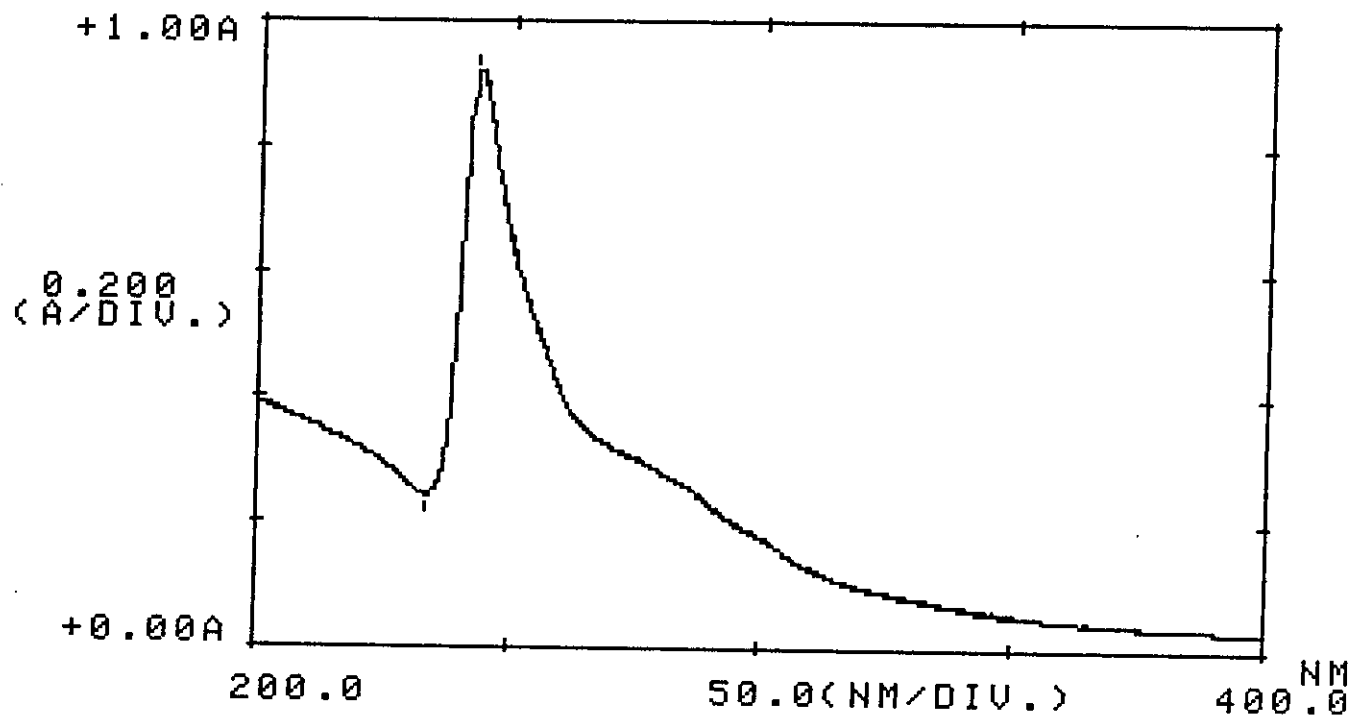


Figure 24 UV (CHCl<sub>3</sub>) spectrum of compound SCO3

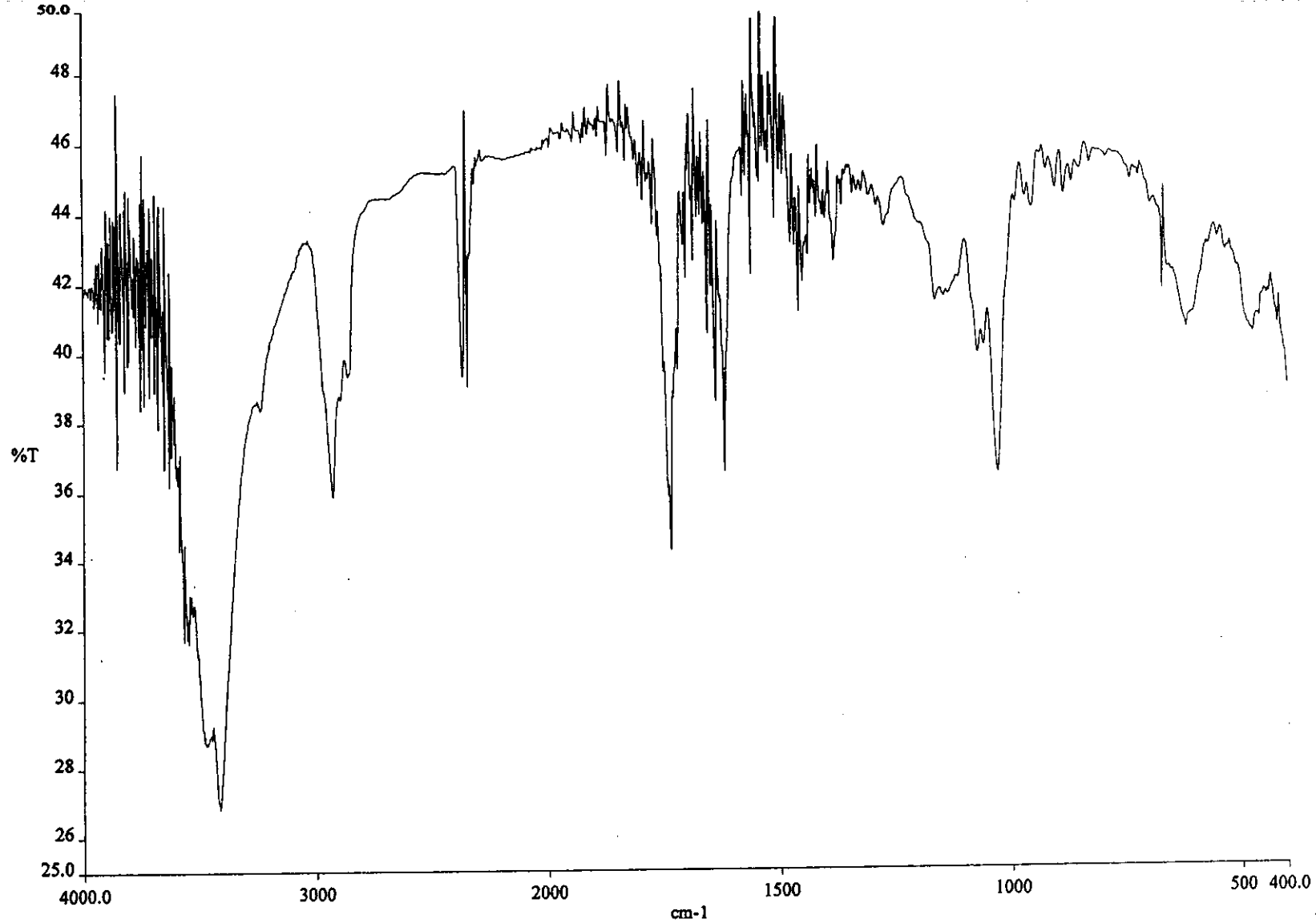


Figure 25 IR (KBr) spectrum of compound SCO3

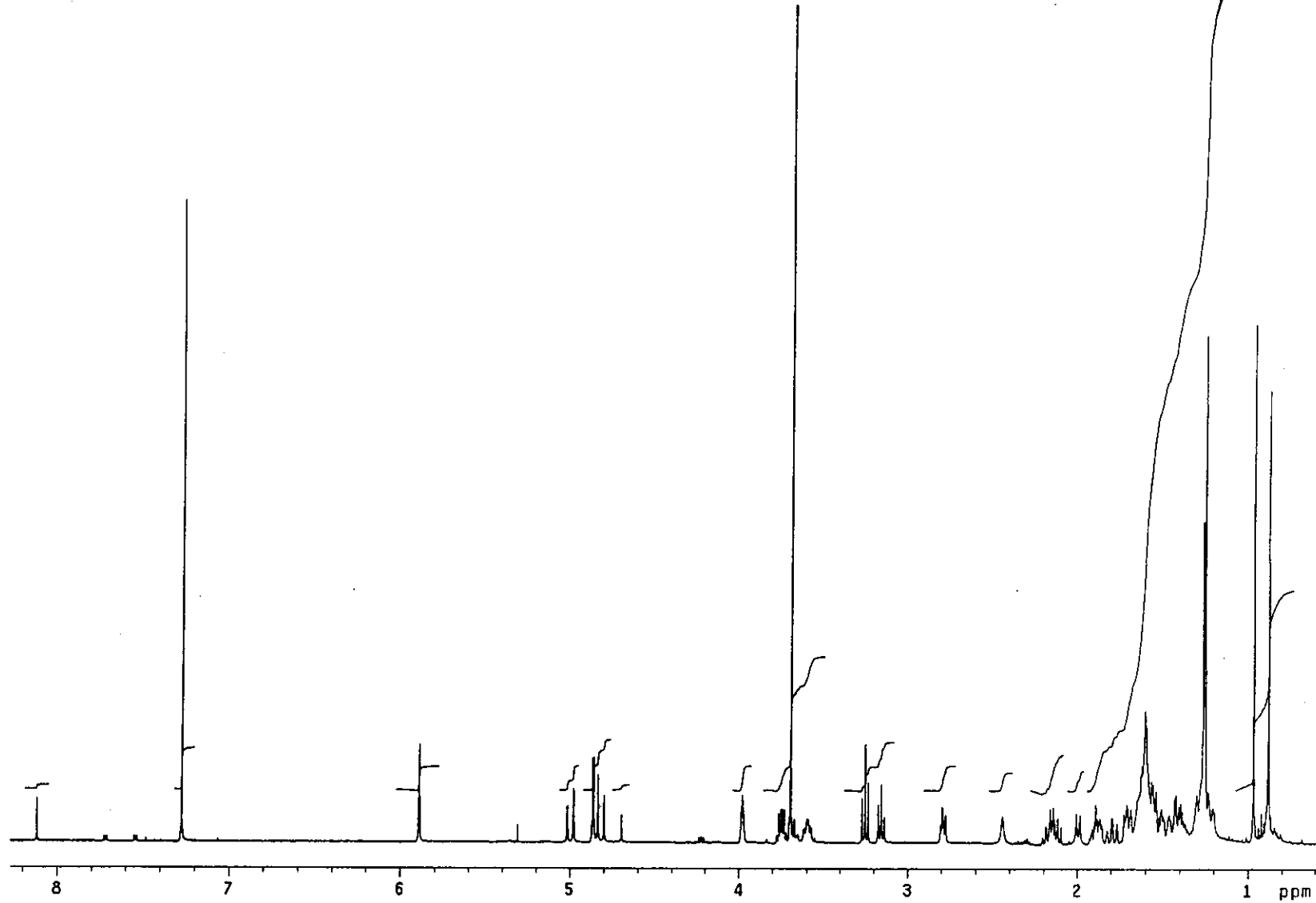


Figure 26  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ) spectrum of compound SCO3

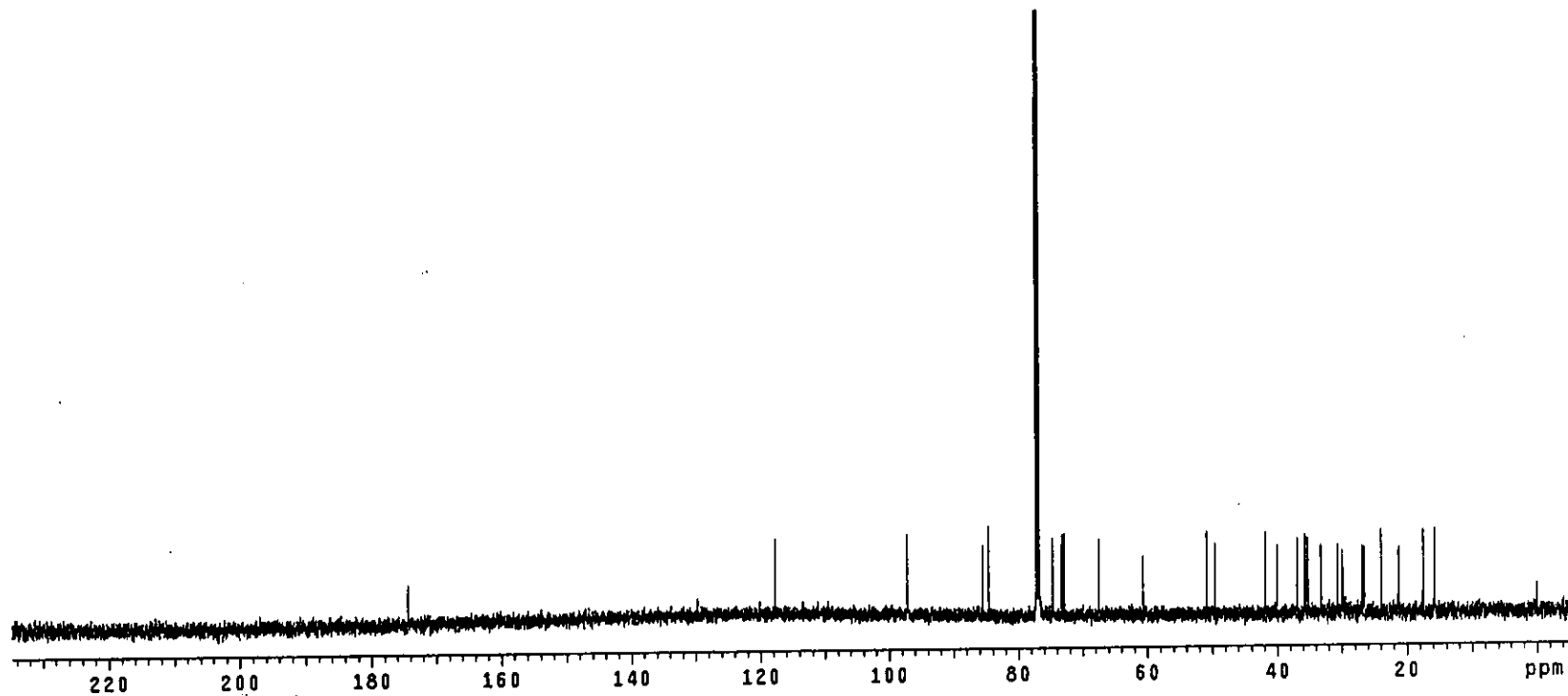


Figure 27  $^{13}\text{C}$  NMR (125 MHz,  $\text{CDCl}_3$ ) spectrum of compound SCO3

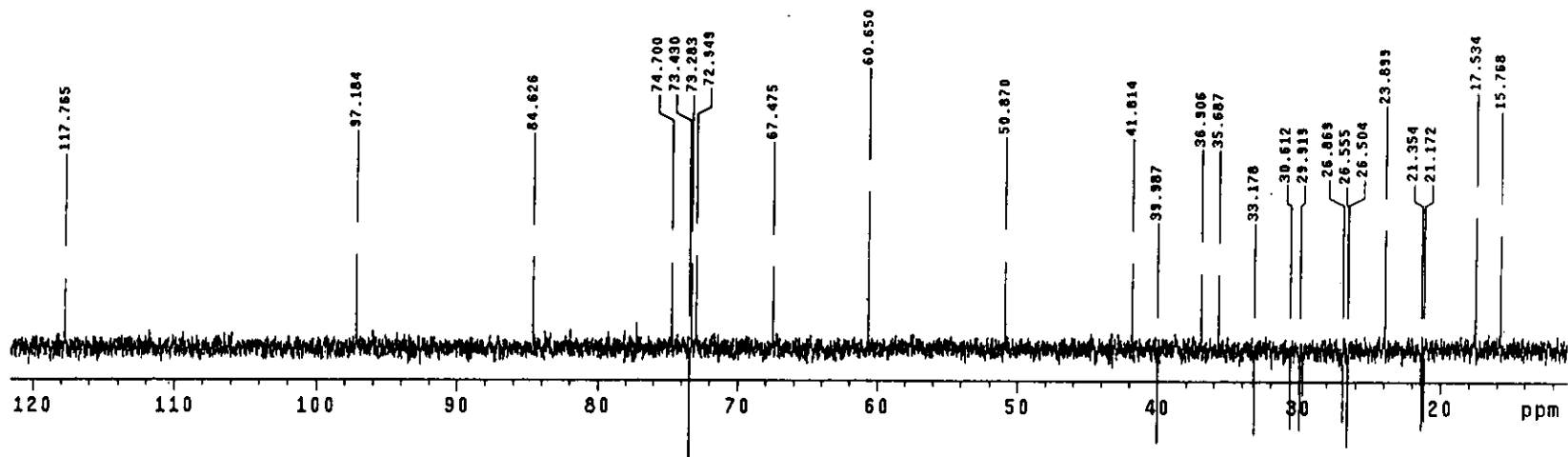
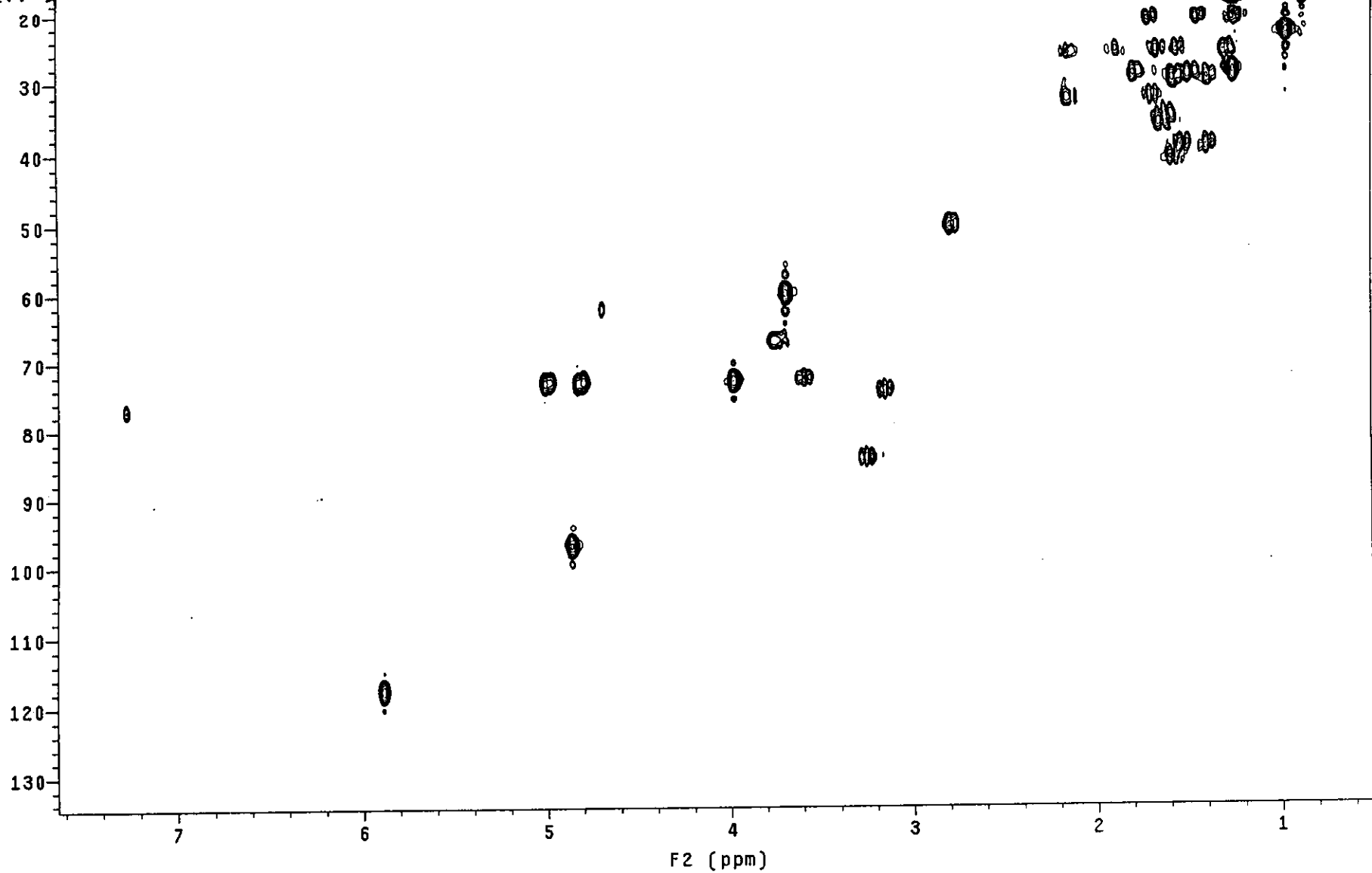


Figure 28 DEPT (CDCl<sub>3</sub>) spectrum of compound SCO<sub>3</sub>





**Figure 30** 2D HMQC spectrum of compound SCO3



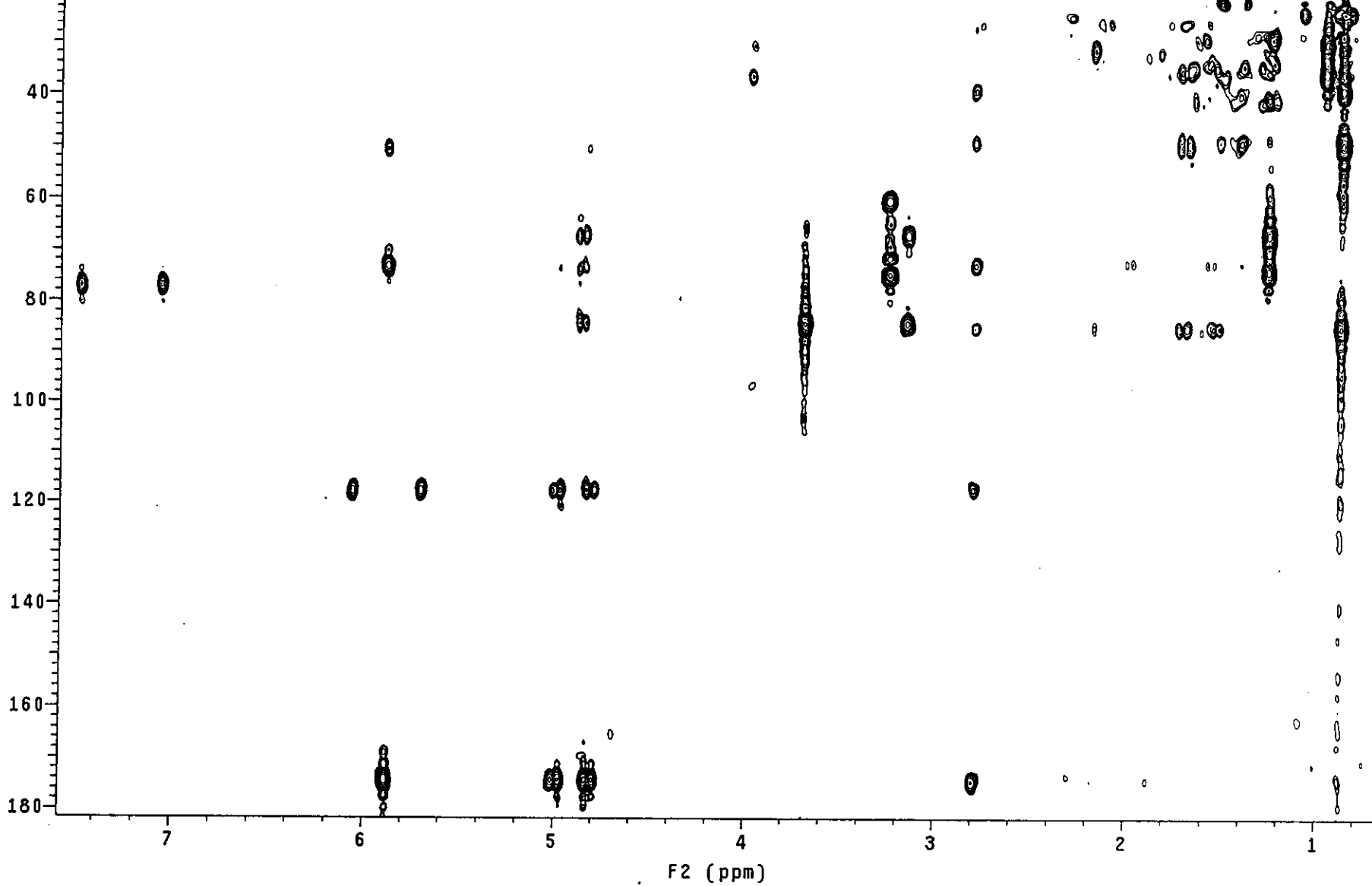


Figure 31 2D HMBC spectrum of compound SCO3

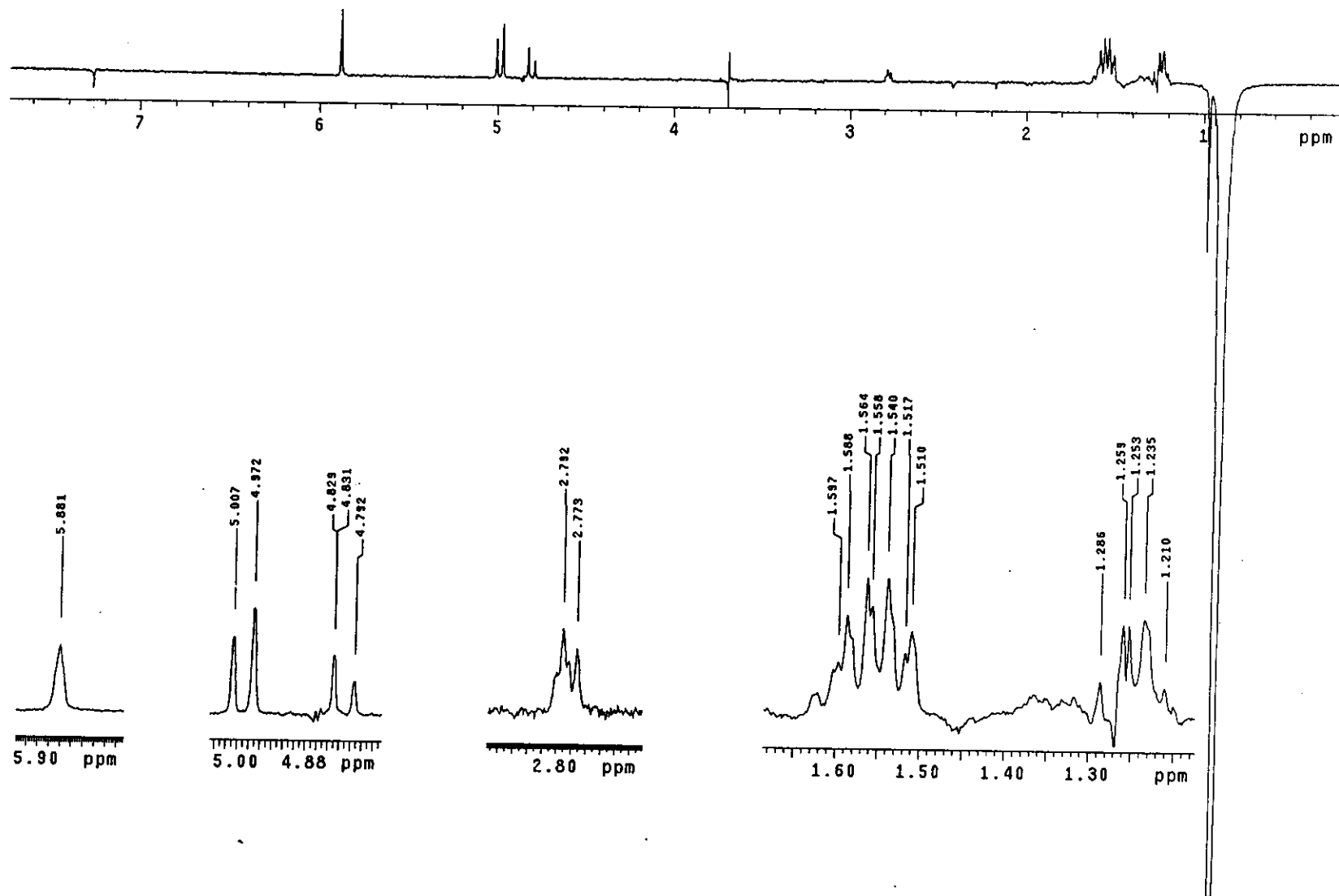


Figure 32 NOE spectrum of compound SCO3 (Irradiated at  $\delta 0.88$ , (1))

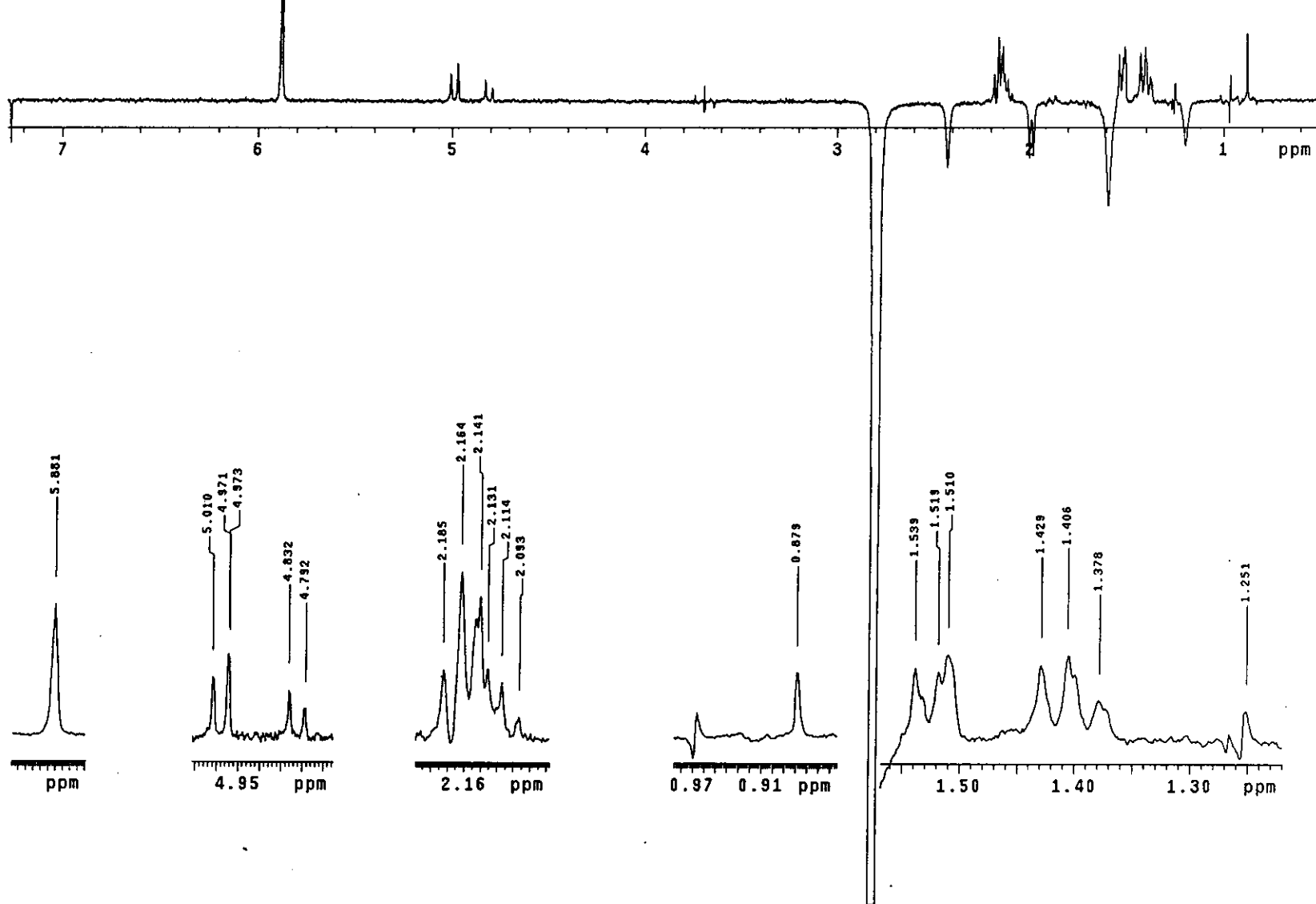


Figure 33 NOE spectrum of compound SCO3 (Irradiated at  $\delta 2.79$ , (2))

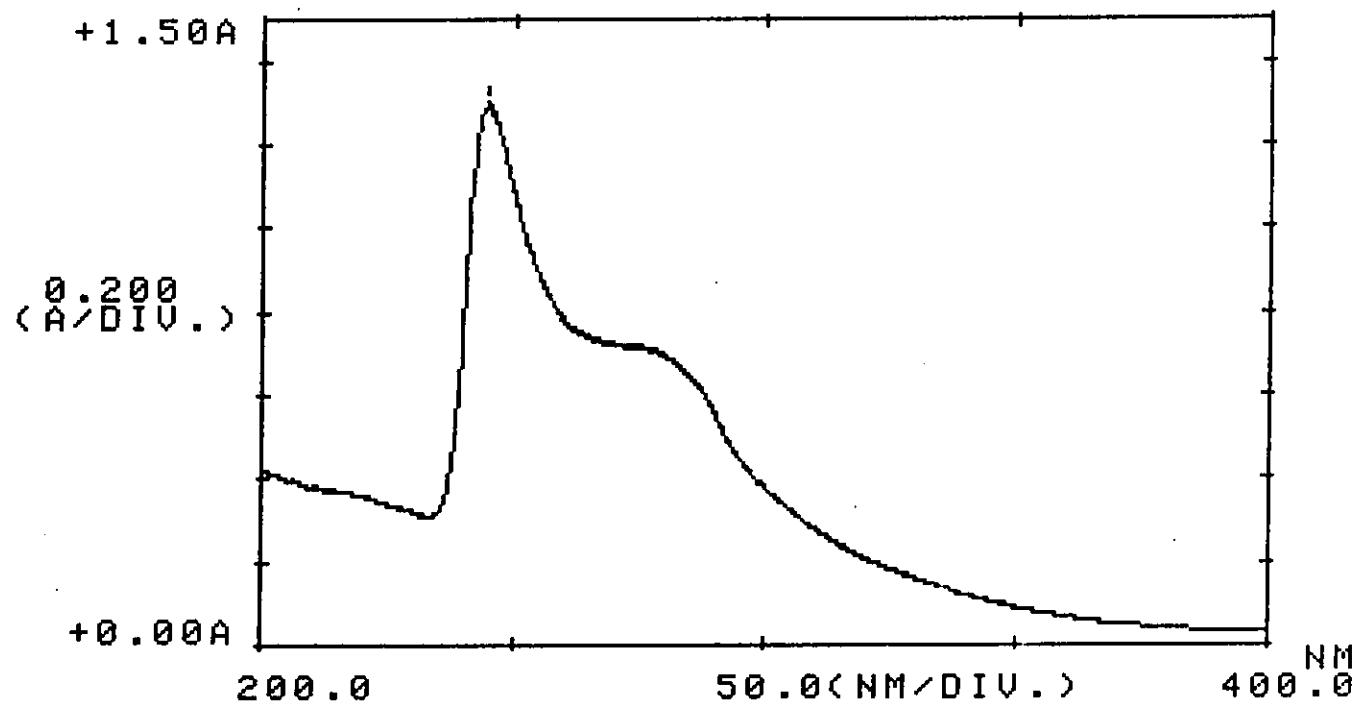


Figure 34 UV (CHCl<sub>3</sub>) spectrum of compound SCO4

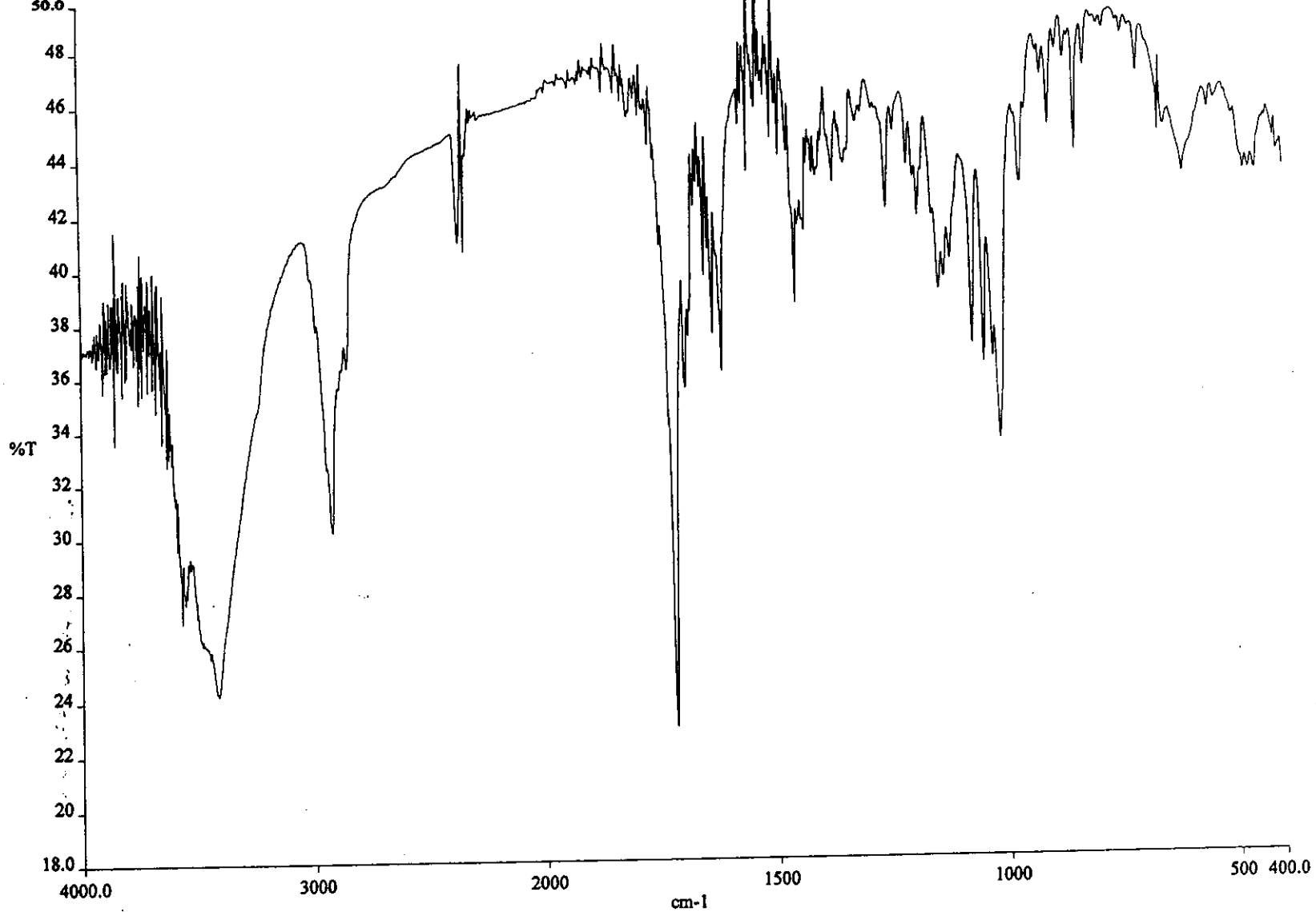


Figure 35 IR (KBr) spectrum of compound SCO4

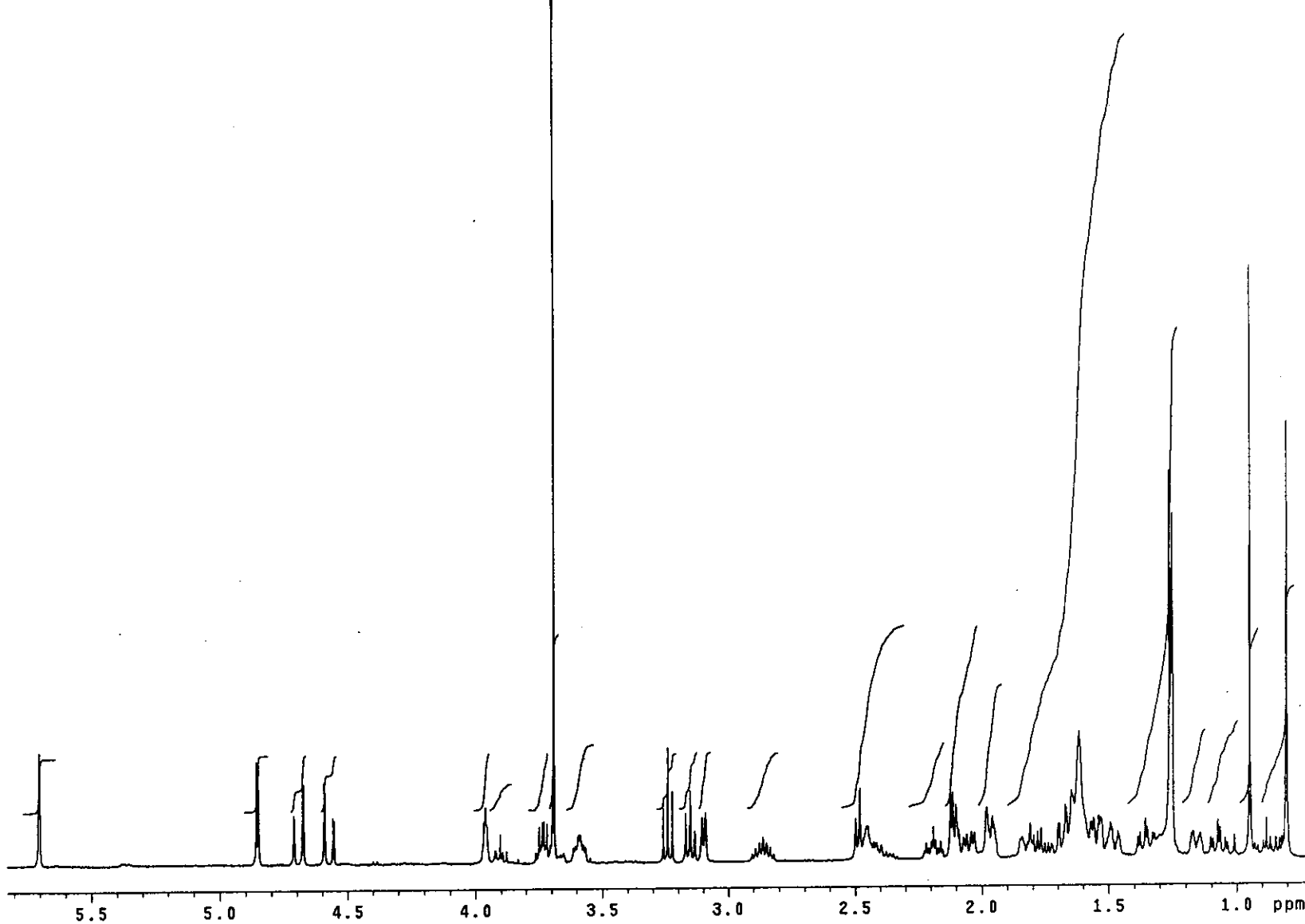


Figure 36  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ) spectrum of compound SCO4

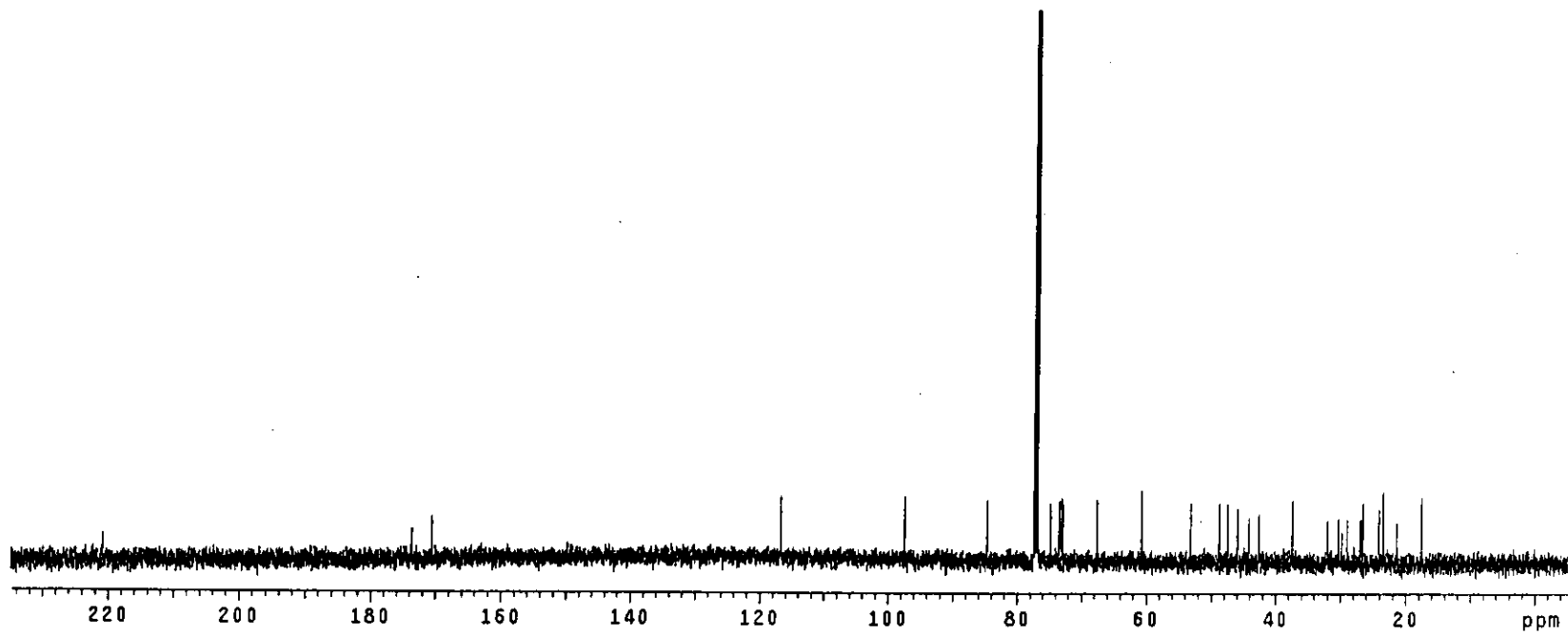


Figure 37  $^{13}\text{C}$  NMR (125 MHz,  $\text{CDCl}_3$ ) spectrum of compound SCO4

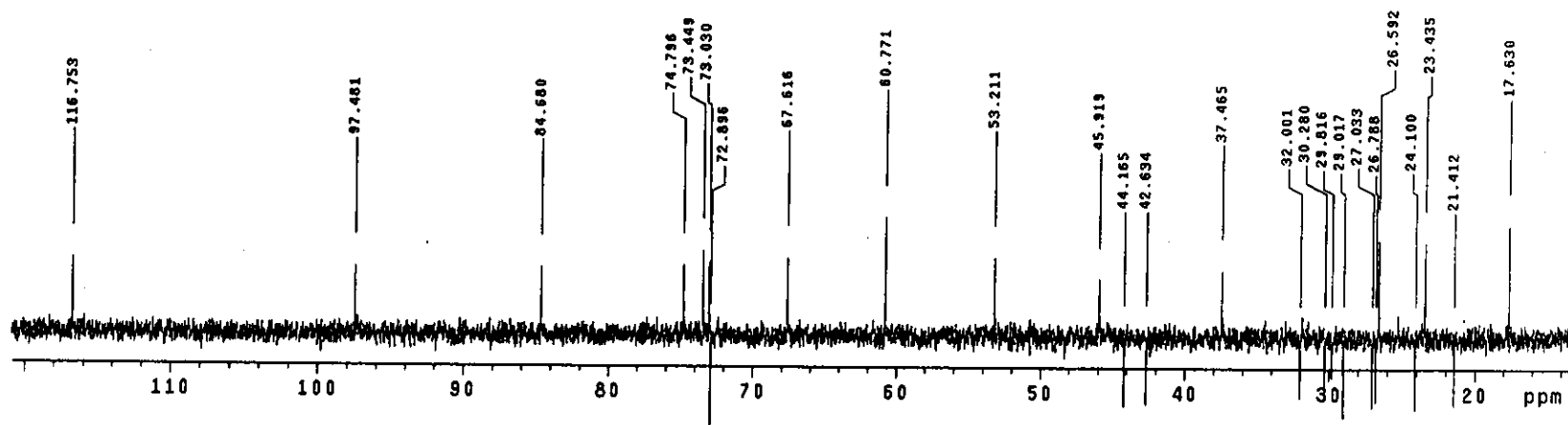


Figure 38 DEPT (CDCl<sub>3</sub>) spectrum of compound SCO4



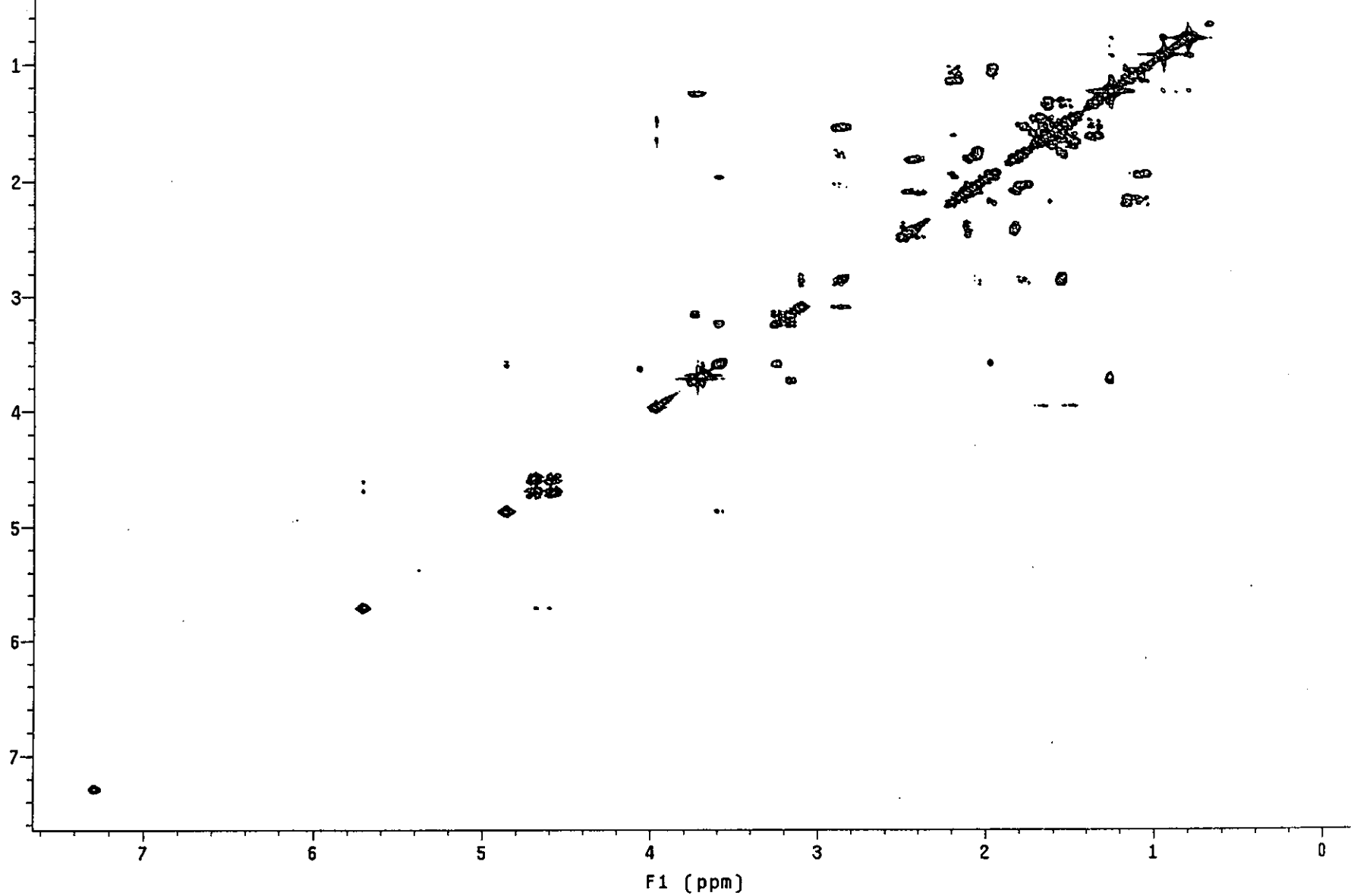


Figure 39 2D COSY spectrum of compound SCO4

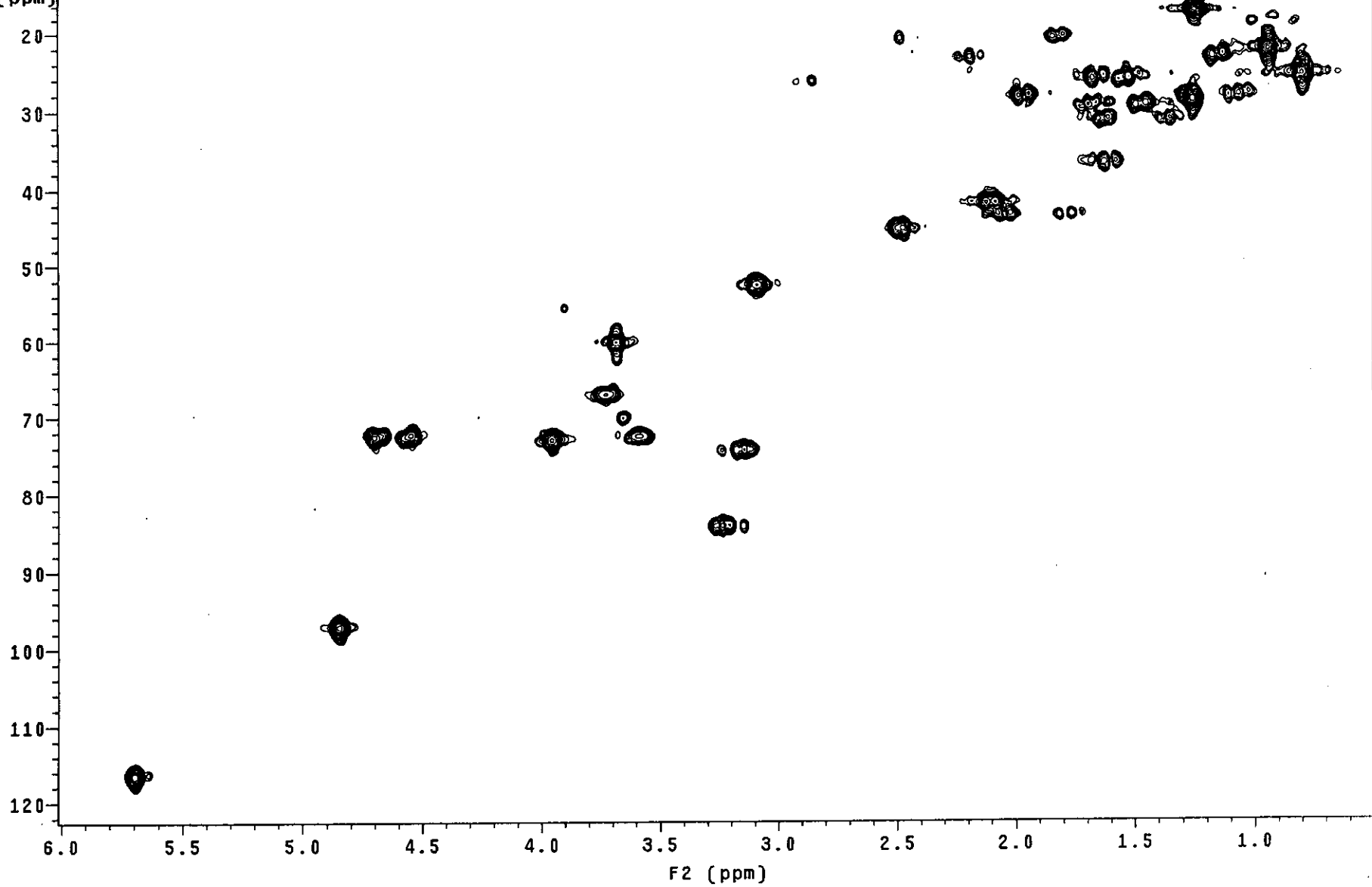


Figure 40 2D HMQC spectrum of compound SCO4

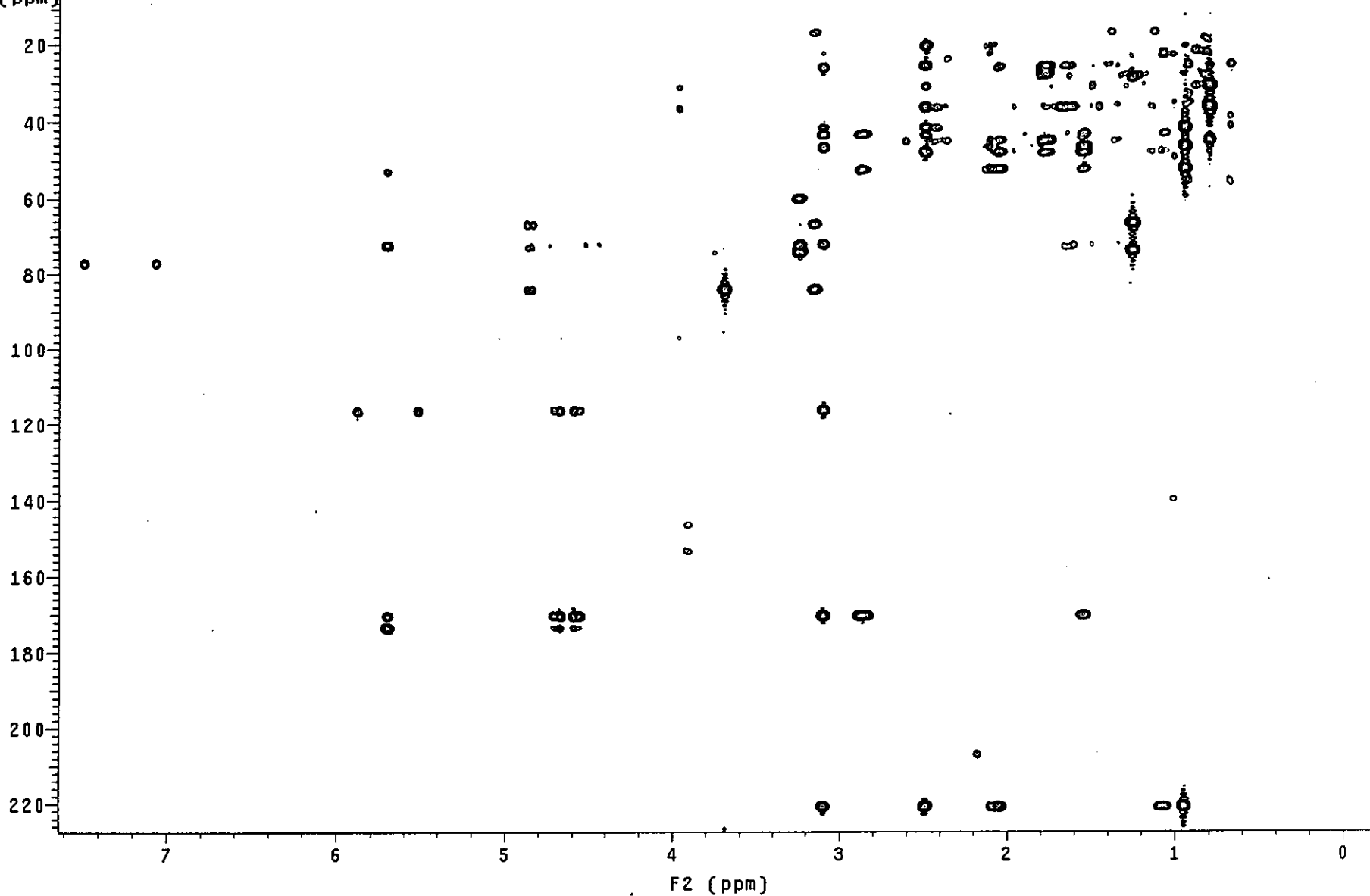


Figure 41 2D HMBC spectrum of compound SCO4

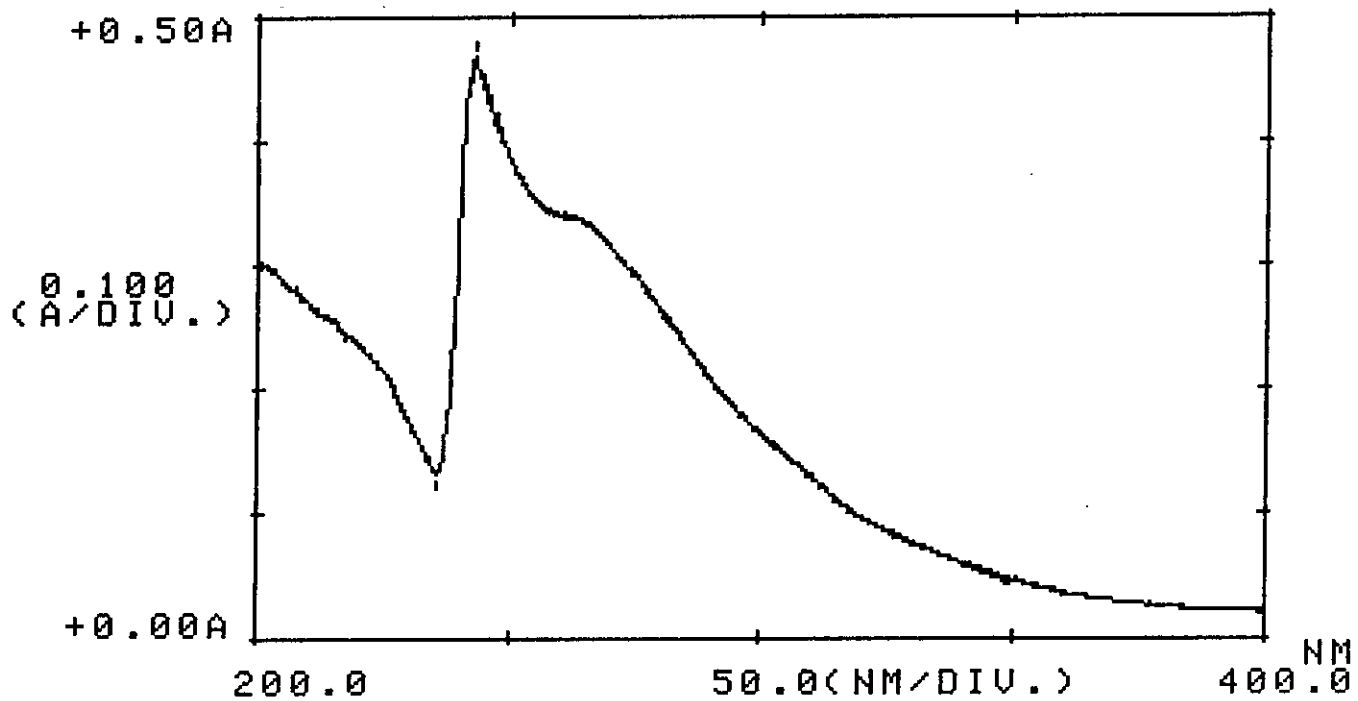


Figure 42 UV (CHCl<sub>3</sub>) spectrum of compound SC05

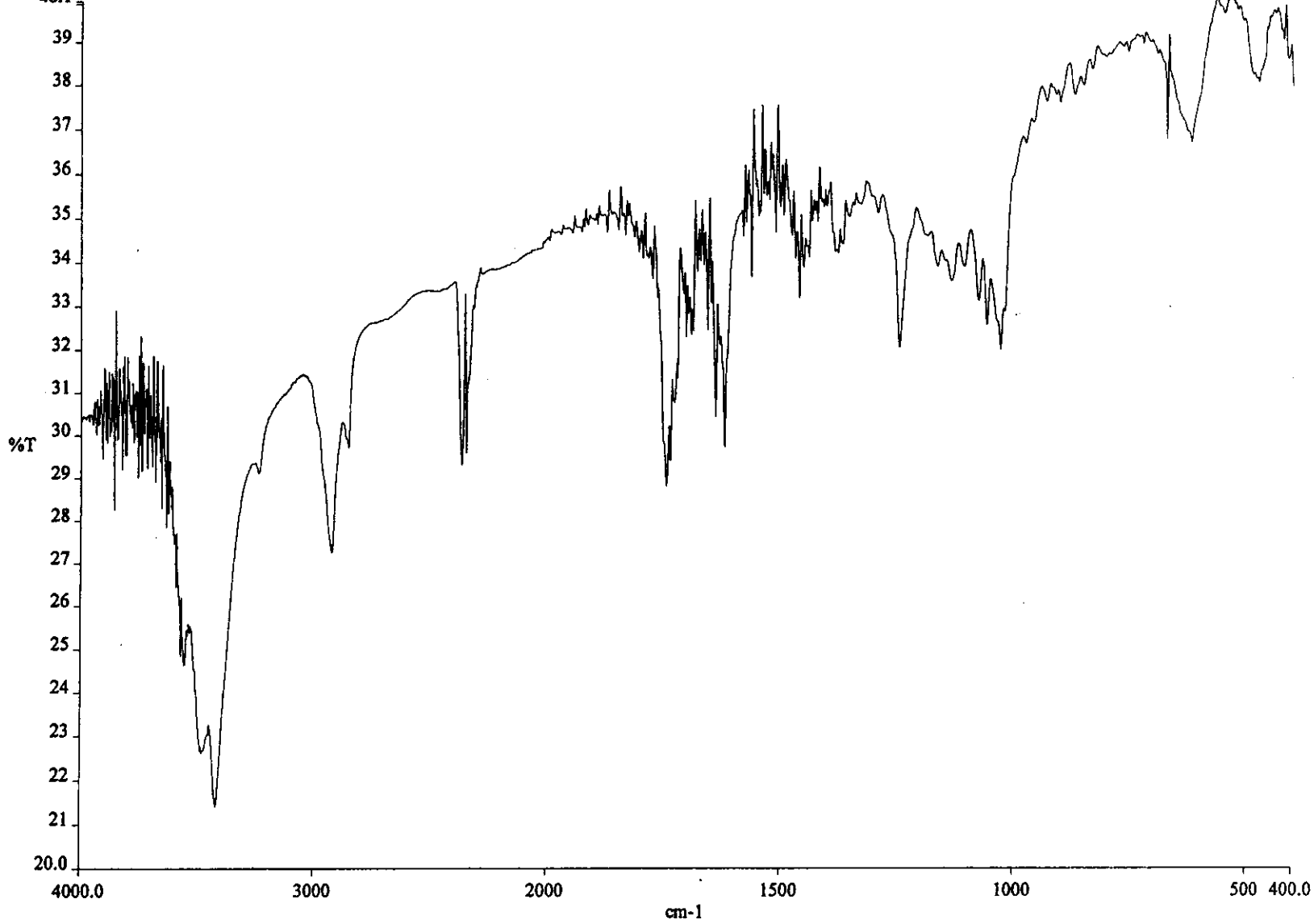


Figure 43 IR (KBr) spectrum of compound SC05

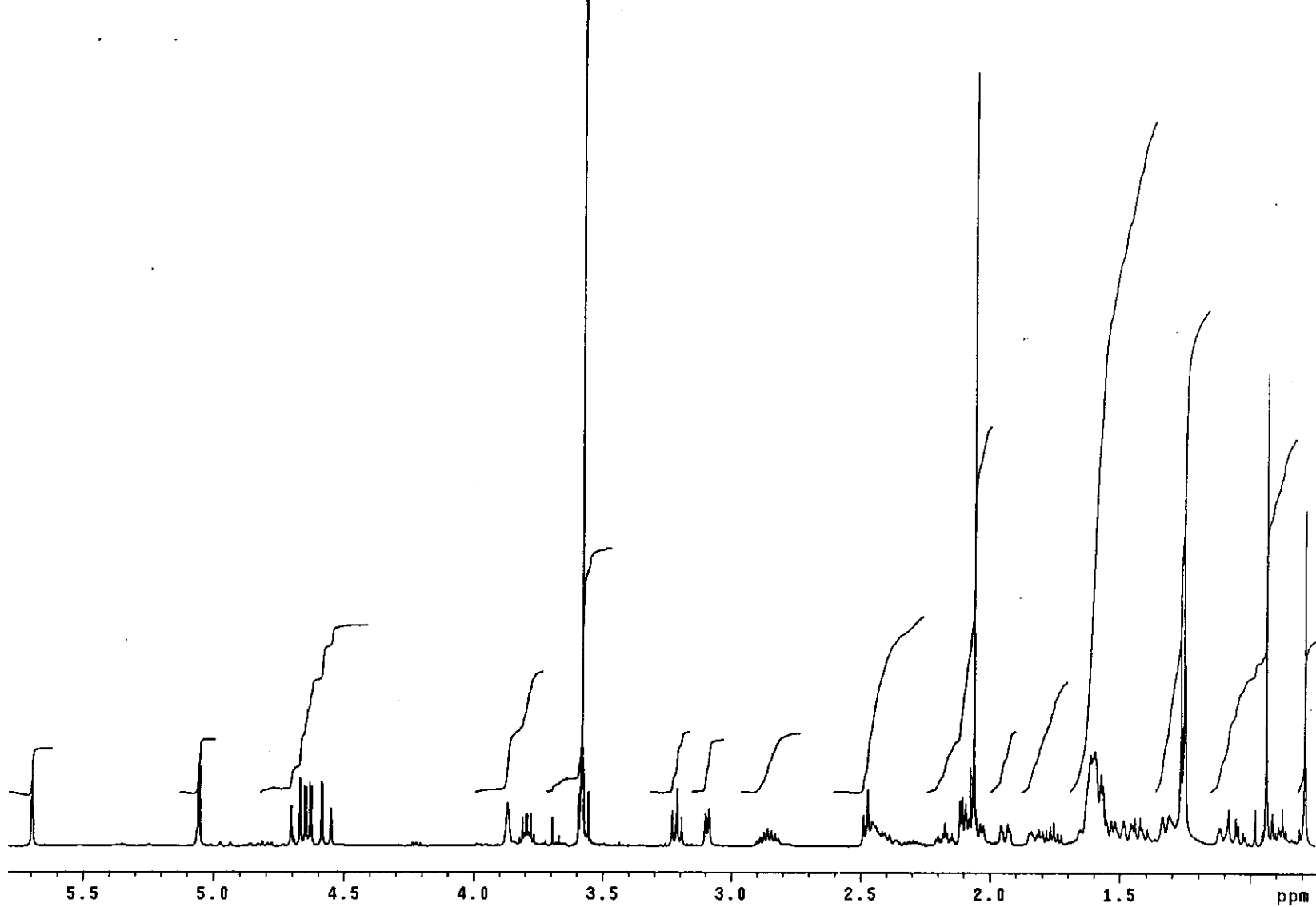


Figure 44  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ) spectrum of compound SCO5

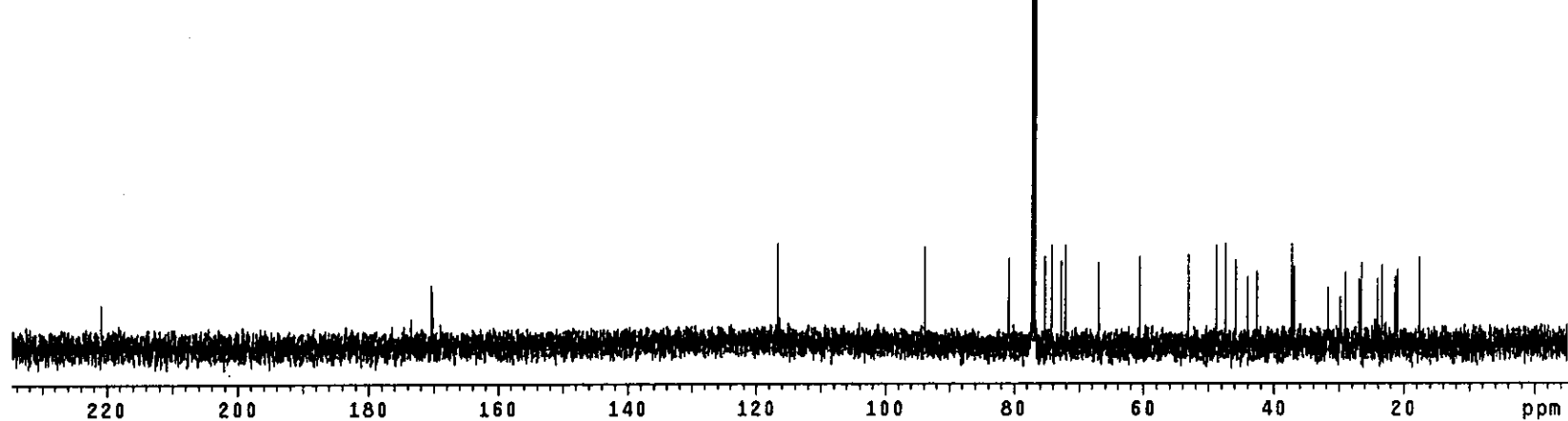


Figure 45  $^{13}\text{C}$  NMR (125 MHz,  $\text{CDCl}_3$ ) spectrum of compound SC05

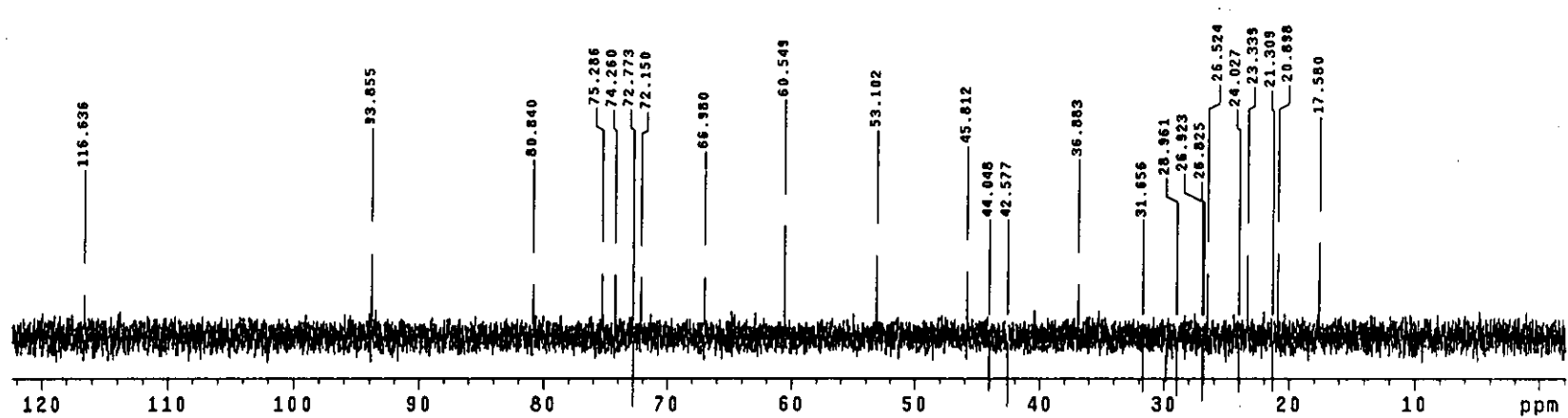


Figure 46 DEPT (CDCl<sub>3</sub>) spectrum of compound SCO5





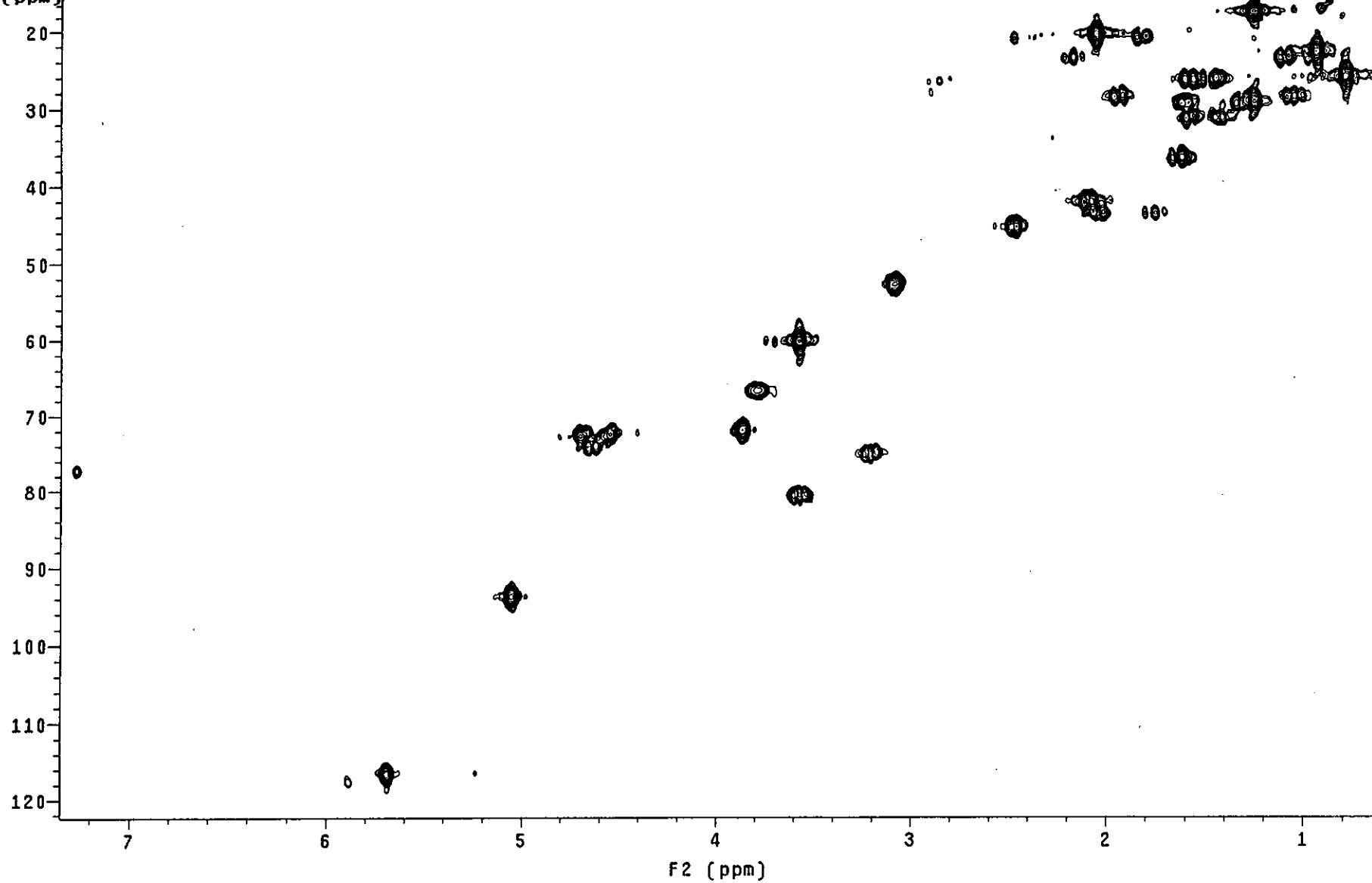


Figure 48 2D HMQC spectrum of compound SCO5

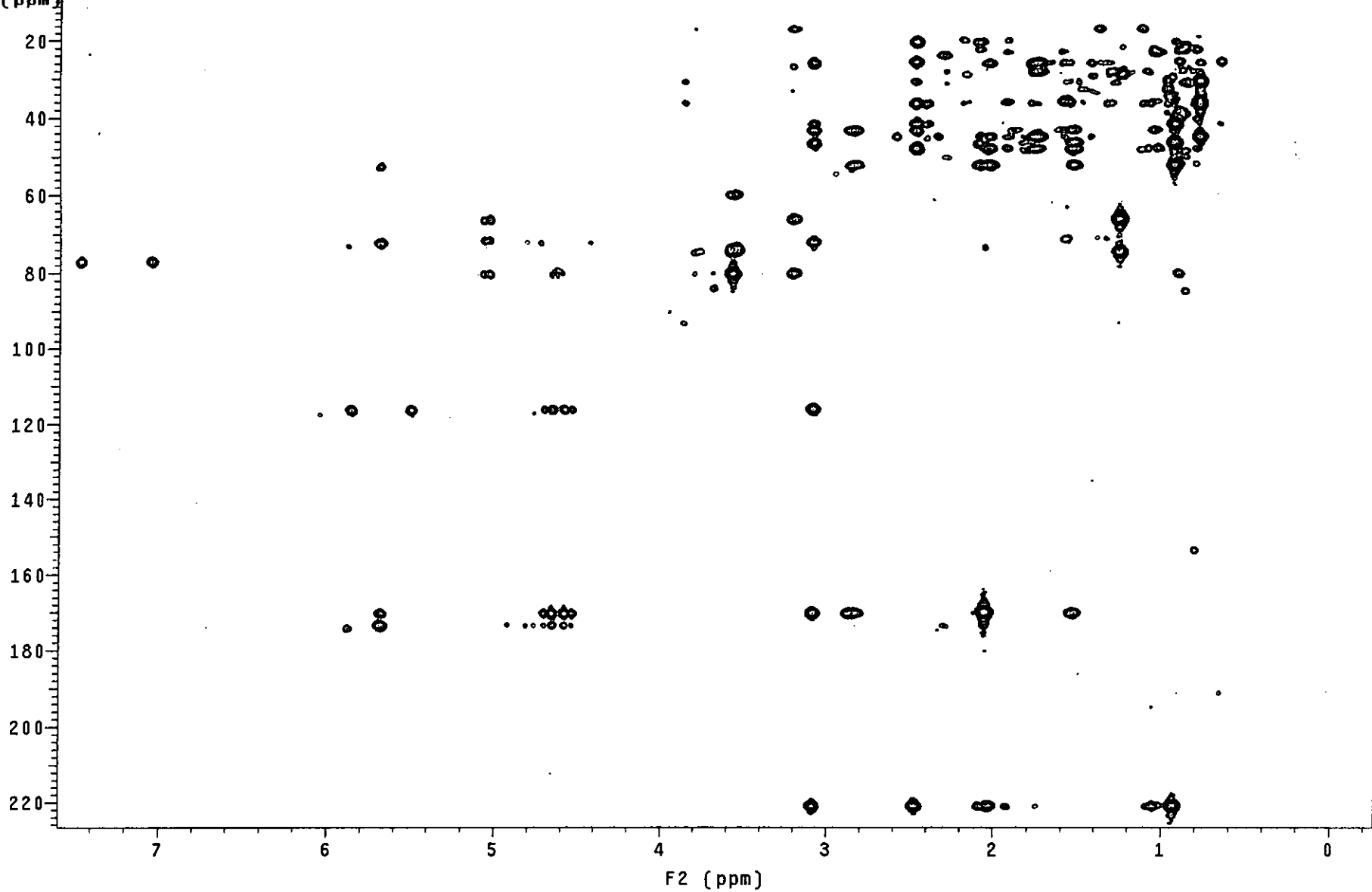


Figure 49 2D HMBC spectrum of compound SCO5

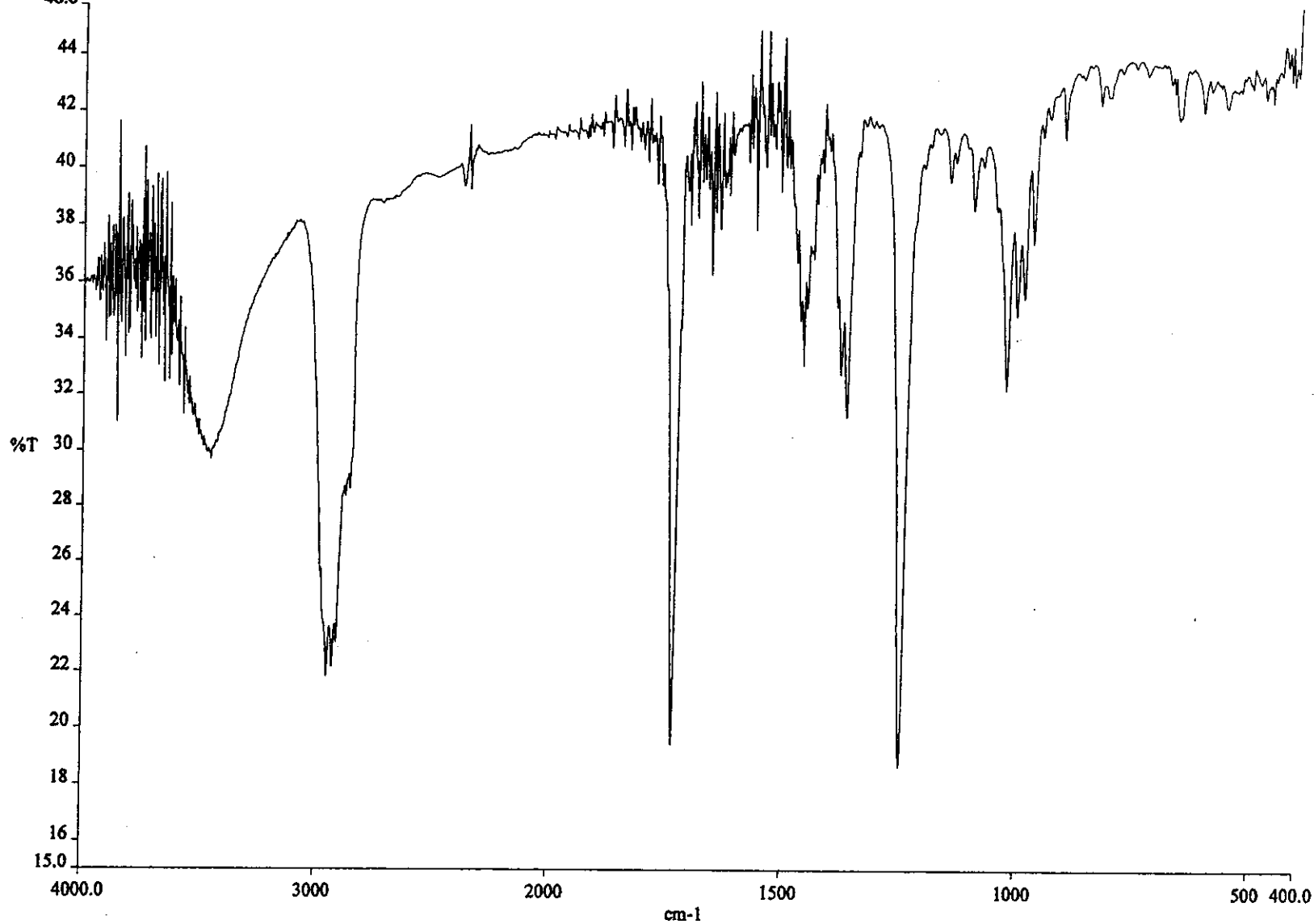


Figure 50 IR (KBr) spectrum of compound LCO1

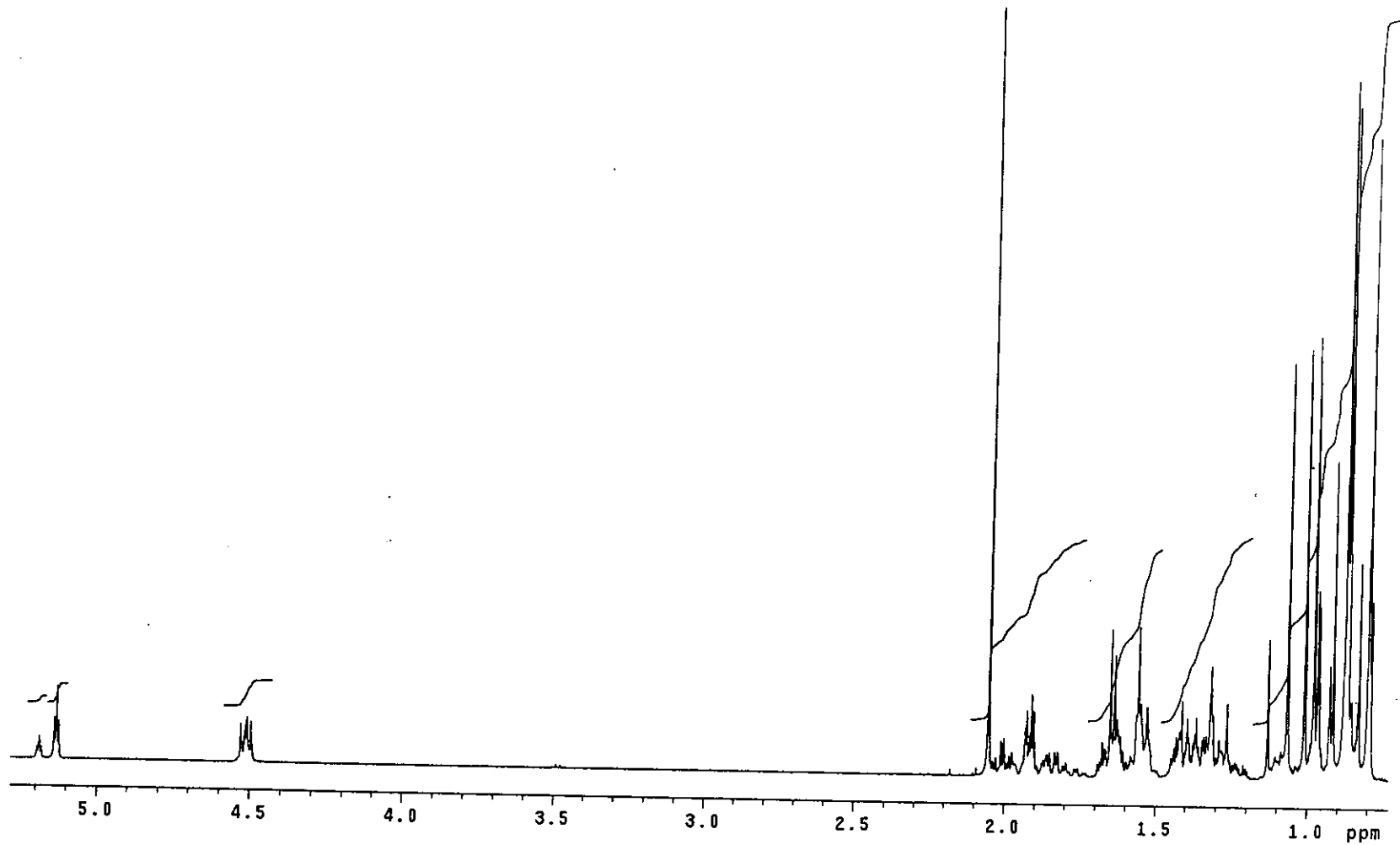


Figure 51  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ) spectrum of compound LCO1

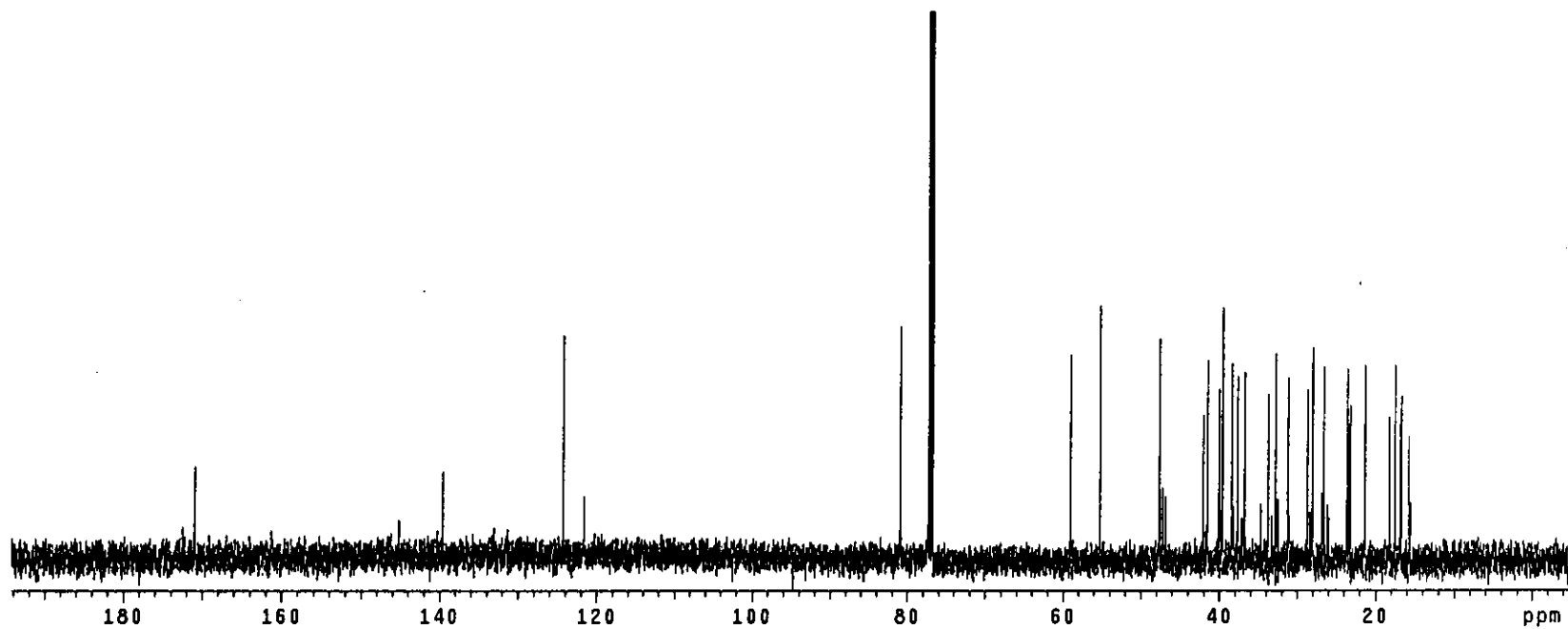


Figure 52  $^{13}\text{C}$  NMR (125 MHz,  $\text{CDCl}_3$ ) spectrum of compound LCO1

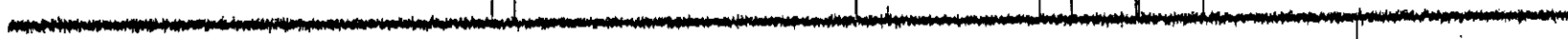
CH3 carbons



CH2 carbons



CH carbons



all protonated carbons

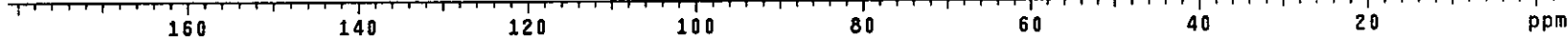


Figure 53 DEPT (CDCl<sub>3</sub>) spectrum of compound LCO1

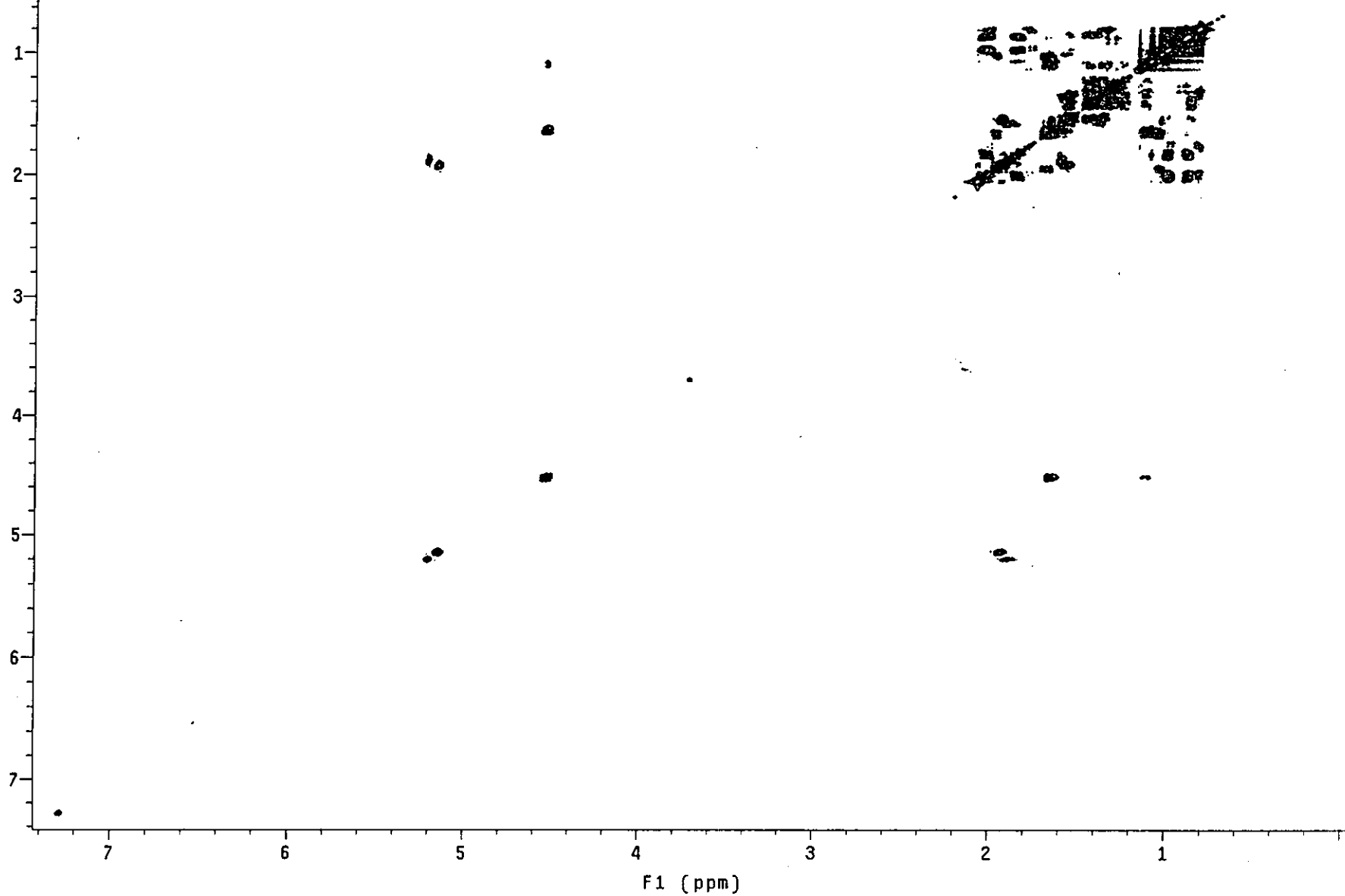


Figure 54 2D COSY spectrum of compound LCO1



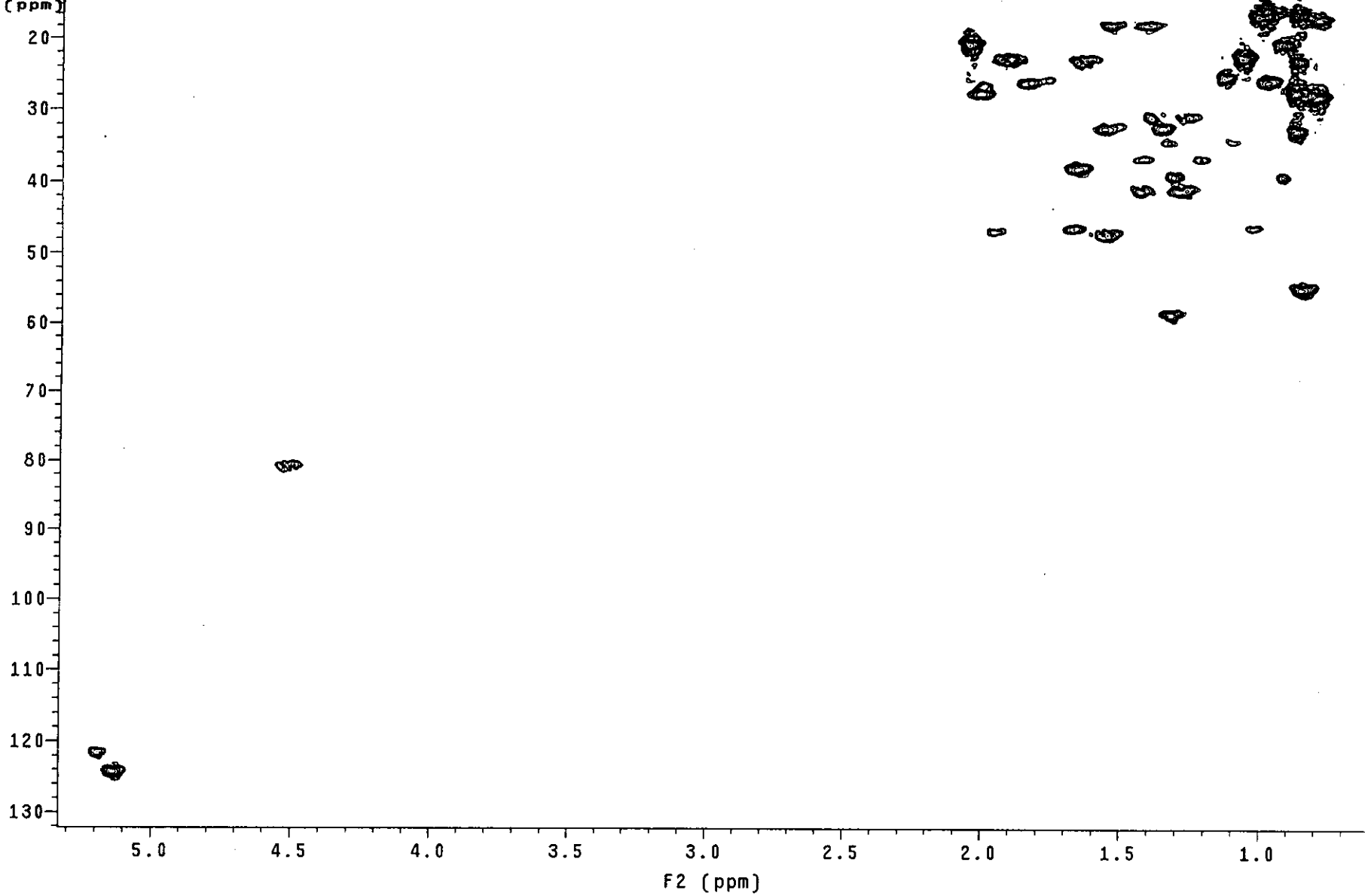


Figure 55 2D HMQC spectrum of compound LCO1

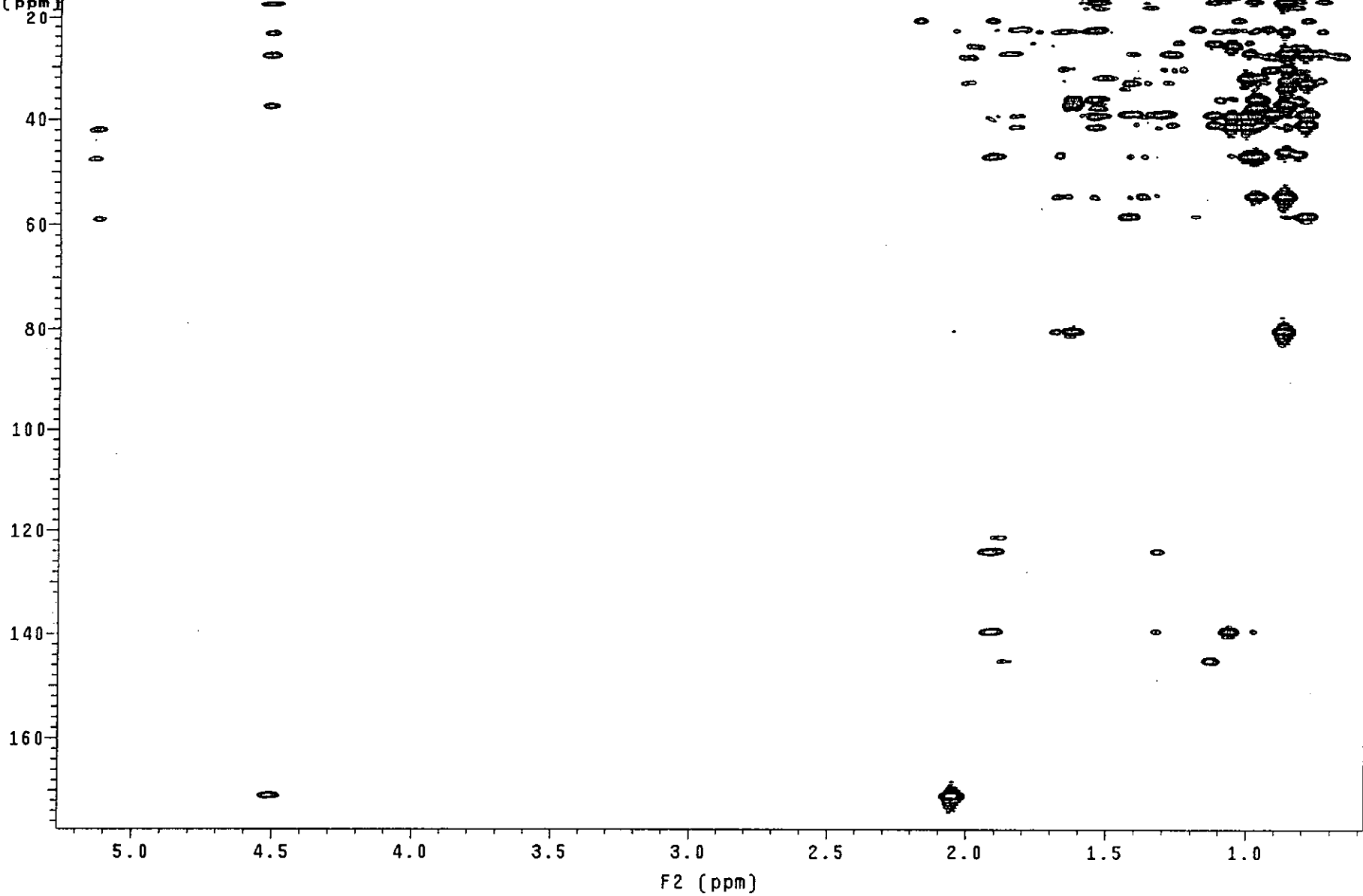


Figure S6 2D HMBC spectrum of compound LCO1

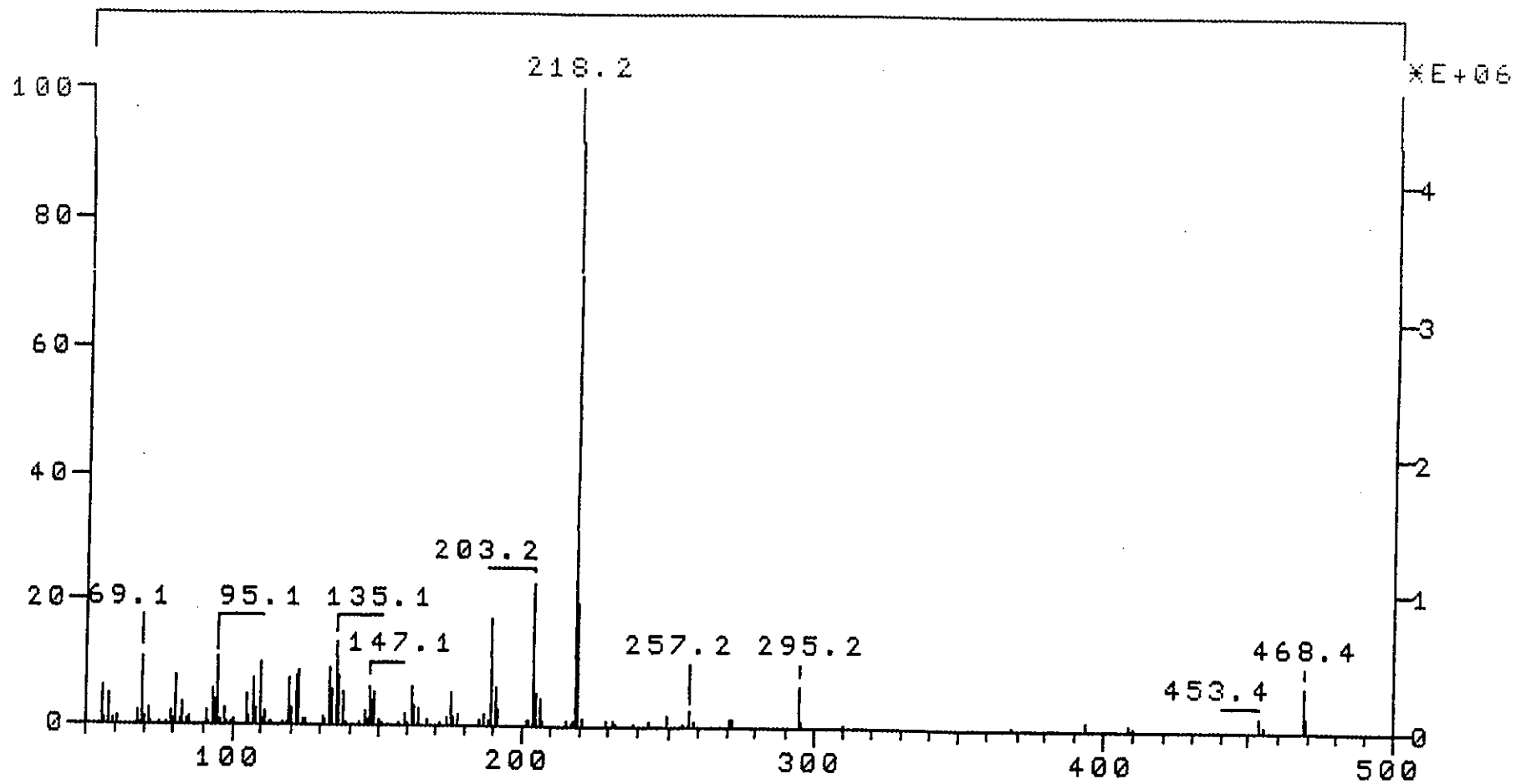


Figure S7 Mass spectrum of compound LCO1

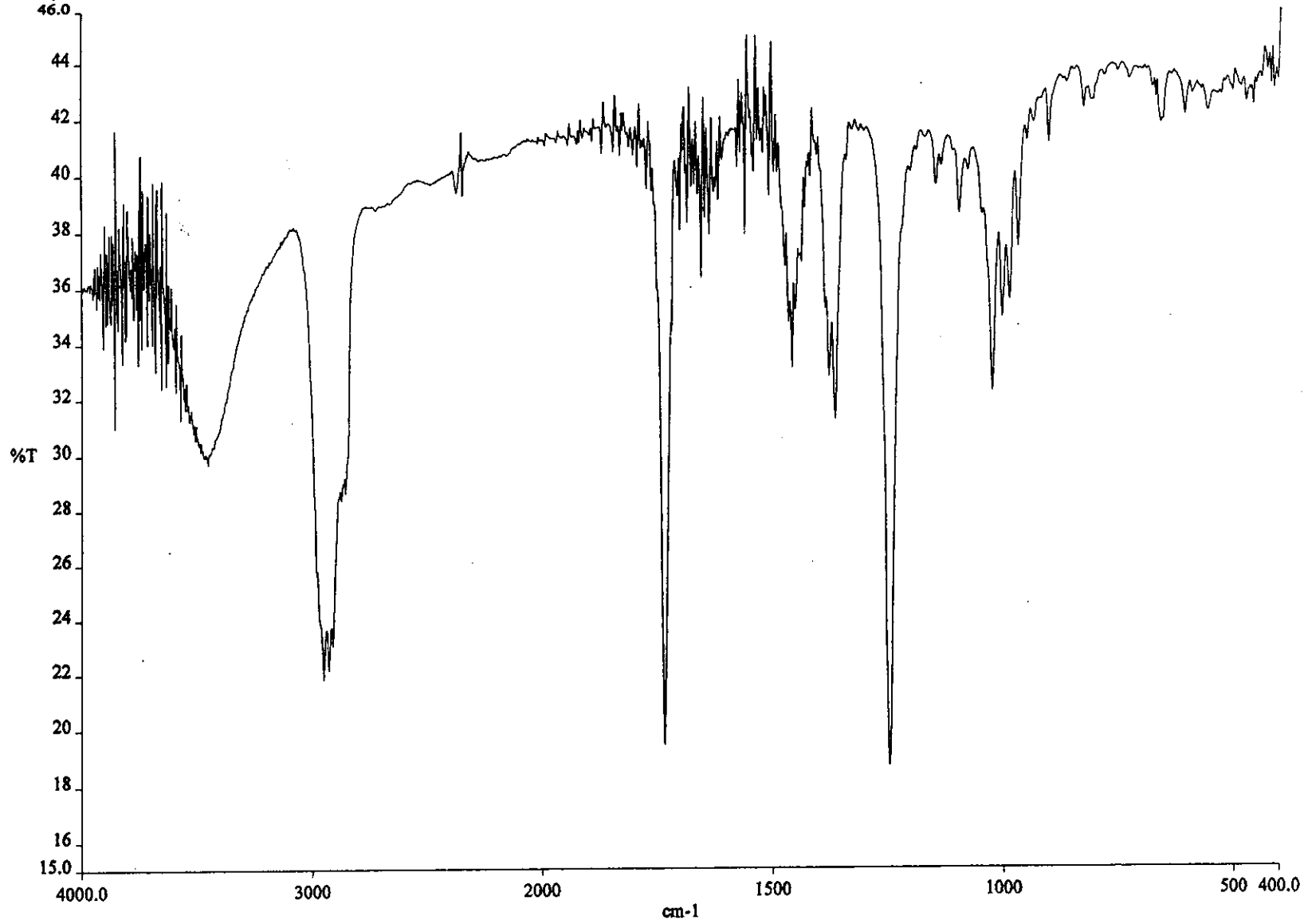


Figure 58 IR (KBr) spectrum of compound LCO2

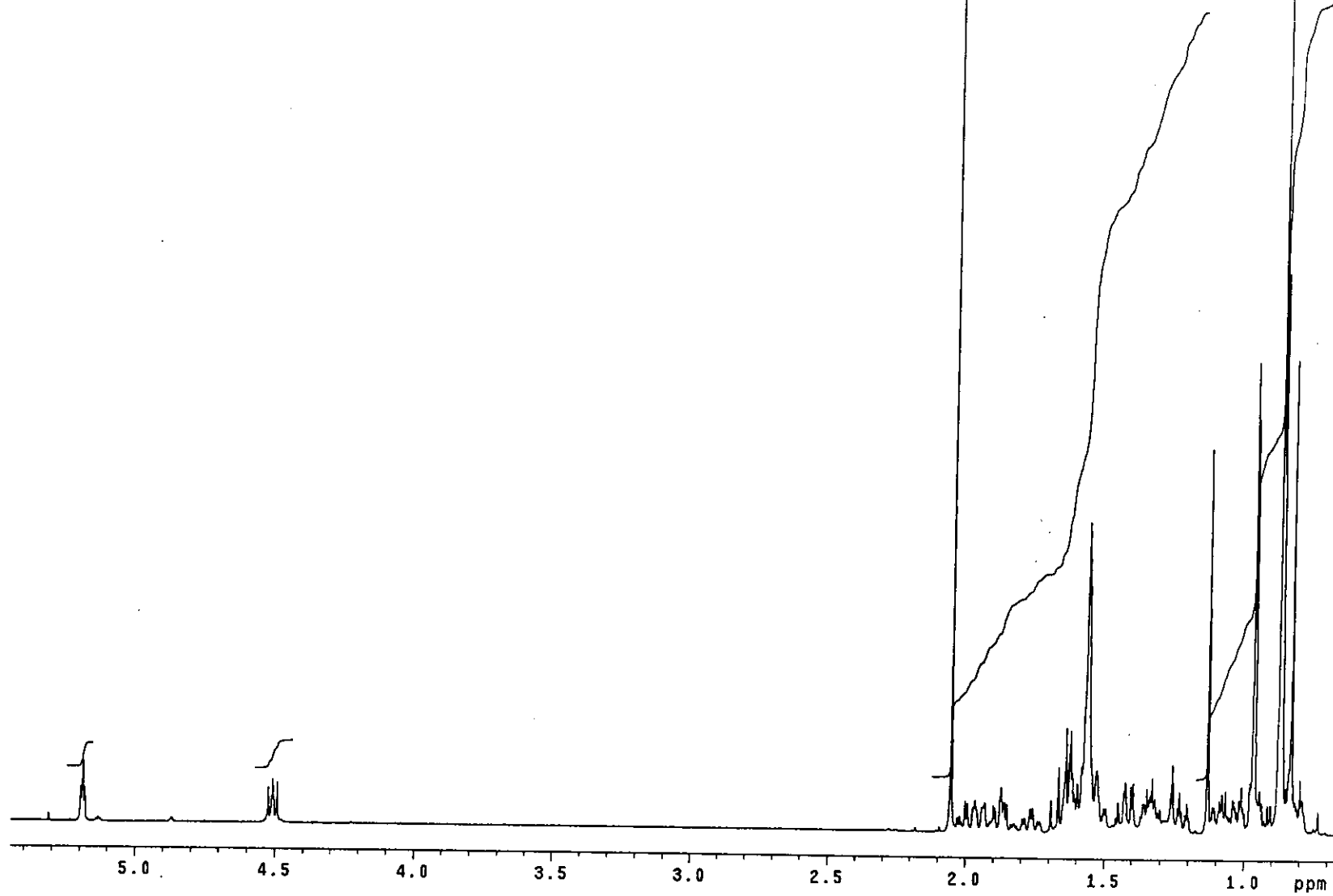


Figure 59  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ) spectrum of compound LCO2

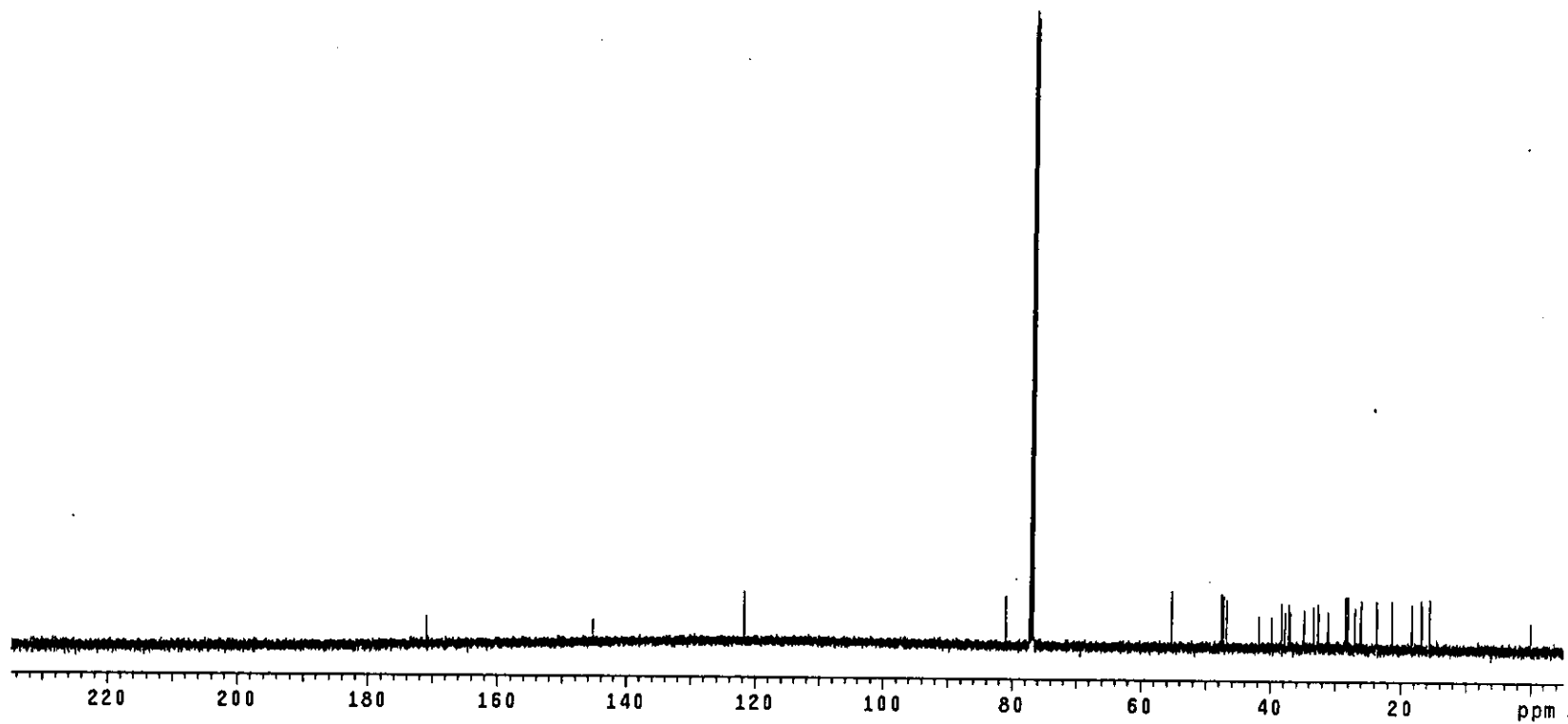


Figure 60  $^{13}\text{C}$  NMR (125 MHz,  $\text{CDCl}_3$ ) spectrum of compound LCO2

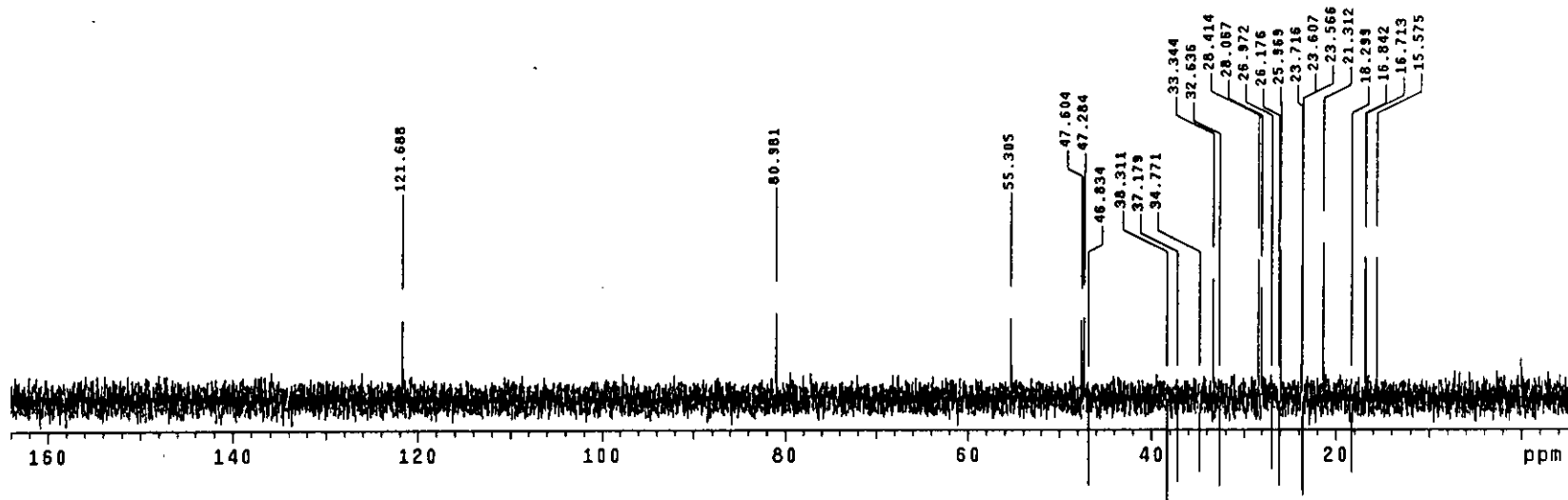


Figure 61 DEPT (CDCl<sub>3</sub>) spectrum of compound LCO<sub>2</sub>

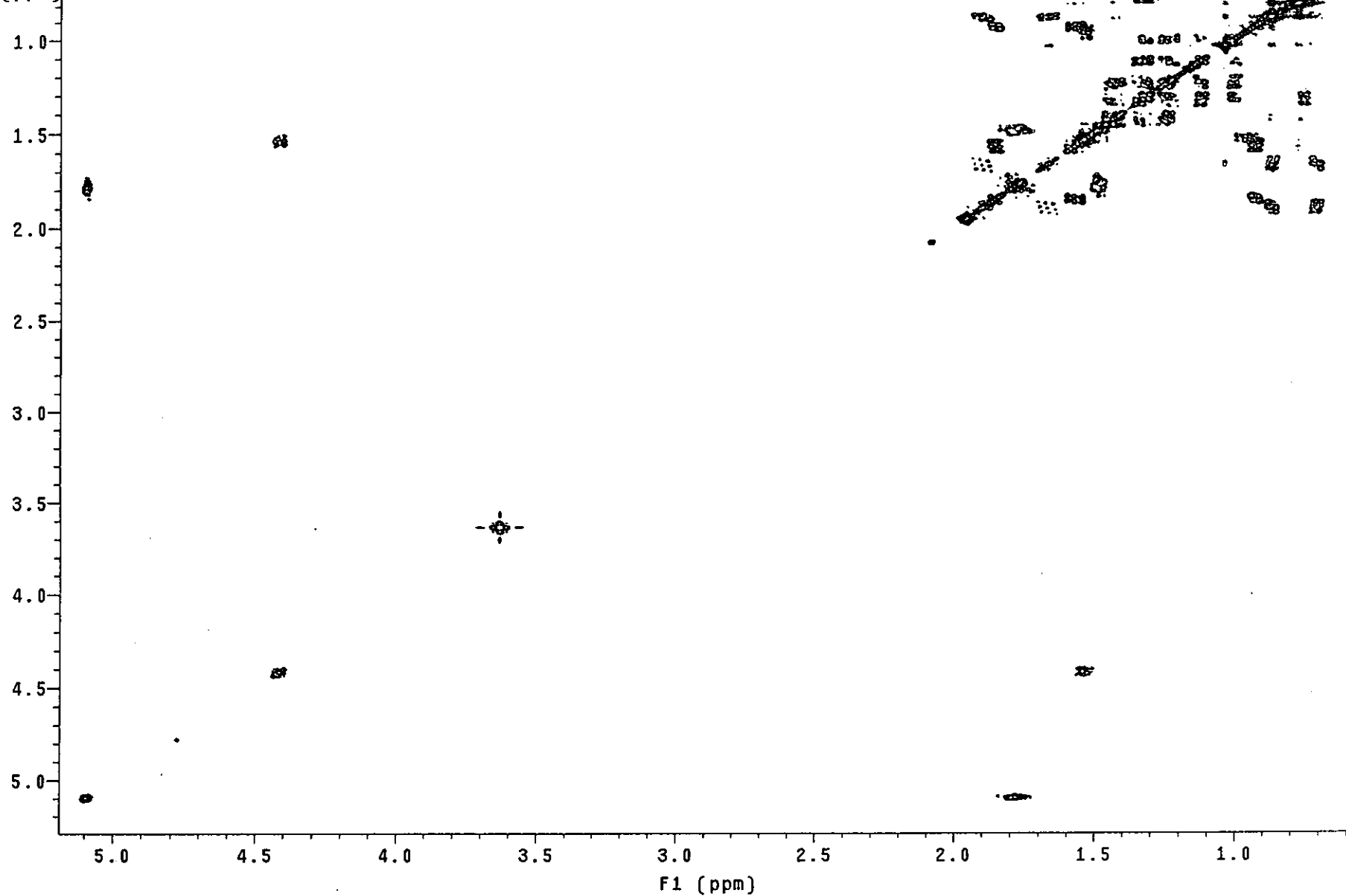


Figure 62 2D COSY spectrum of compound LCO2



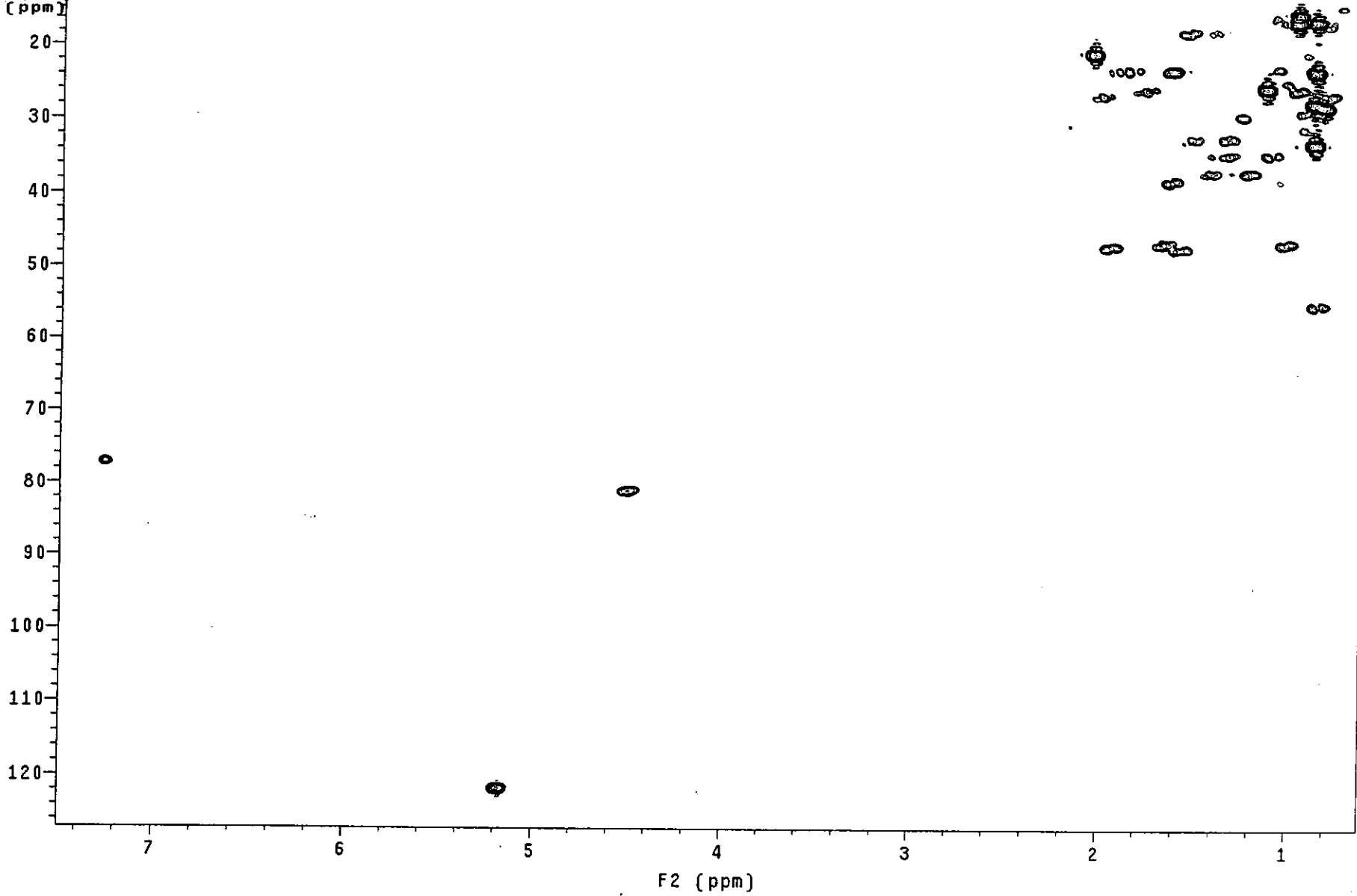


Figure 63 2D HMQC spectrum of compound LCO2

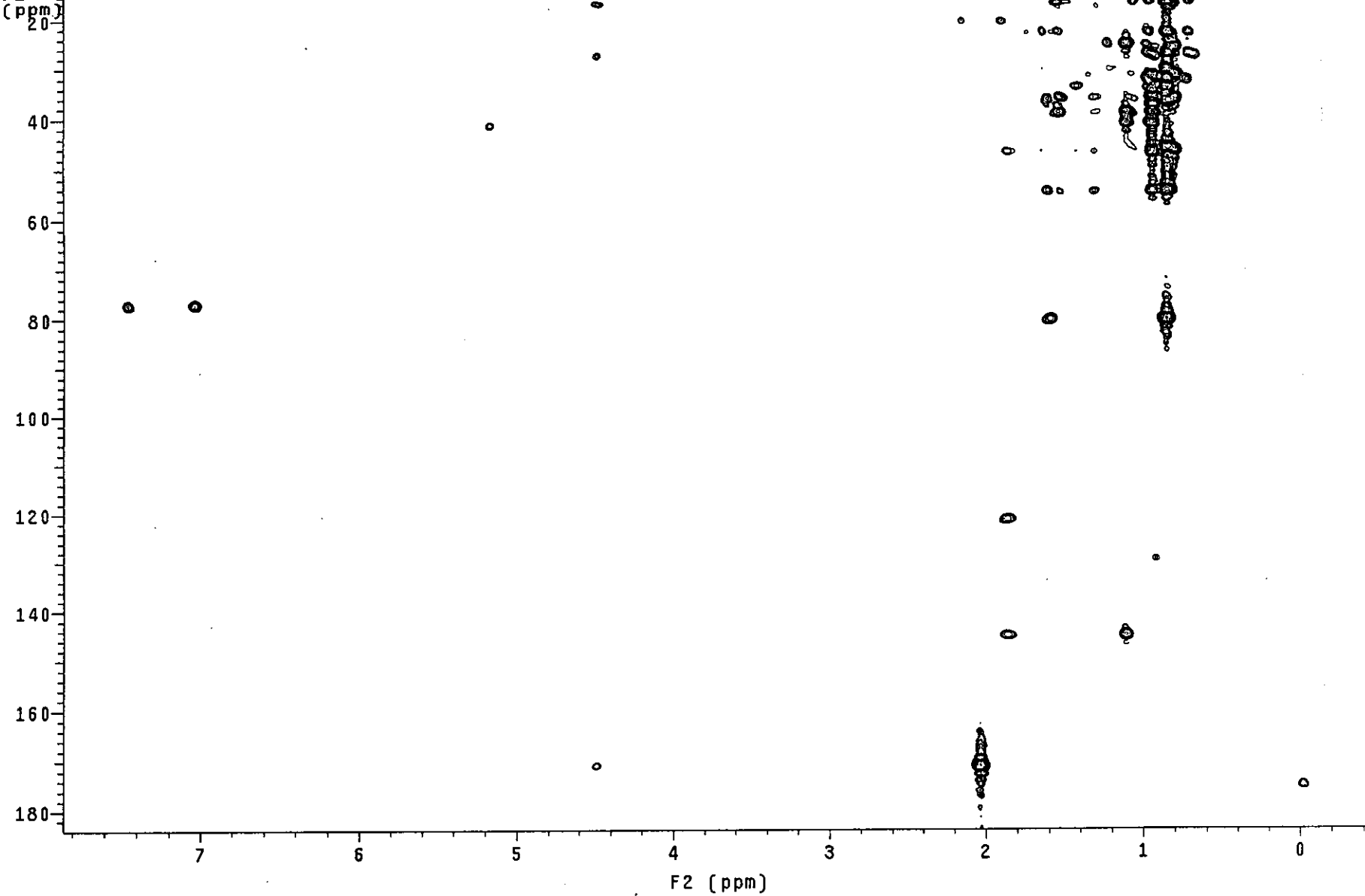


Figure 64 2D HMBC spectrum of compound LCO2

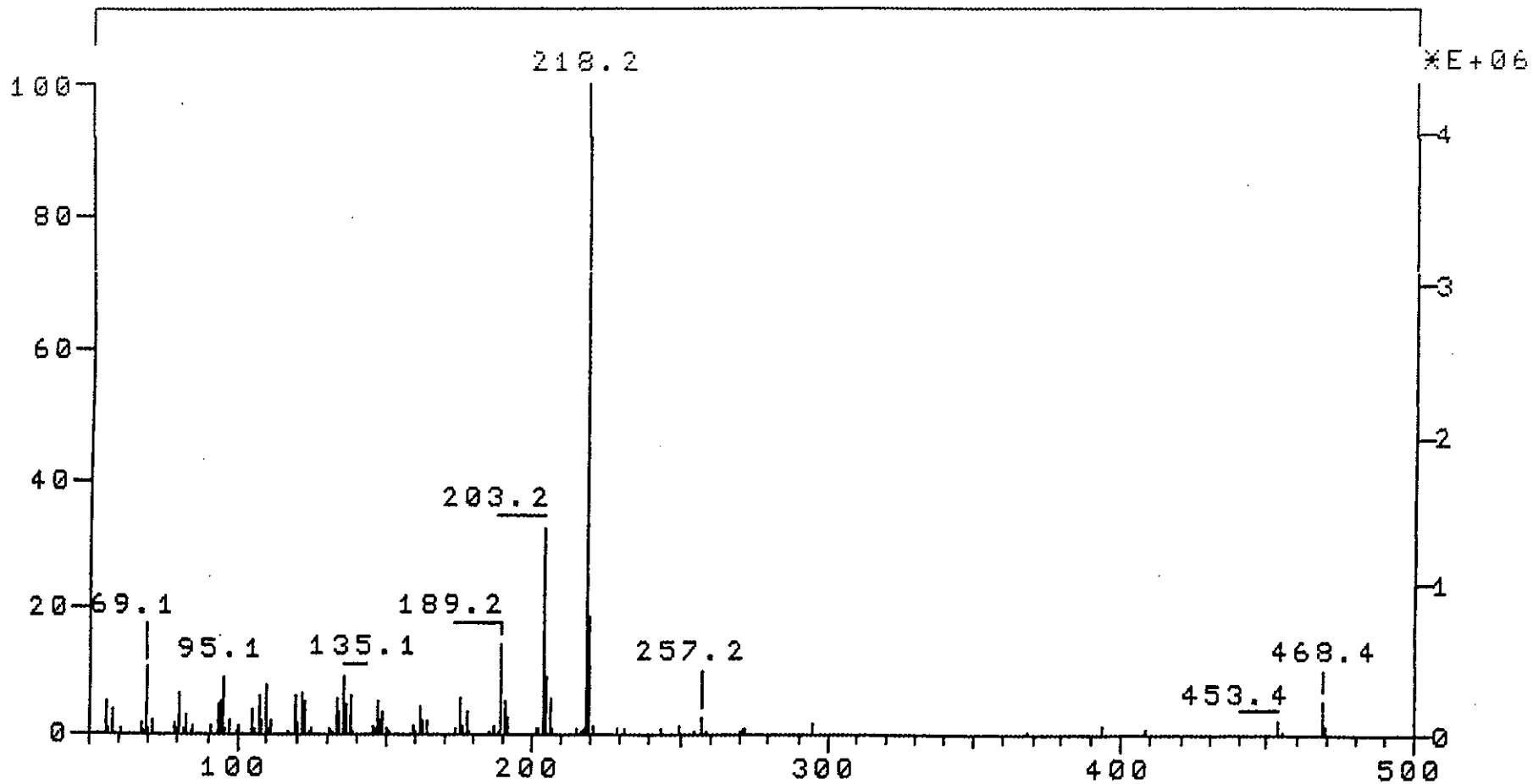


Figure 65 Mass spectrum of compound LCO2

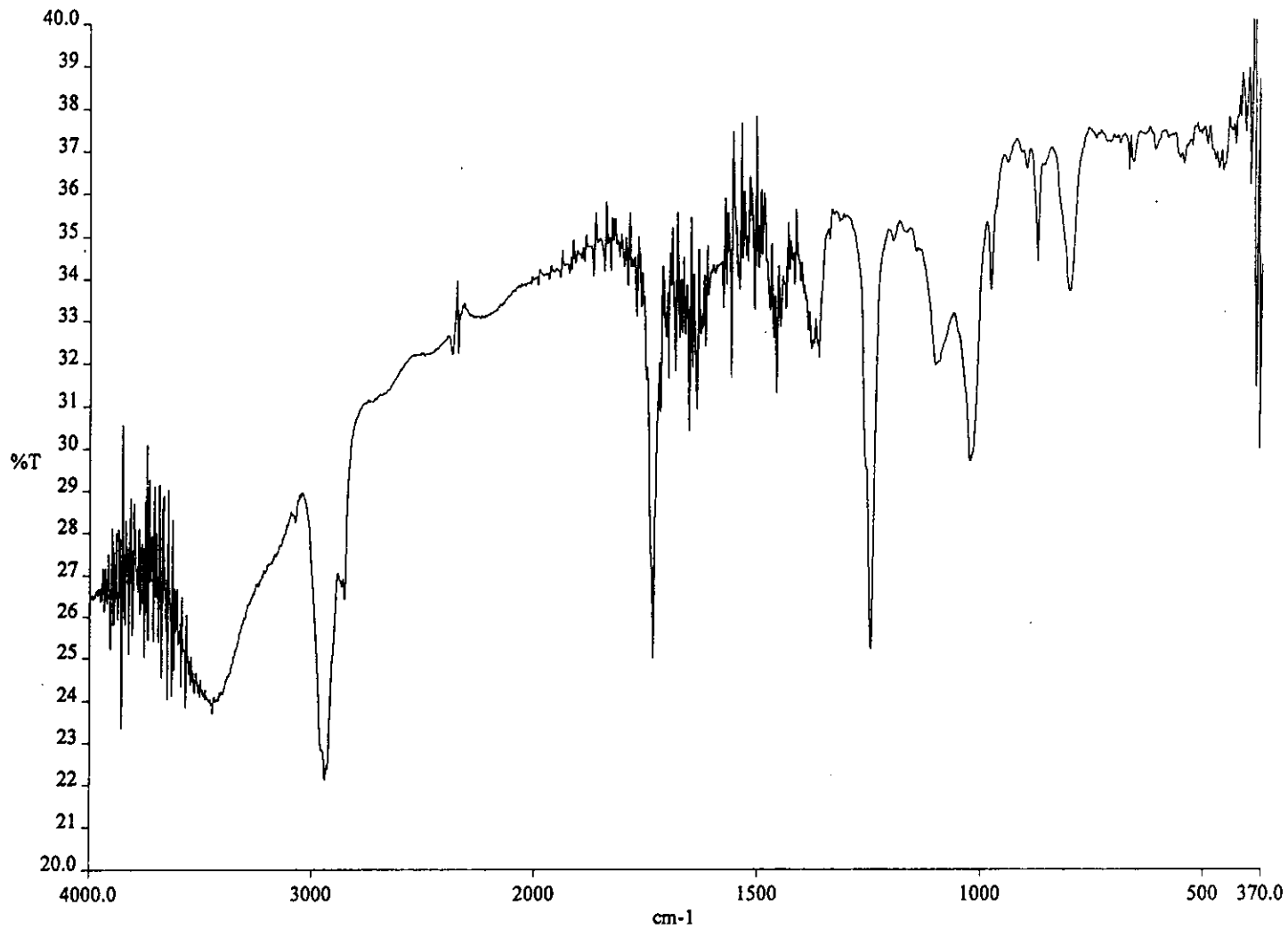


Figure 66 IR (KBr) spectrum of compound LCO3

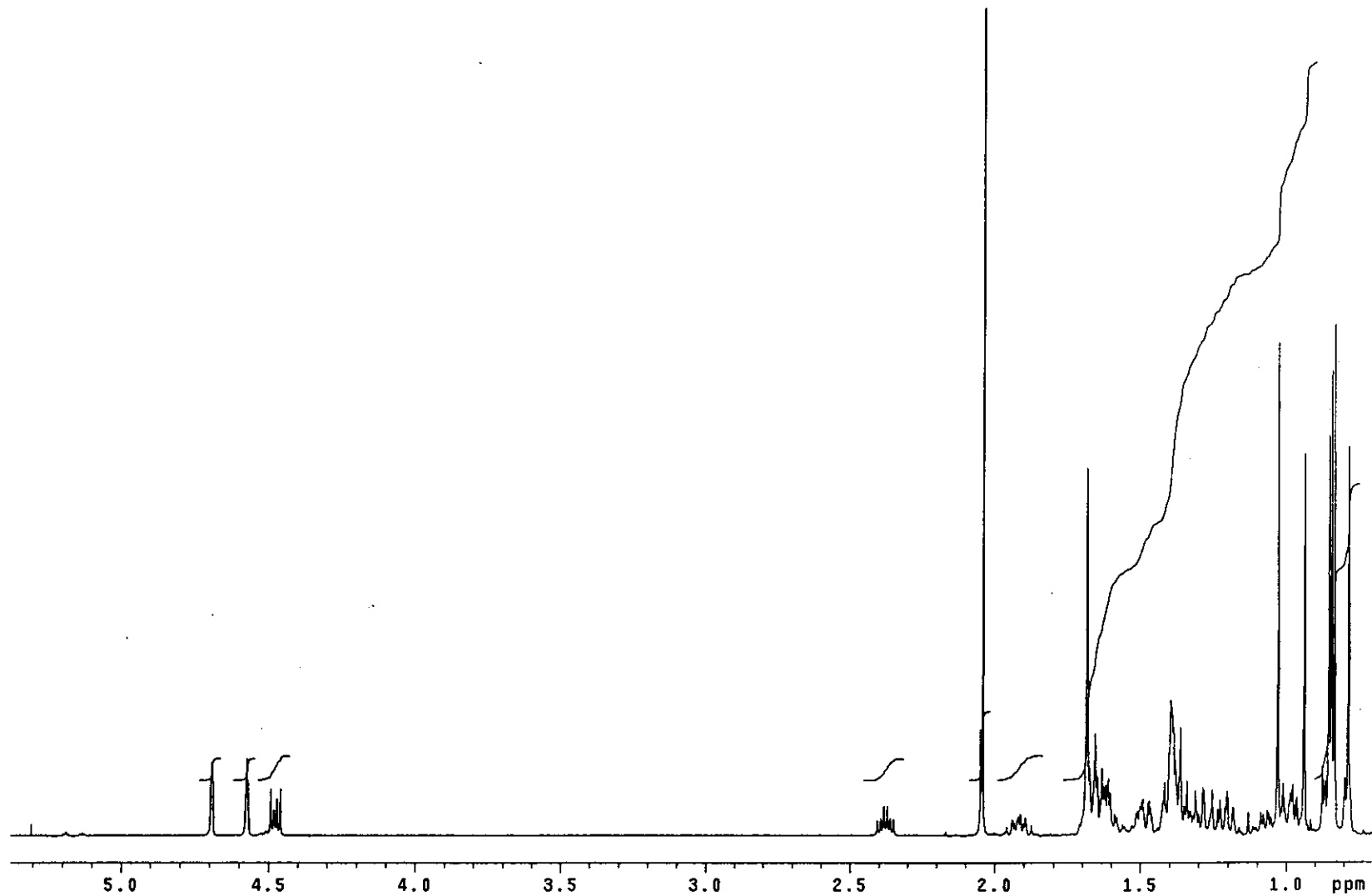


Figure 67  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ) spectrum of compound LCO3

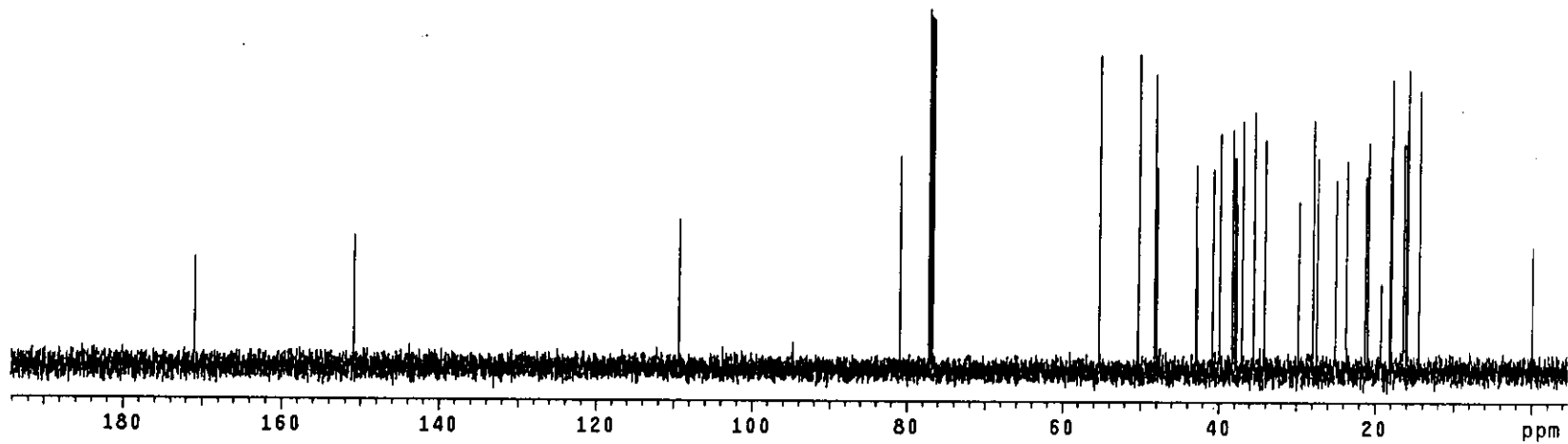


Figure 68  $^{13}\text{C}$  NMR (125 MHz,  $\text{CDCl}_3$ ) spectrum of compound LCO3

CH3 carbons



CH2 carbons



CH carbons



all protonated carbons



160 140 120 100 80 60 40 20 ppm

Figure 69 DEPT (CDCl<sub>3</sub>) spectrum of compound LCO3

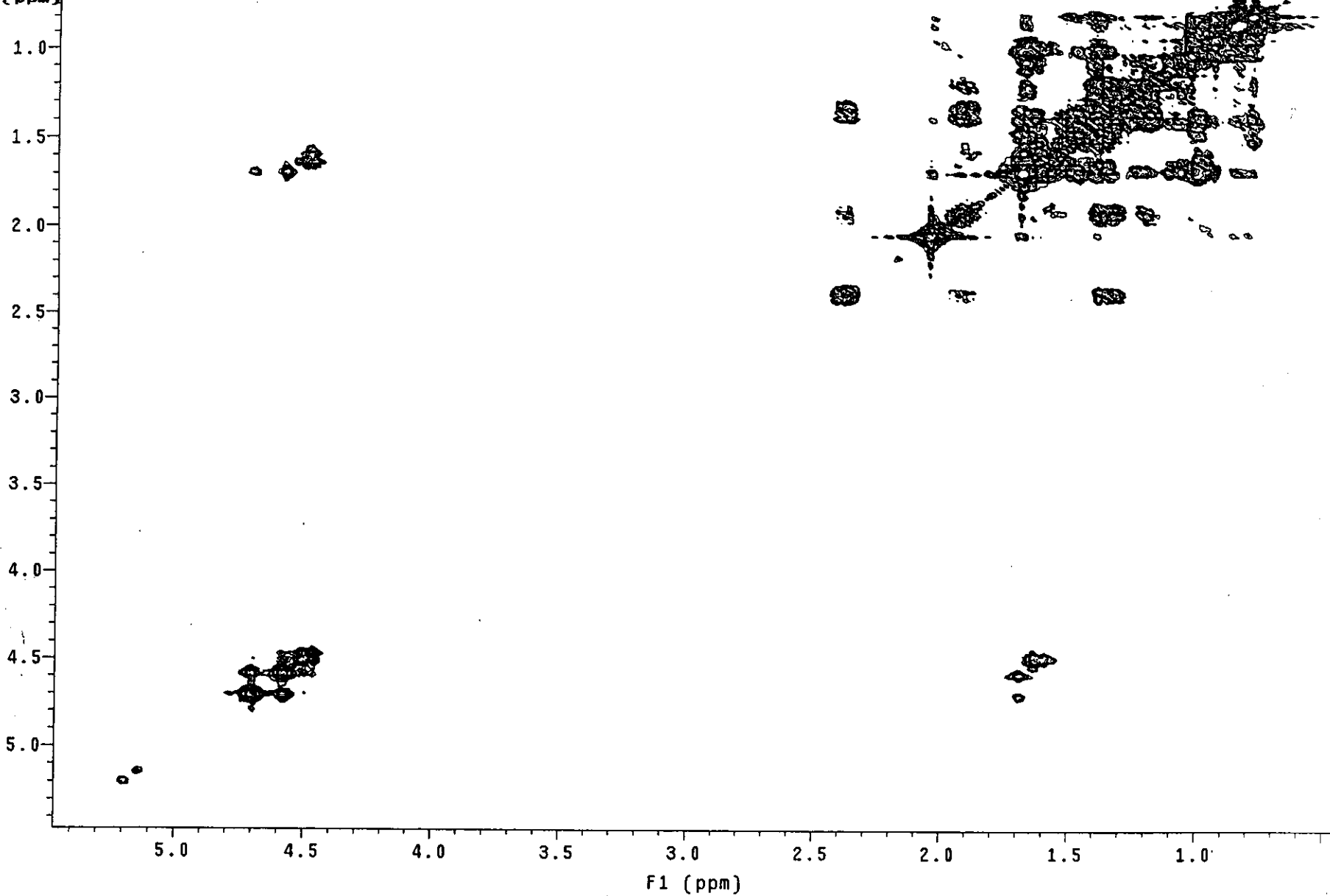


Figure 70 2D COSY spectrum of compound LCO3



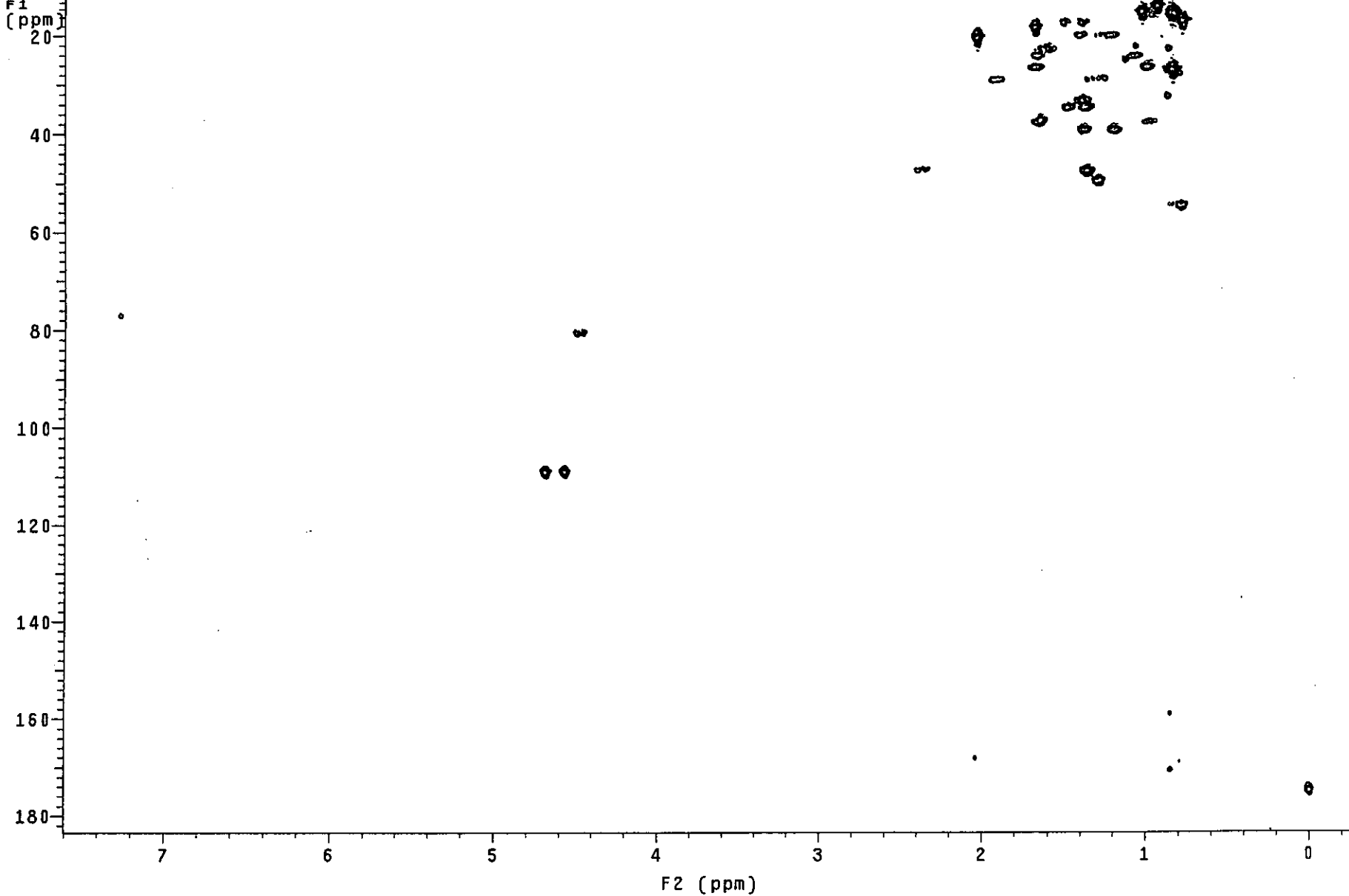


Figure 71 2D HMQC spectrum of compound LCO3

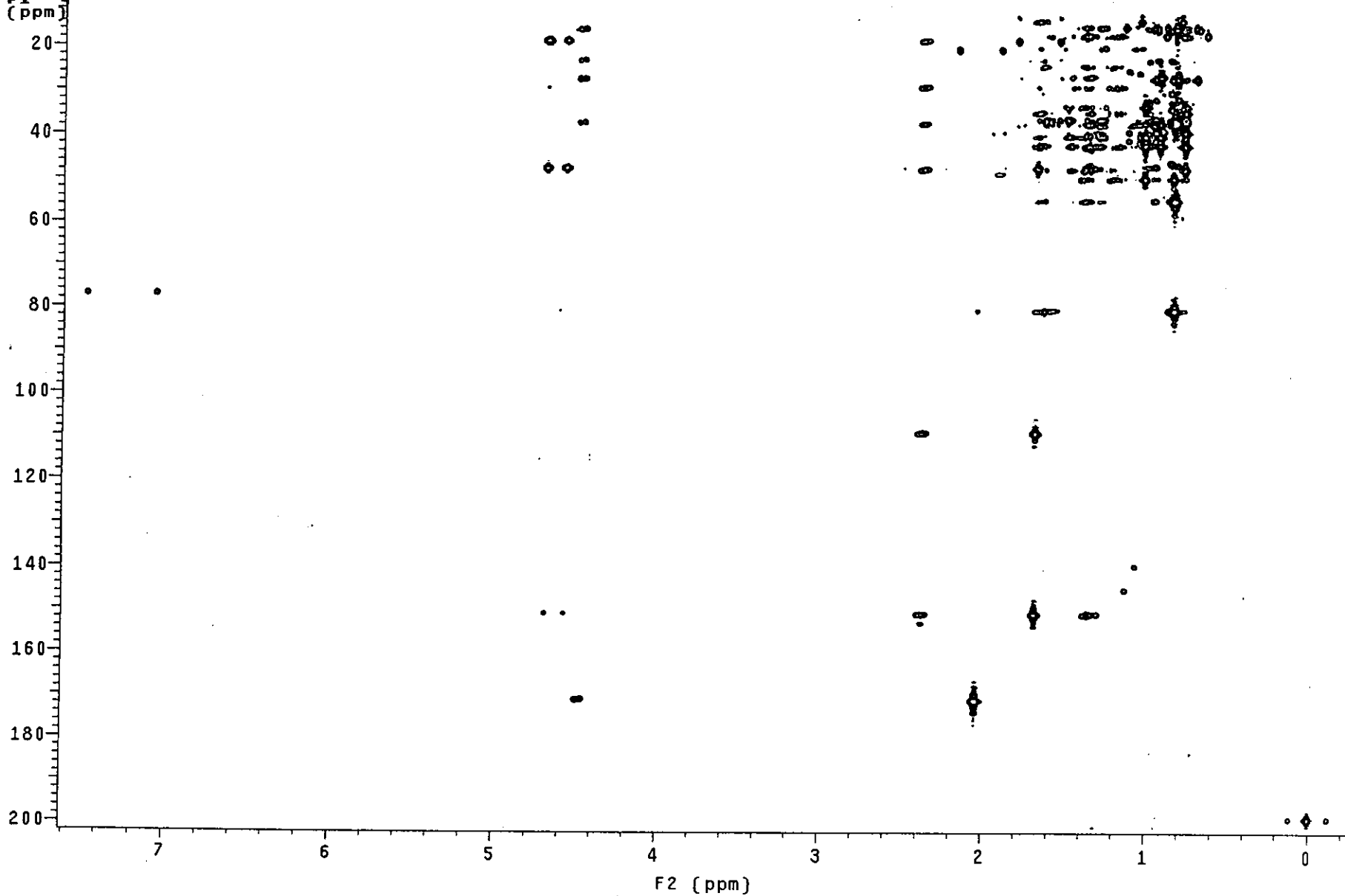


Figure 72 2D HMBC spectrum of compound LCO3

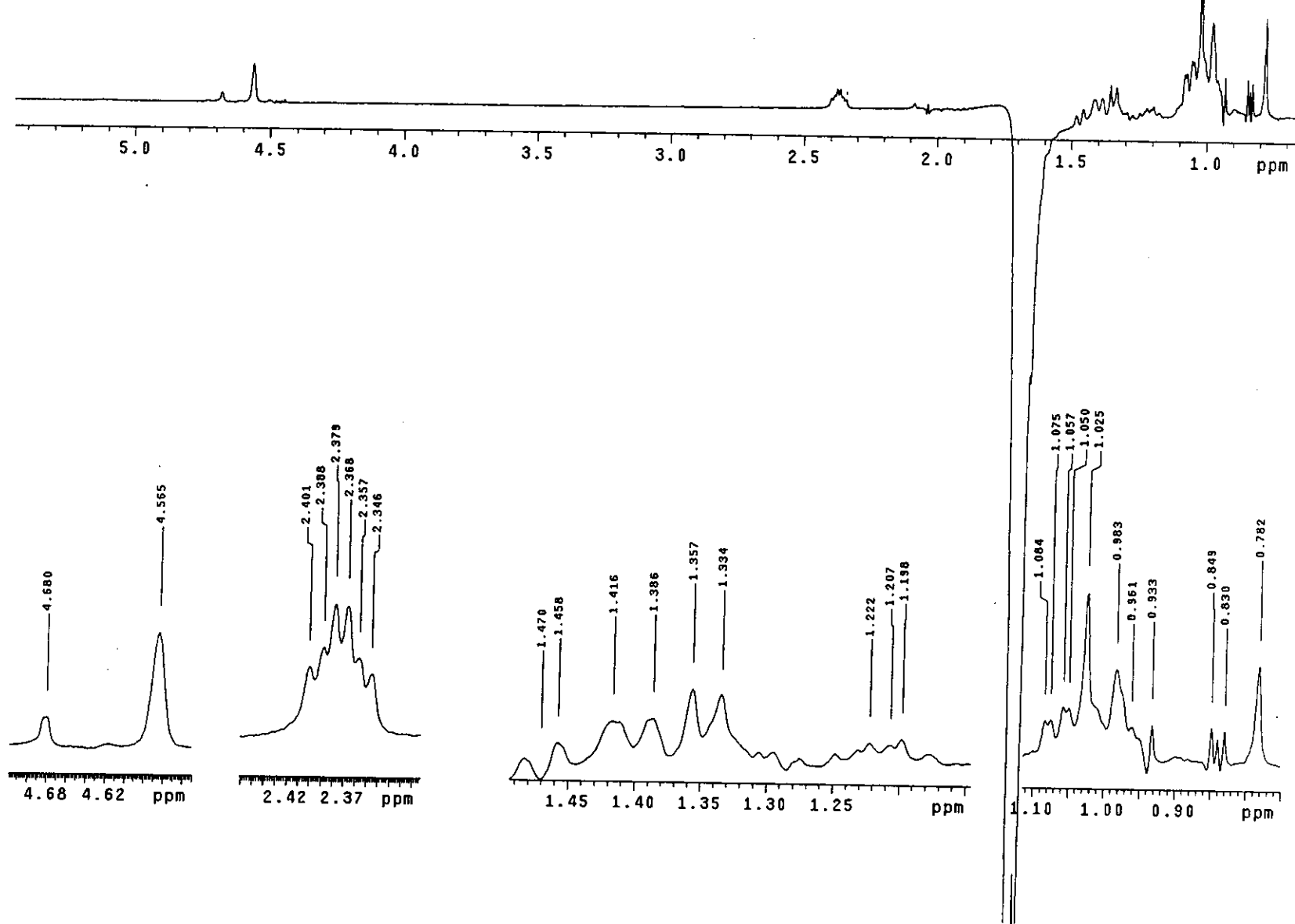


Figure 73 NOE spectrum of compound LCO3 (Irradiated at  $\delta$  1.68, (1))

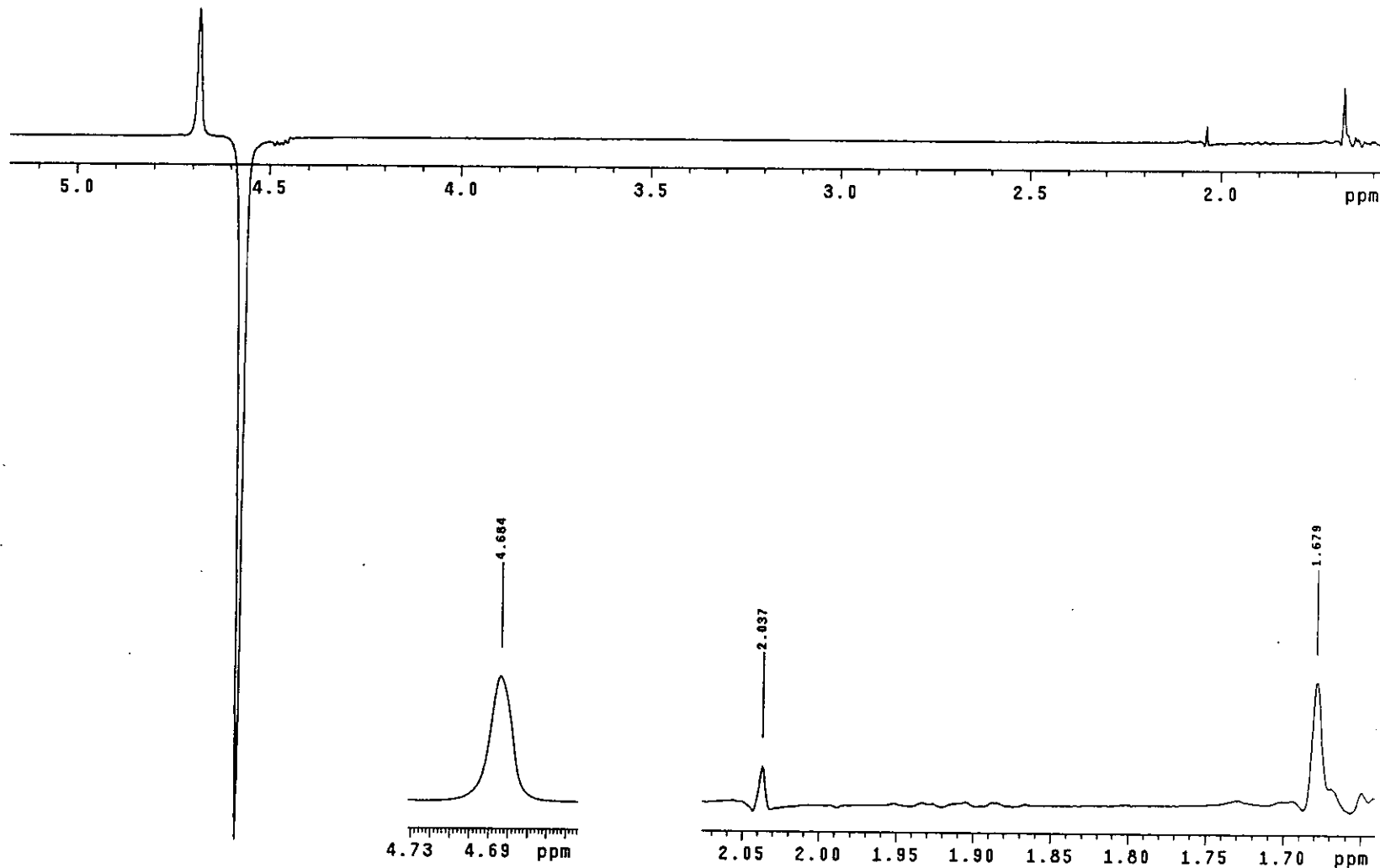


Figure 74 NOE spectrum of compound LCO3 (Irradiated at  $\delta 4.57$ , (2))

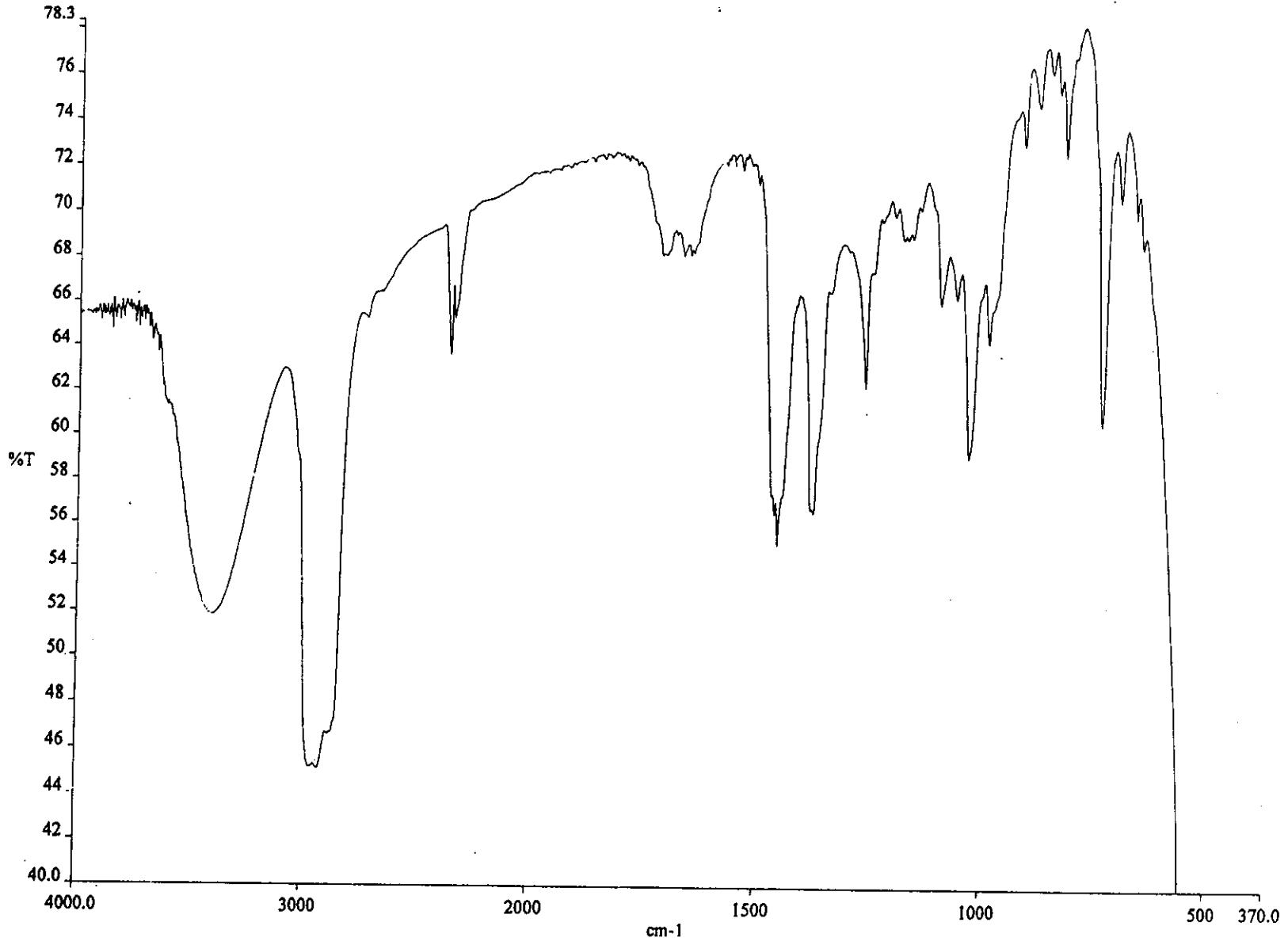


Figure 75 IR (Neat) spectrum of compound LCO4

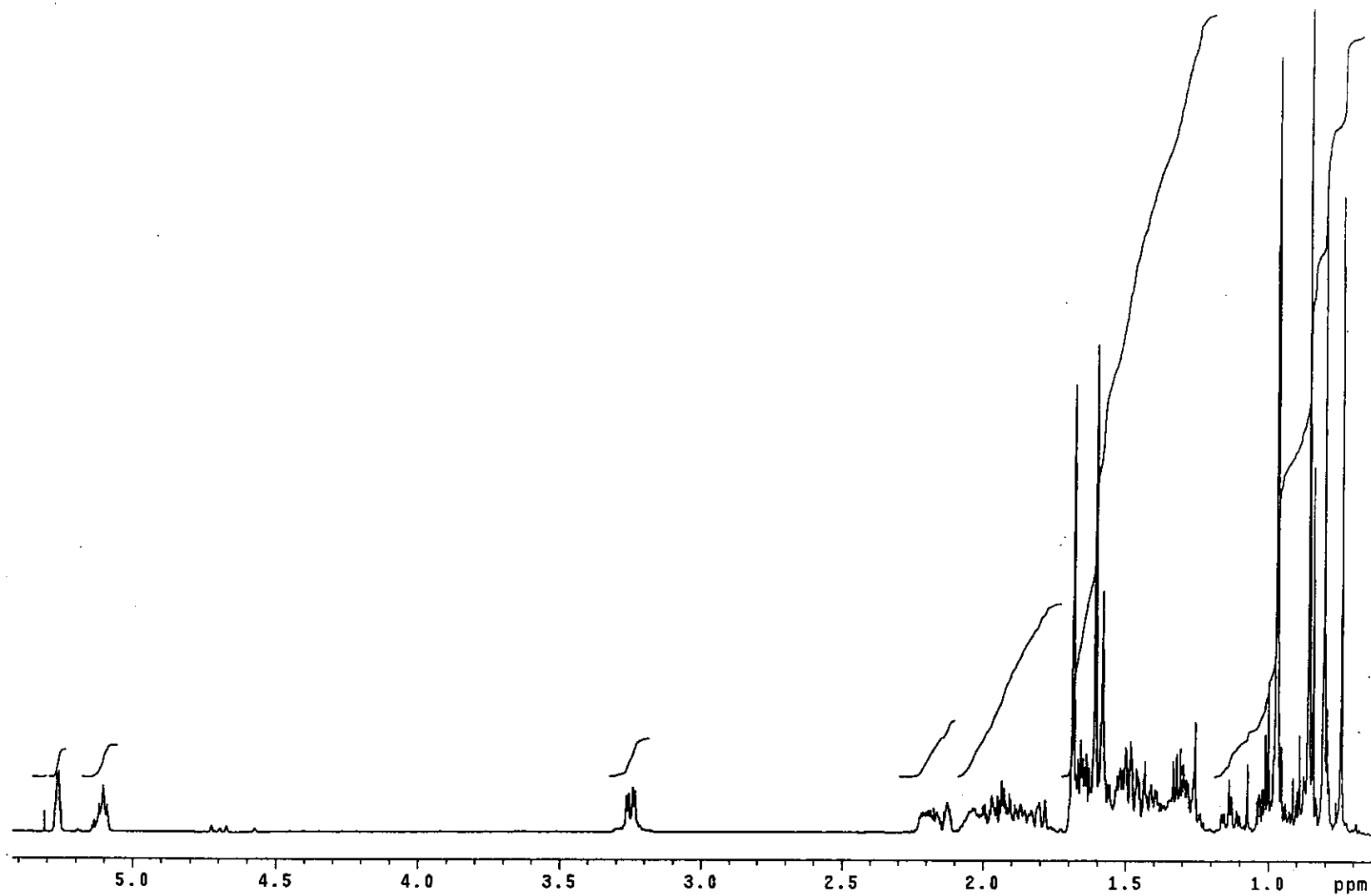


Figure 76  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ) spectrum of compound LCO4

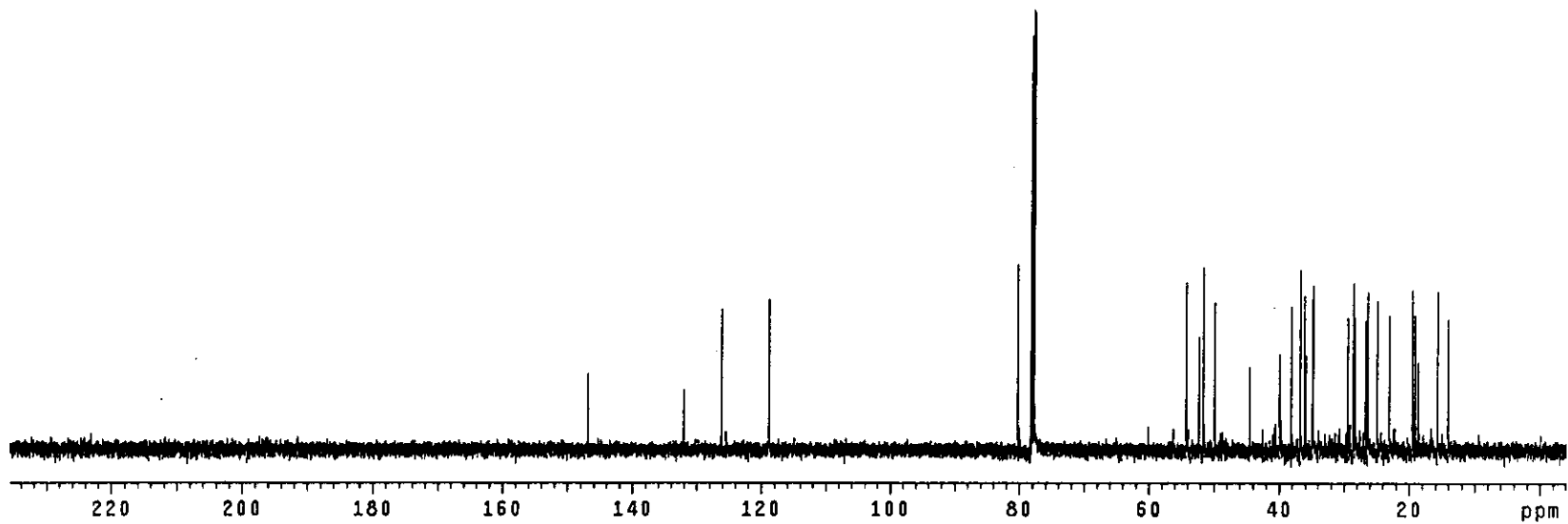


Figure 77  $^{13}\text{C}$  NMR (125 MHz,  $\text{CDCl}_3$ ) spectrum of compound LCO4

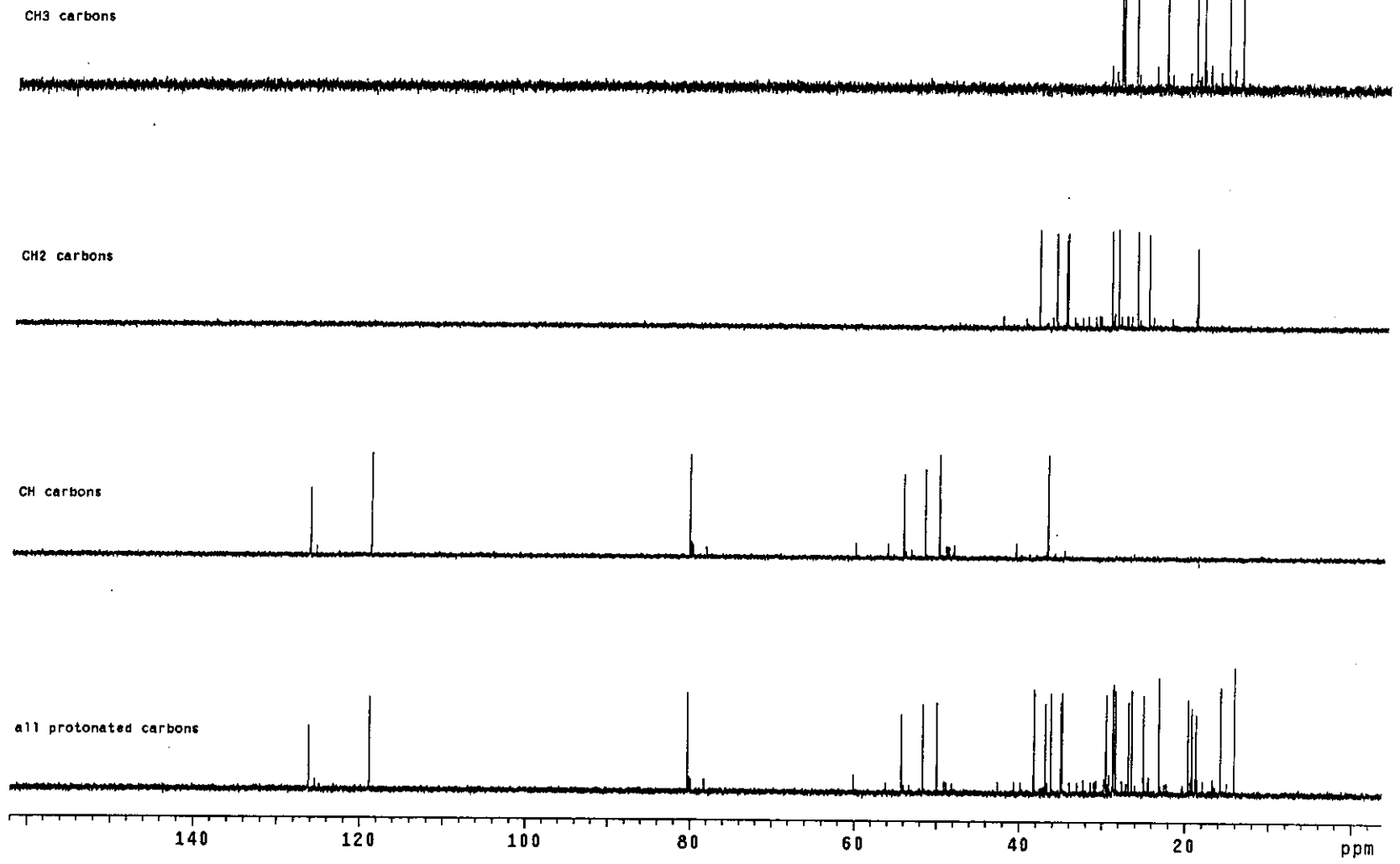


Figure 78 DEPT (CDCl<sub>3</sub>) spectrum of compound LCO4



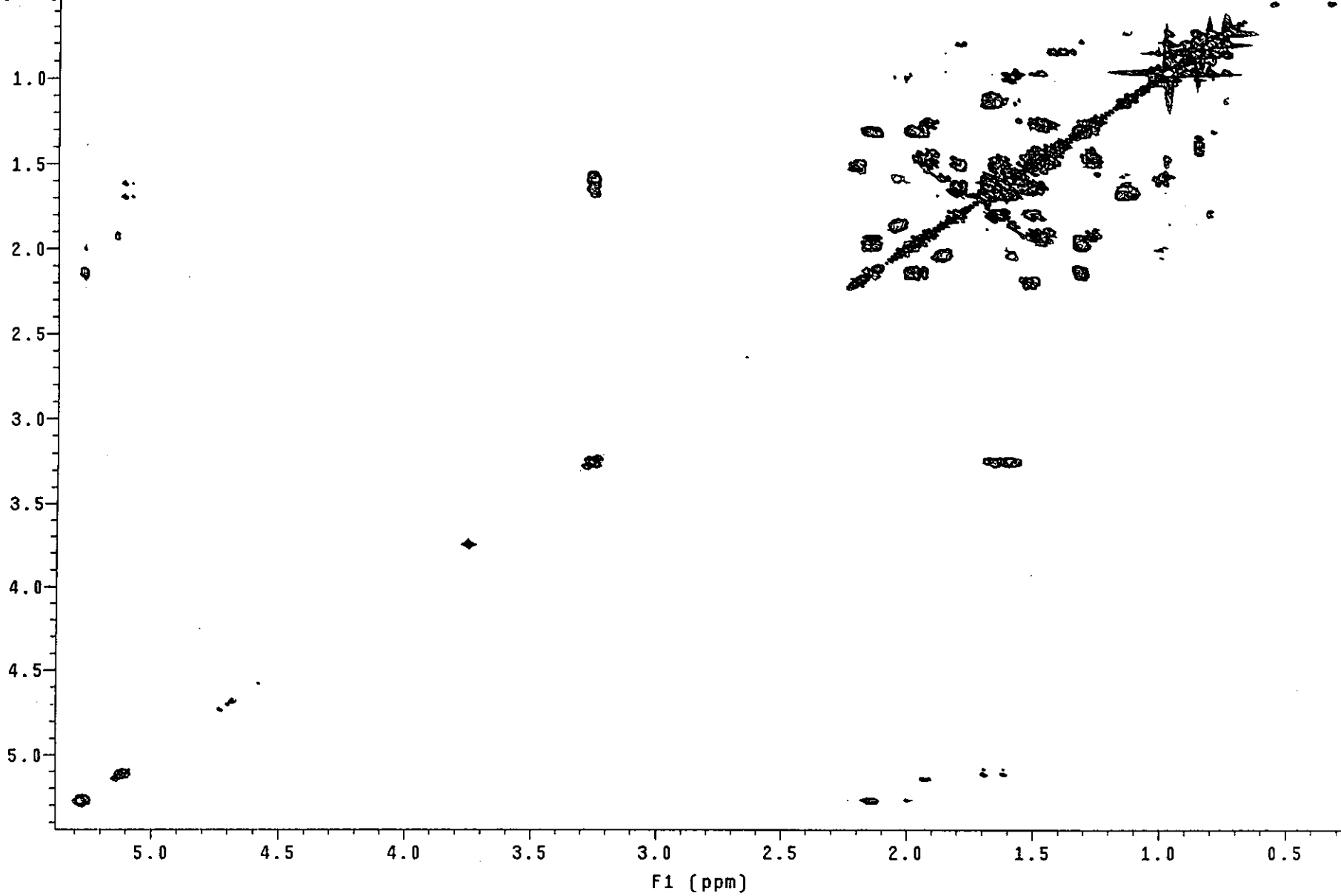


Figure 79 2D COSY spectrum of compound LCO4

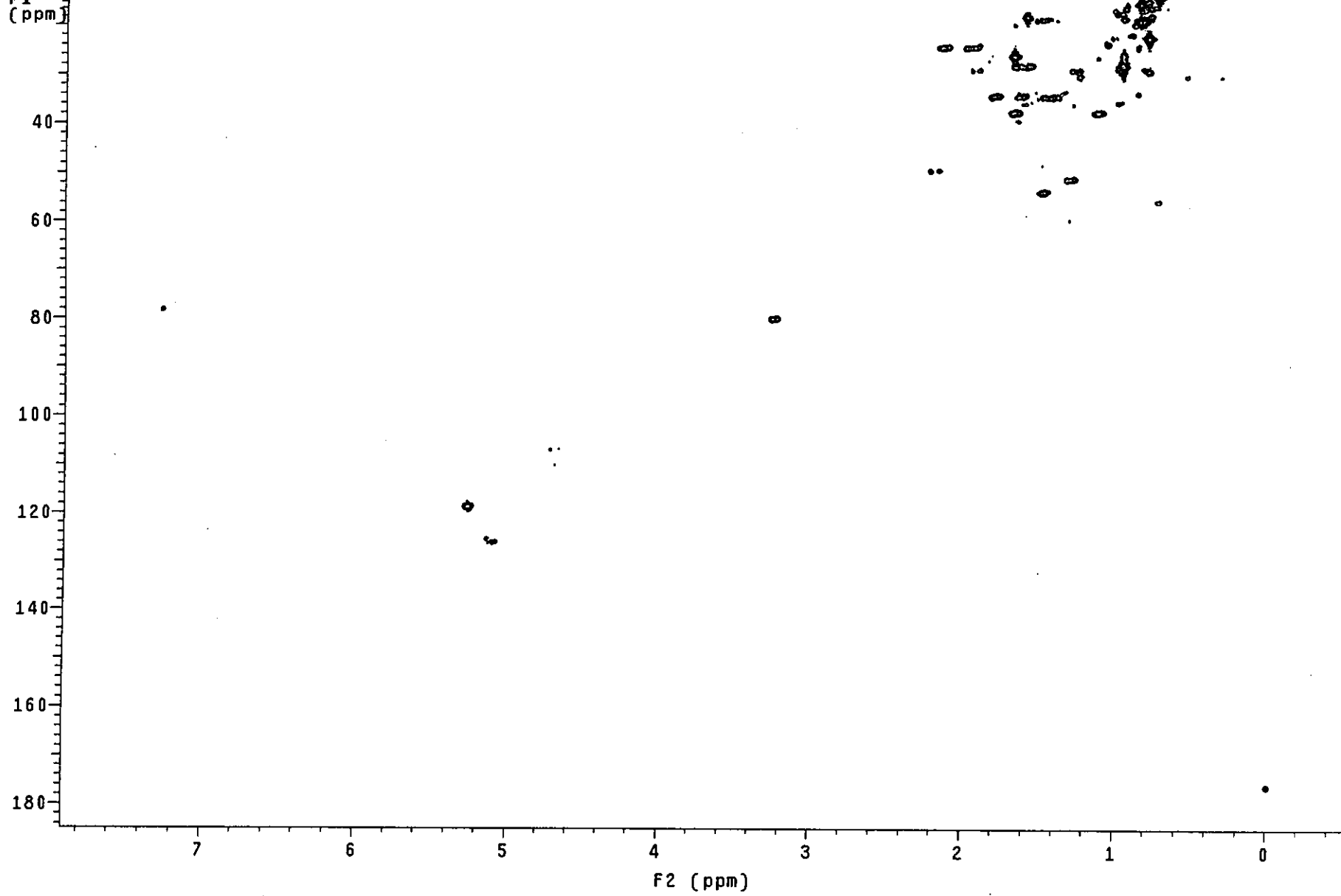


Figure 80 2D HMQC spectrum of compound LCO4

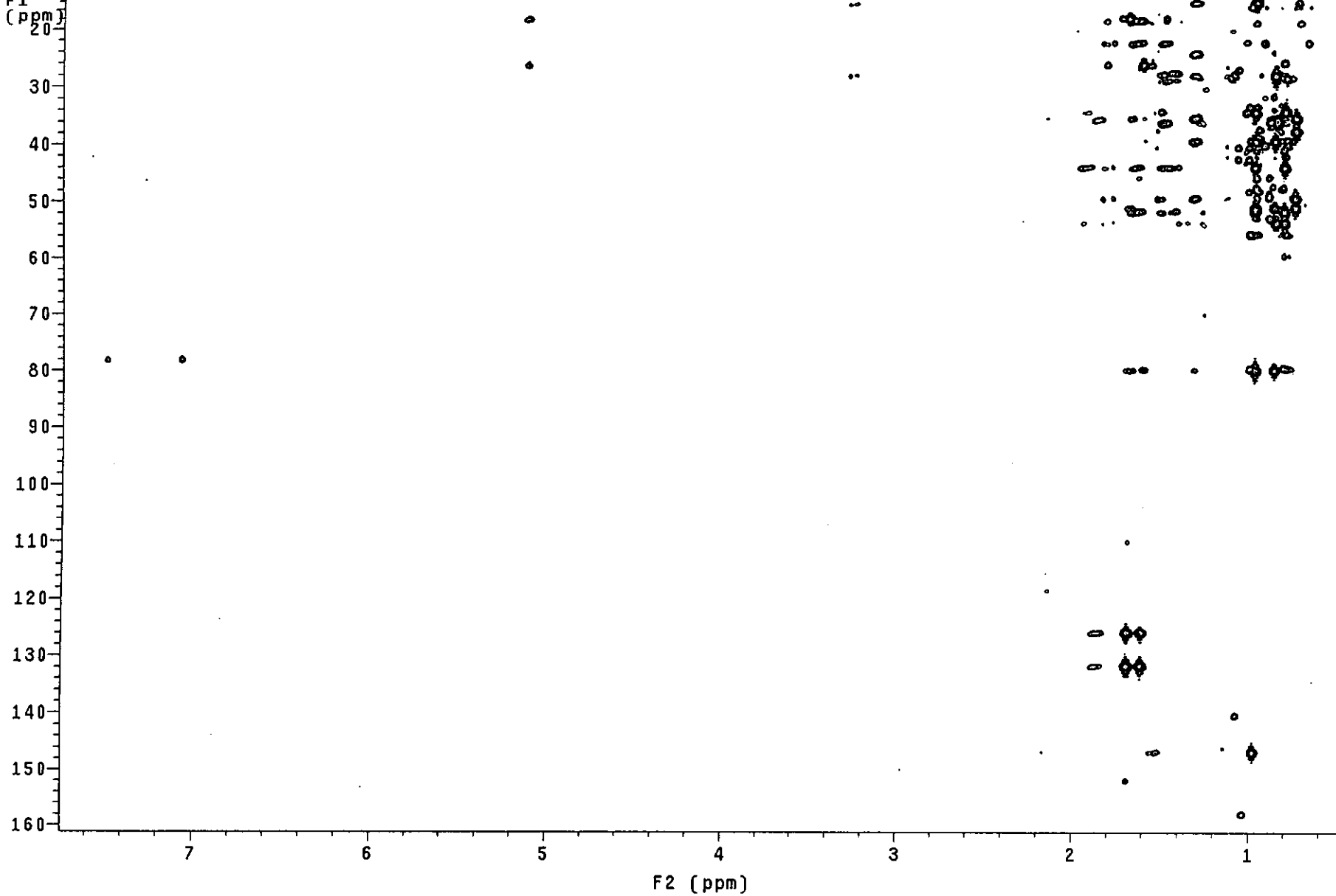


Figure 81 2D HMBC spectrum of compound LCO4

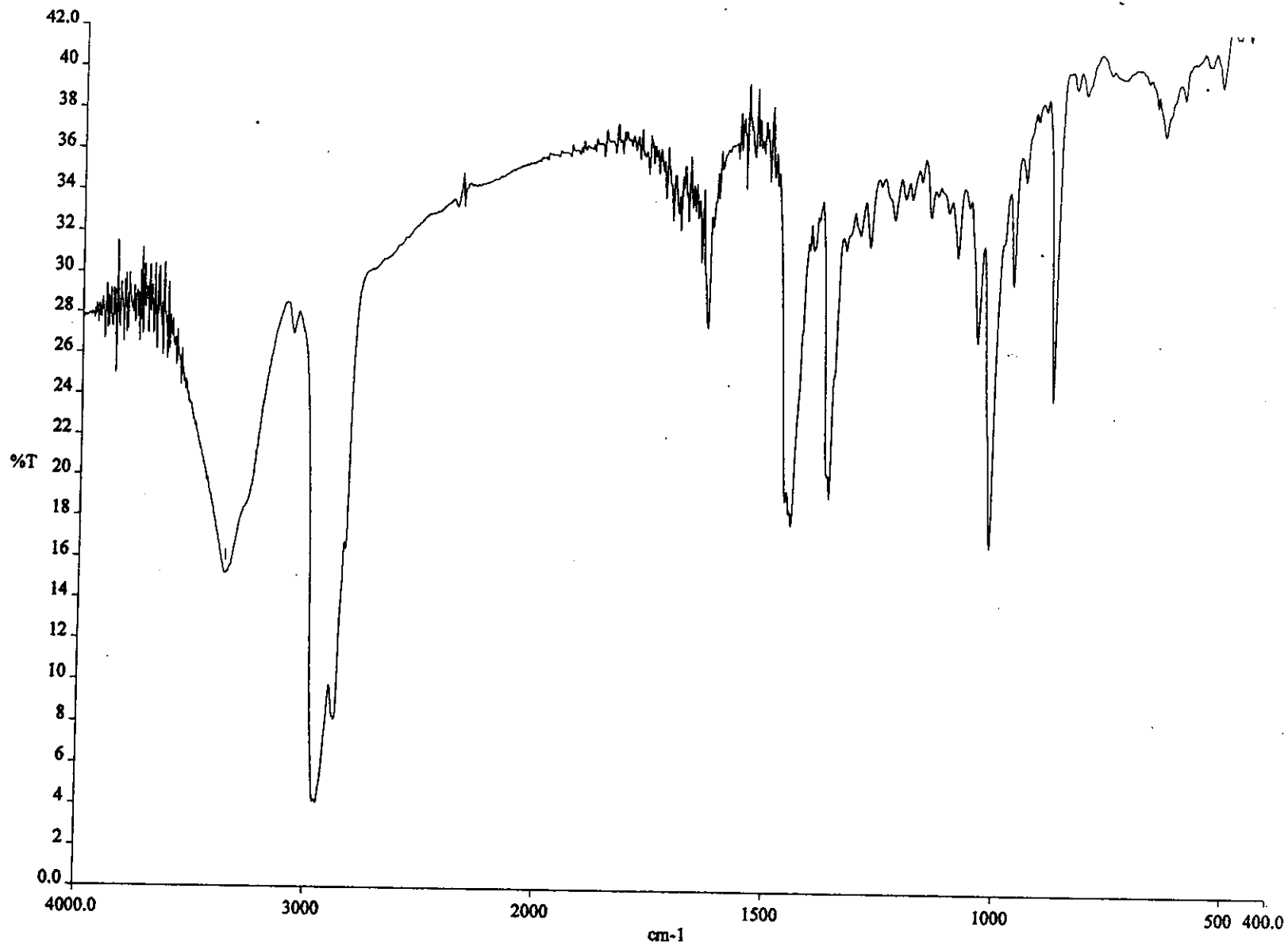


Figure 82 IR (KBr) spectrum of compound LCO5

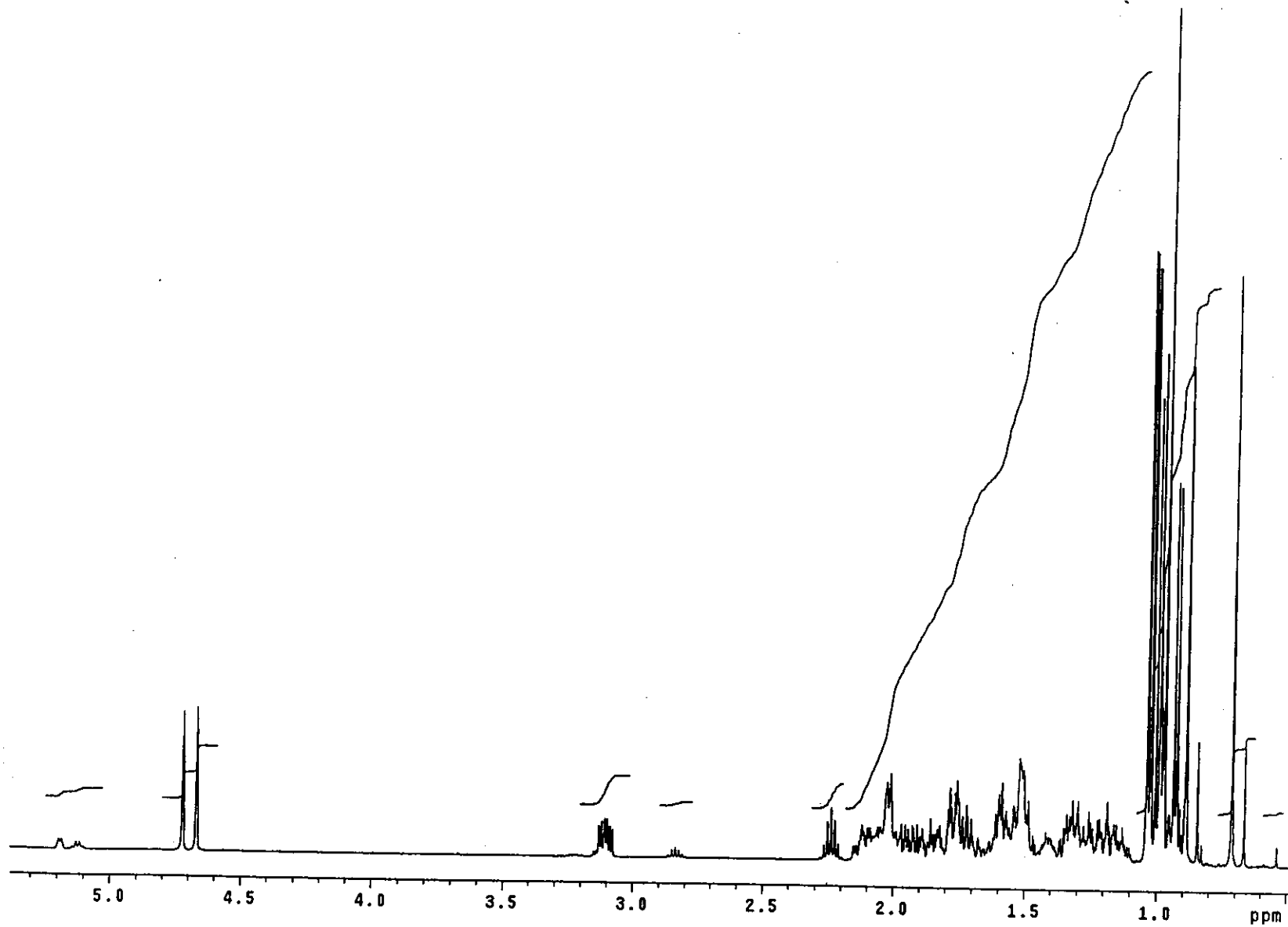


Figure 83  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ) spectrum of compound LCO5

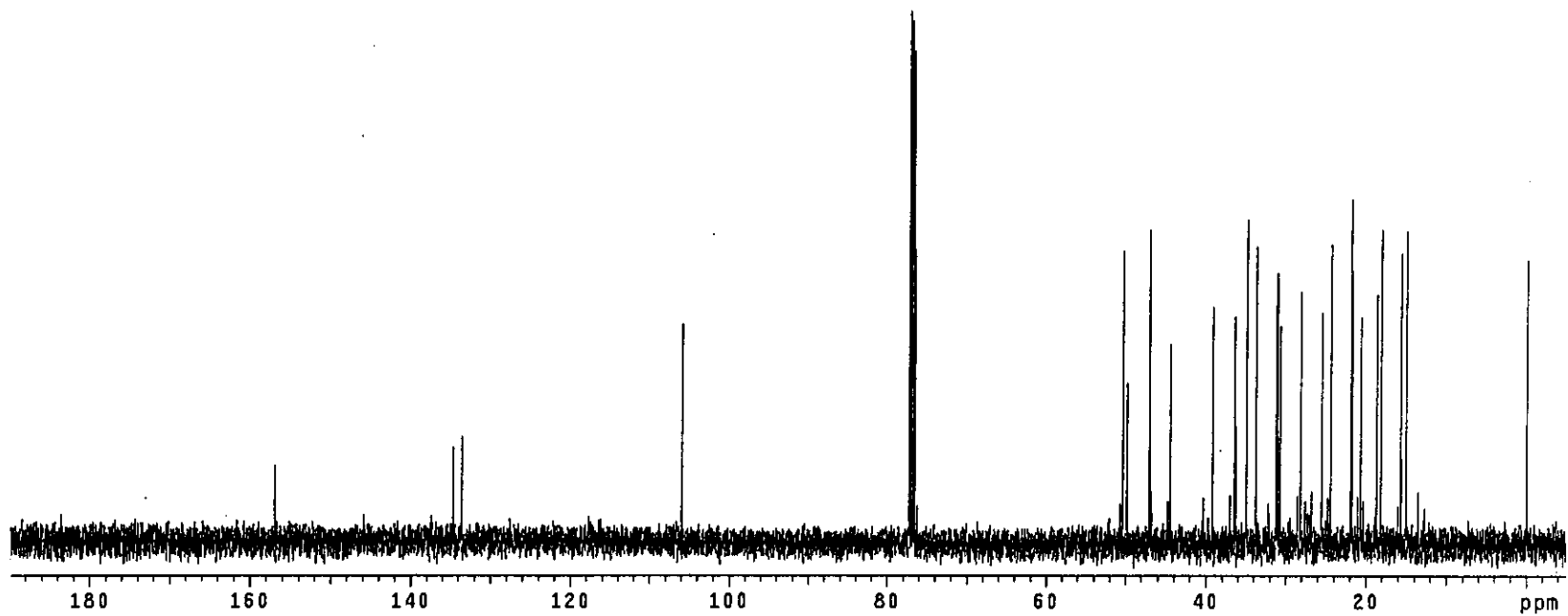


Figure 84  $^{13}\text{C}$  NMR (125 MHz,  $\text{CDCl}_3$ ) spectrum of compound LCO5

CH3 carbons



CH2 carbons



CH carbons



all protonated carbons



160

140

120

100

80

60

40

20

ppm

Figure 85 DEPT (CDCl<sub>3</sub>) spectrum of compound LCO5

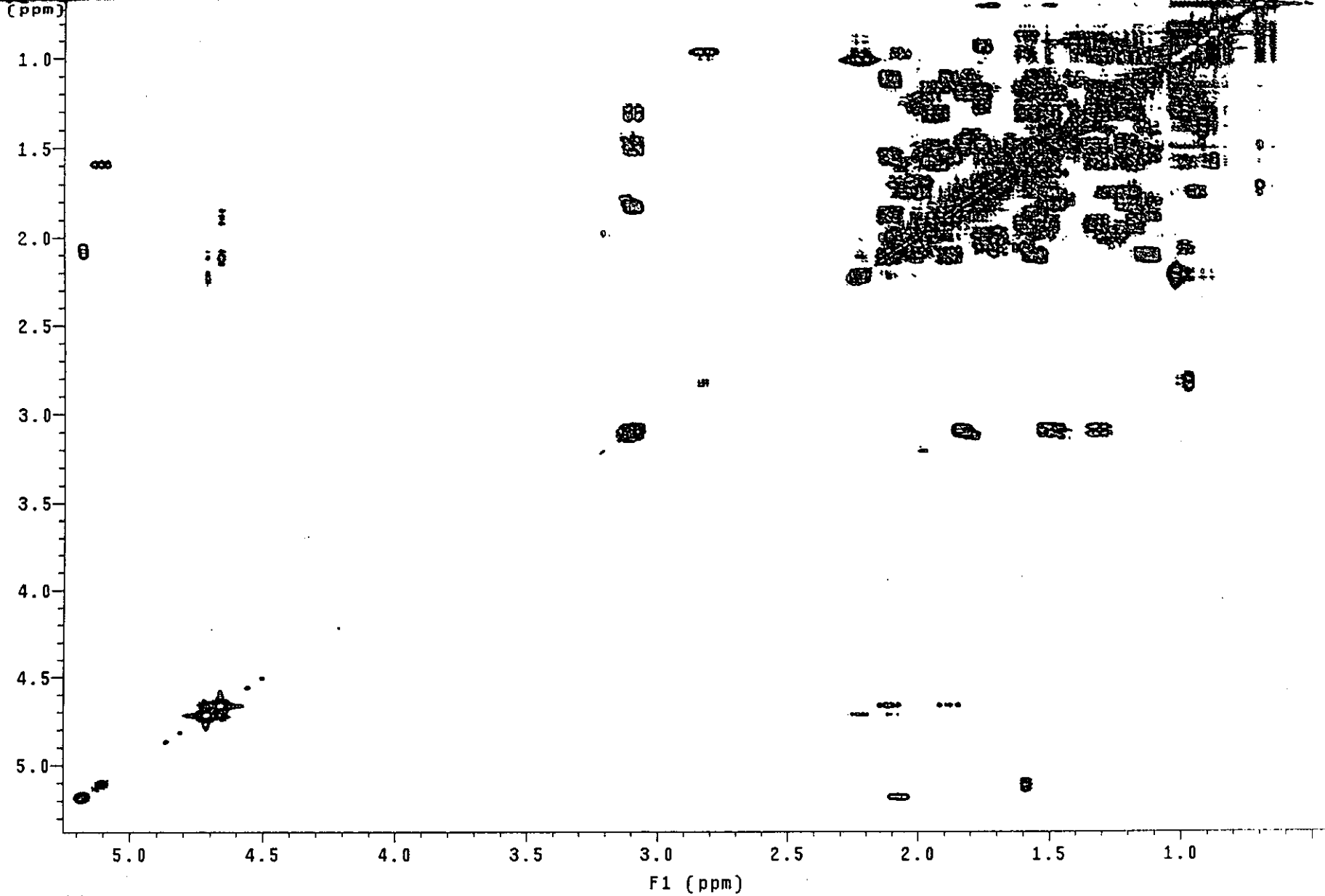


Figure 86 2D COSY spectrum of compound LCO5



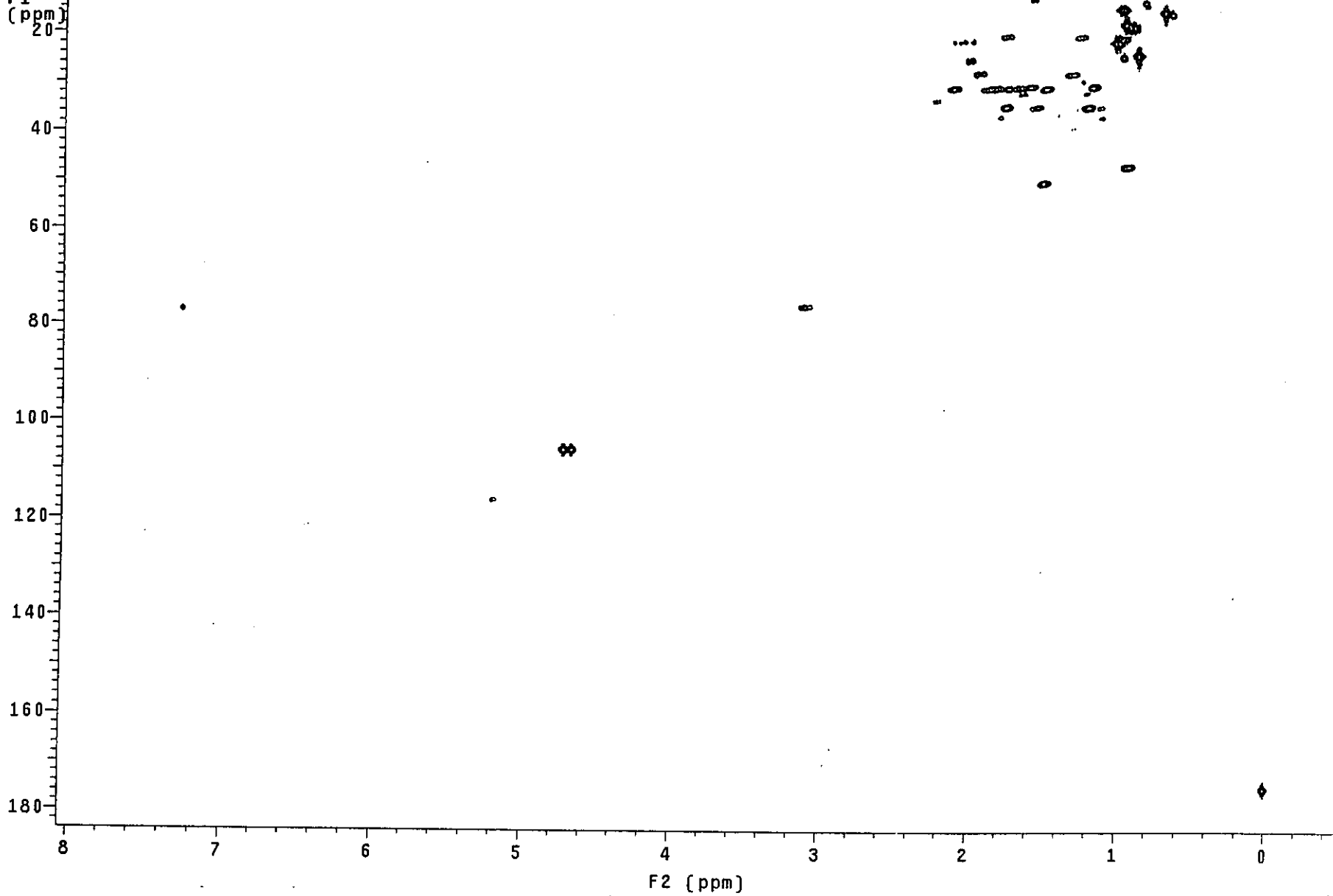


Figure 87 2D HMQC spectrum of compound LCO5

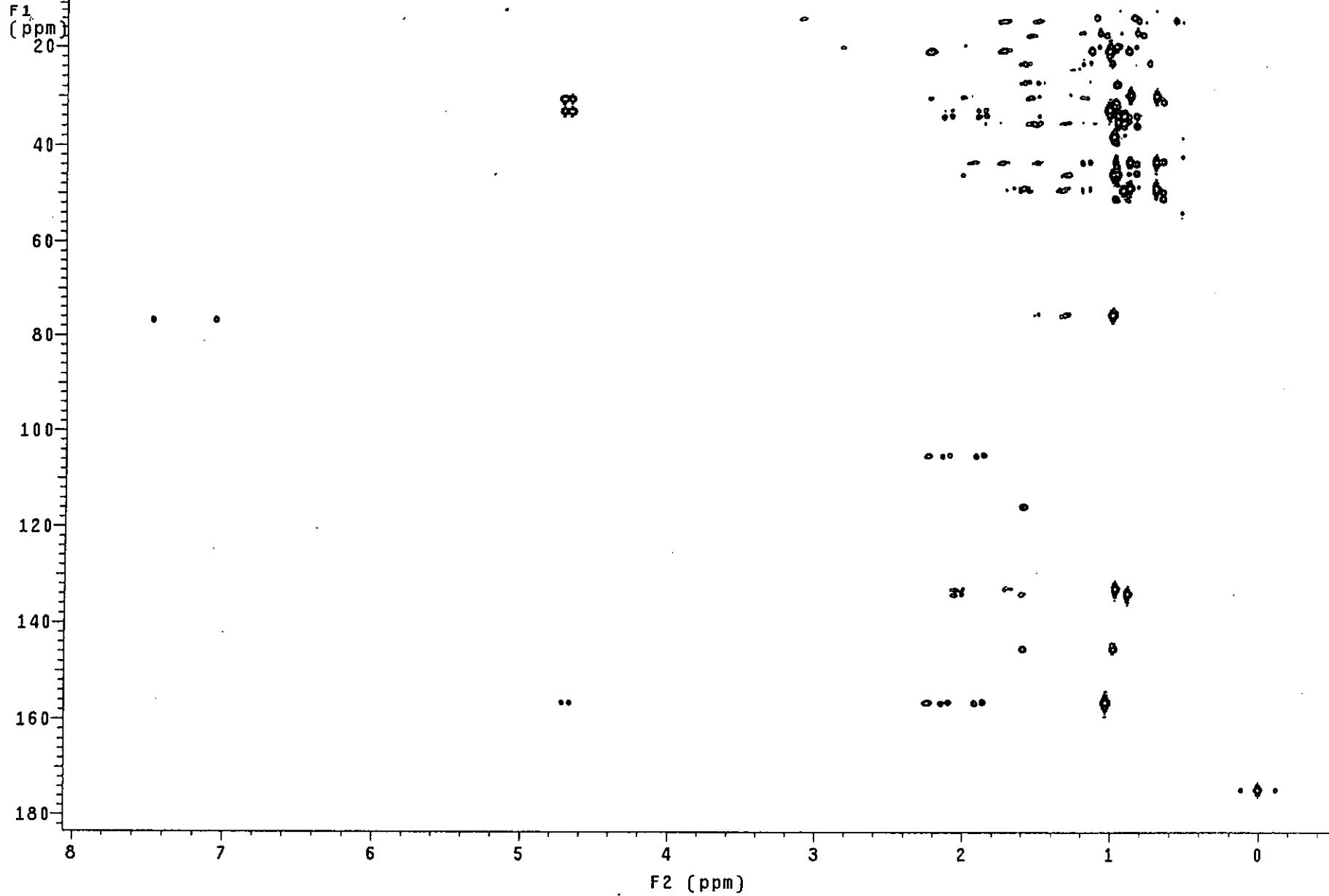


Figure 88 2D HMBC spectrum of compound LCO5

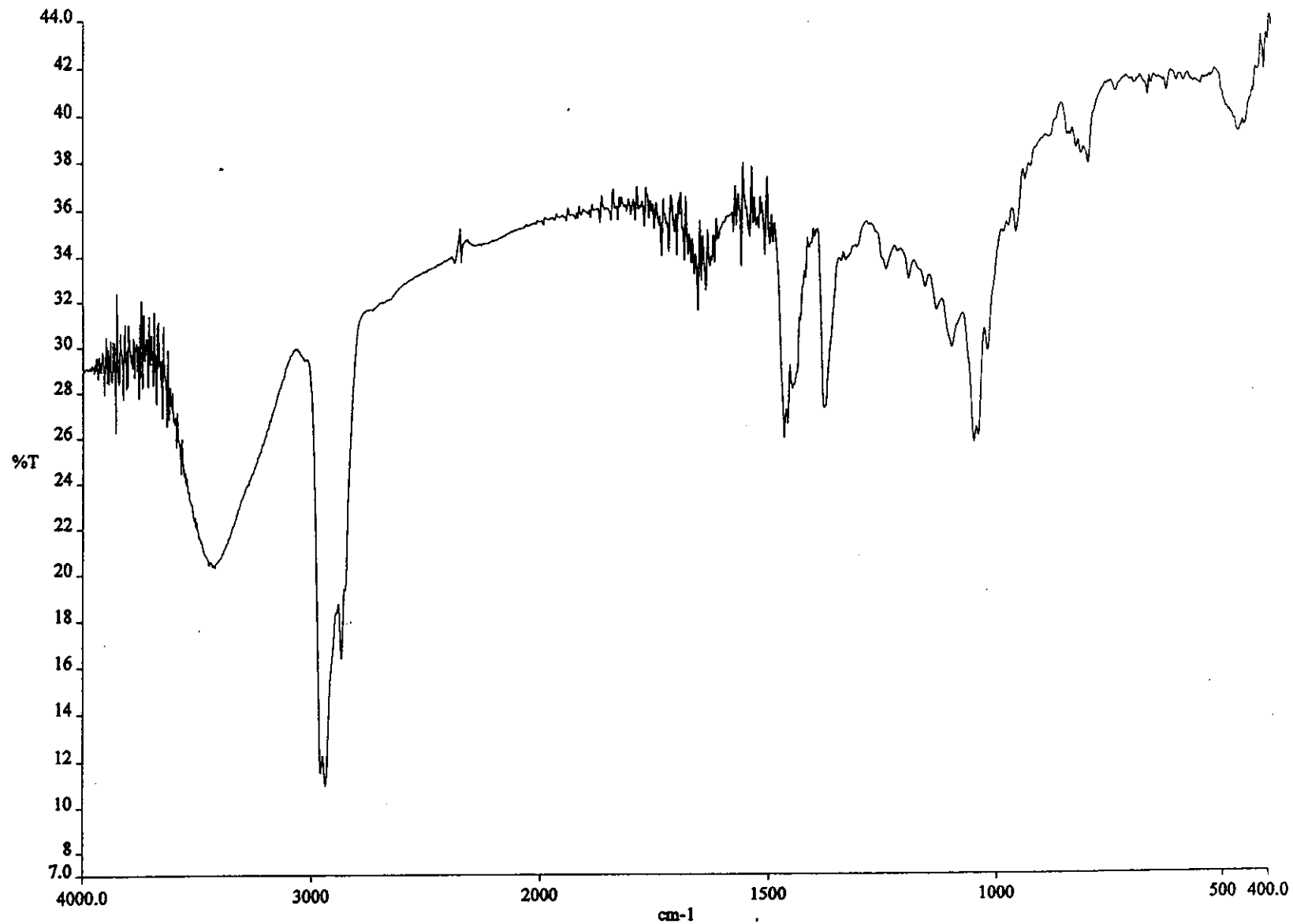


Figure 89 IR (KBr) spectrum of compound LCO6

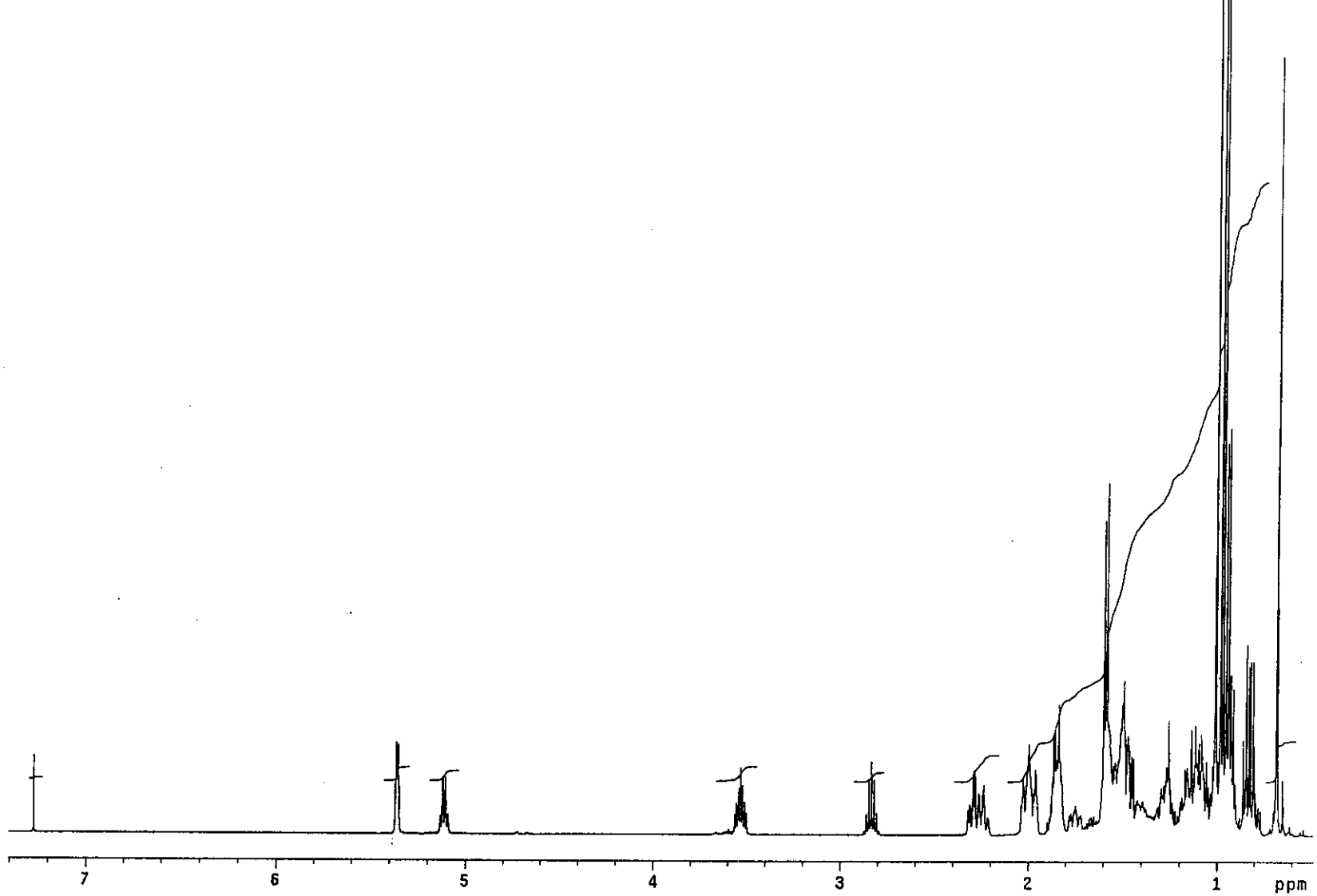


Figure 90  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ) spectrum of compound LCO6

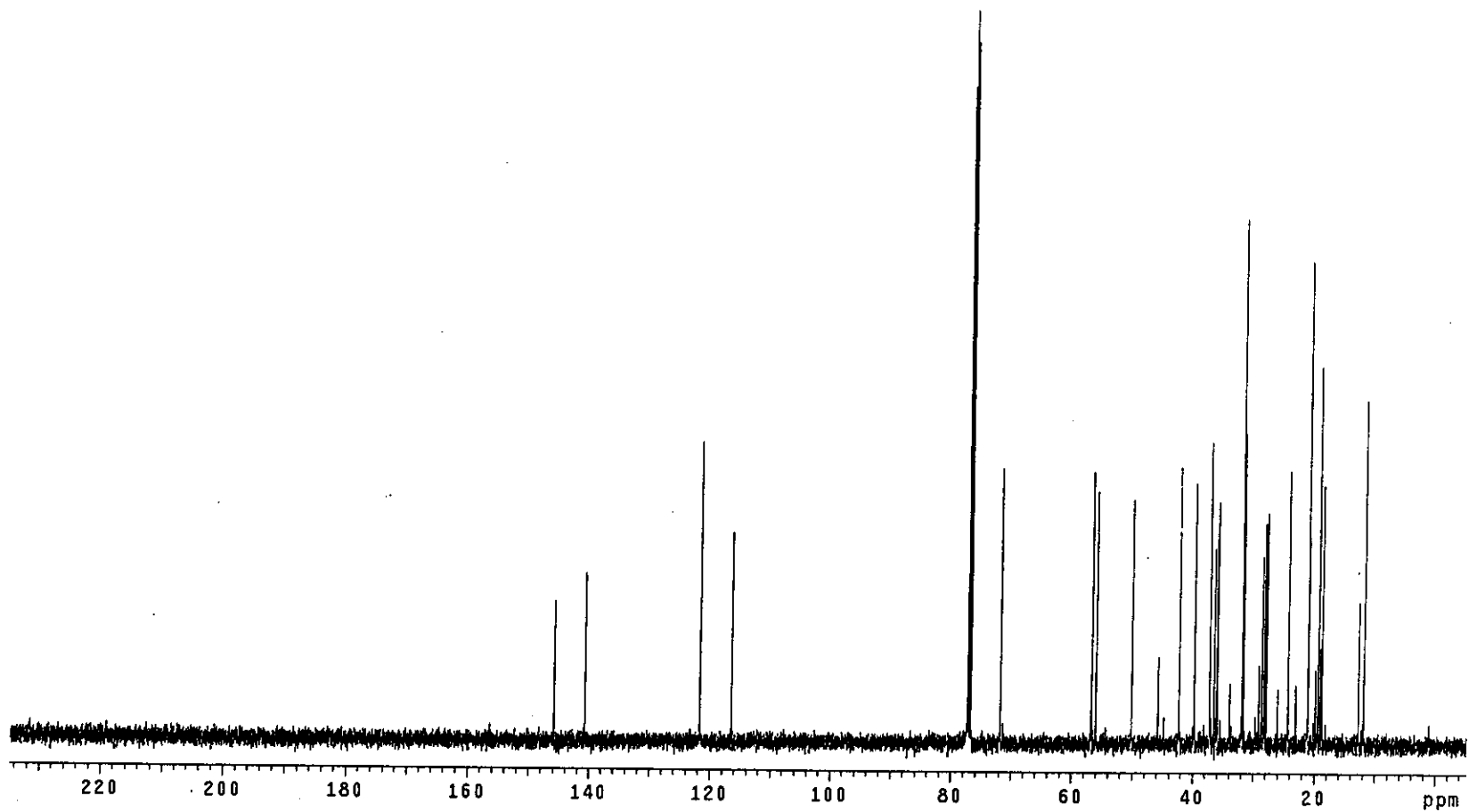
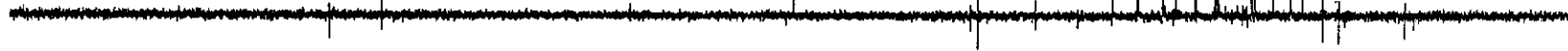


Figure 91  $^{13}\text{C}$  NMR (125 MHz,  $\text{CDCl}_3$ ) spectrum of compound LCO6

CH3 carbons



CH2 carbons



CH carbons



all protonated carbons



150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 ppm

Figure 92 DEPT (CDCl<sub>3</sub>) spectrum of compound LCO6

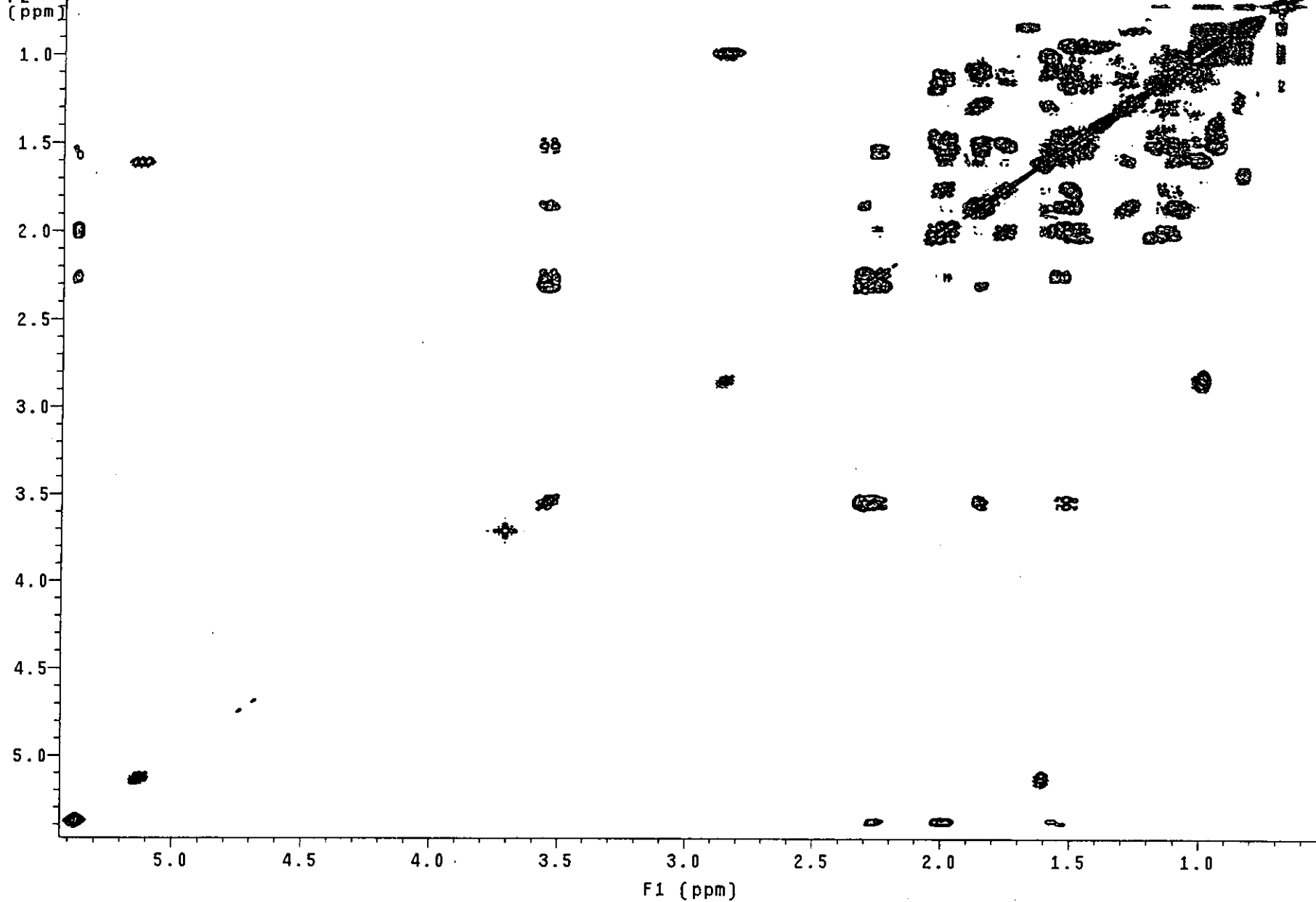


Figure 93 2D COSY spectrum of compound LCO6

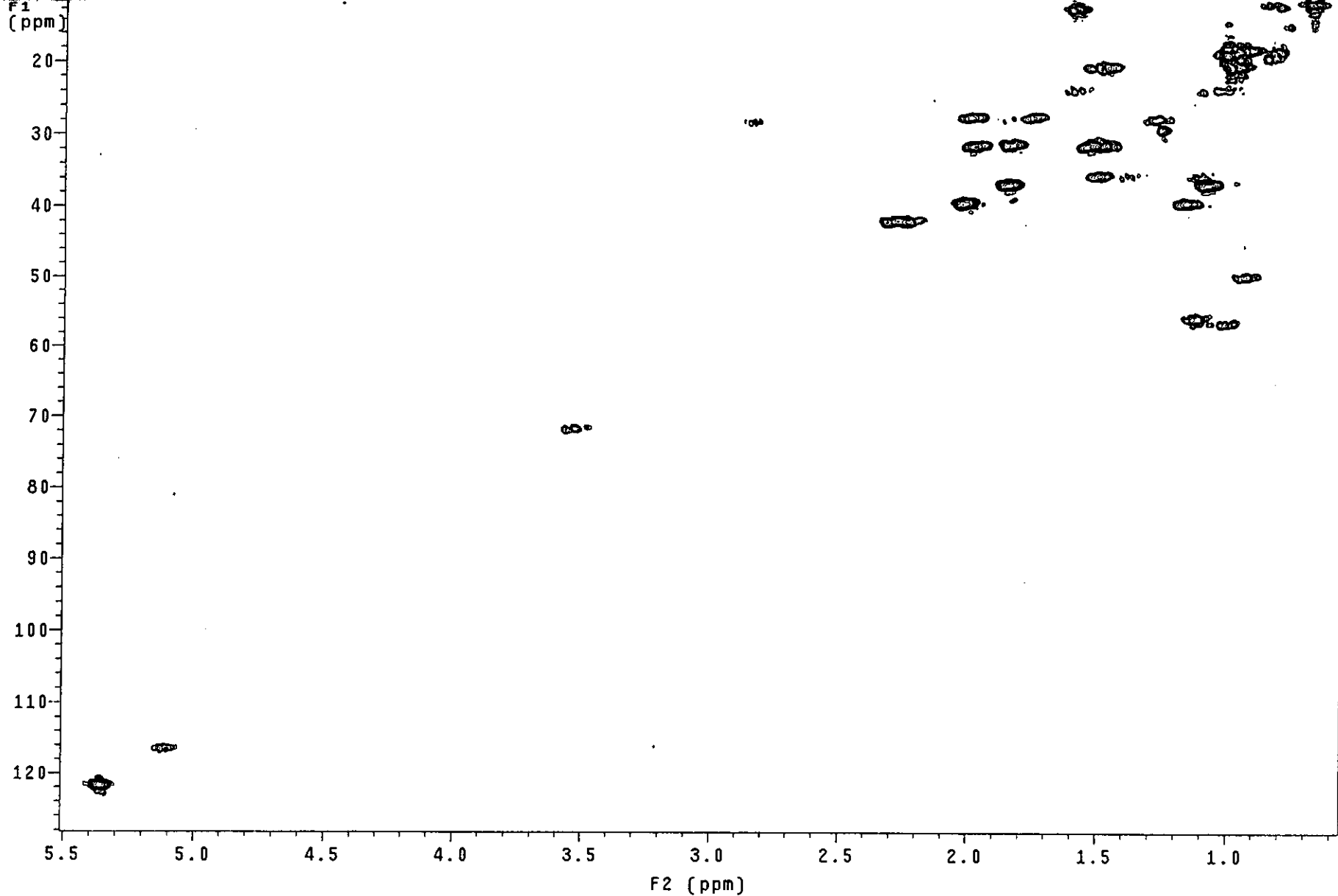


Figure 94 2D HMQC spectrum of compound LCO6



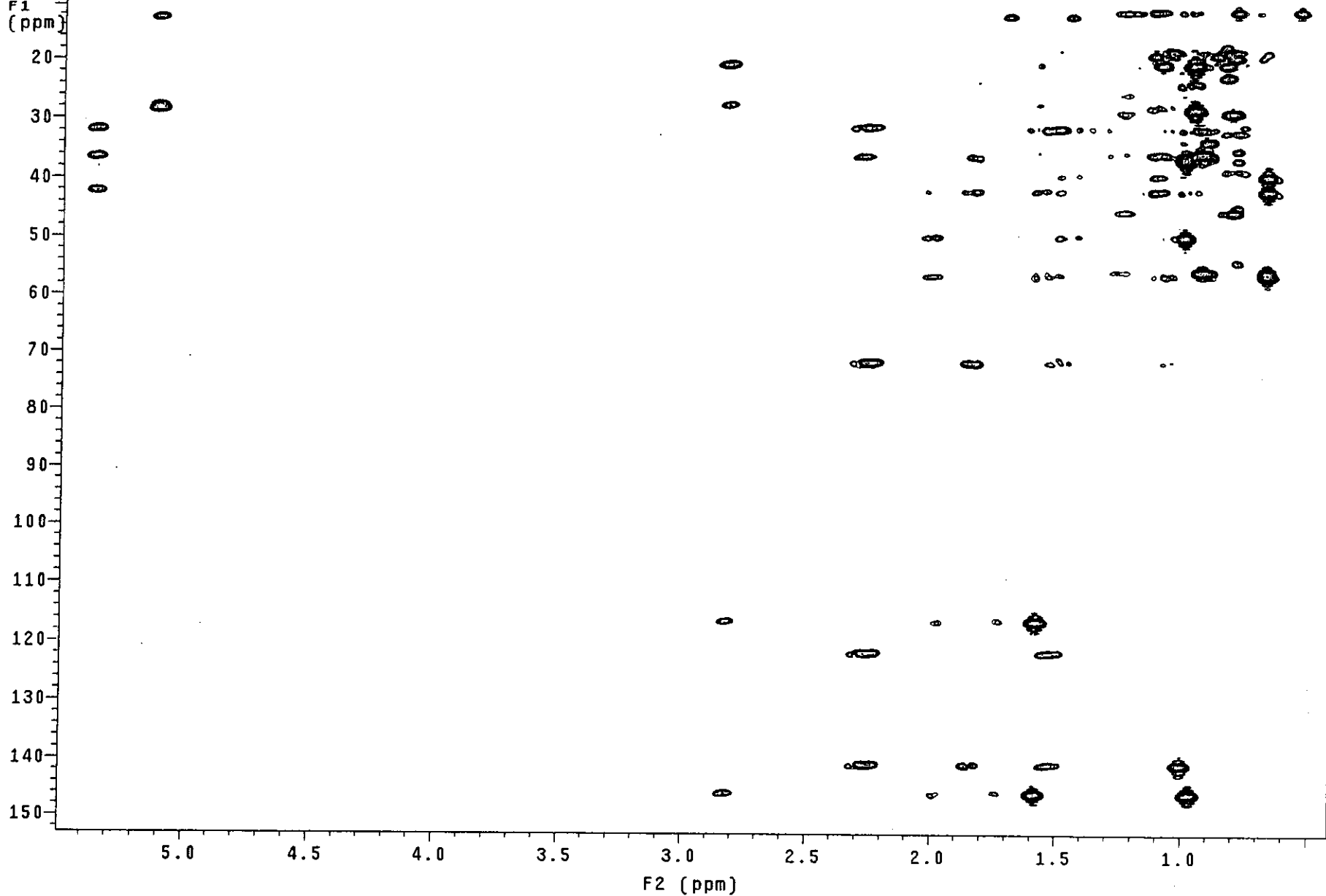


Figure 95 2D HMBC spectrum of compound LCO6

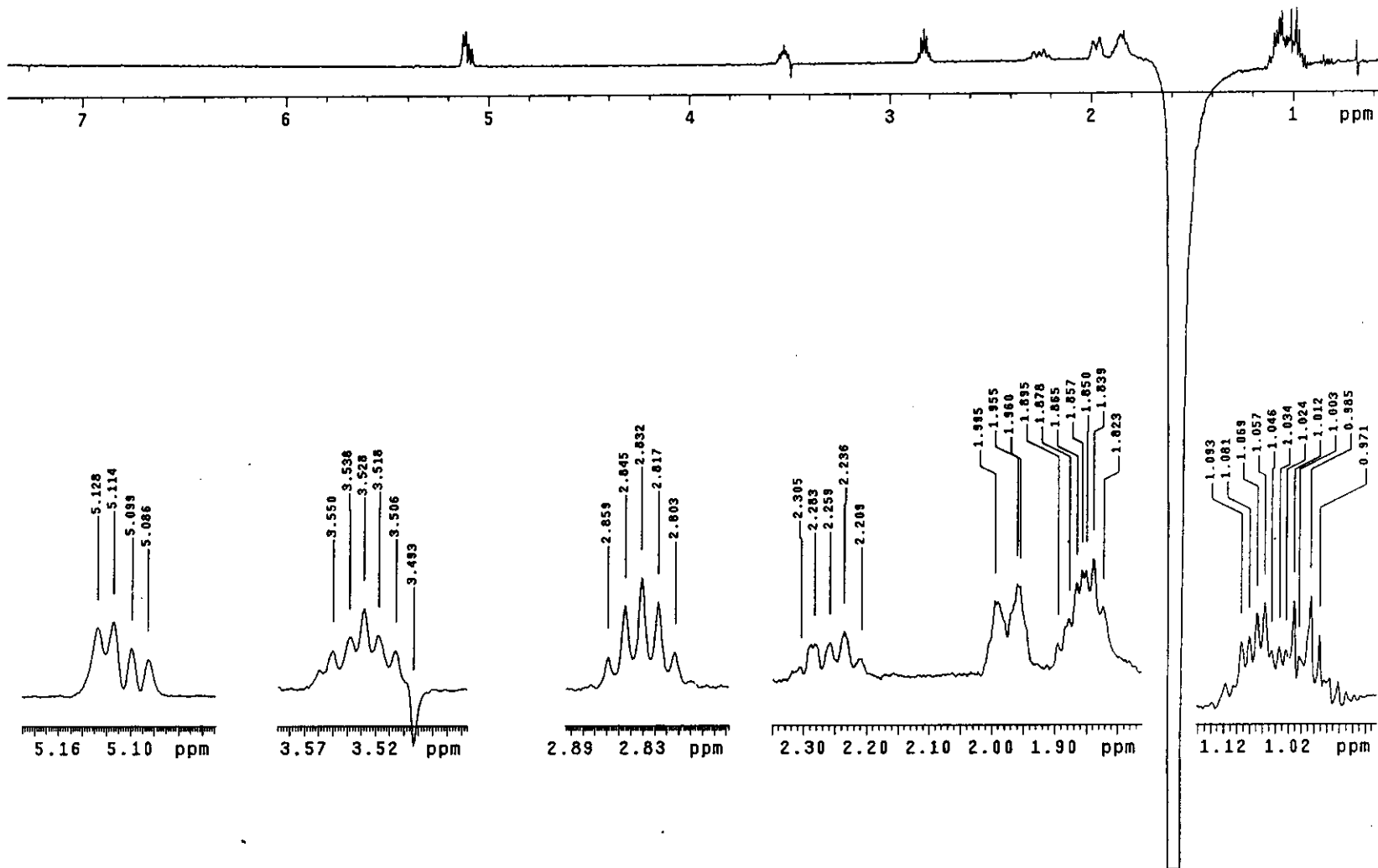


Figure 96 NOE spectrum of compound LCO6 (Irradiated at  $\delta 1.58$ , (1))

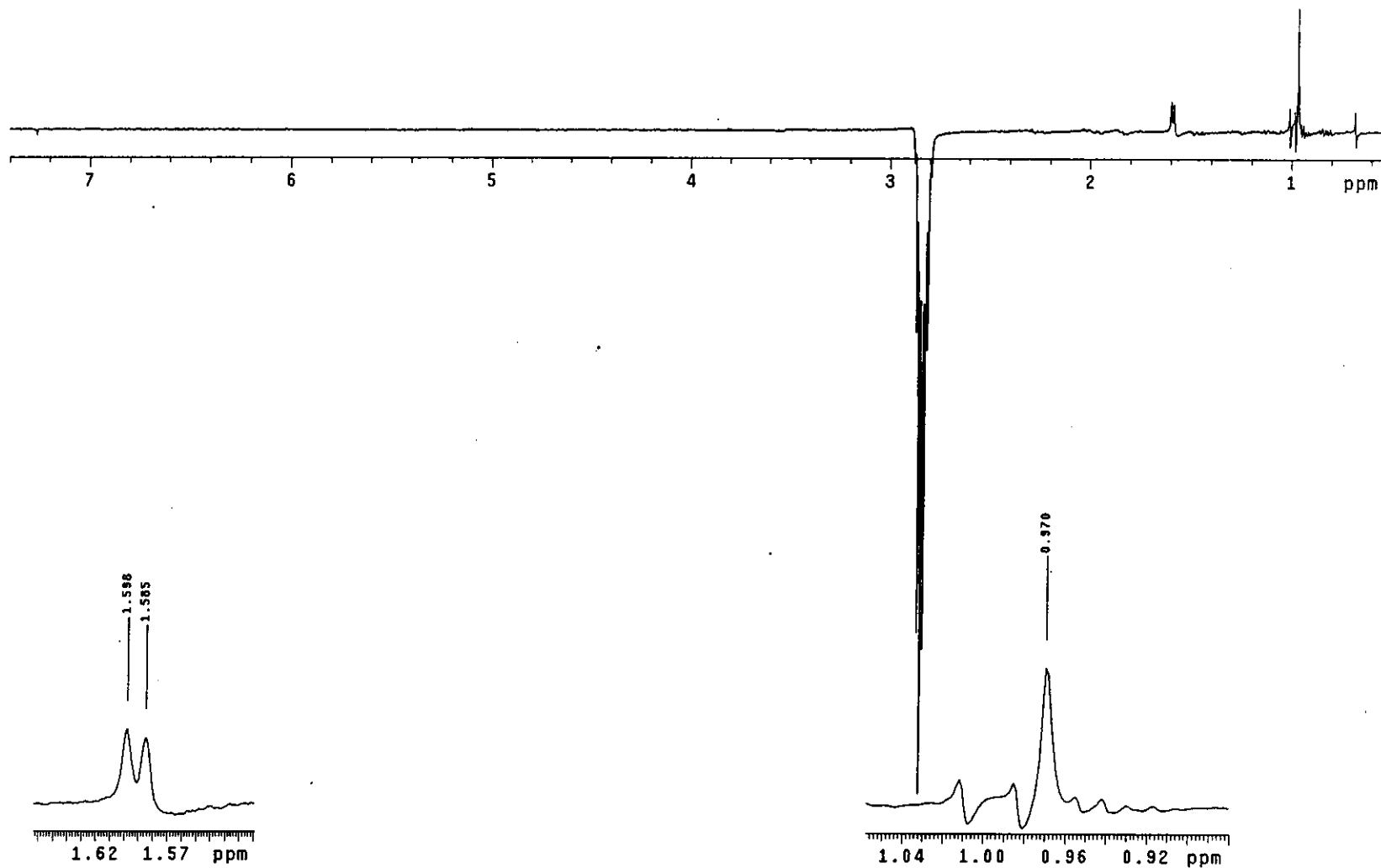


Figure 97 NOE spectrum of compound LCO6 (Irradiated at  $\delta$ 2.83, (2))

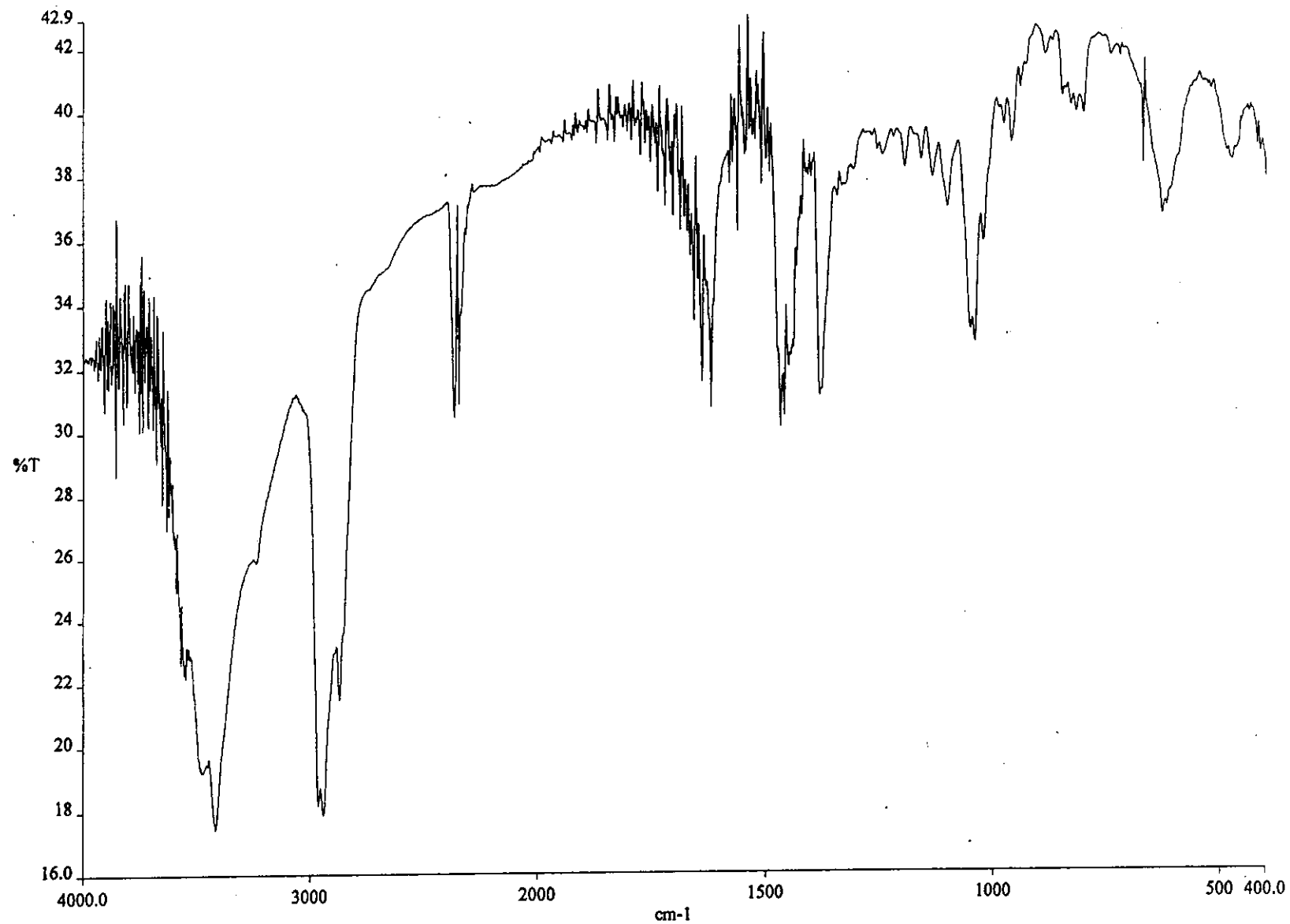


Figure 98 IR (KBr) spectrum of compound LCO7

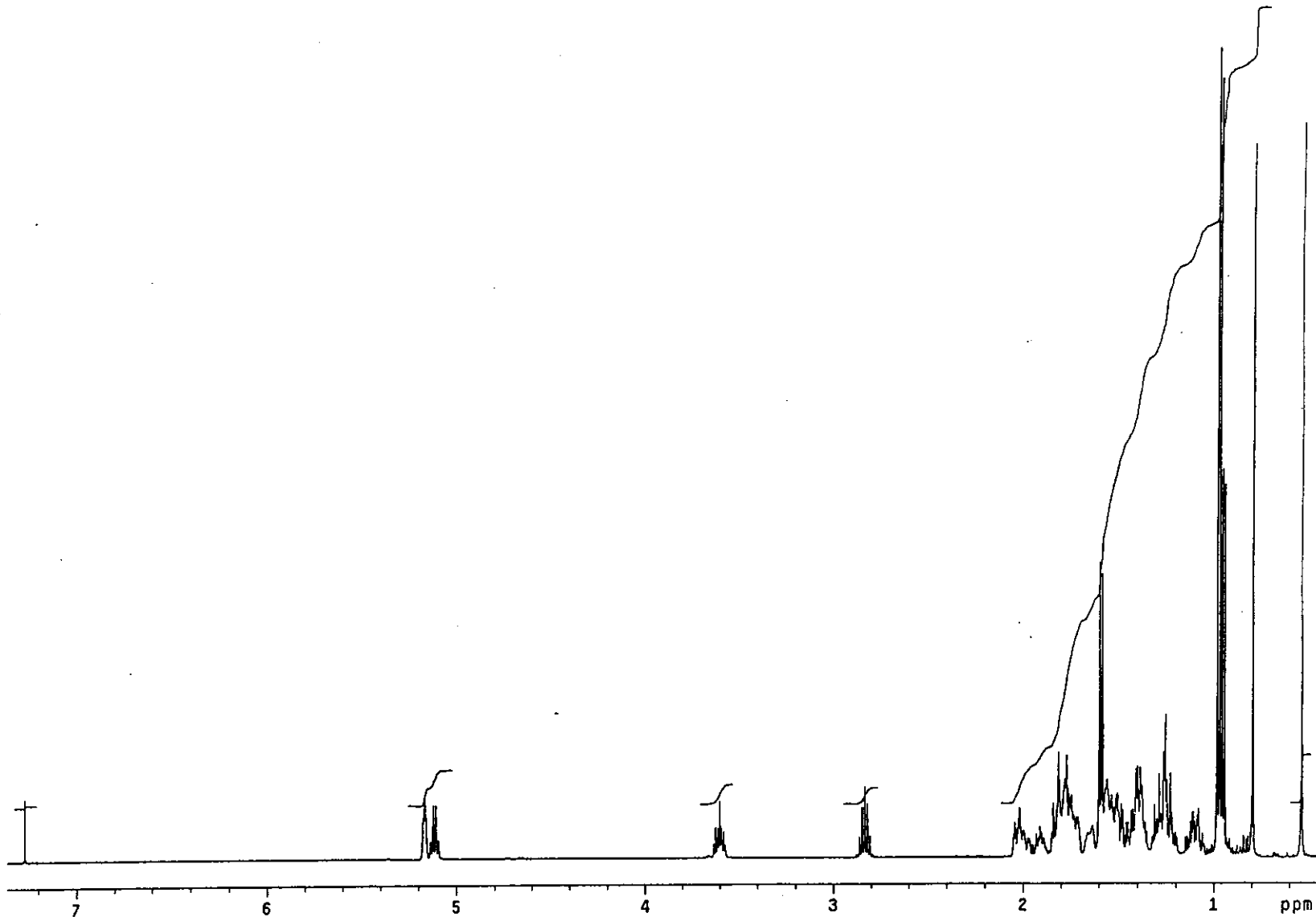


Figure 99 <sup>1</sup>H NMR (500 MHz, CDCl<sub>3</sub>) spectrum of compound LCO7

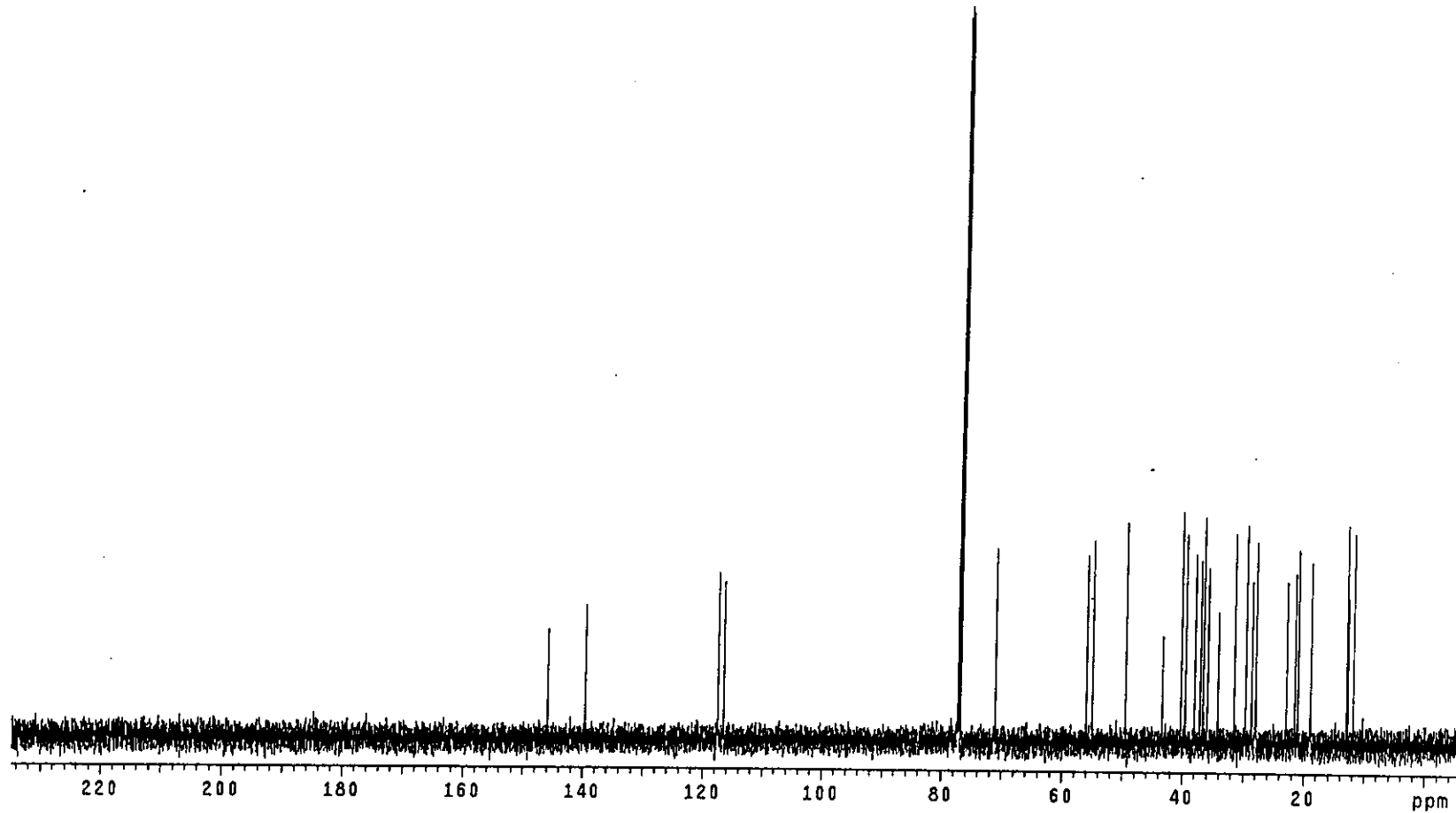


Figure 100  $^{13}\text{C}$  NMR (125 MHz,  $\text{CDCl}_3$ ) spectrum of compound LCO7

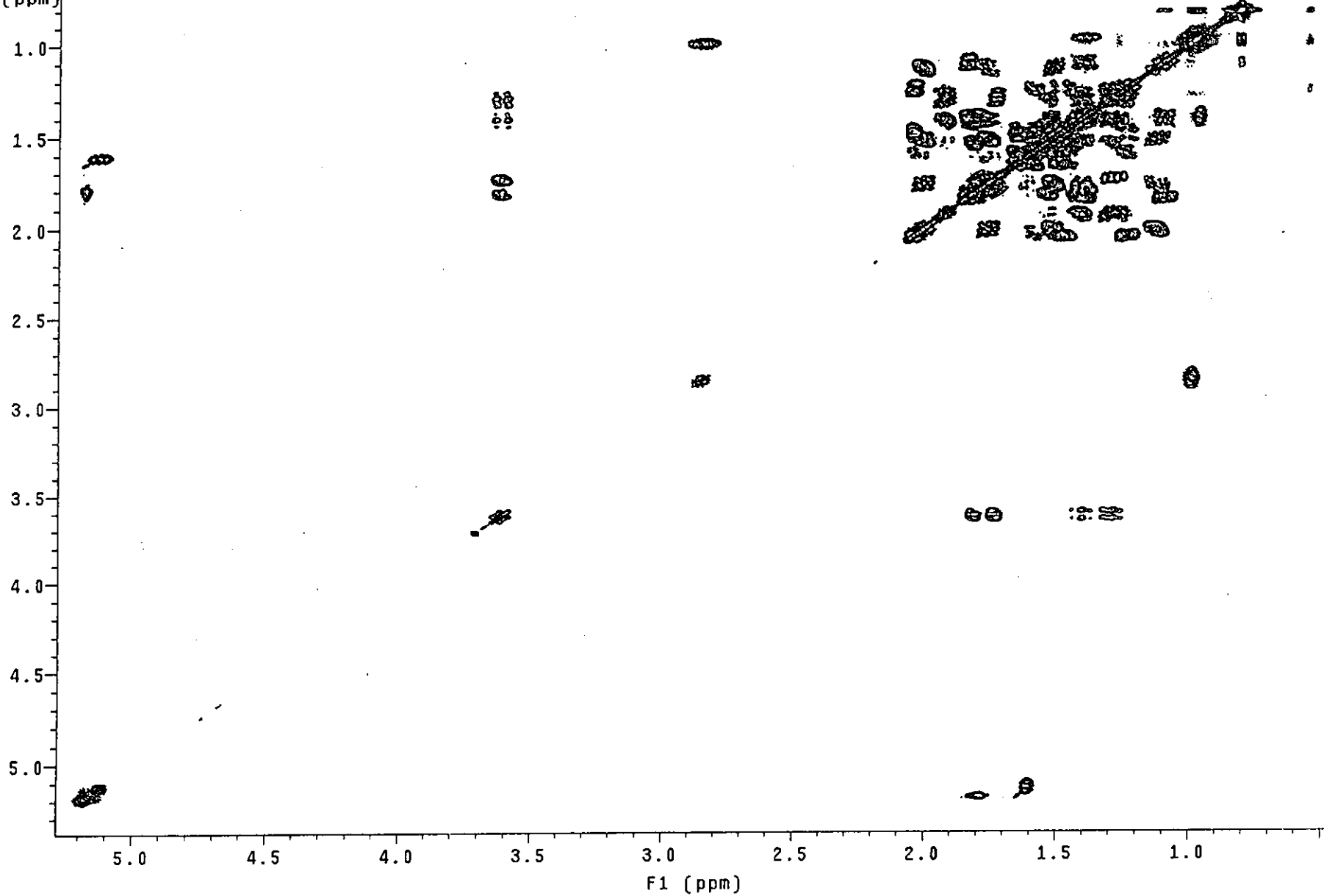


Figure 102 2D COSY spectrum of compound LCO7

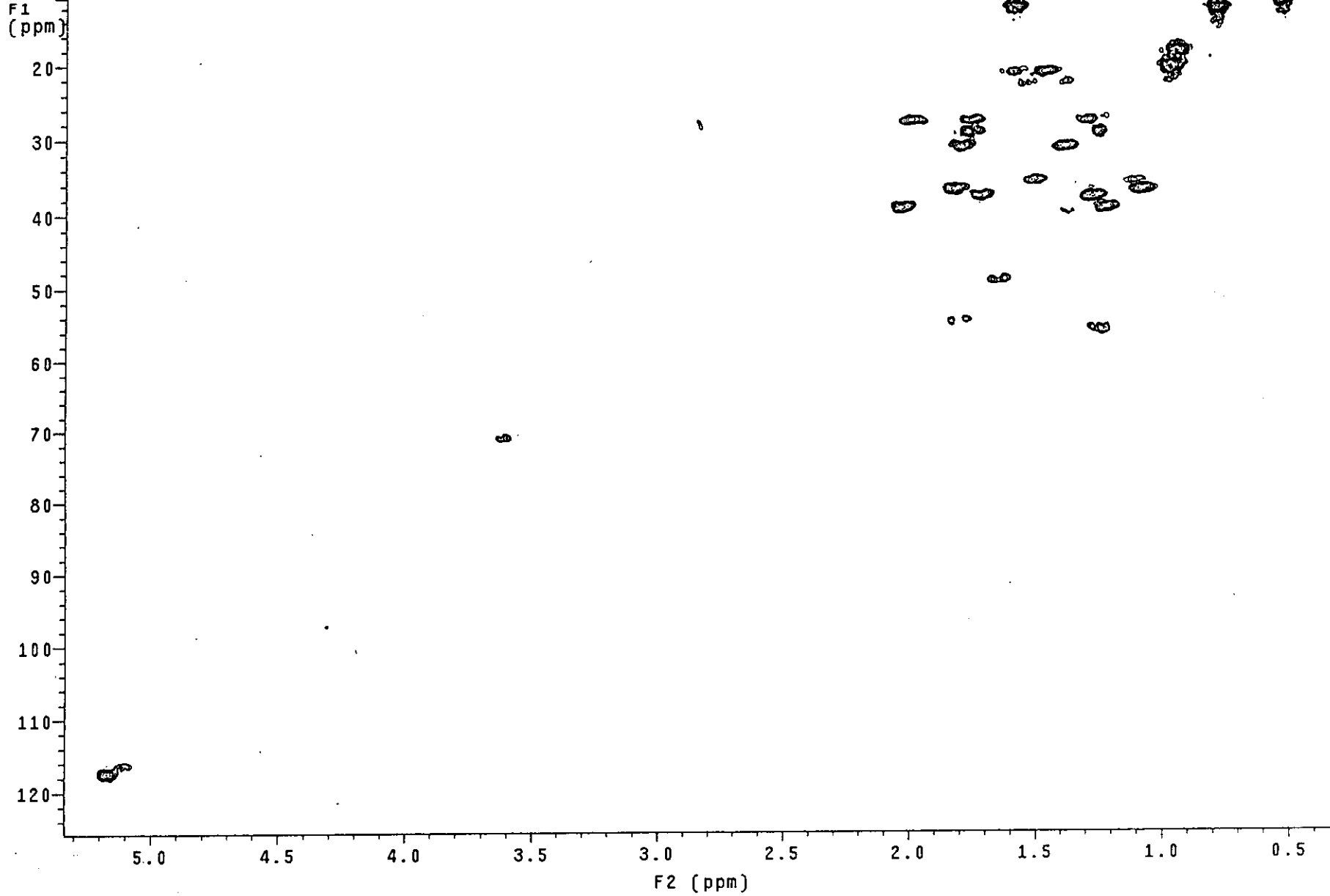


Figure 103 2D HMQC spectrum of compound LCO7



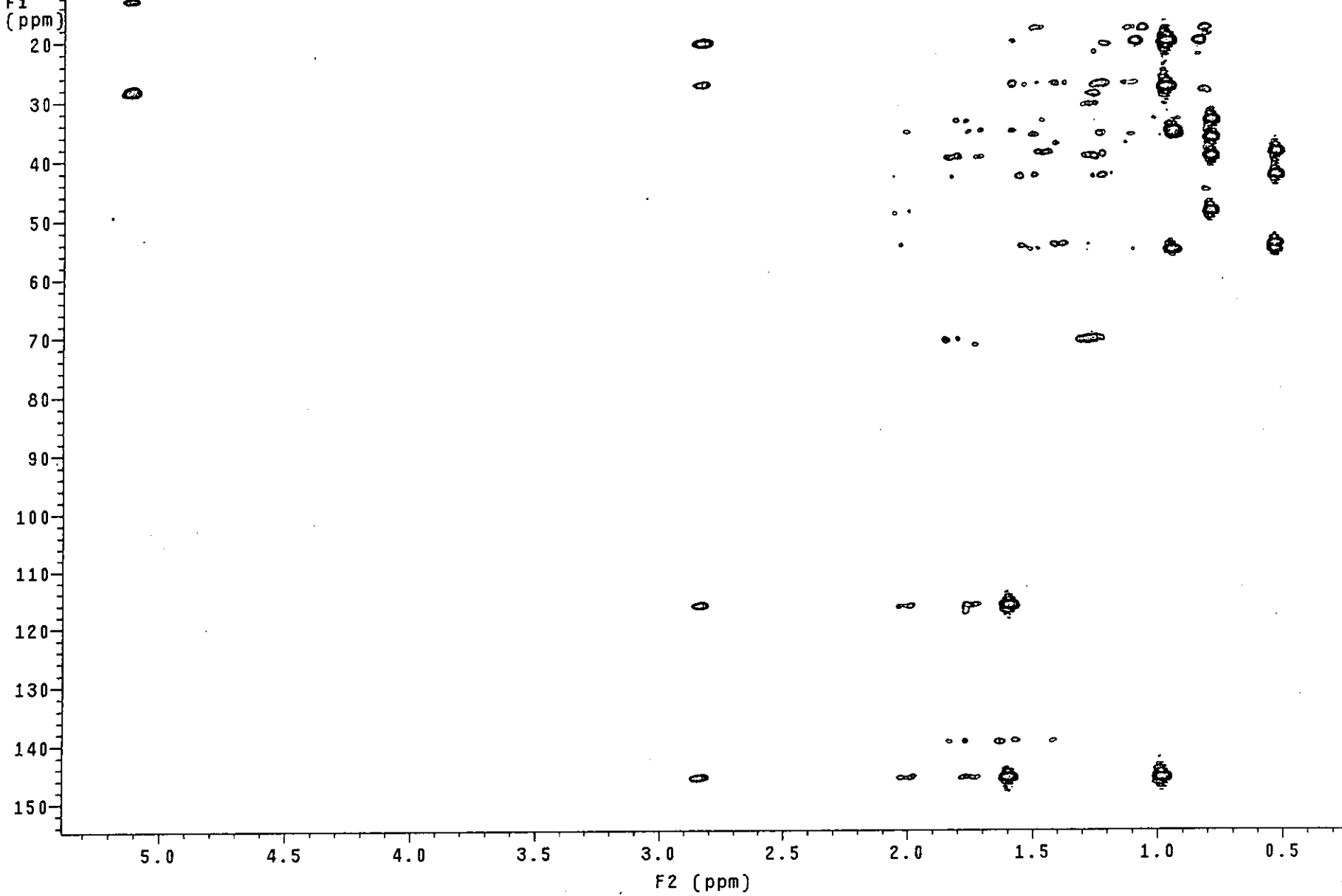


Figure 104 2D HMBC spectrum of compound LCO7

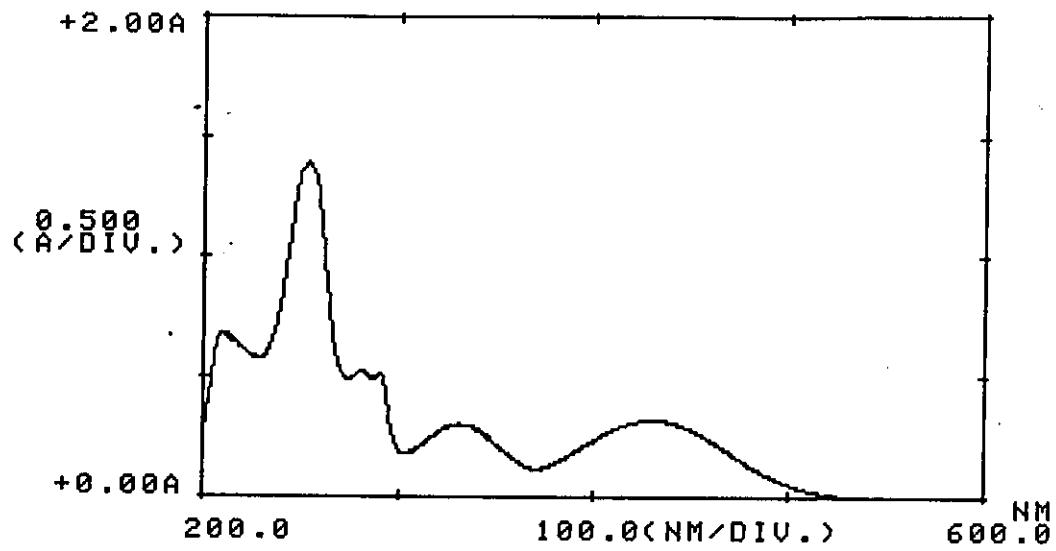


Figure 105 UV (CHCl<sub>3</sub>) spectrum of compound BCO1

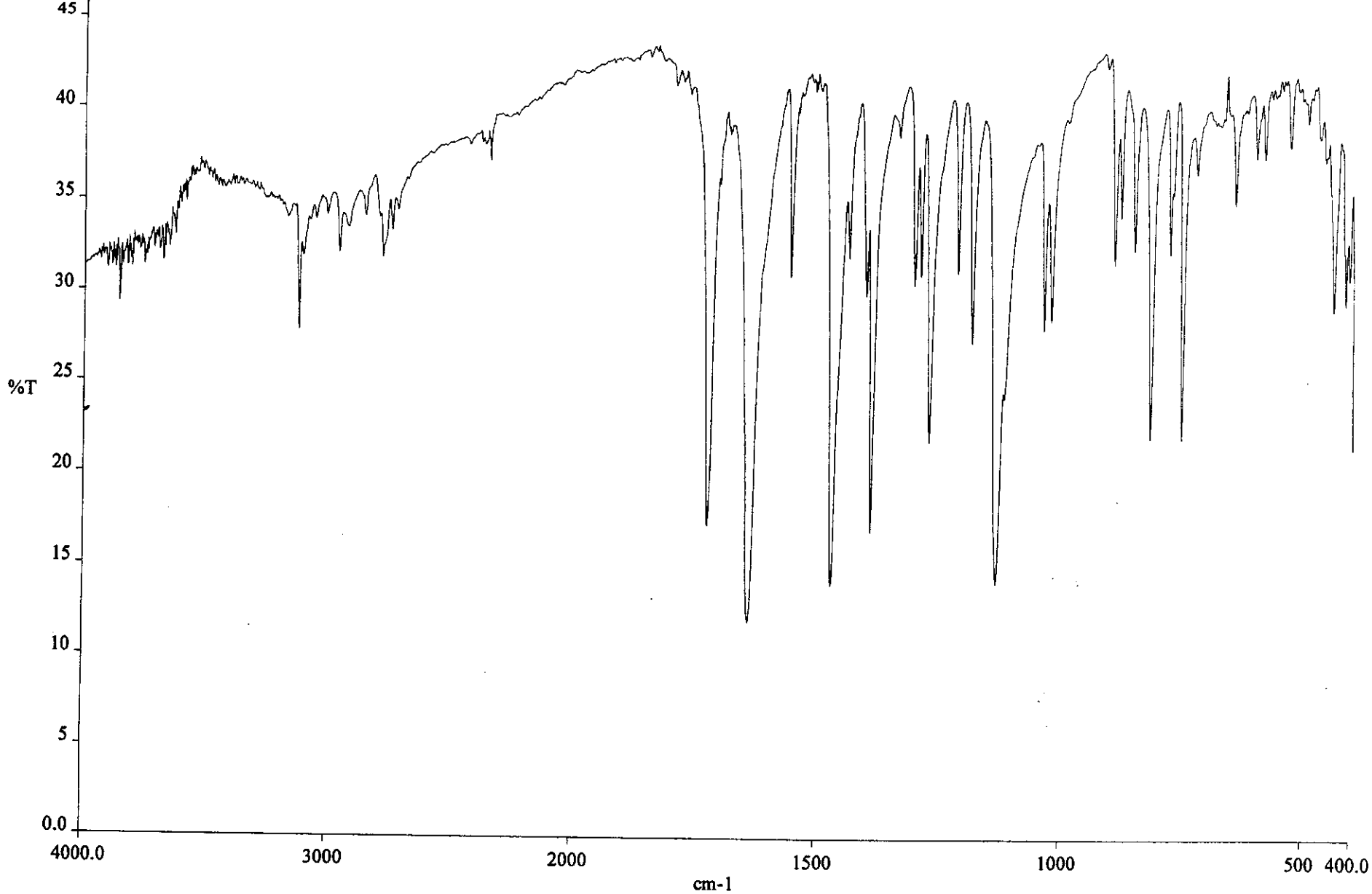


Figure 106 IR (KBr) spectrum of compound BCO1

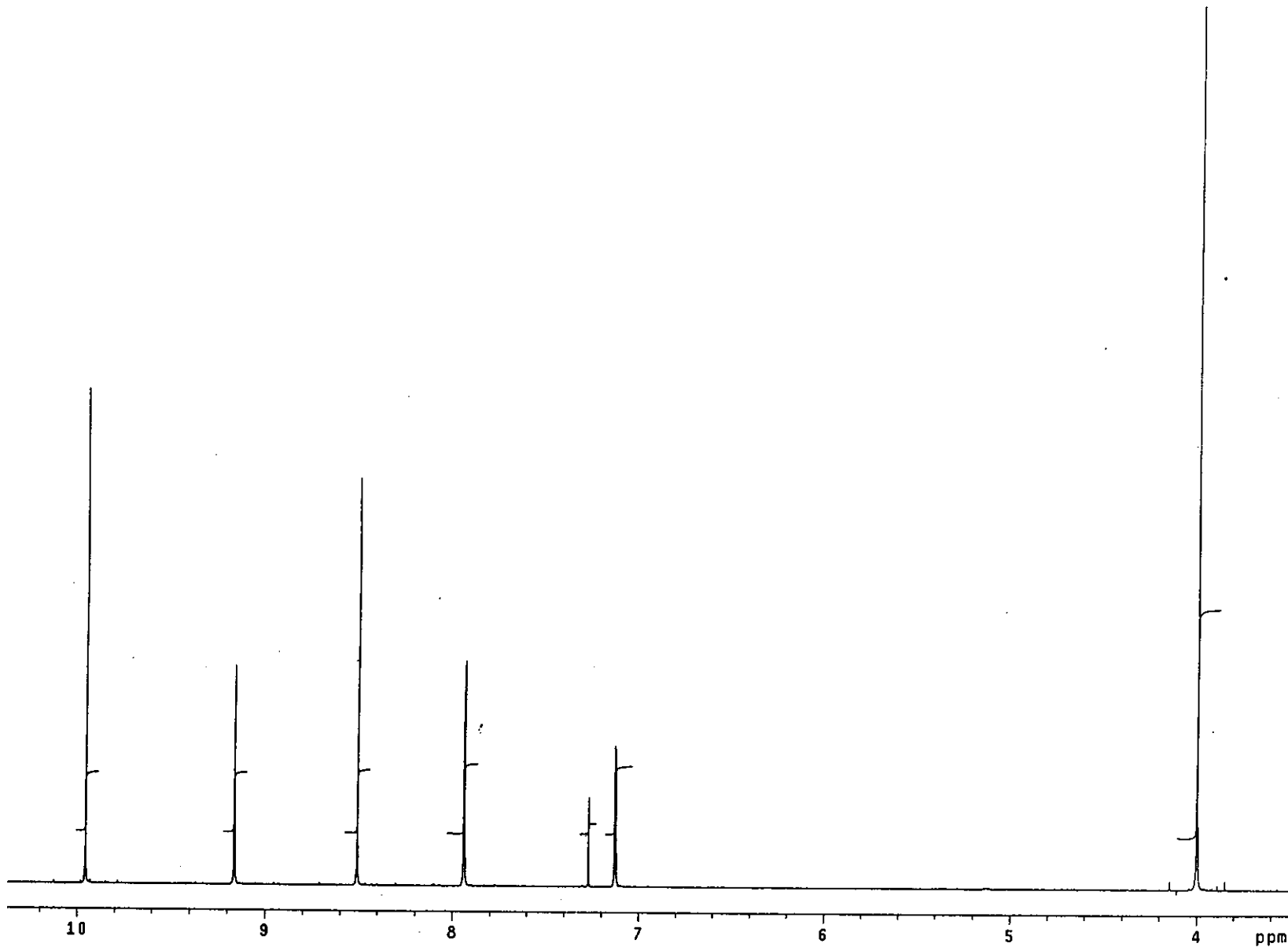


Figure 107  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ) spectrum of compound BCO1

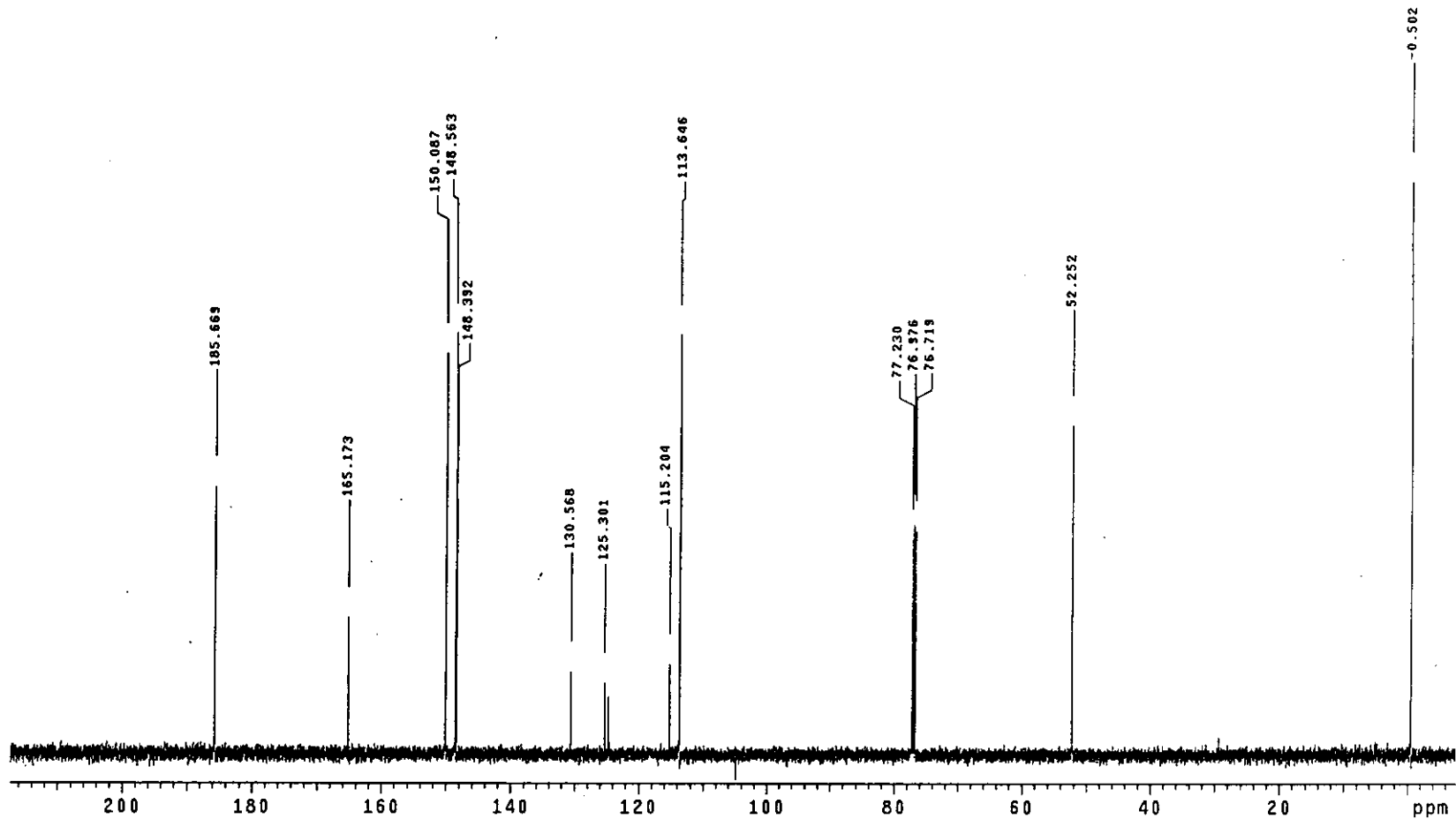


Figure 108  $^{13}\text{C}$  NMR (125 MHz,  $\text{CDCl}_3$ ) spectrum of compound BCO1

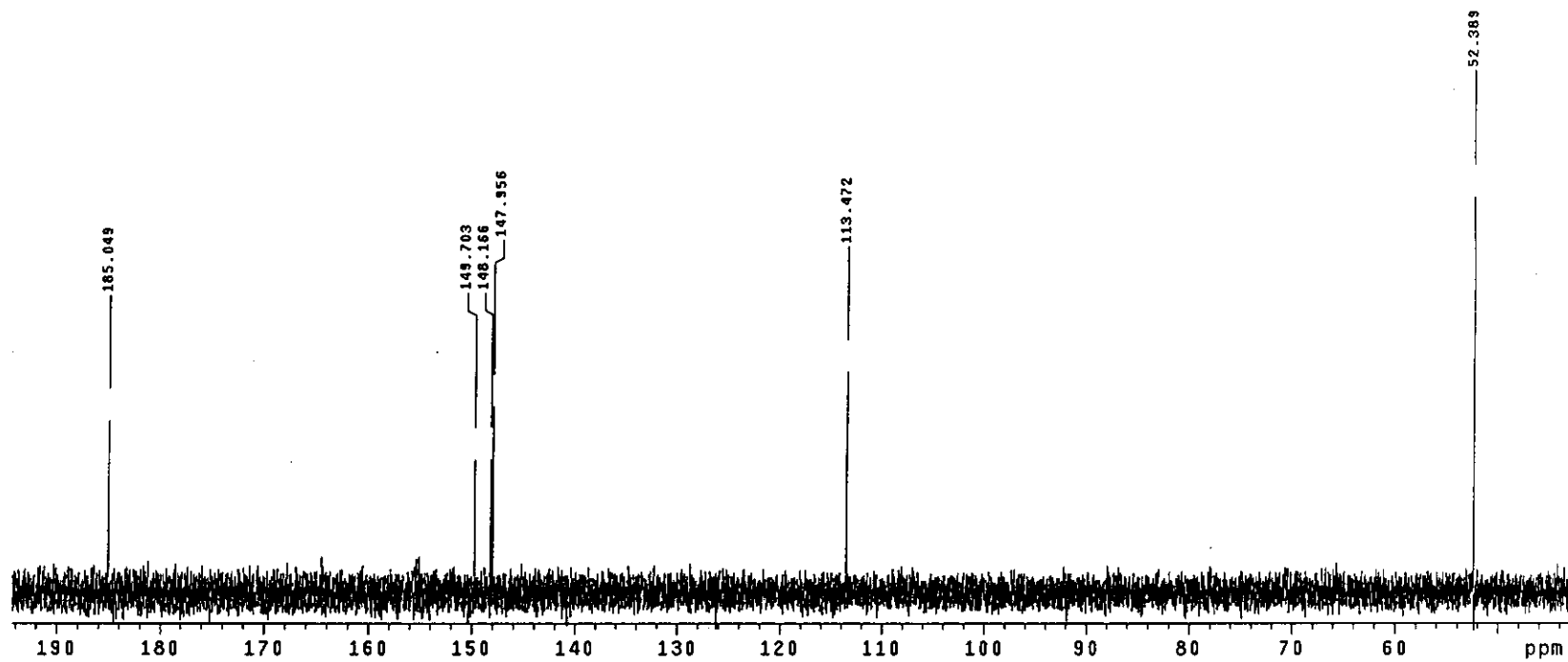


Figure 109 DEPT (CDCl<sub>3</sub>) spectrum of compound BCO1

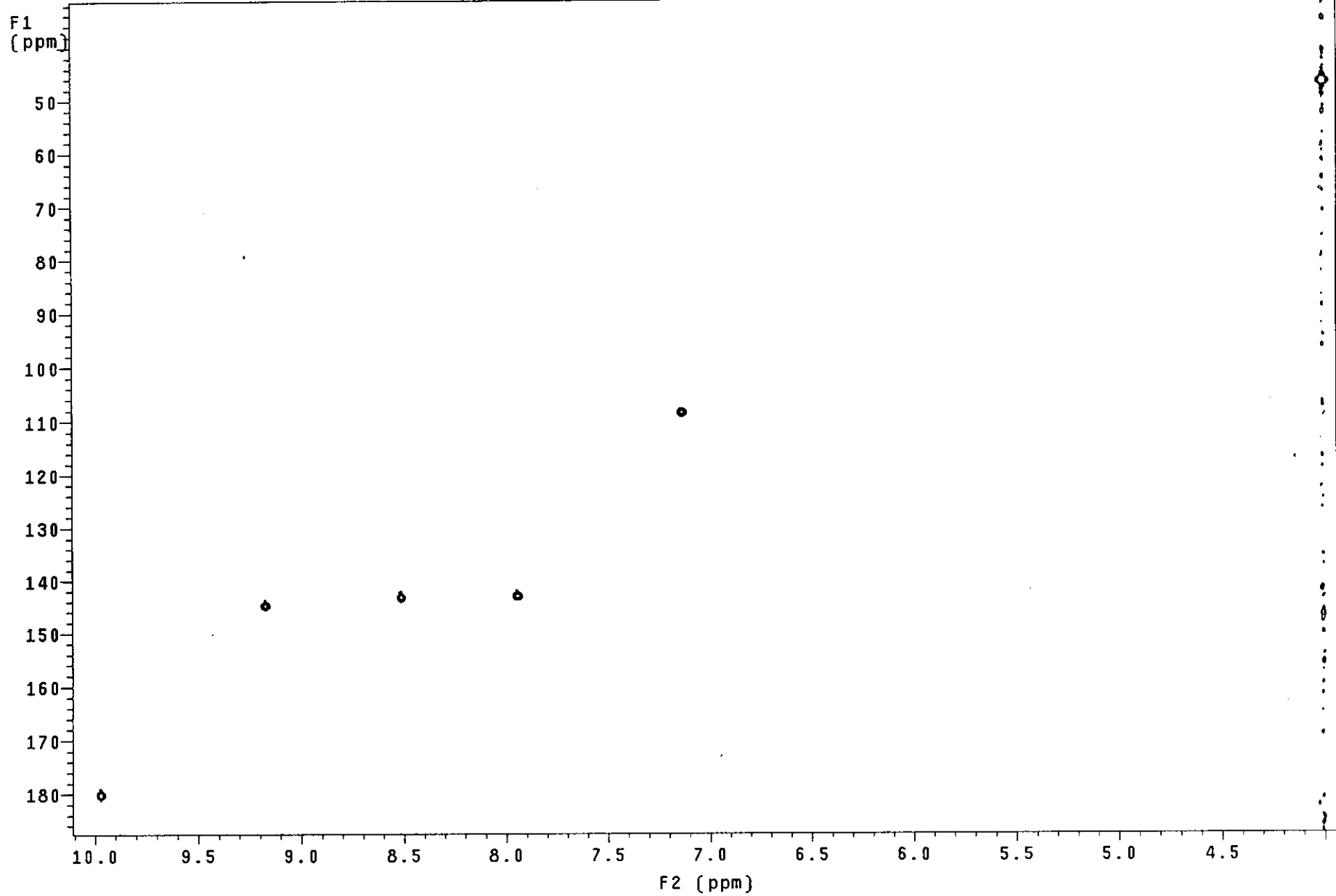


Figure 110 2D HMQC spectrum of compound BCO1

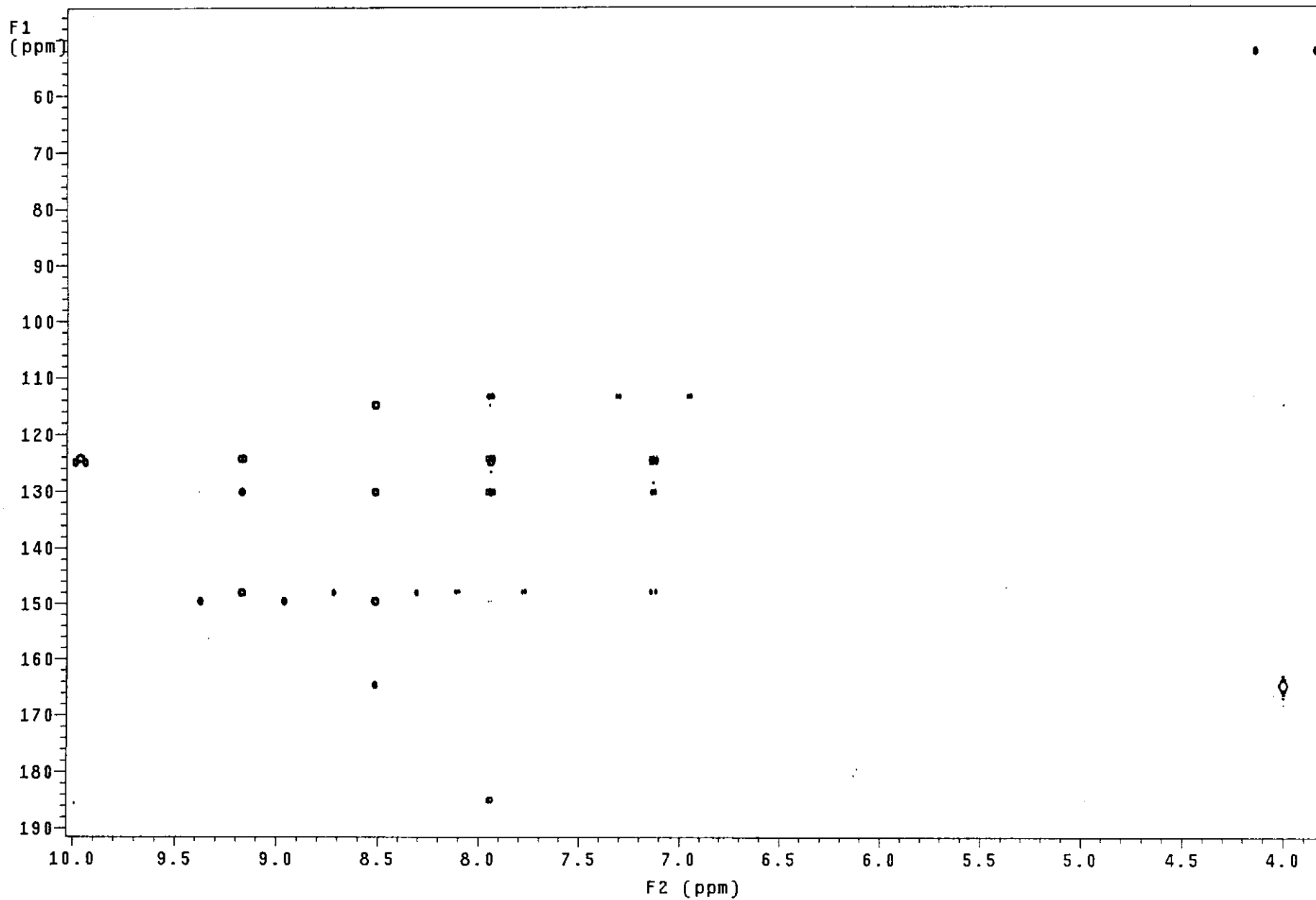


Figure 111 2D HMBC spectrum of compound BCO1



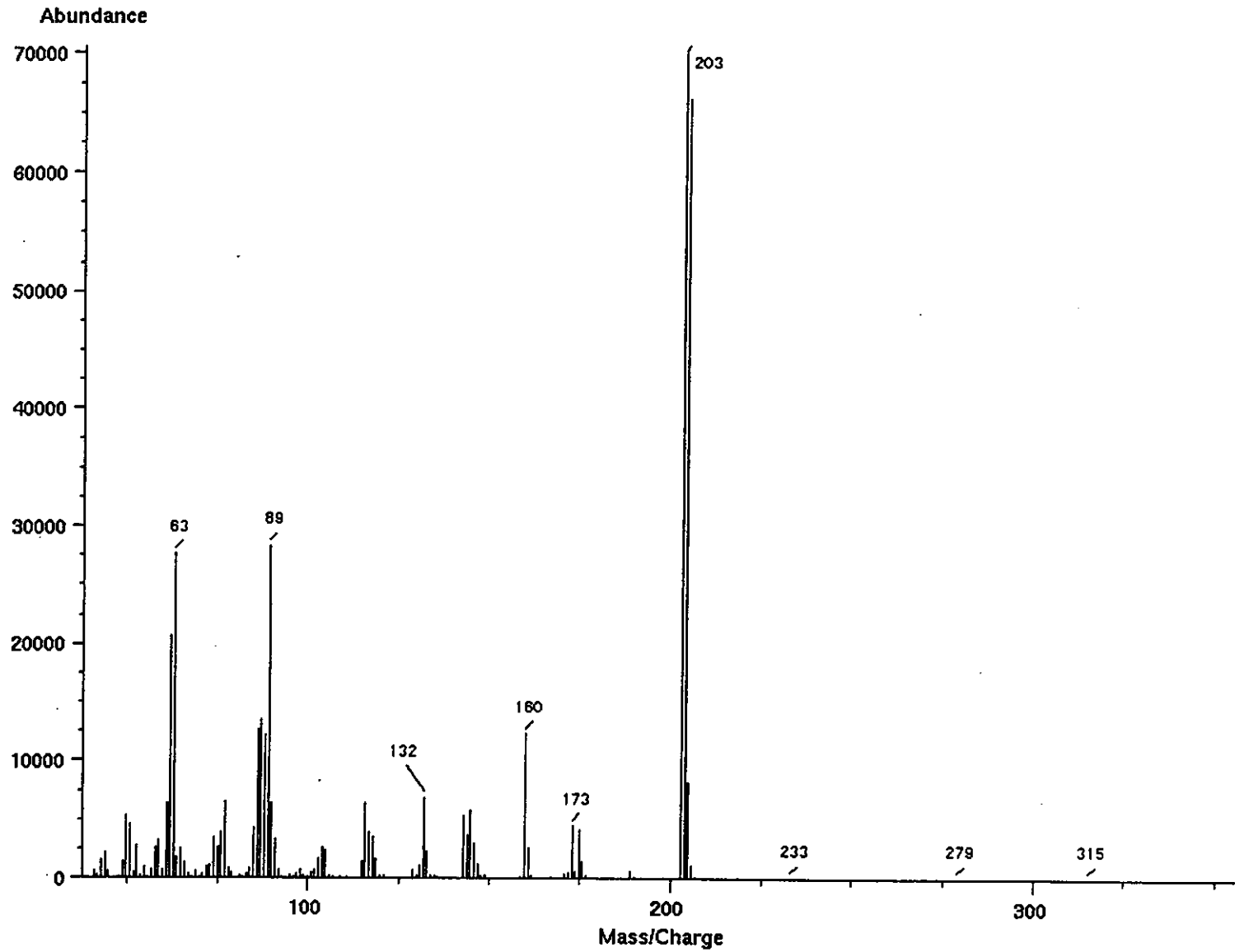


Figure 112 Mass spectrum of compound BCO1

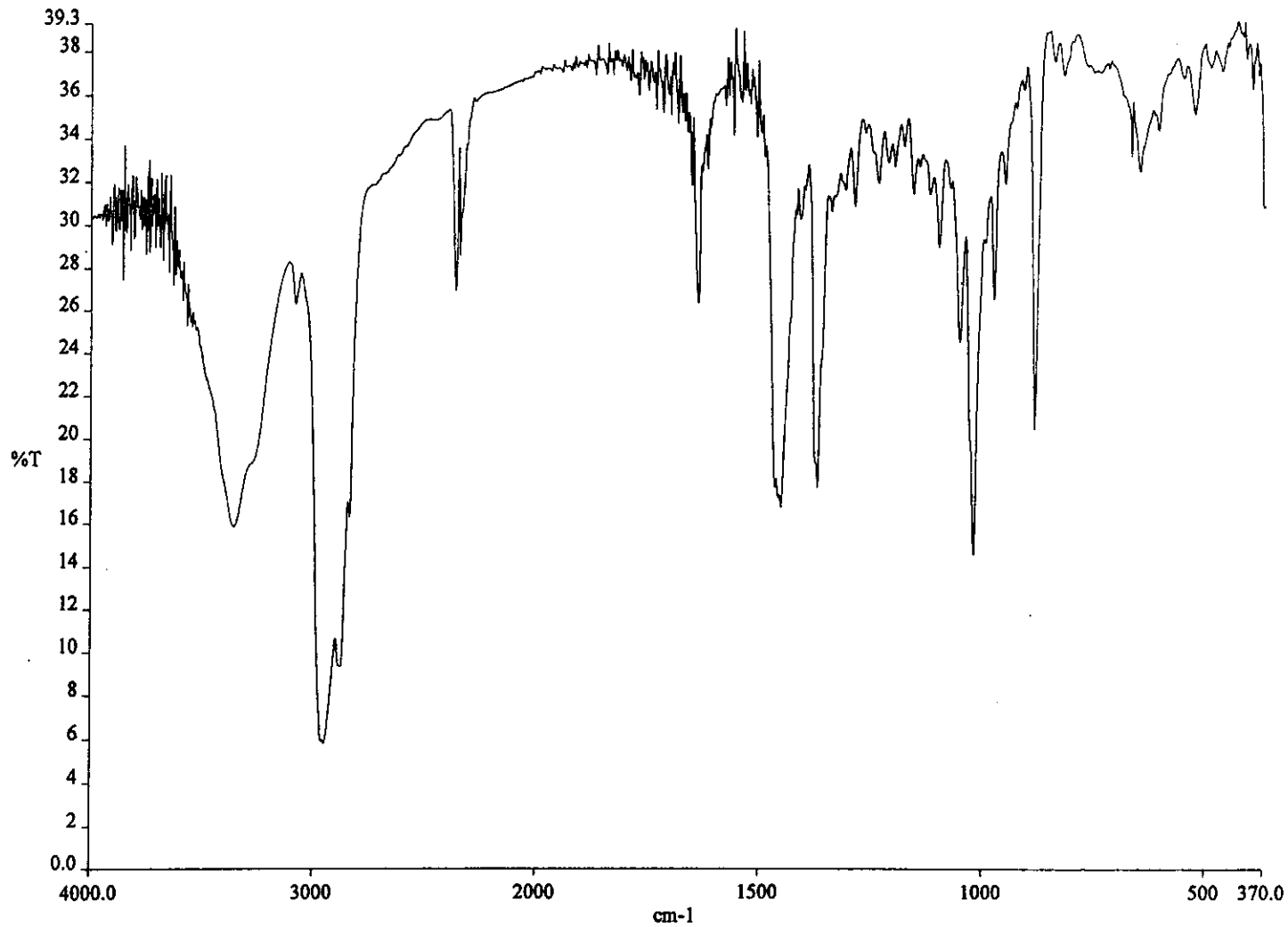


Figure 113 IR (KBr) spectrum of compound BCO<sub>2</sub>

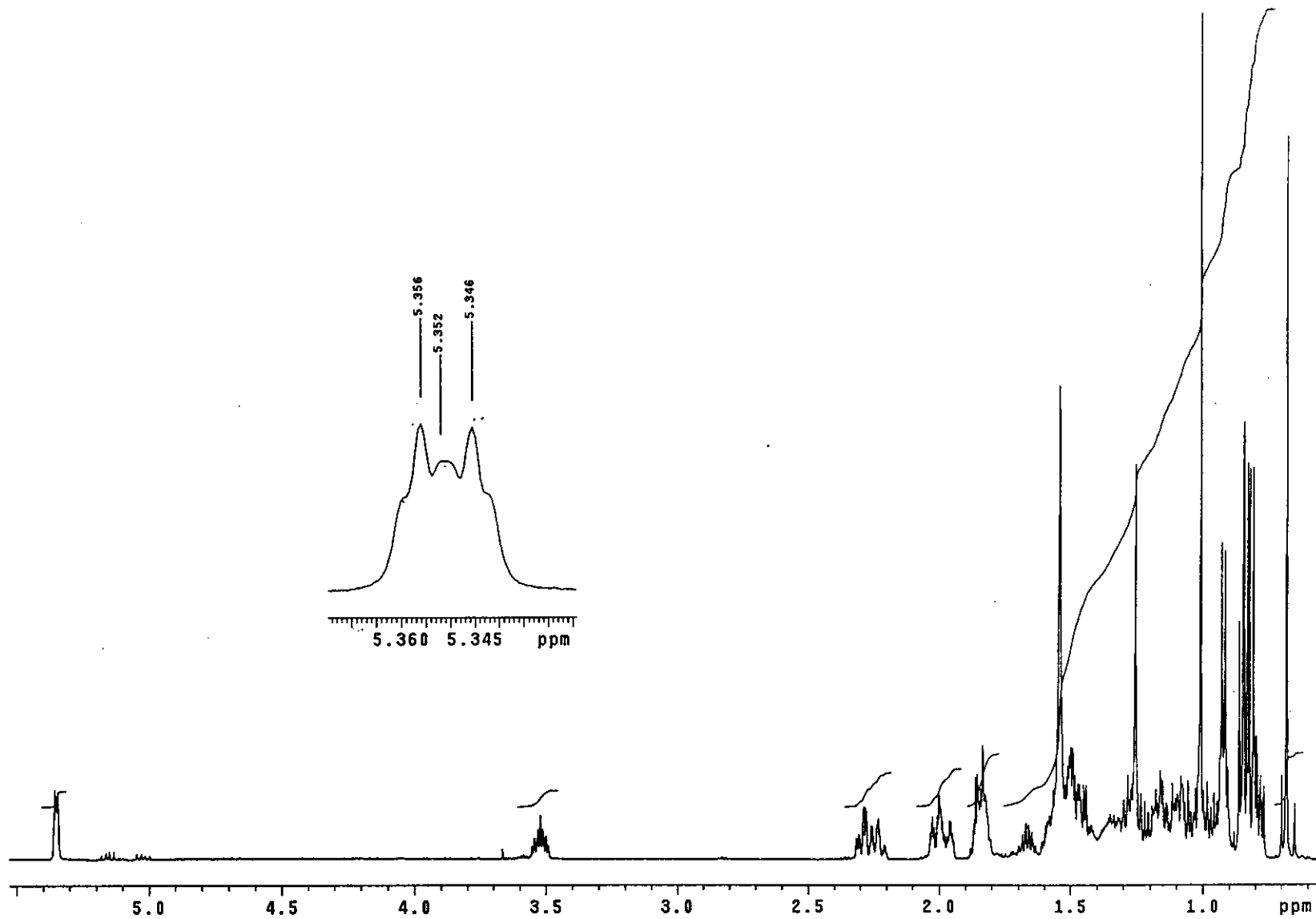


Figure 114  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ) spectrum of compound BCO<sub>2</sub>

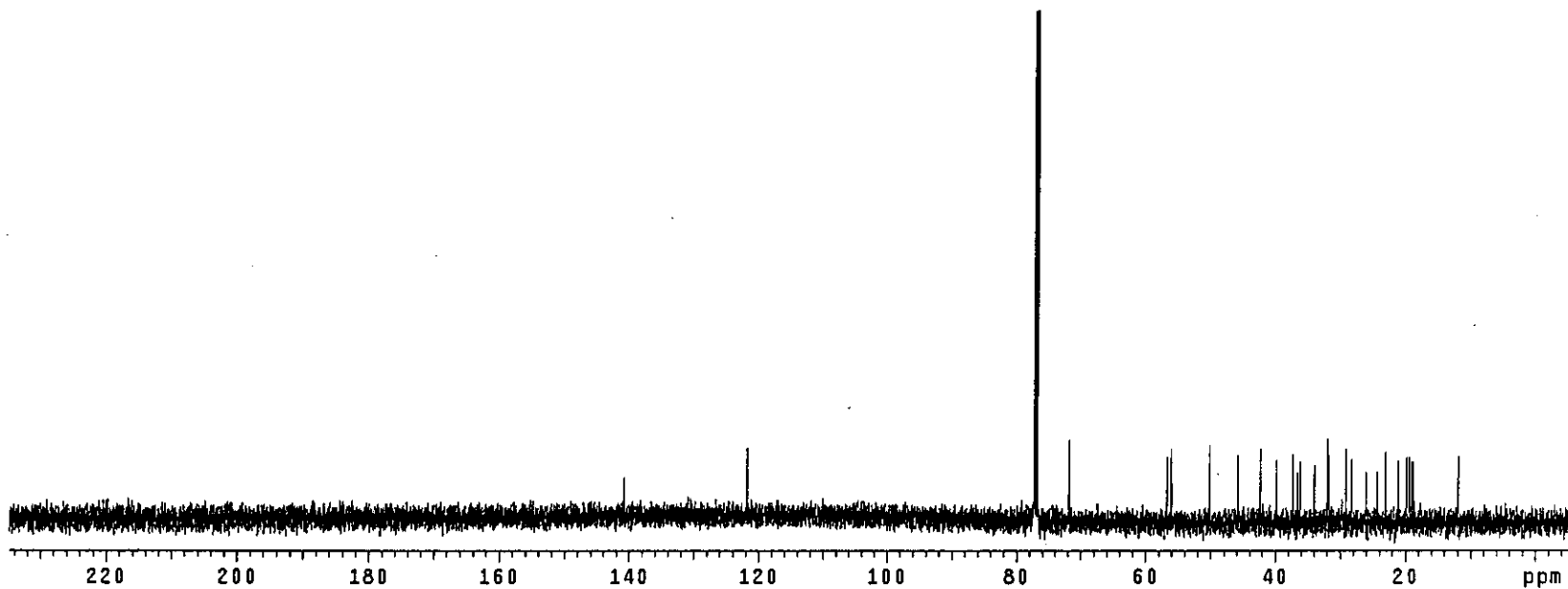


Figure 115  $^{13}\text{C}$  NMR (125 MHz,  $\text{CDCl}_3$ ) spectrum of compound BCO2

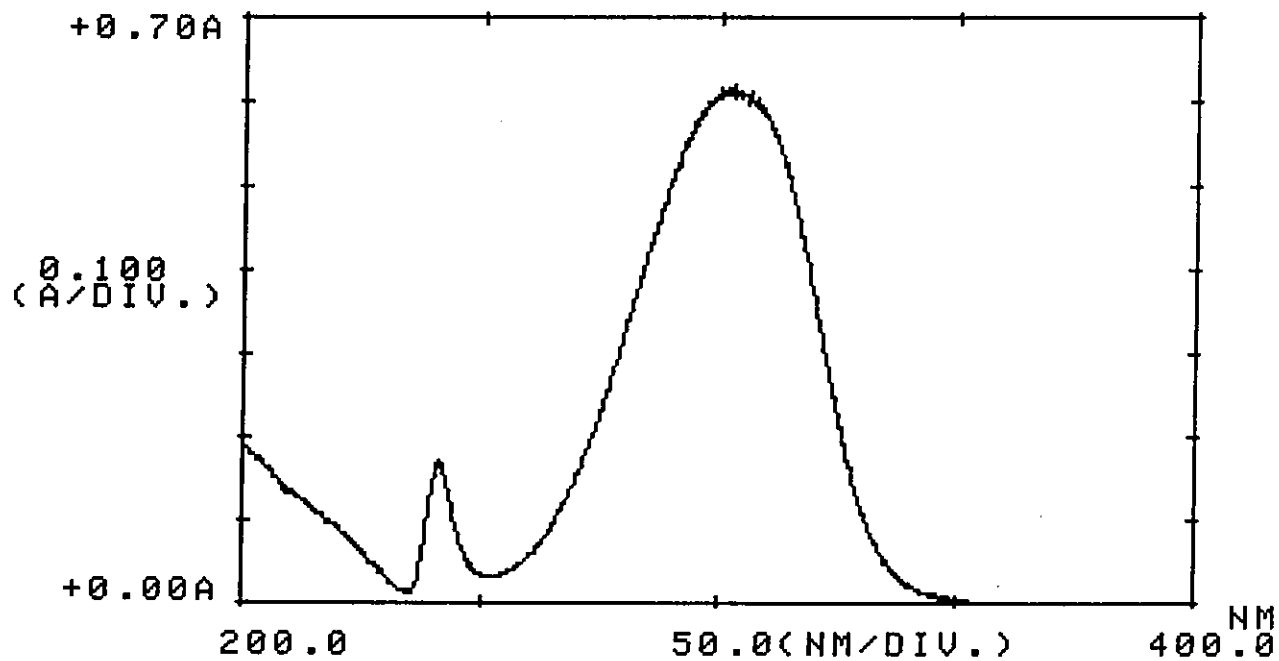


Figure 116 UV (CHCl<sub>3</sub>) spectrum of compound BCO3

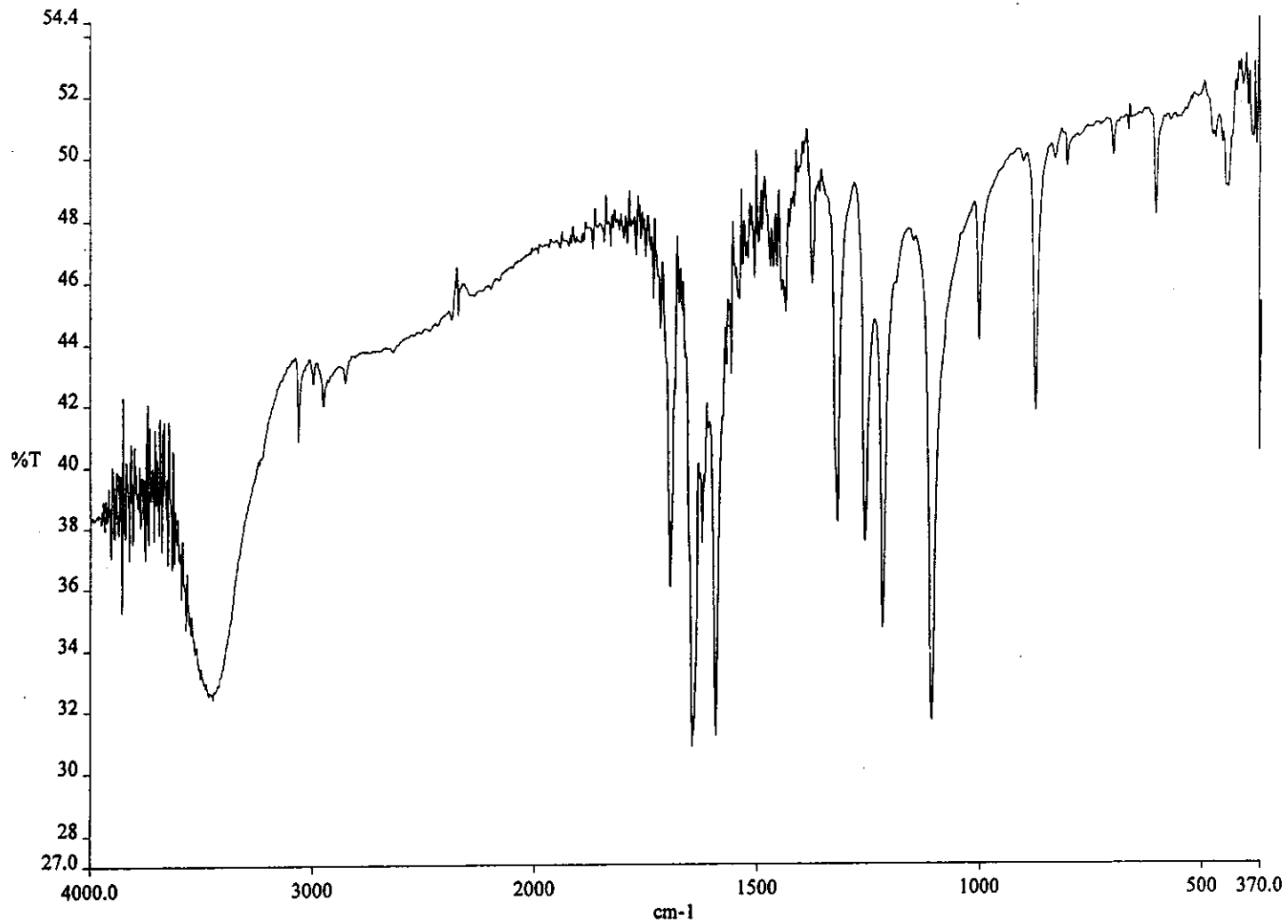


Figure 117 IR (KBr) spectrum of compound BCO<sub>3</sub>

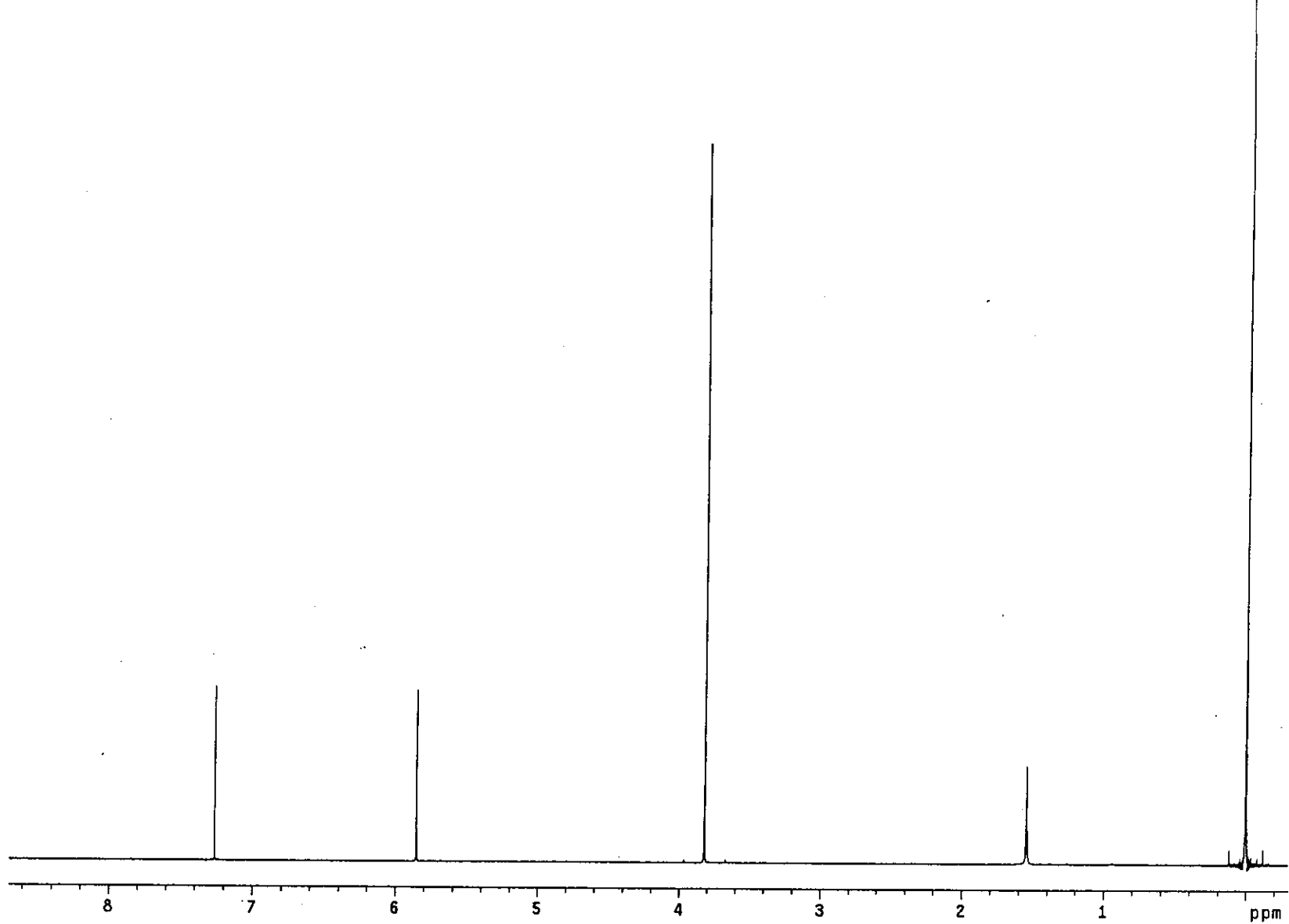


Figure 118 <sup>1</sup>H NMR (500 MHz, CDCl<sub>3</sub>) spectrum of compound BCO3

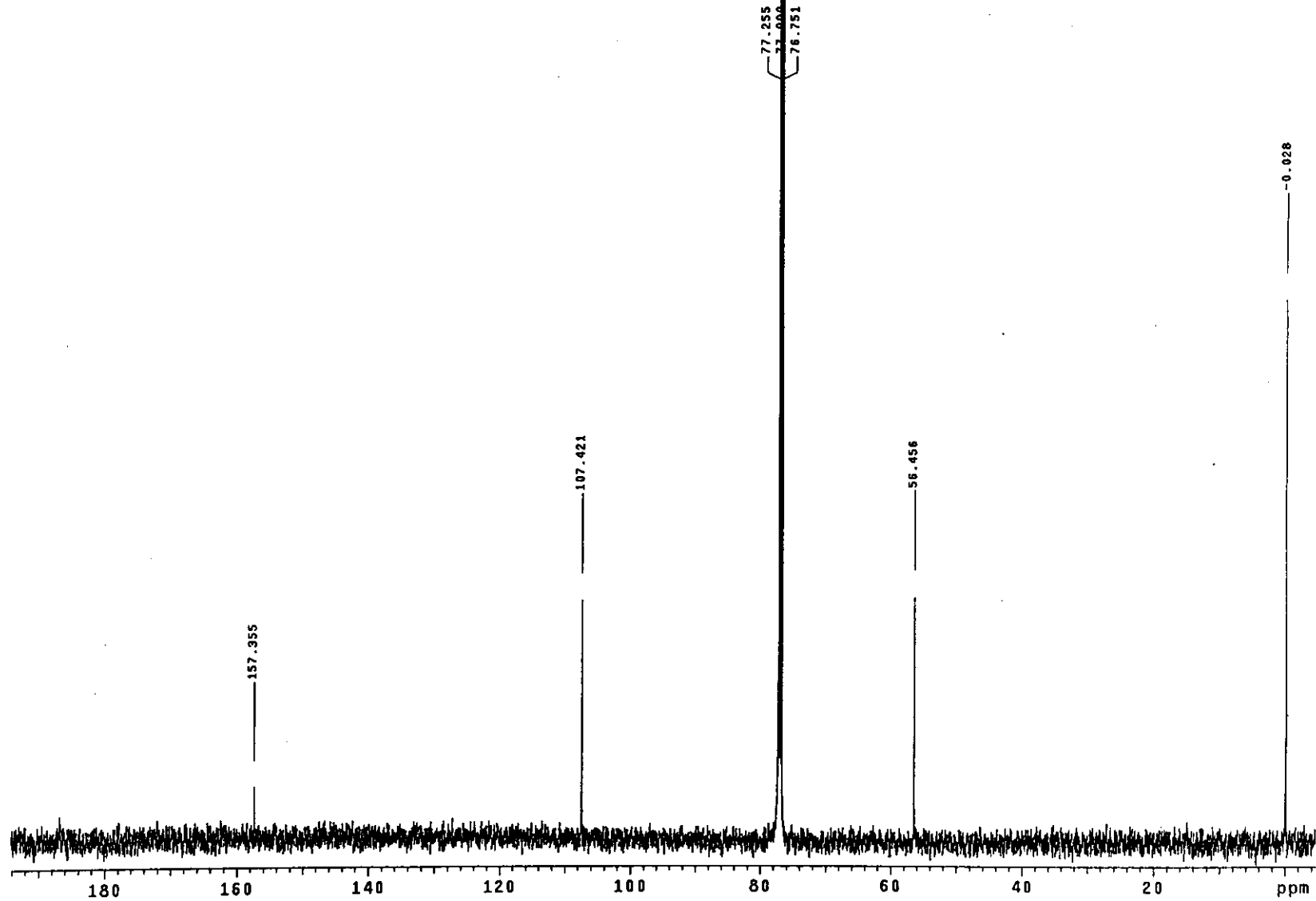


Figure 119  $^{13}\text{C}$  NMR (125 MHz,  $\text{CDCl}_3$ ) spectrum of compound BCO3



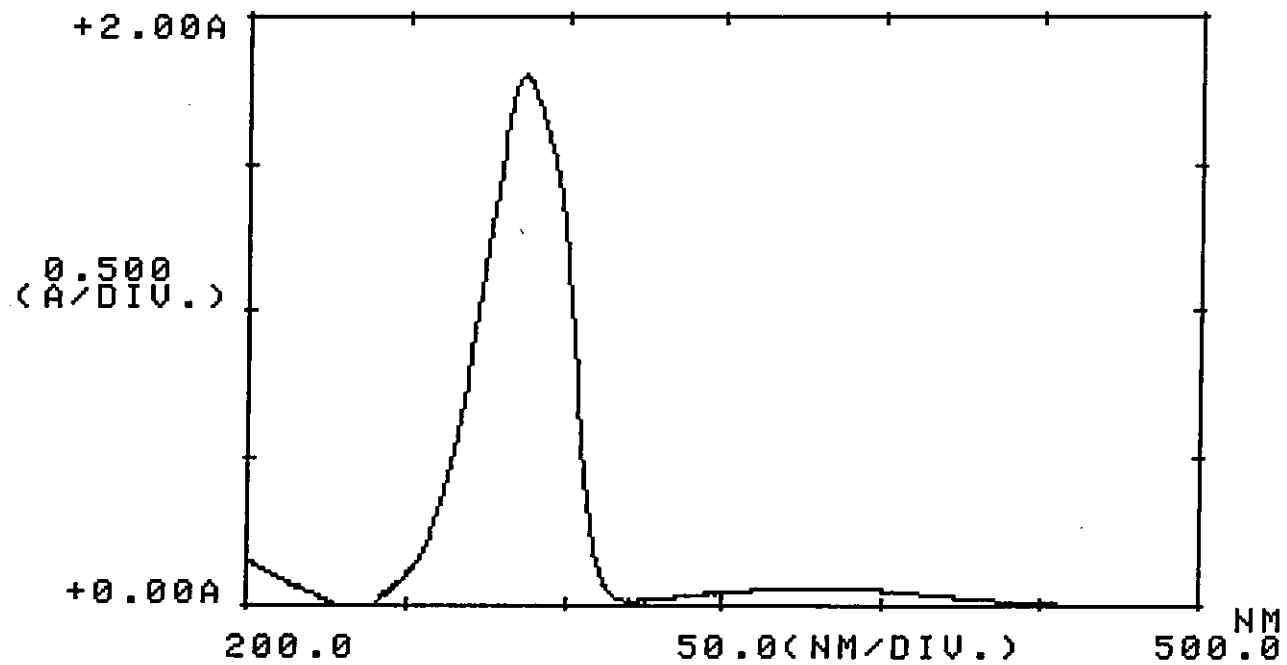


Figure 120 UV (CHCl<sub>3</sub>) spectrum of compound BCO4

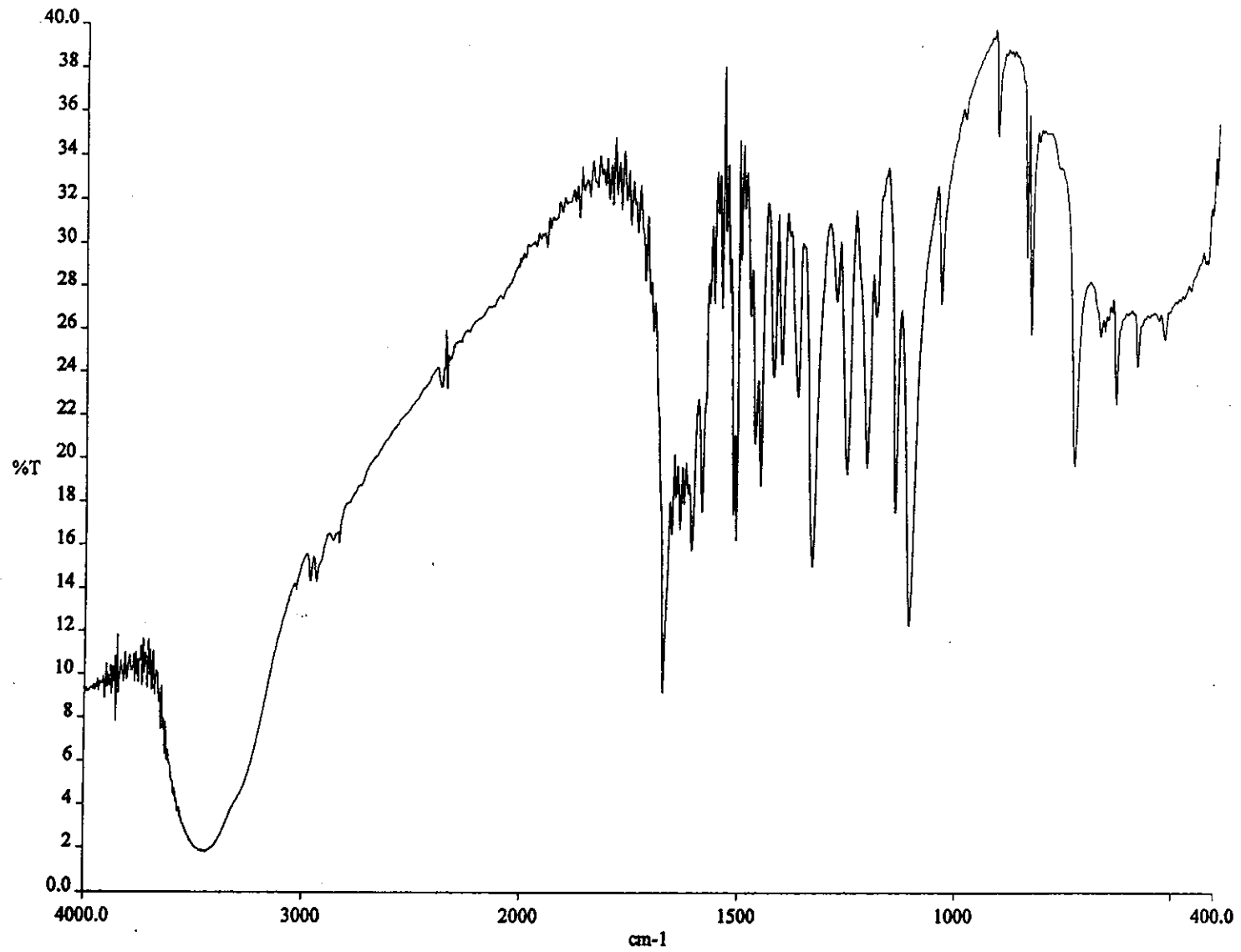


Figure 121 IR (KBr) spectrum of compound BCO4

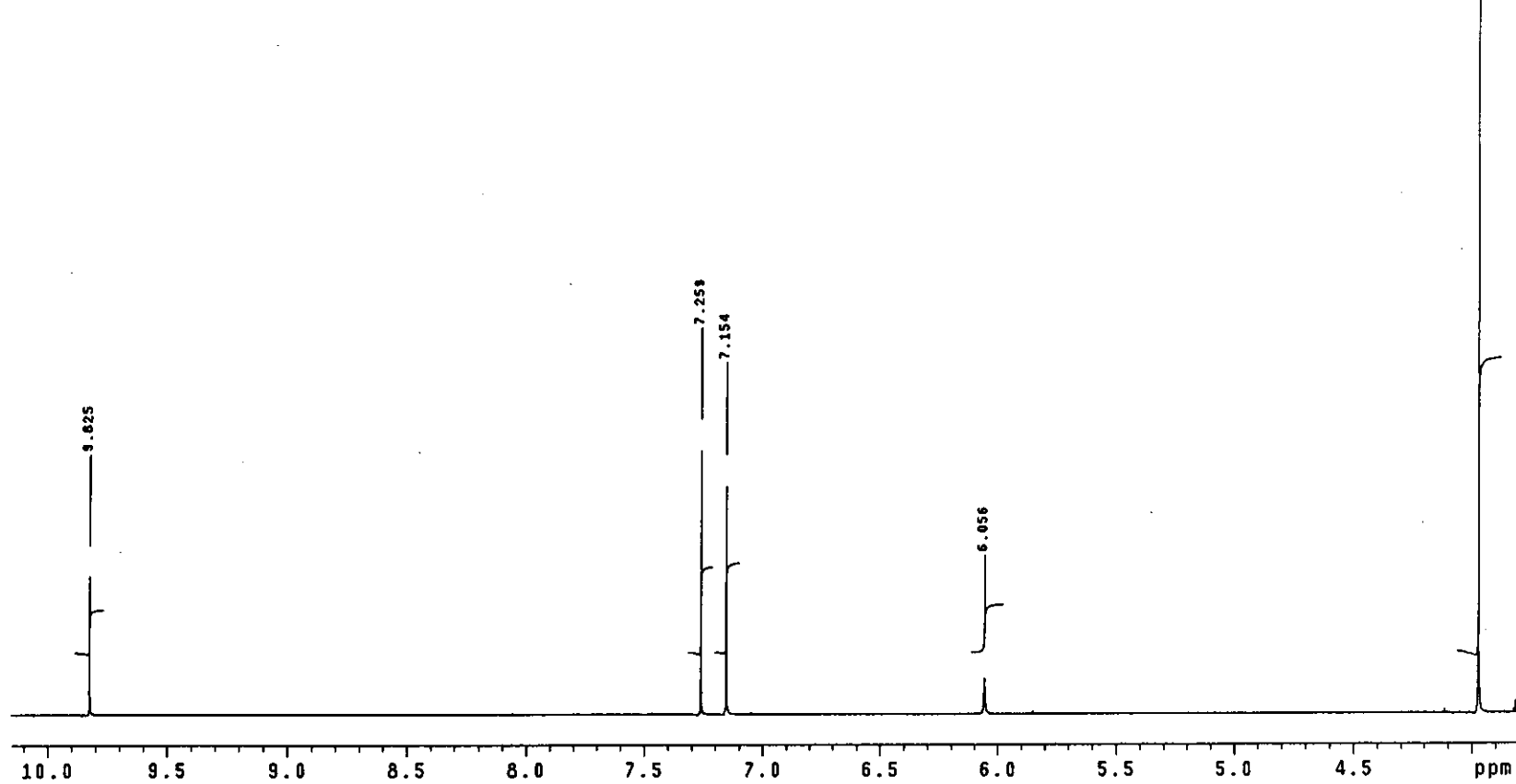


Figure 122  $^1\text{H}$  NMR (500 MHz,  $\text{CDCl}_3$ ) spectrum of compound BCO4

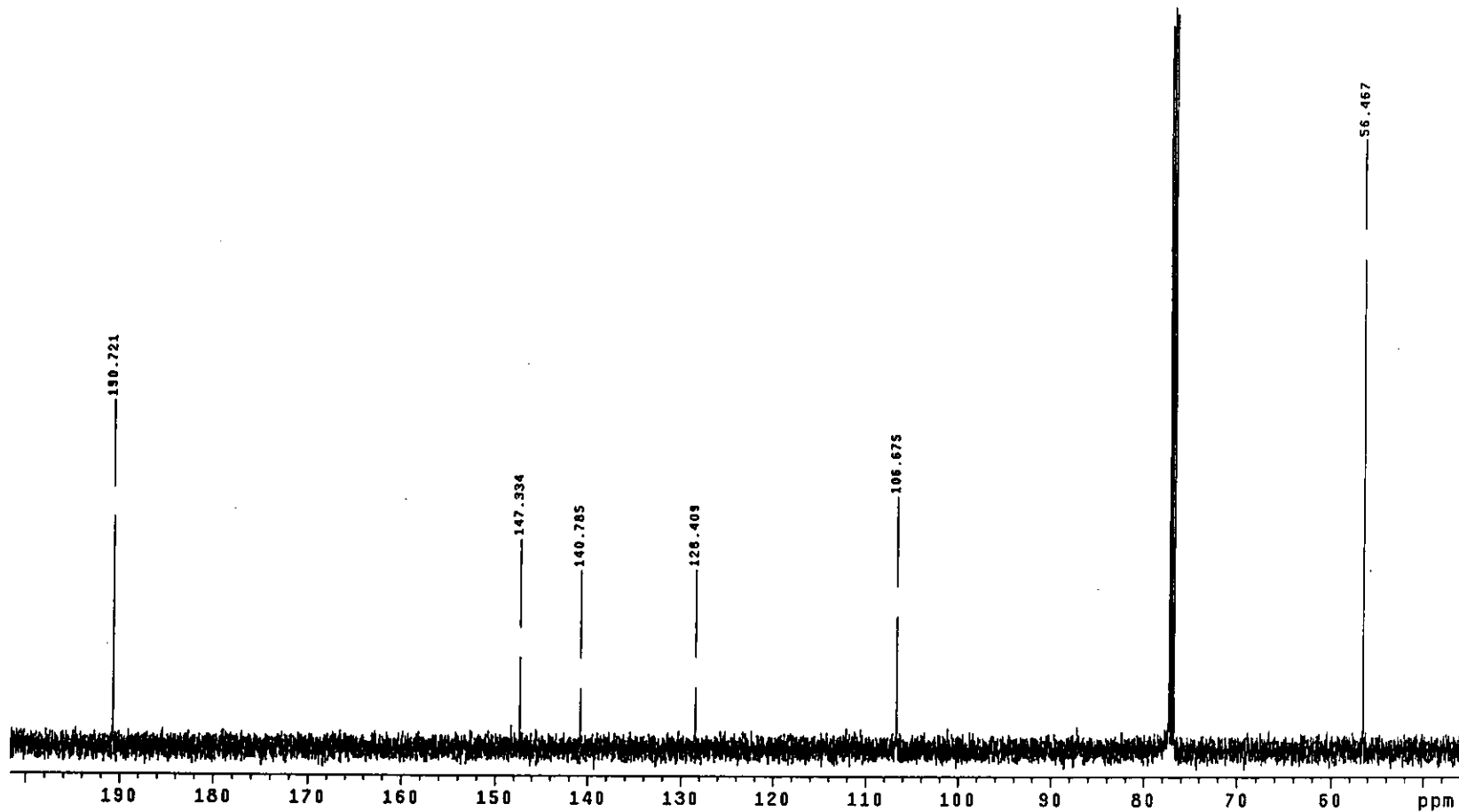


Figure 123  $^{13}\text{C}$  NMR (125 MHz,  $\text{CDCl}_3$ ) spectrum of compound BCO4