

**Figure 4** IR (KBr) spectrum of compound **PTH1**

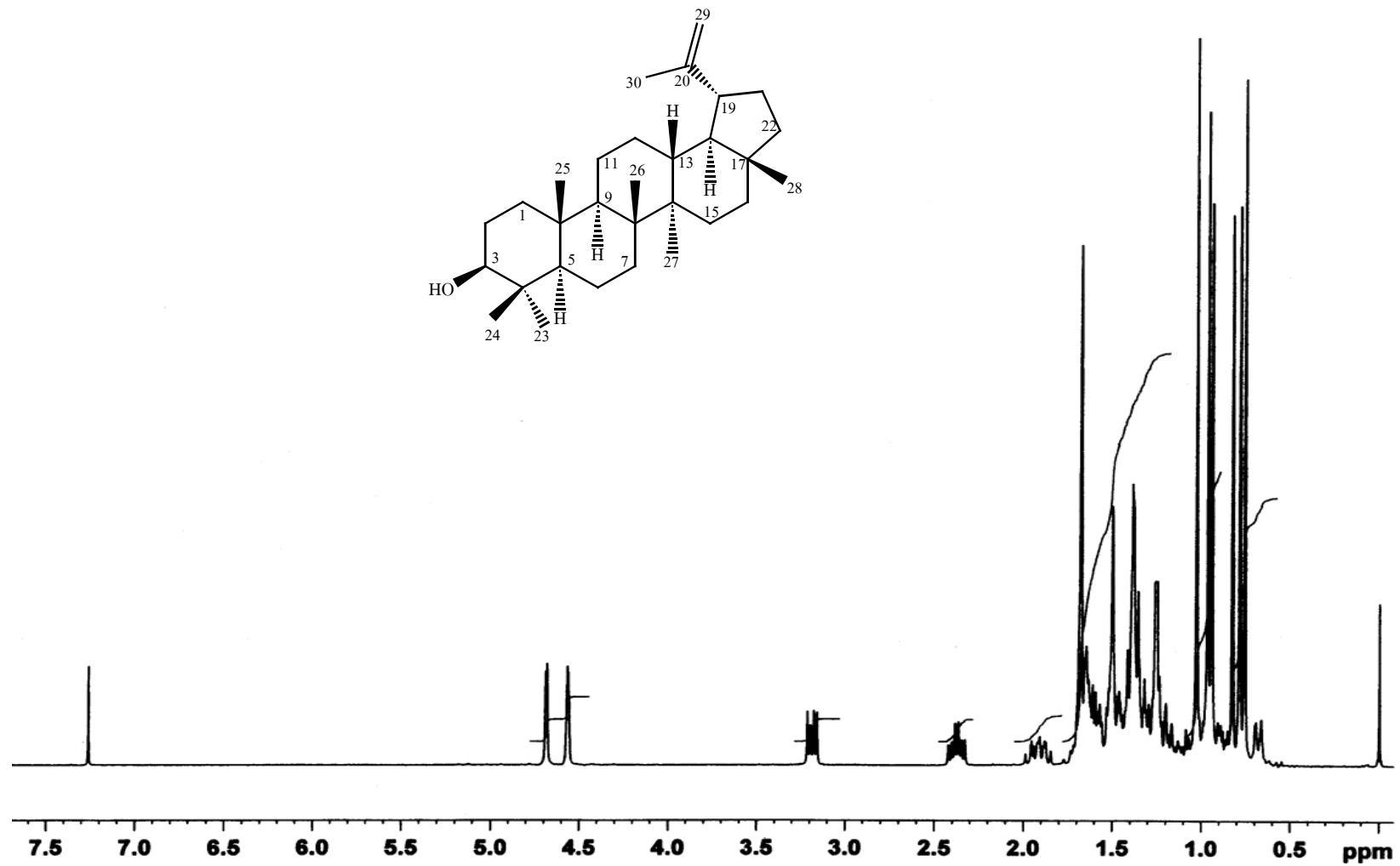


Figure 5 <sup>1</sup>H NMR (300 MHz) (CDCl<sub>3</sub>) spectrum of compound PTH1

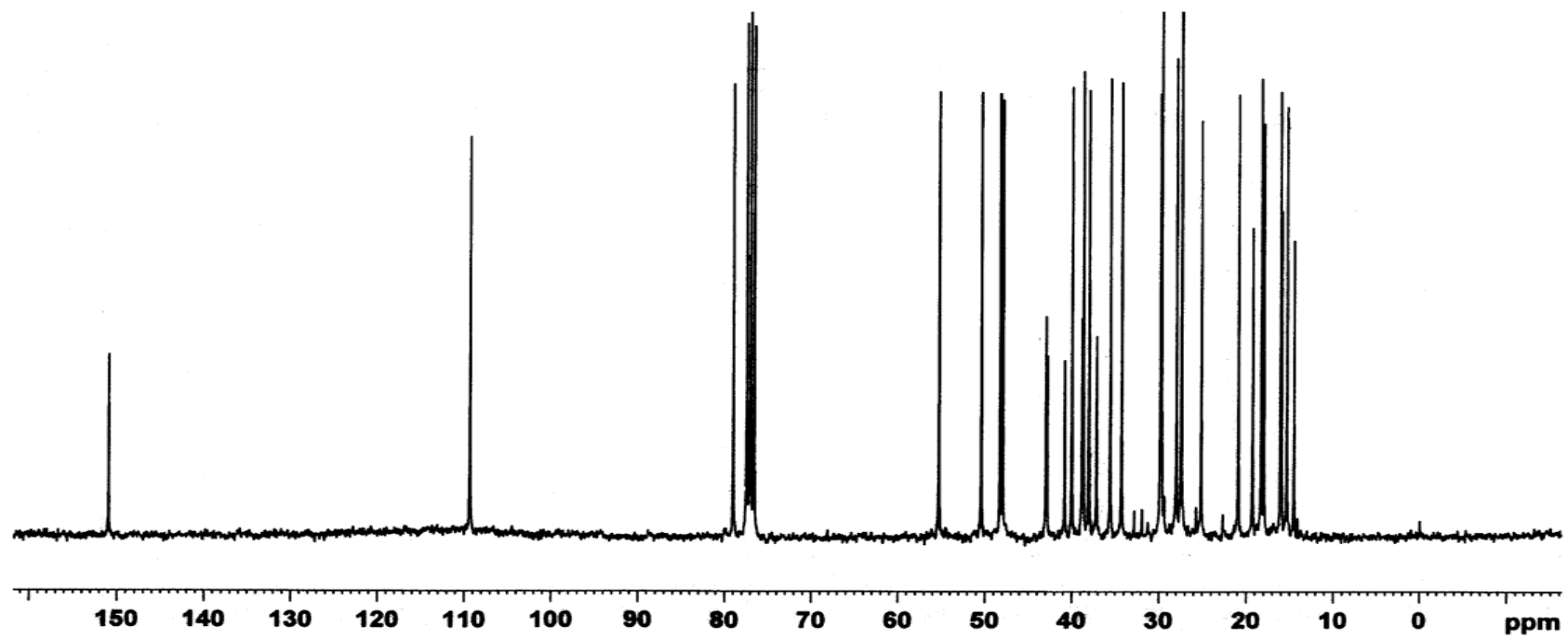
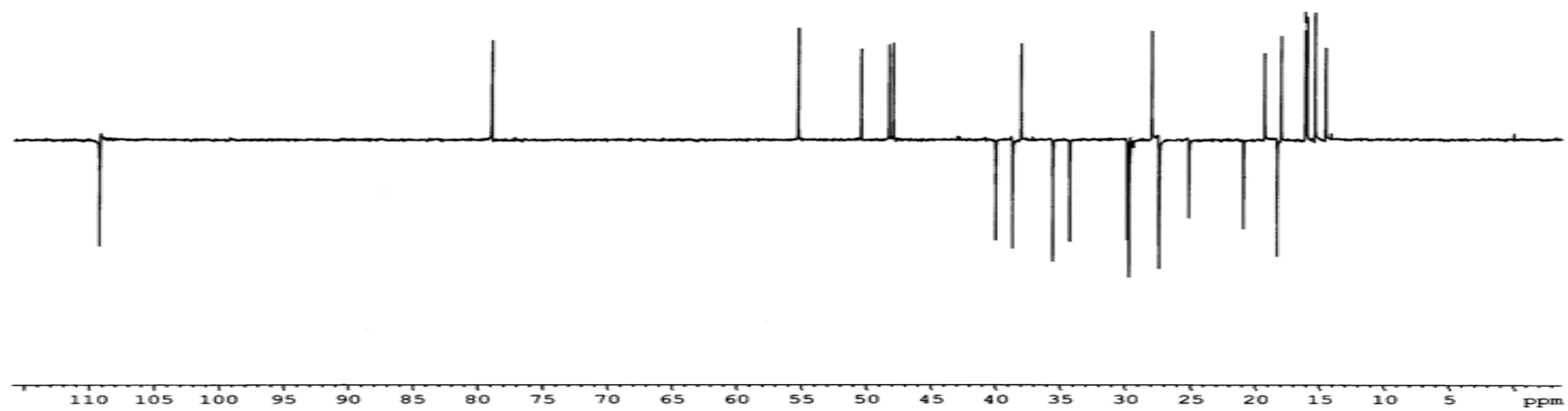
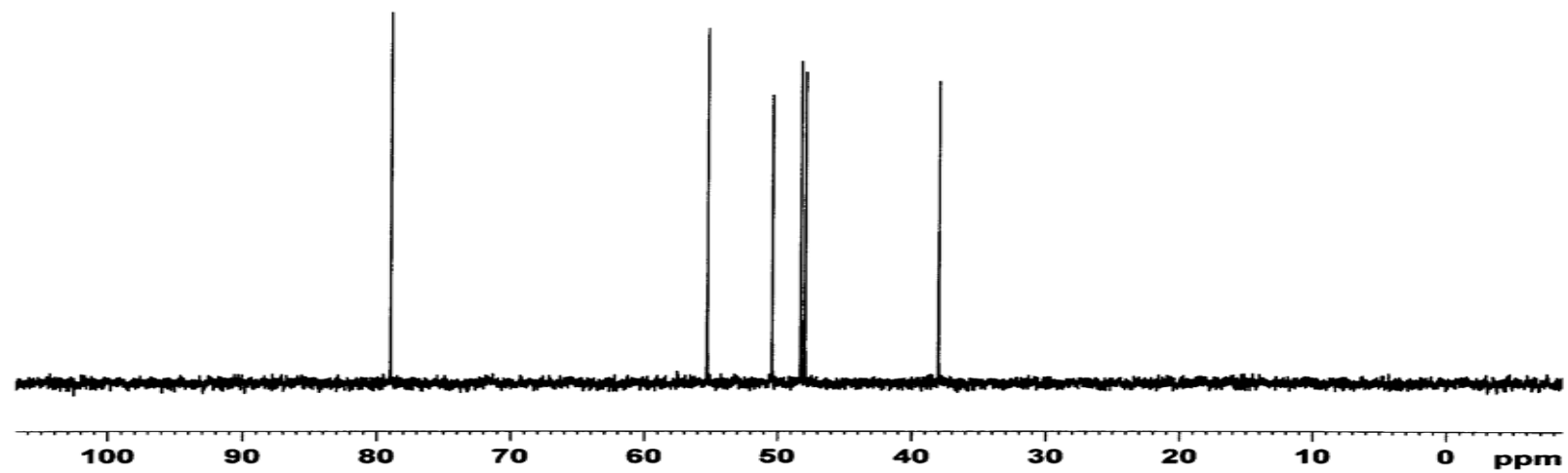


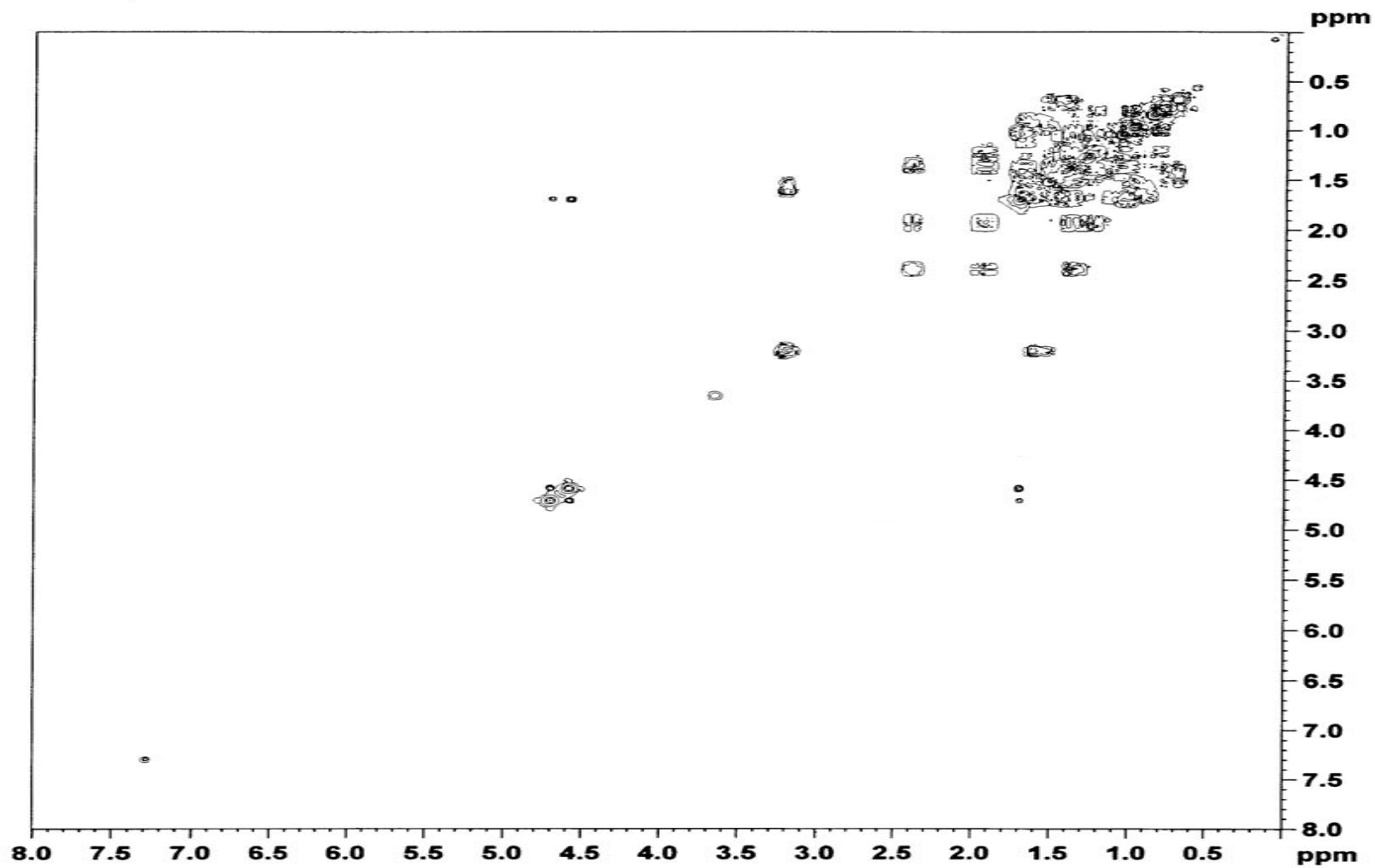
Figure 6  $^{13}\text{C}$  NMR (75 MHz) ( $\text{CDCl}_3$ ) spectrum of compound PTH1



**Figure 7** DEPT 135° (CDCl<sub>3</sub>) spectrum of compound **PTH1**



**Figure 8** DEPT 90° (CDCl<sub>3</sub>) spectrum of compound **PTH1**



**Figure 9** 2D COSY ( $\text{CDCl}_3$ ) spectrum of compound **PTH1**

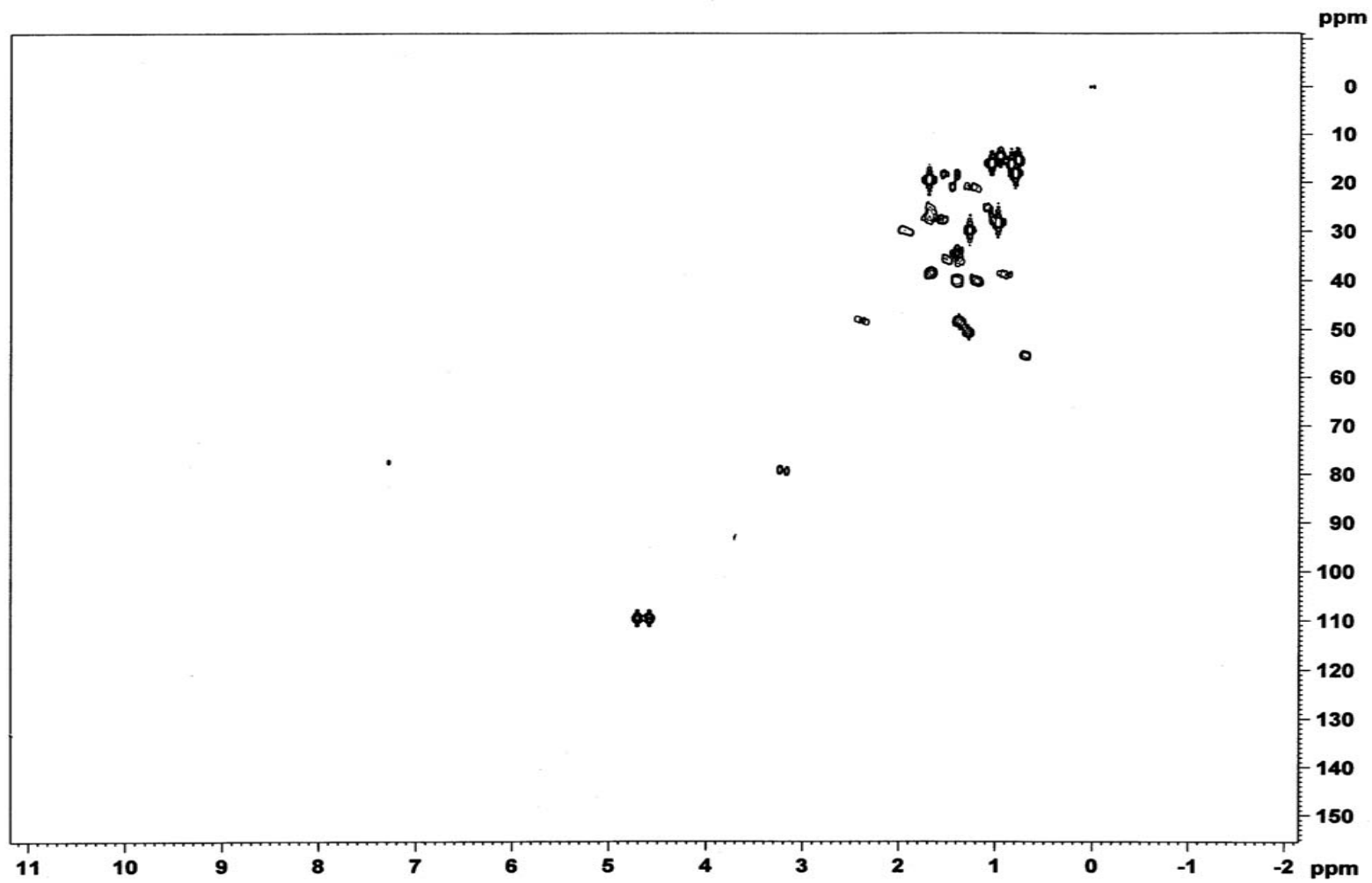


Figure 10 2D HMQC (CDCl<sub>3</sub>) spectrum of compound PTH1

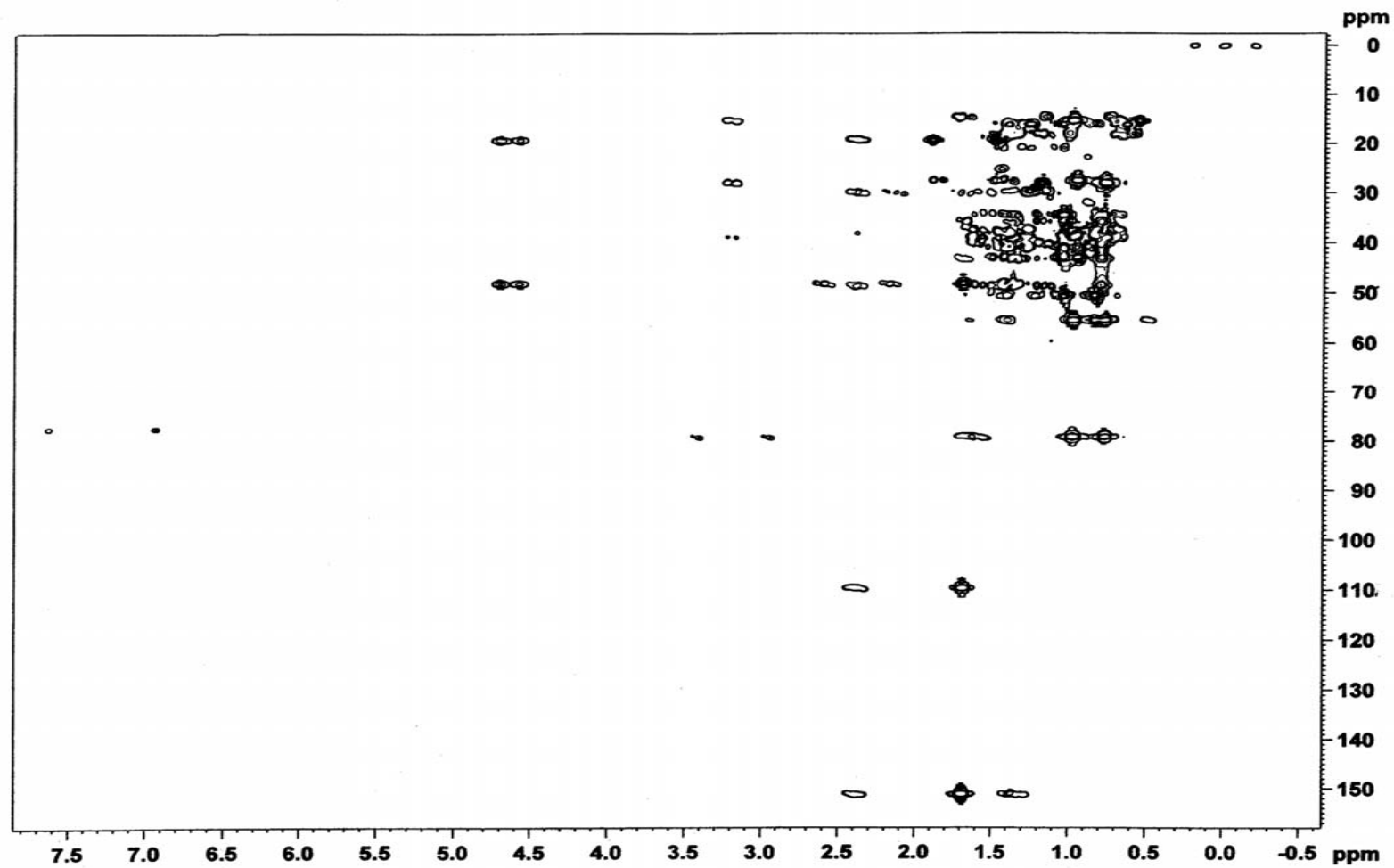


Figure 11 2D HMBC ( $\text{CDCl}_3$ ) spectrum of compound PTH1

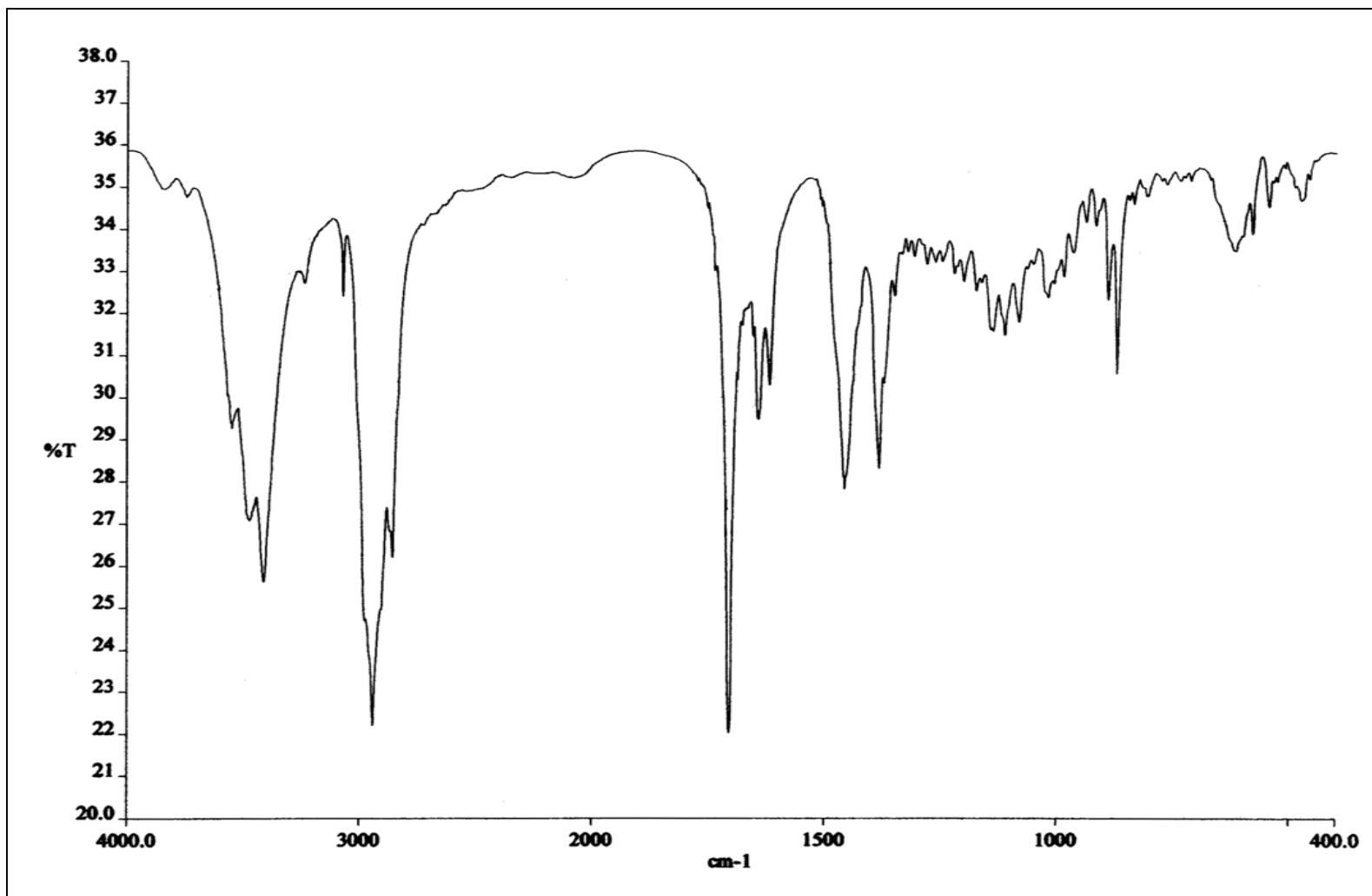


Figure 12 IR (KBr) spectrum of compound PTH2



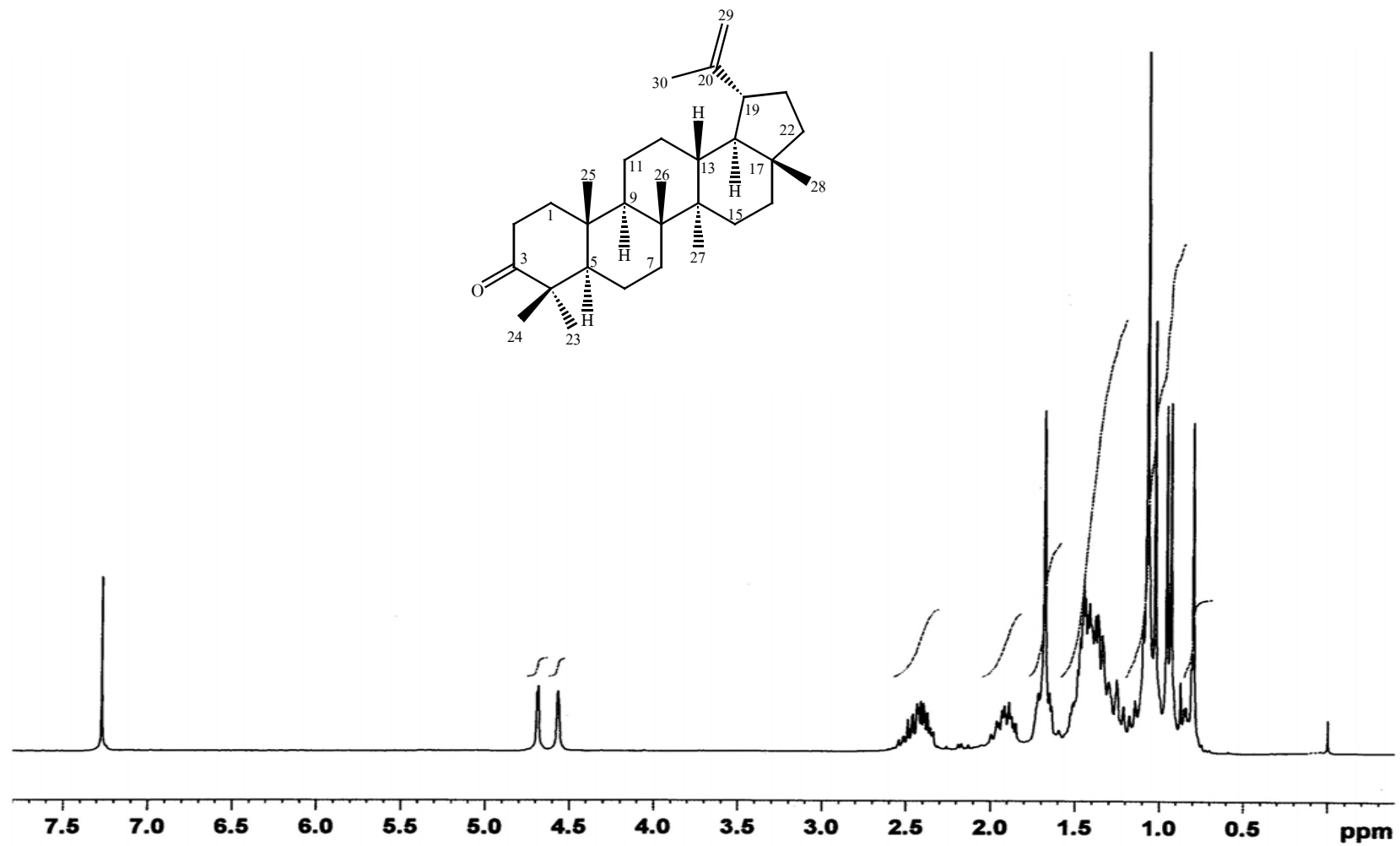


Figure 13  $^1\text{H}$  NMR (300 MHz) ( $\text{CDCl}_3$ ) spectrum of compound PTH2

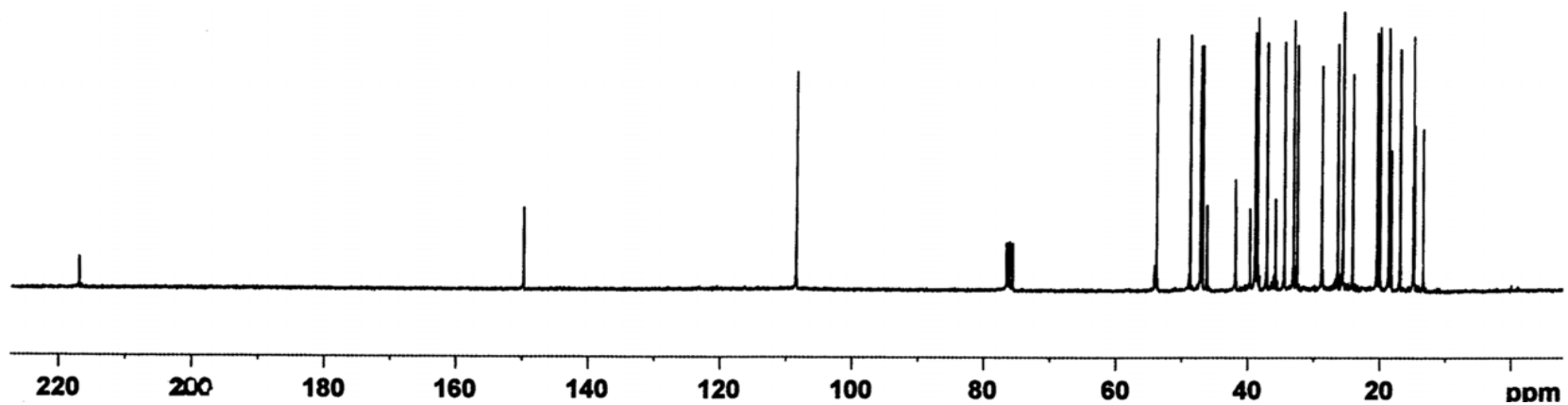
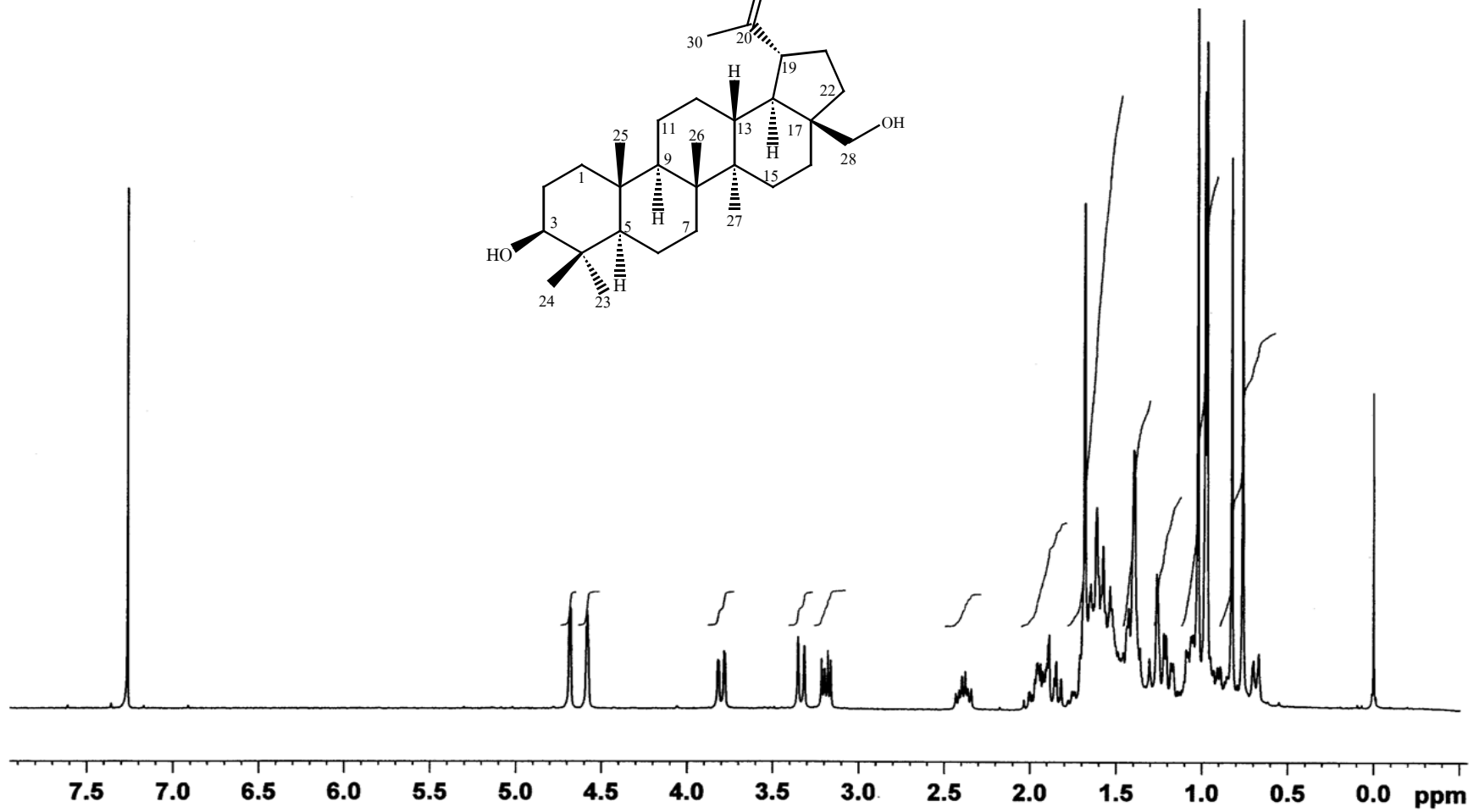
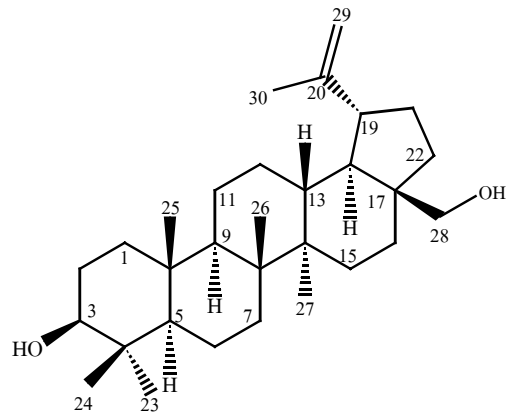
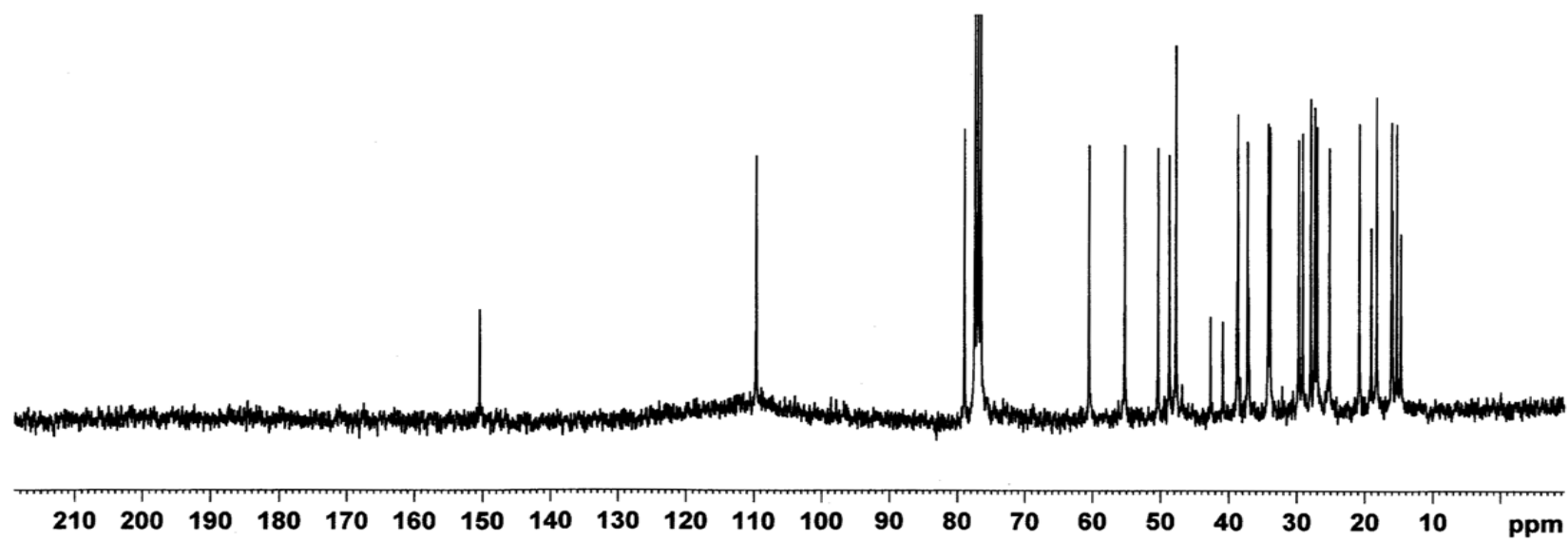


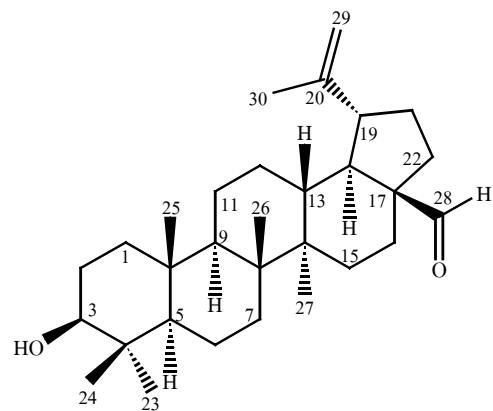
Figure 14  $^{13}\text{C}$  NMR (75 MHz) ( $\text{CDCl}_3$ ) spectrum of compound **PTH2**



**Figure 15**  $^1\text{H}$  NMR (300 MHz) ( $\text{CDCl}_3$ ) spectrum of compound **PTH3**



**Figure 16**  $^{13}\text{C}$  NMR (75 MHz) ( $\text{CDCl}_3$ ) spectrum of compound **PTH3**



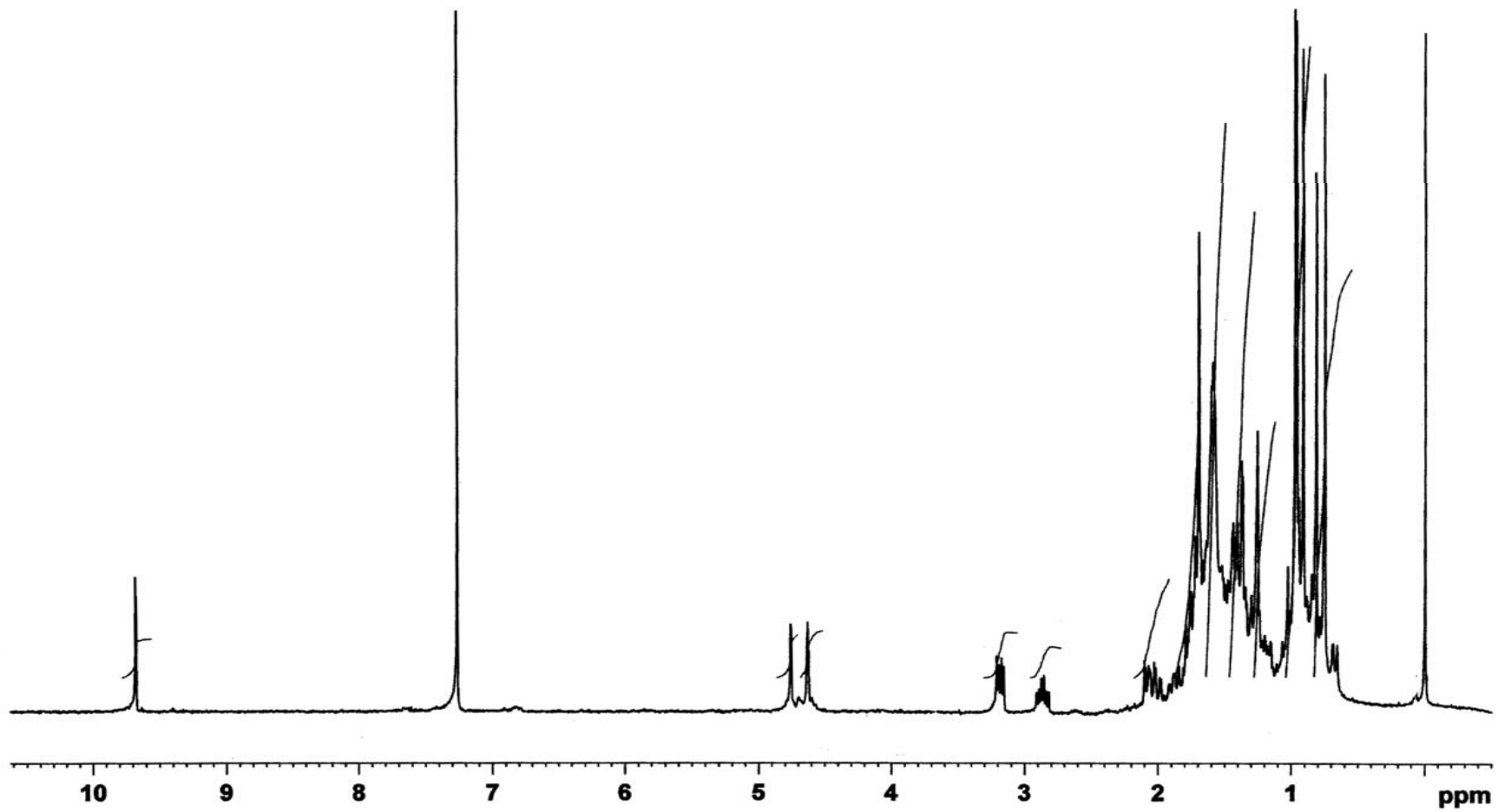


Figure 17  $^1\text{H}$  NMR (300 MHz) ( $\text{CDCl}_3$ ) spectrum of compound PTH4

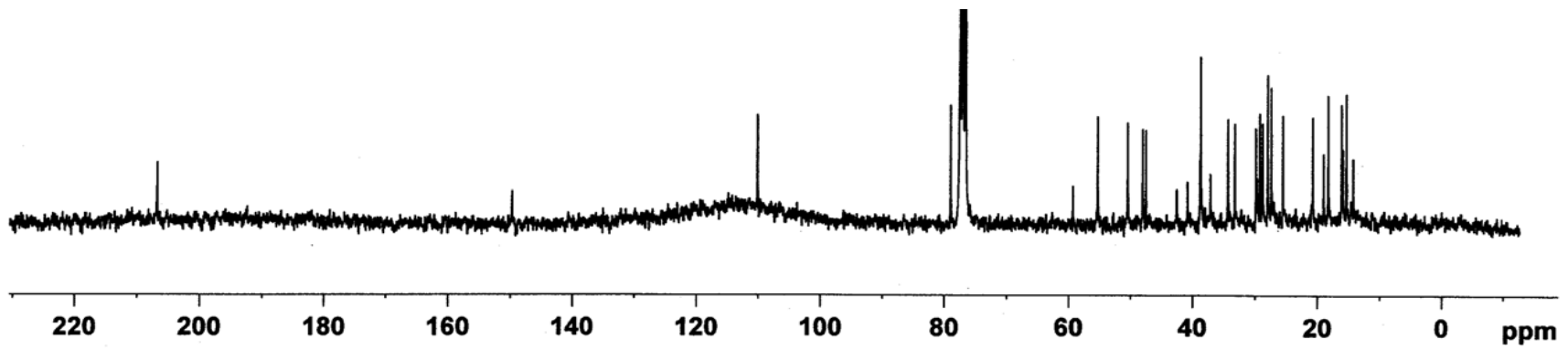


Figure 18  $^{13}\text{C}$  NMR (75 MHz) ( $\text{CDCl}_3$ ) spectrum of compound PTH4

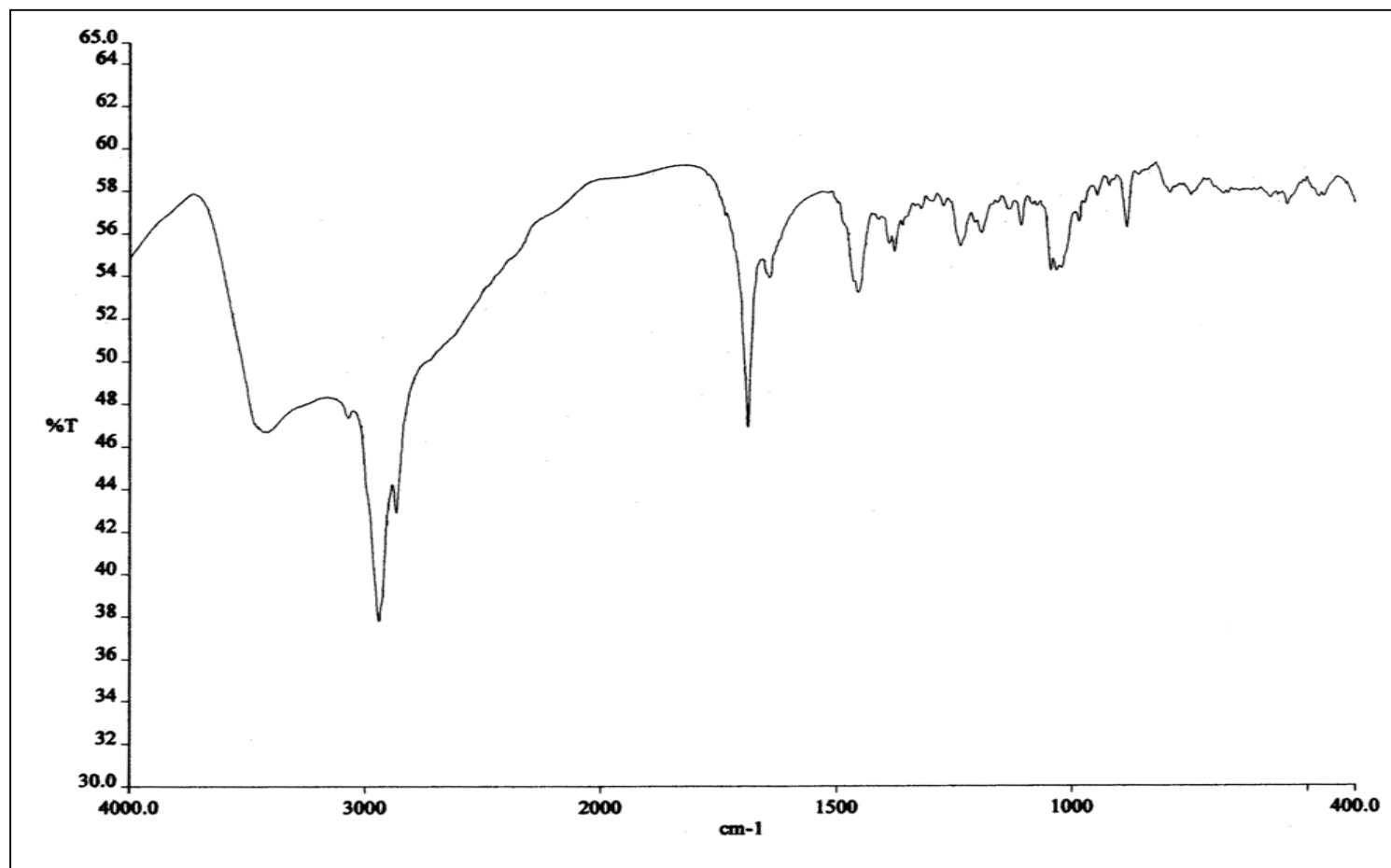
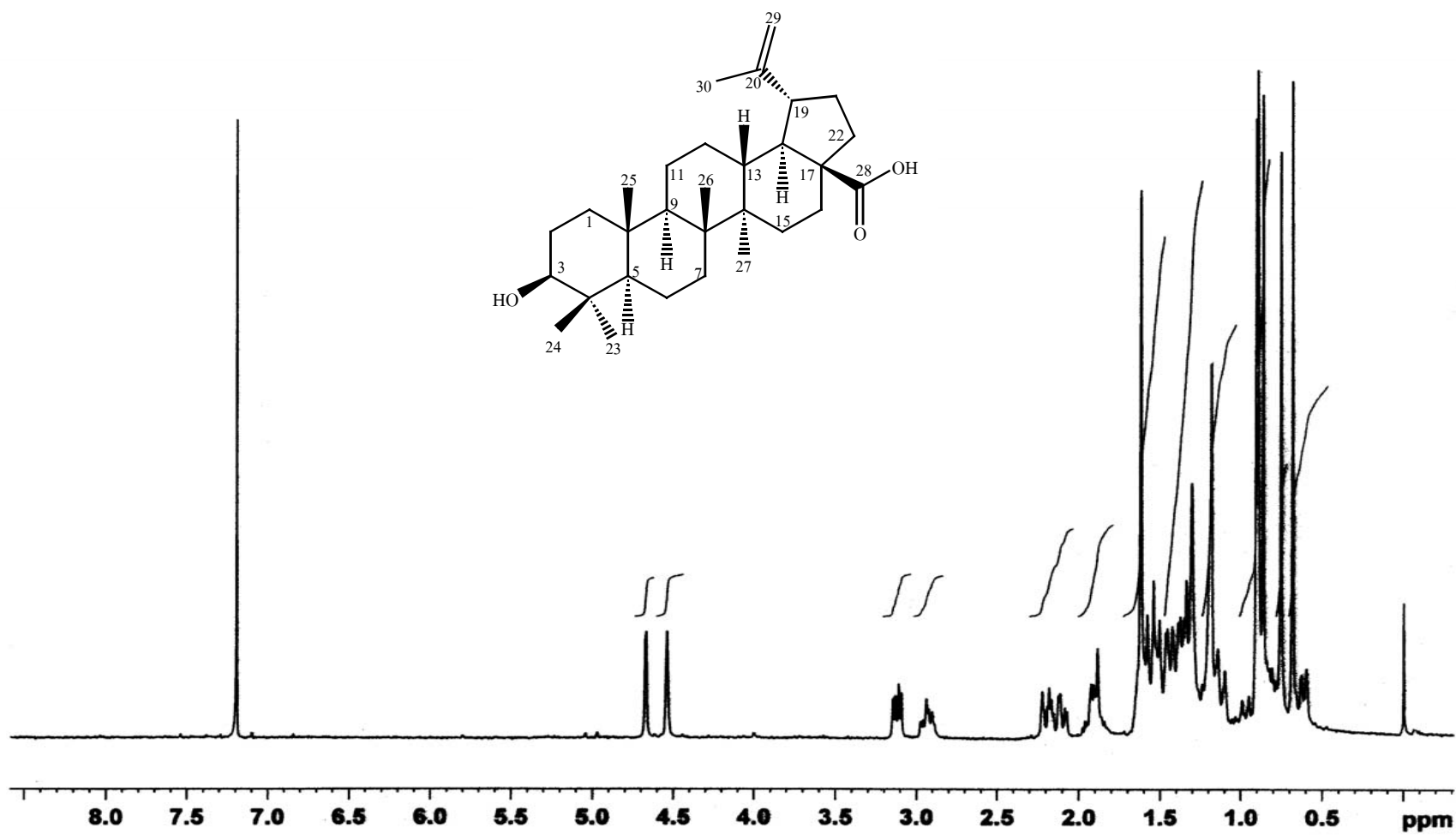
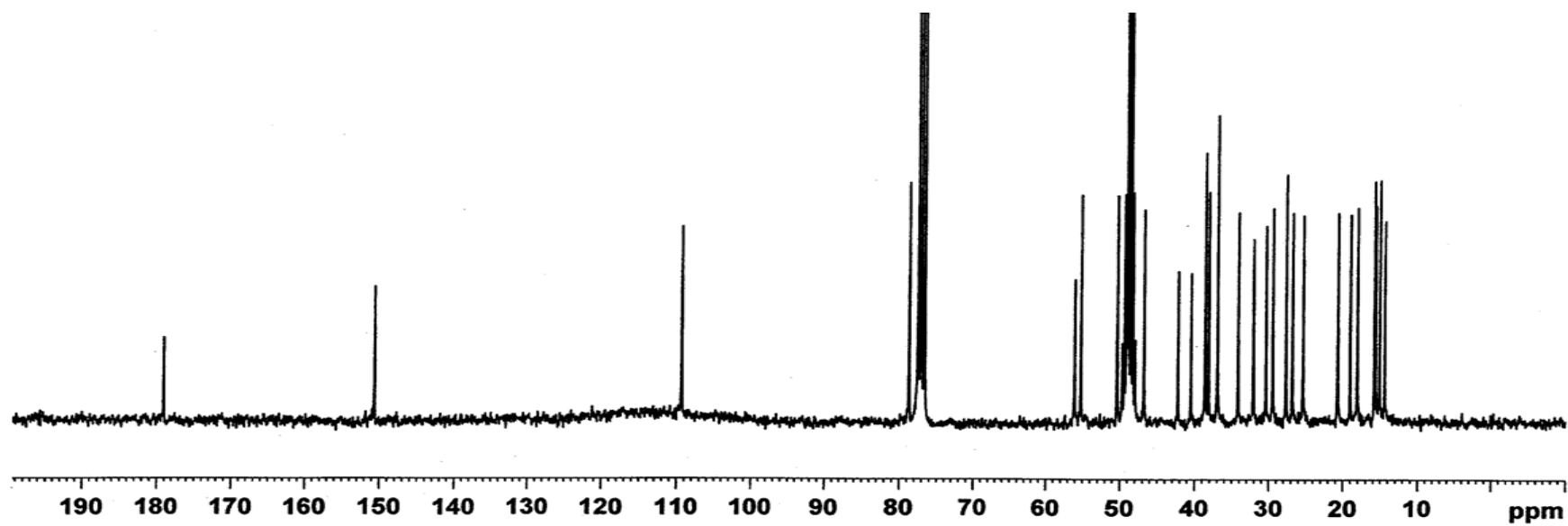




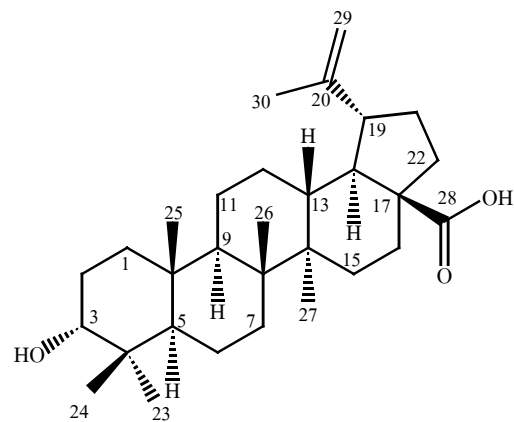
Figure 19 IR (KBr) spectrum of compound PTH5

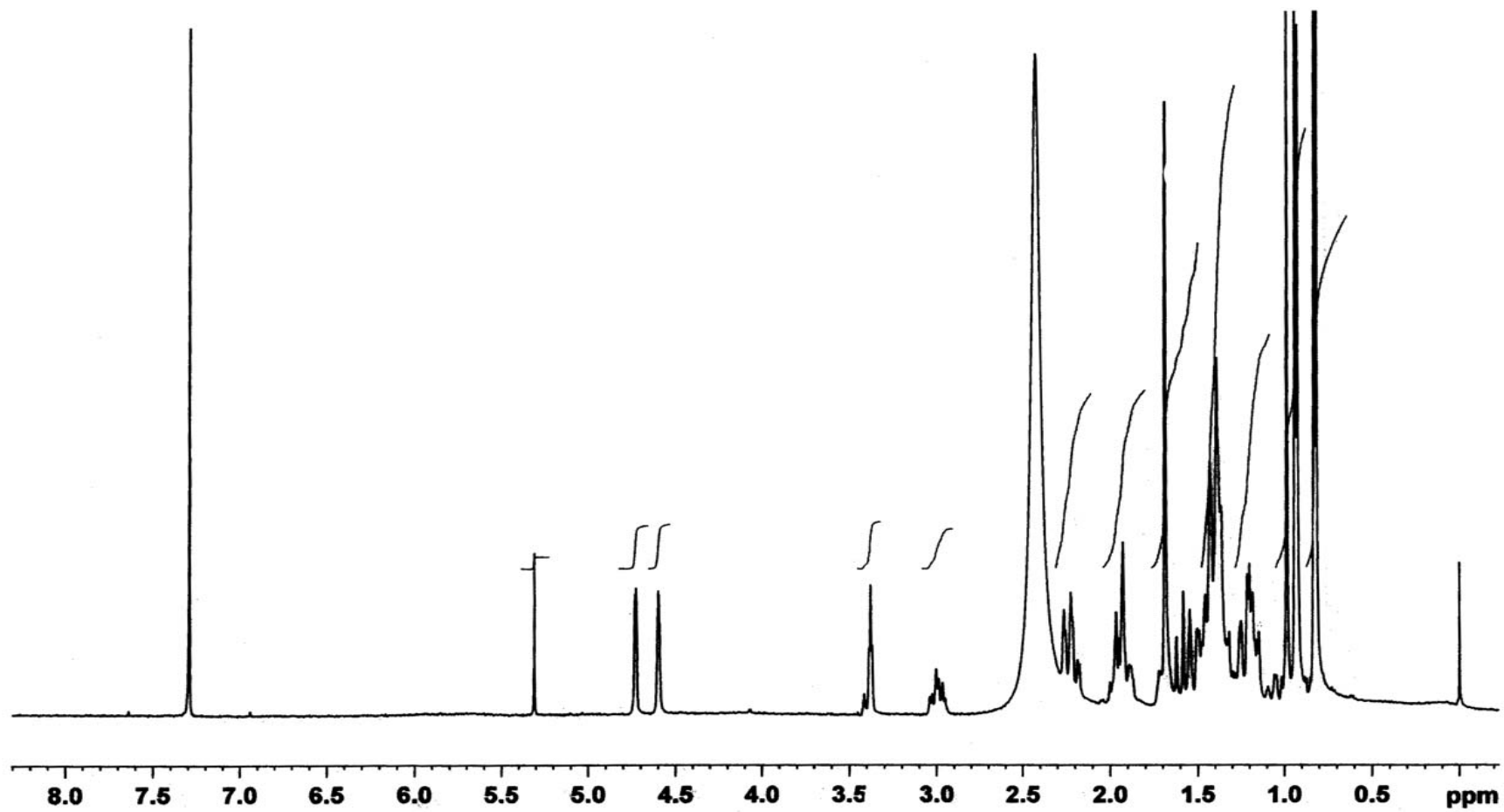


**Figure 20**  $^1\text{H}$  NMR (300 MHz) ( $\text{CDCl}_3$ ) spectrum of compound **PTH5**



**Figure 21**  $^{13}\text{C}$  NMR (75 MHz) ( $\text{CDCl}_3$ ) spectrum of compound **PTH5**





**Figure 22**  $^1\text{H}$  NMR (300 MHz) ( $\text{CDCl}_3 + \text{CD}_3\text{OD}$ ) spectrum of compound **PTH6**

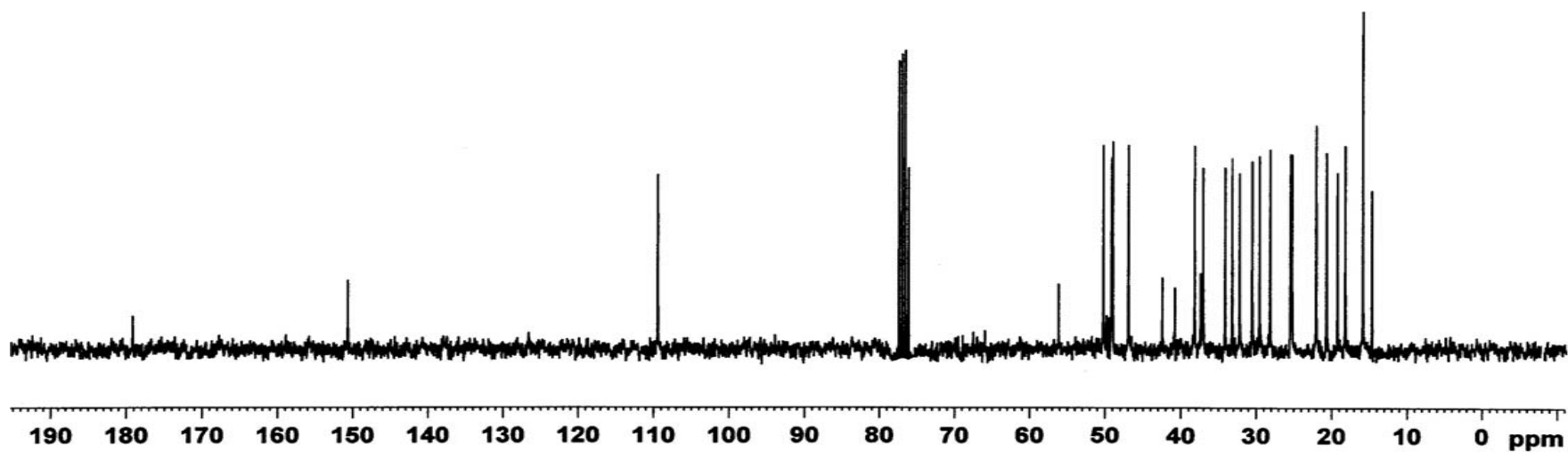
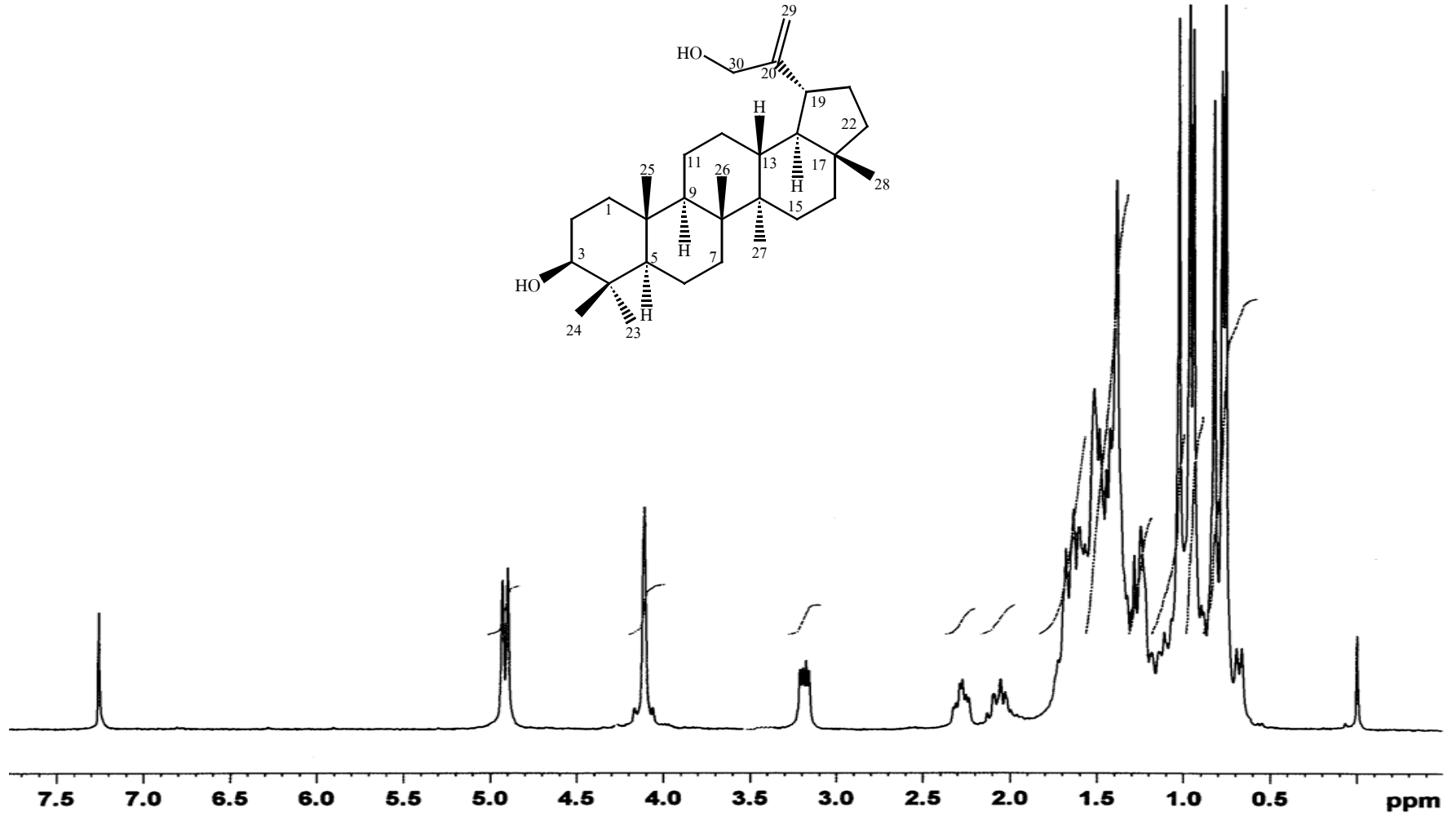
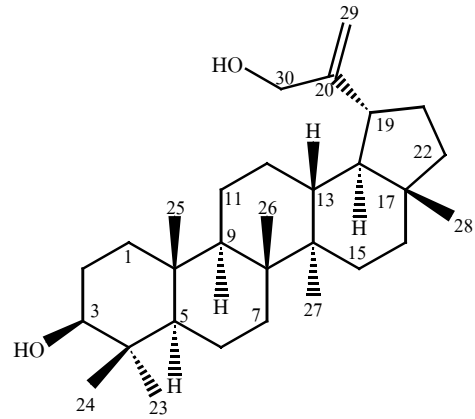
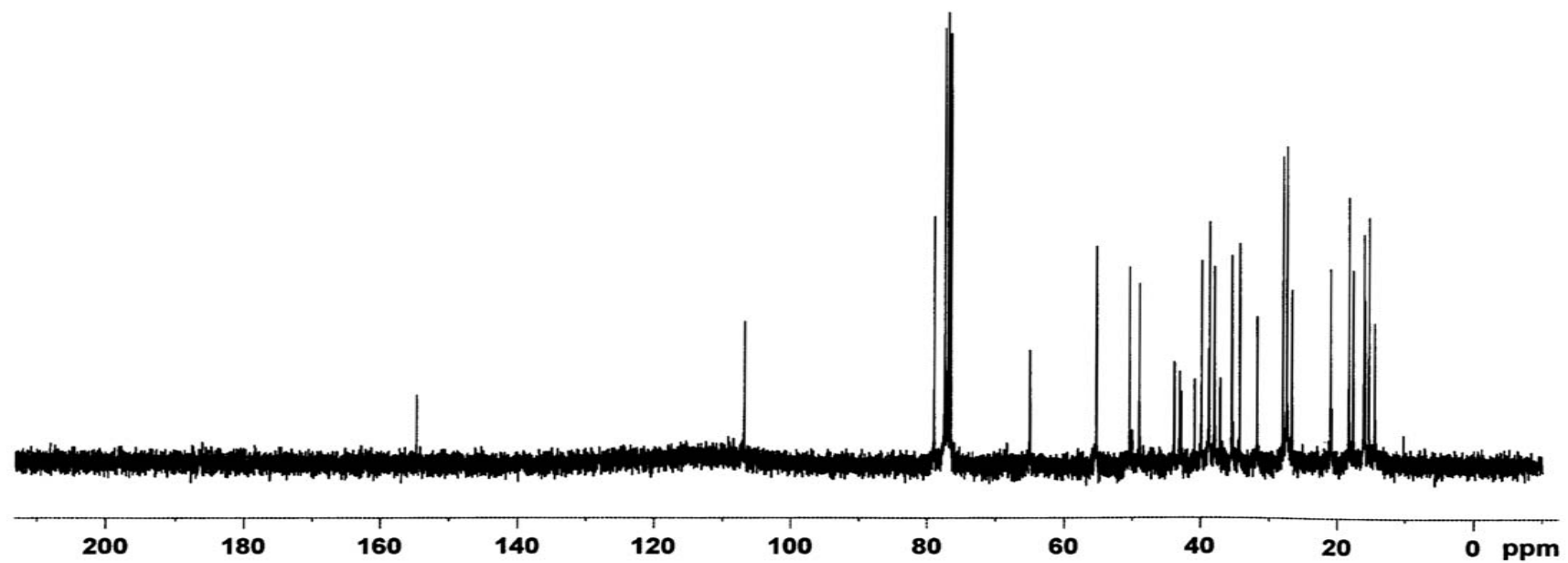


Figure 23  $^{13}\text{C}$  NMR (75 MHz) ( $\text{CDCl}_3 + \text{CD}_3\text{OD}$ ) spectrum of compound PTH6

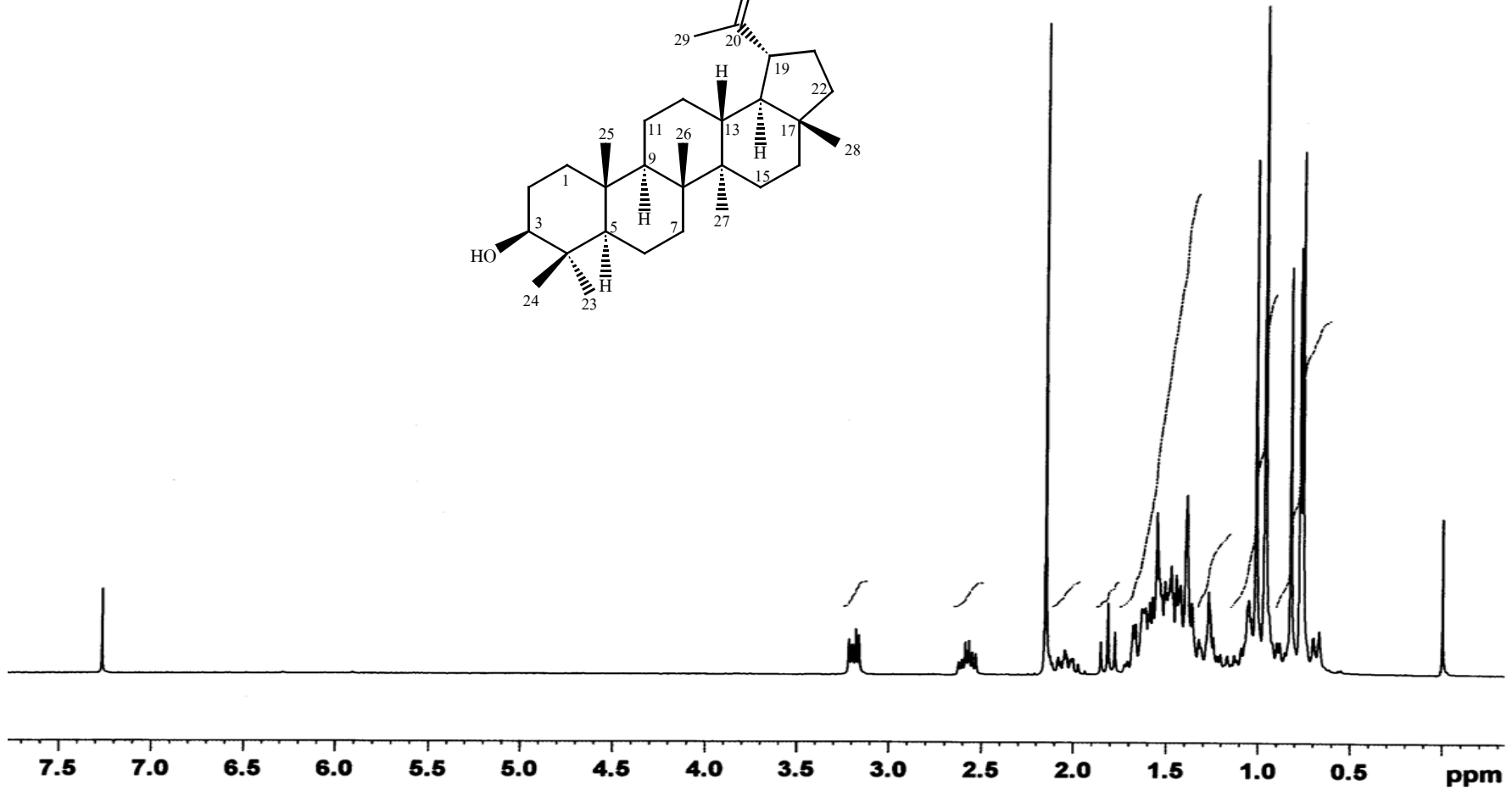
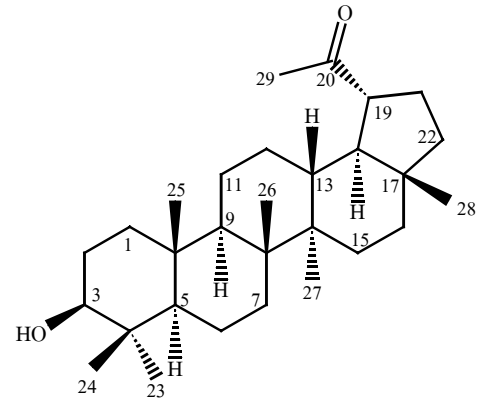


**Figure 24**  $^1\text{H}$  NMR (300 MHz) ( $\text{CDCl}_3$ ) spectrum of compound **PTH7**

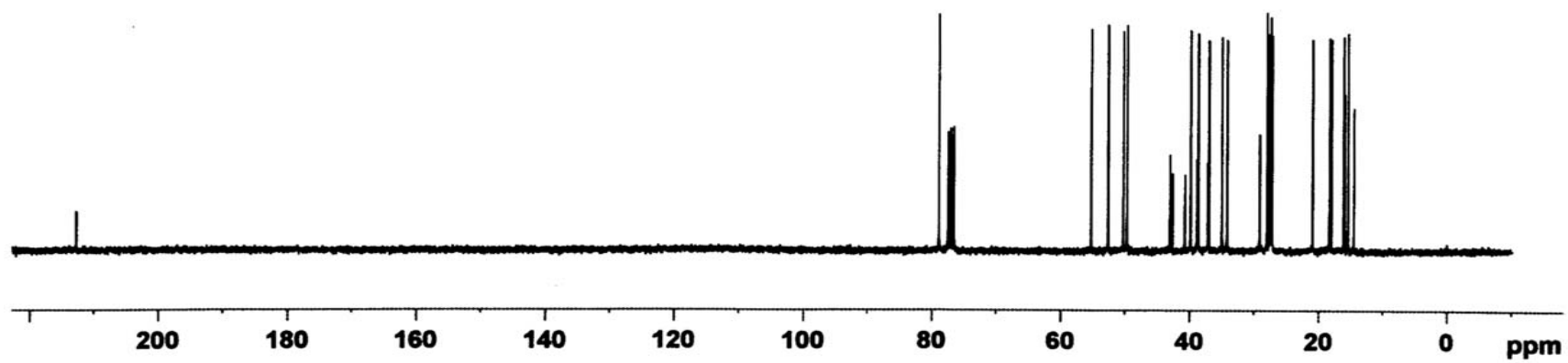


**Figure 25**  $^{13}\text{C}$  NMR (75 MHz) ( $\text{CDCl}_3$ ) spectrum of compound **PTH7**

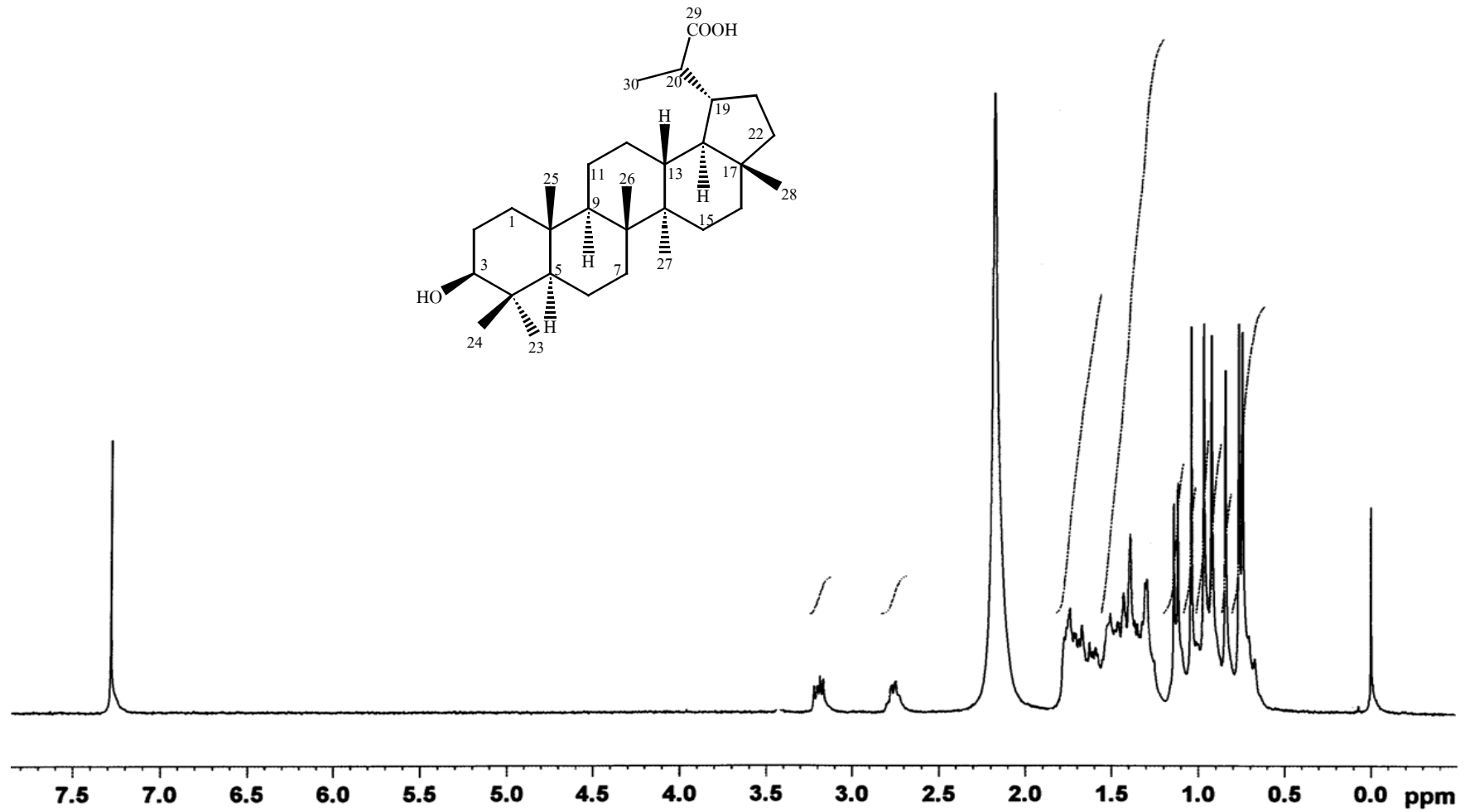




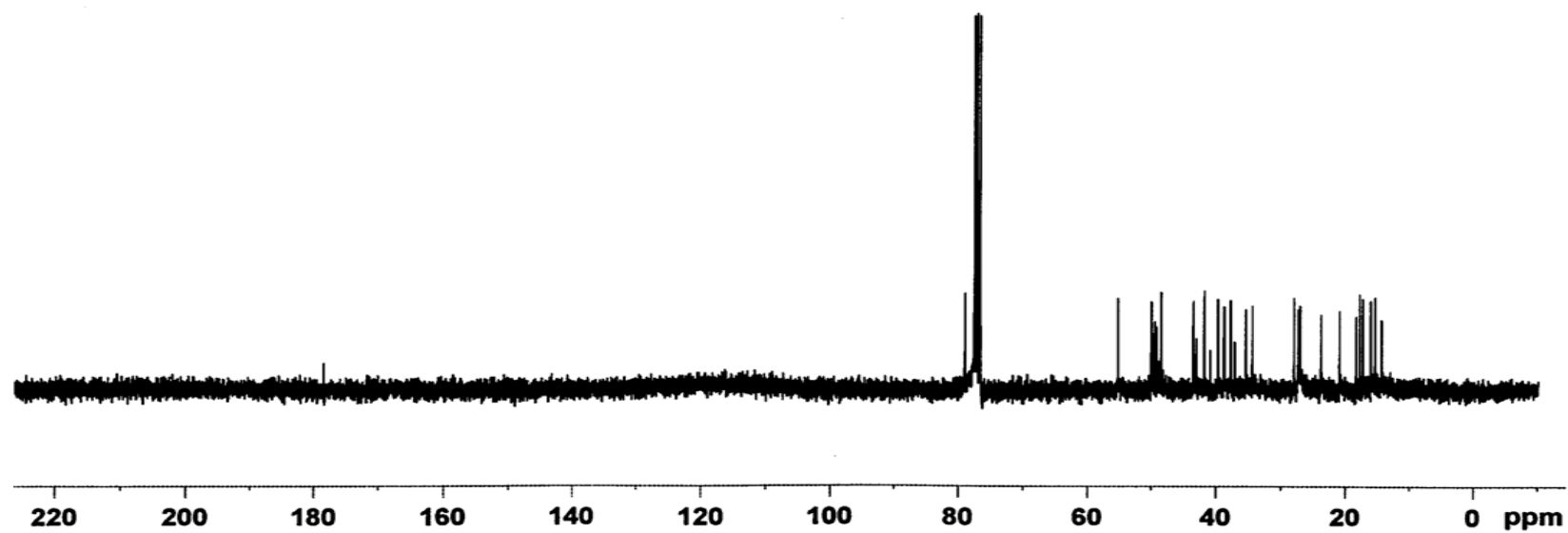
**Figure 26**  $^1\text{H}$  NMR (300 MHz) ( $\text{CDCl}_3$ ) spectrum of compound **PTH8**



**Figure 27**  $^{13}\text{C}$  NMR (75 MHz) ( $\text{CDCl}_3$ ) spectrum of compound **PTH8**



**Figure 28**  $^1\text{H}$  NMR (300 MHz) ( $\text{CDCl}_3+\text{CD}_3\text{OD}$ ) spectrum of compound **PTH9**



**Figure 29**  $^{13}\text{C}$  NMR (75 MHz) ( $\text{CDCl}_3 + \text{CD}_3\text{OD}$ ) spectrum of compound **PTH9**

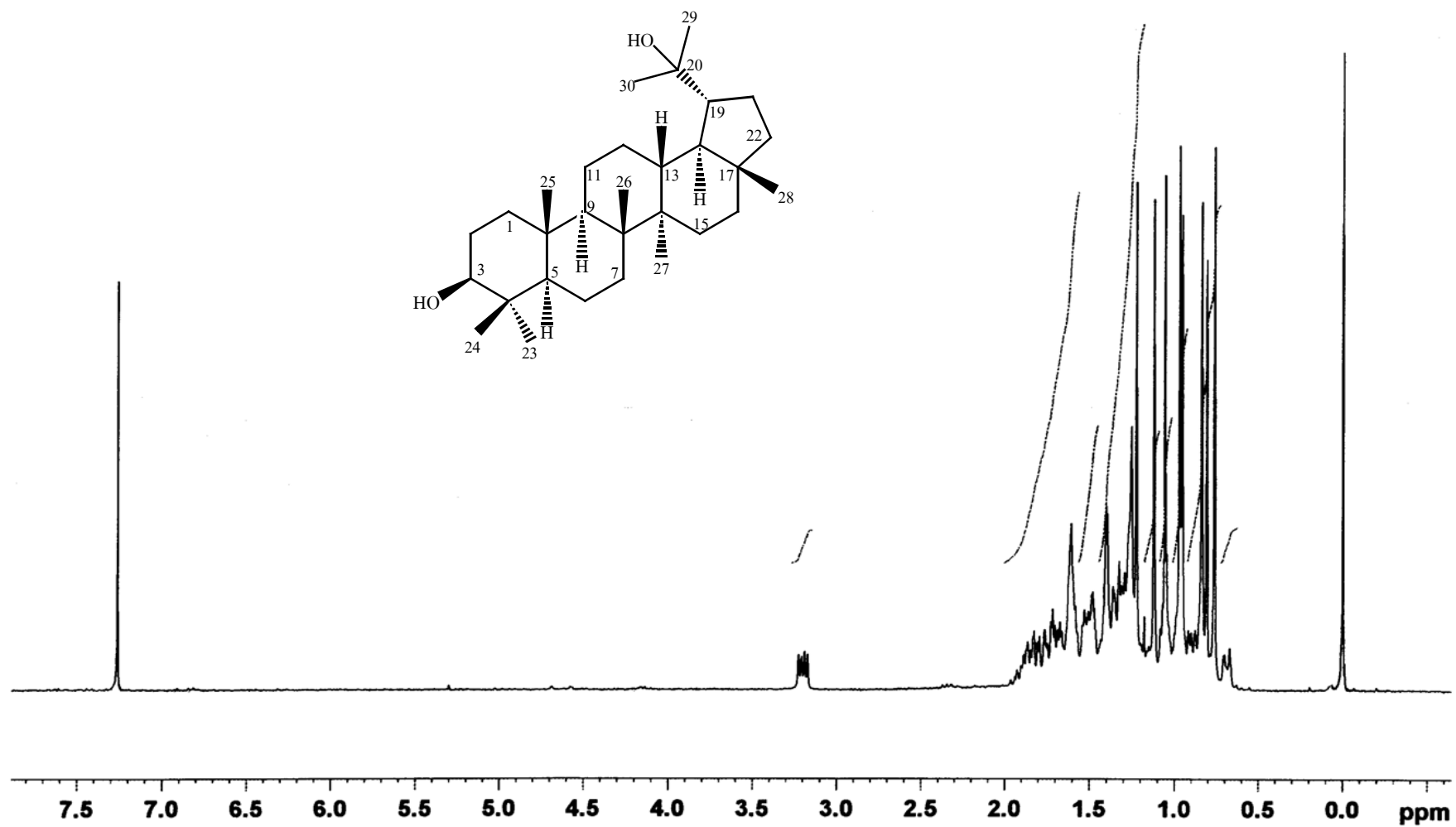
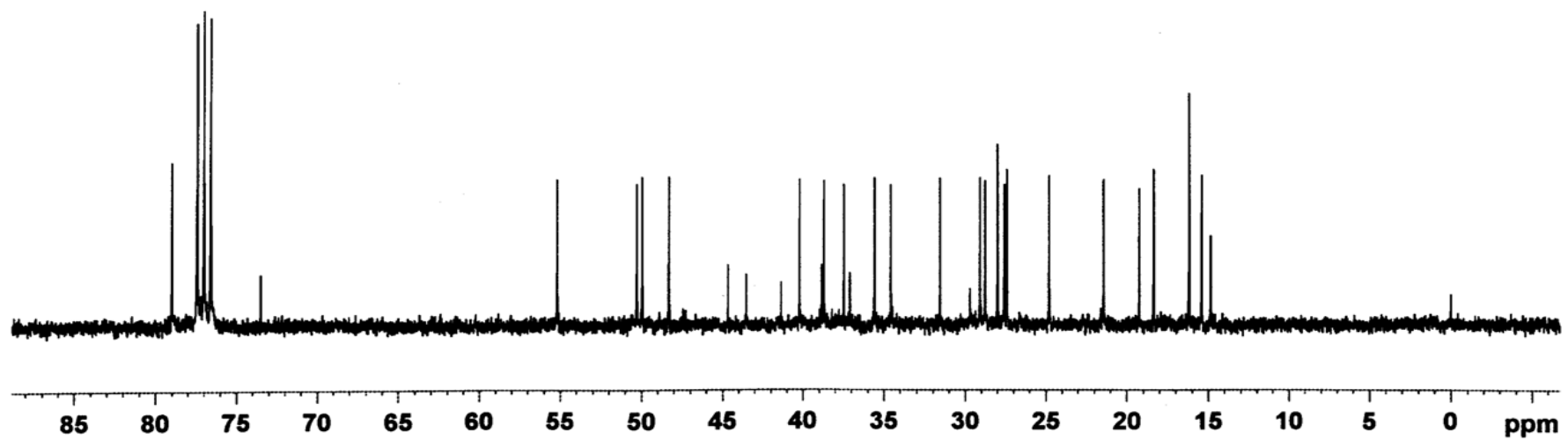
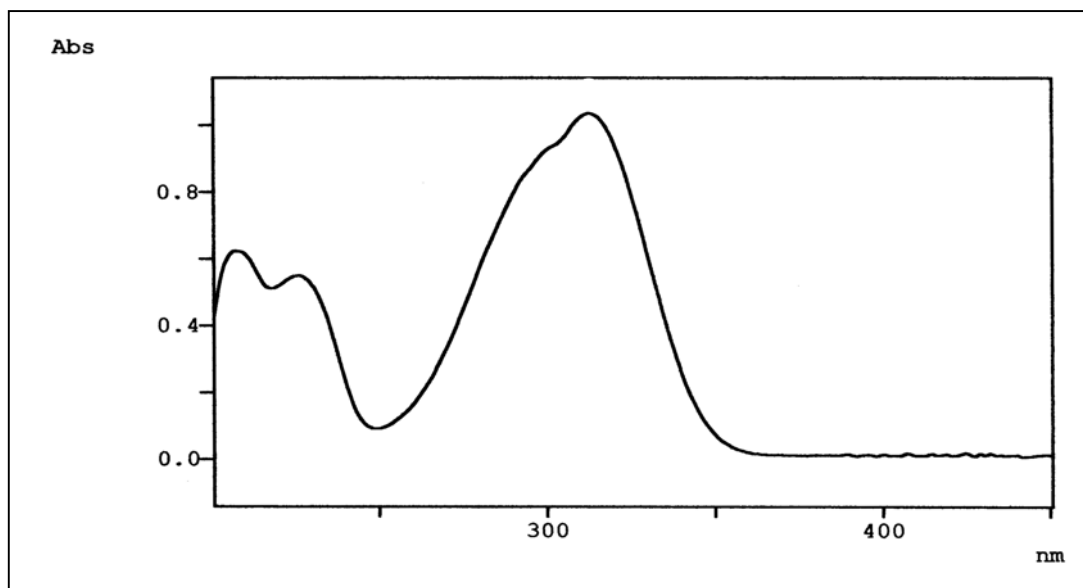


Figure 30  $^1\text{H}$  NMR (300 MHz) ( $\text{CDCl}_3$ ) spectrum of compound PTH10

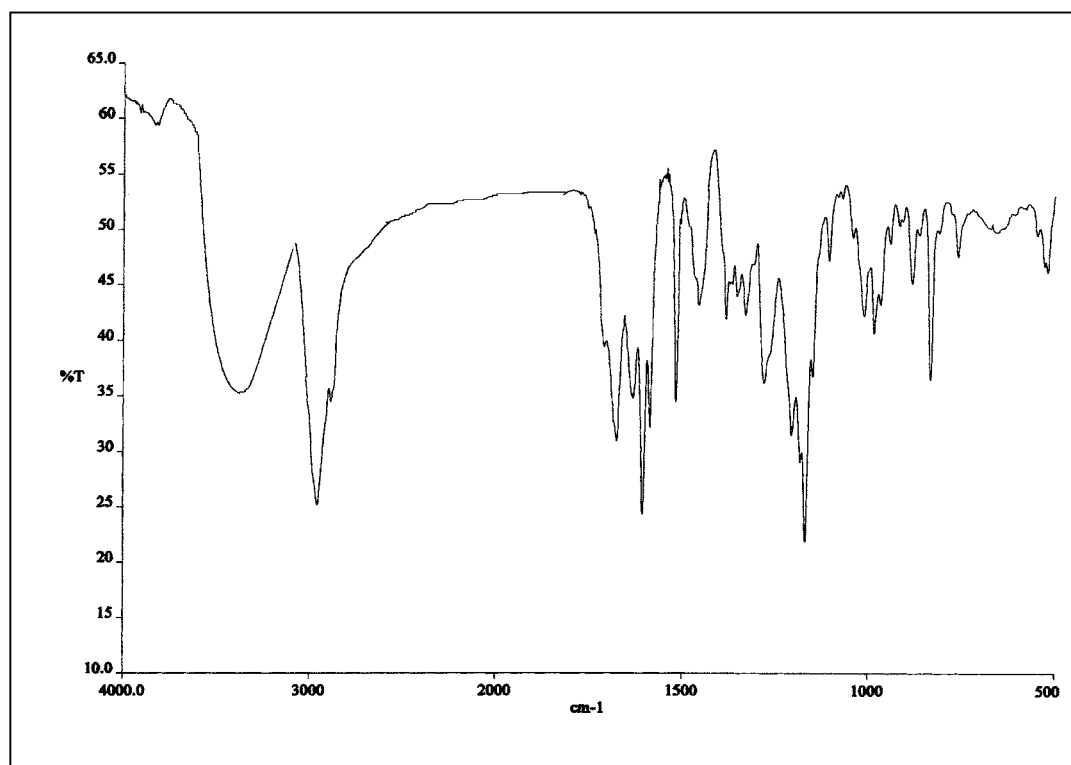


**Figure 31**  $^{13}\text{C}$  NMR (75 MHz) ( $\text{CDCl}_3$ ) spectrum of compound **PTH10**

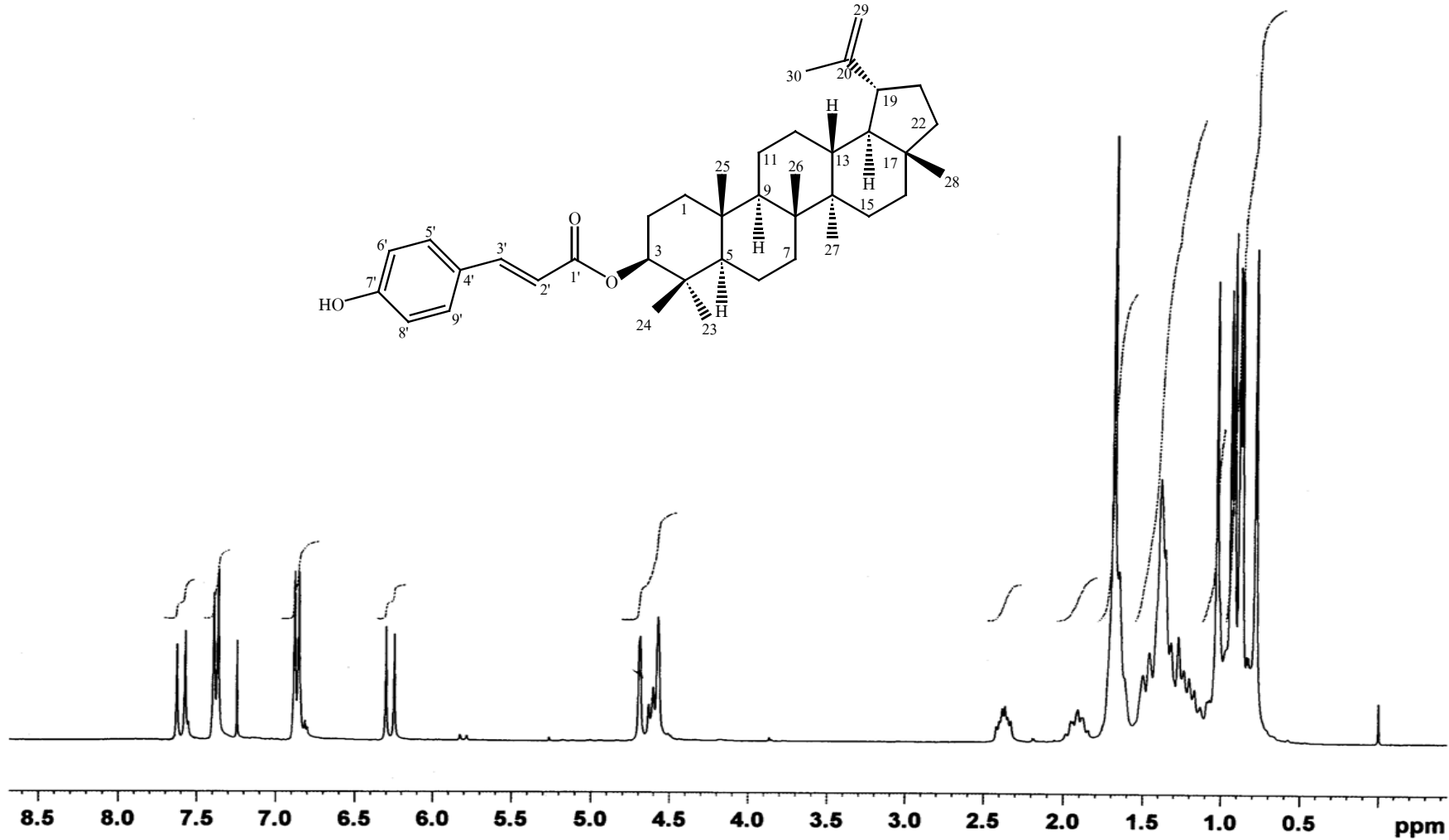
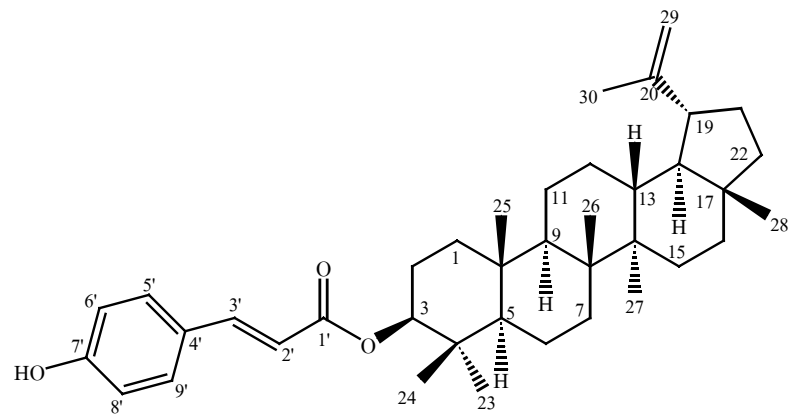




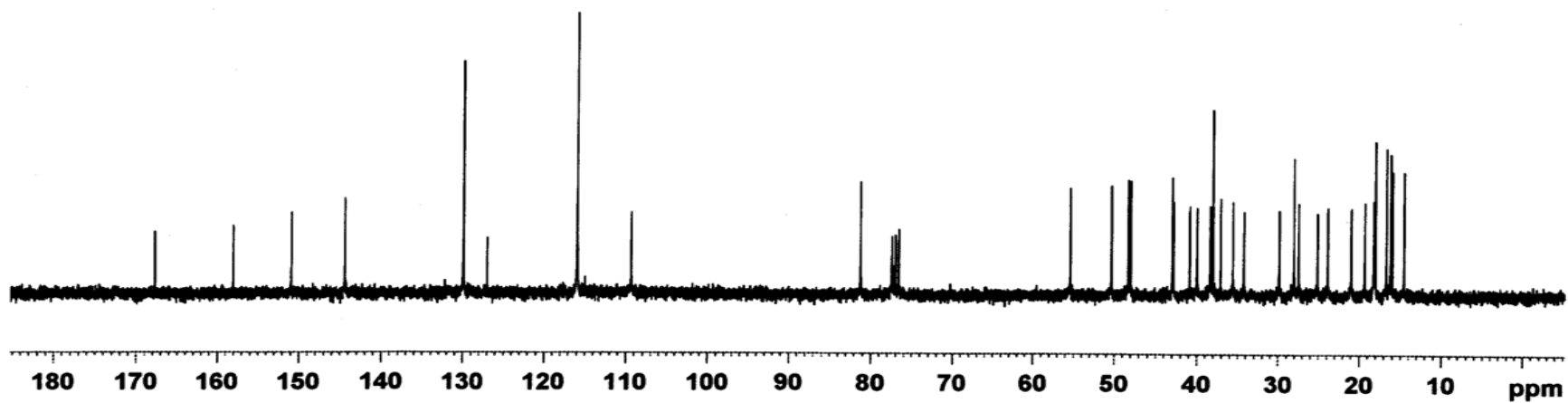
**Figure 32** UV (MeOH) spectrum of compound **PTH11**



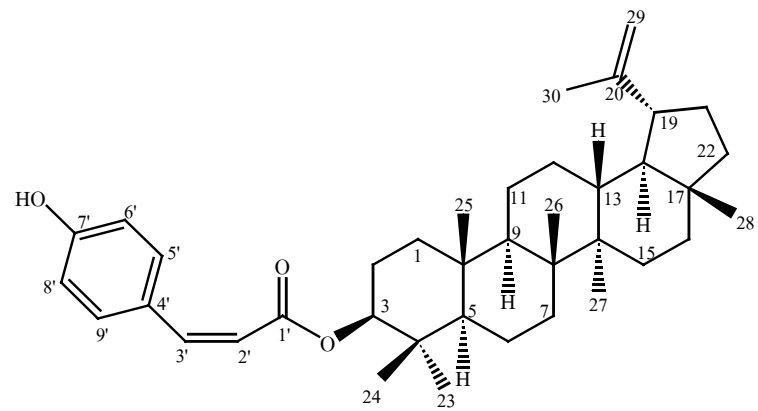
**Figure 33** IR (KBr) spectrum of compound **PTH11**



**Figure 34**  $^1\text{H}$  NMR (300 MHz) ( $\text{CDCl}_3$ ) spectrum of compound **PTH11**



**Figure 35**  $^{13}\text{C}$  NMR (75 MHz) ( $\text{CDCl}_3$ ) spectrum of compound **PTH11**



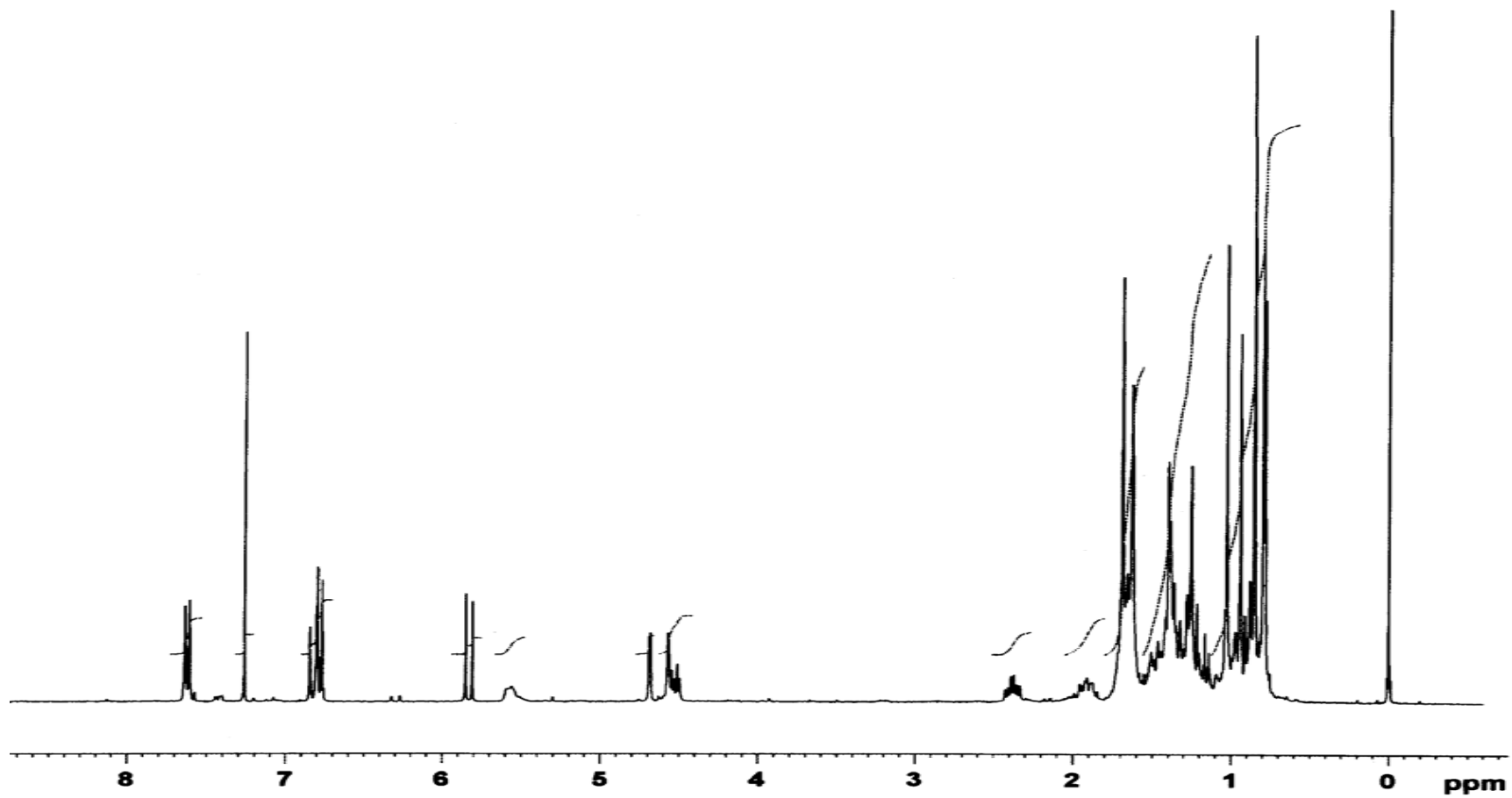


Figure 36  $^1\text{H}$  NMR (300 MHz) ( $\text{CDCl}_3$ ) spectrum of compound PTH12

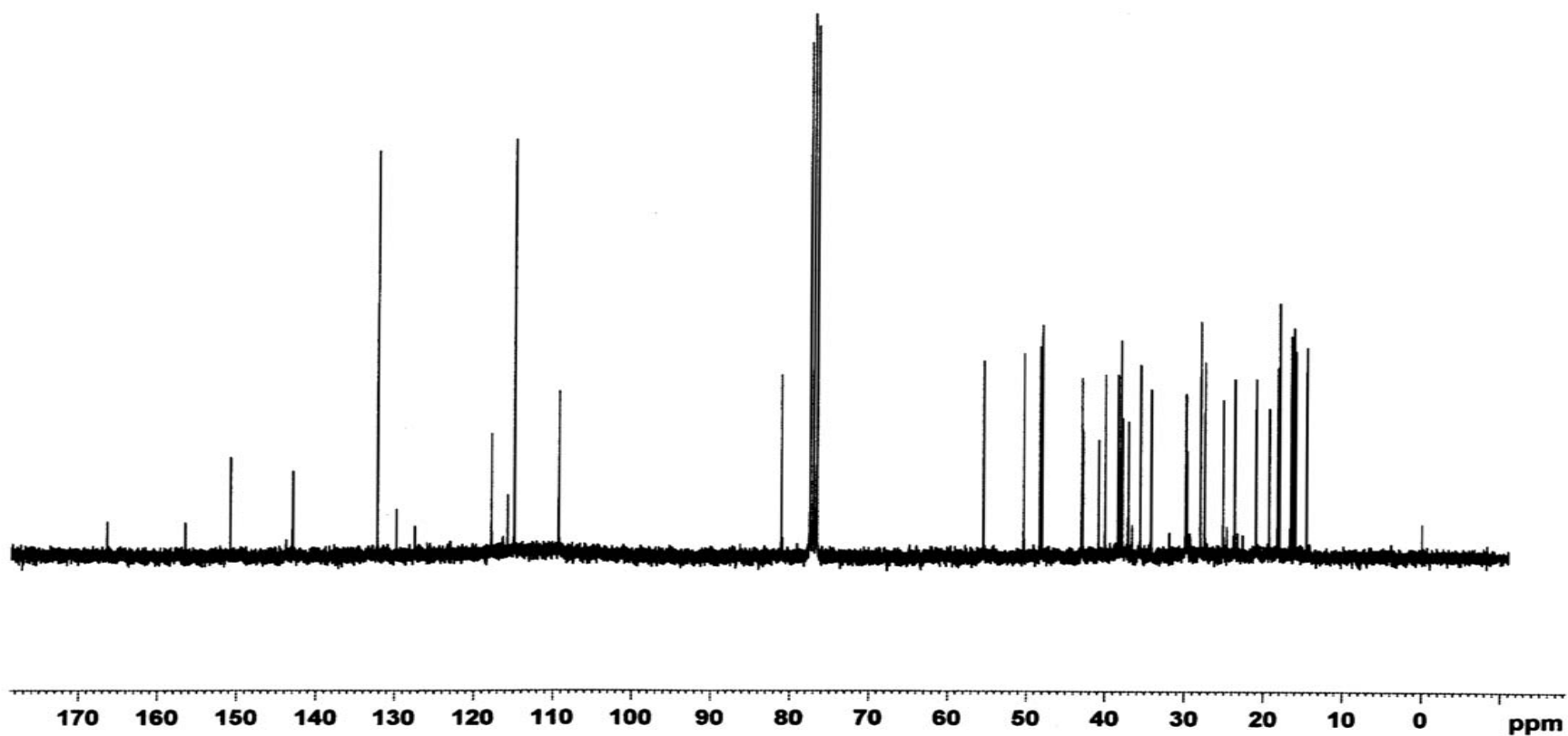
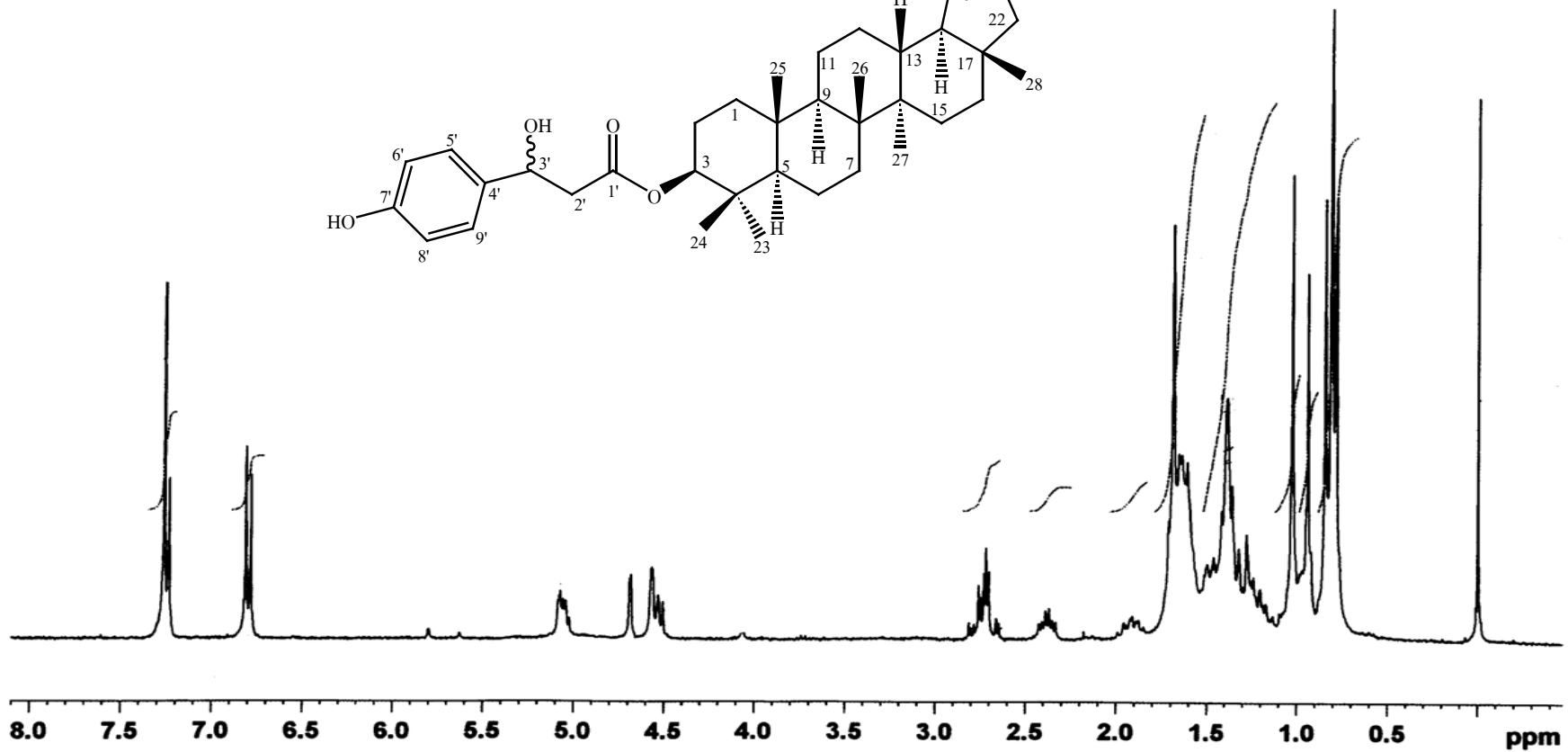
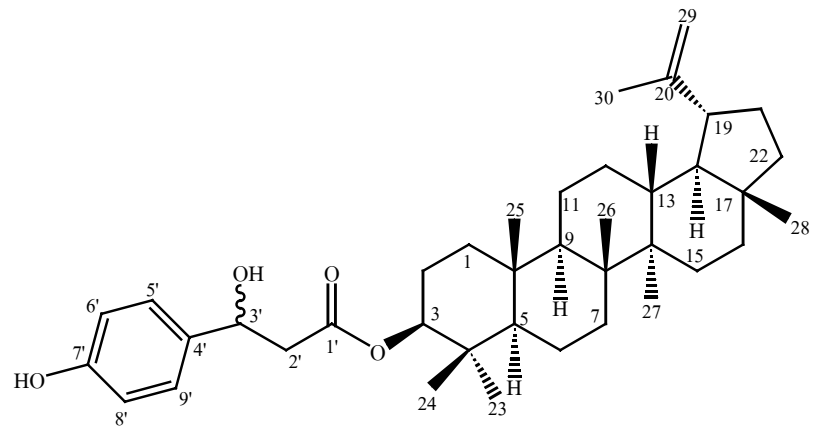


Figure 37  $^{13}\text{C}$  NMR (75 MHz) ( $\text{CDCl}_3$ ) spectrum of compound PTH12





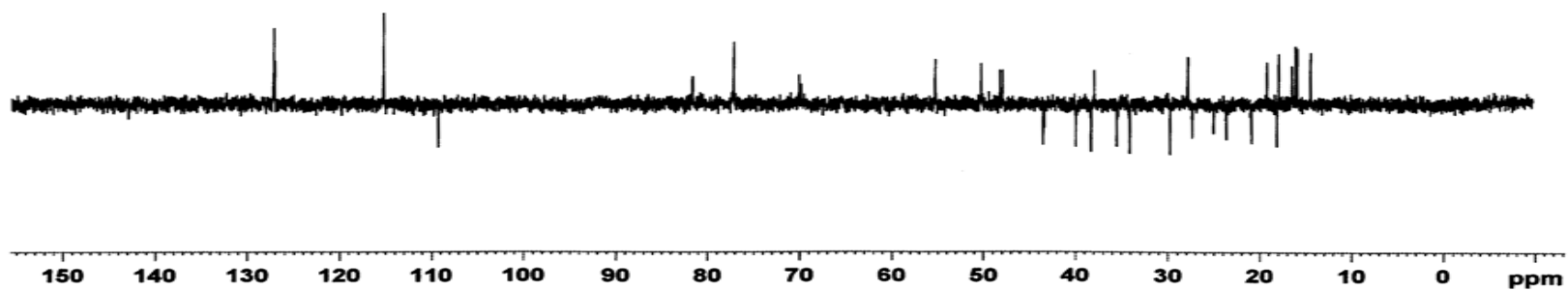


Figure 39 DEPT 135° (CDCl<sub>3</sub>) spectrum of compound PTH13

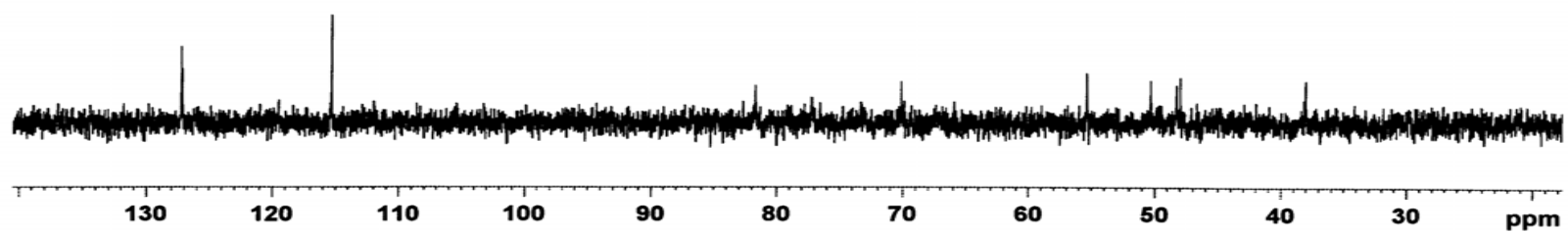


Figure 40 DEPT 90° (CDCl<sub>3</sub>) spectrum of compound PTH13

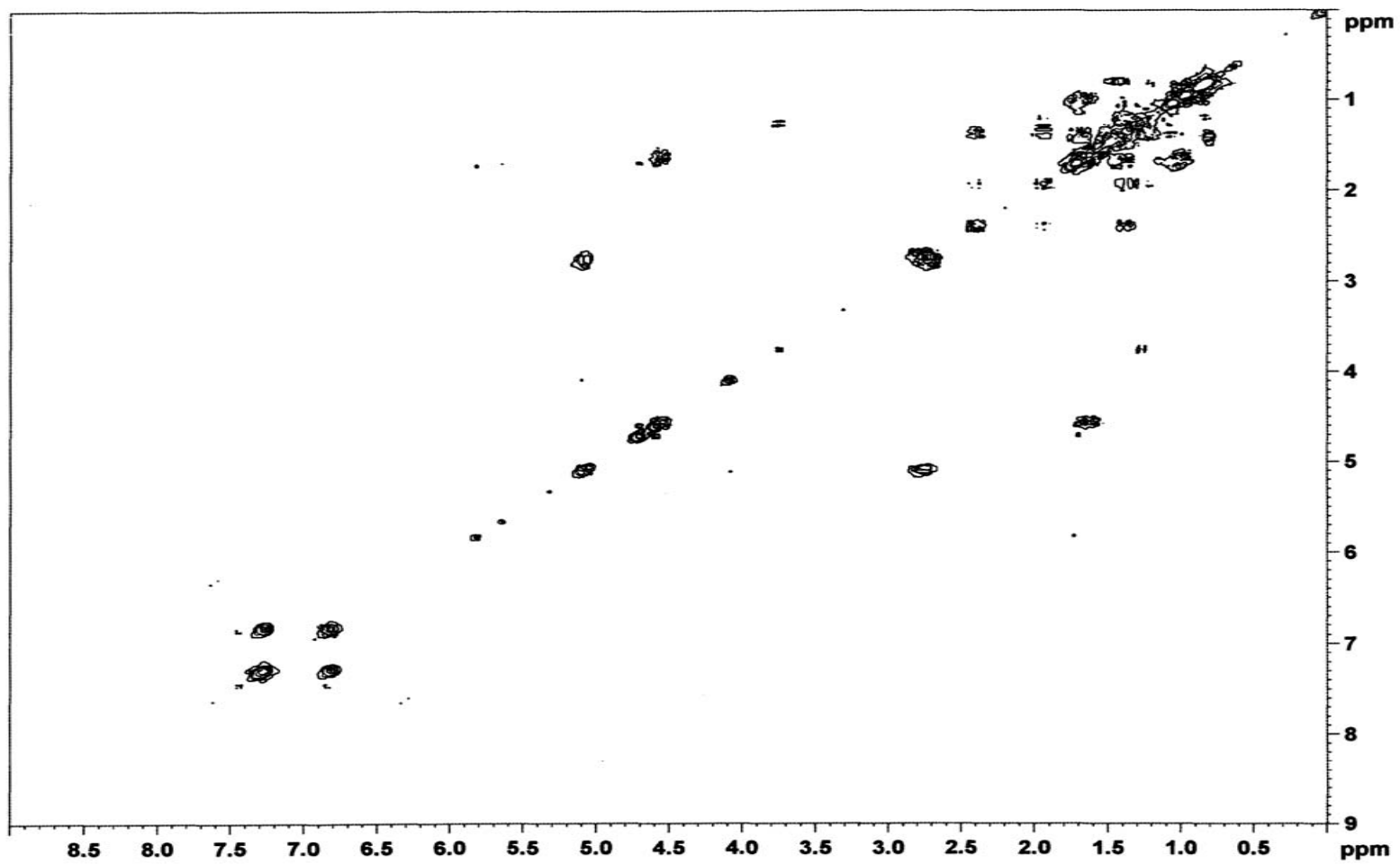


Figure 41 2D COSY (CDCl<sub>3</sub>) spectrum of compound PTH13

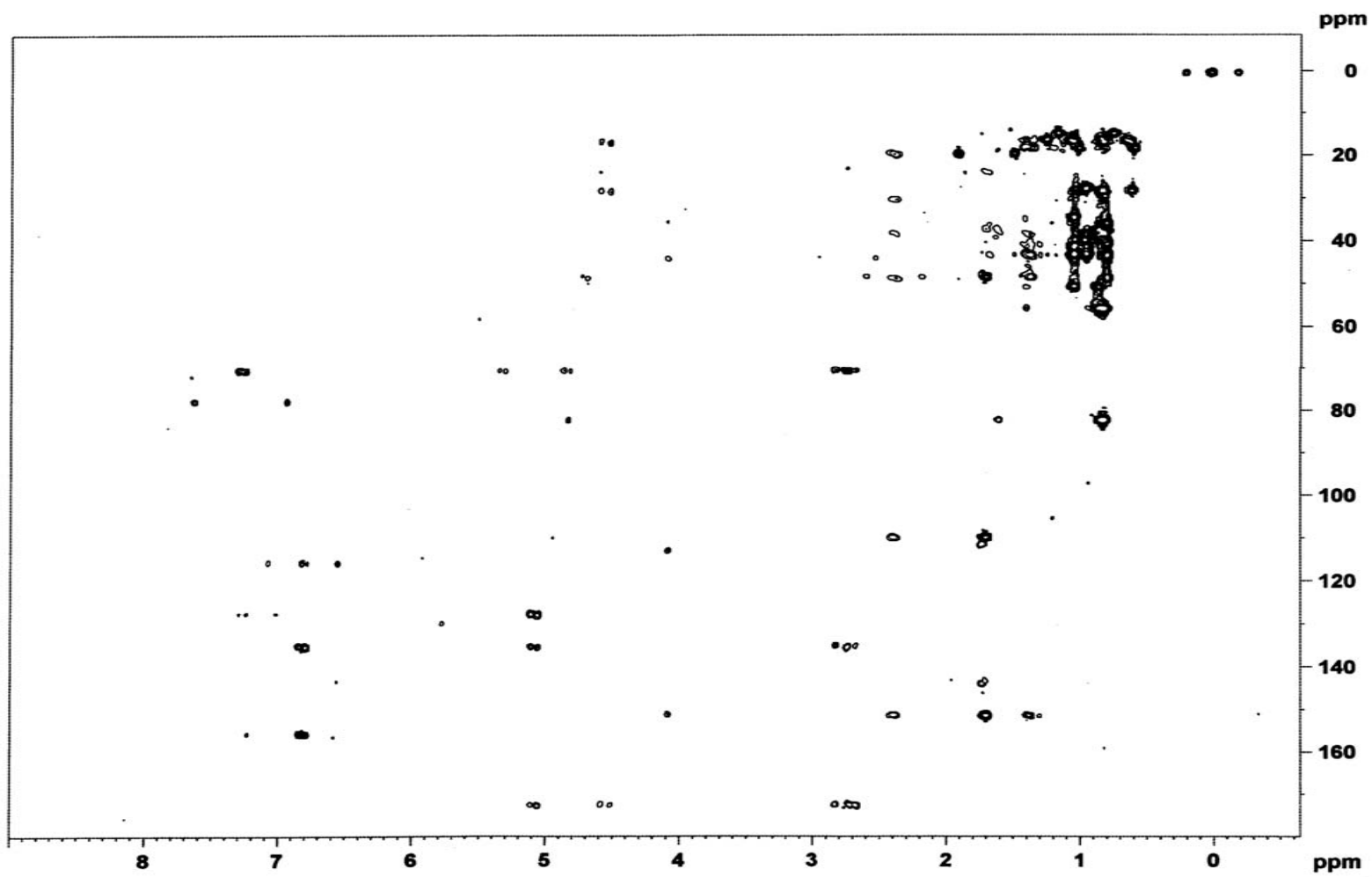
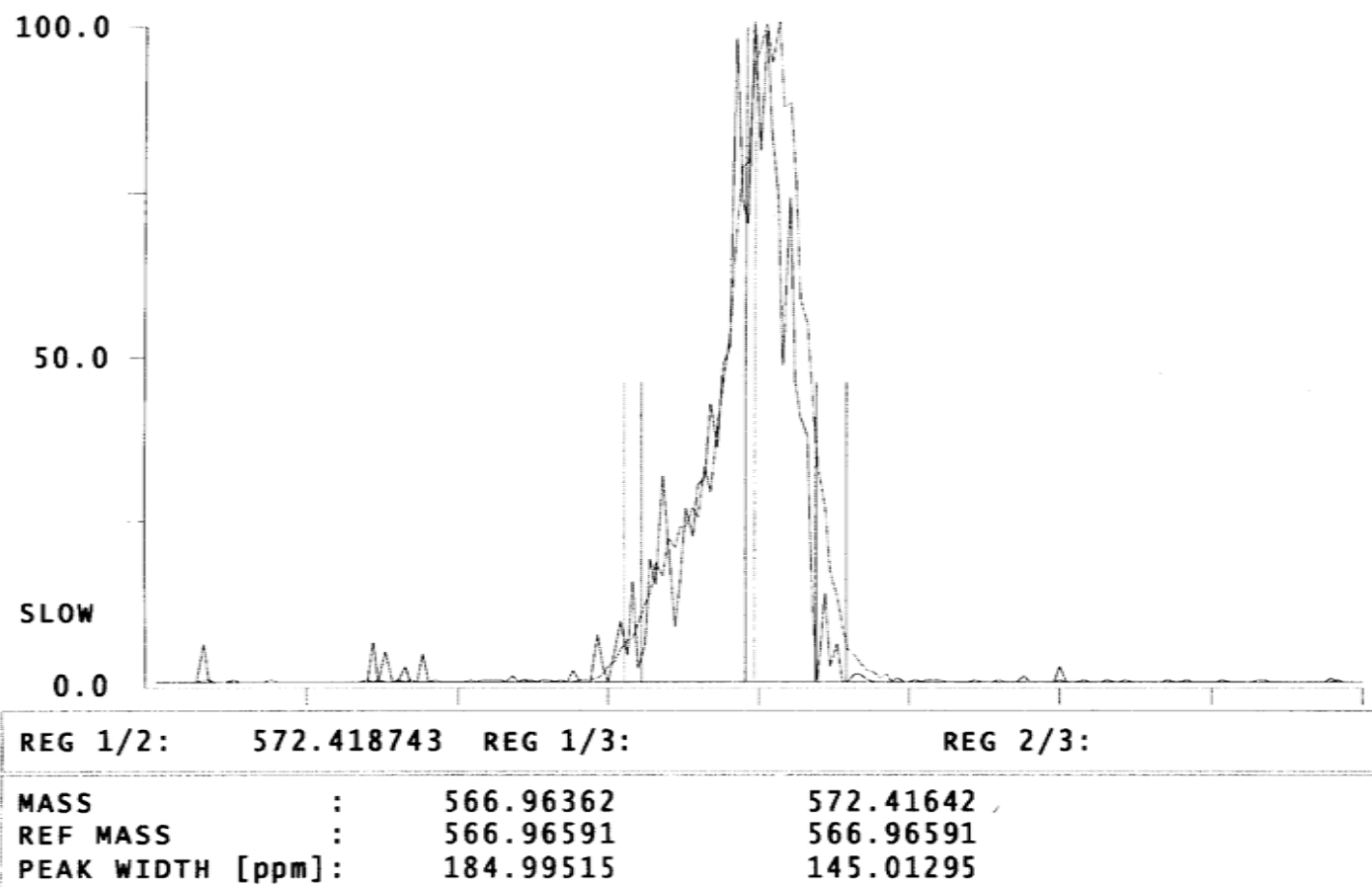
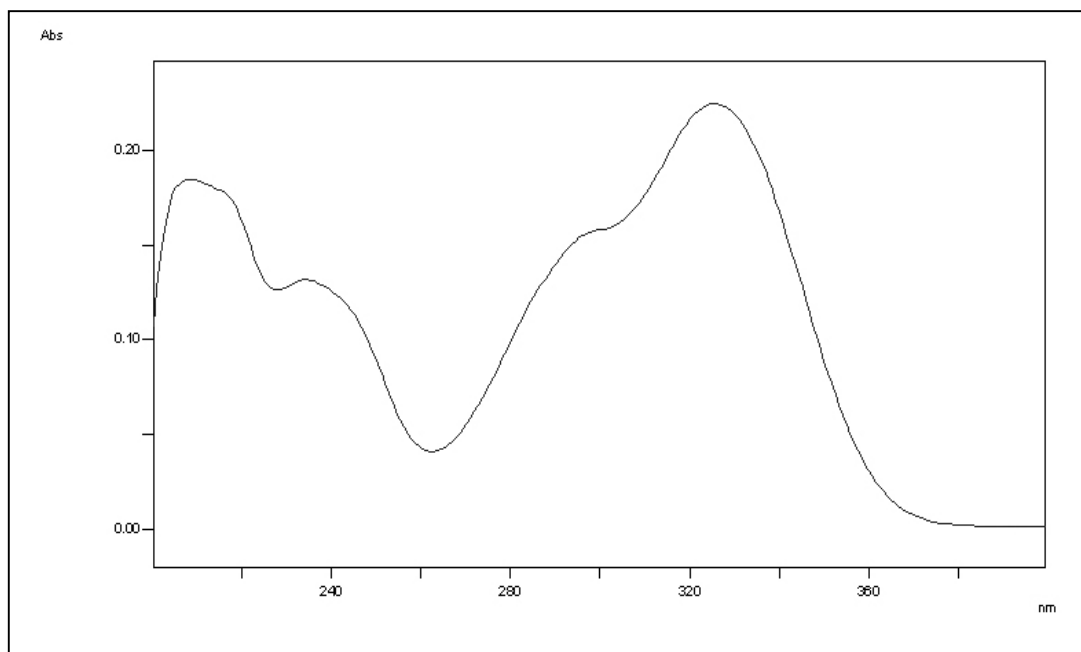


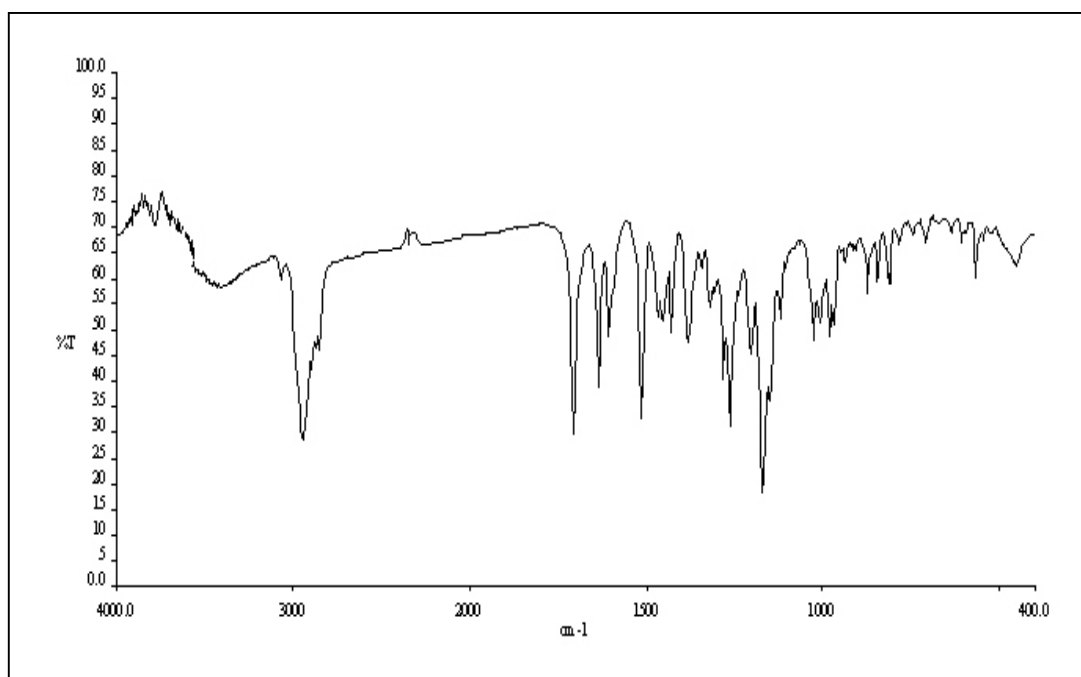
Figure 42 2D HMBC (CDCl<sub>3</sub>) spectrum of compound PTH13



**Figure 43** EI-MS mass spectrum of compound **PTH13**



**Figure 44** UV (MeOH) spectrum of compound **PTH14**



**Figure 45** IR (KBr) spectrum of **PTH14**

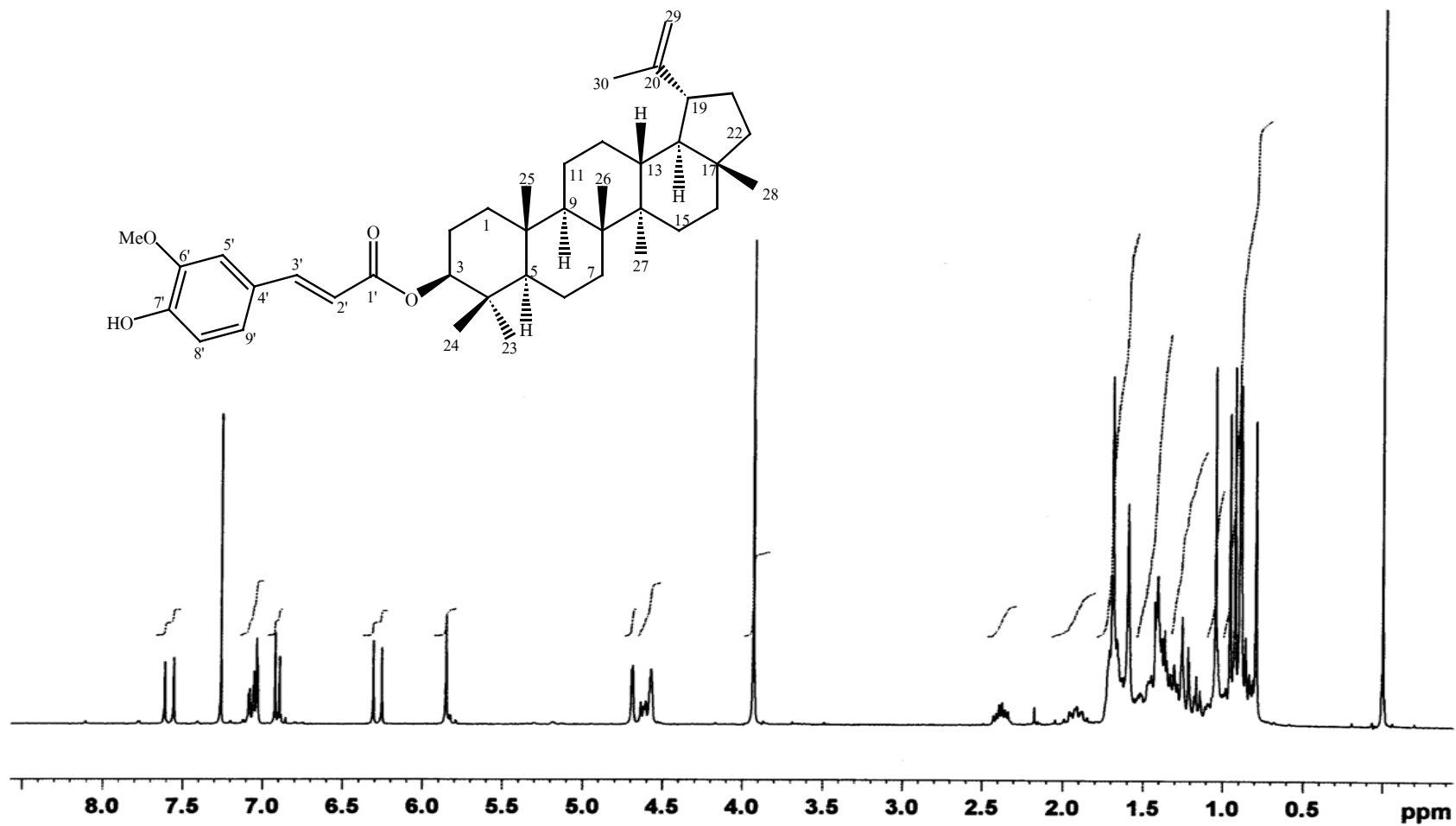


Figure 46 <sup>1</sup>H NMR (300 MHz) (CDCl<sub>3</sub>) spectrum of compound PTH14

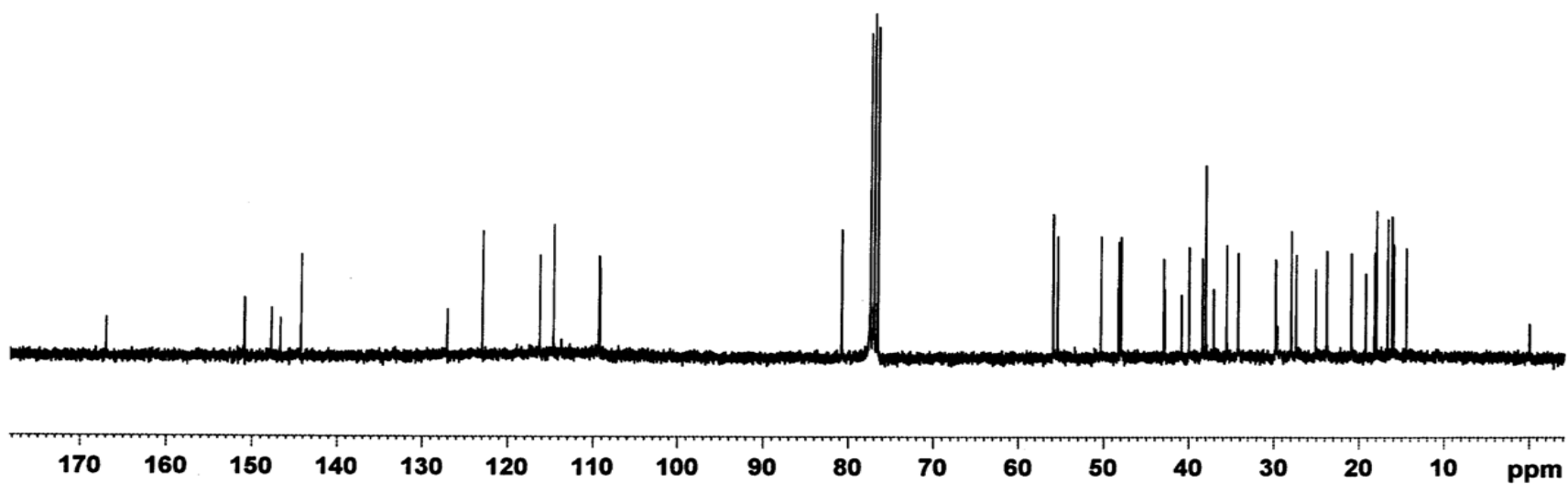


Figure 47  $^{13}\text{C}$  NMR (75 MHz) ( $\text{CDCl}_3$ ) spectrum of compound PTH14



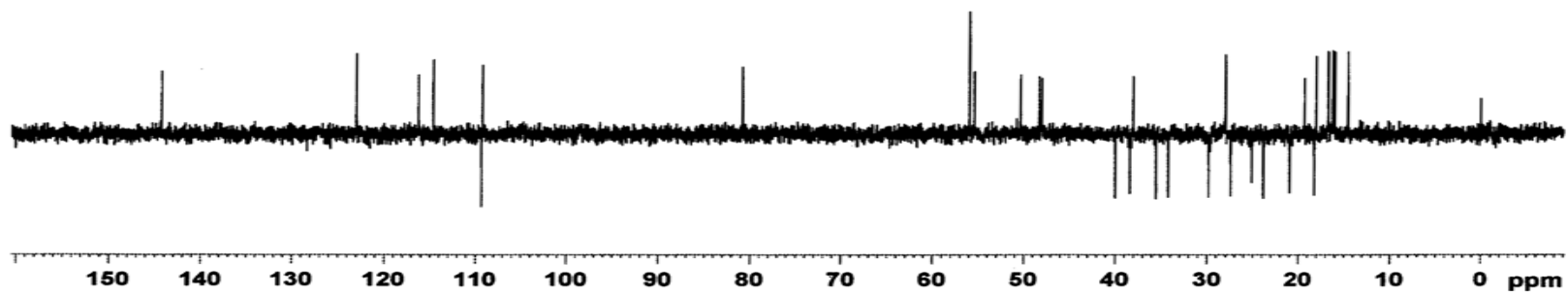


Figure 48 DEPT 135° (CDCl<sub>3</sub>) spectrum of compound PTH14

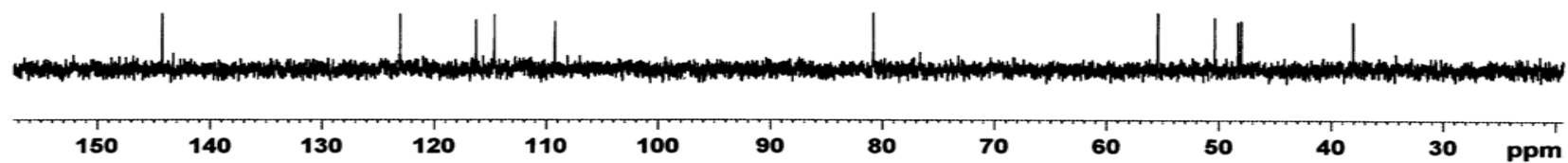


Figure 49 DEPT 90° (CDCl<sub>3</sub>) spectrum of compound PTH14

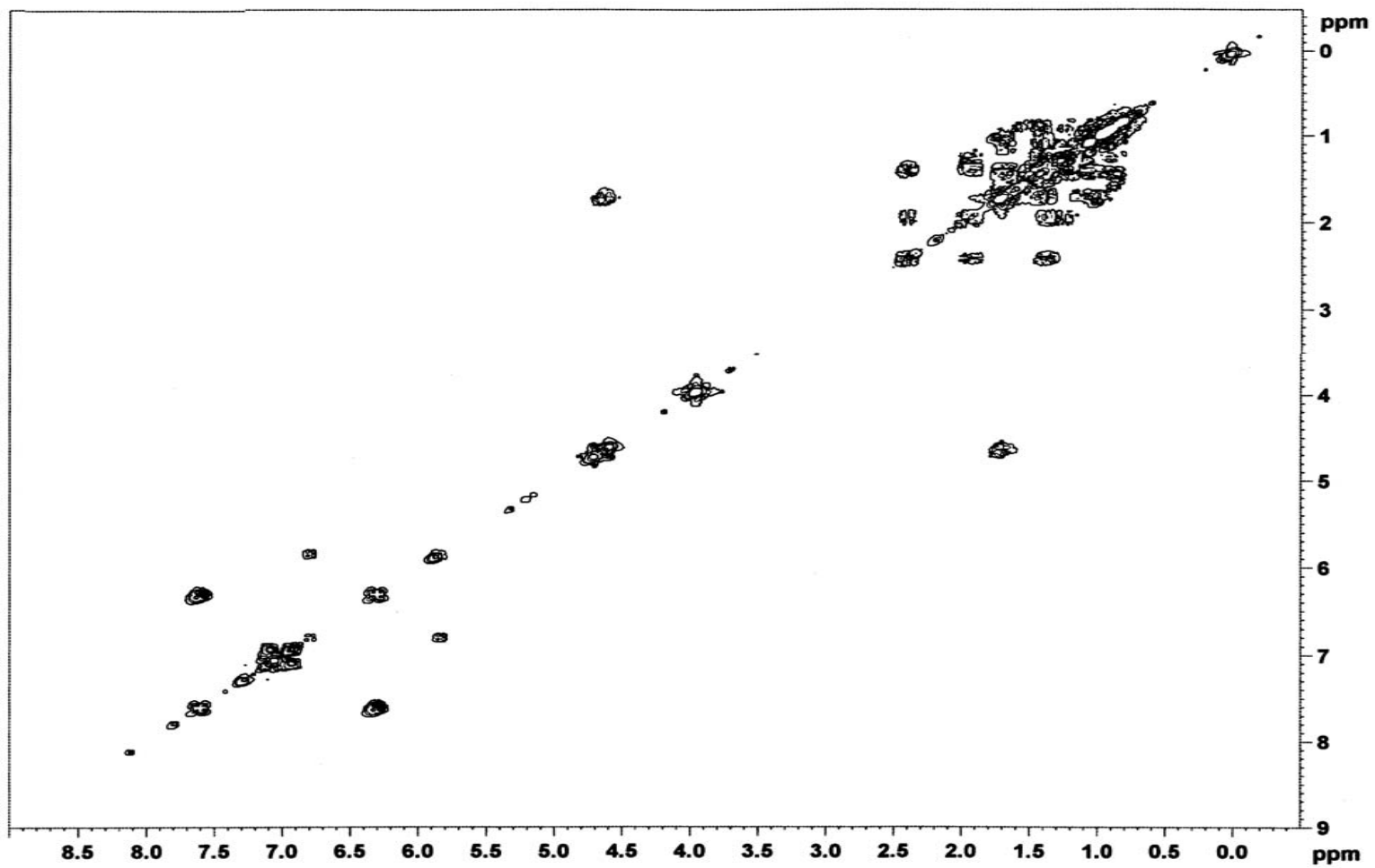


Figure 50 2D COSY ( $\text{CDCl}_3$ ) spectrum of compound PTH14

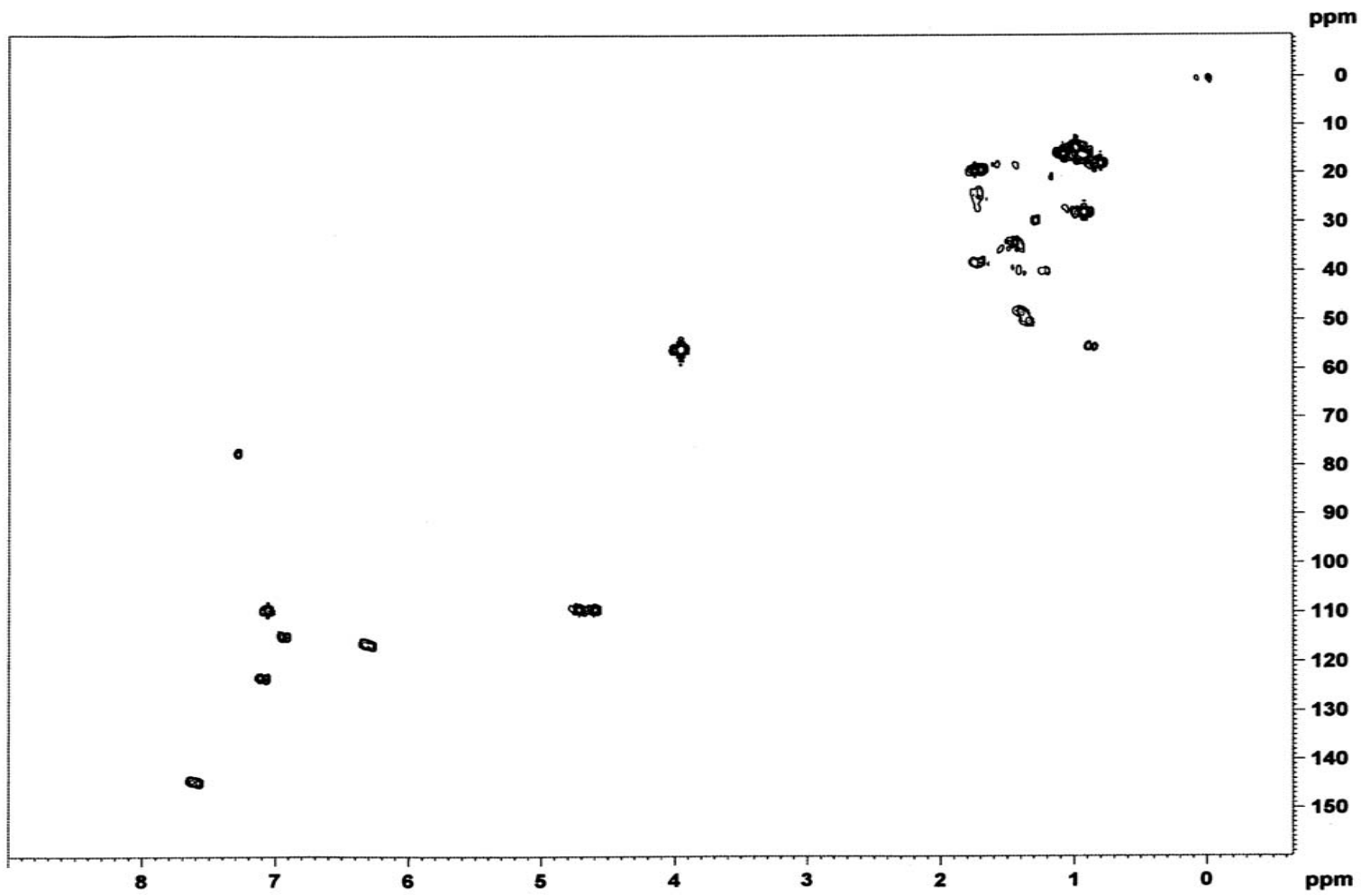


Figure 51 2D HMQC (CDCl<sub>3</sub>) spectrum of compound PTH14

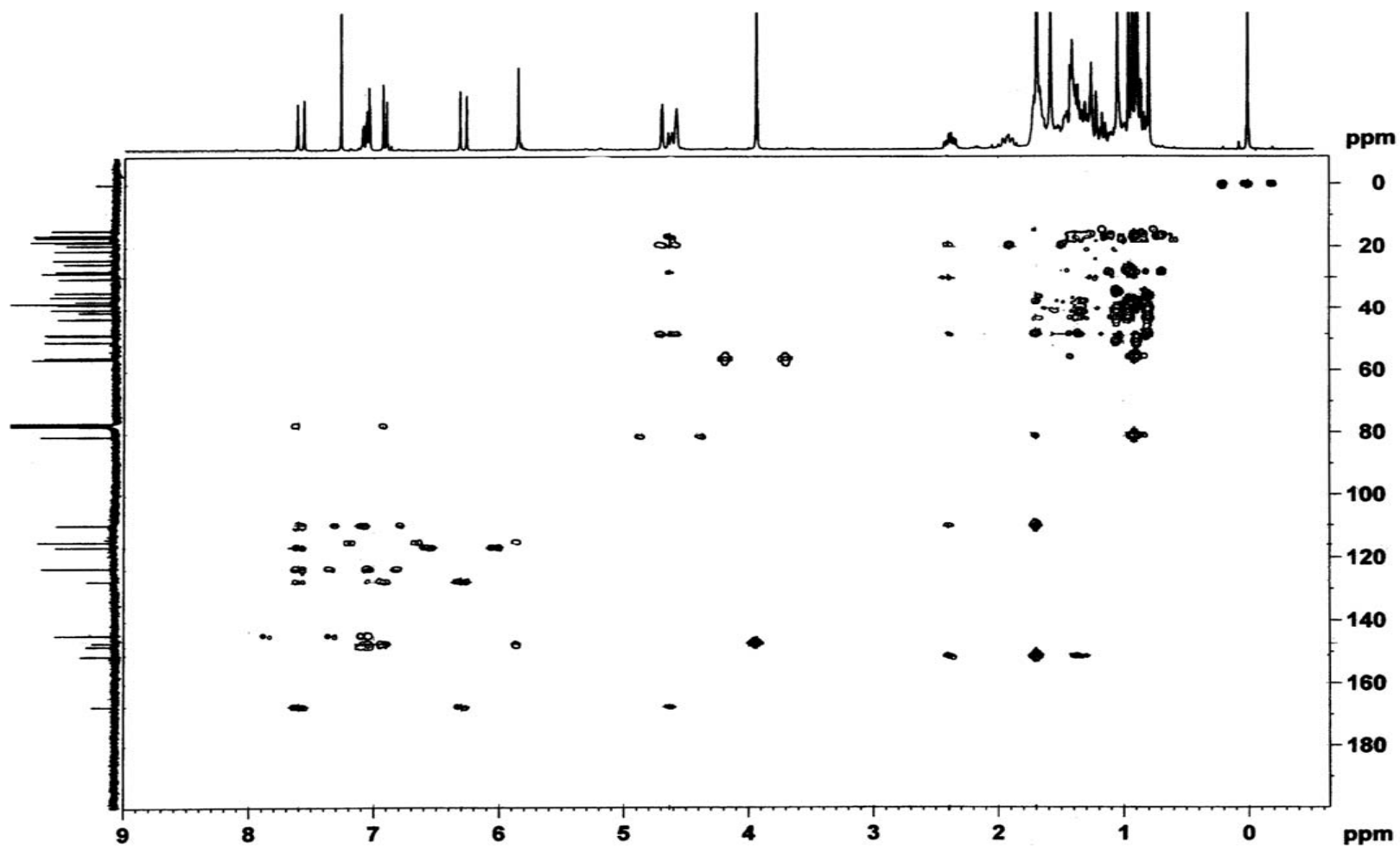


Figure 52 2D HMBC (CDCl<sub>3</sub>) spectrum of compound PTH14

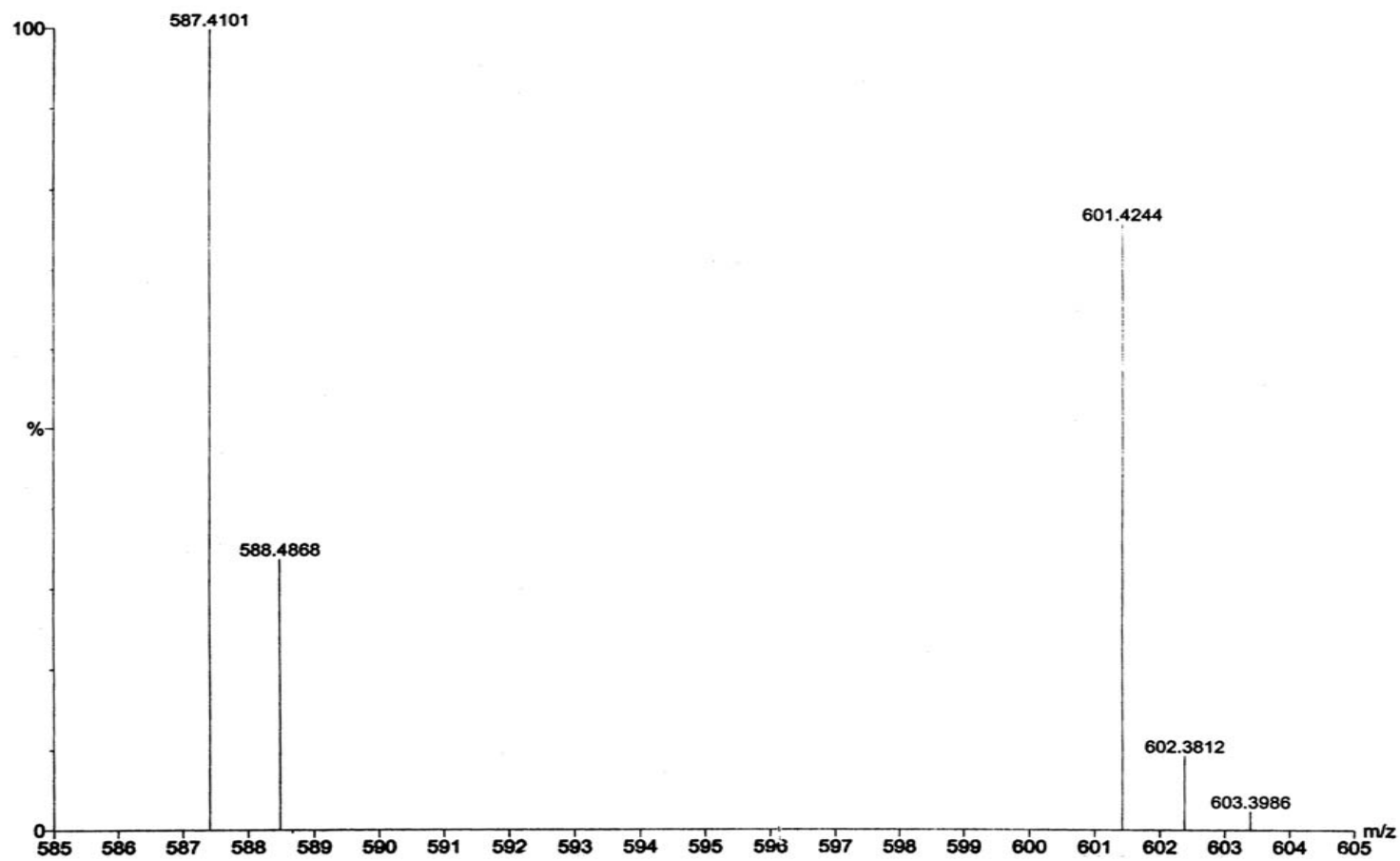
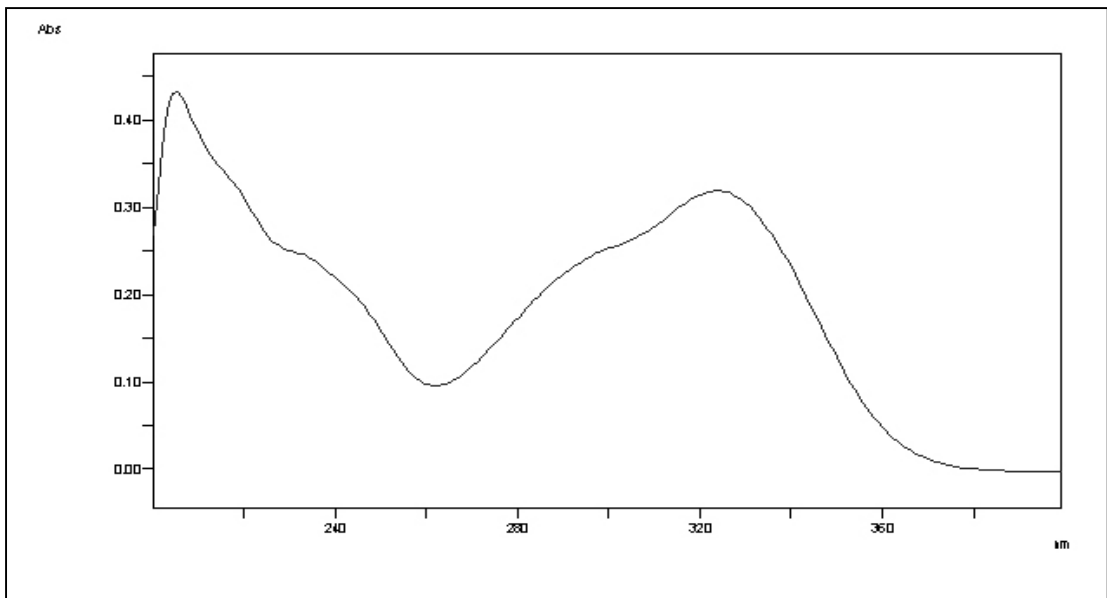
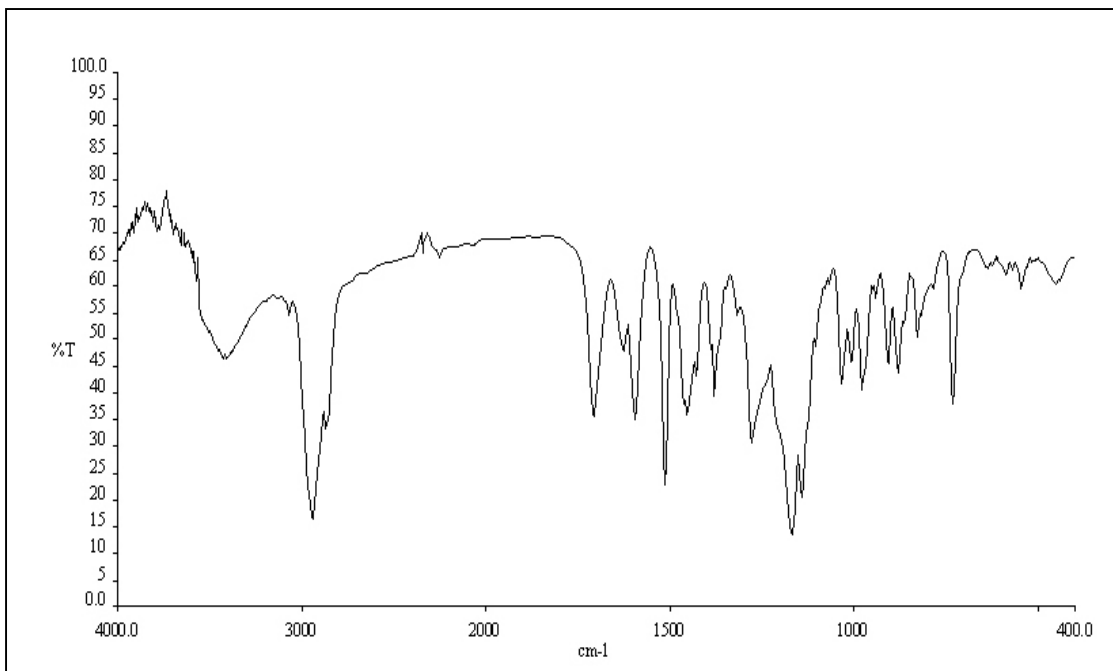


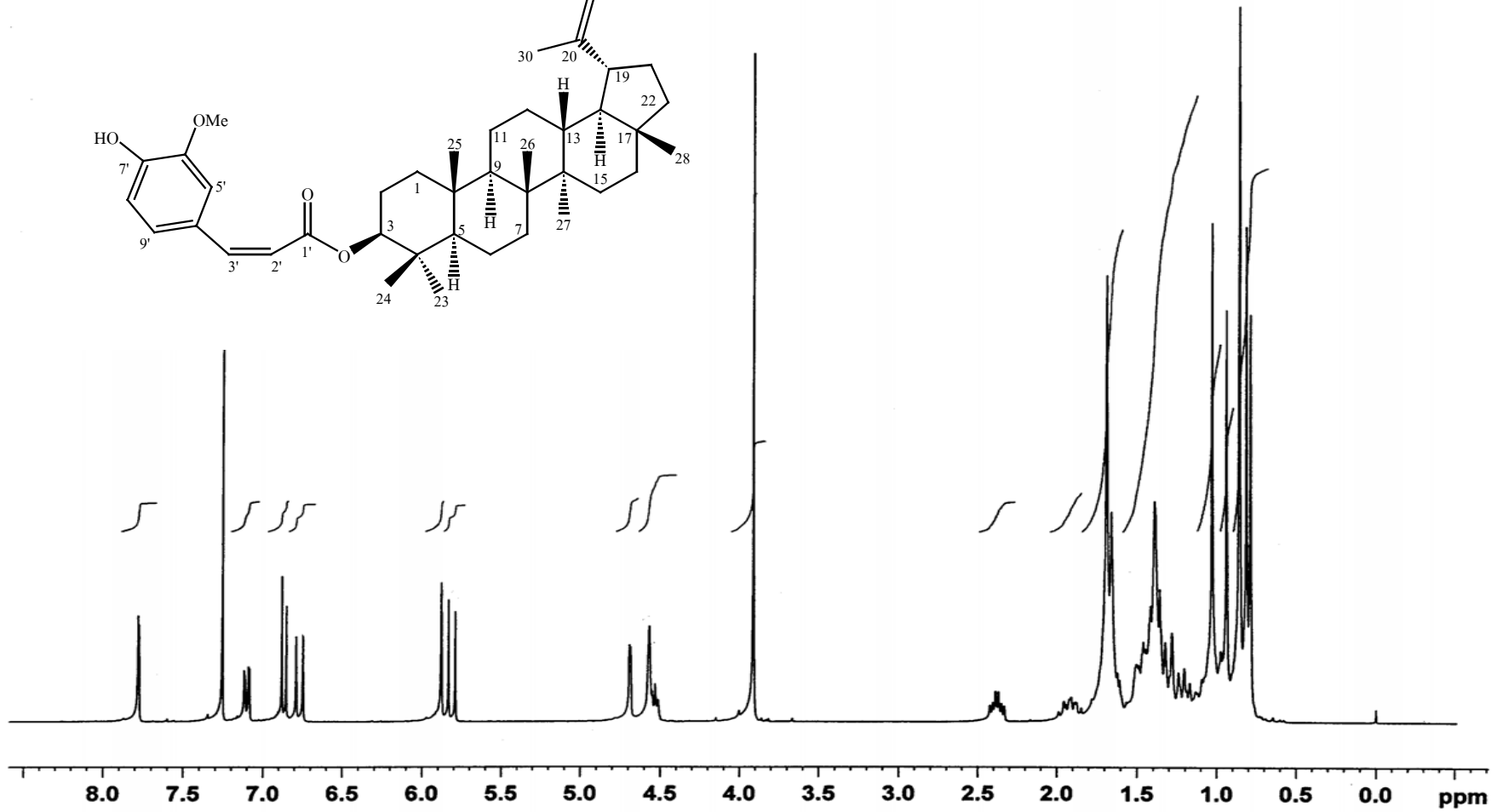
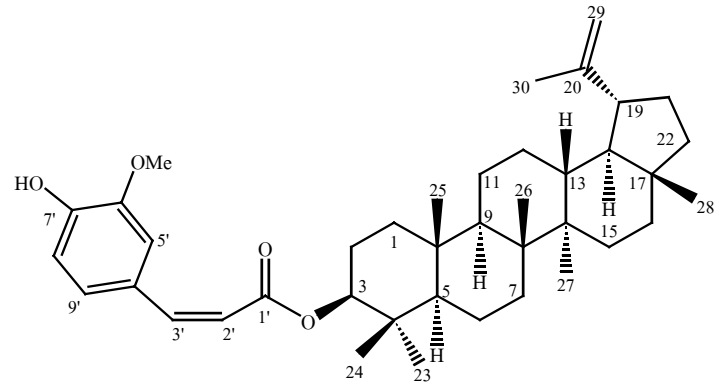
Figure 53 ESI-TOF-MS mass spectrum of compound PTH14



**Figure 54** UV (MeOH) spectrum of compound **PTH15**



**Figure 55** IR (KBr) spectrum of compound **PTH15**



**Figure 56**  $^1\text{H}$  NMR (300 MHz) ( $\text{CDCl}_3$ ) spectrum of compound **PTH15**



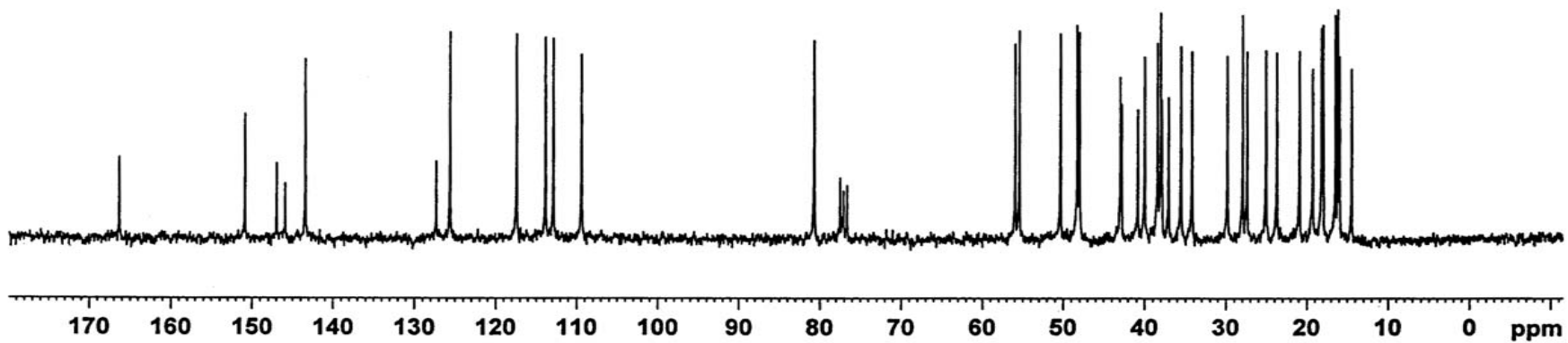
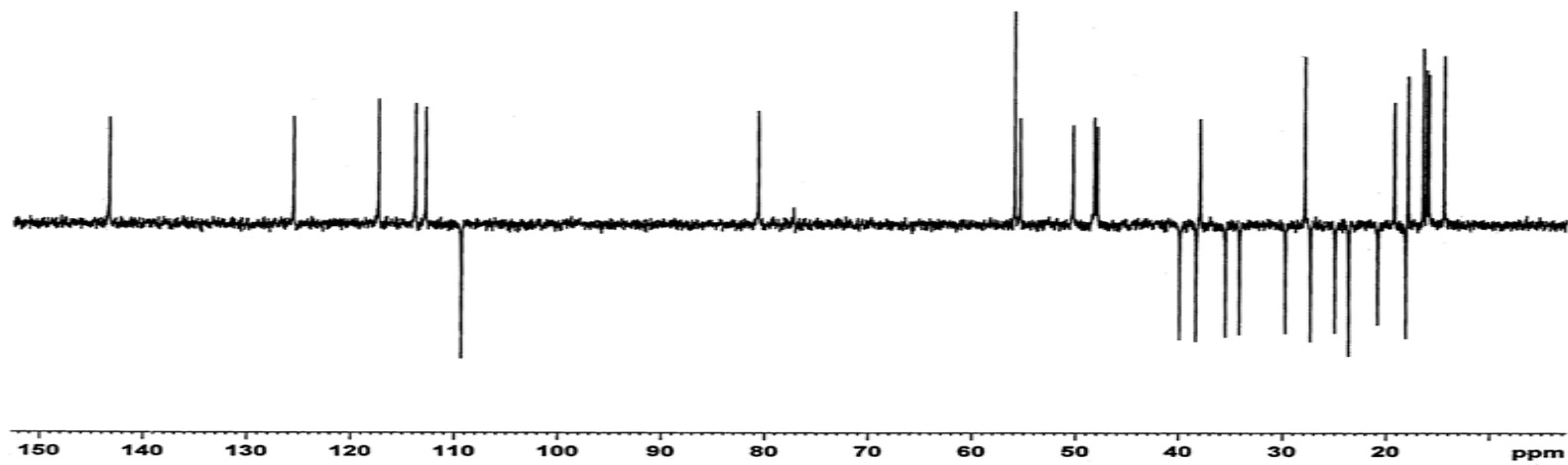
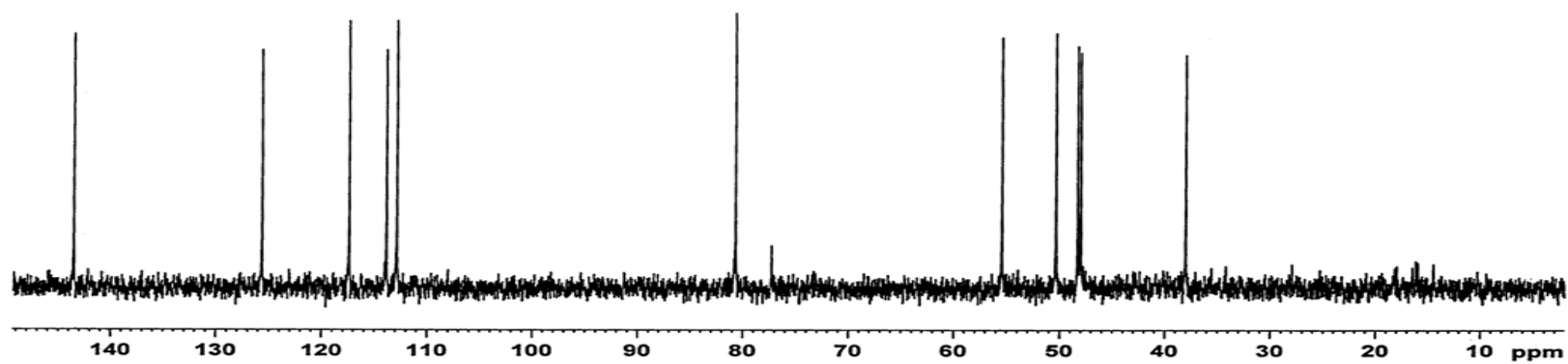


Figure 57  $^{13}\text{C}$  NMR (75 MHz) ( $\text{CDCl}_3$ ) spectrum of compound PTH15



**Figure 58** DEPT 135° (CDCl<sub>3</sub>) spectrum of compound **PTH15**



**Figure 59** DEPT 90° (CDCl<sub>3</sub>) spectrum of compound **PTH15**

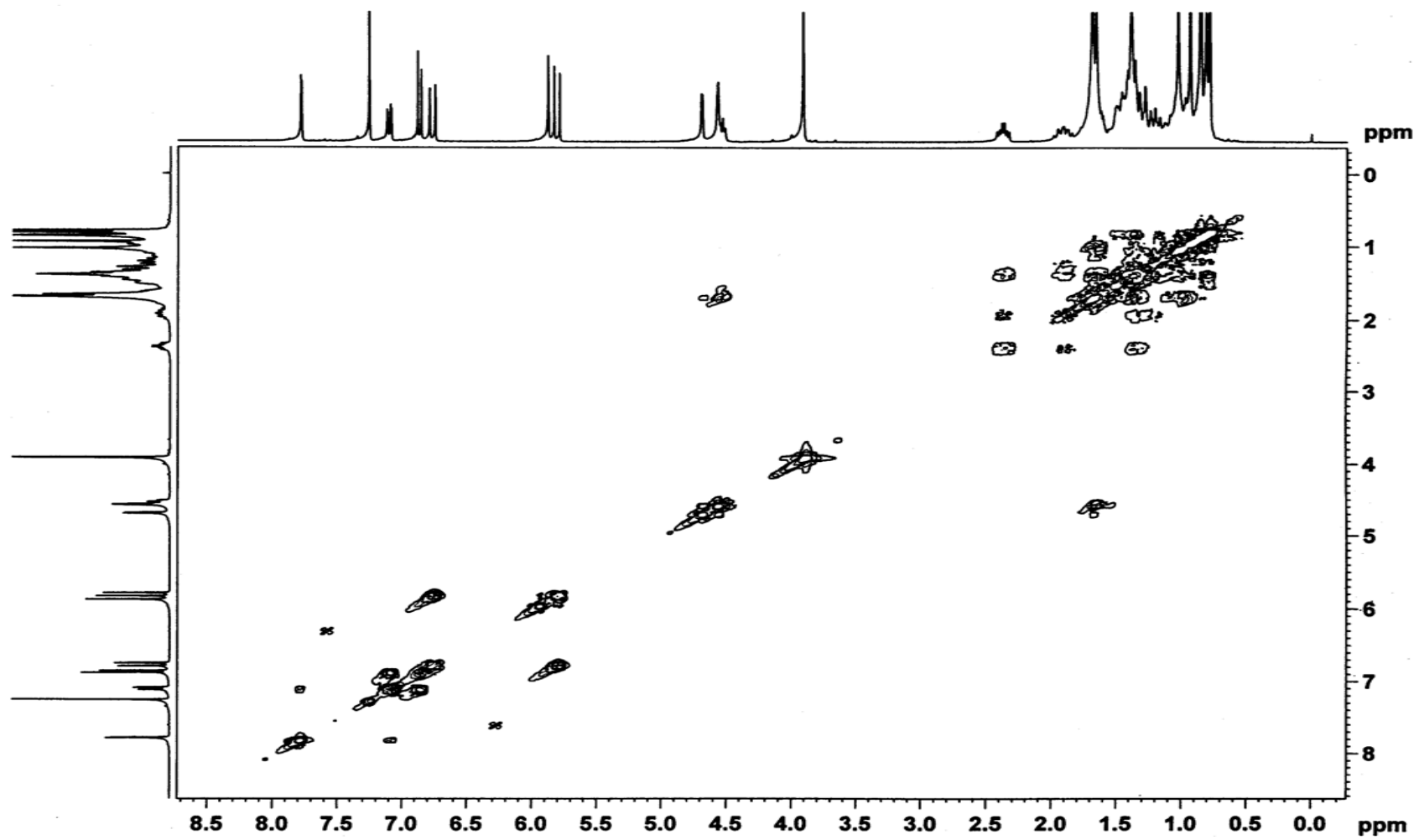


Figure 60 2D COSY (CDCl<sub>3</sub>) spectrum of compound PTH15

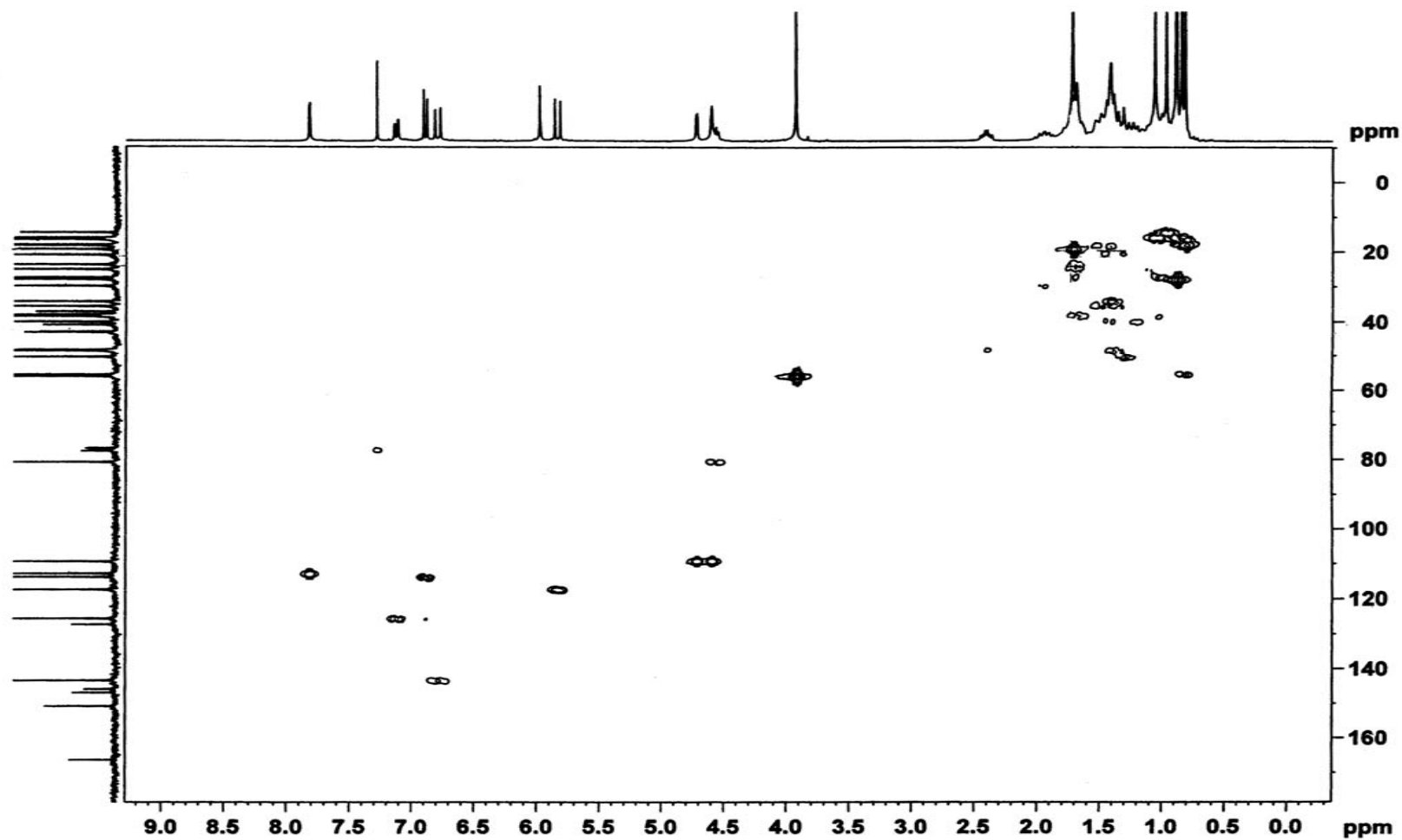


Figure 61 2D HMQC (CDCl<sub>3</sub>) spectrum of compound PTH15

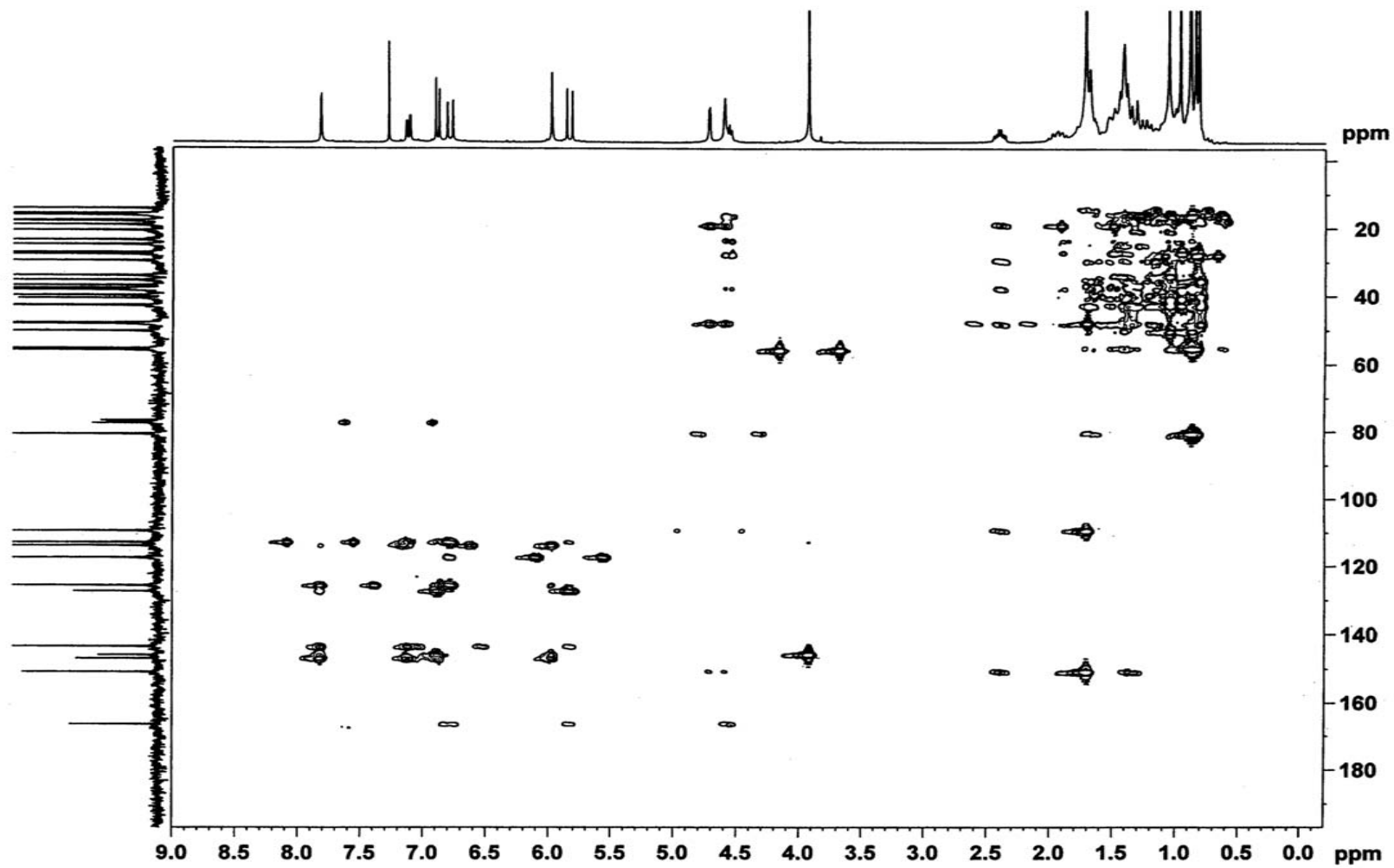


Figure 62 2D HMBC ( $\text{CDCl}_3$ ) spectrum of compound PTH15

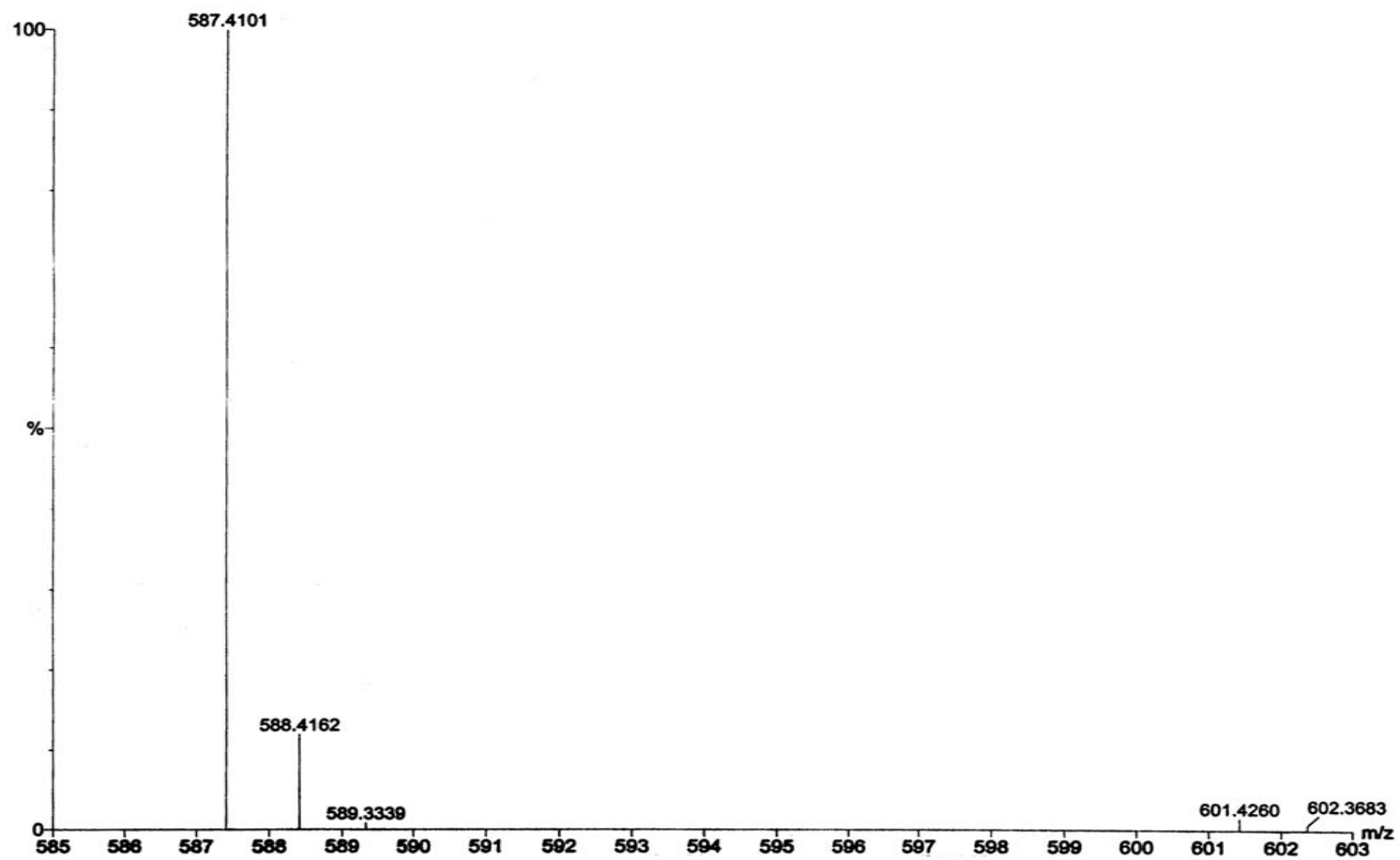
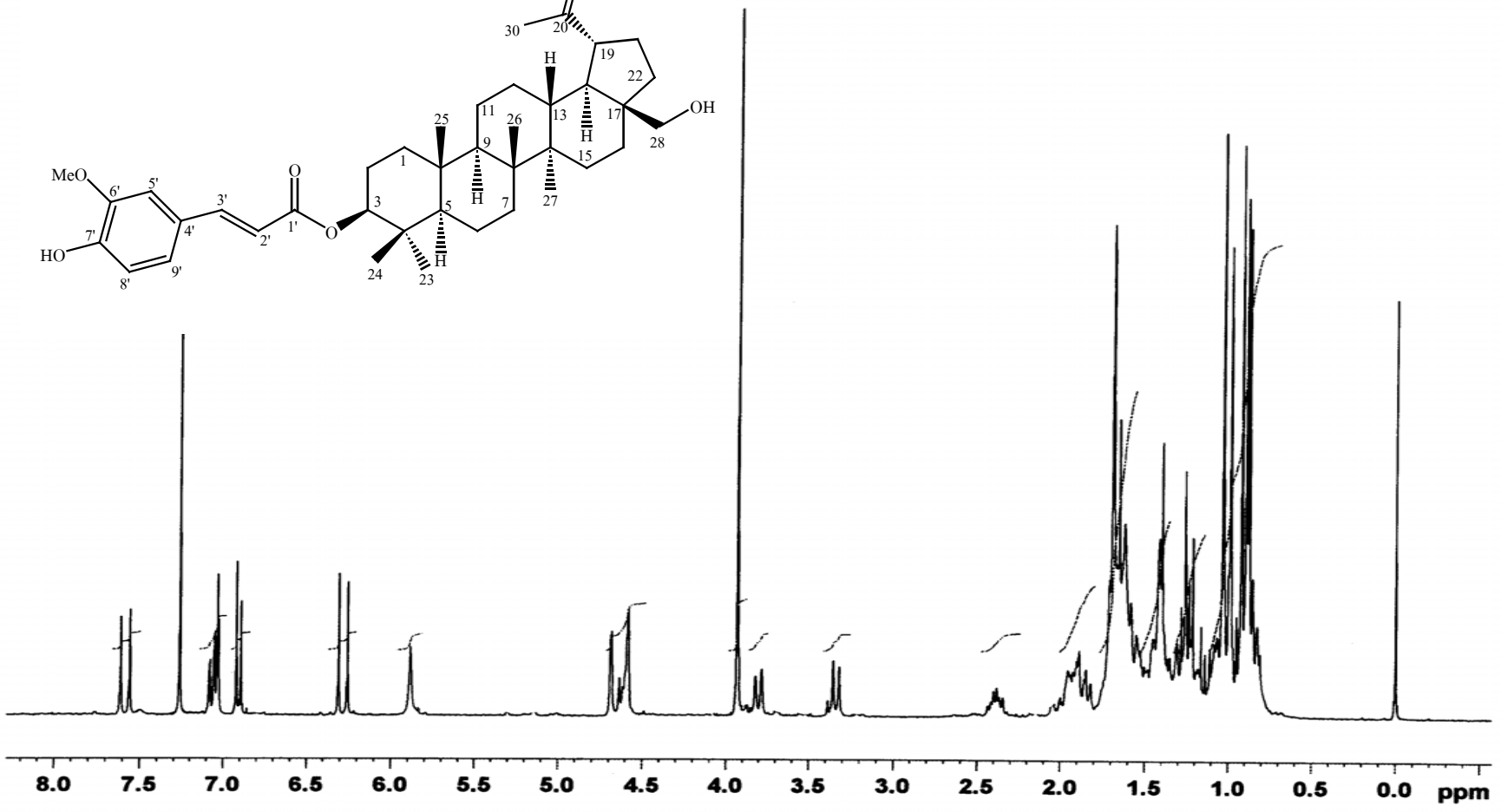
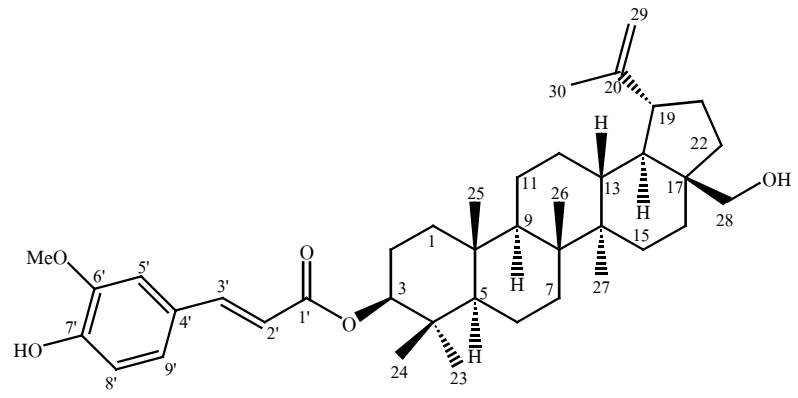


Figure 63 ESI-TOF-MS mass spectrum of compound **PTH15**



**Figure 64**  $^1\text{H}$  NMR (300 MHz) ( $\text{CDCl}_3$ ) spectrum of compound **PTH16**



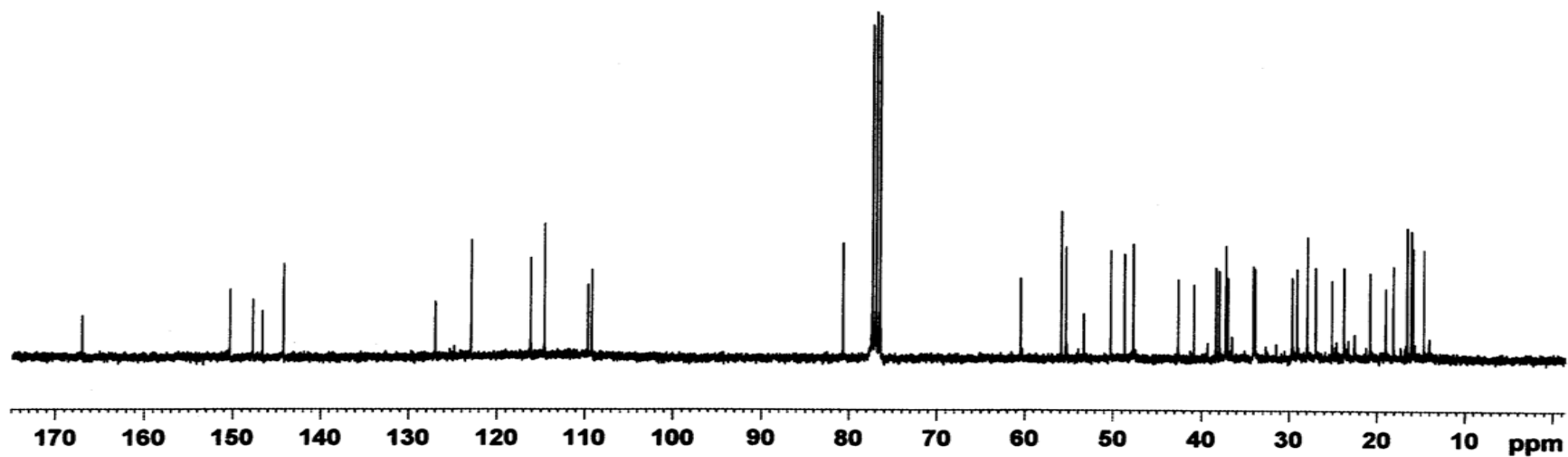


Figure 65  $^{13}\text{C}$  NMR (75 MHz) ( $\text{CDCl}_3$ ) spectrum of compound PTH16

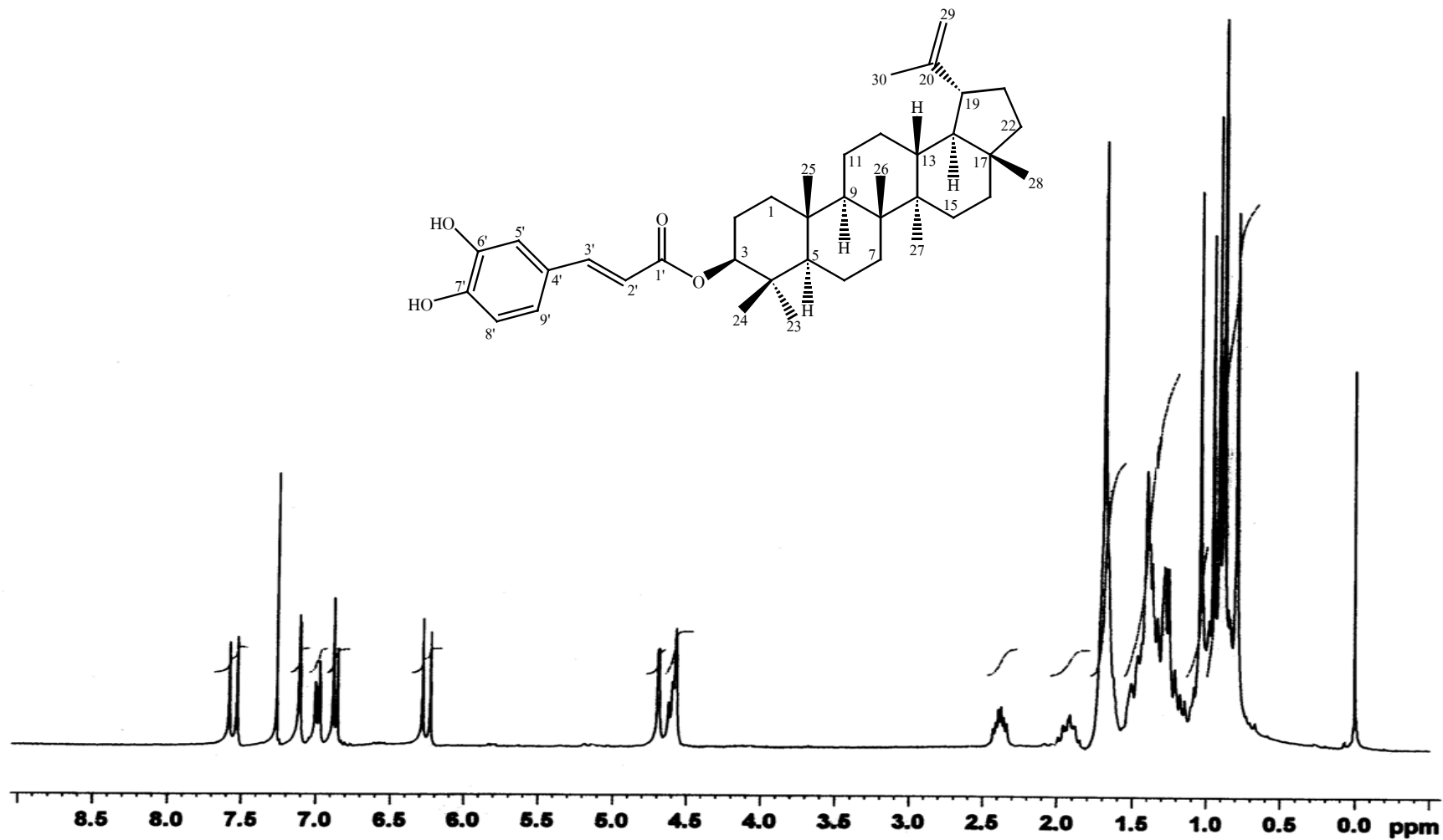
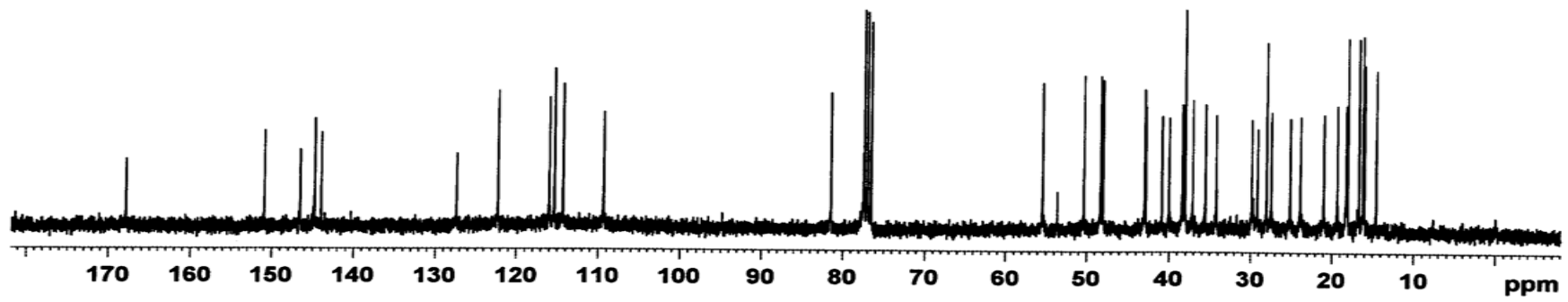
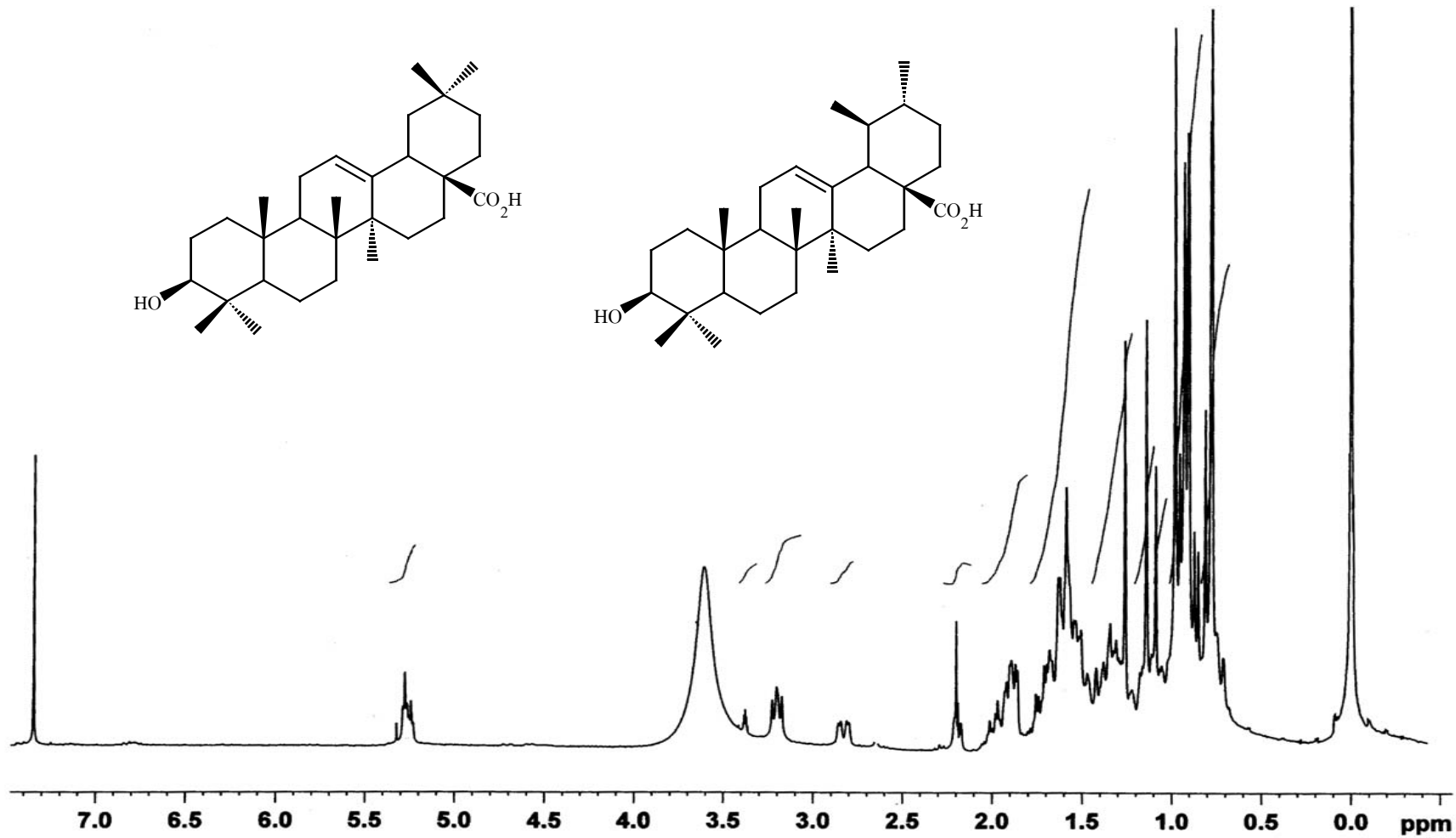
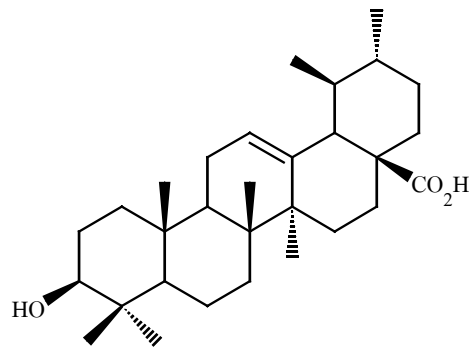
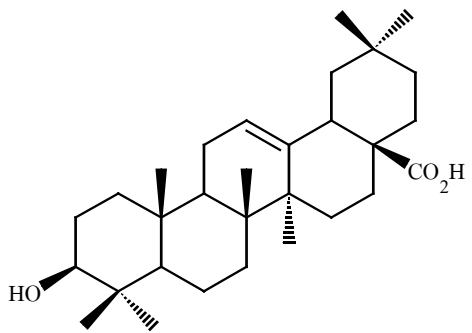


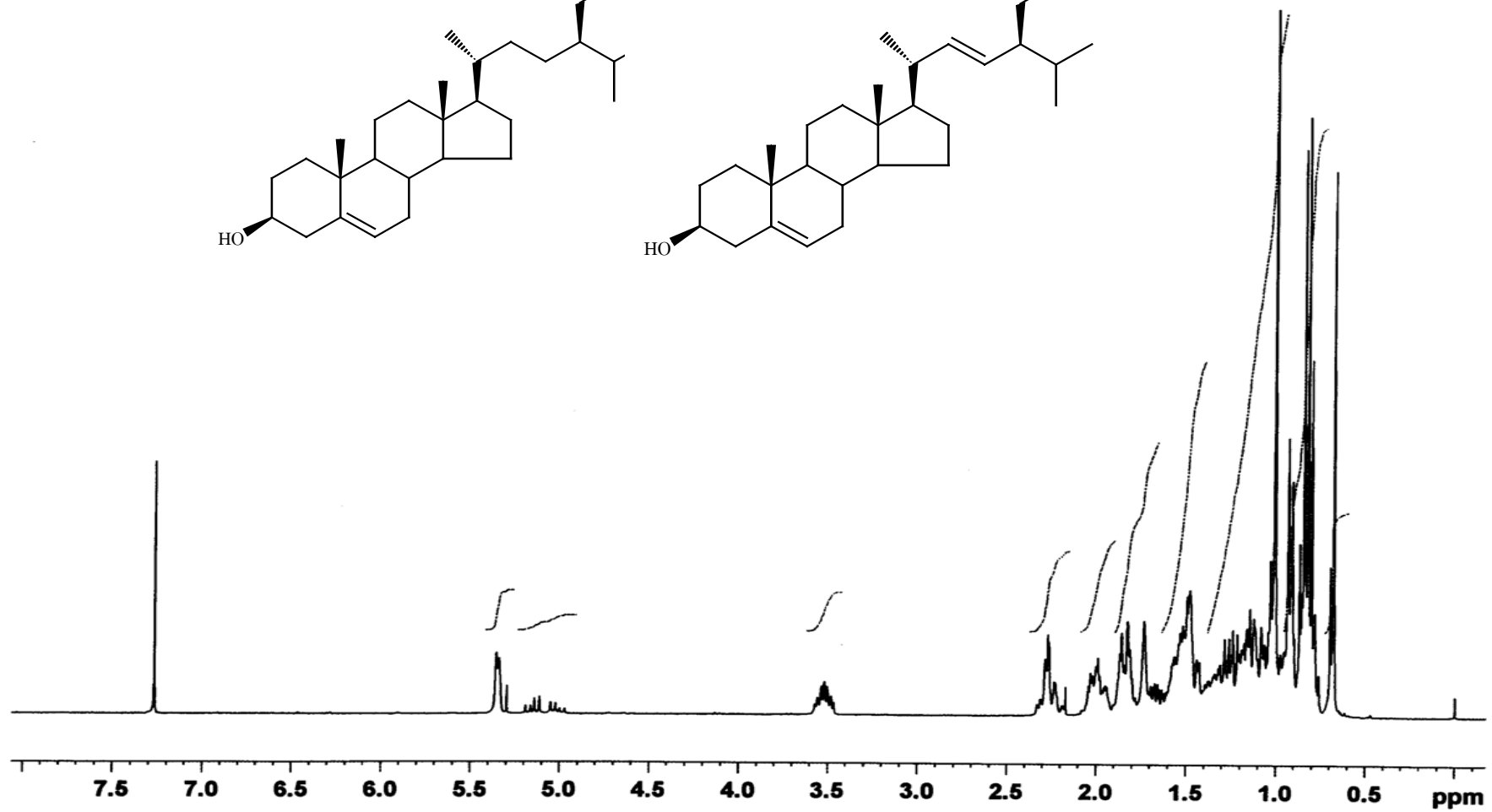
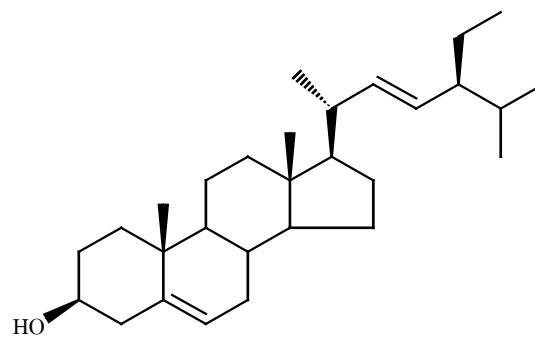
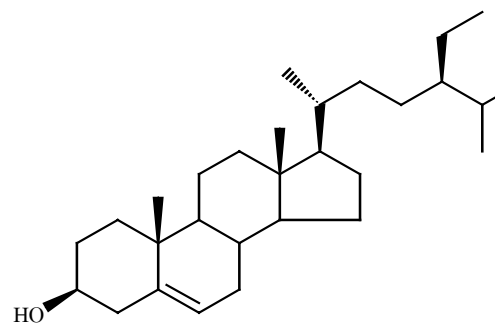
Figure 66 <sup>1</sup>H NMR (300 MHz) (CDCl<sub>3</sub>) spectrum of compound PTH17



**Figure 67**  $^{13}\text{C}$  NMR (75 MHz) ( $\text{CDCl}_3$ ) spectrum of compound **PTH17**

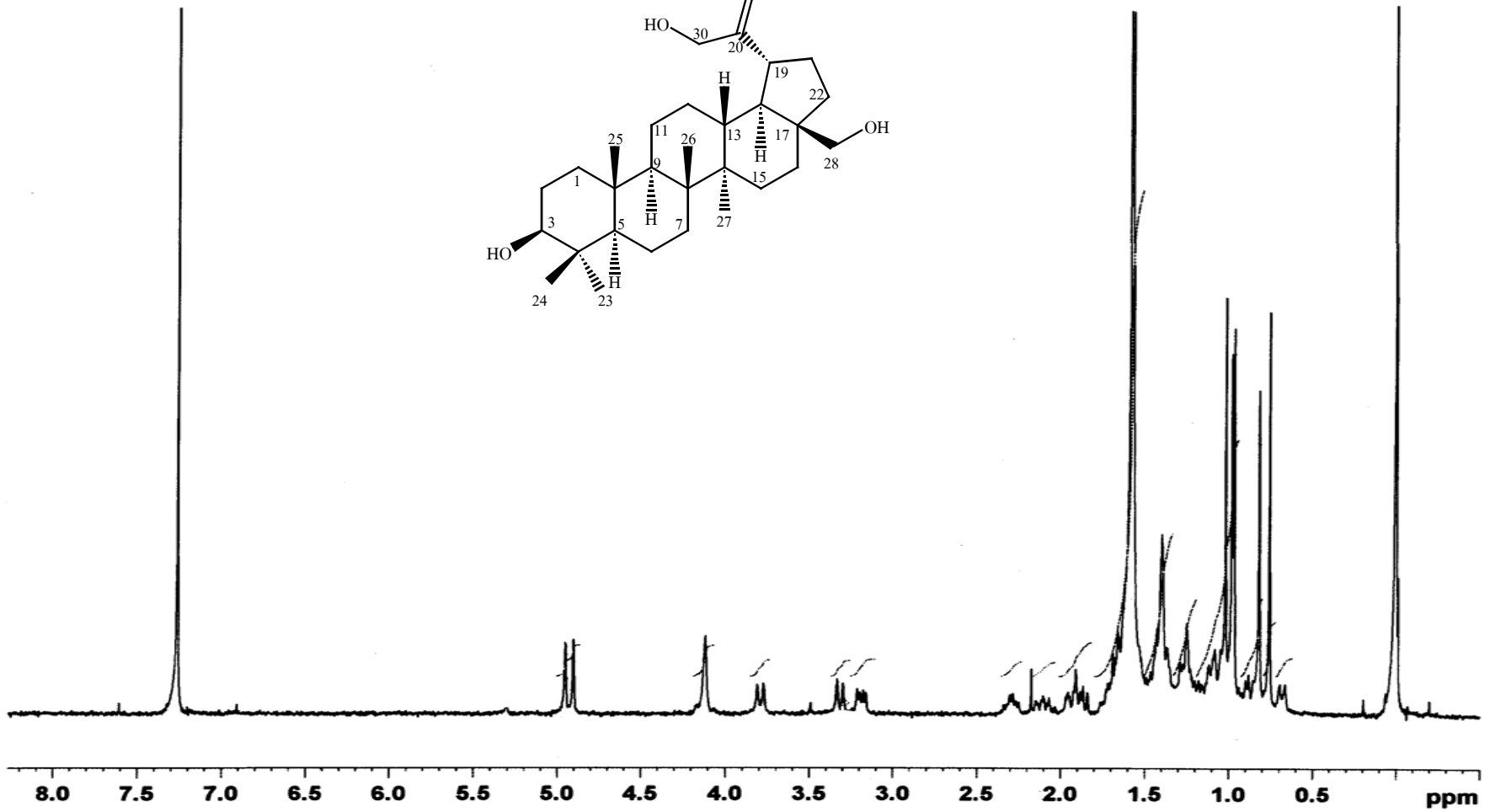
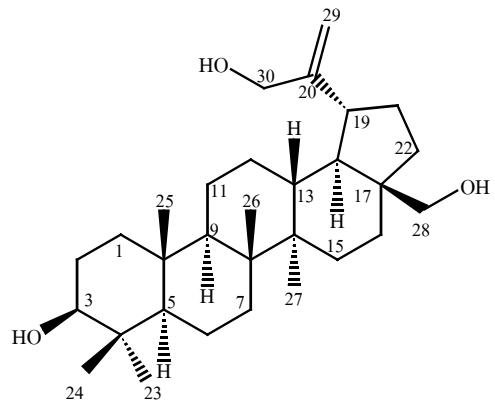


**Figure 68**  $^1\text{H}$  NMR (300 MHz) ( $\text{CDCl}_3+\text{CD}_3\text{OD}$ ) spectrum of compound **PTH18** and **PTH19**



**Figure 69**  $^1\text{H}$  NMR (300 MHz) ( $\text{CDCl}_3$ ) spectrum of compound **PTH20** and **PTH21**





**Figure 70**  $^1\text{H}$  NMR (300 MHz) ( $\text{CDCl}_3$ ) spectrum of compound **PTM1**

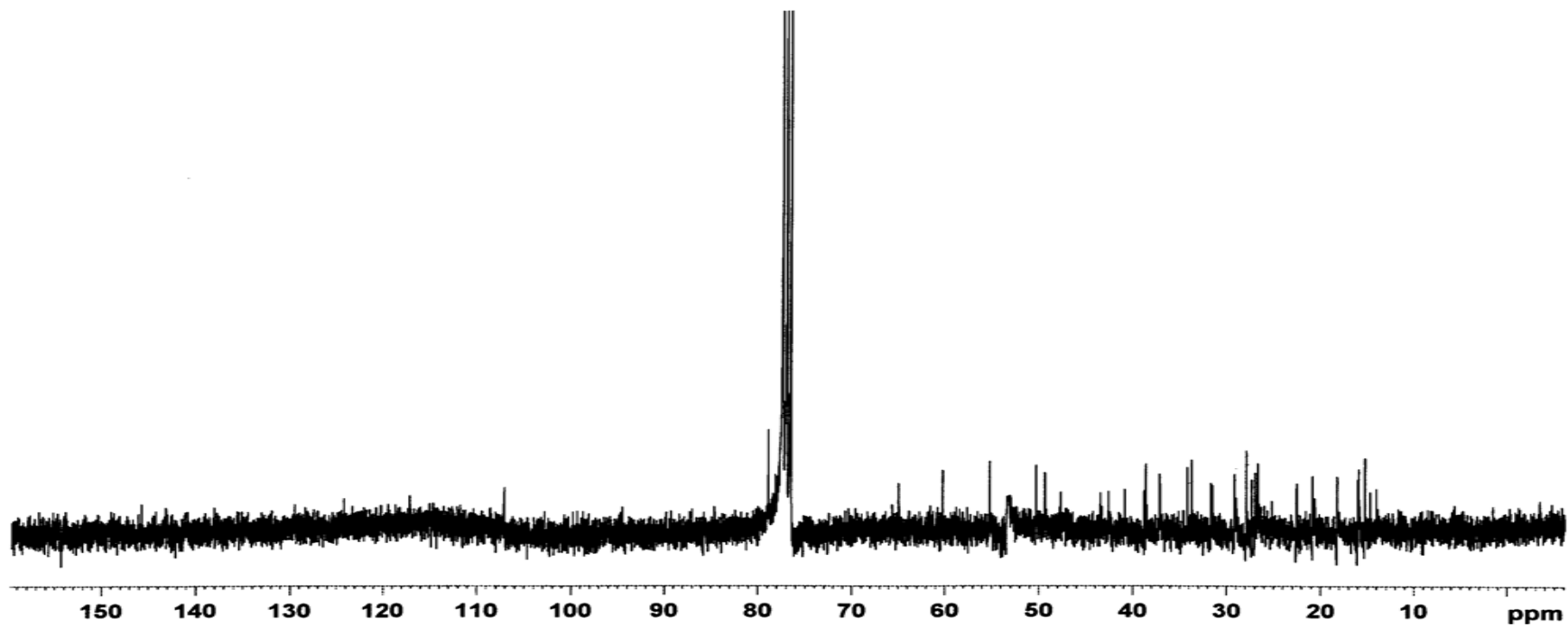
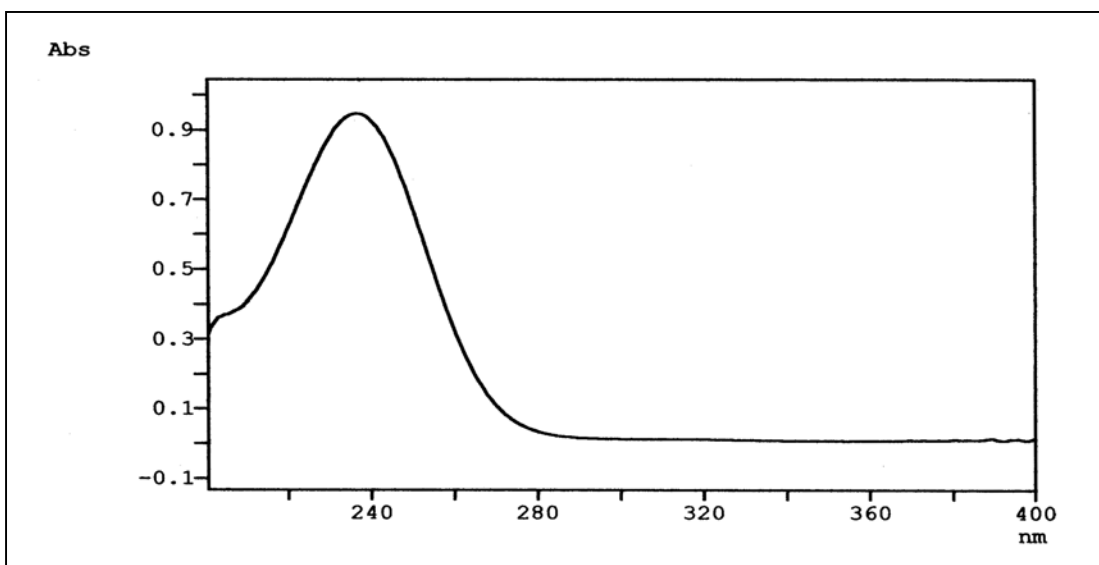
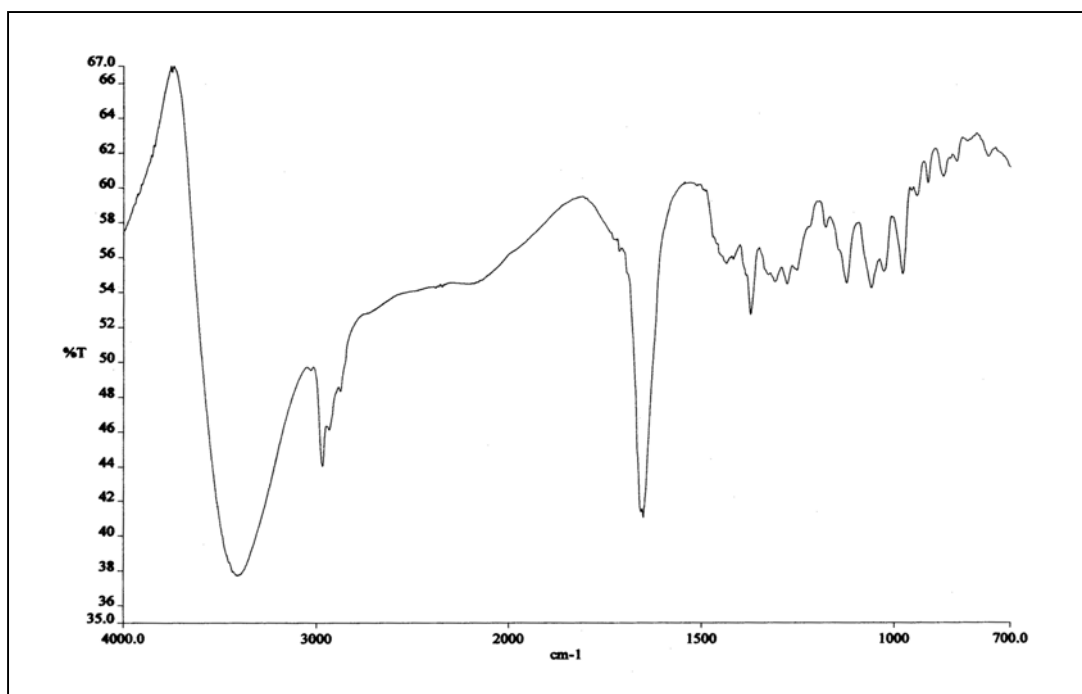


Figure 71  $^{13}\text{C}$  NMR (75 MHz) ( $\text{CDCl}_3$ ) spectrum of compound **PTM1**



**Figure 72** UV (MeOH) spectrum of compound **PTM2**



**Figure 73** IR (neat) spectrum of compound **PTM2**

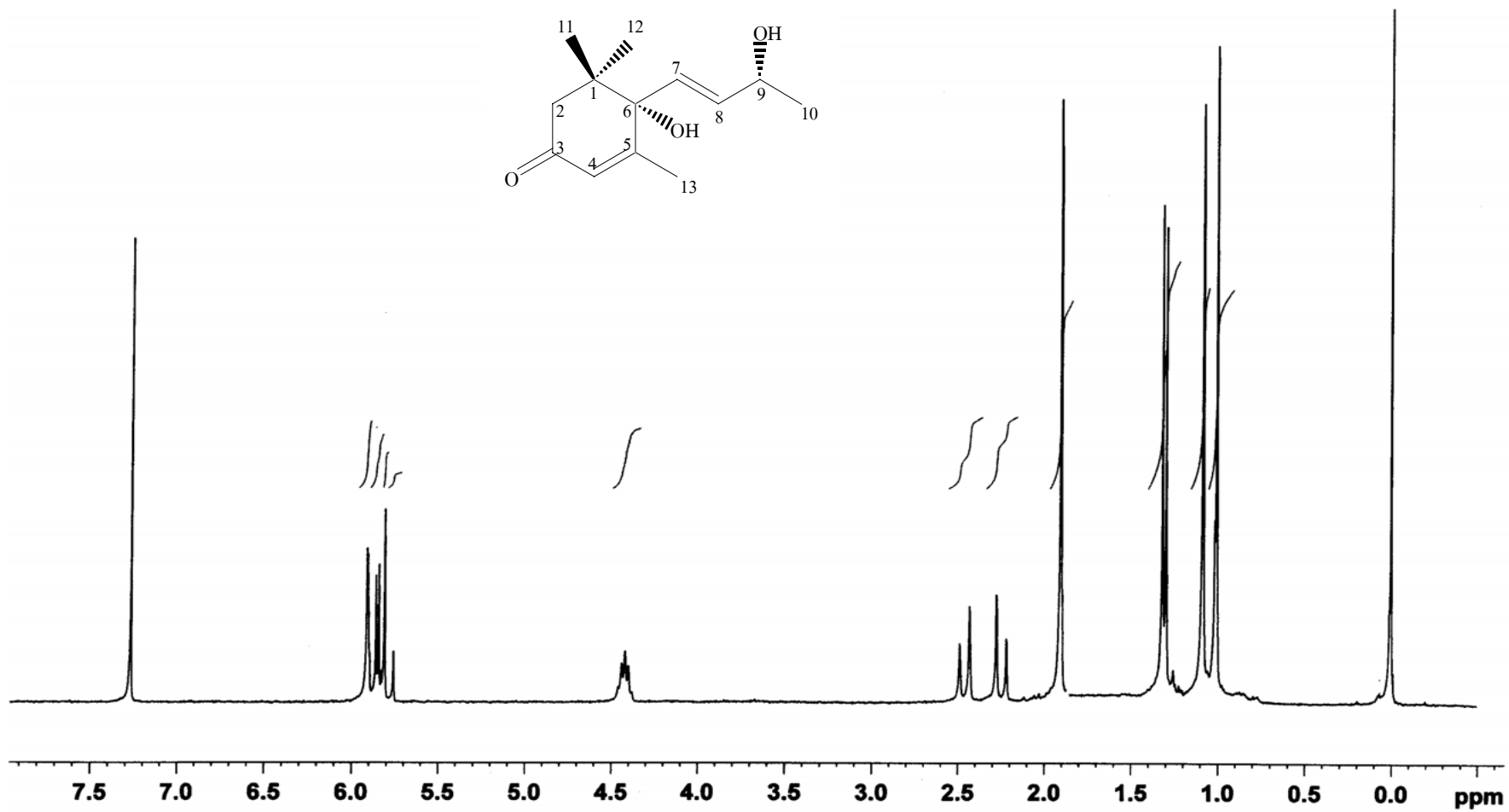
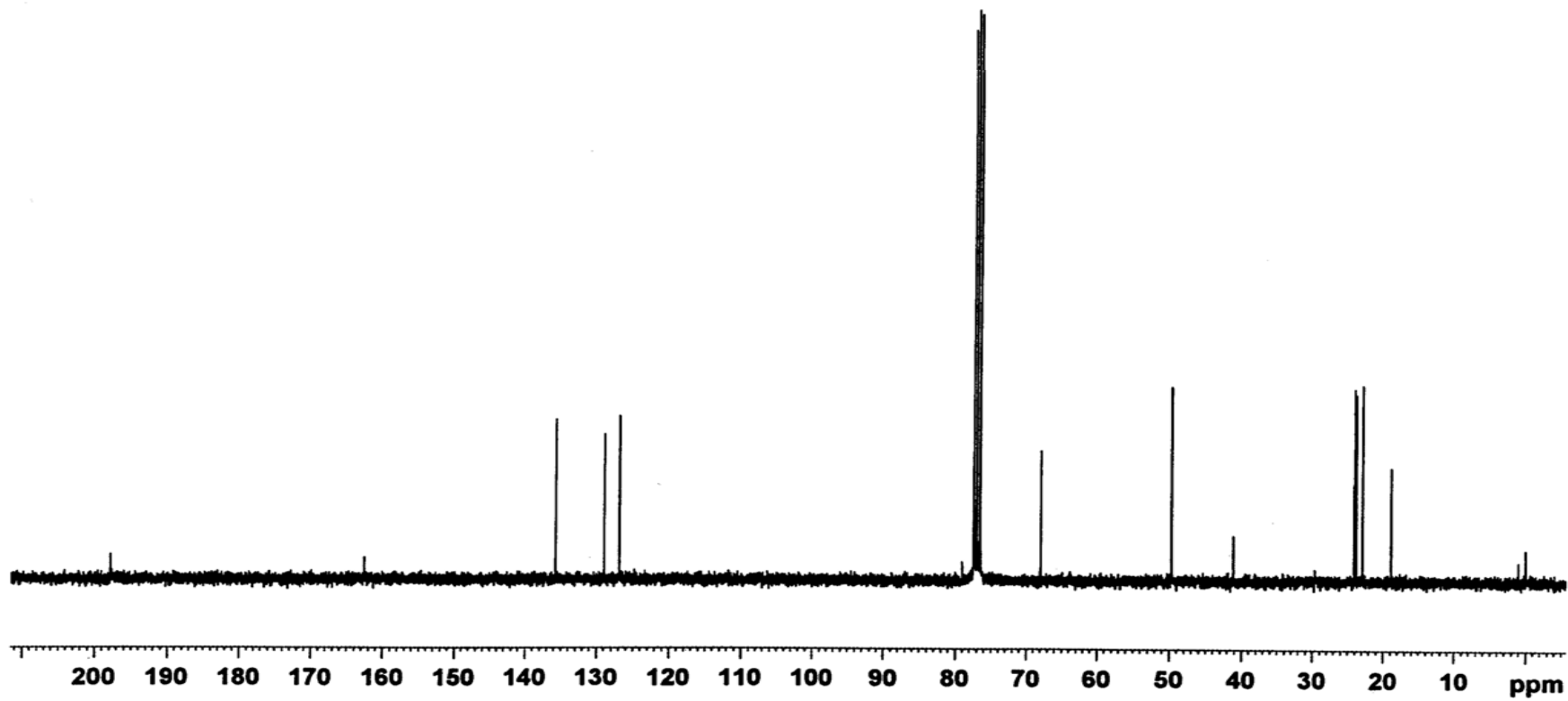


Figure 74 <sup>1</sup>H NMR (300 MHz) (CDCl<sub>3</sub>) spectrum of compound **PTM2**



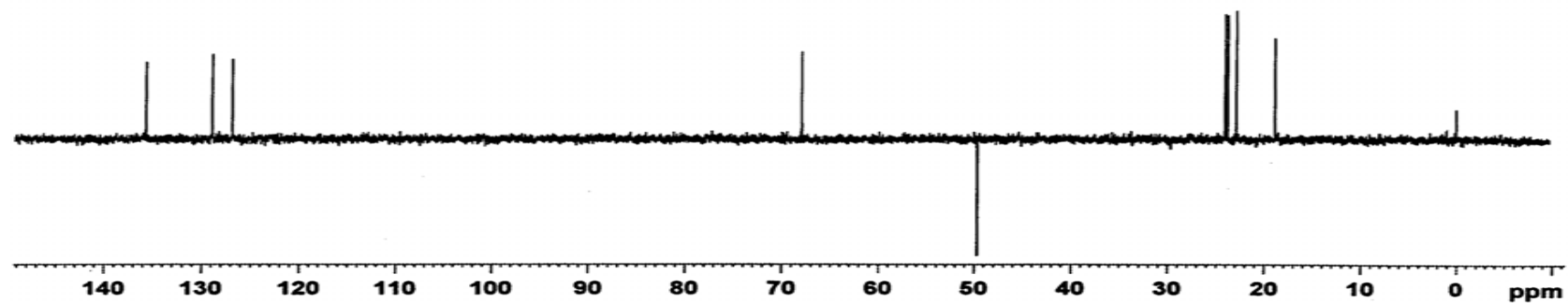


Figure 76 DEPT 135° (CDCl<sub>3</sub>) spectrum of compound PTM2

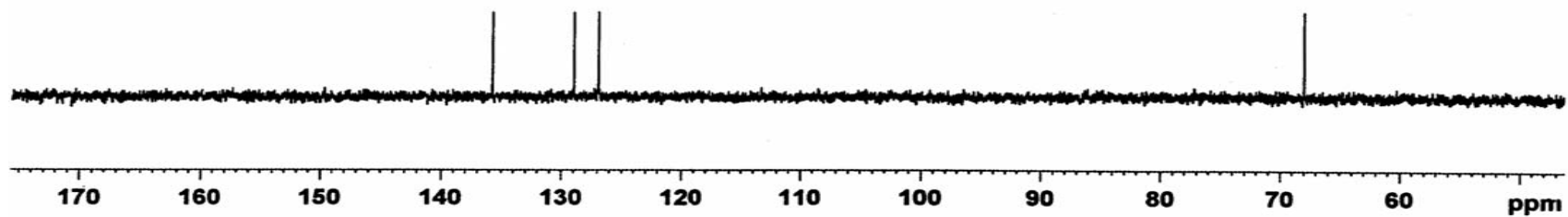


Figure 77 DEPT 90° (CDCl<sub>3</sub>) spectrum of compound PTM2

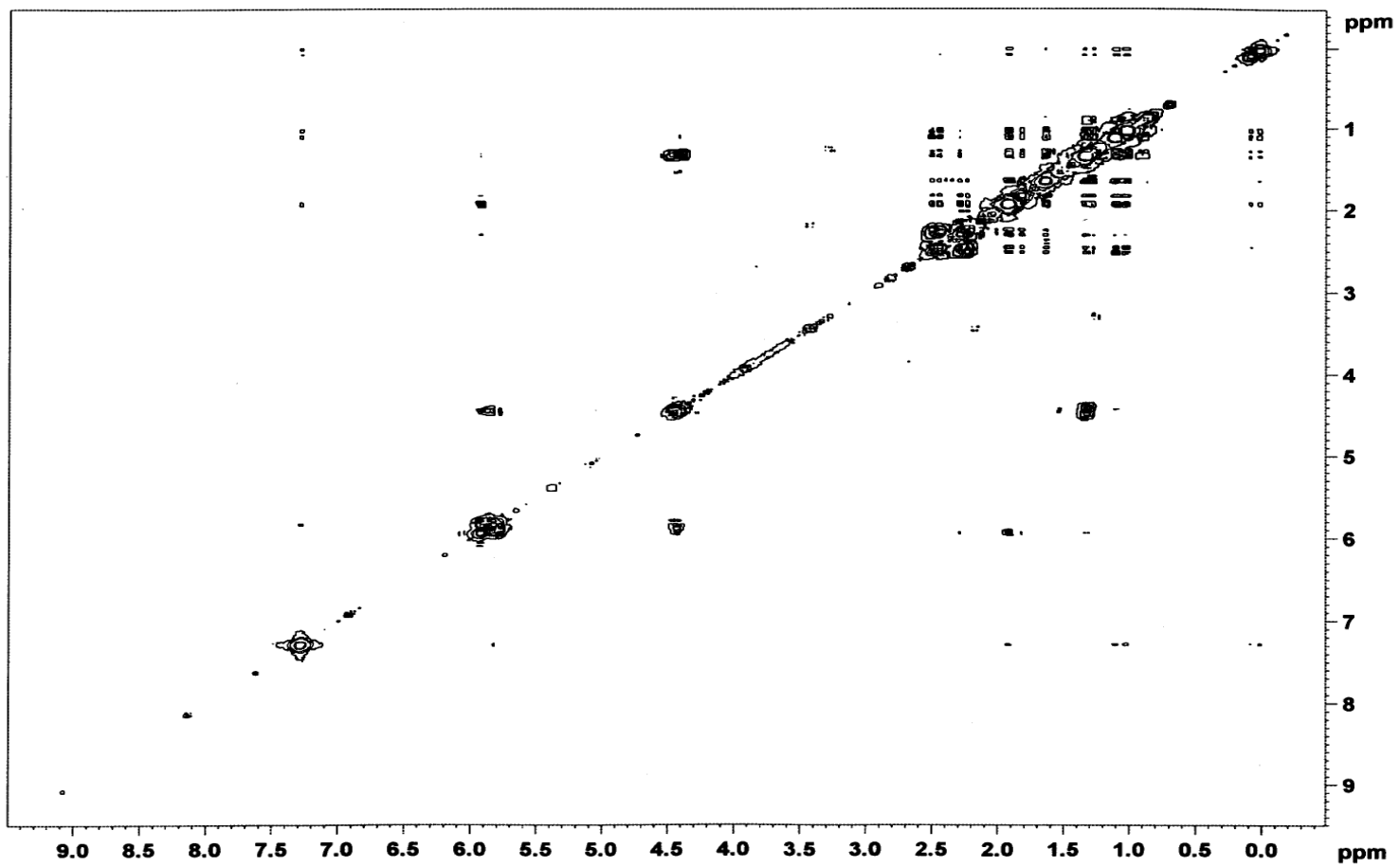




Figure 78 2D COSY (CDCl<sub>3</sub>) spectrum of compound PTM2

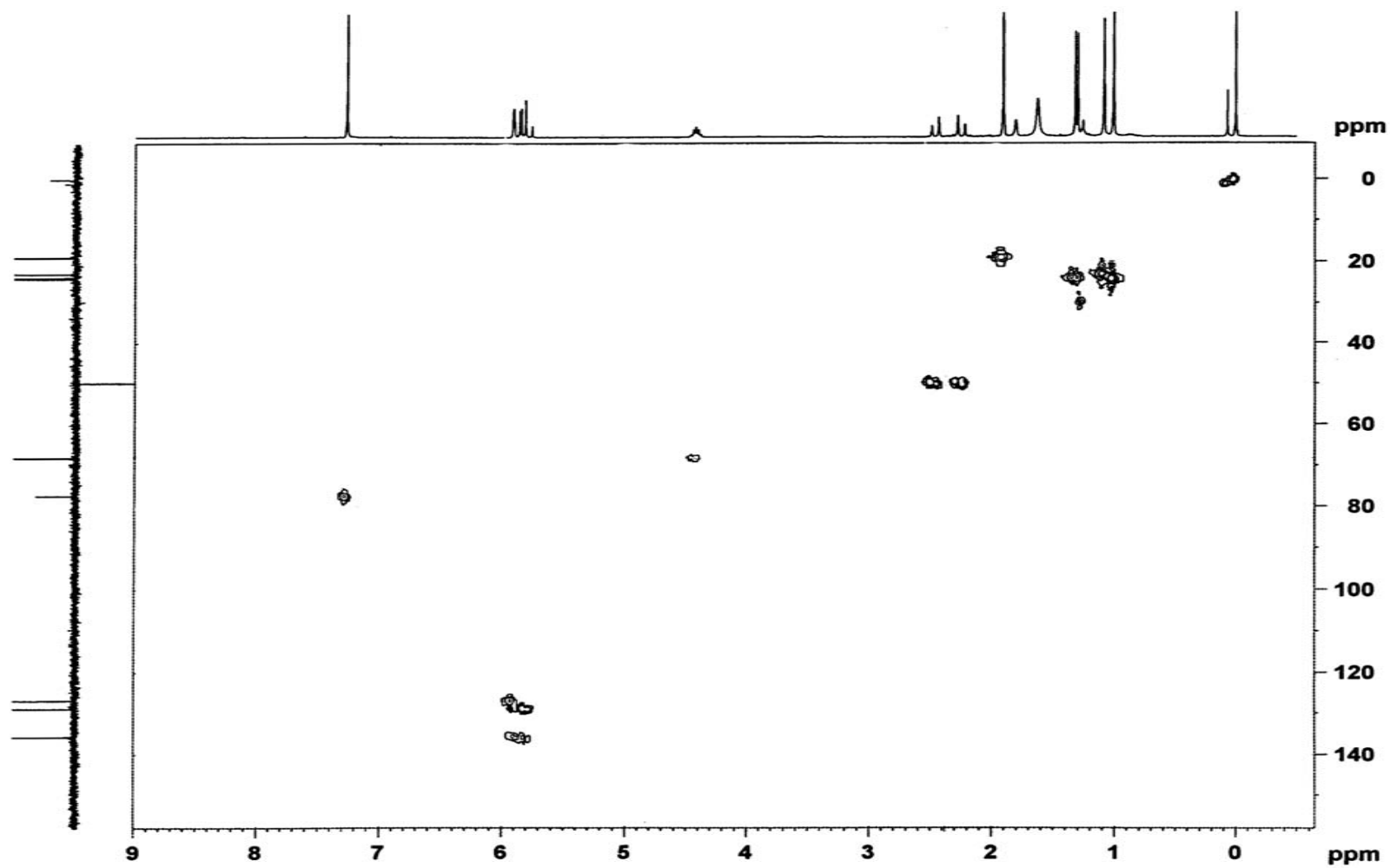
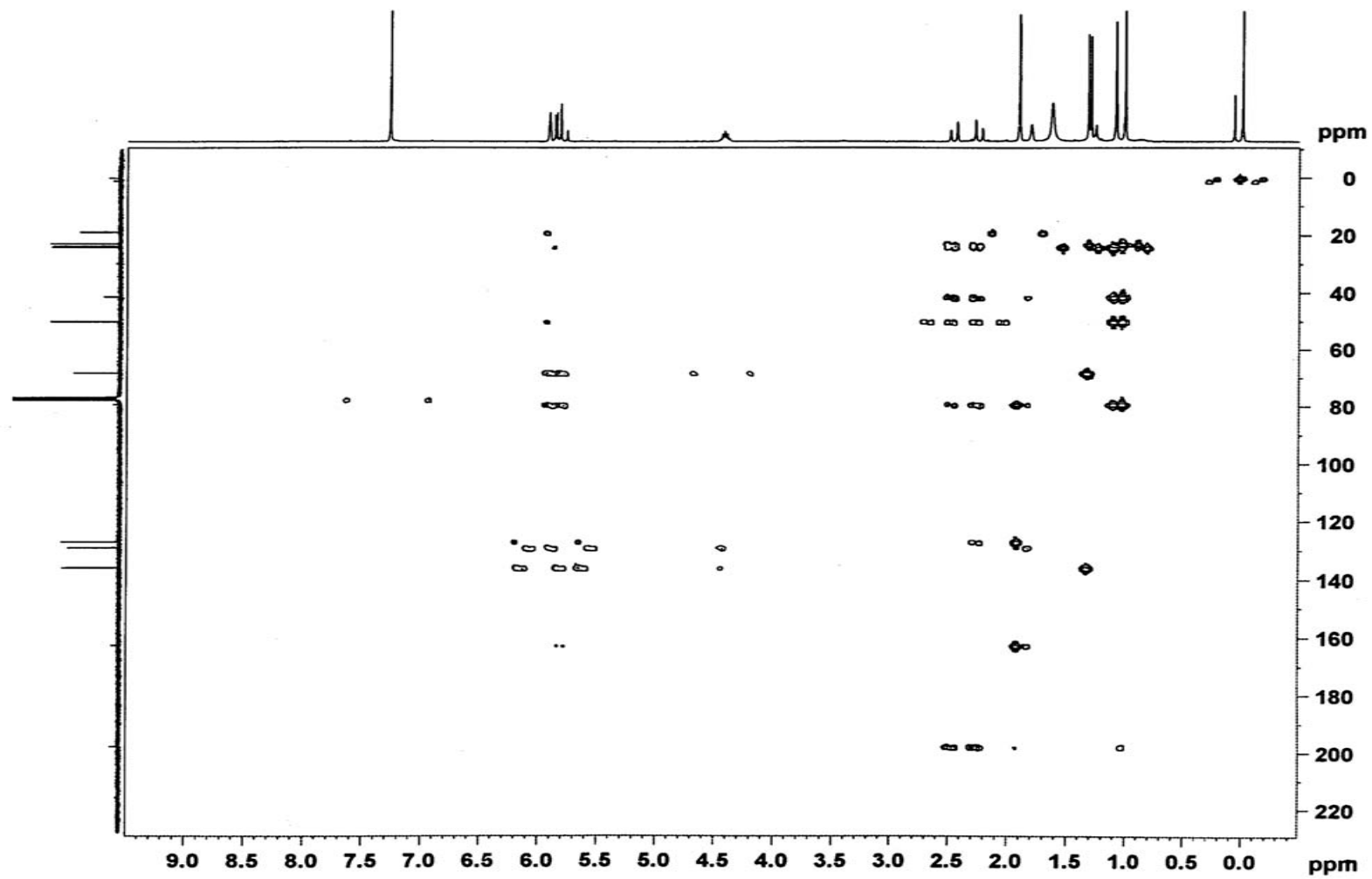
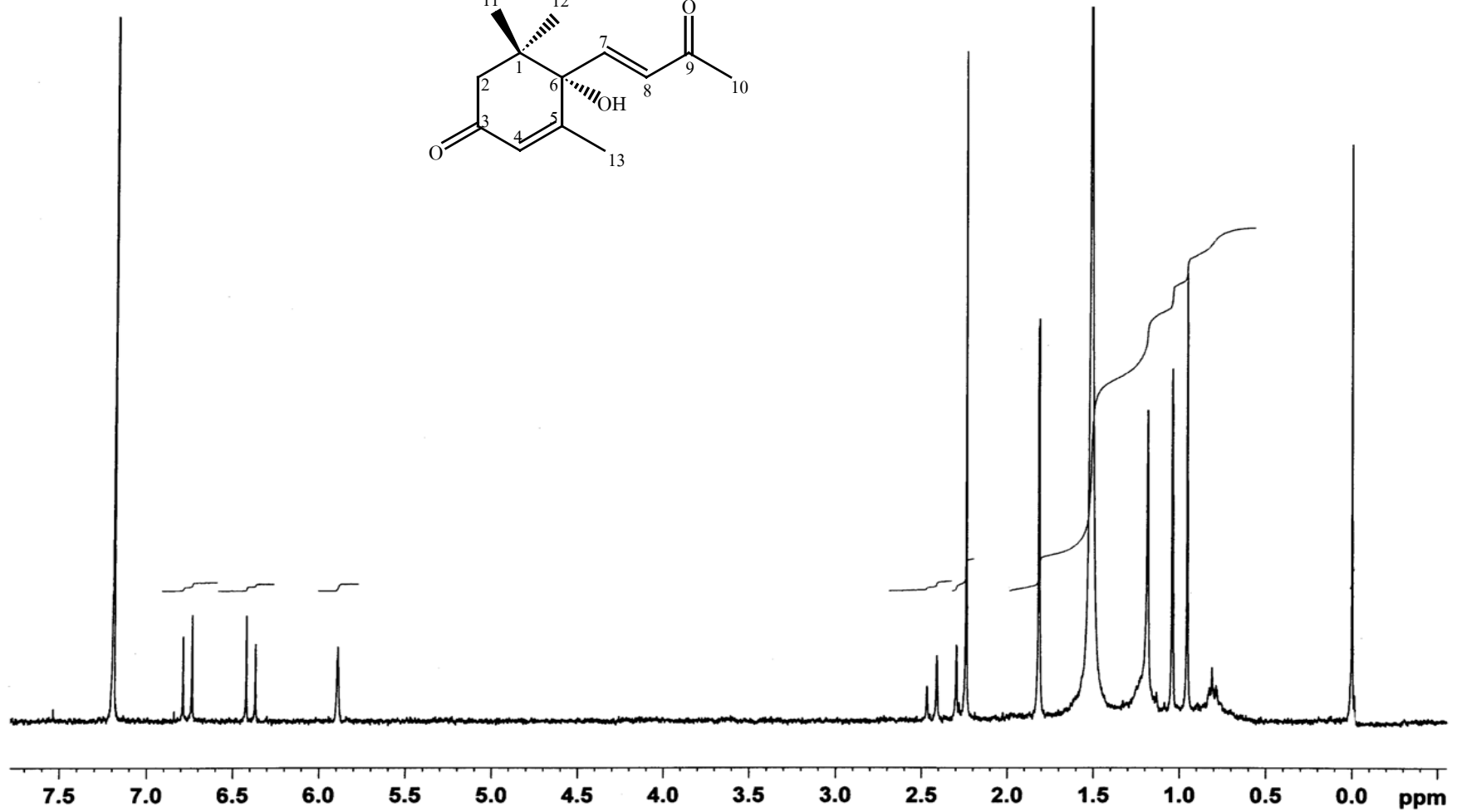
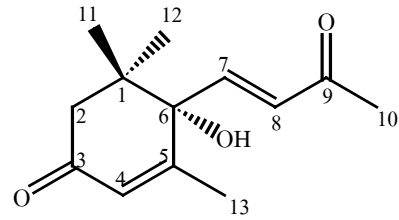


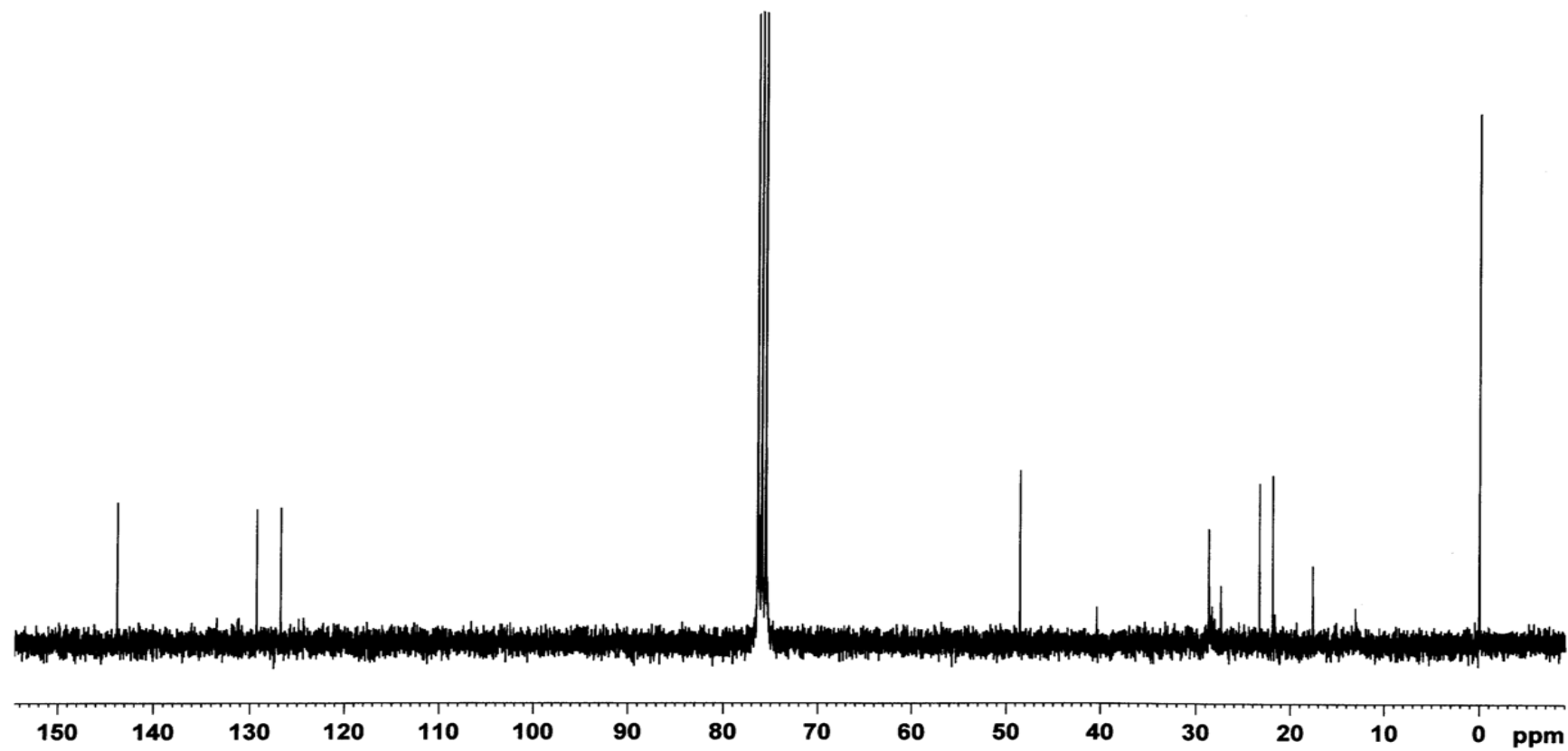
Figure 79 2D HMQC ( $\text{CDCl}_3$ ) spectrum of compound PTM2



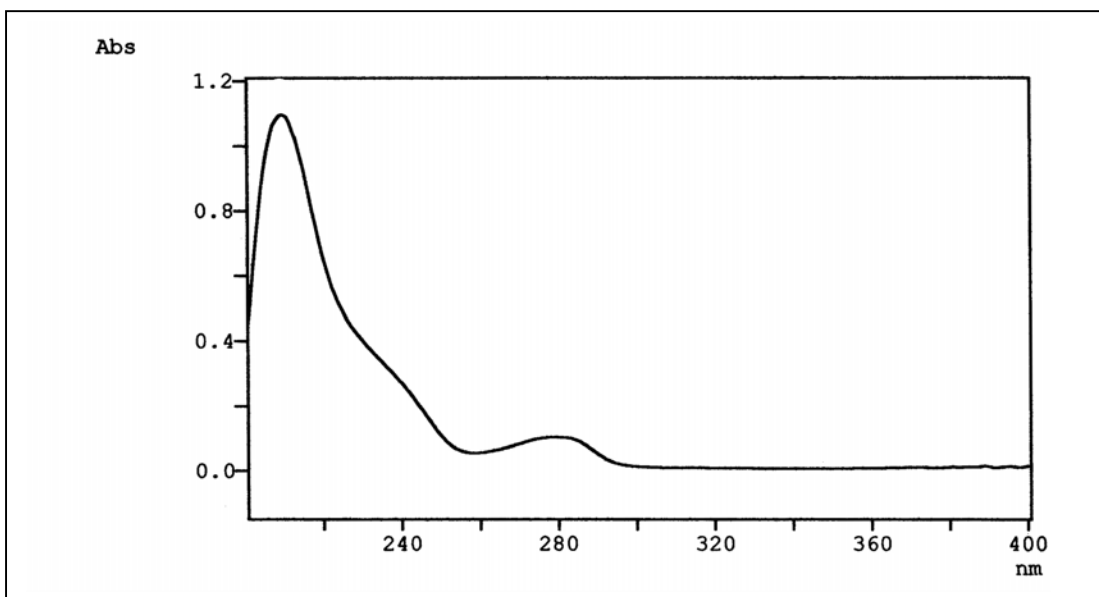
**Figure 80** 2D HMBC (CDCl<sub>3</sub>) spectrum of compound **PTM2**



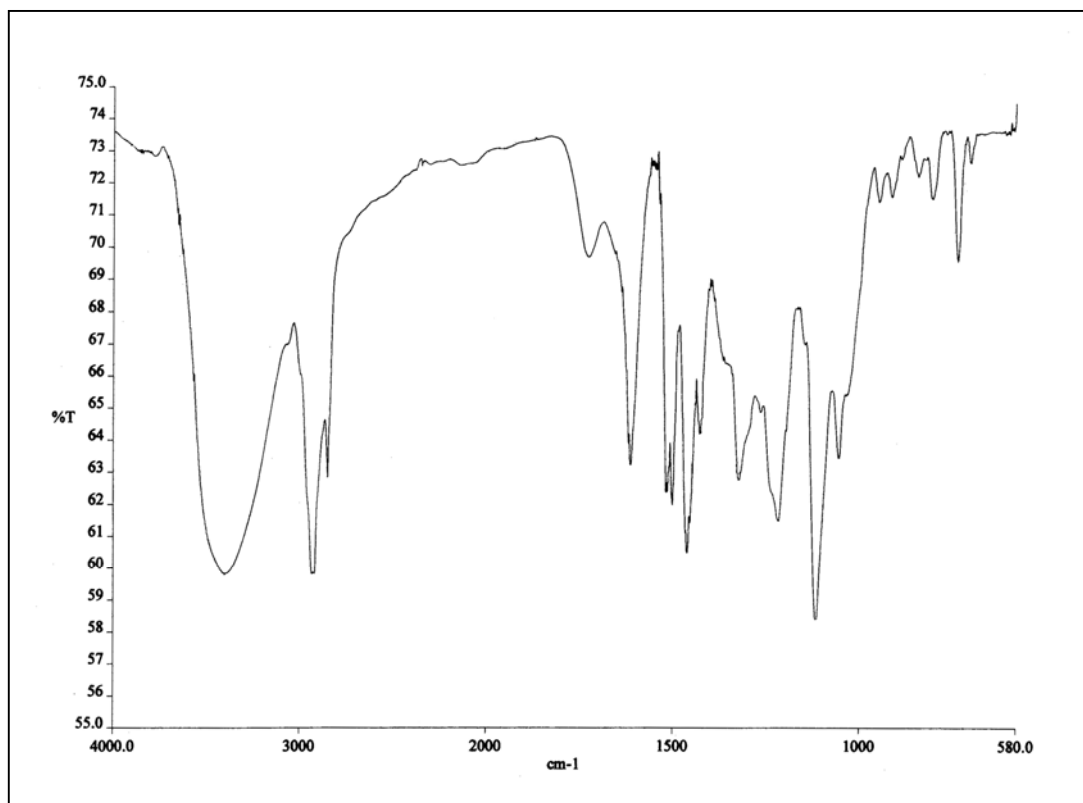
**Figure 81**  $^1\text{H}$  NMR (300 MHz) ( $\text{CDCl}_3$ ) spectrum of compound **PTM3**



**Figure 82**  $^{13}\text{C}$  NMR (75MHz) ( $\text{CDCl}_3$ ) spectrum of compound **PTM3**



**Figure 83** UV (MeOH) spectrum of compound **PTM4**



**Figure 84** IR (neat) spectrum of compound **PTM4**

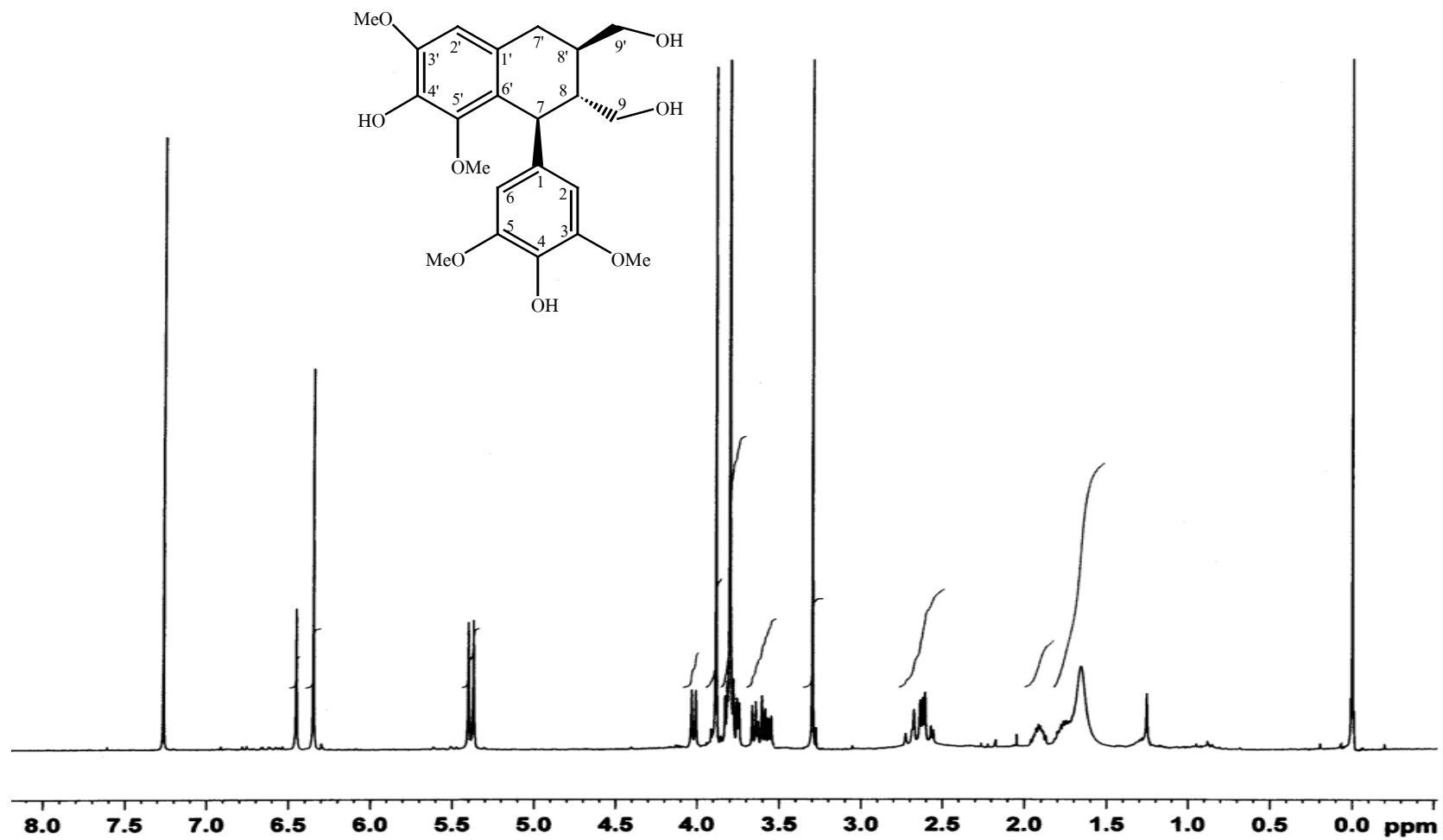
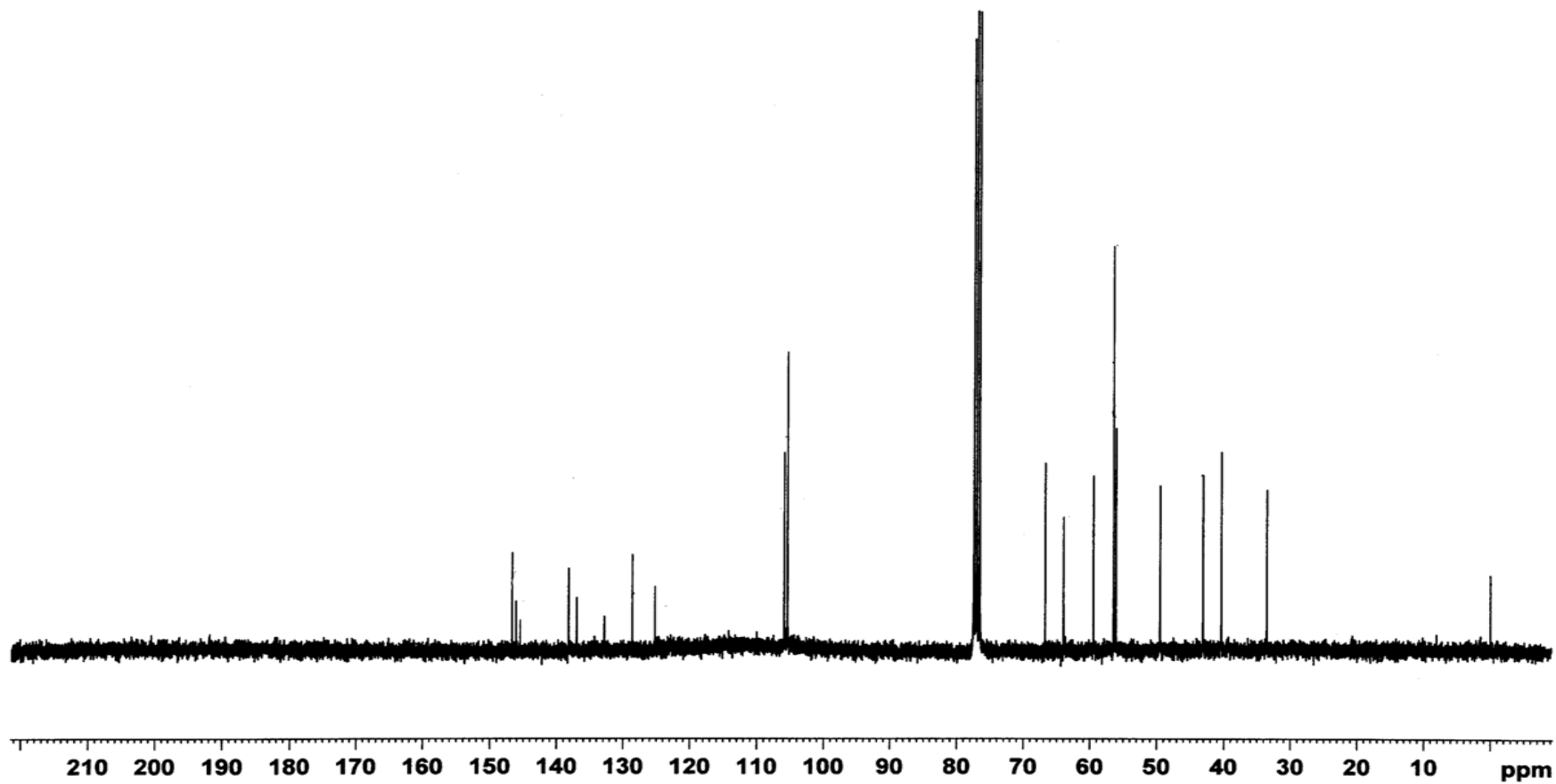
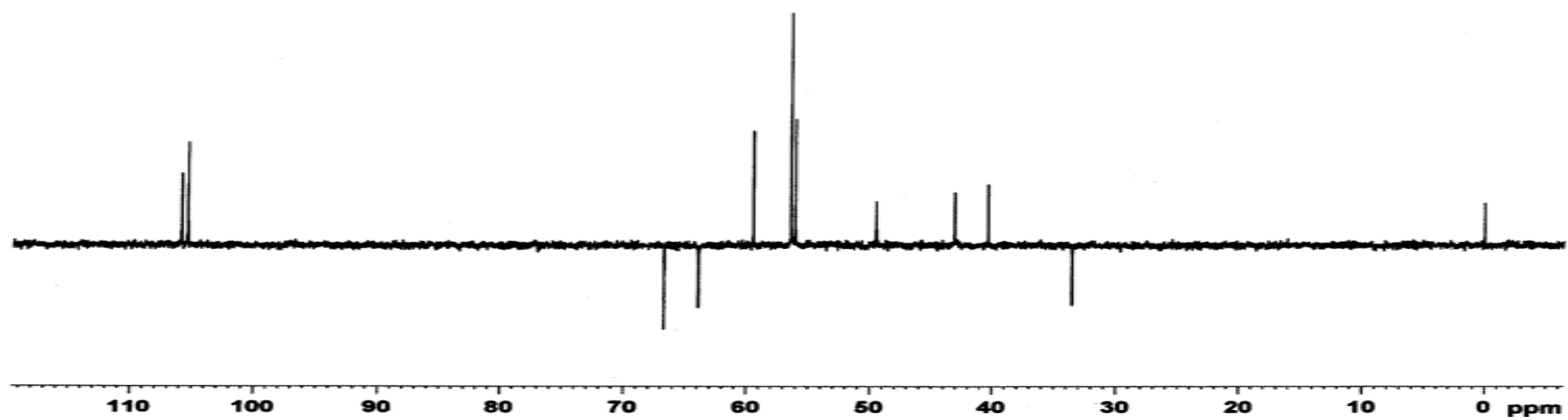


Figure 85 <sup>1</sup>H NMR (300 MHz) (CDCl<sub>3</sub>) spectrum of compound PTM4





**Figure 86**  $^{13}\text{C}$  NMR (75 MHz) ( $\text{CDCl}_3$ ) spectrum of compound **PTM4**



**Figure 87** DEPT  $135^\circ$  ( $\text{CDCl}_3$ ) spectrum of compound **PTM4**

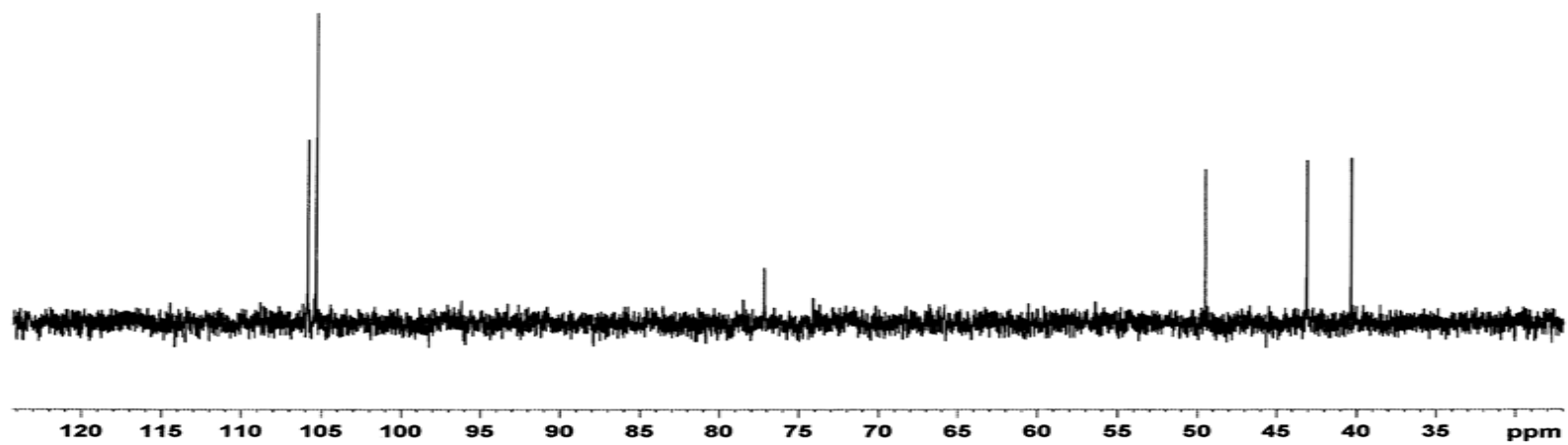


Figure 88 DEPT 90° (CDCl<sub>3</sub>) spectrum of compound PTM4

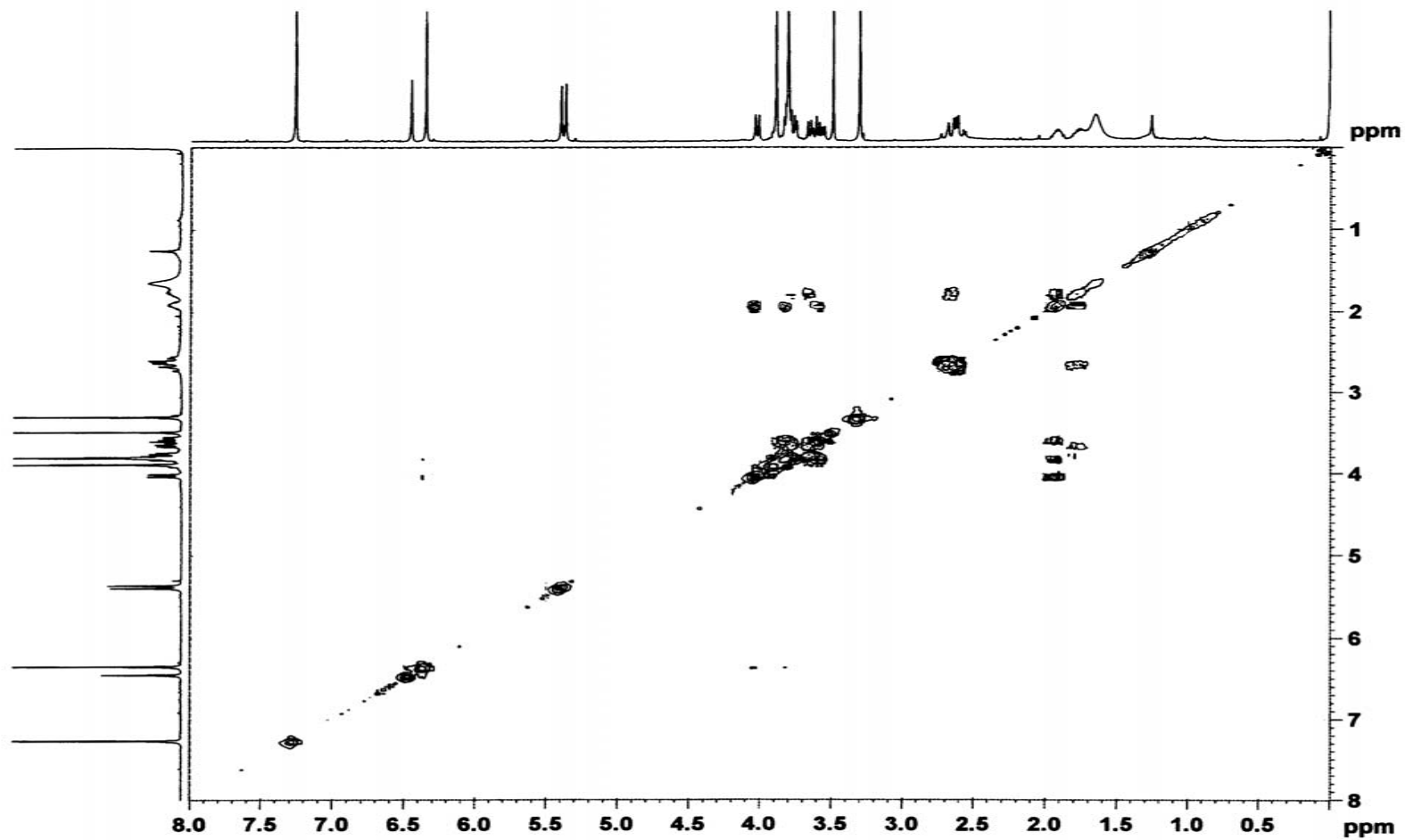


Figure 89 2D COSY (CDCl<sub>3</sub>) spectrum of compound PTM4

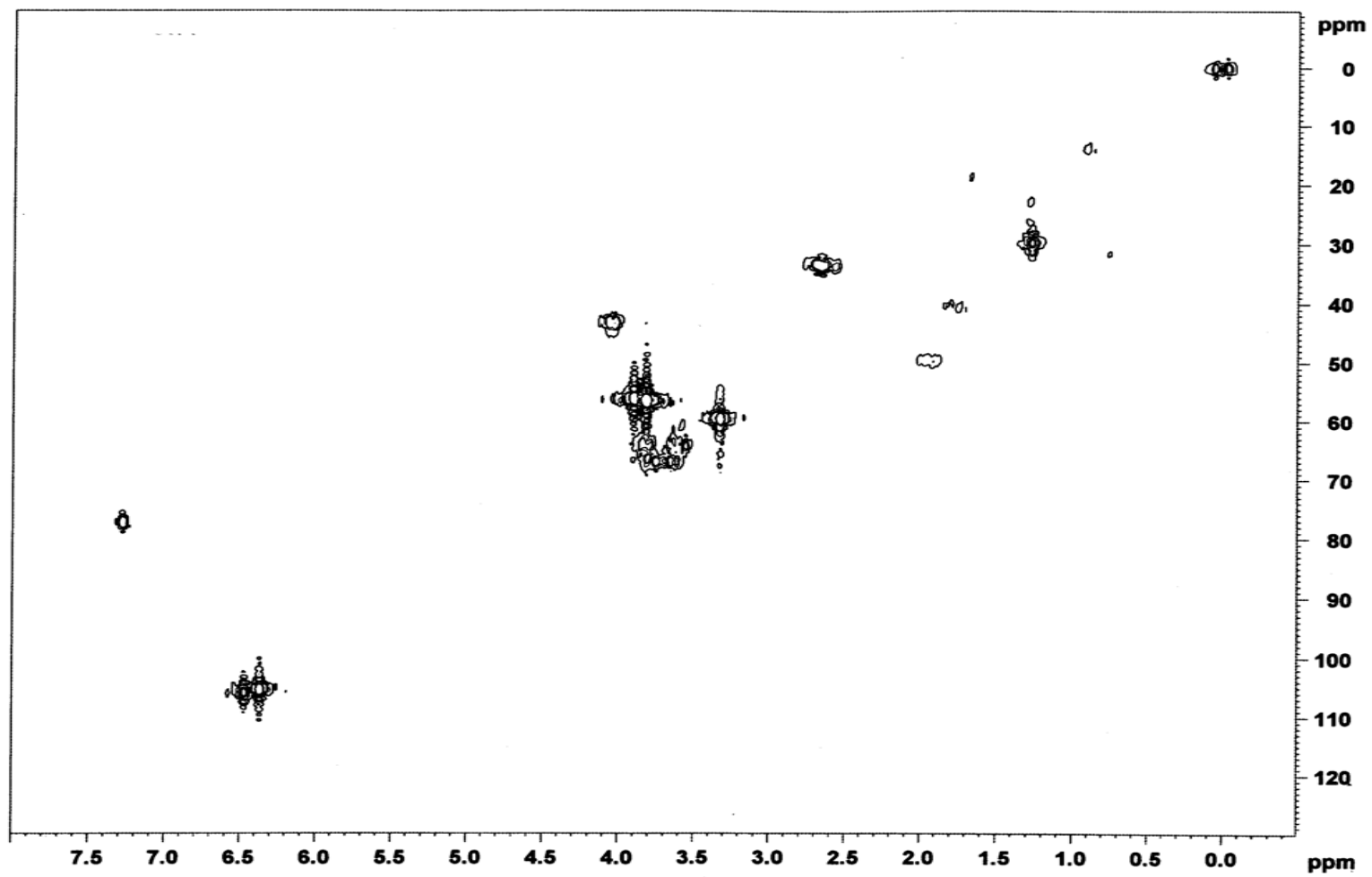
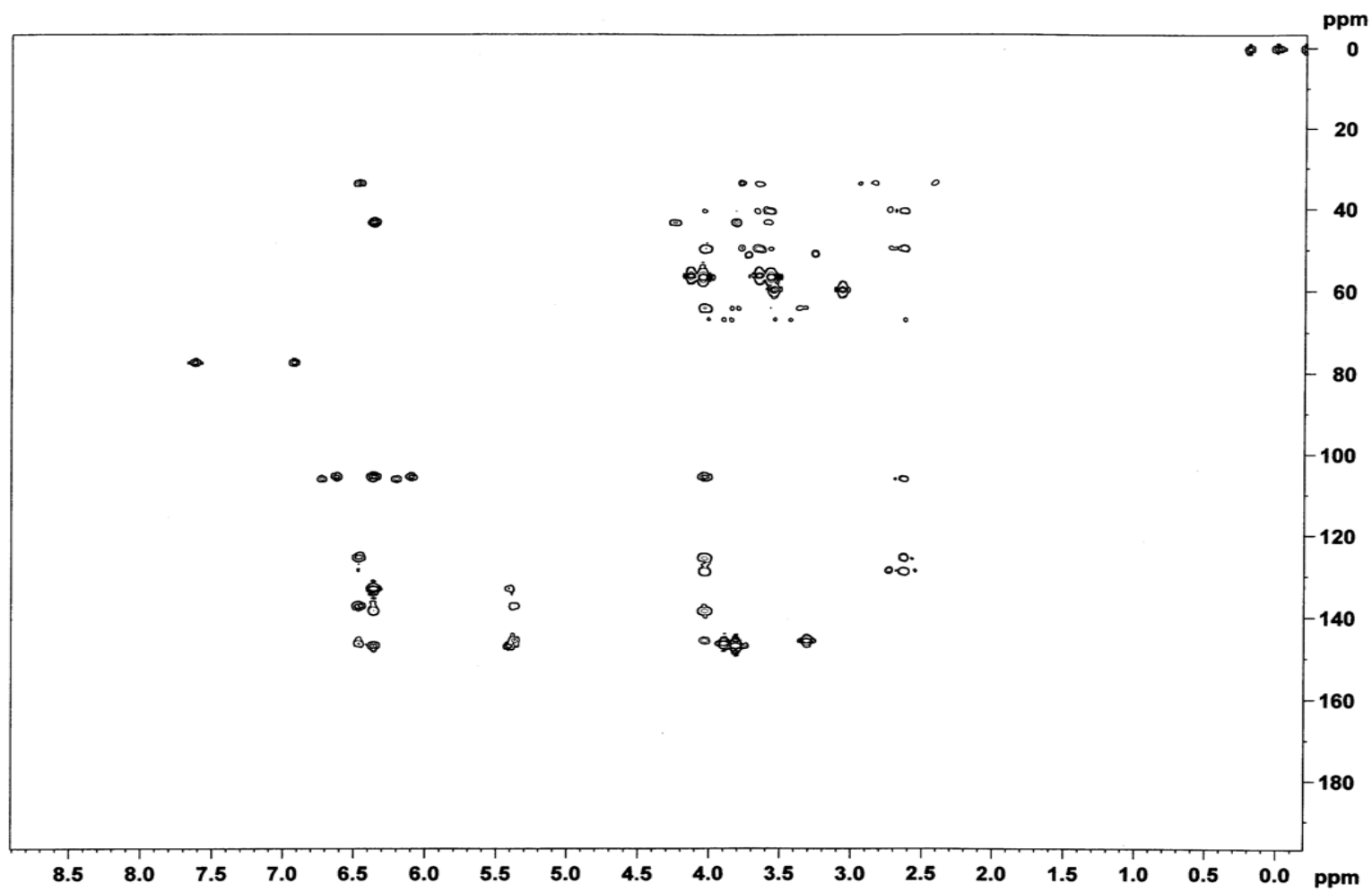
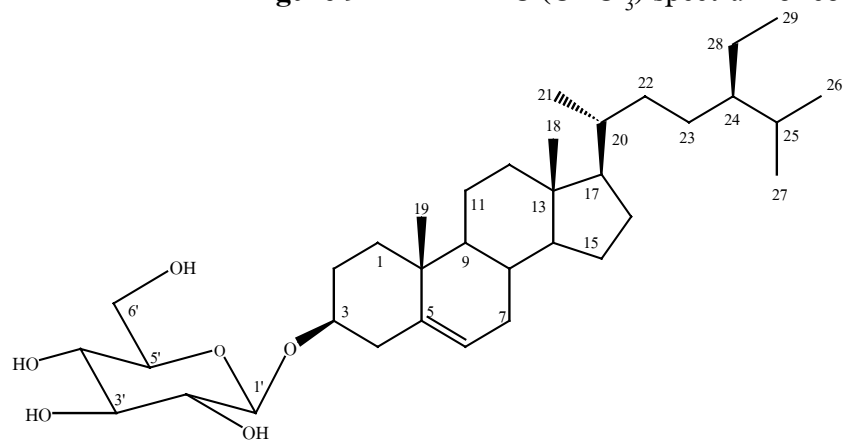


Figure 90 2D HMQC ( $\text{CDCl}_3$ ) spectrum of compound PTM4



**Figure 91** 2D HMBC ( $\text{CDCl}_3$ ) spectrum of compound **PTM4**



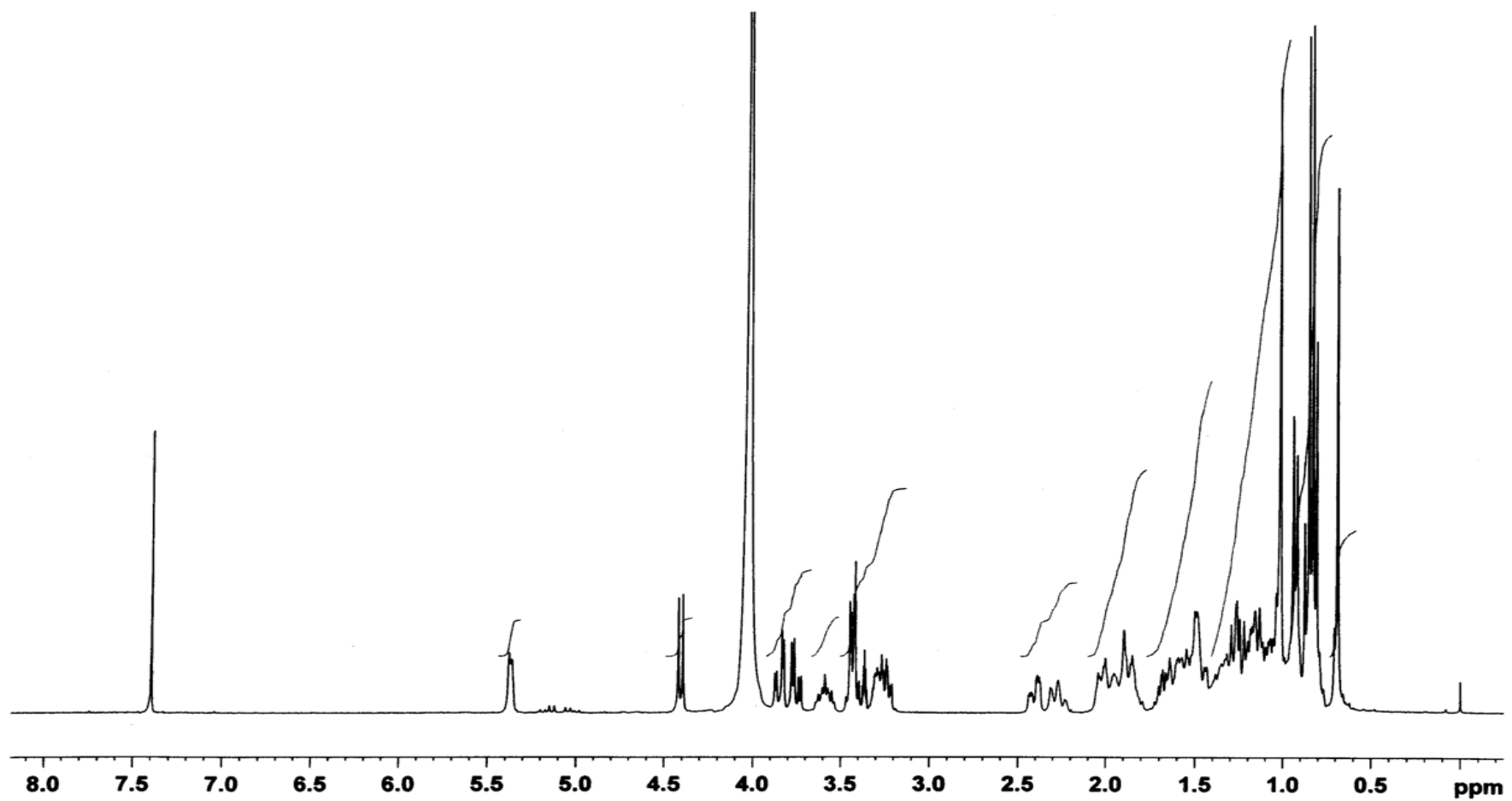


Figure 92 <sup>1</sup>H NMR (300 MHz) (CDCl<sub>3</sub>+CD<sub>3</sub>OD) spectrum of compound **PTM5**

