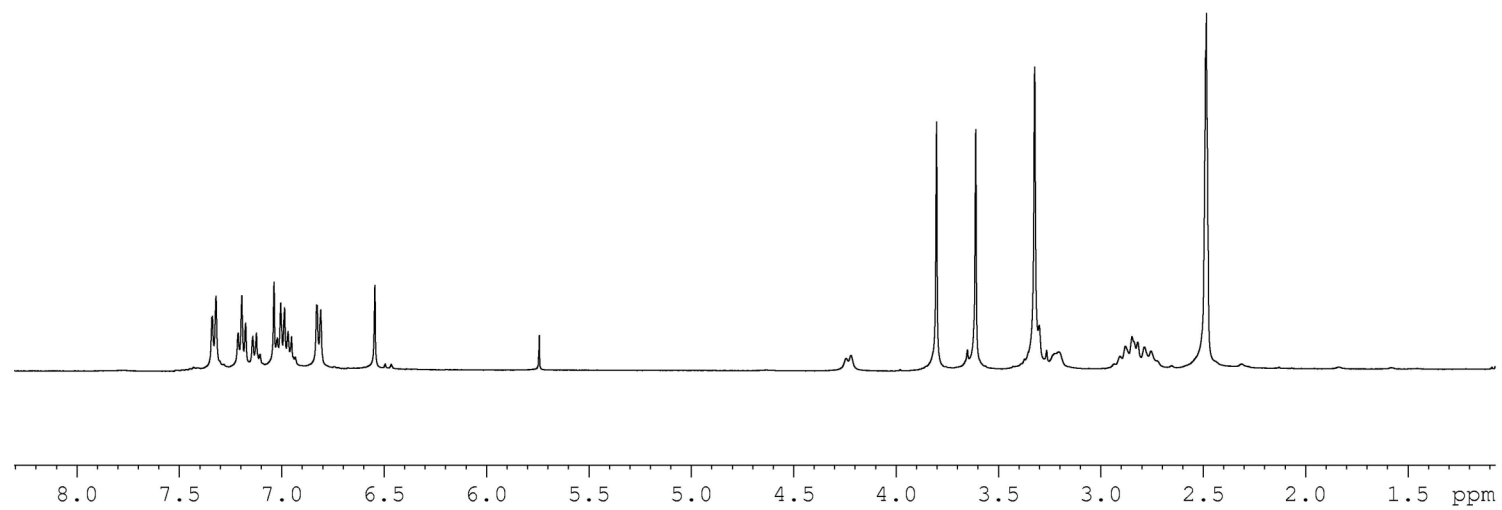
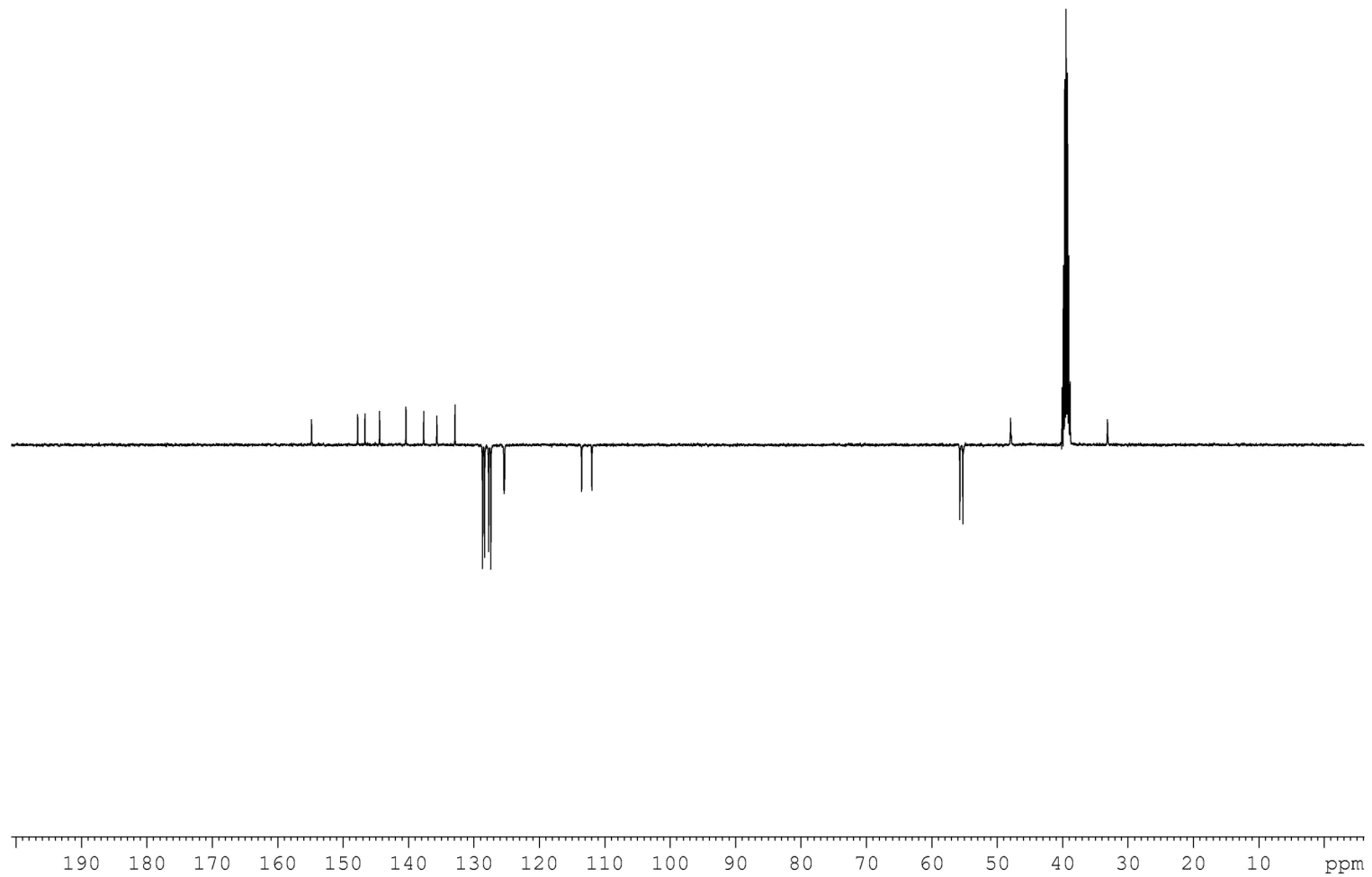


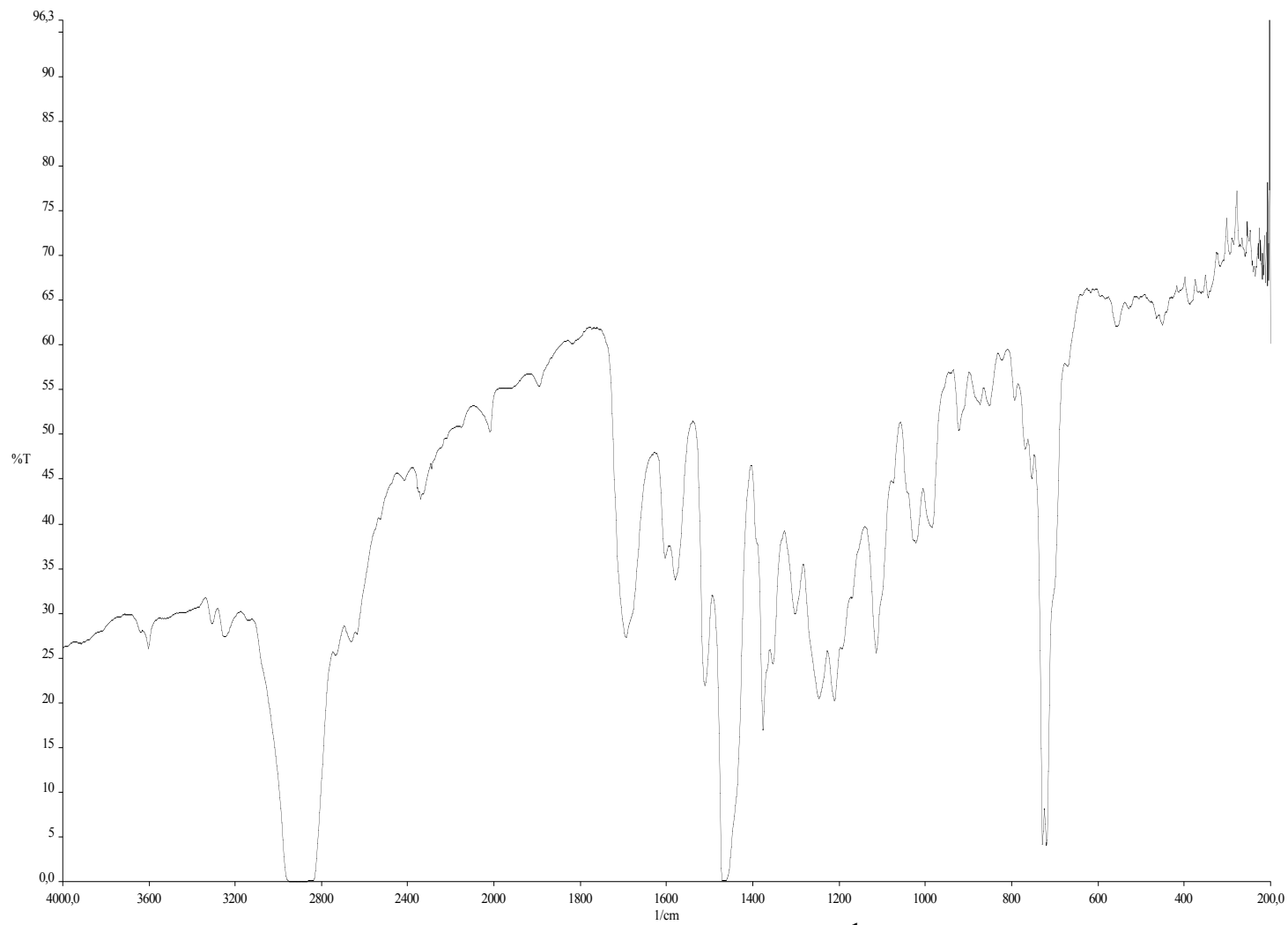
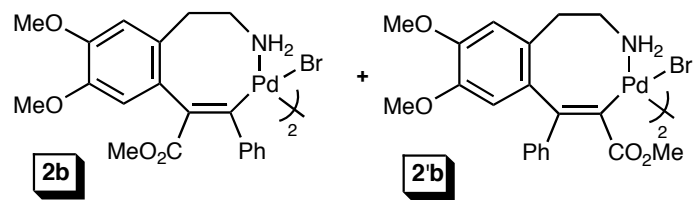
**IR spectrum of 1b (Nujol, cm<sup>-1</sup>)**



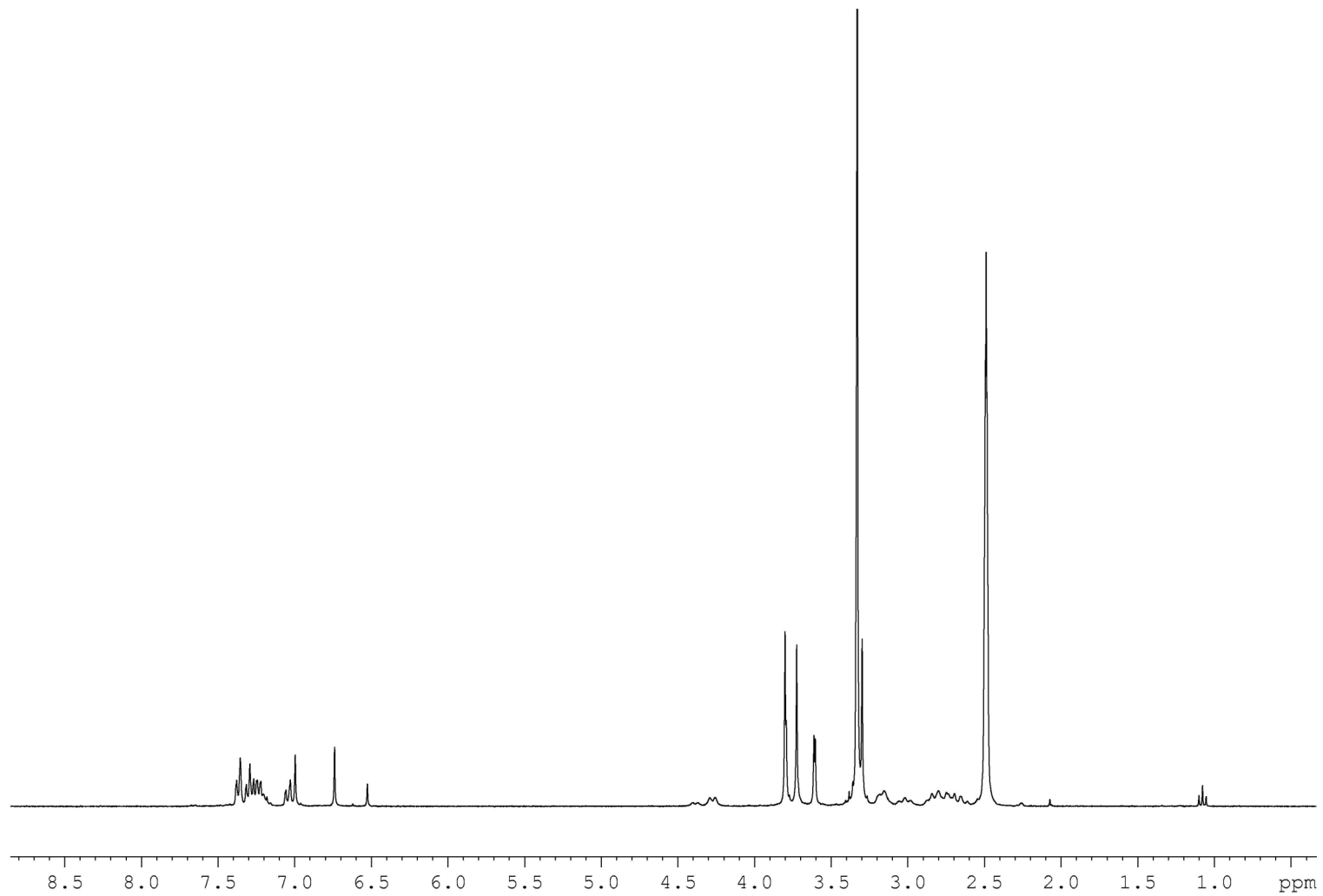
**$^1\text{H}$  NMR spectrum of 1b (DMSO- $d_6$ , 25 °C)**



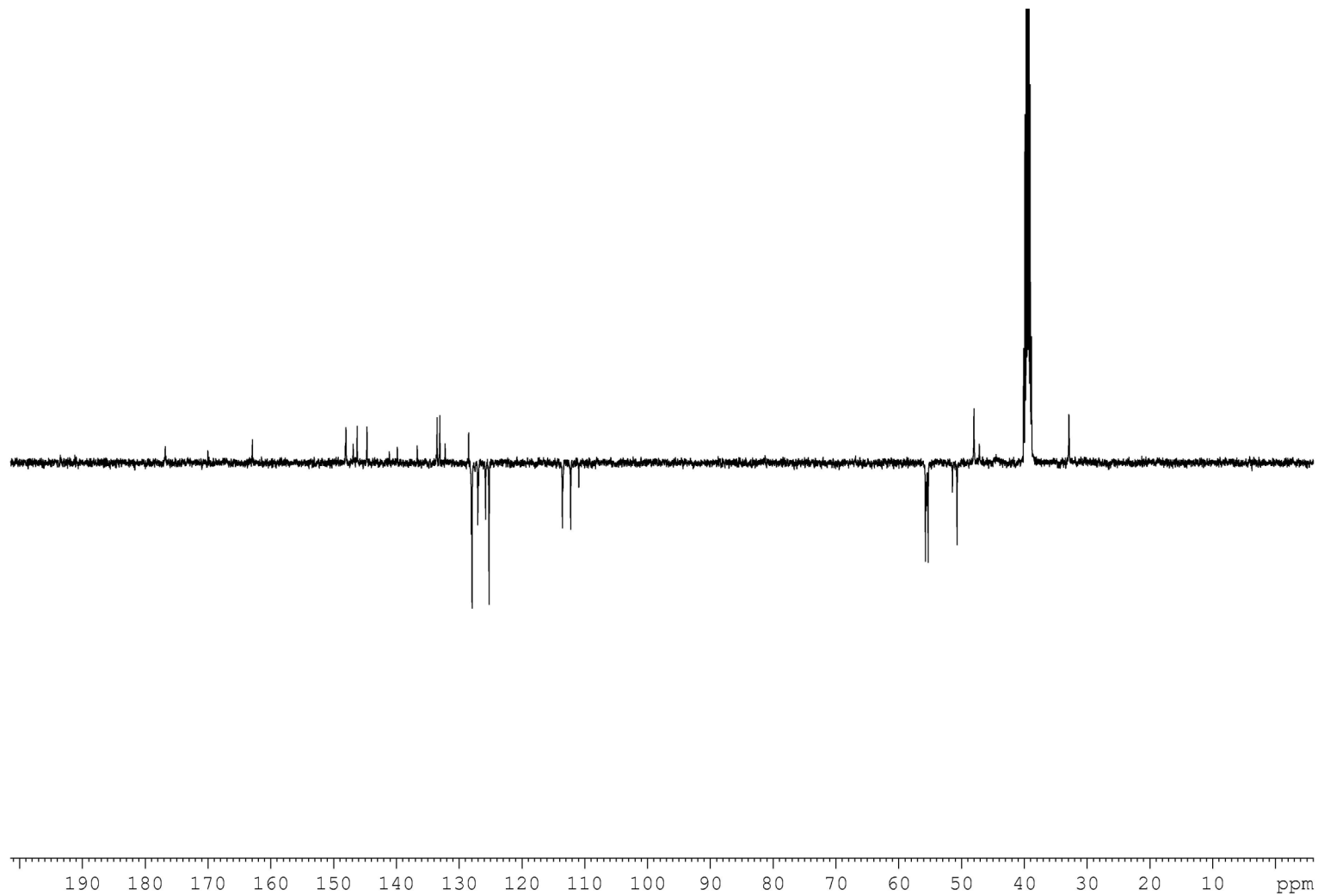
$^{13}\text{C}$  APT NMR spectrum of 1b (DMSO- $d_6$ , 25 °C)



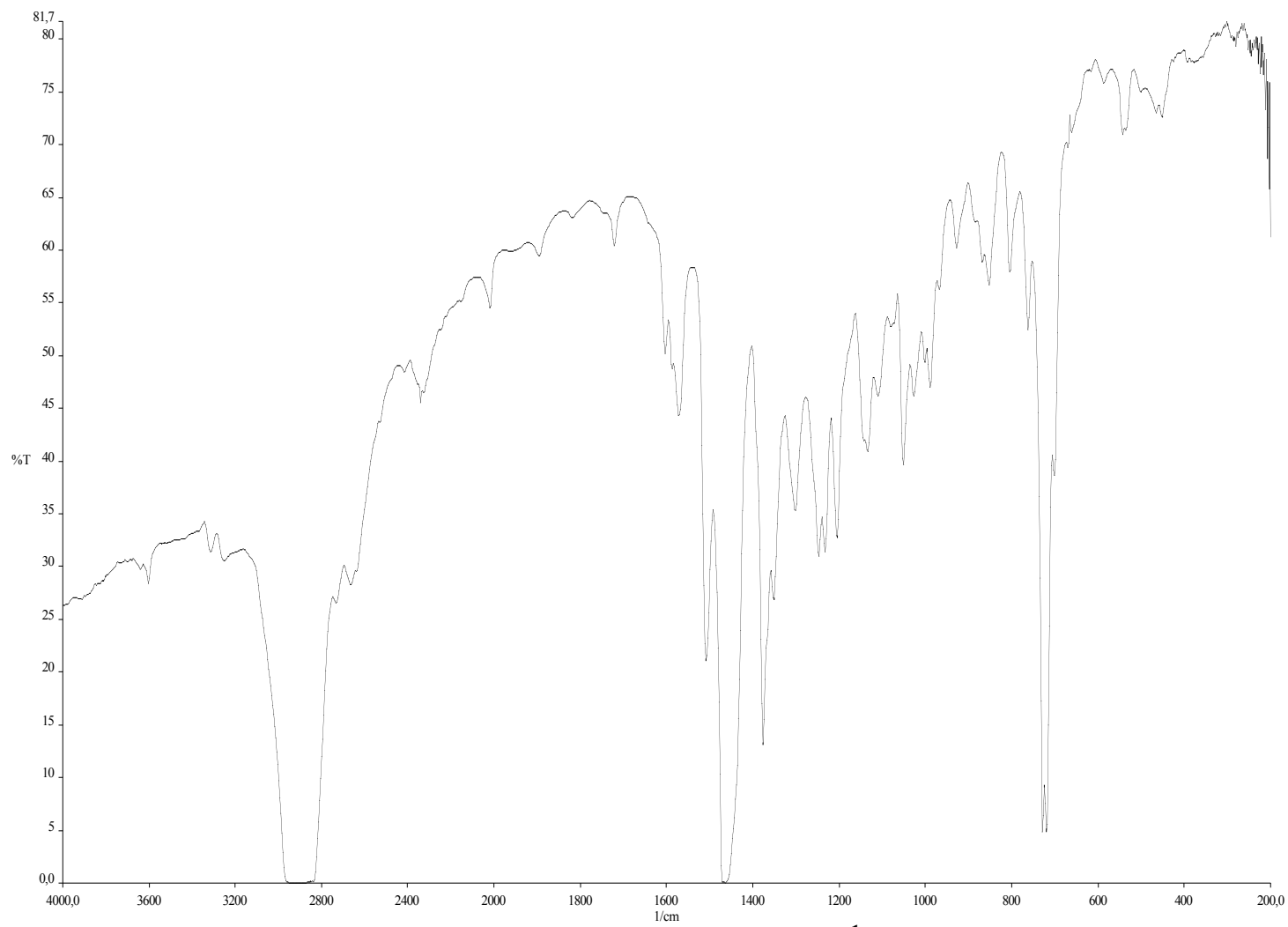
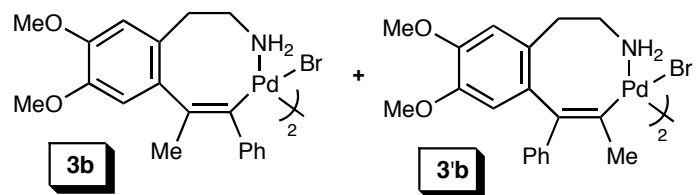
IR spectrum of 2b + 2'b (Nujol, cm<sup>-1</sup>)



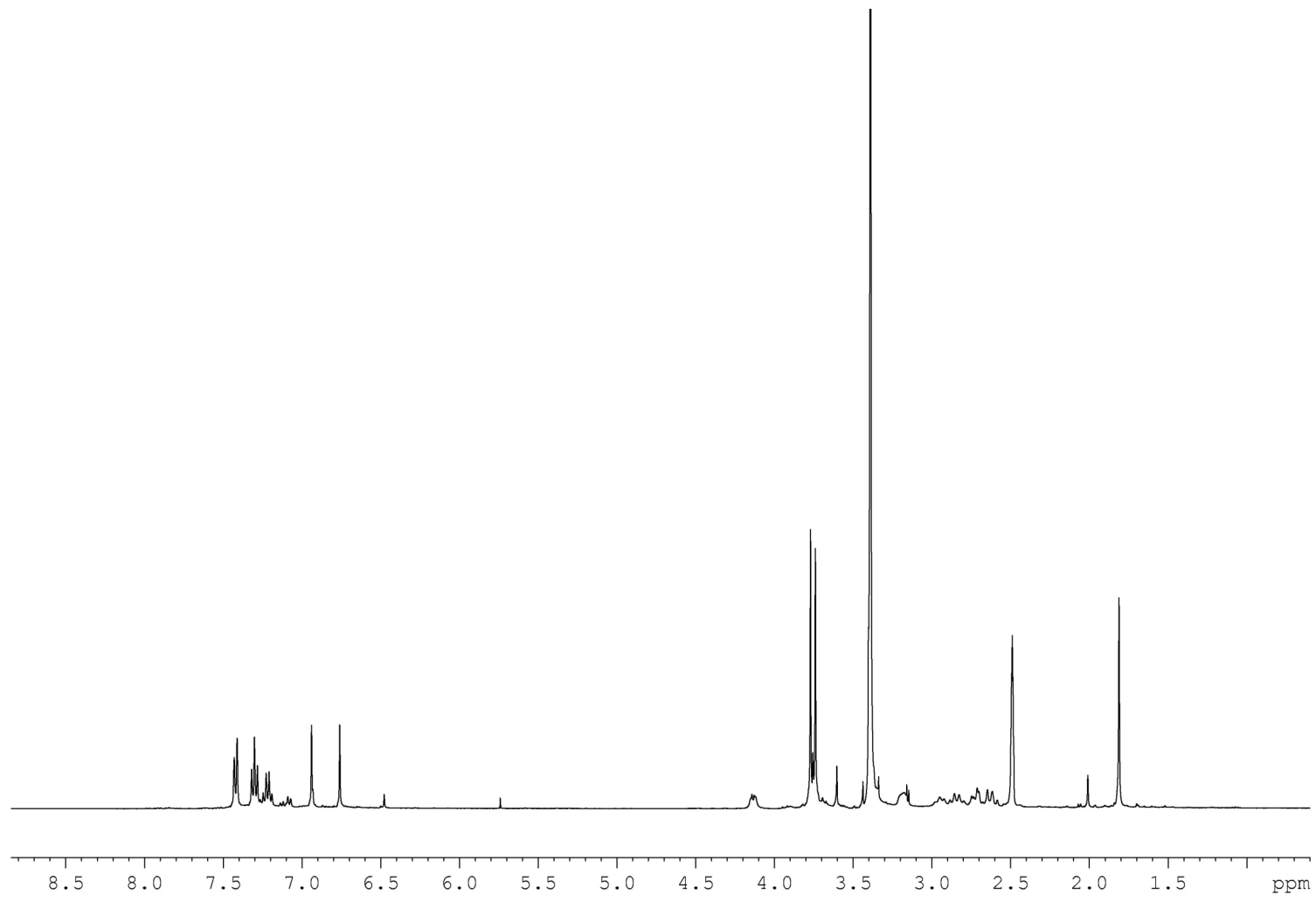
**$^1\text{H}$  NMR spectrum of **2b** + **2'b** (DMSO- $d_6$ , 25 °C)**



$^{13}\text{C}$  APT NMR spectrum of **2b** + **2'b** (DMSO- $d_6$ , 25 °C)

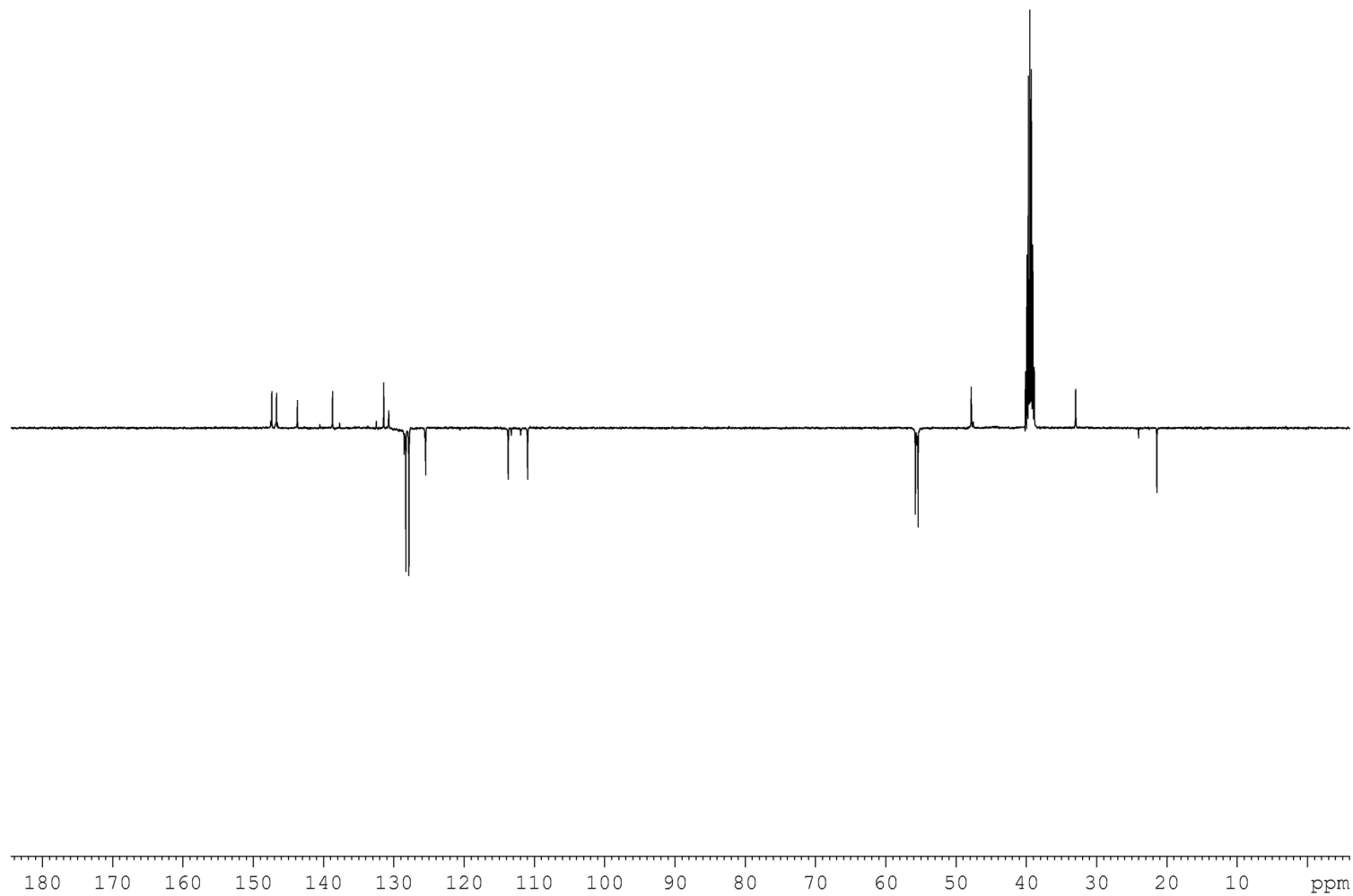


IR spectrum of 3b + 3'b (Nujol,  $\text{cm}^{-1}$ )

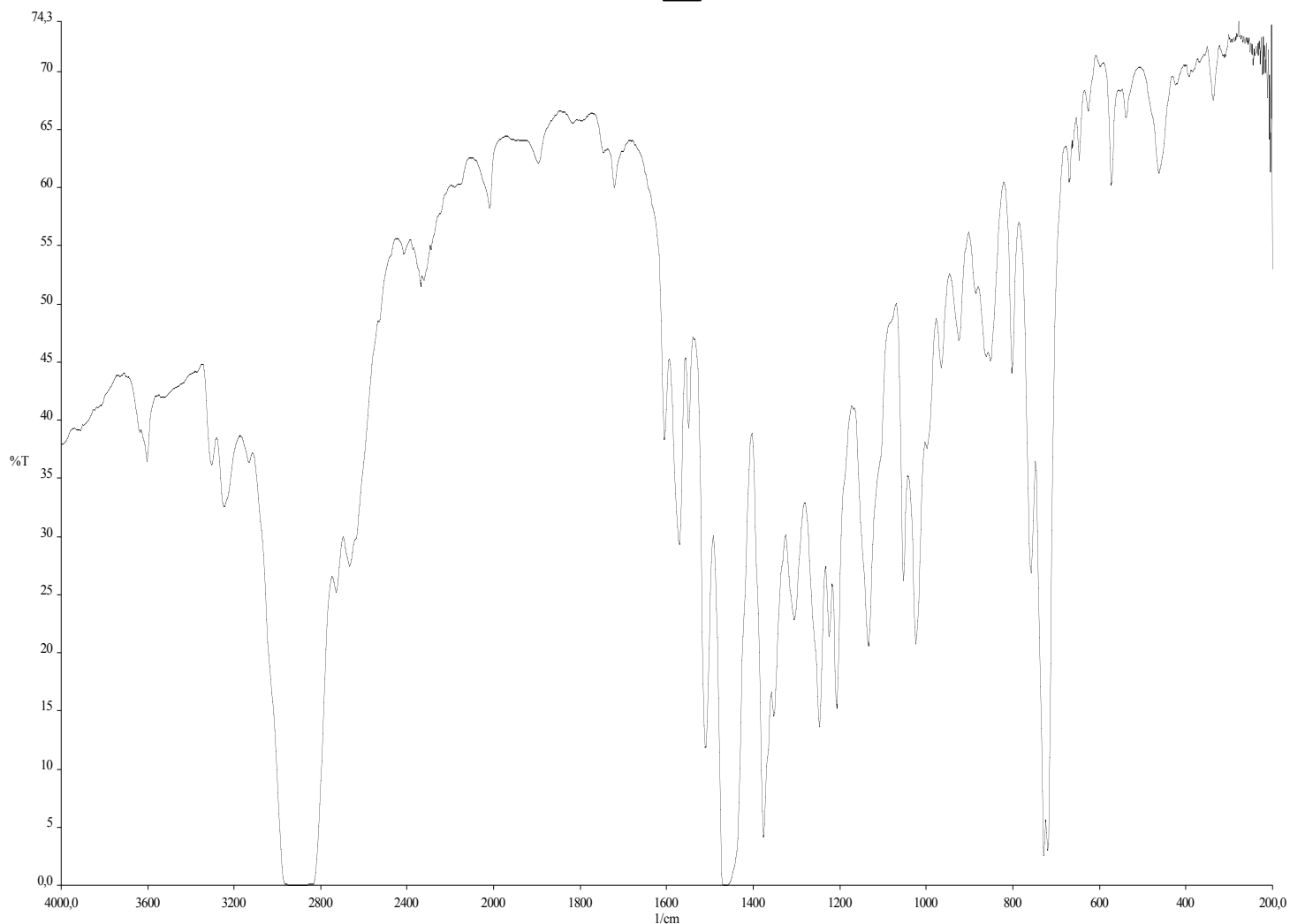
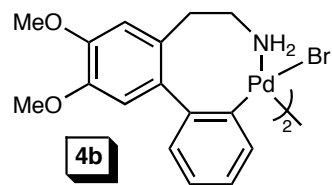


$^1\text{H}$  NMR spectrum of **3b** + **3'b** (DMSO- $d_6$ , 25 °C)

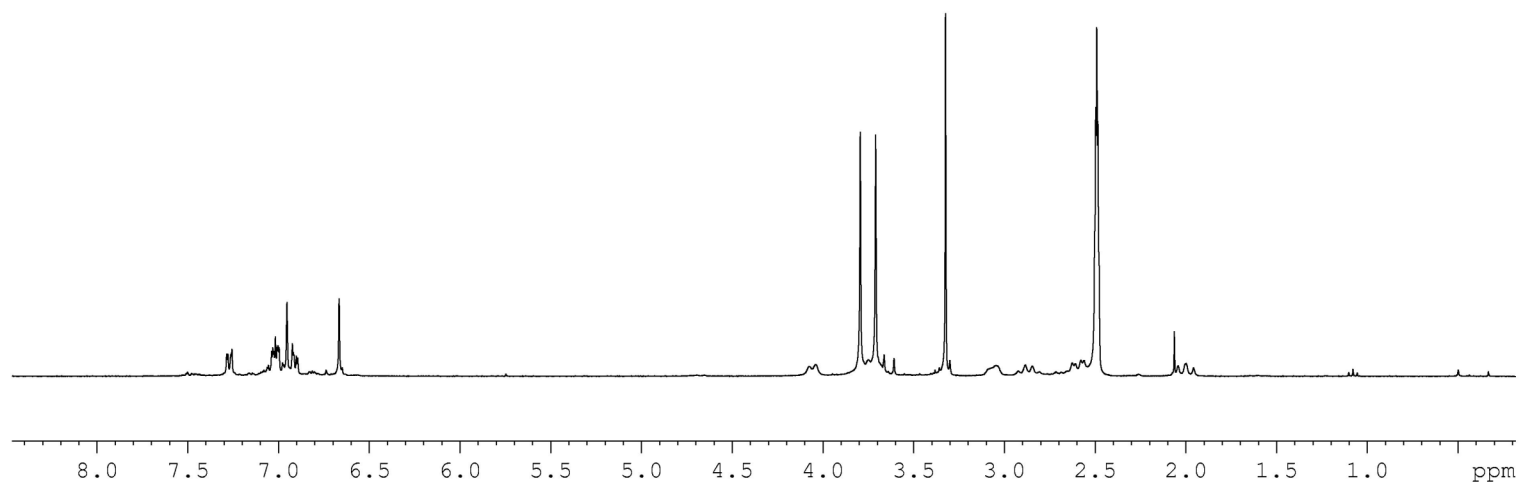




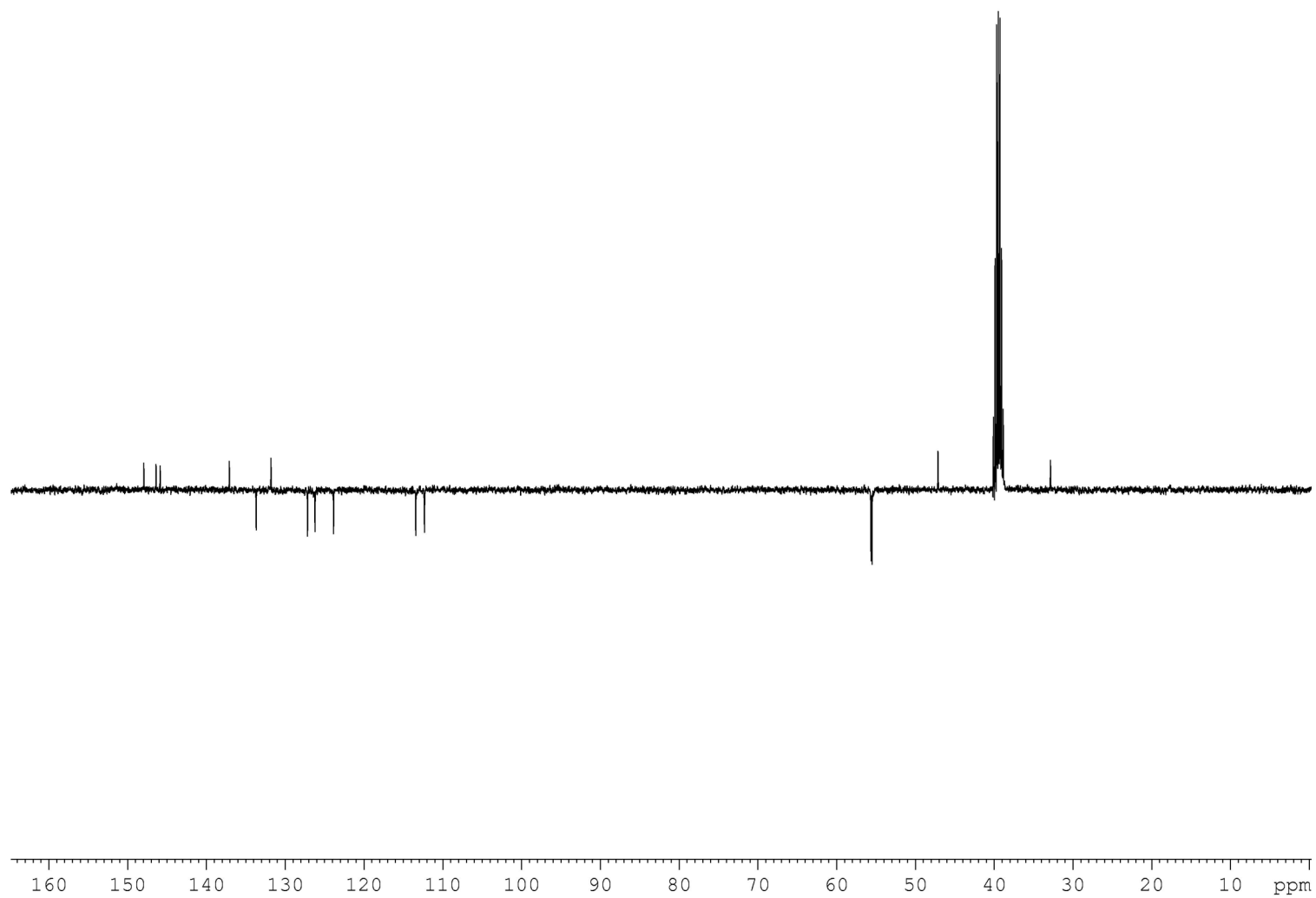
$^{13}\text{C}$  APT NMR spectrum of **3b** + **3'b** (DMSO- $d_6$ , 25 °C)



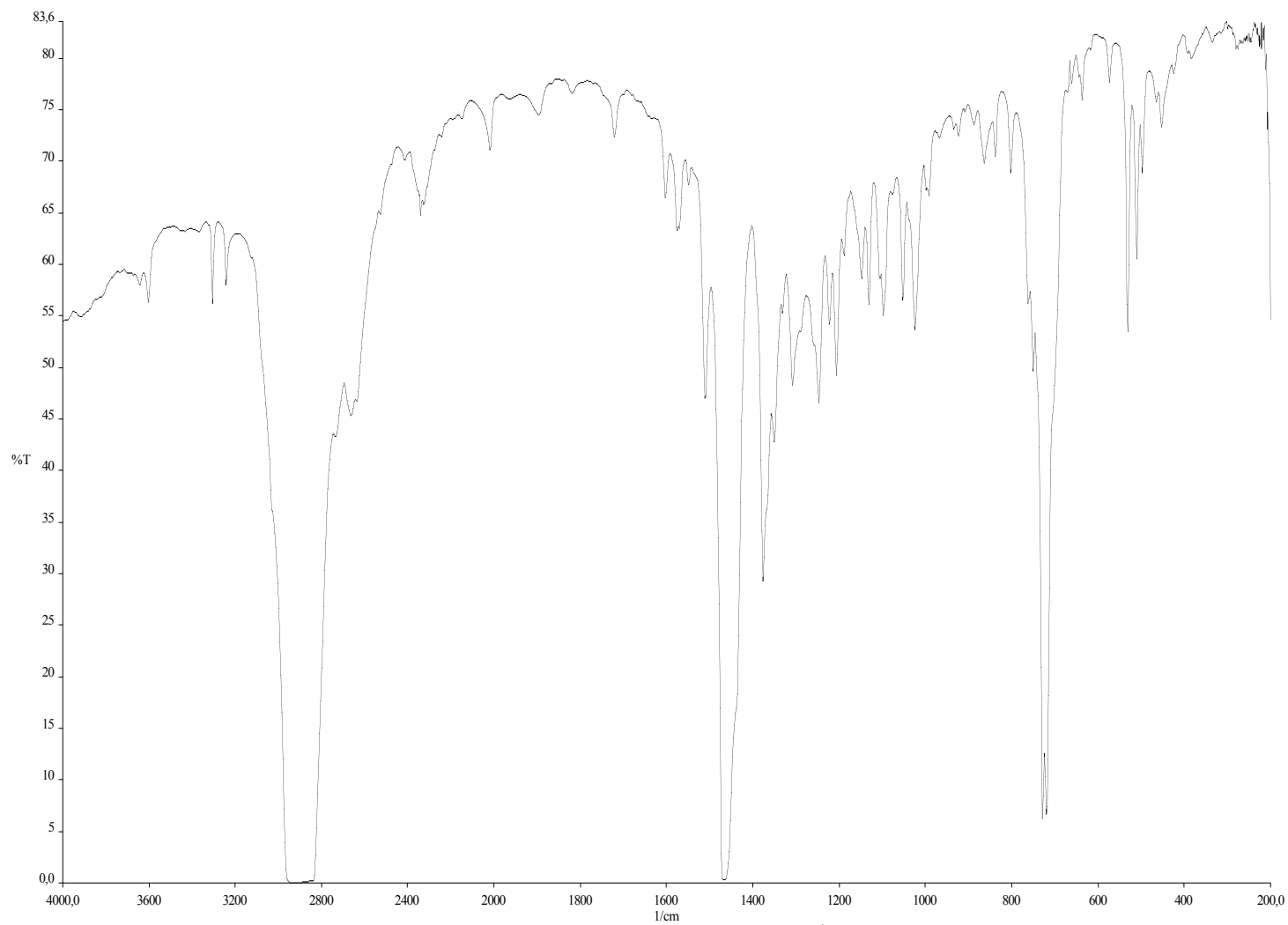
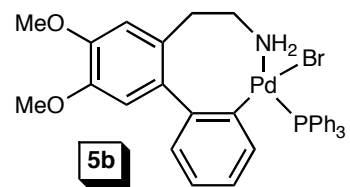
**IR spectrum of 4b (Nujol,  $\text{cm}^{-1}$ )**



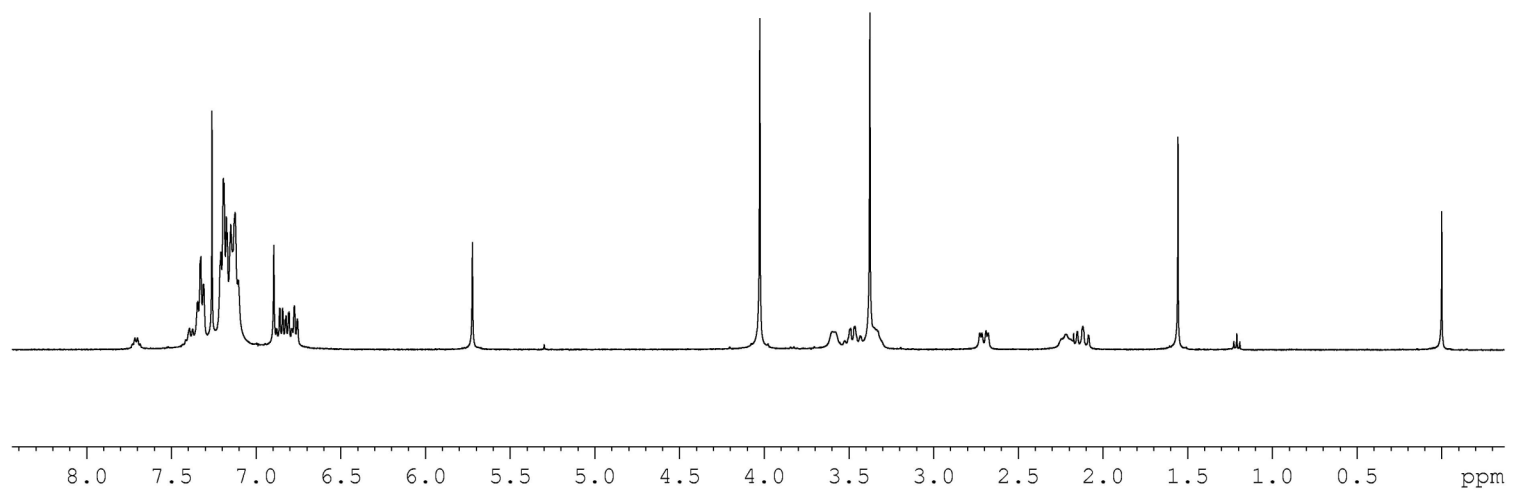
**$^1\text{H}$  NMR spectrum of 4b (DMSO- $d_6$ , 25 °C)**



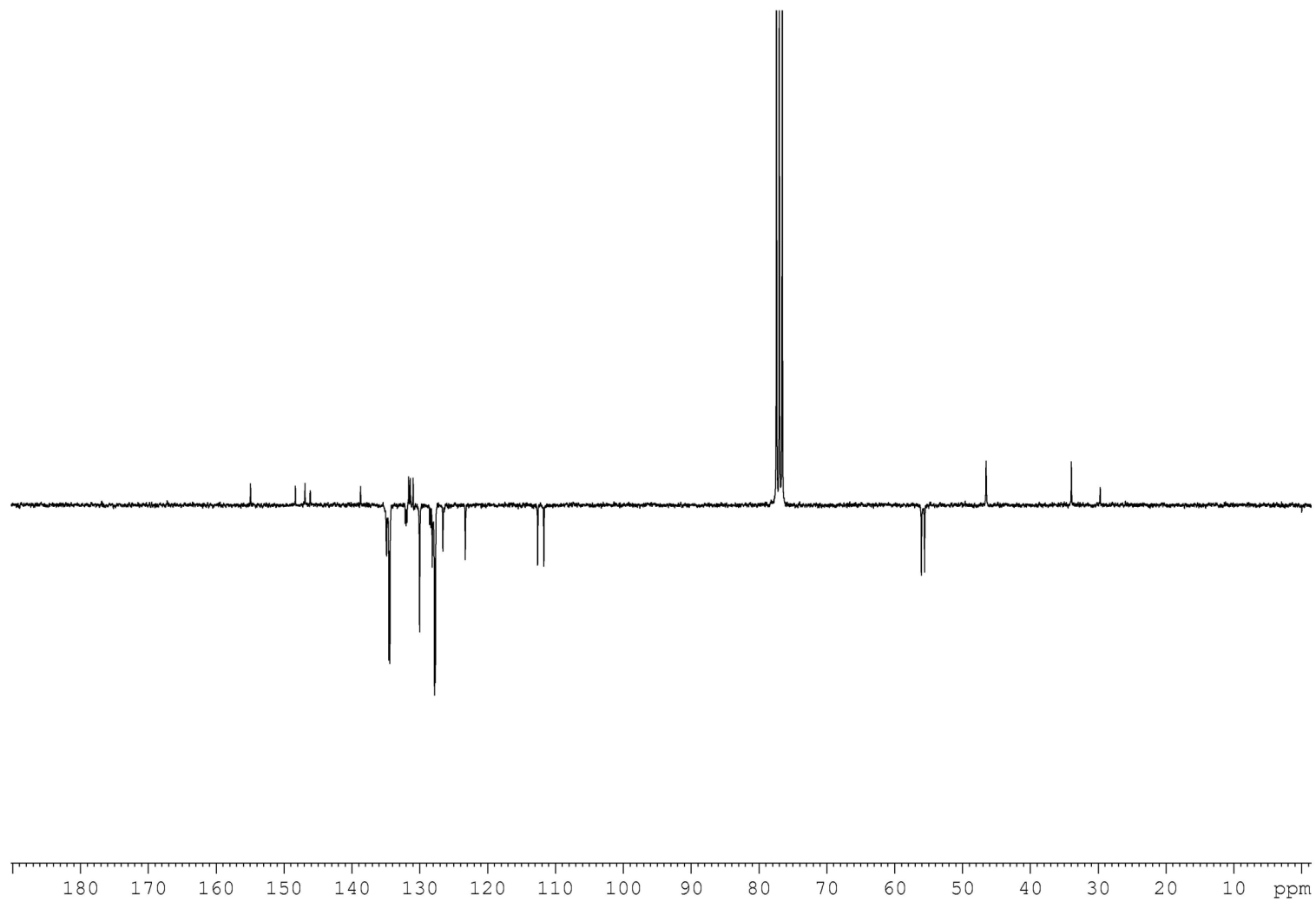
$^{13}\text{C}$  APT NMR spectrum of **4b** (DMSO- $d_6$ , 25 °C)



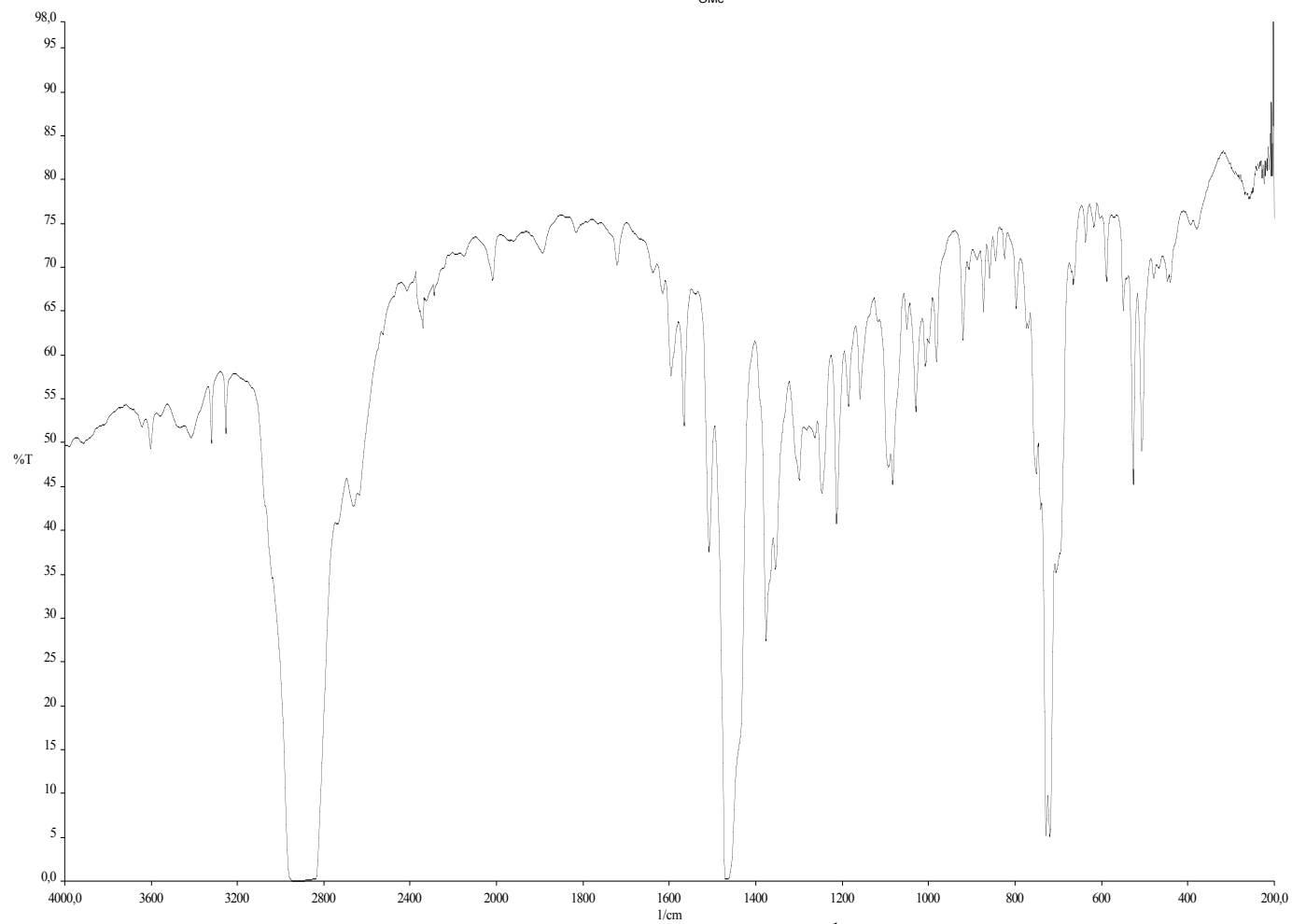
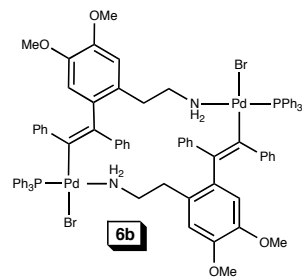
**IR spectrum of 5b (Nujol, cm<sup>-1</sup>)**



$^1\text{H}$  NMR spectrum of 5b ( $\text{CDCl}_3 + \text{TMS}$ , 25 °C)

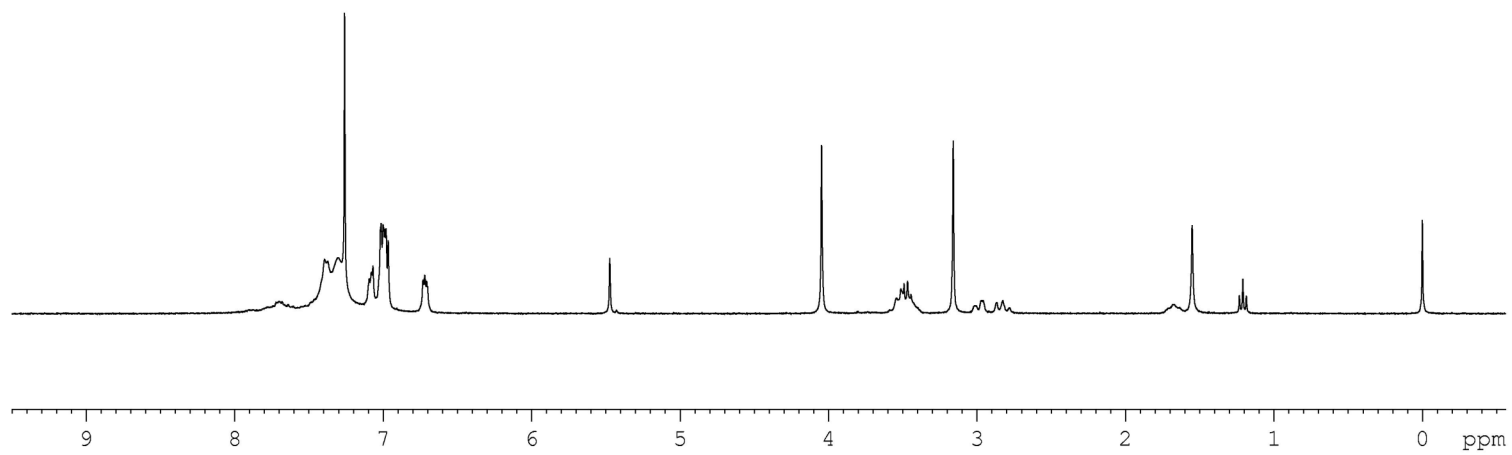


$^{13}\text{C}$  APT NMR spectrum of **5b** ( $\text{CDCl}_3$  + TMS, 25 °C)

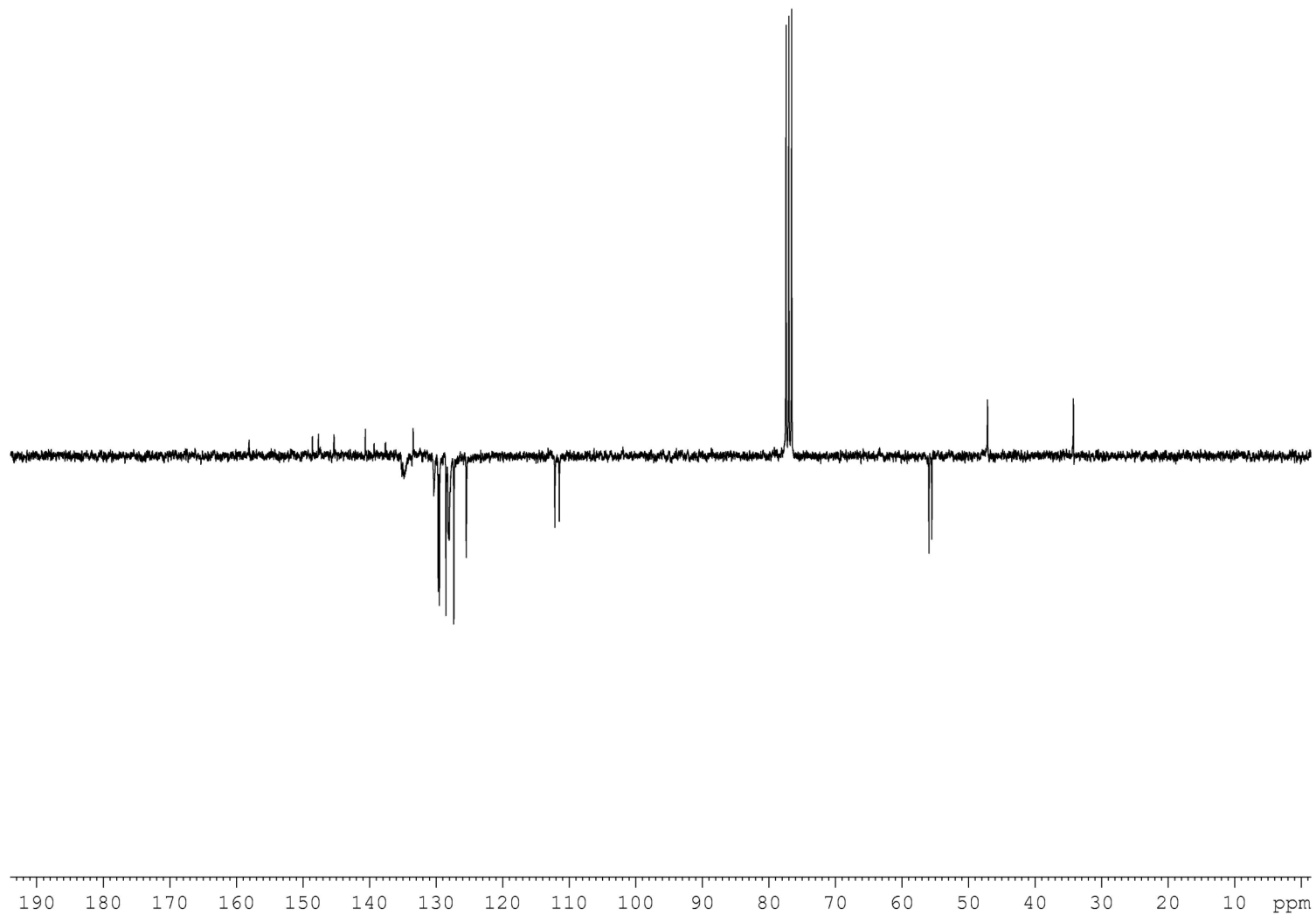


IR spectrum of **6b** (Nujol, cm<sup>-1</sup>)

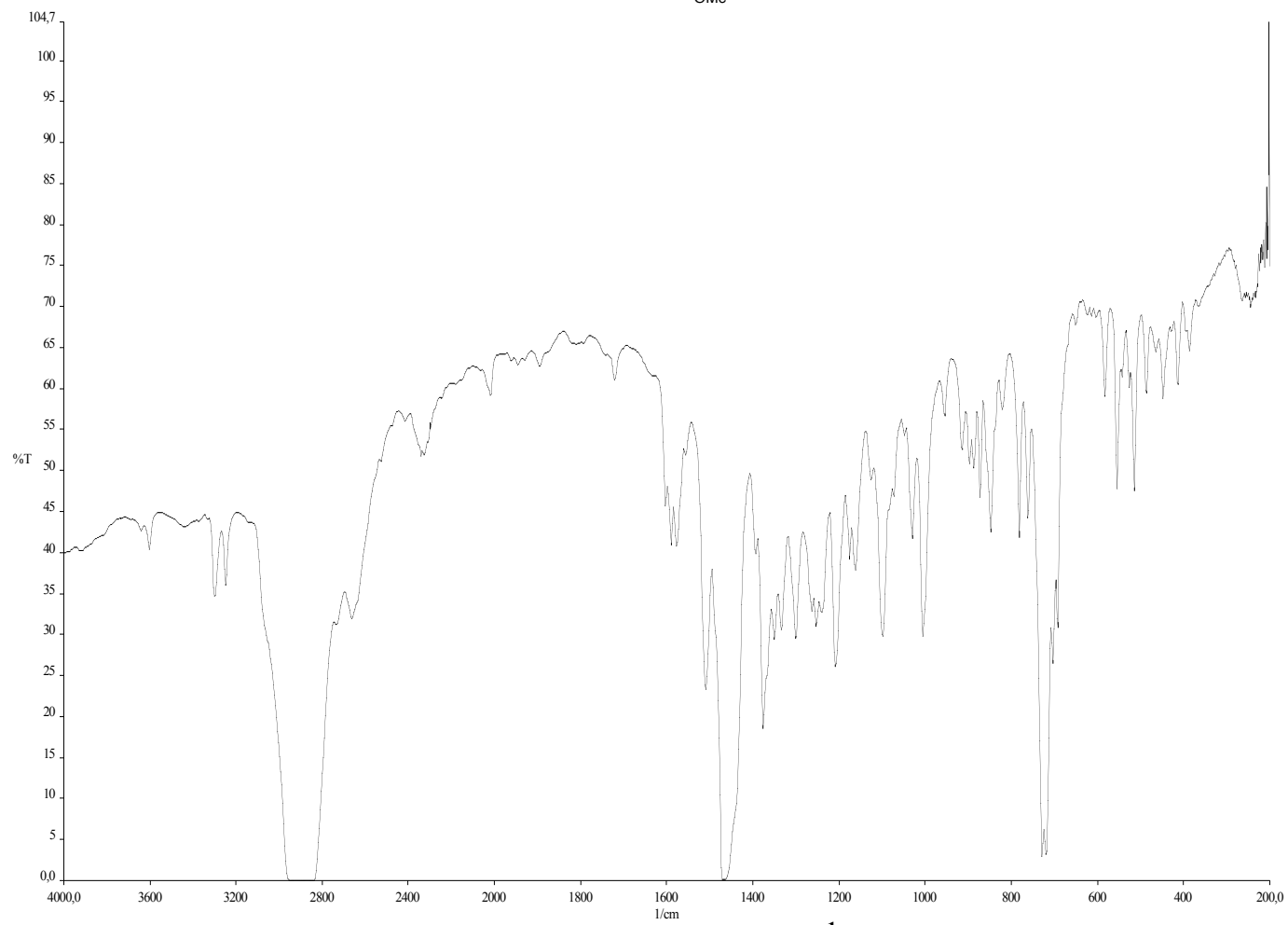
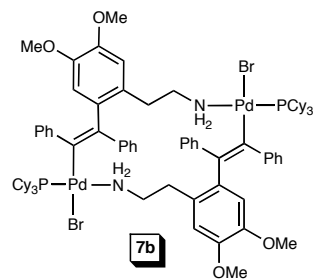


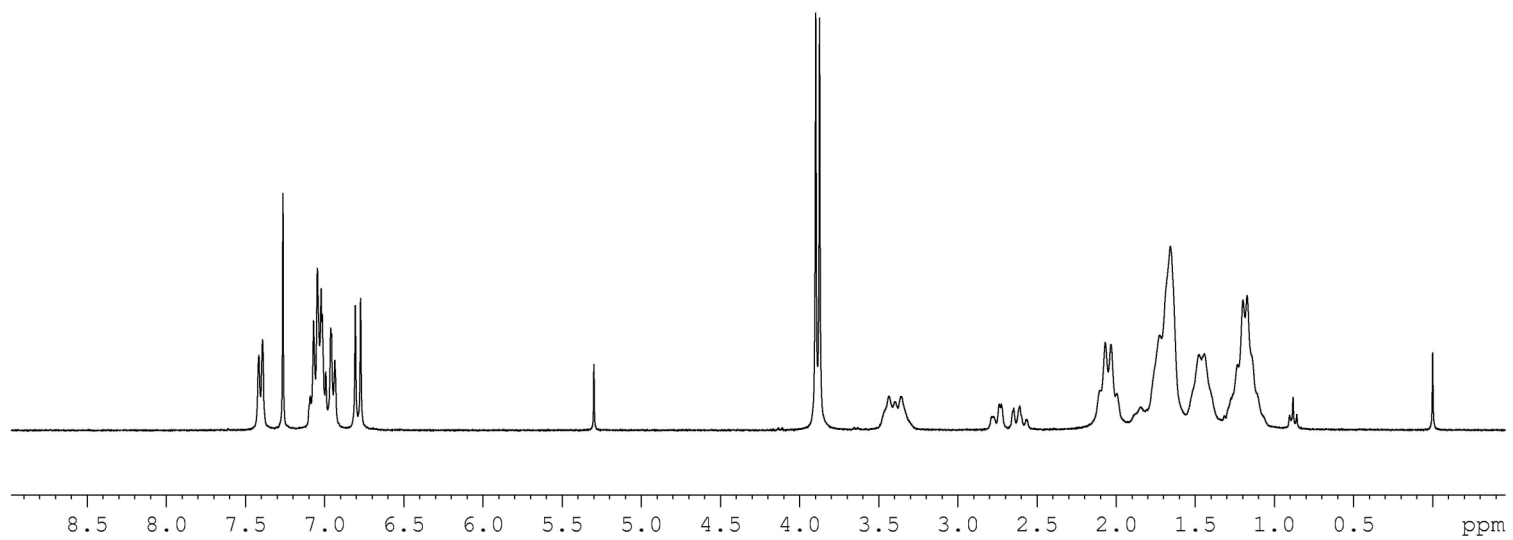


**$^1\text{H}$  NMR spectrum of **6b** ( $\text{CDCl}_3 + \text{TMS}$ , 25 °C)**

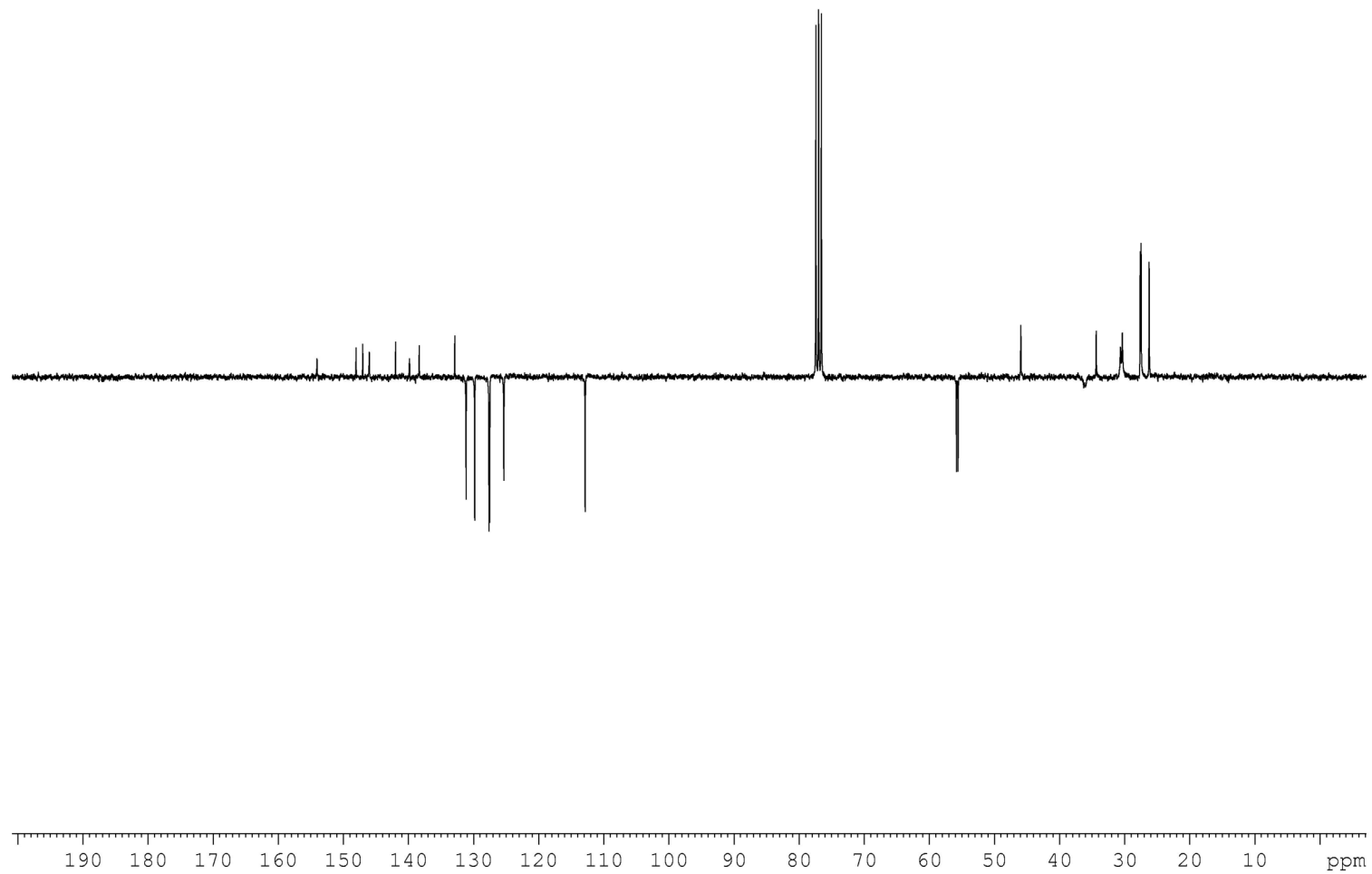


$^{13}\text{C}$  APT NMR spectrum of **6b** ( $\text{CDCl}_3$  + TMS, 25 °C)

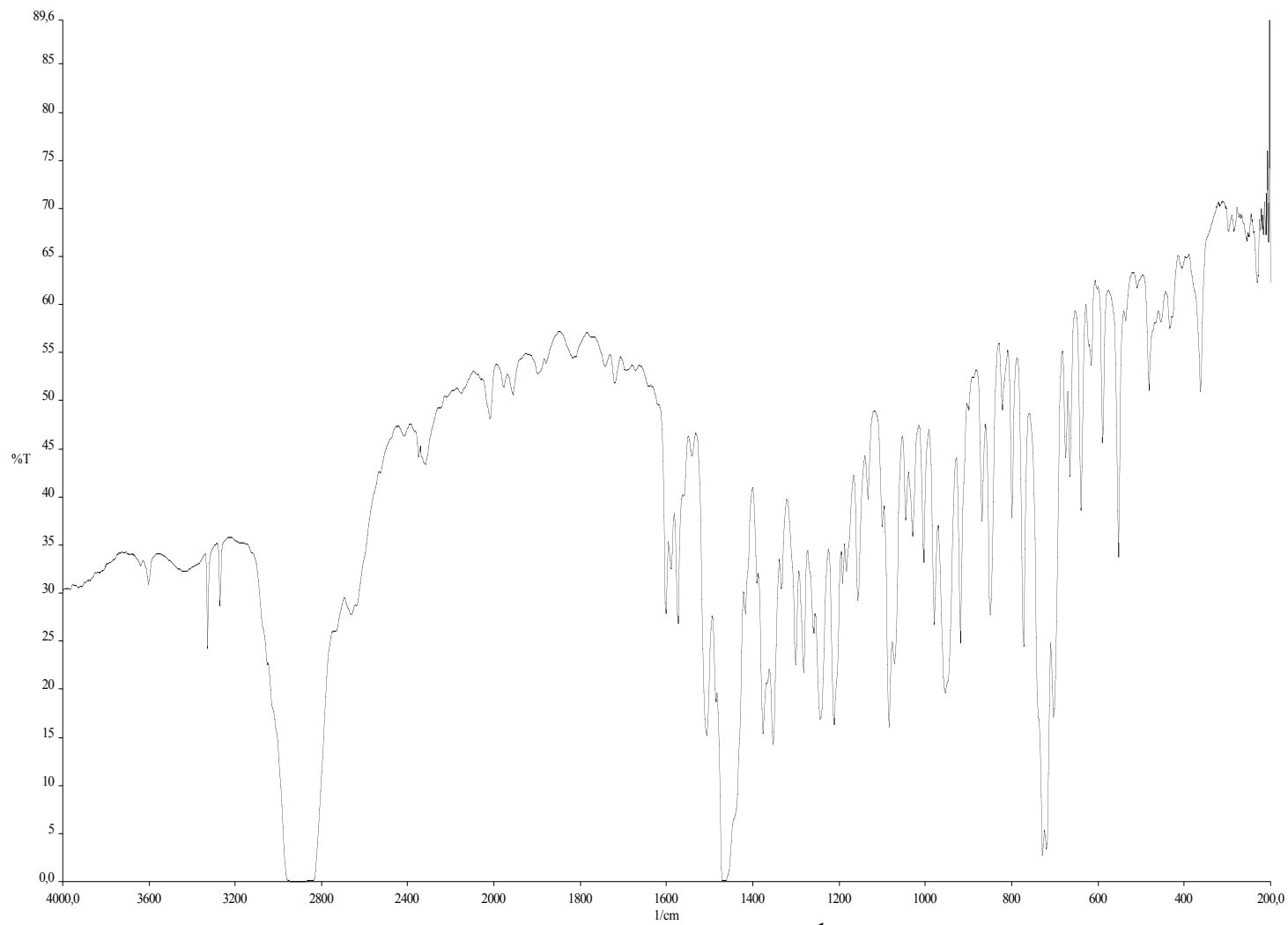
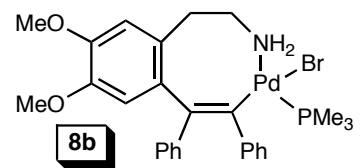


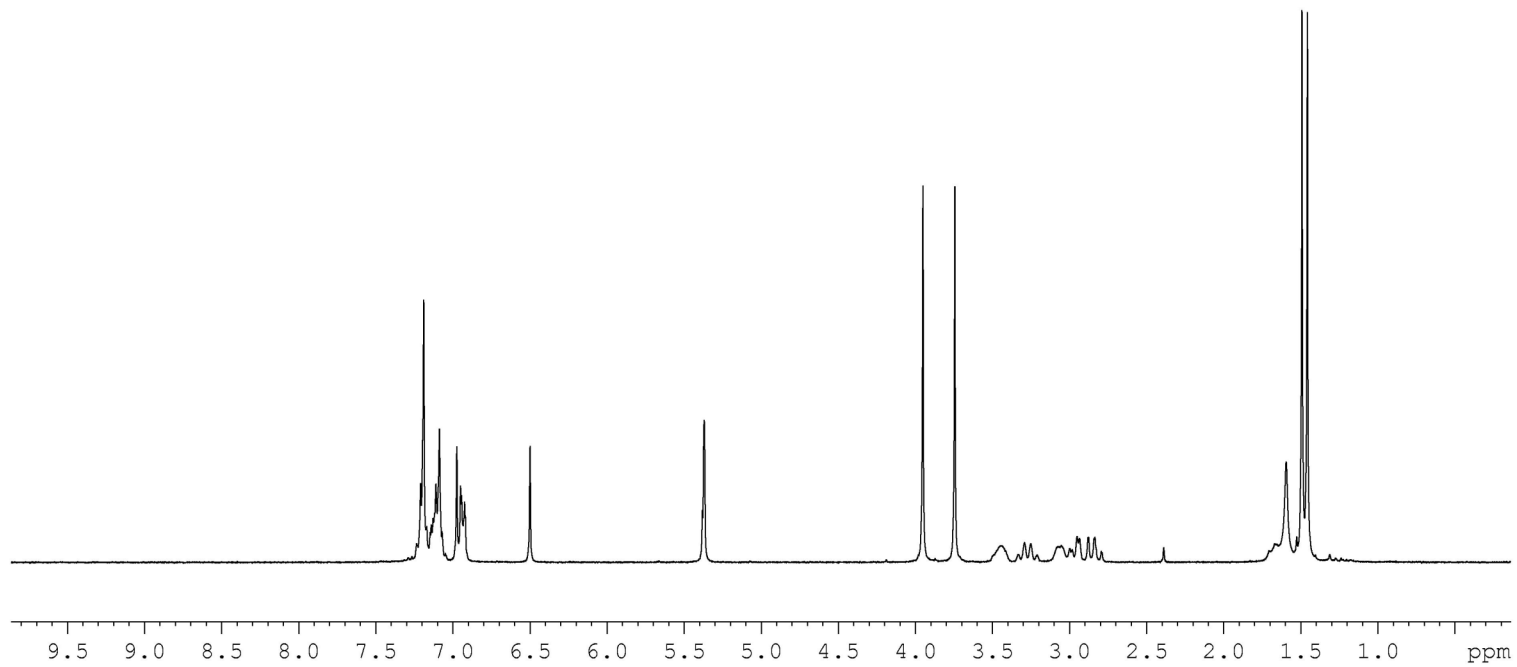


$^1\text{H}$  NMR spectrum of 7b ( $\text{CDCl}_3 + \text{TMS}$ ,  $25^\circ\text{C}$ )

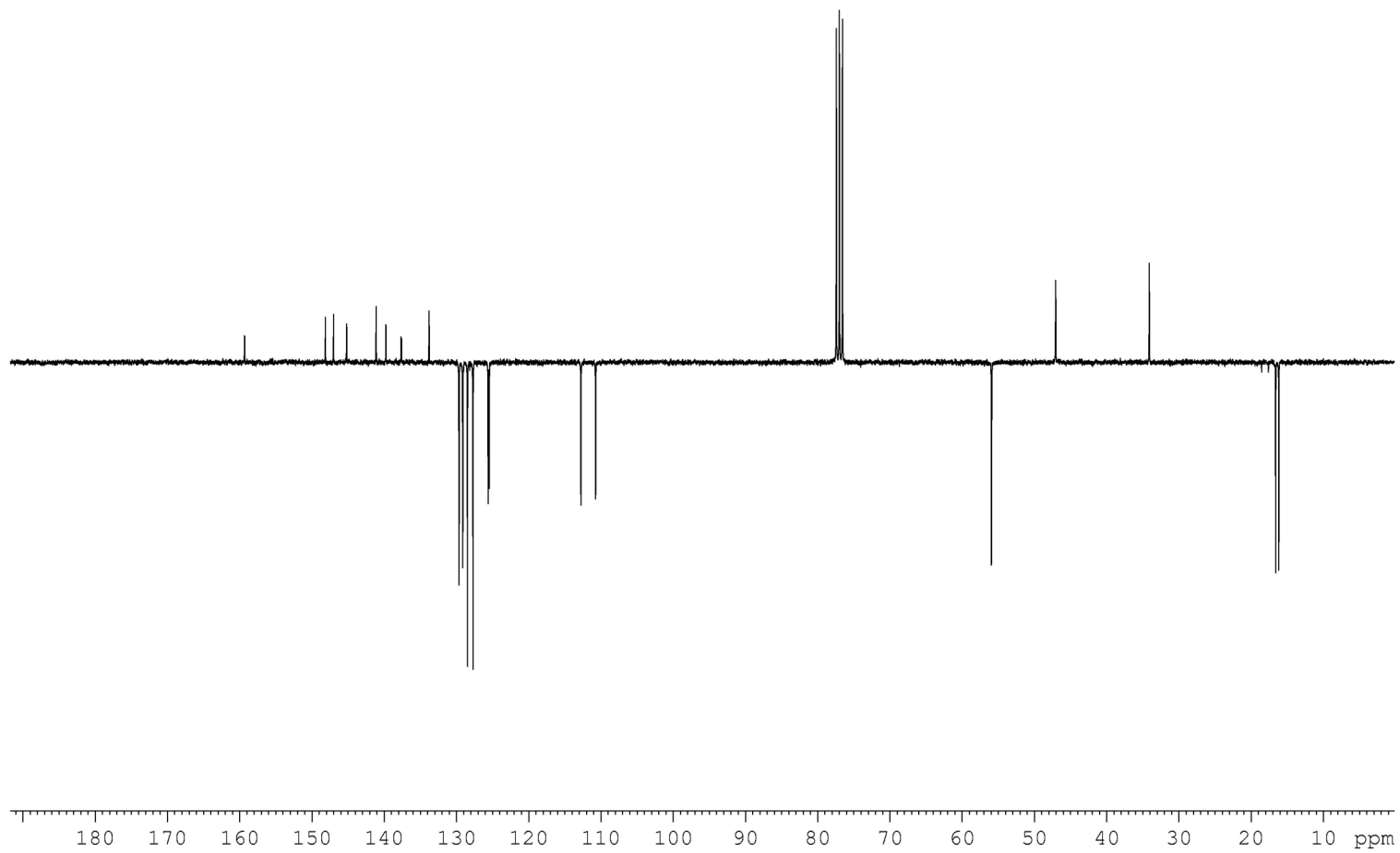


$^{13}\text{C}$  APT NMR spectrum of **7b** ( $\text{CDCl}_3$  + TMS, 25 °C)





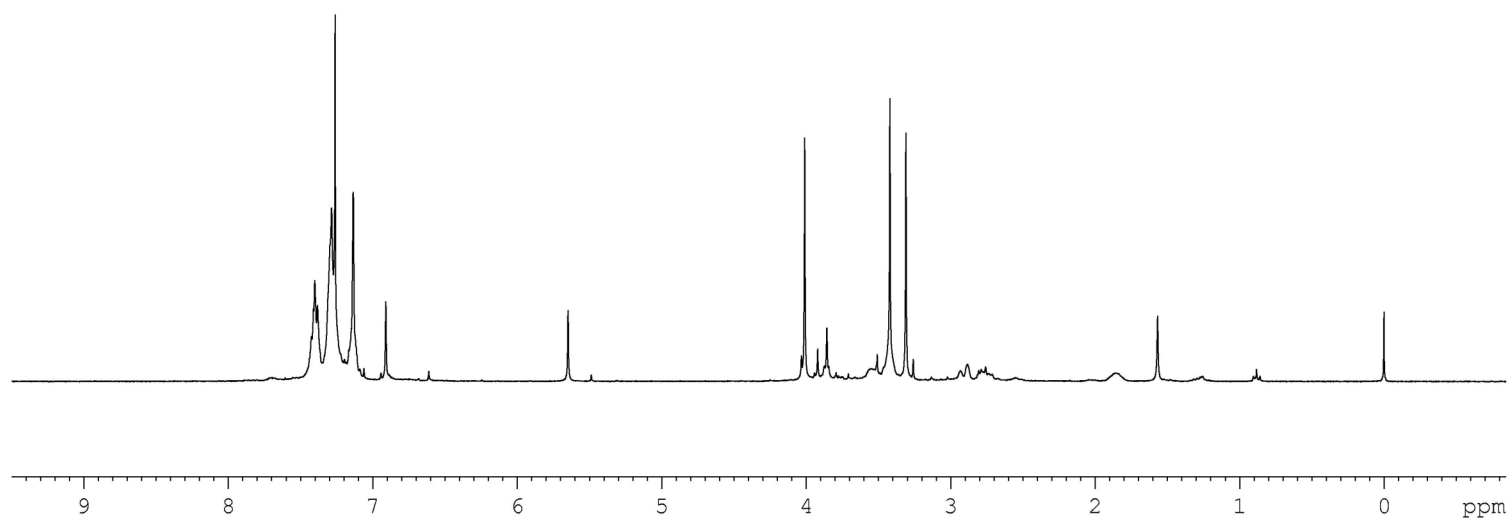
**$^1\text{H}$  NMR spectrum of **8b** ( $\text{CDCl}_3 + \text{TMS}$ , 25 °C)**



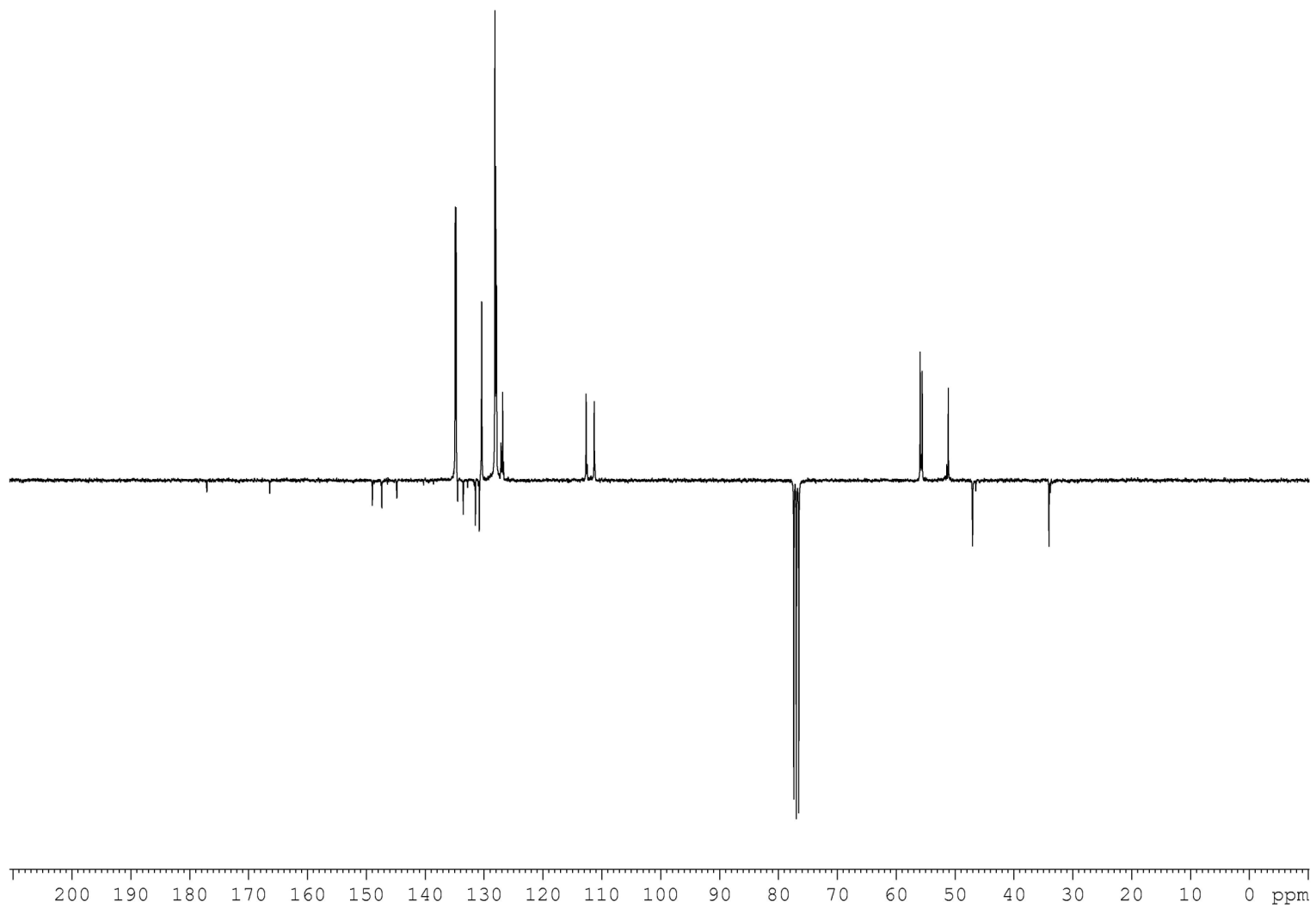
$^{13}\text{C}$  APT NMR spectrum of **8b** ( $\text{CDCl}_3 + \text{TMS}$ , 25 °C)



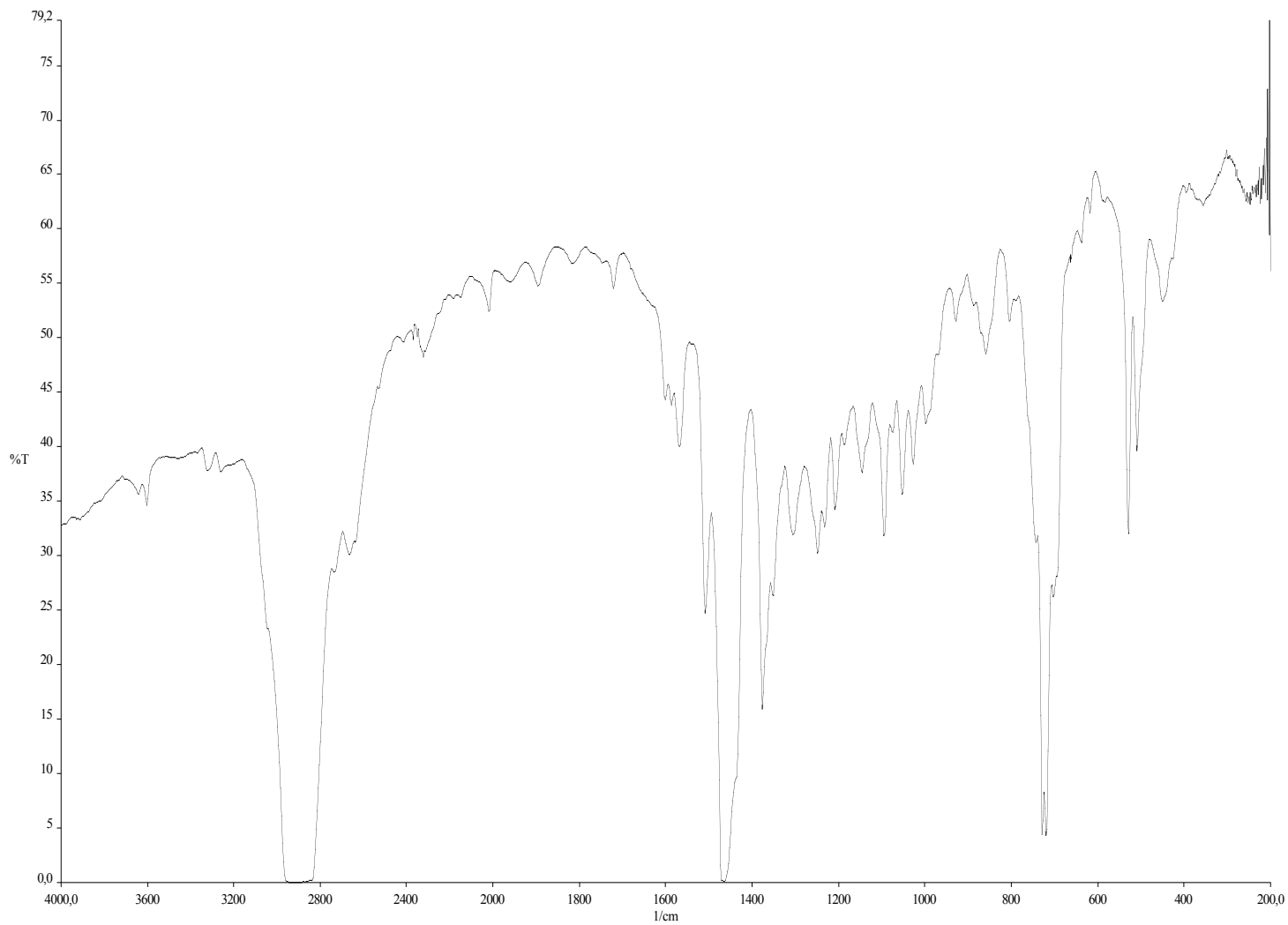
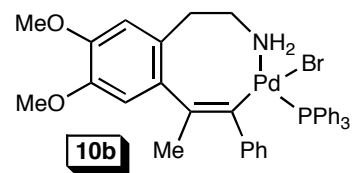




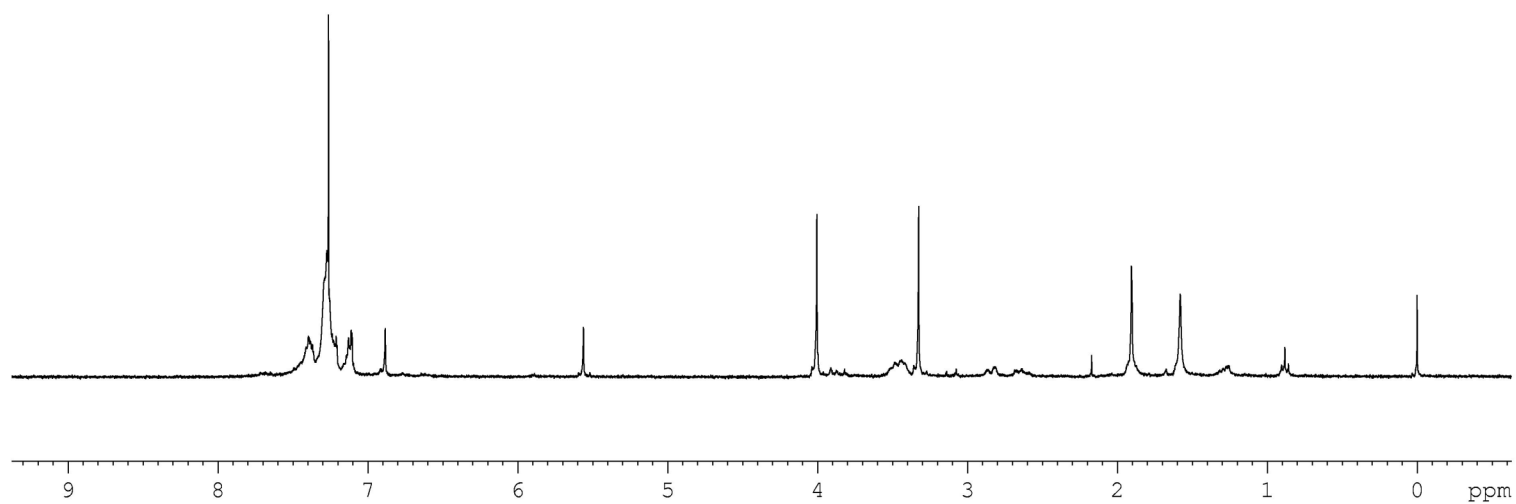
**$^1\text{H}$  NMR spectrum of **9b** ( $\text{CDCl}_3 + \text{TMS}$ , 25 °C)**



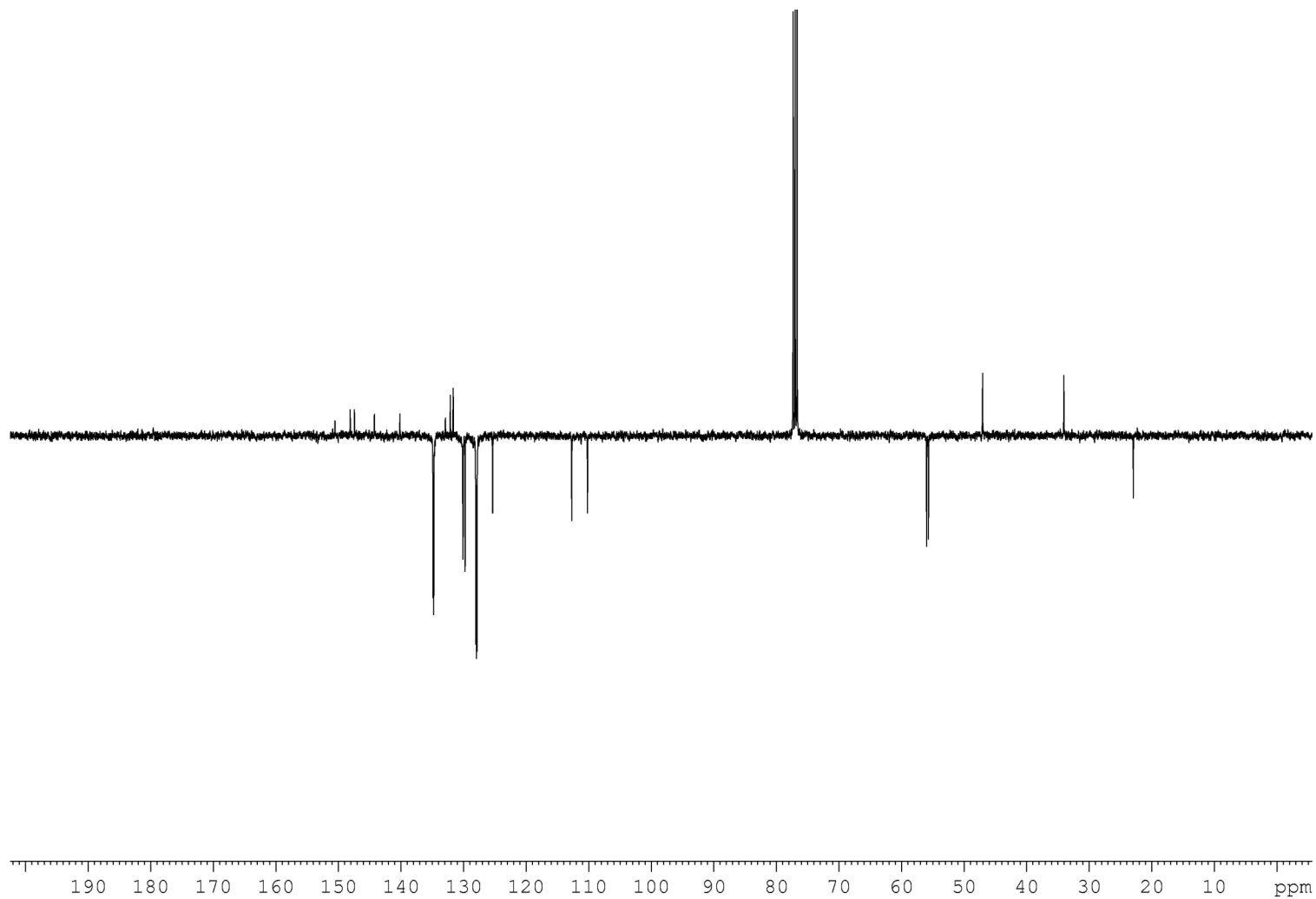
$^{13}\text{C}$  APT NMR spectrum of **9b** ( $\text{CDCl}_3$  + TMS, 25 °C)



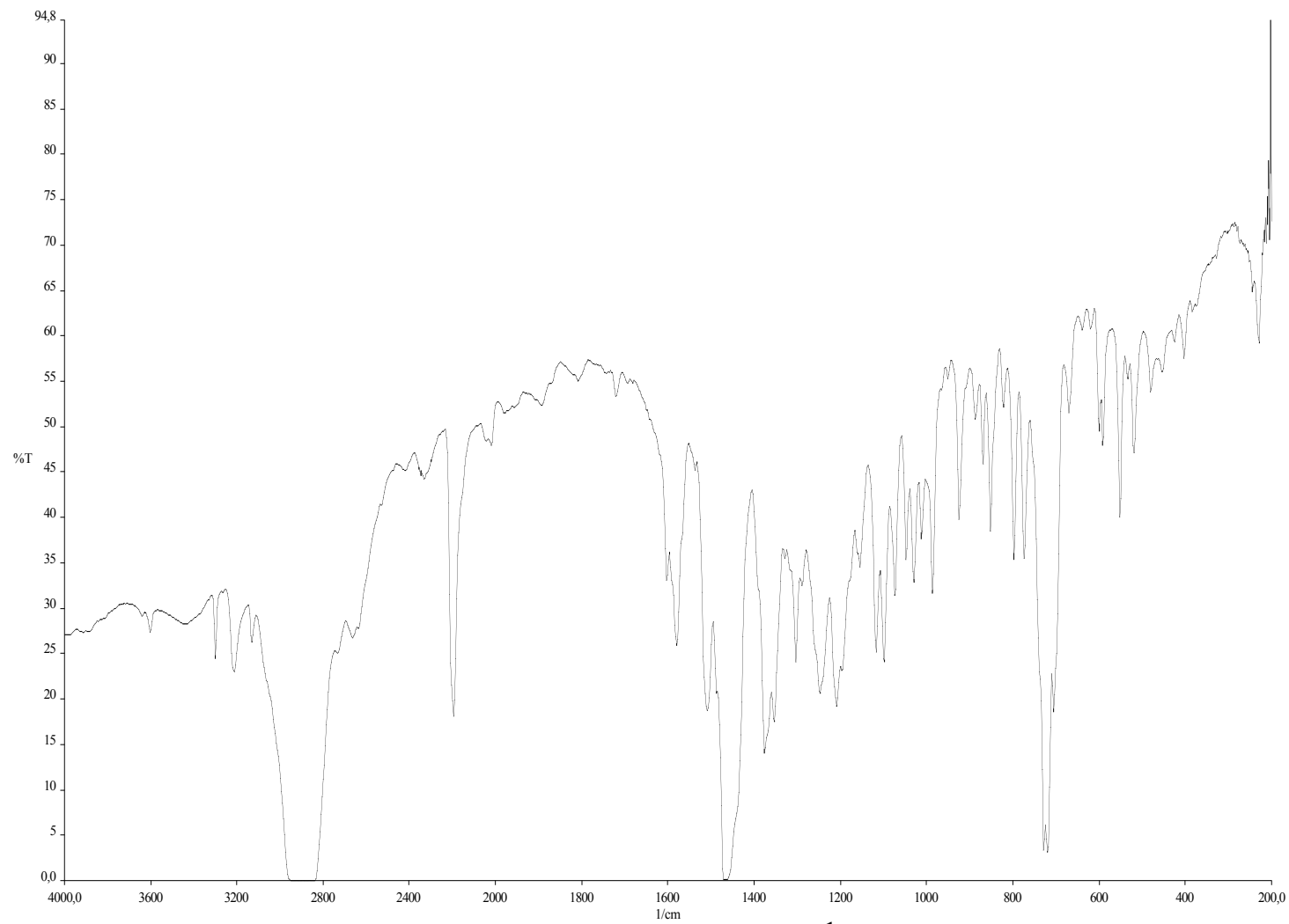
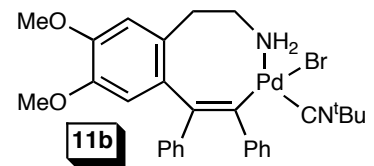
IR spectrum of 10b (Nujol, cm<sup>-1</sup>)



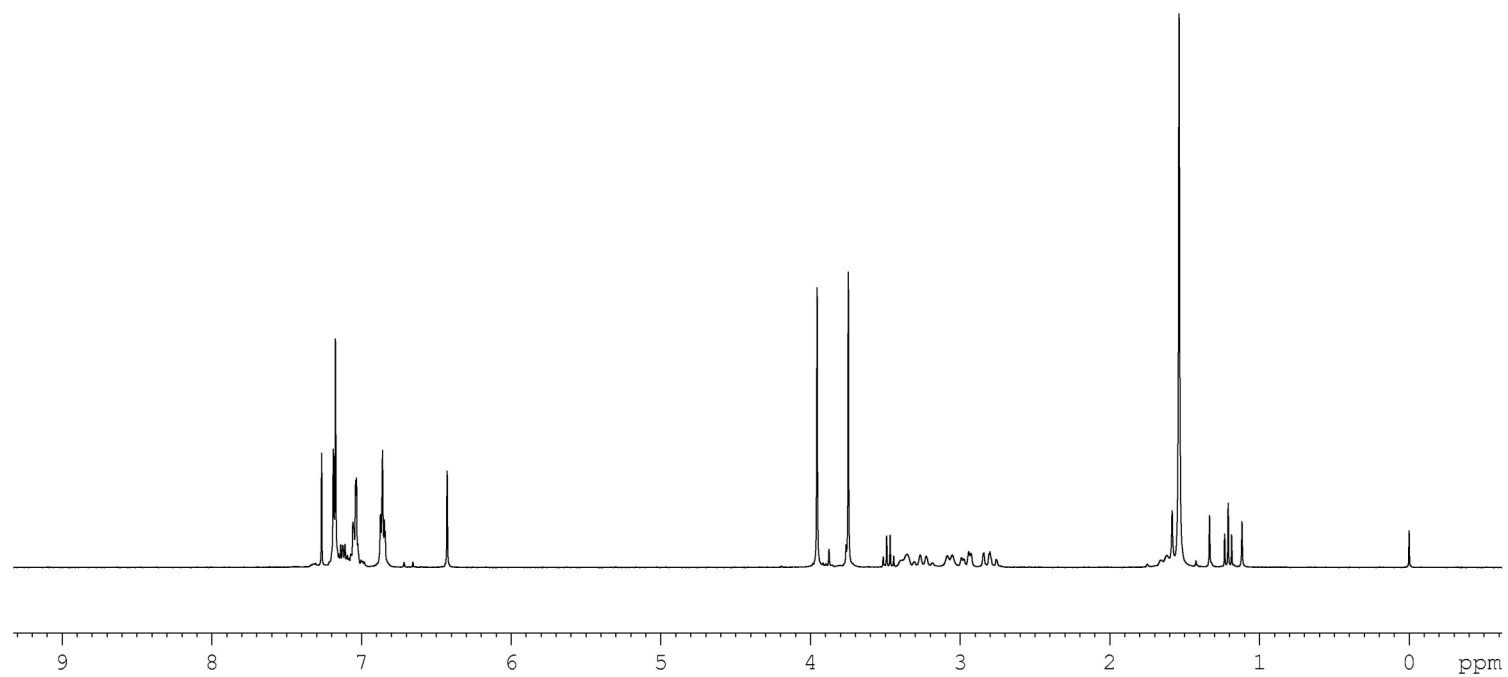
**$^1\text{H}$  NMR spectrum of 10b ( $\text{CDCl}_3$  + TMS, 25 °C)**



$^{13}\text{C}$  APT NMR spectrum of **10b** ( $\text{CDCl}_3 + \text{TMS}$ , 25 °C)

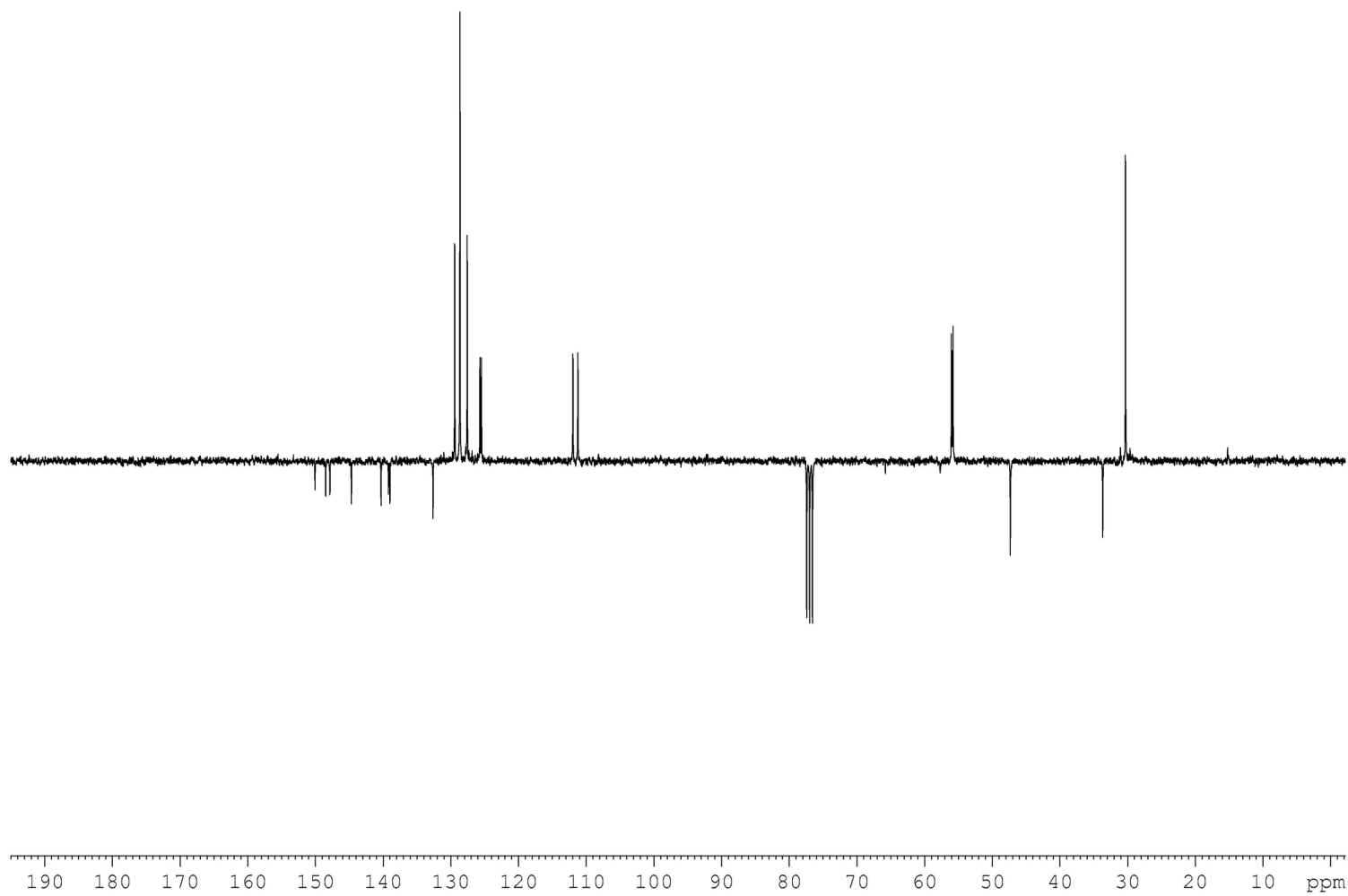


IR spectrum of 11b (Nujol, cm<sup>-1</sup>)

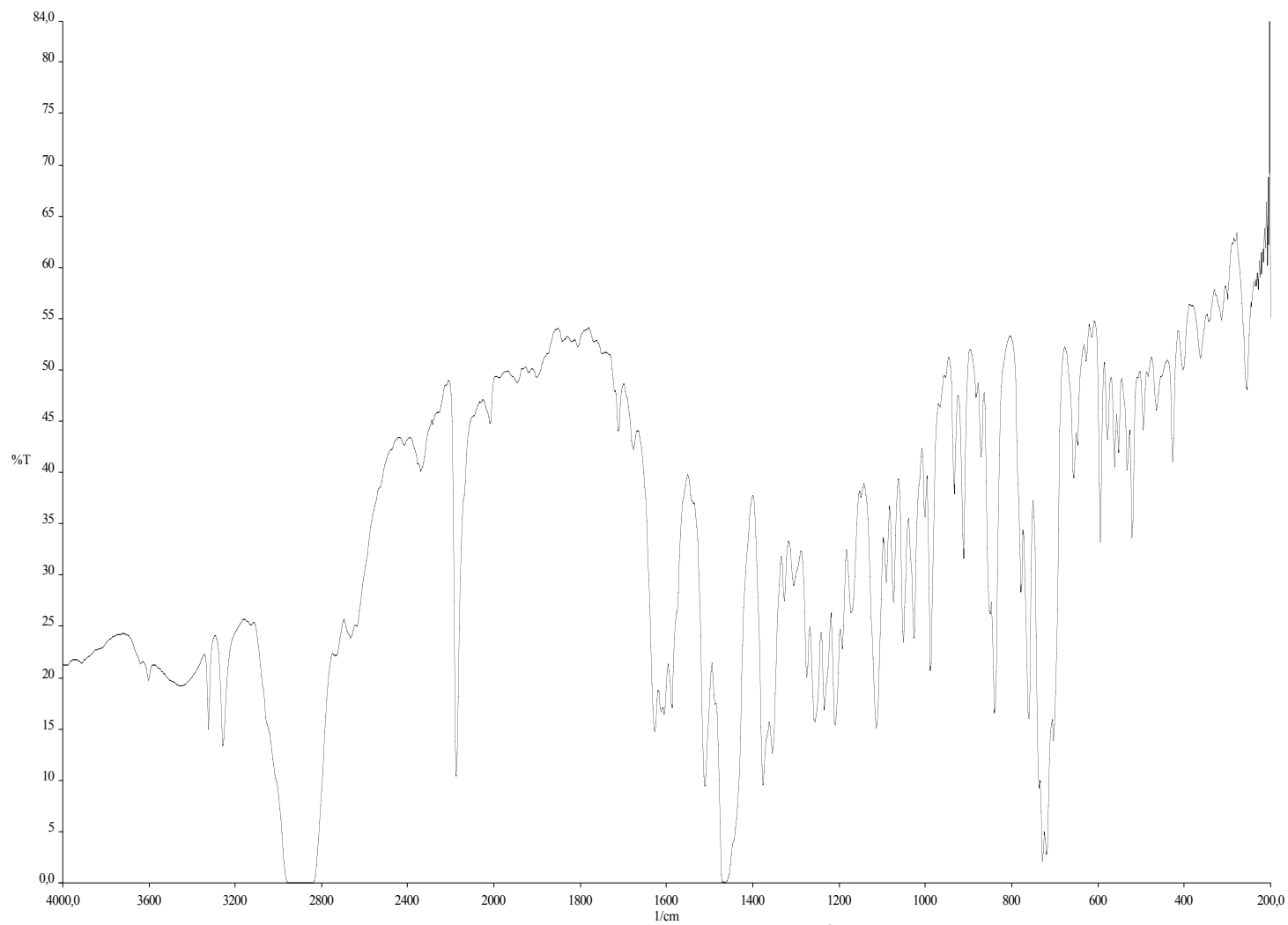
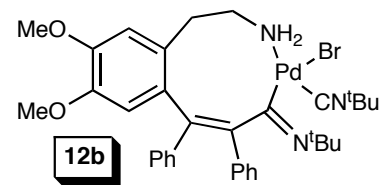


**$^1\text{H}$  NMR spectrum of 11b ( $\text{CDCl}_3 + \text{TMS}$ , 25 °C)**

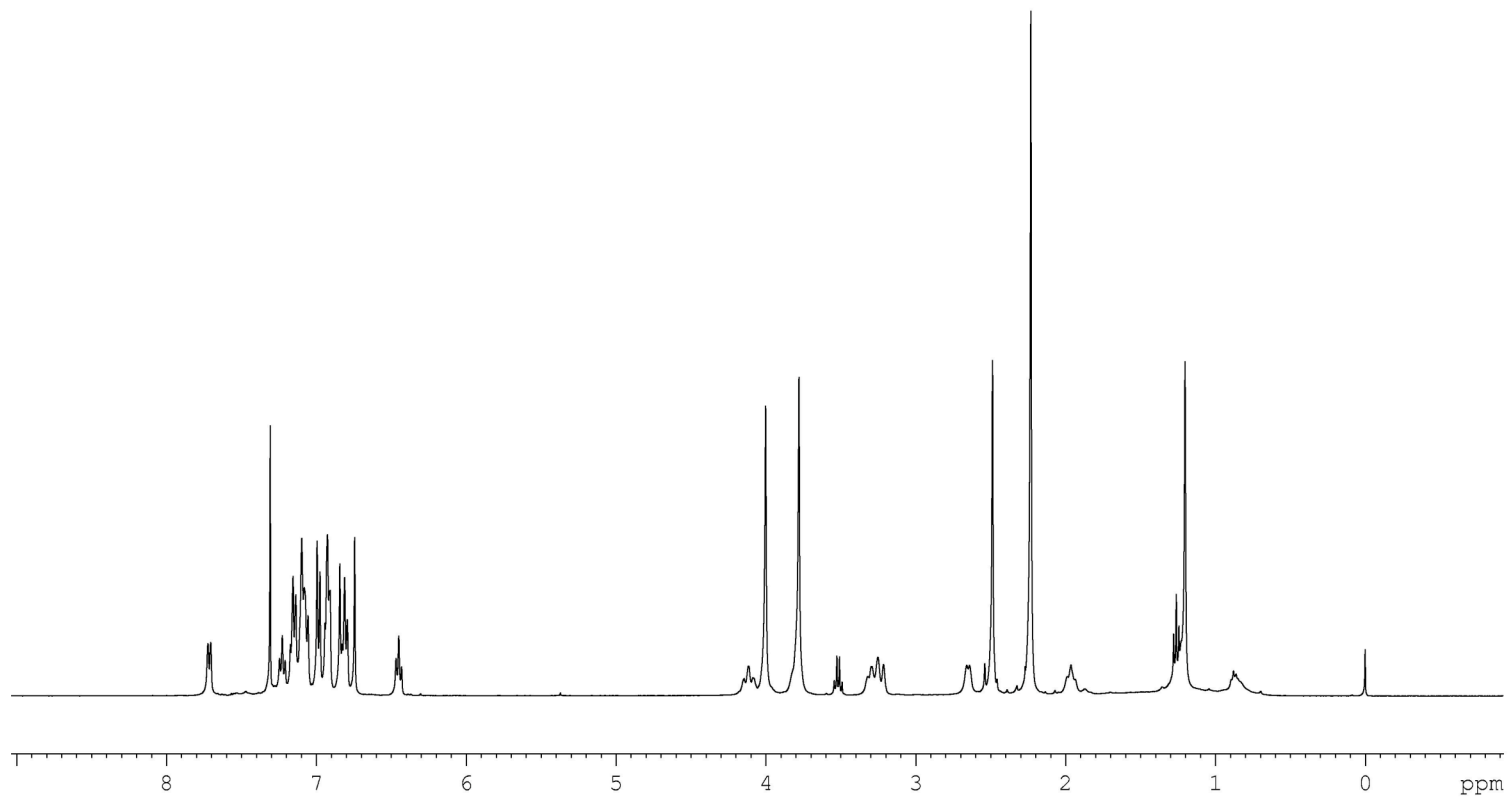




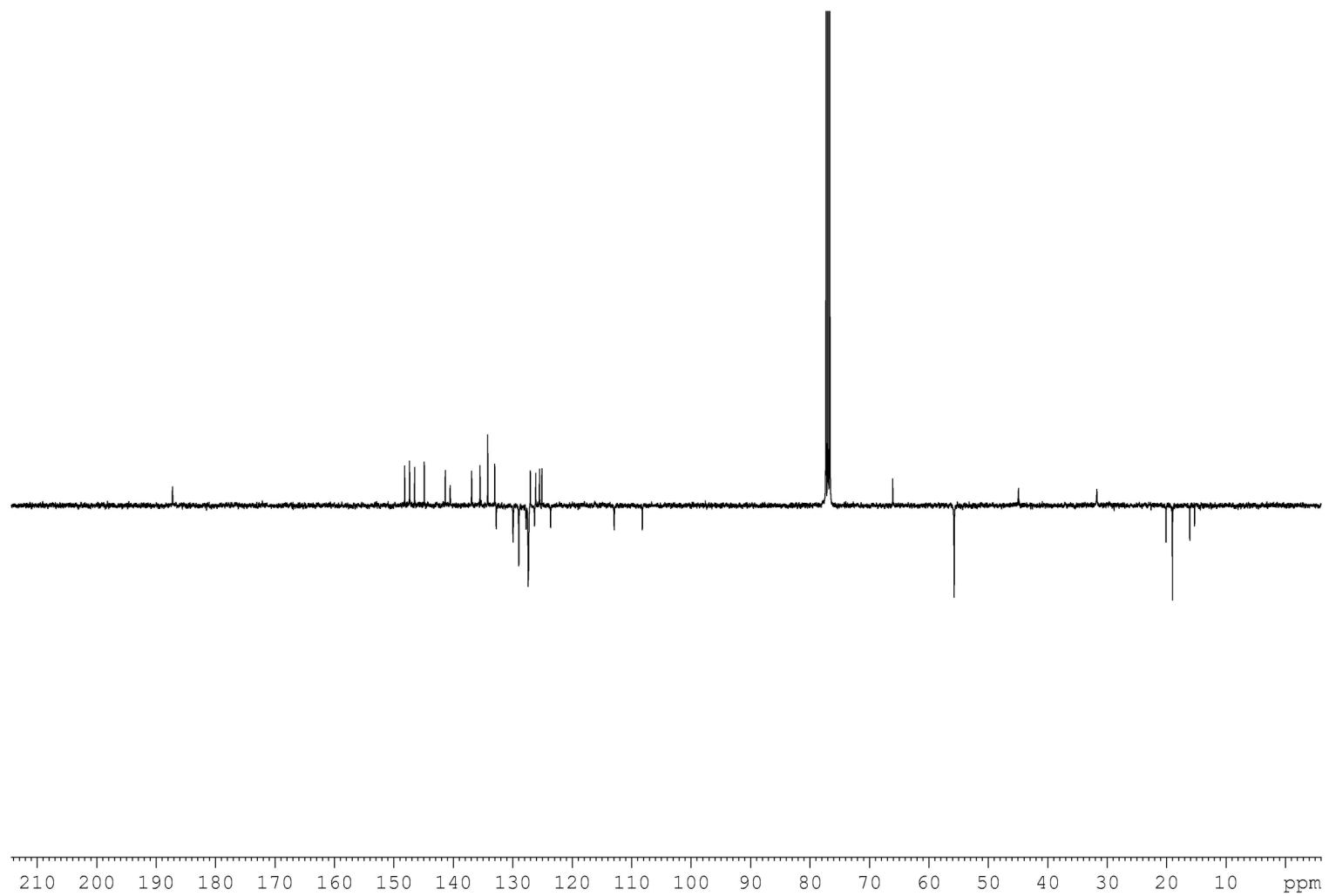
$^{13}\text{C}$  APT NMR spectrum of 11b ( $\text{CDCl}_3 + \text{TMS}$ , 25 °C)



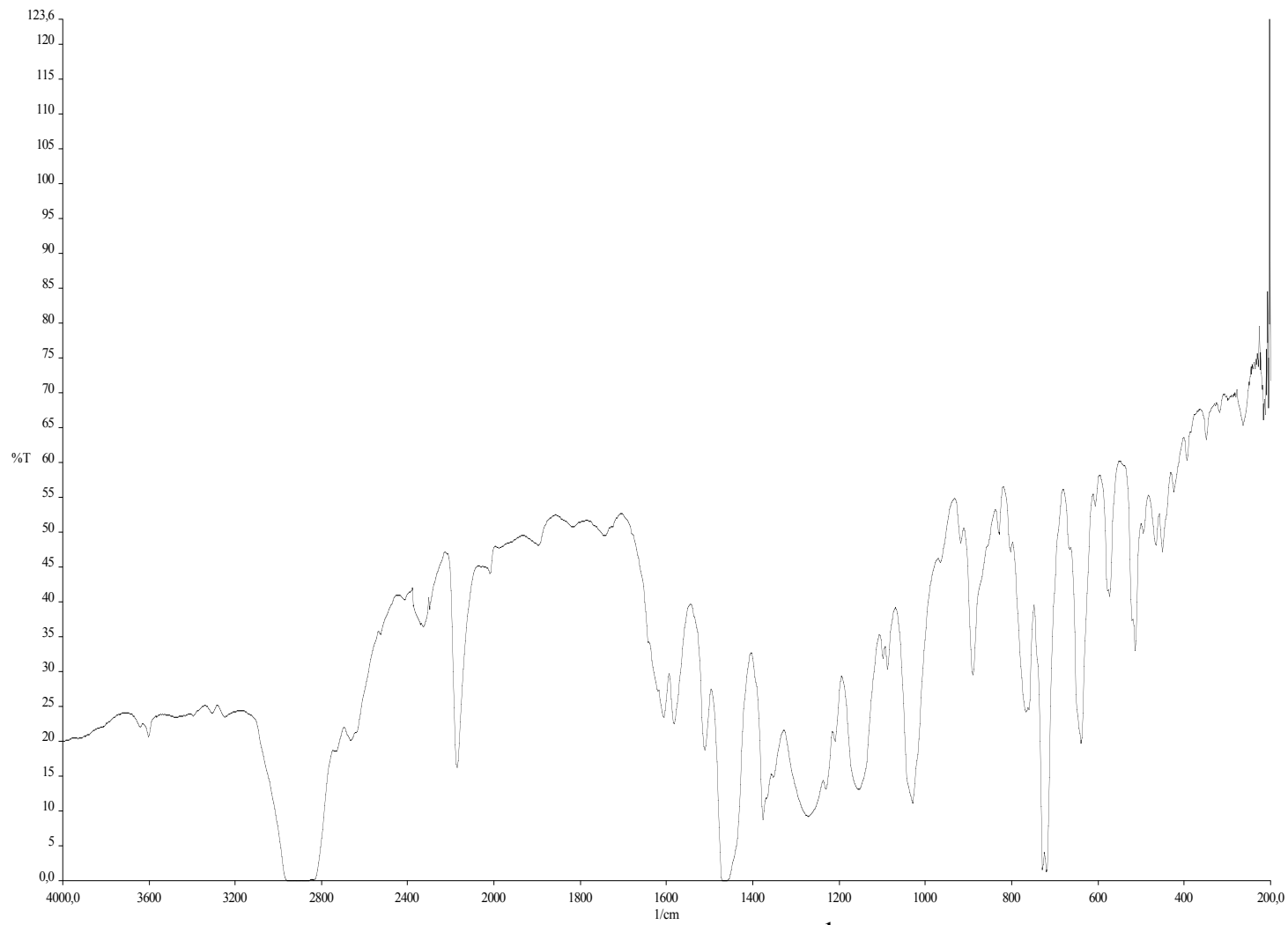
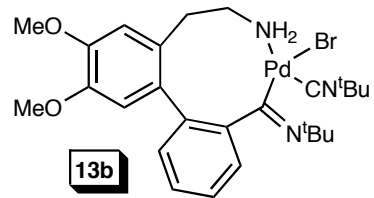
IR spectrum of 12b (Nujol,  $\text{cm}^{-1}$ )



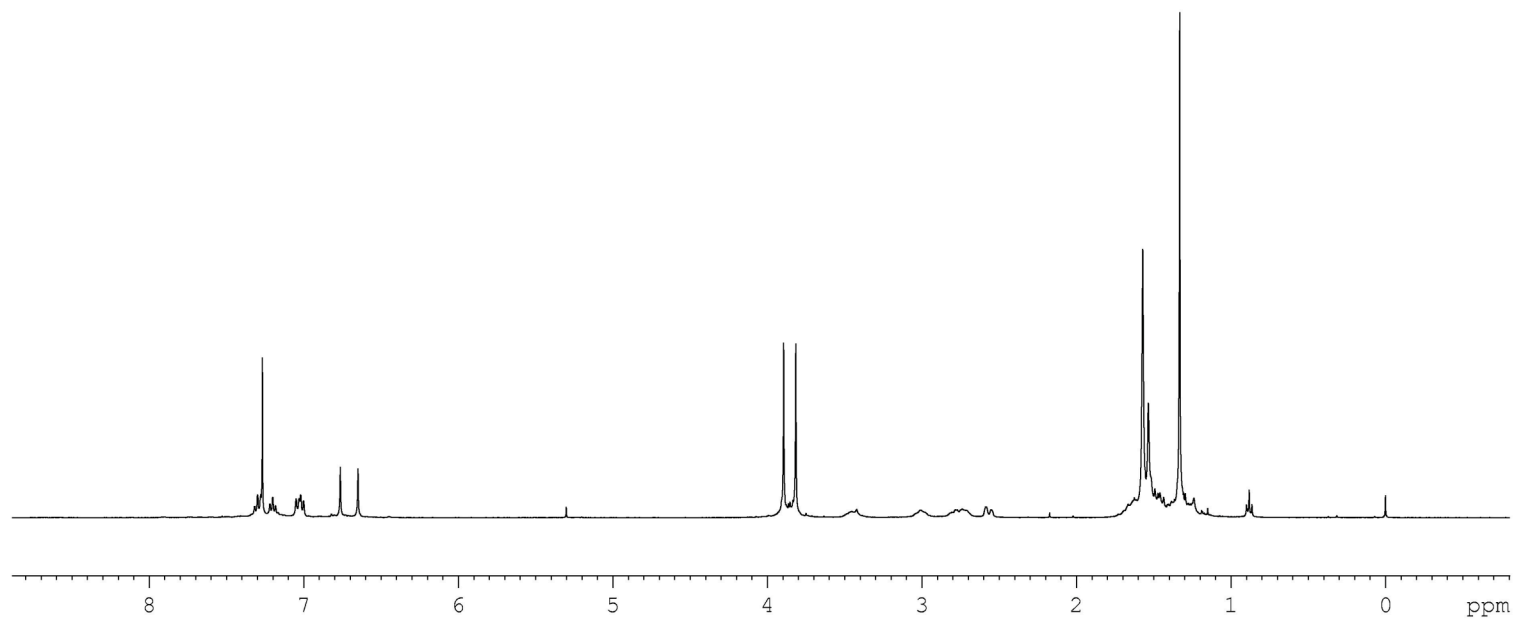
**$^1\text{H}$  NMR spectrum of 12b ( $\text{CDCl}_3 + \text{TMS}$ , 25 °C)**



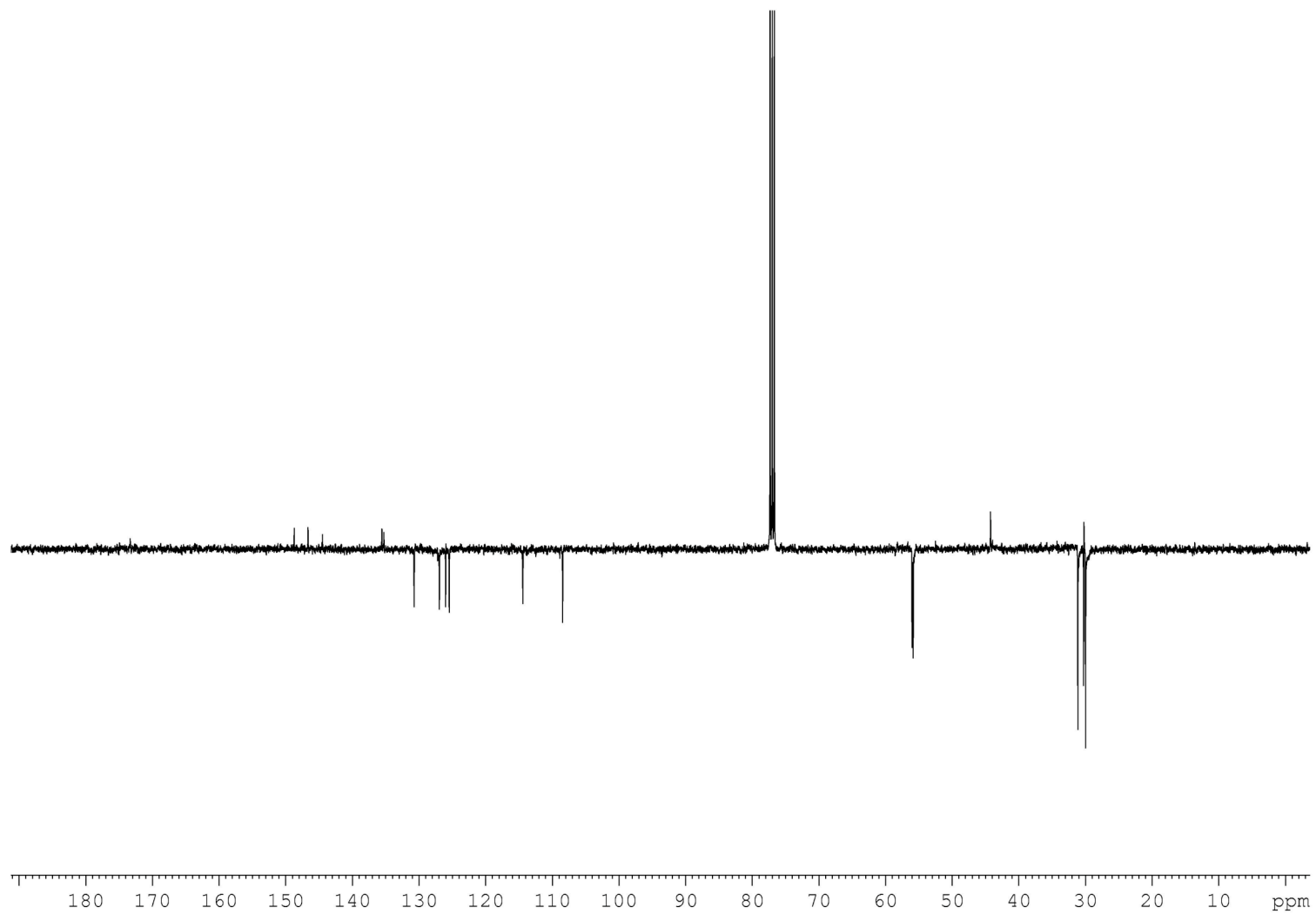
$^{13}\text{C}$  APT NMR spectrum of **12b** ( $\text{CDCl}_3 + \text{TMS}$ , 25 °C)



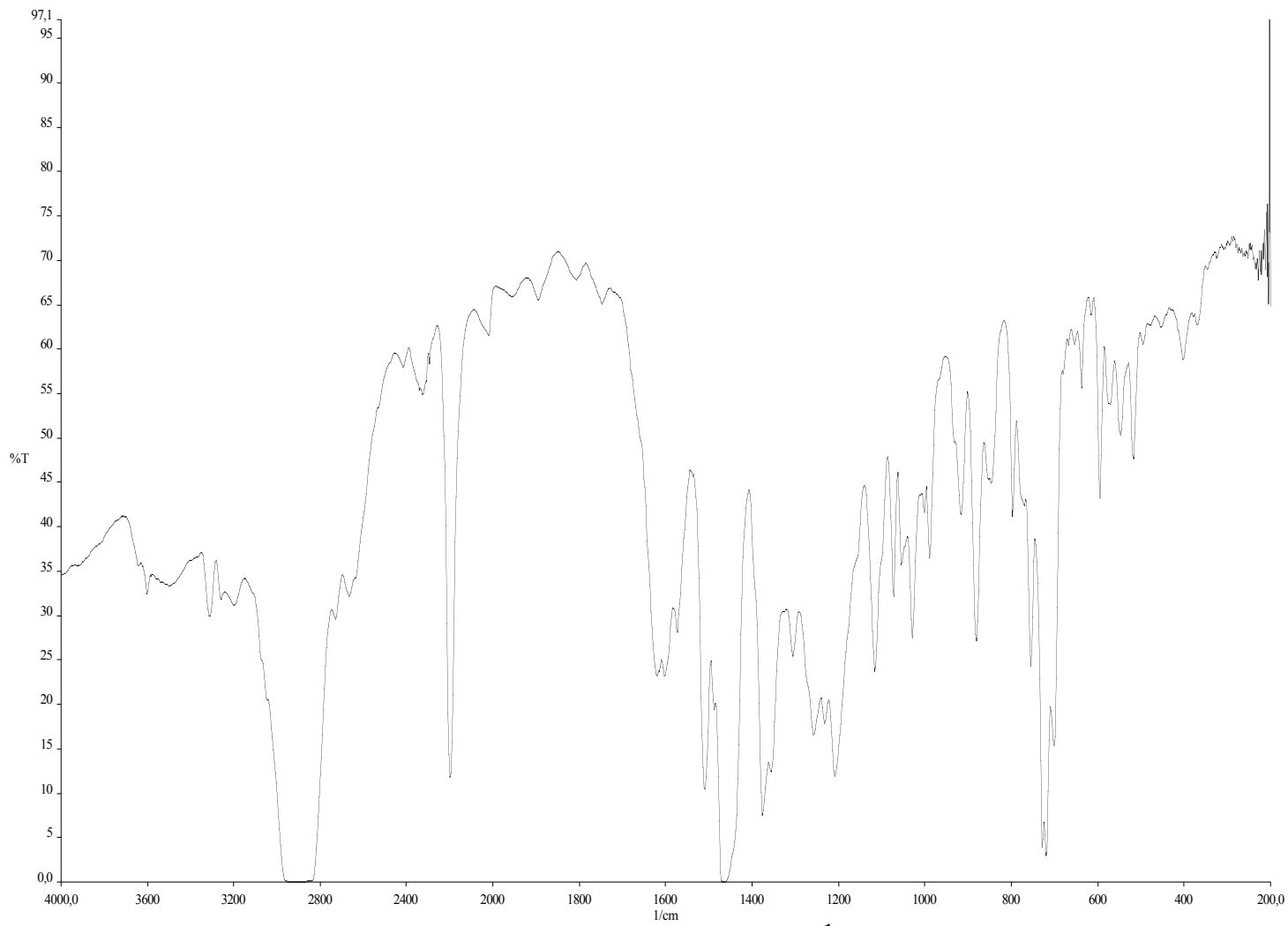
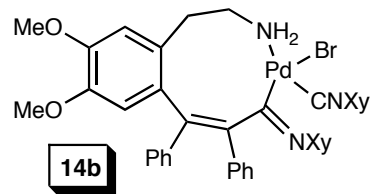
IR spectrum of 13b (Nujol, cm<sup>-1</sup>)



**$^1\text{H}$  NMR spectrum of 13b (CDCl<sub>3</sub> + TMS, 25 °C)**

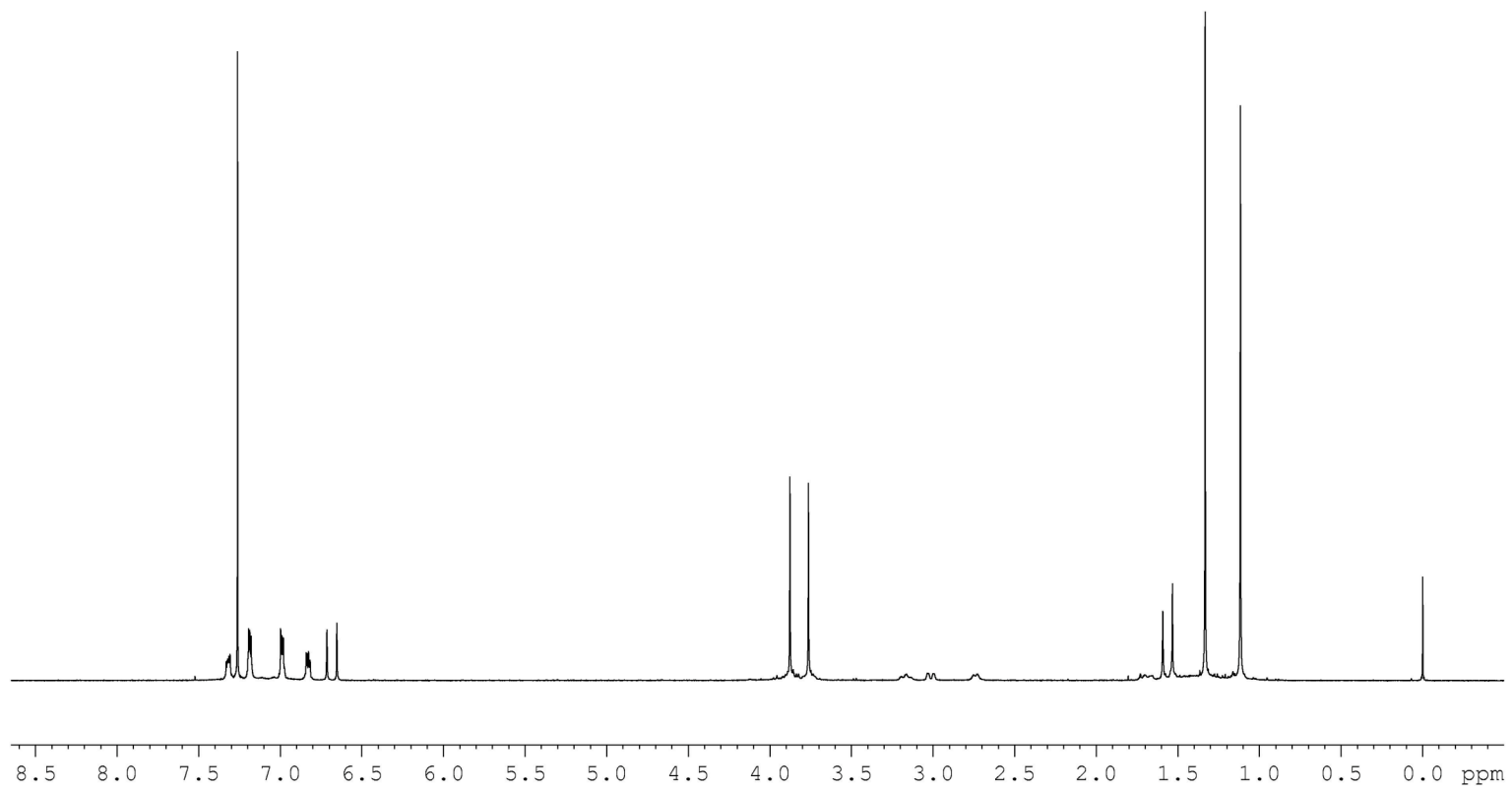


$^{13}\text{C}$  APT NMR spectrum of **13b** ( $\text{CDCl}_3 + \text{TMS}$ , 25 °C)

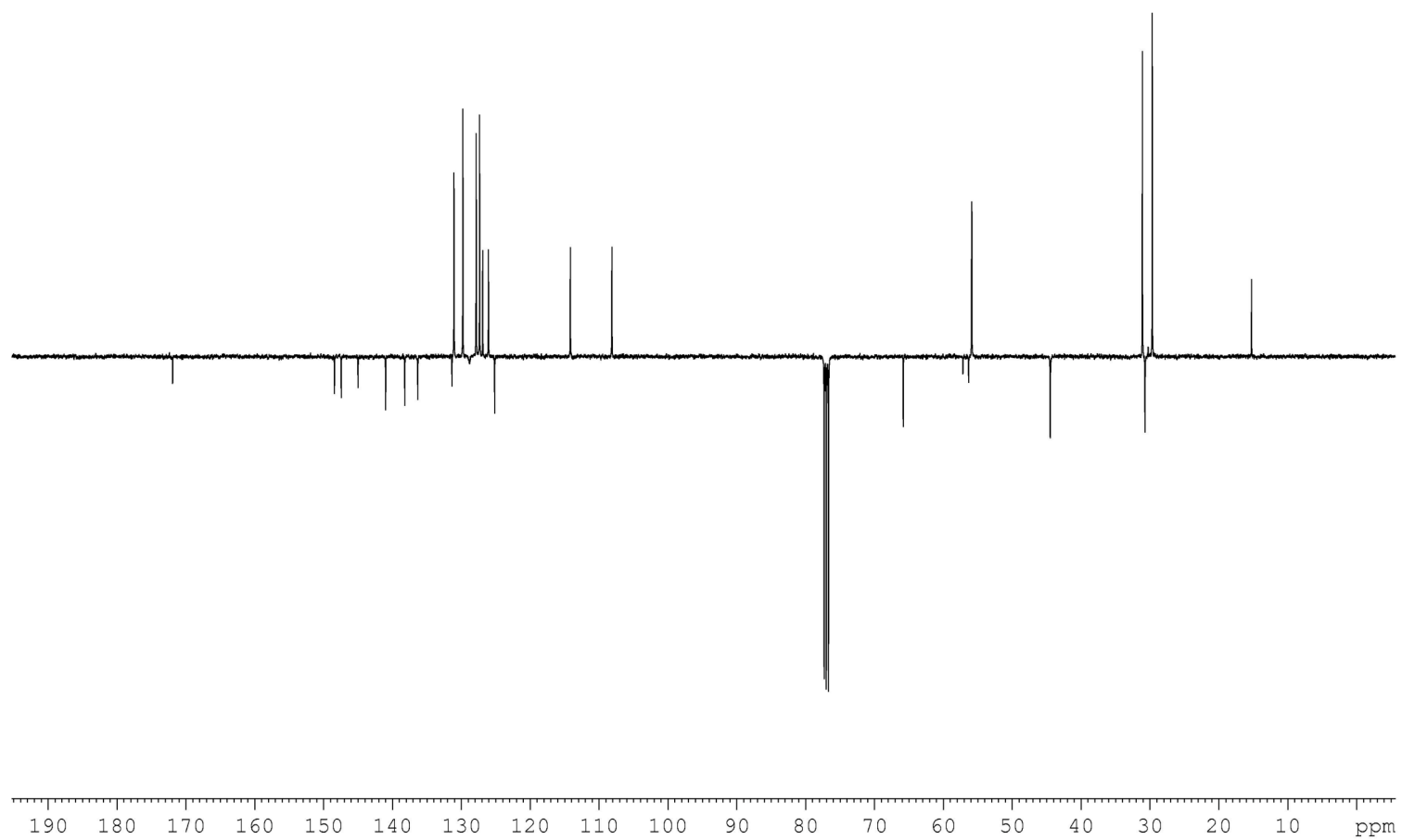


IR spectrum of 14b (Nujol, cm<sup>-1</sup>)

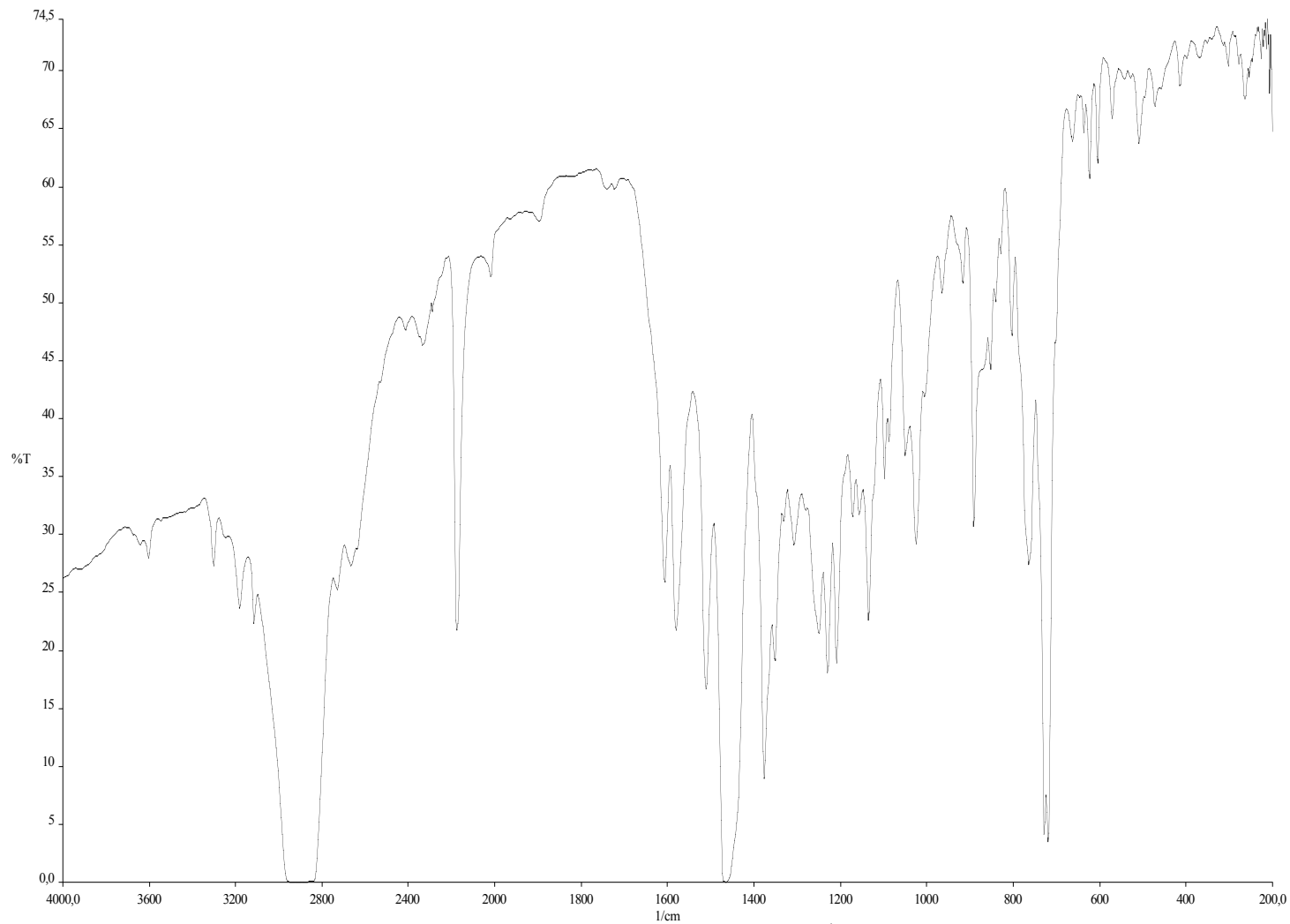
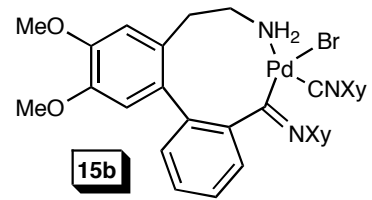




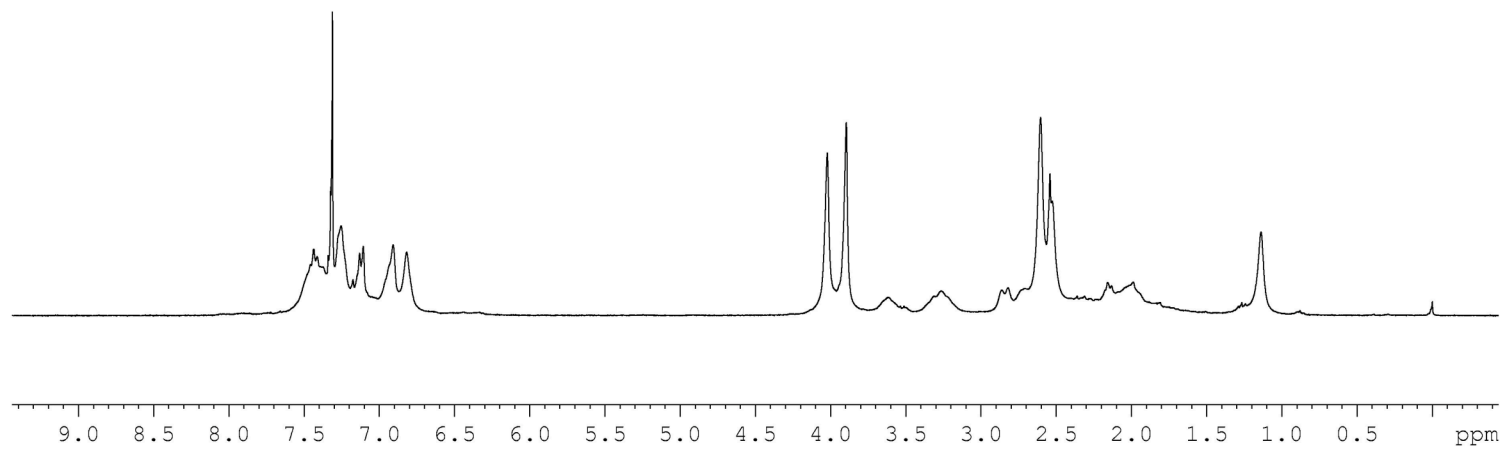
**$^1\text{H}$  NMR spectrum of 14b (CDCl<sub>3</sub> + TMS, -20 °C)**



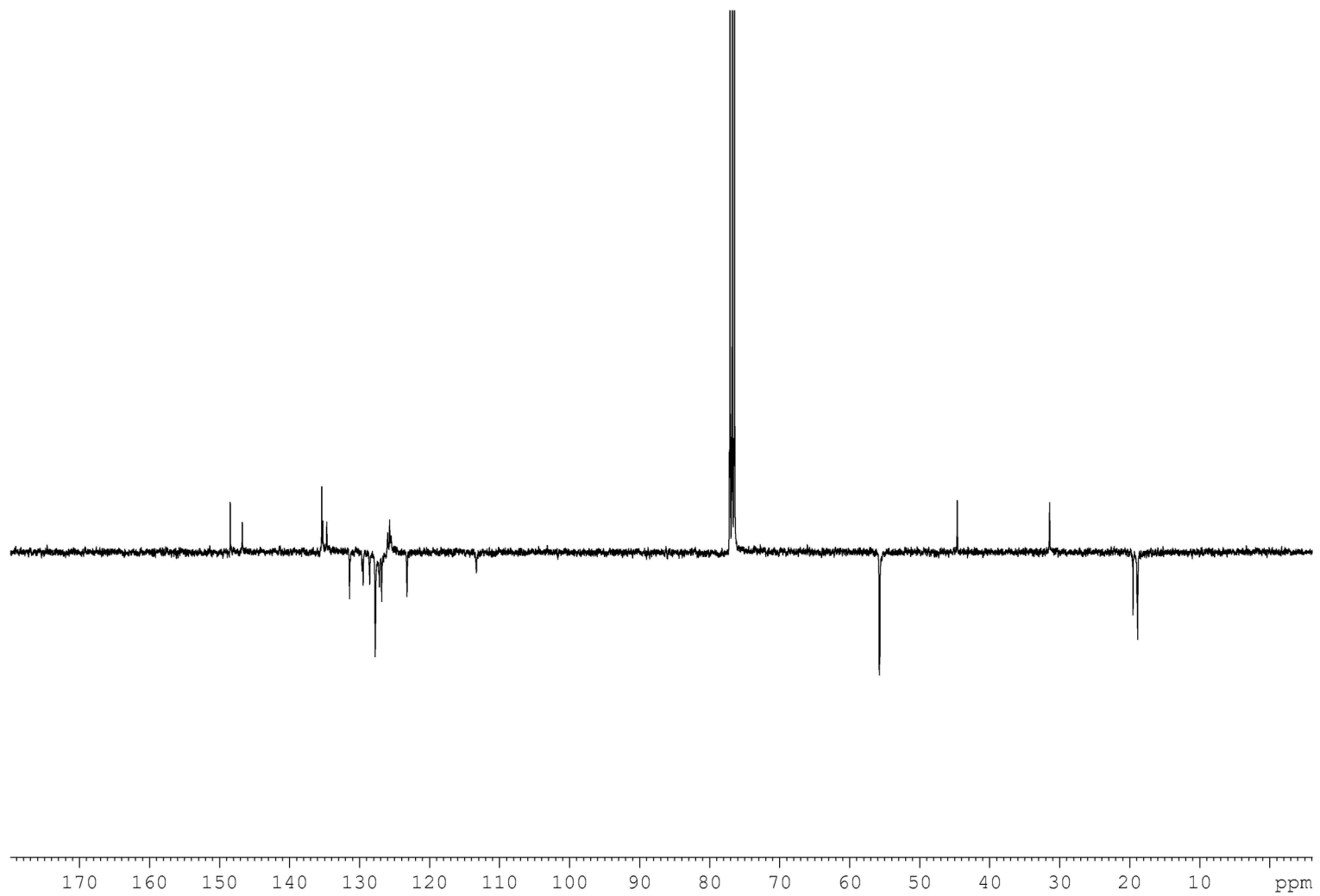
$^{13}\text{C}$  APT NMR spectrum of 14b ( $\text{CDCl}_3 + \text{TMS}$ ,  $-20\text{ }^\circ\text{C}$ )



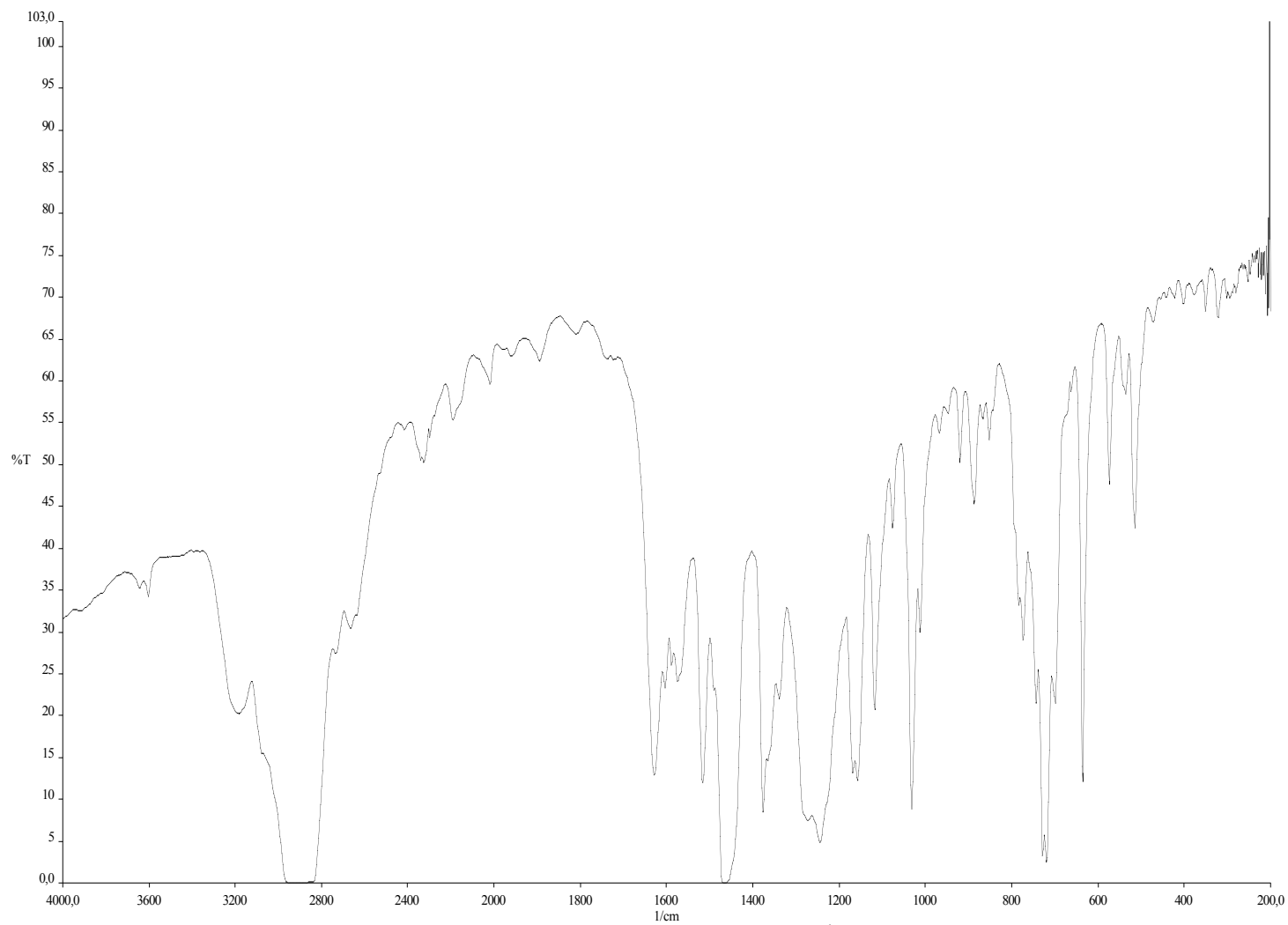
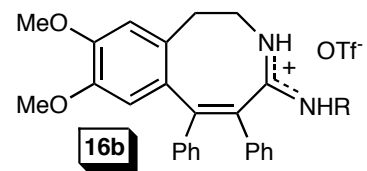
IR spectrum of 15b (Nujol, cm<sup>-1</sup>)



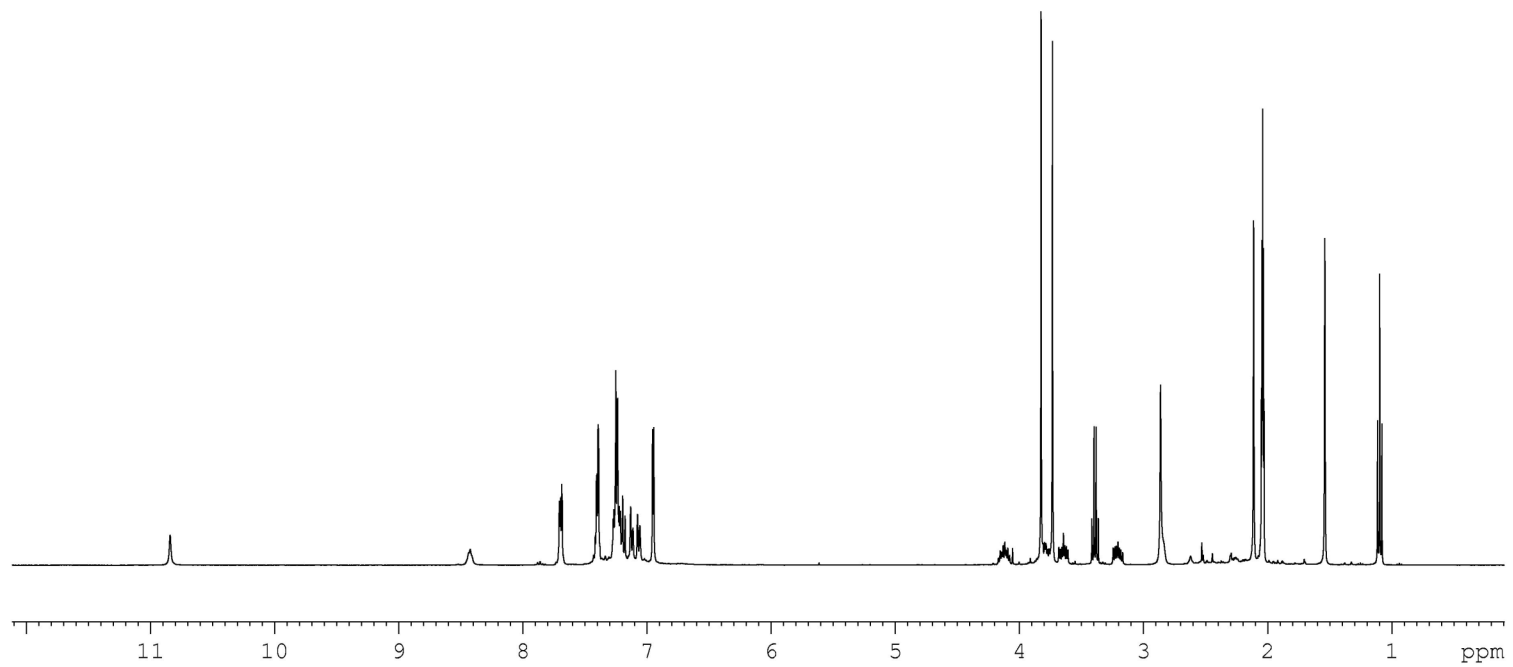
**$^1\text{H}$  NMR spectrum of 15b (CDCl<sub>3</sub> + TMS, -50 °C)**



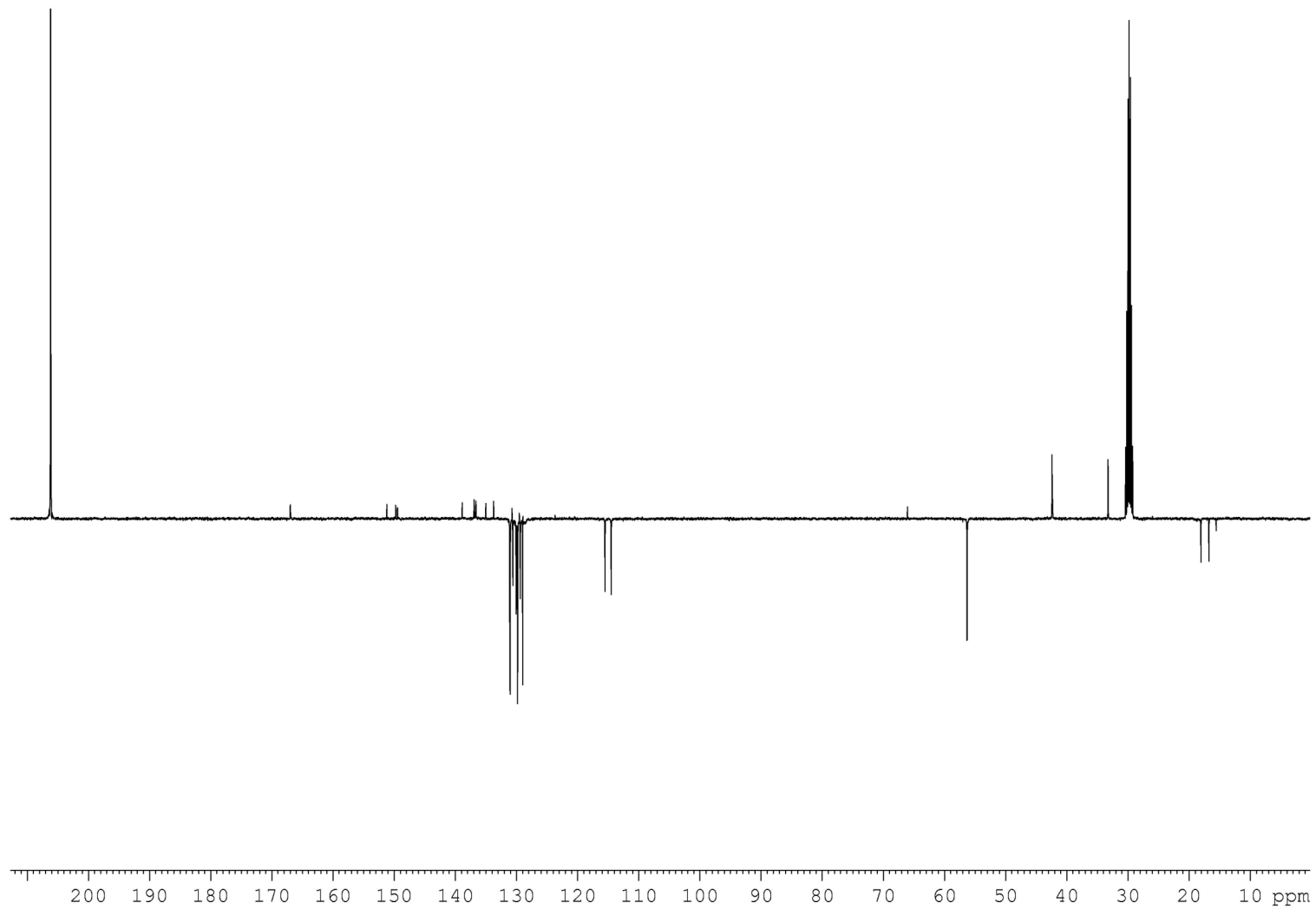
$^{13}\text{C}$  APT NMR spectrum of 15b ( $\text{CDCl}_3$  + TMS,  $-50\text{ }^\circ\text{C}$ )



IR spectrum of **16b** (Nujol, cm<sup>-1</sup>)

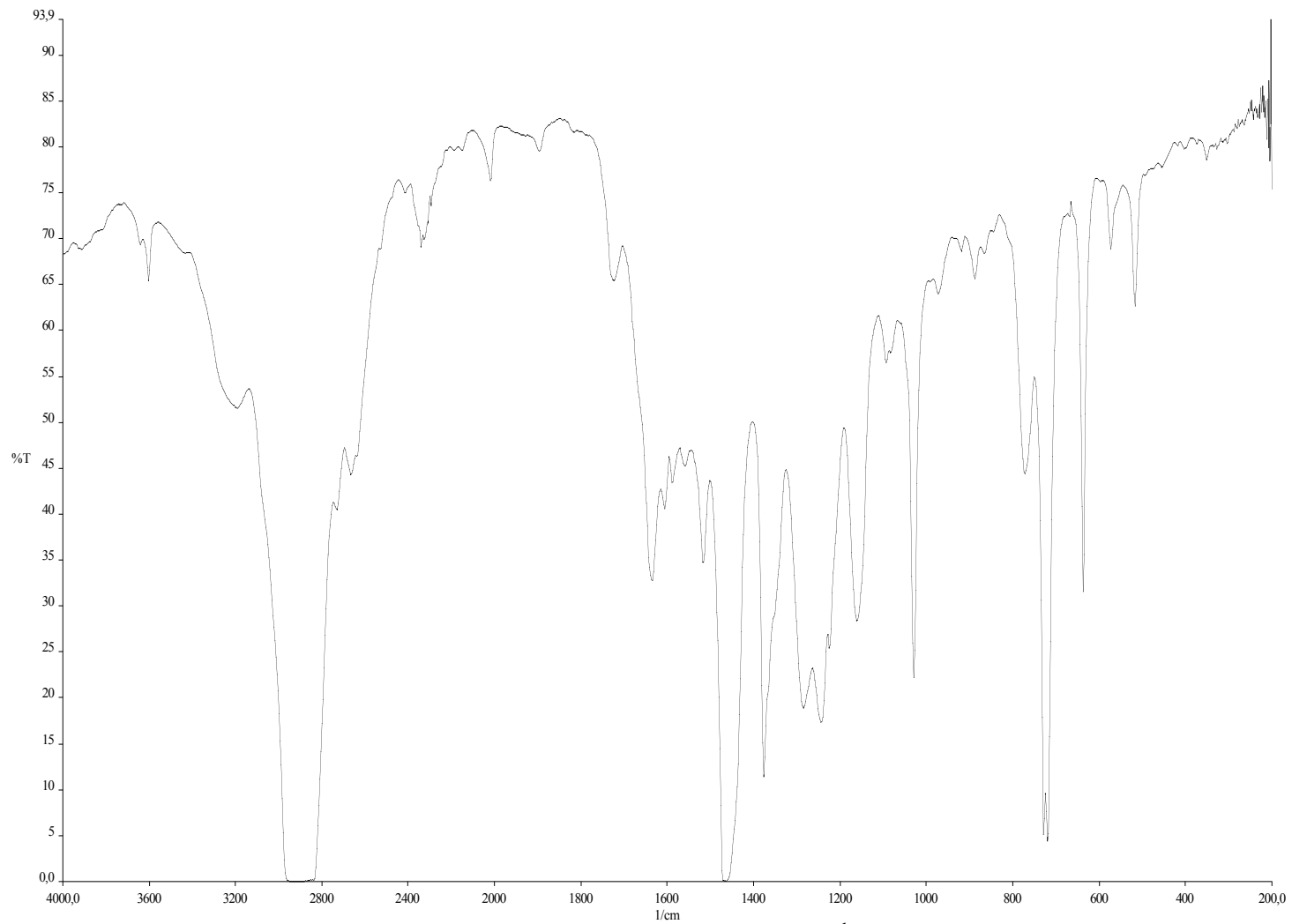
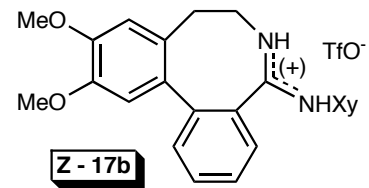


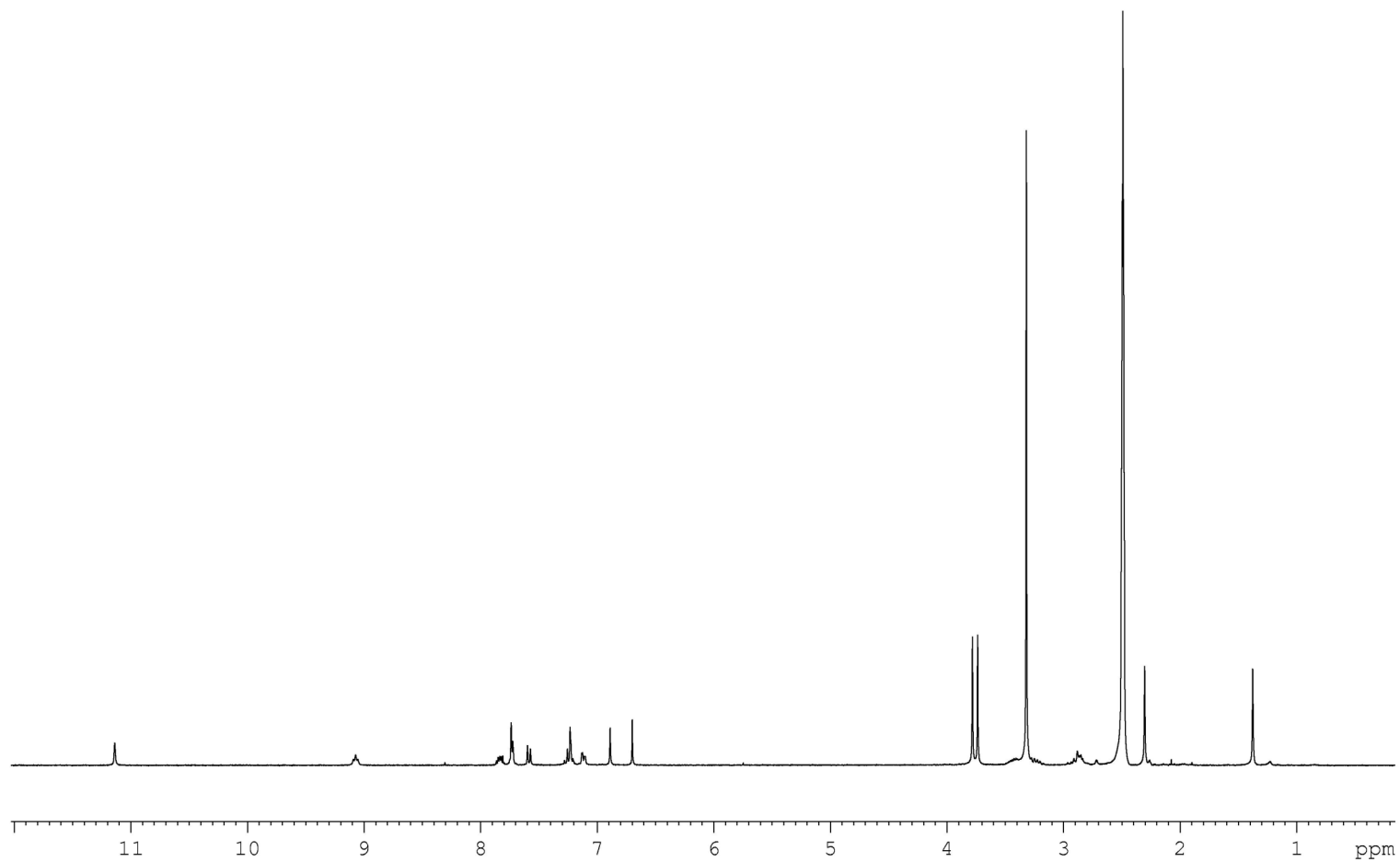
$^1\text{H}$  NMR spectrum of **16b** ( $\text{Acetone-}d_6$ ,  $25\text{ }^\circ\text{C}$ )



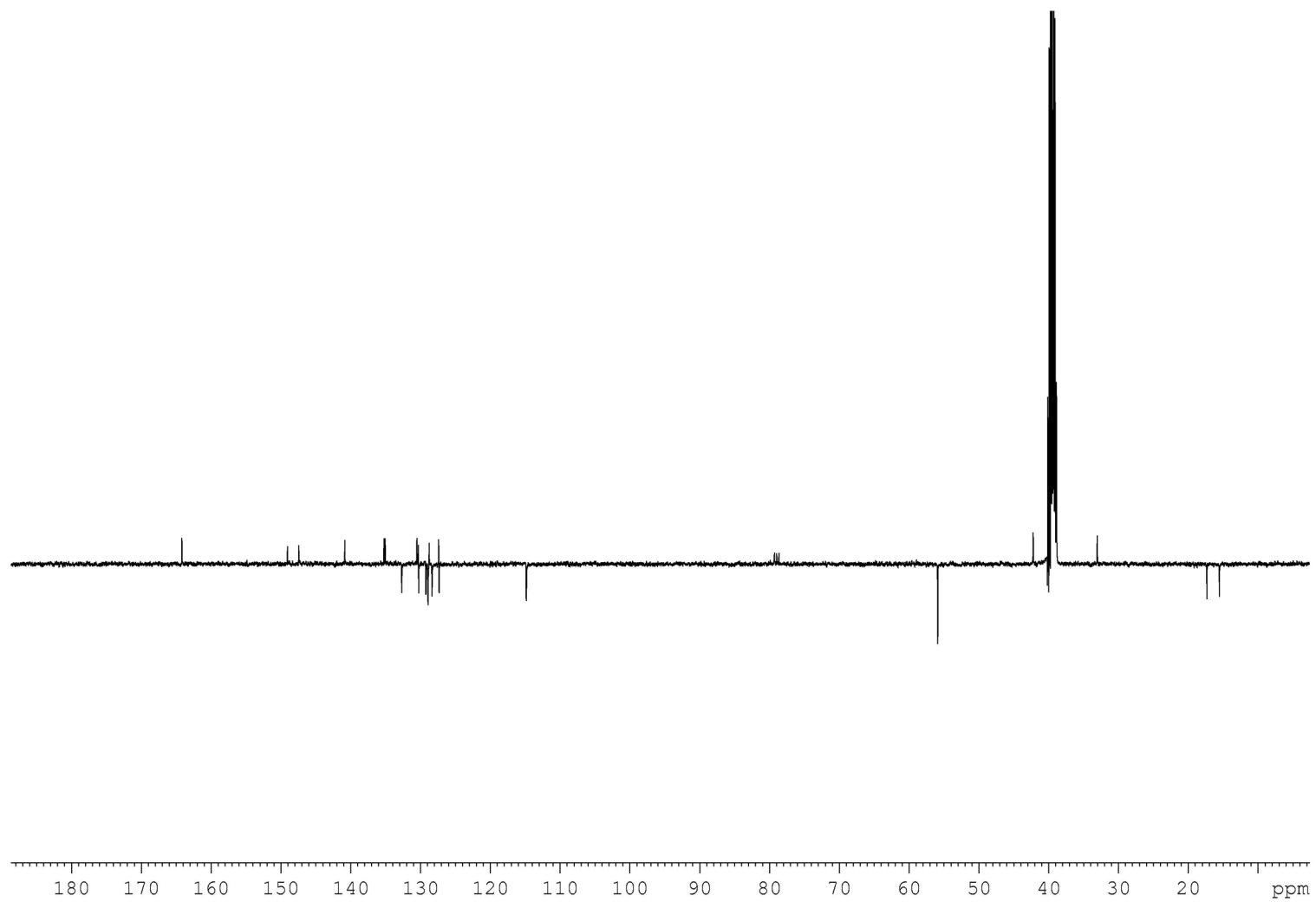
$^{13}\text{C}$  NMR spectrum of 16b (Acetone- $d_6$ , 25 °C)



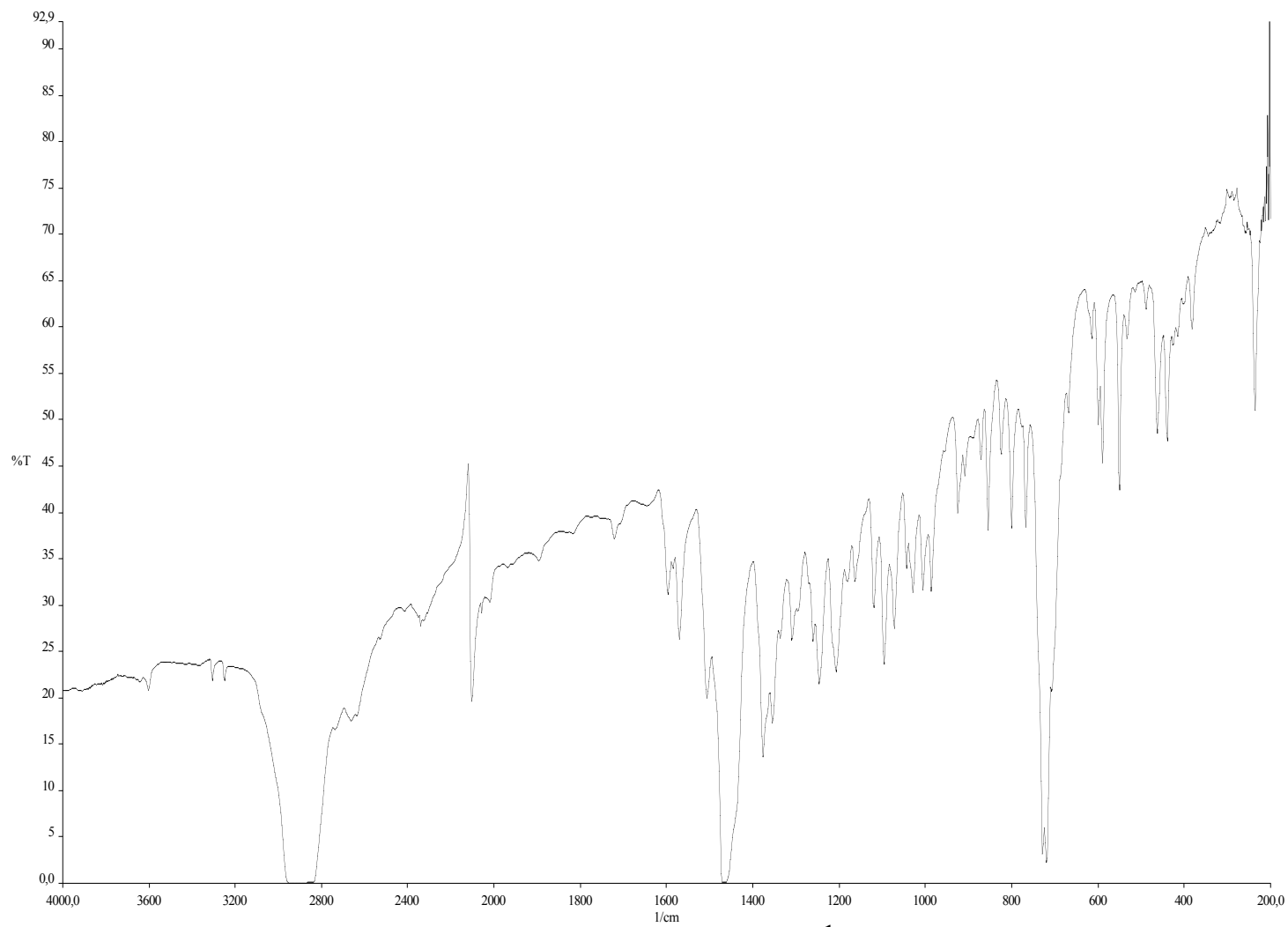
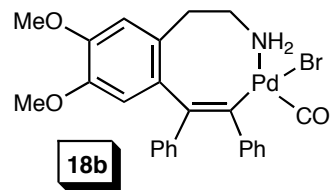


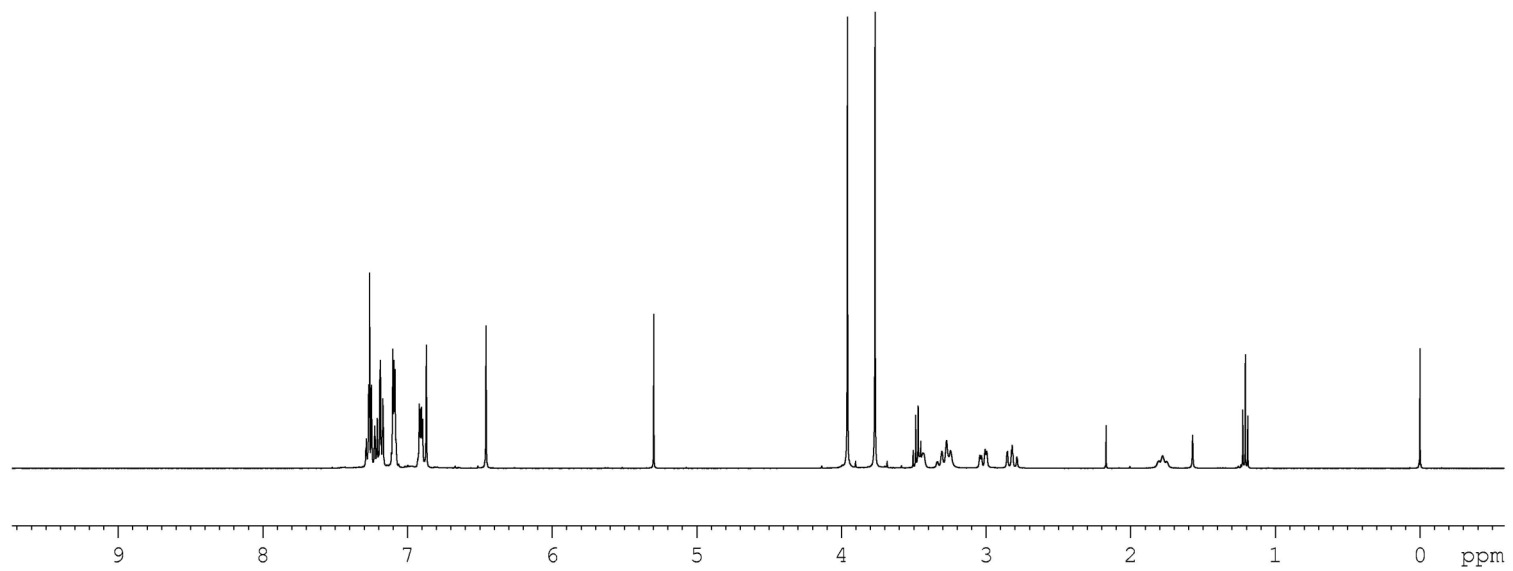


$^1\text{H}$  NMR spectrum of Z-17b (DMSO- $d_6$ , 25 °C)

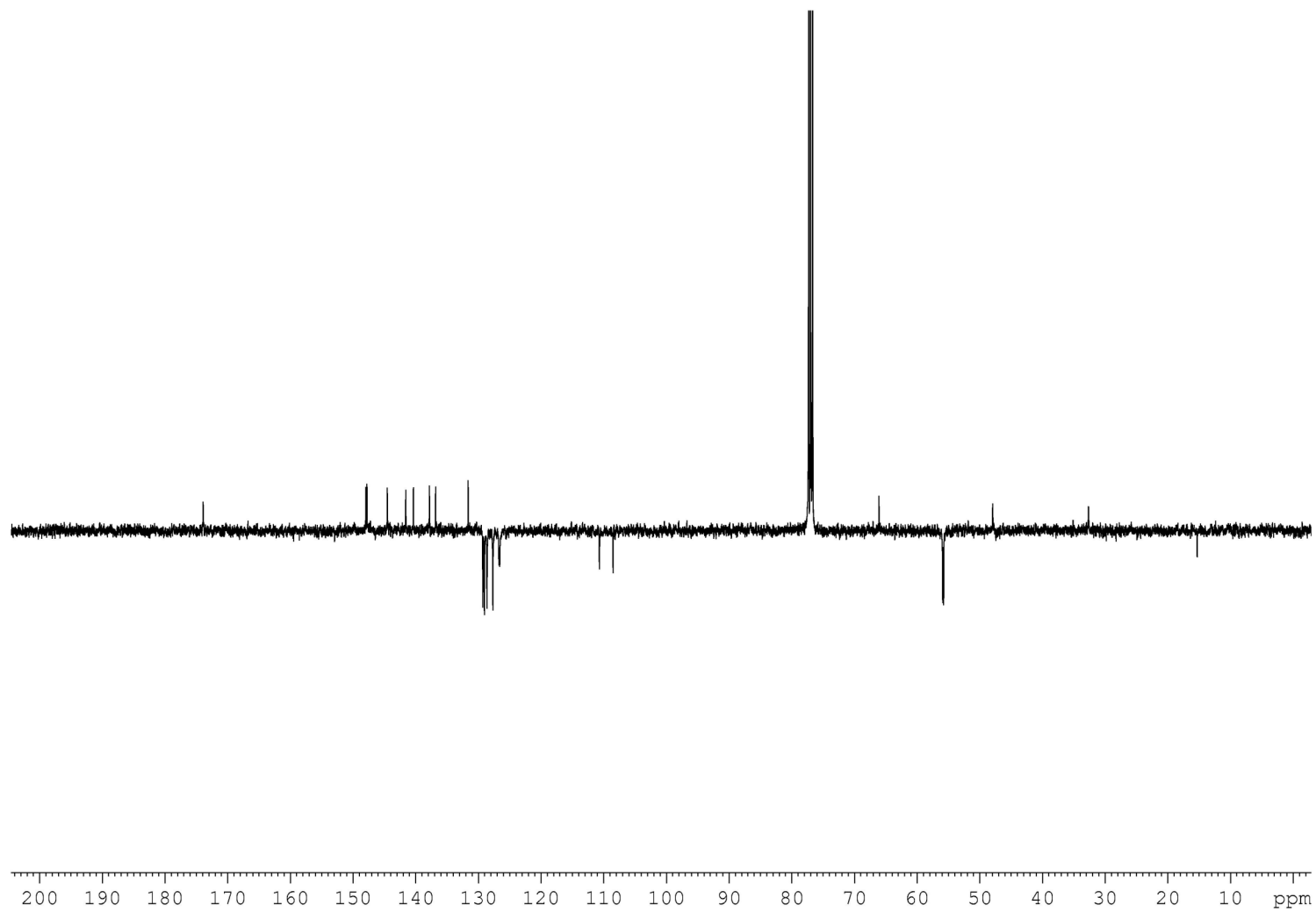


$^{13}\text{C}$  NMR spectrum of Z-17b (DMSO- $d_6$ , 25 °C)

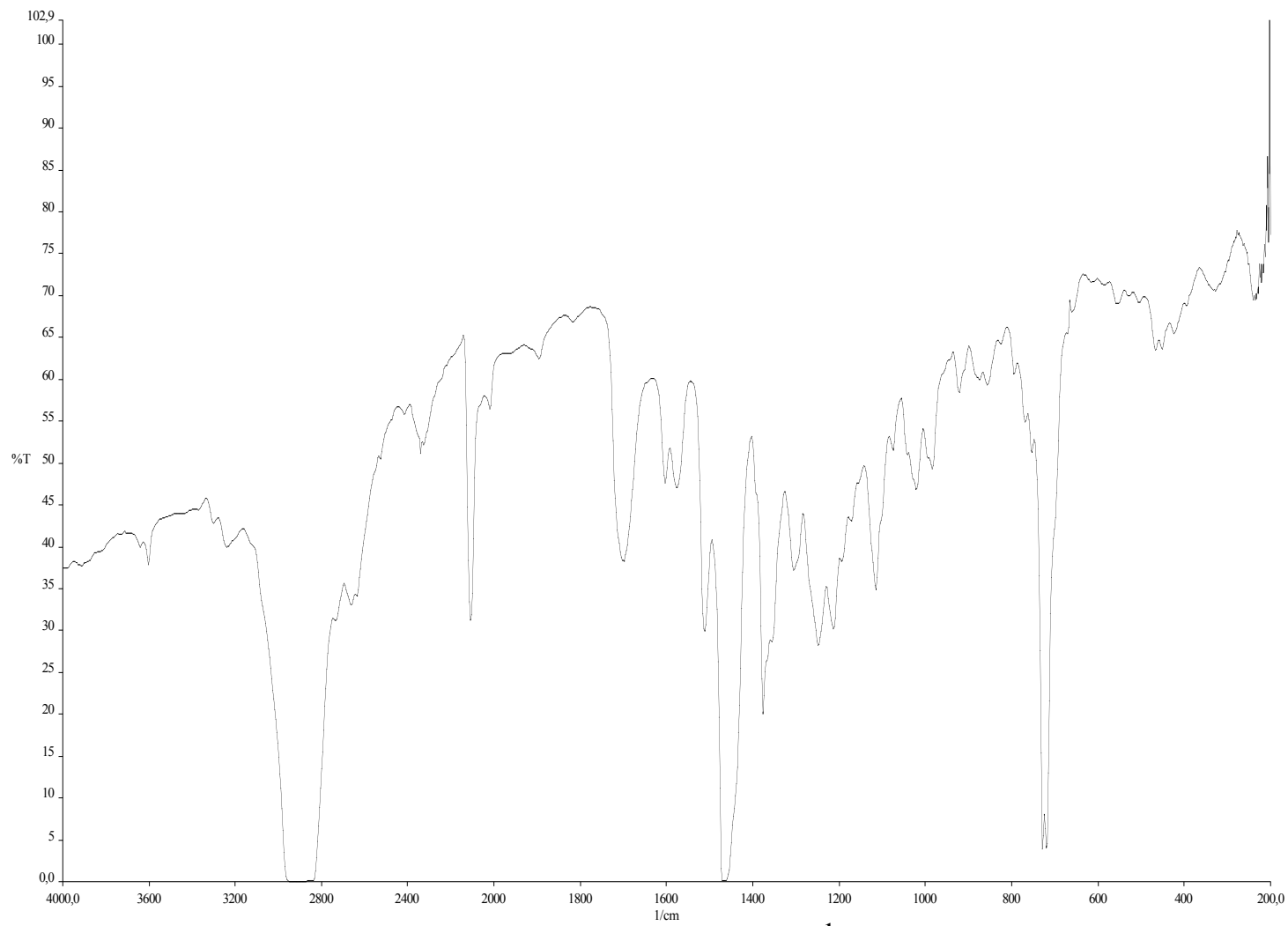
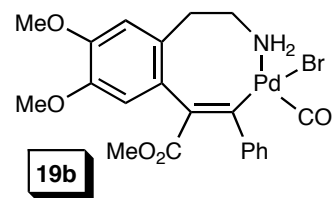




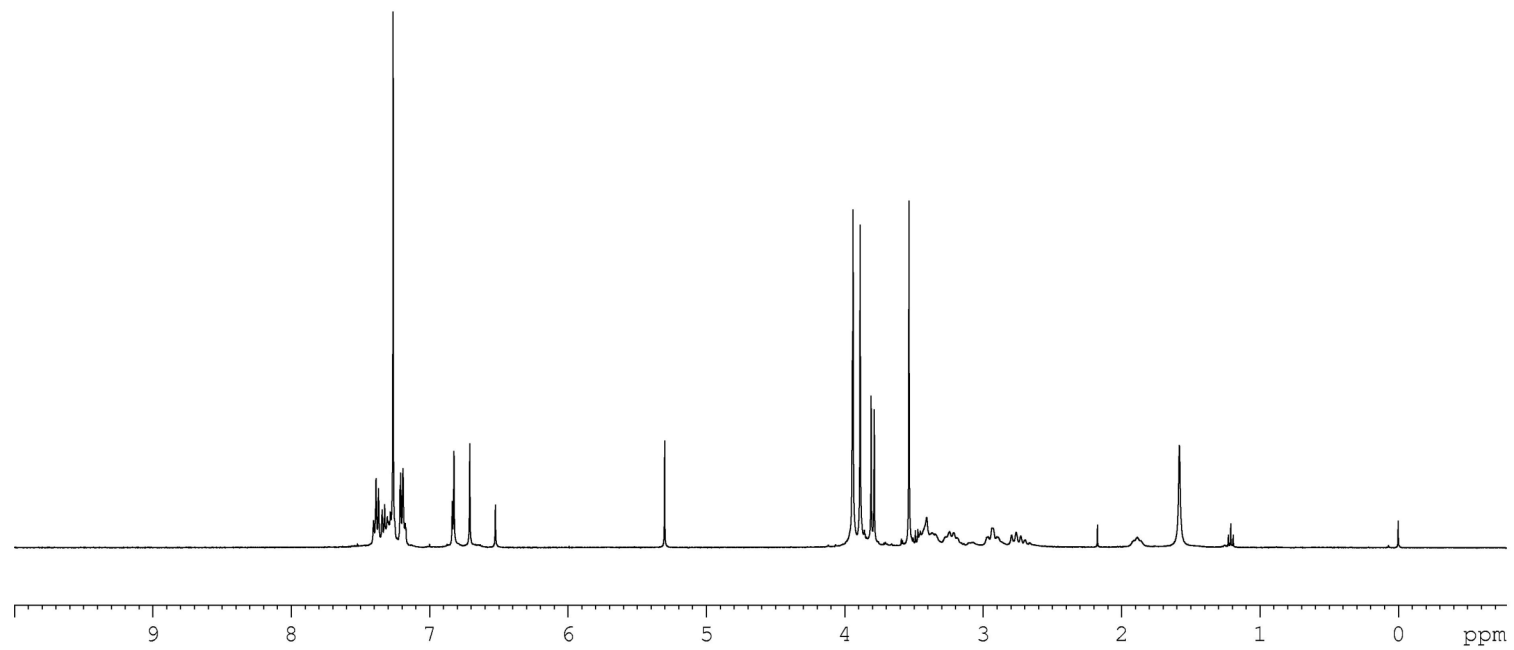
**$^1\text{H}$  NMR spectrum of 18b (CDCl<sub>3</sub> + TMS, 25 °C)**



$^{13}\text{C}$  APT NMR spectrum of 18b ( $\text{CDCl}_3 + \text{TMS}$ , 25 °C)

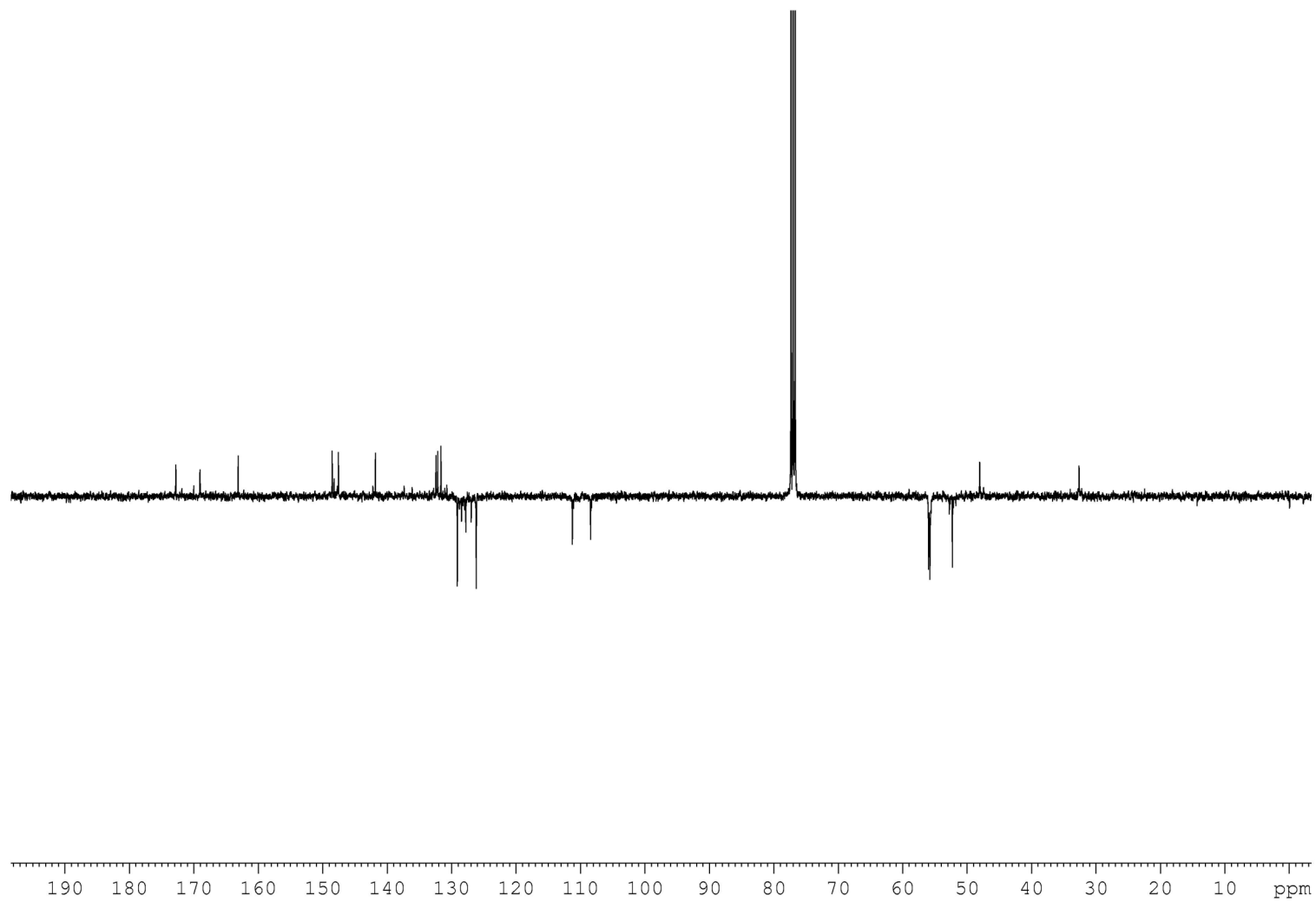


IR spectrum of 19b (Nujol, cm<sup>-1</sup>)

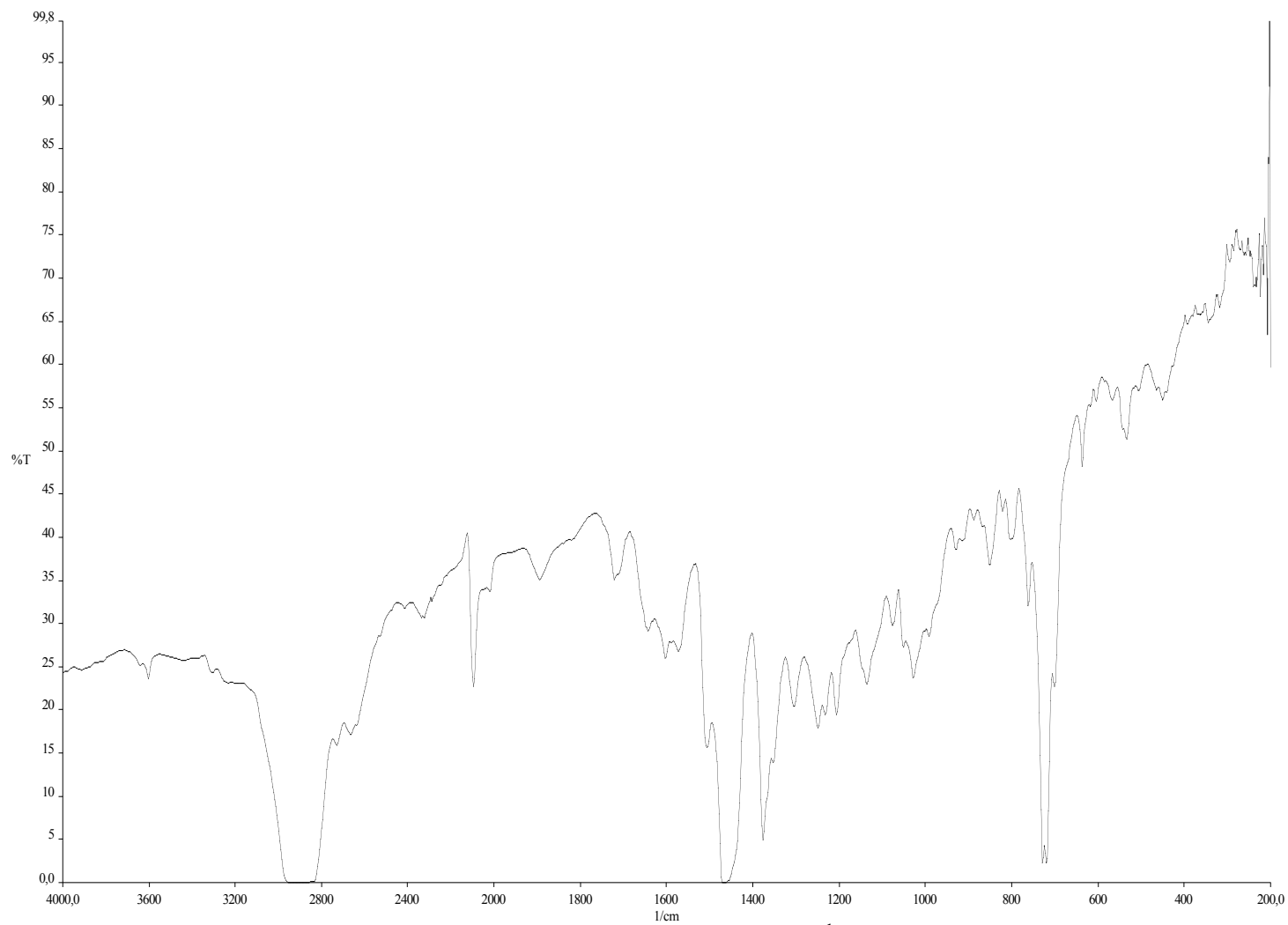
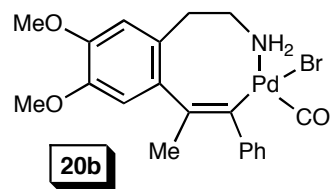


**$^1\text{H}$  NMR spectrum of 19b ( $\text{CDCl}_3$  + TMS, 25 °C)**

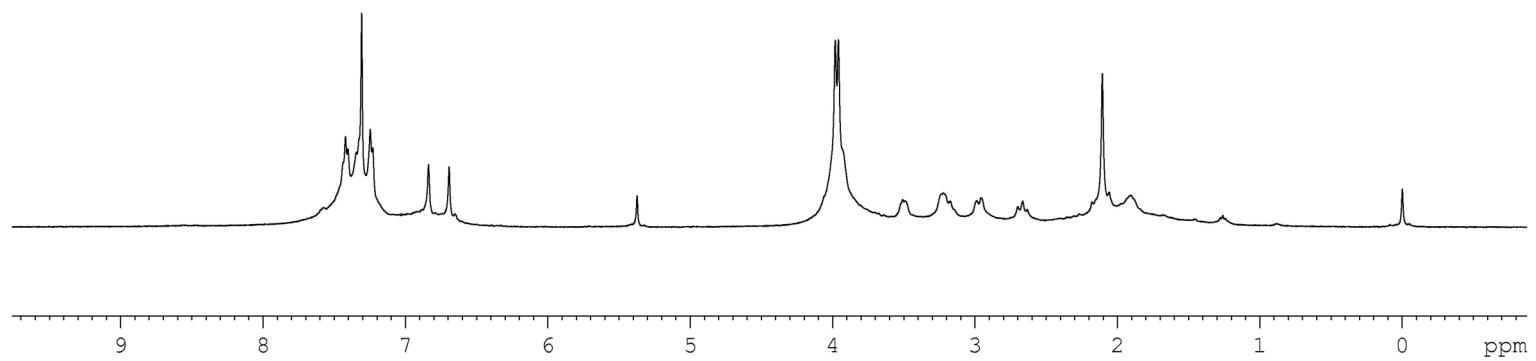




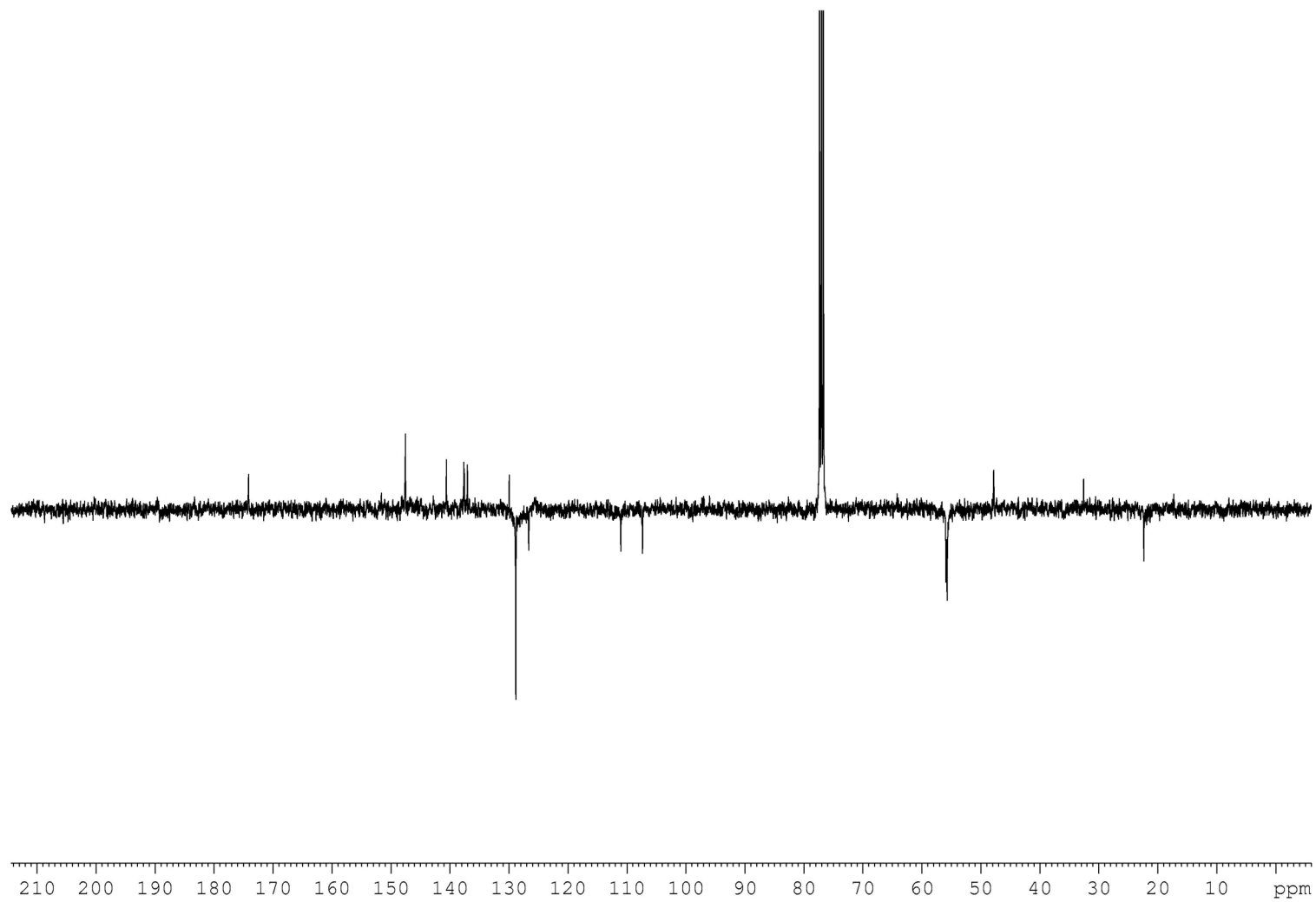
$^{13}\text{C}$  APT NMR spectrum of 19b ( $\text{CDCl}_3$ , 25 °C)



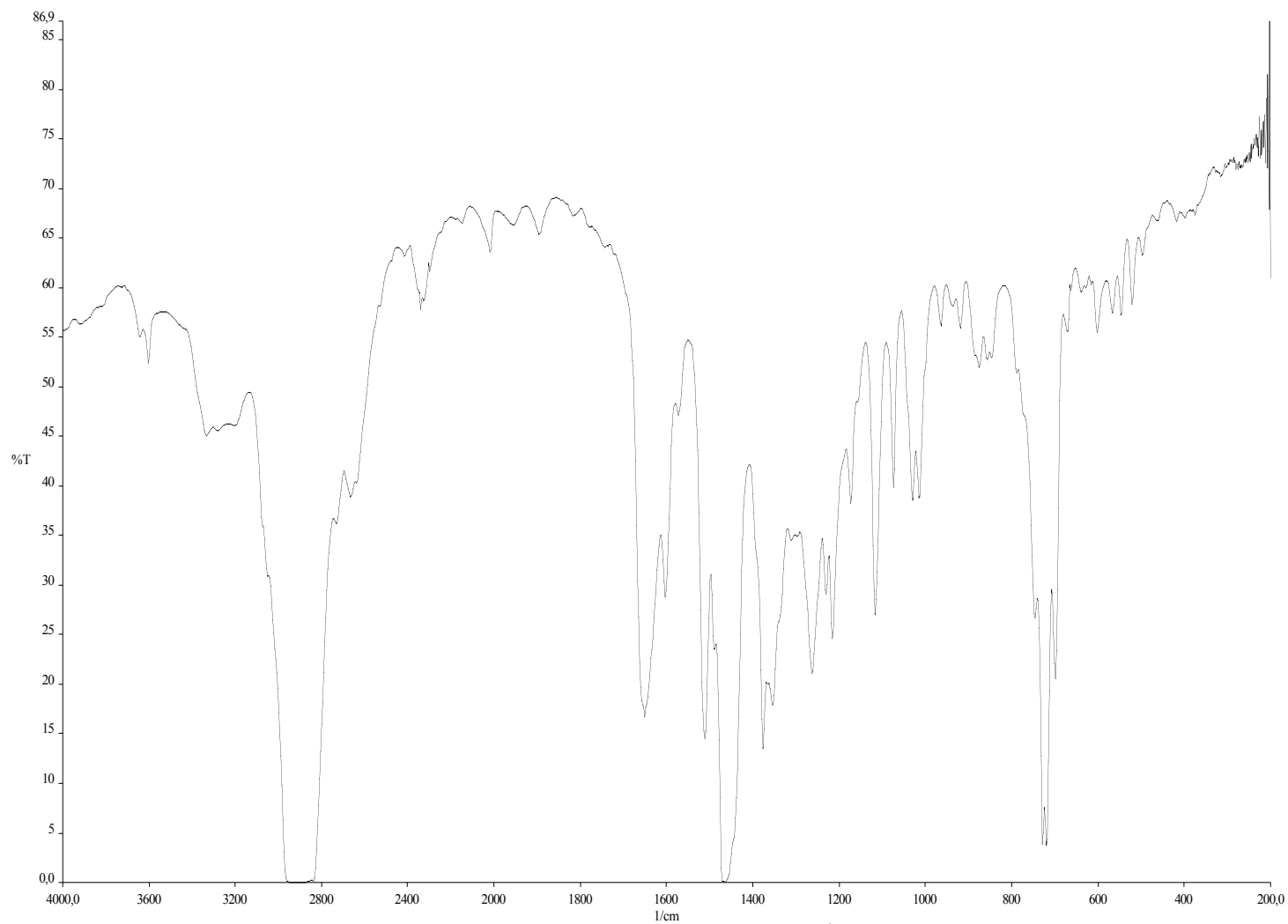
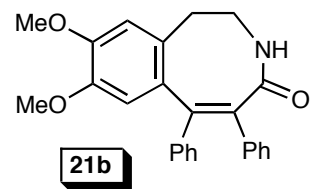
IR spectrum of 20b (Nujol,  $\text{cm}^{-1}$ )



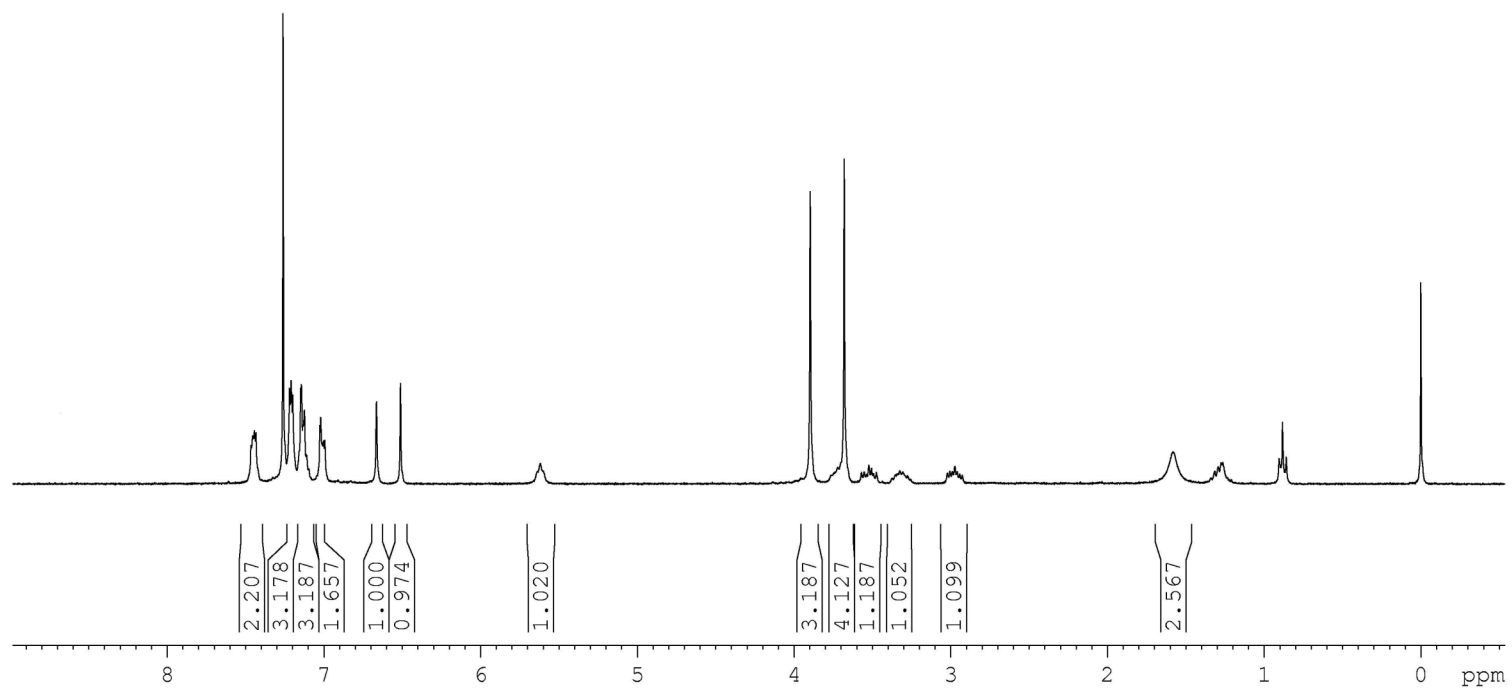
**$^1\text{H}$  NMR spectrum of 20b (CDCl<sub>3</sub> + TMS, -60 °C)**



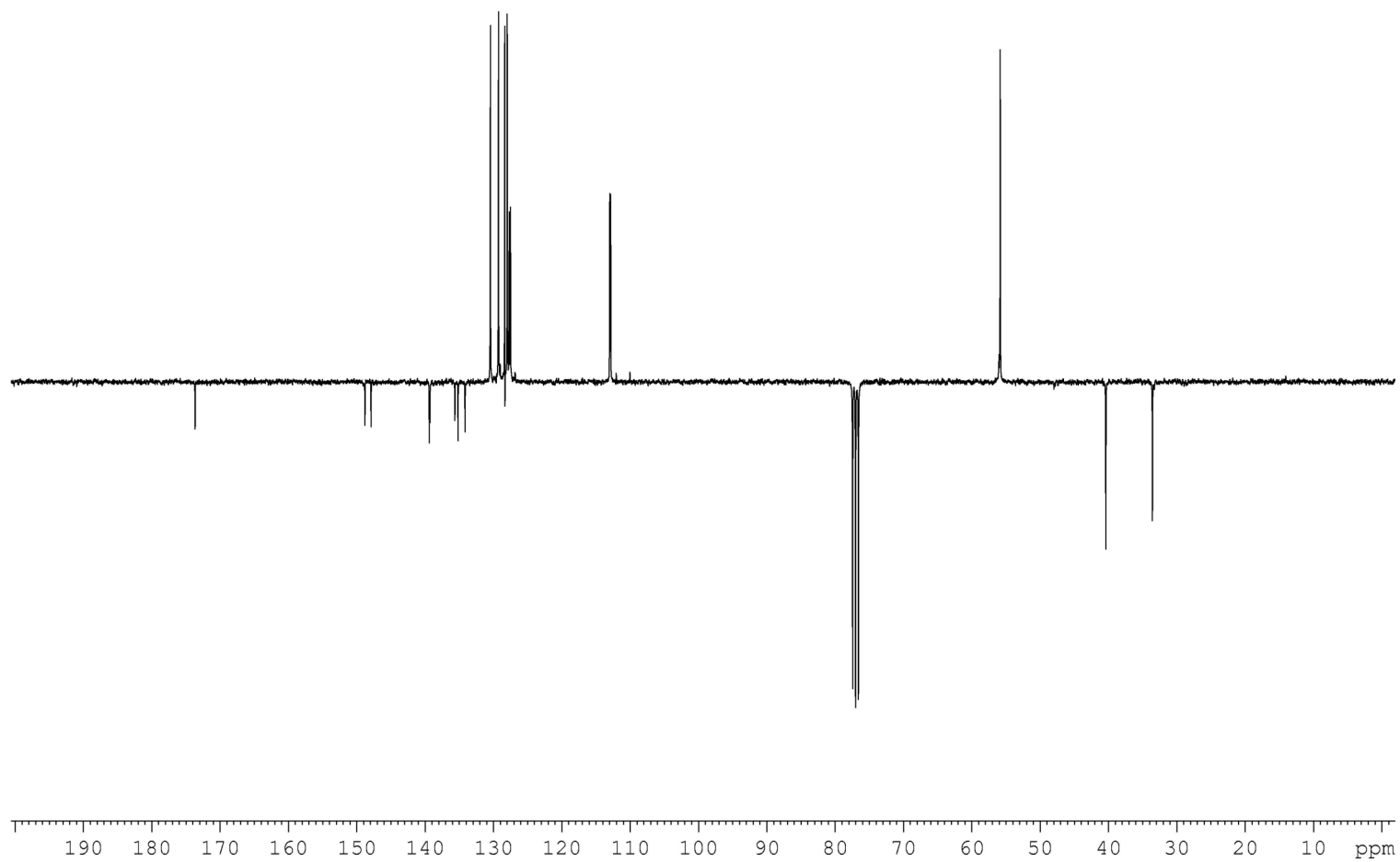
$^{13}\text{C}$  APT NMR spectrum of **20b** ( $\text{CDCl}_3$  + TMS,  $-60\text{ }^\circ\text{C}$ )



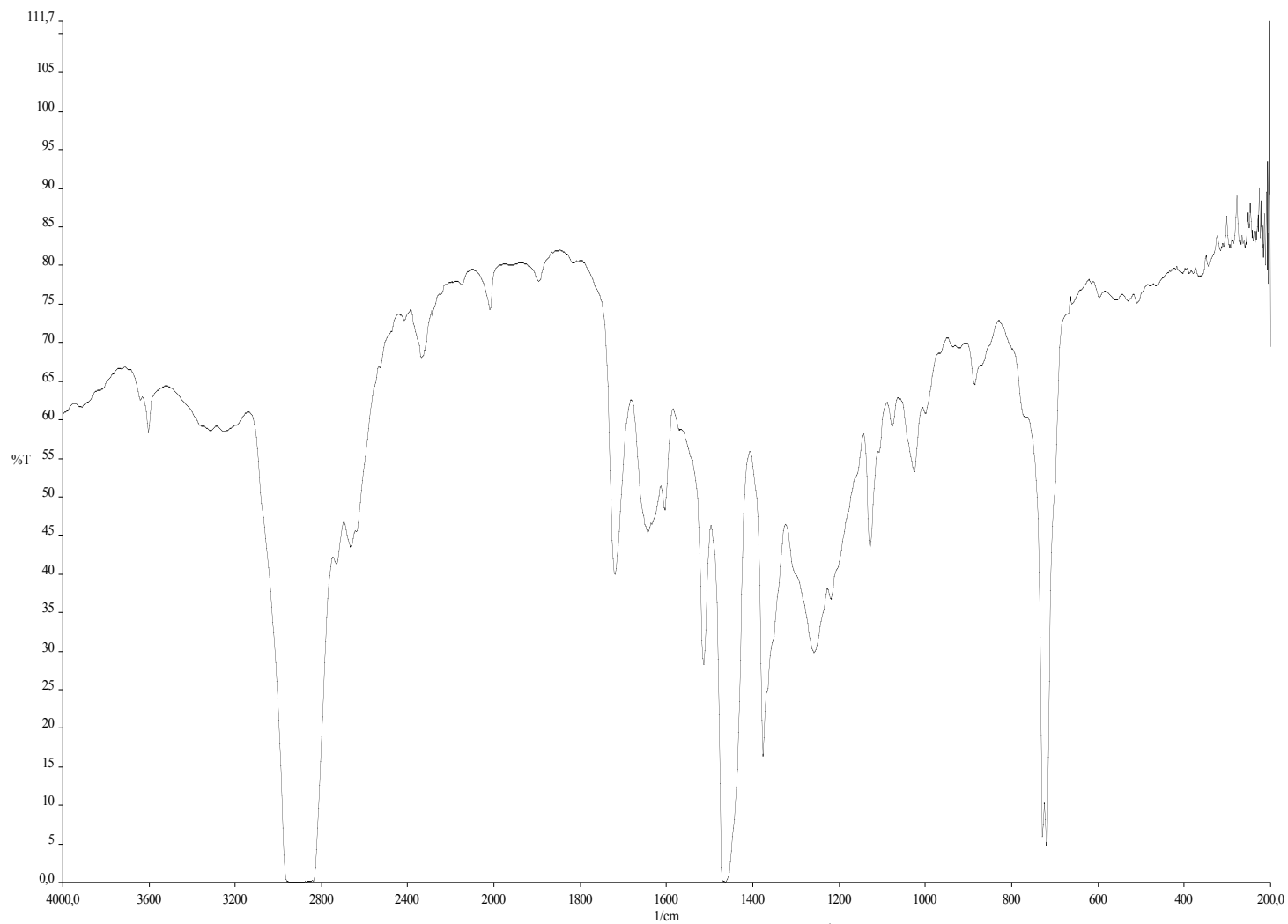
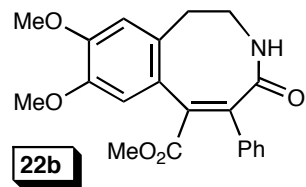
IR spectrum of 21b (Nujol,  $\text{cm}^{-1}$ )



$^1\text{H}$  NMR spectrum of 21b ( $\text{CDCl}_3$  + TMS, 25 °C)

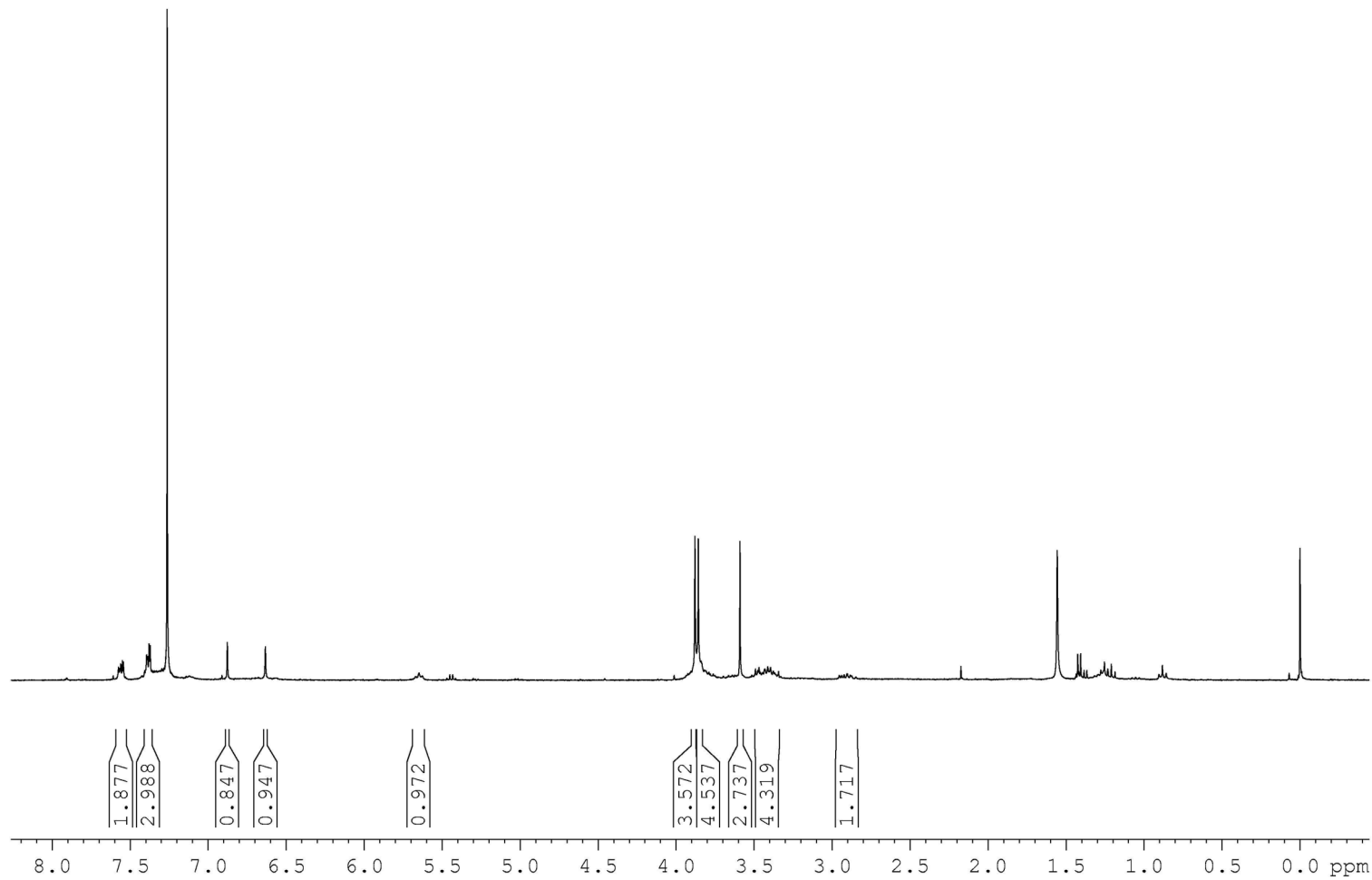


$^{13}\text{C}$  APT NMR spectrum of **21b** ( $\text{CDCl}_3 + \text{TMS}$ ,  $25\text{ }^\circ\text{C}$ )

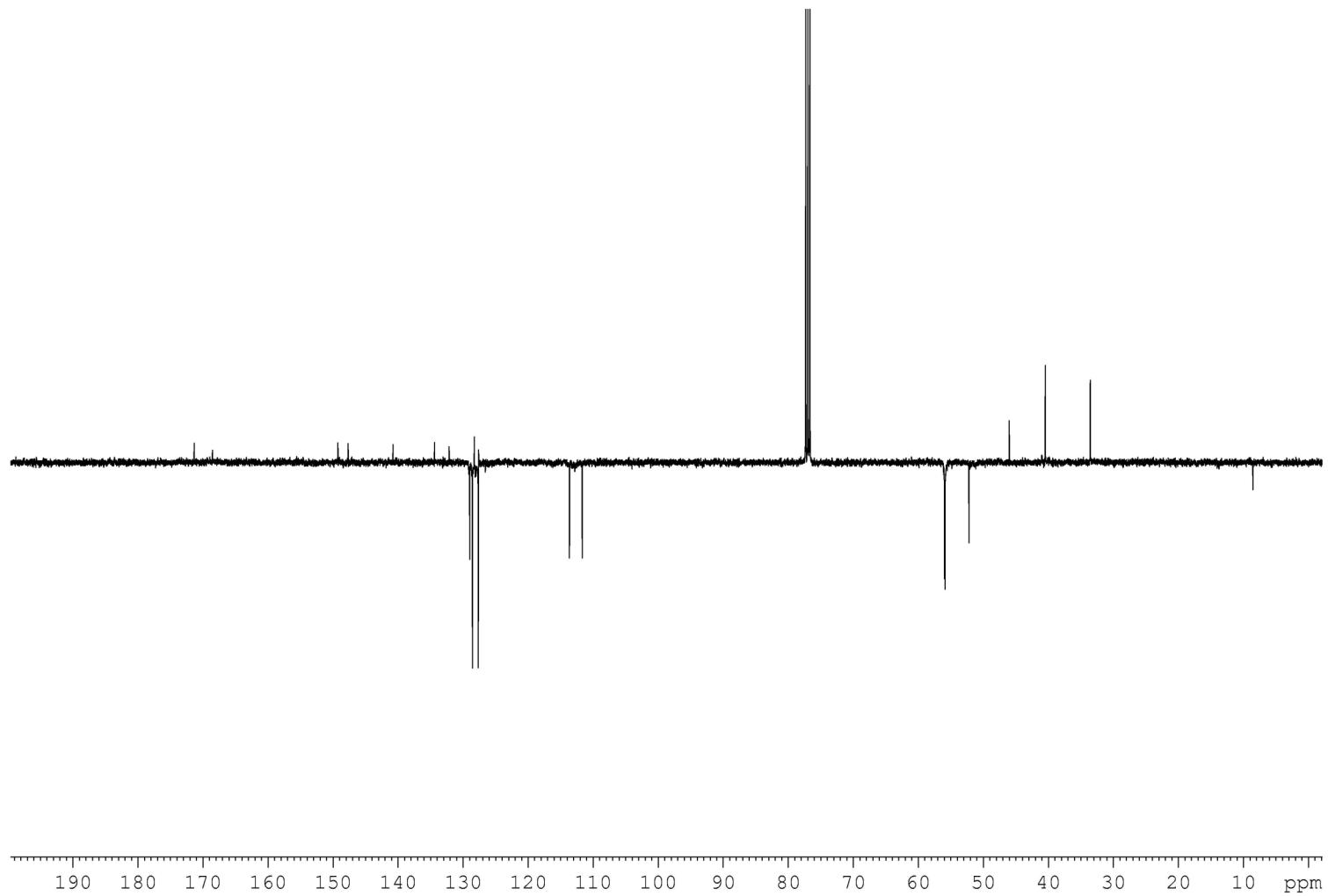


IR spectrum of 22b (Nujol, cm<sup>-1</sup>)

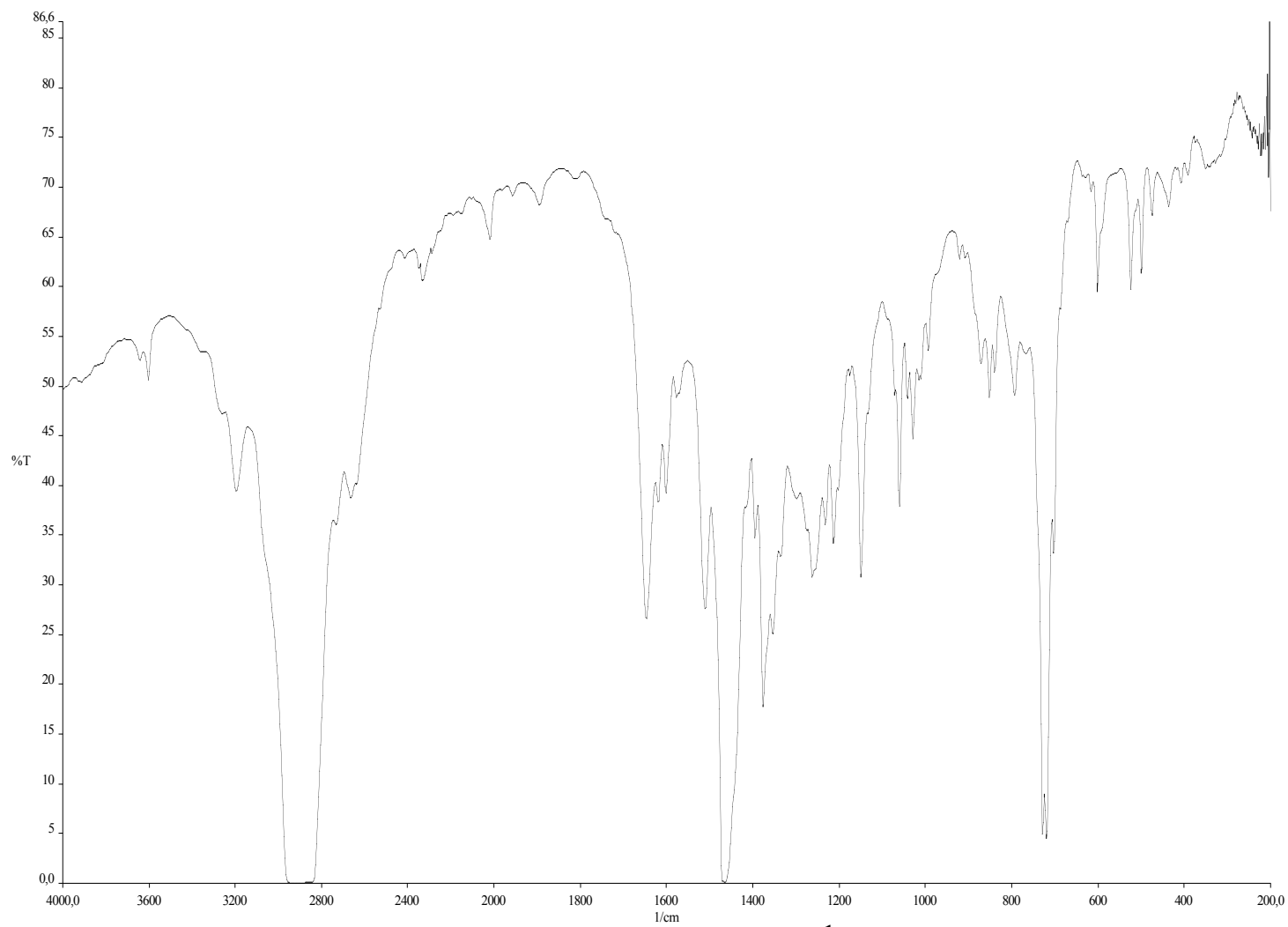
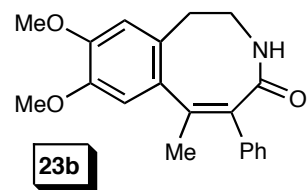




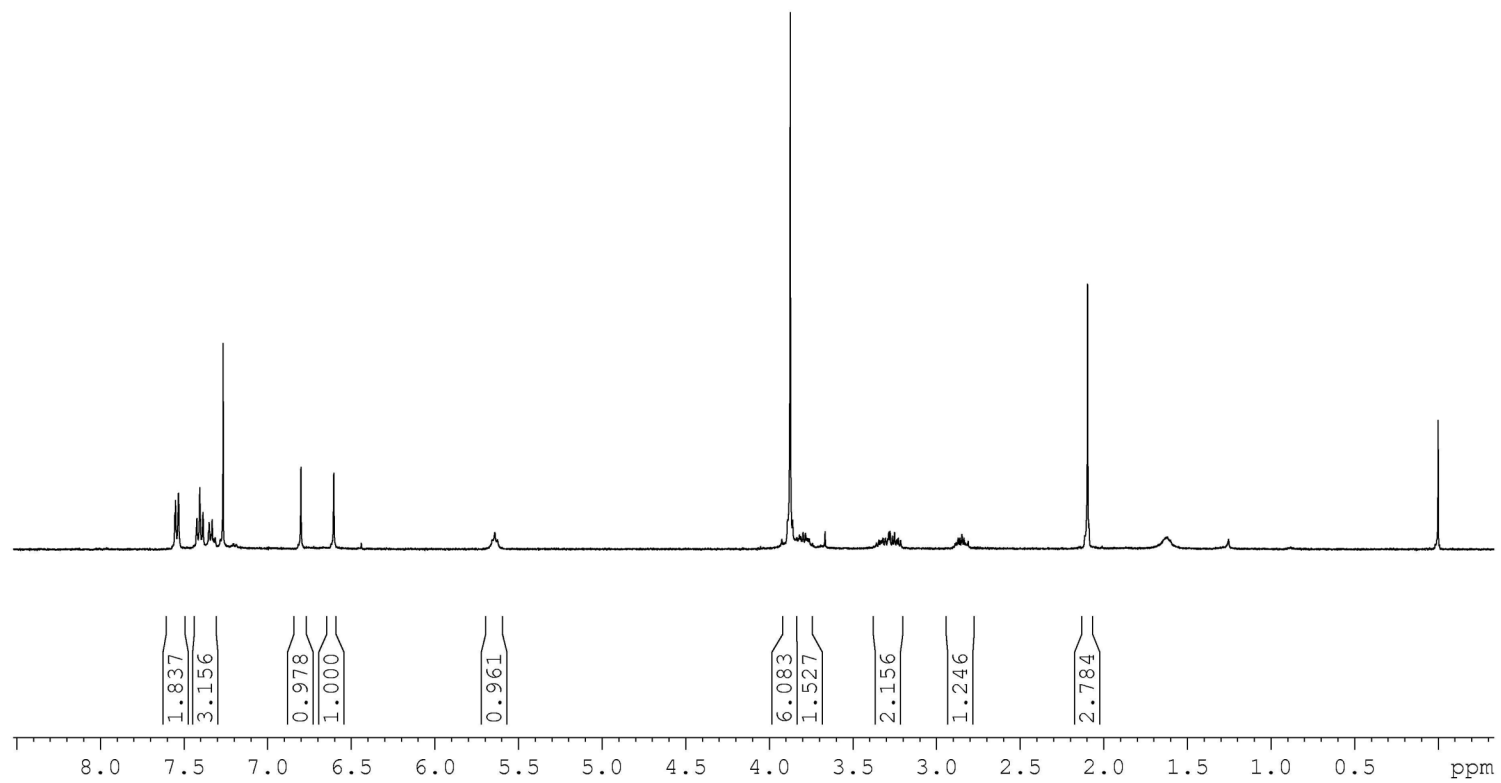
$^1\text{H}$  NMR spectrum of 22b ( $\text{CDCl}_3$  + TMS, 25°C)



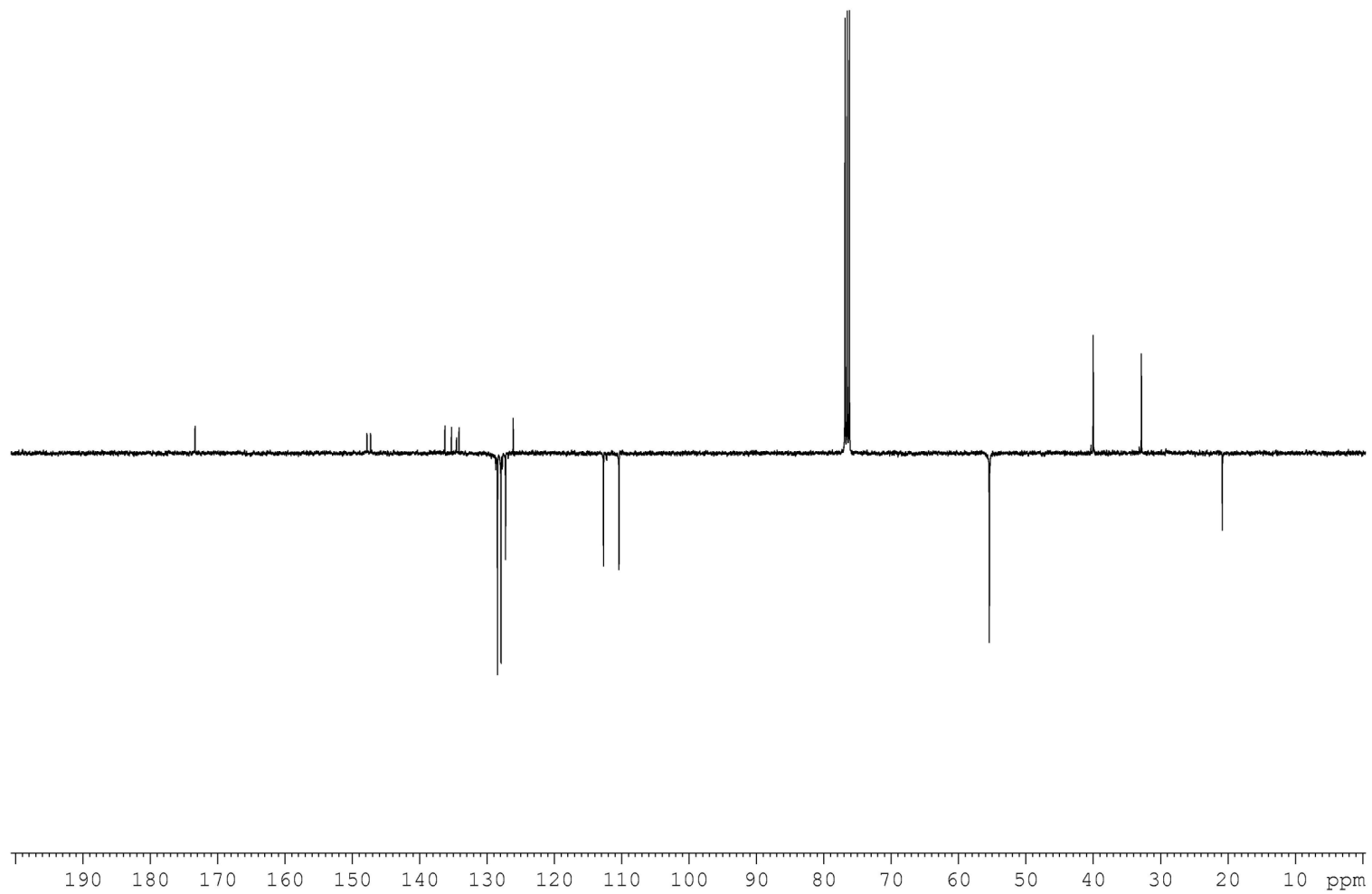
$^{13}\text{C}$  APT NMR spectrum of **22b** ( $\text{CDCl}_3$  + TMS,  $25^\circ\text{C}$ )



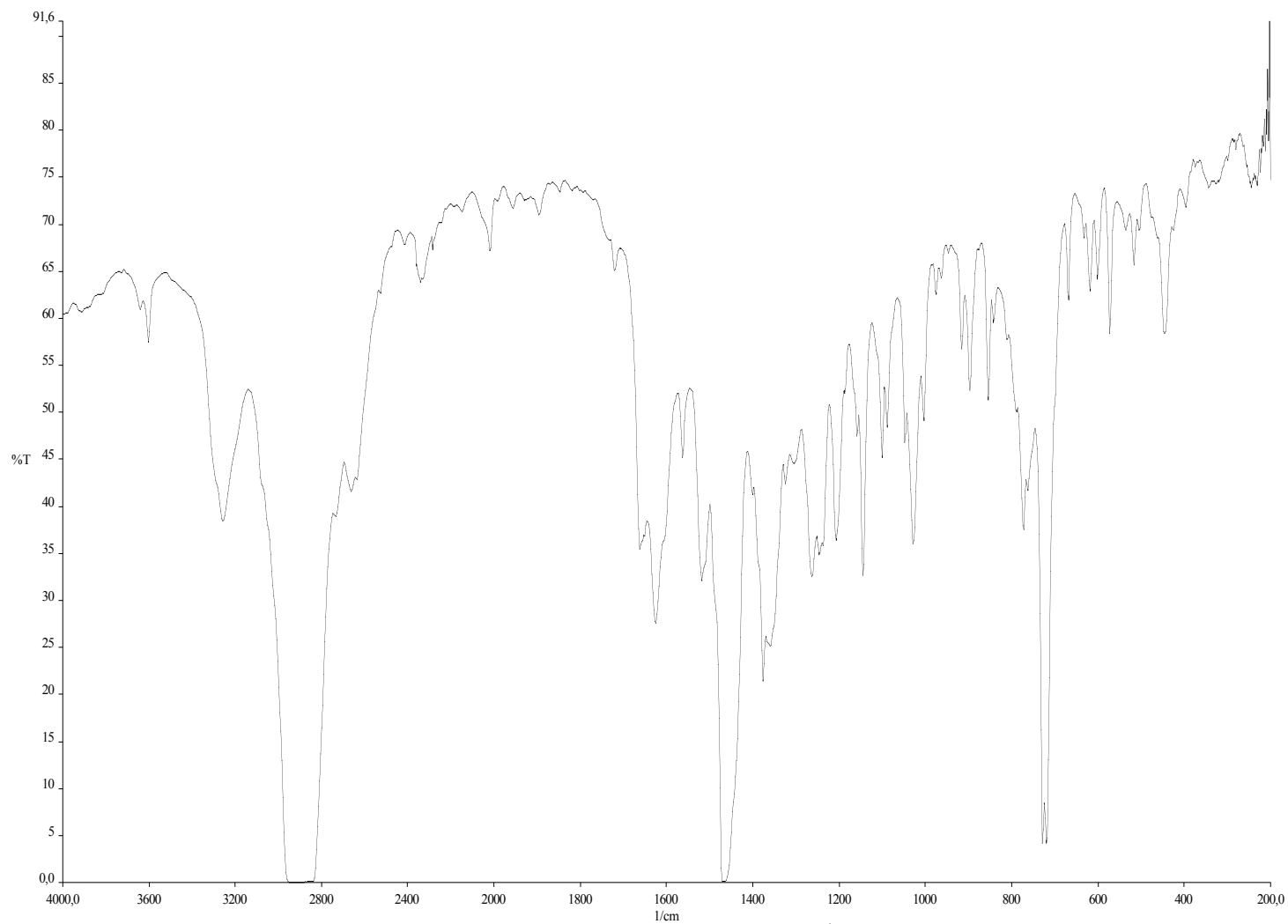
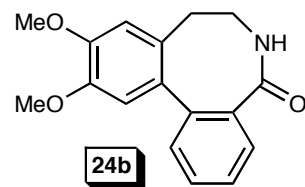
IR spectrum of 23b (Nujol, cm<sup>-1</sup>)



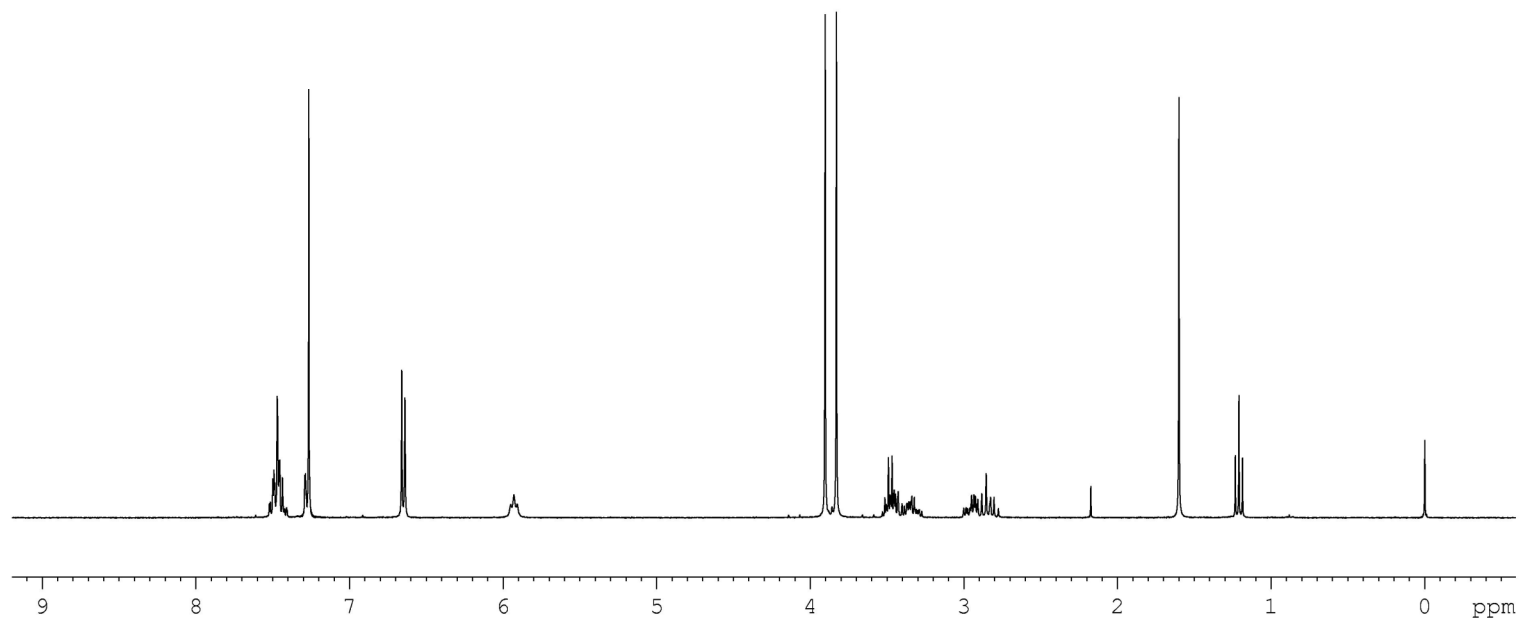
**$^1\text{H}$  NMR spectrum of 23b (CDCl<sub>3</sub> + TMS, 25°C)**



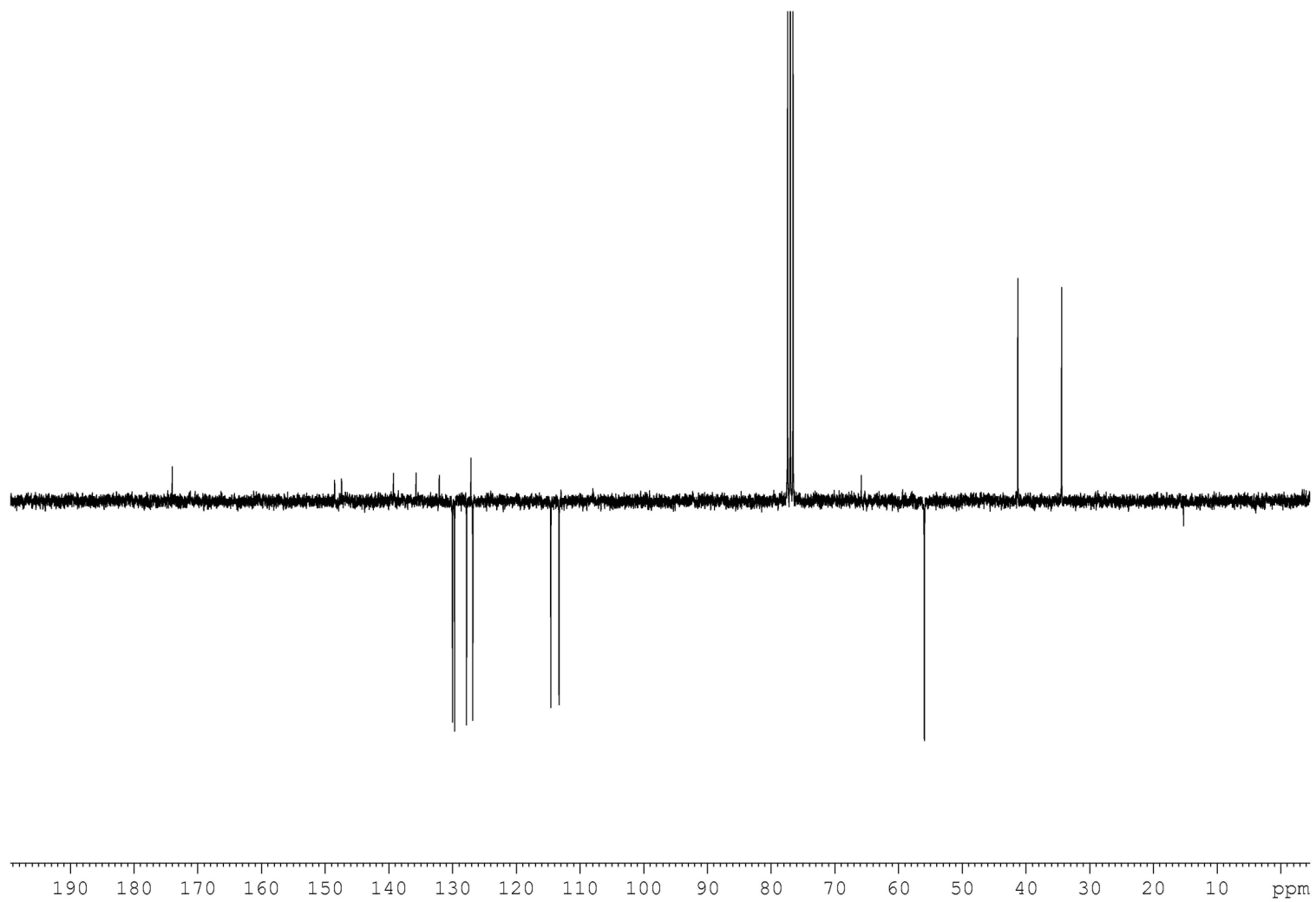
$^{13}\text{C}$  APT NMR spectrum of **23b** ( $\text{CDCl}_3$  + TMS,  $25^\circ\text{C}$ )



IR spectrum of 24b (Nujol,  $\text{cm}^{-1}$ )

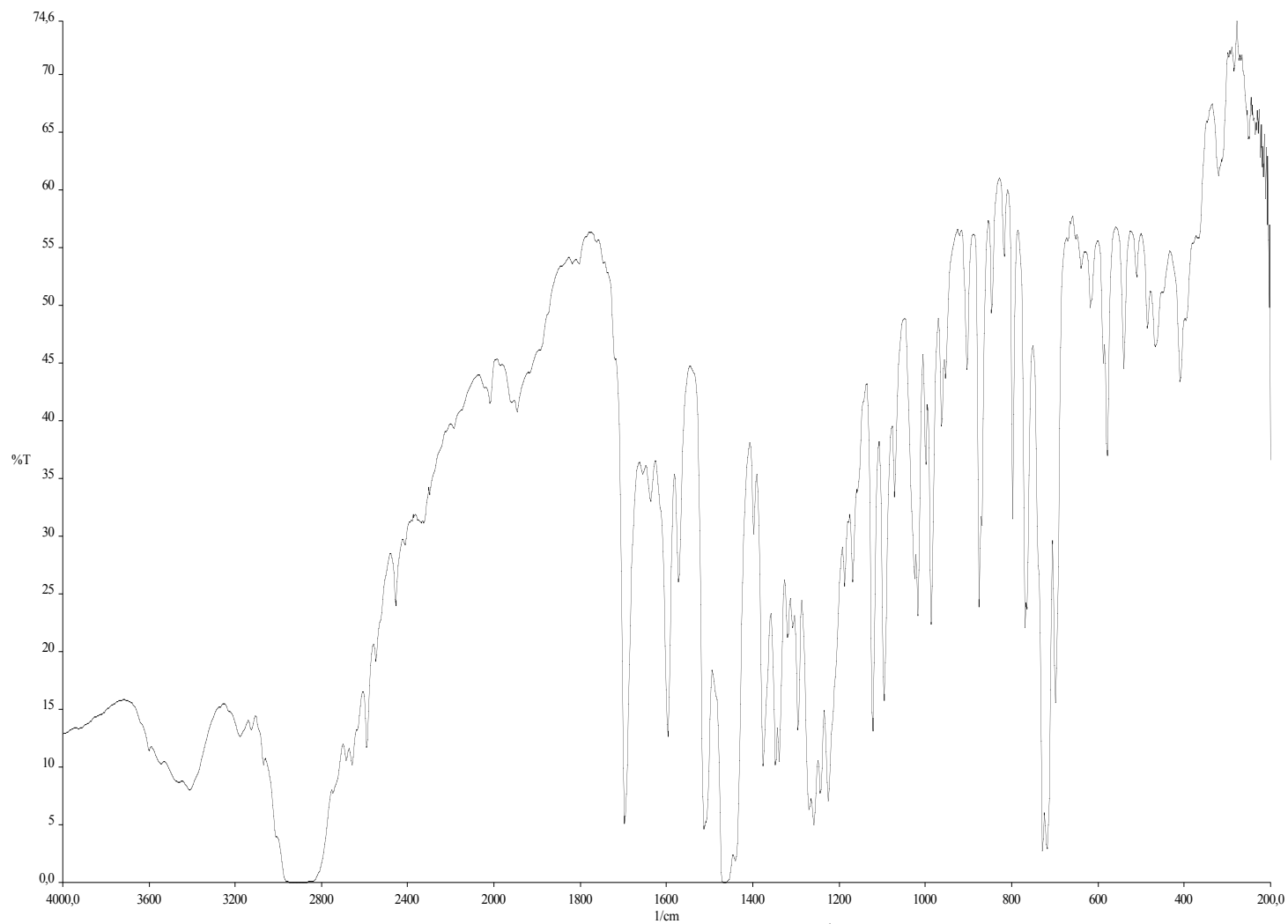
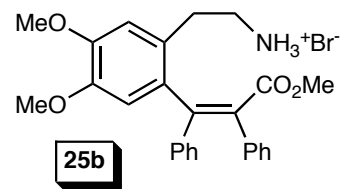


**$^1\text{H}$  NMR spectrum of 24b (CDCl<sub>3</sub> + TMS, 25°C)**

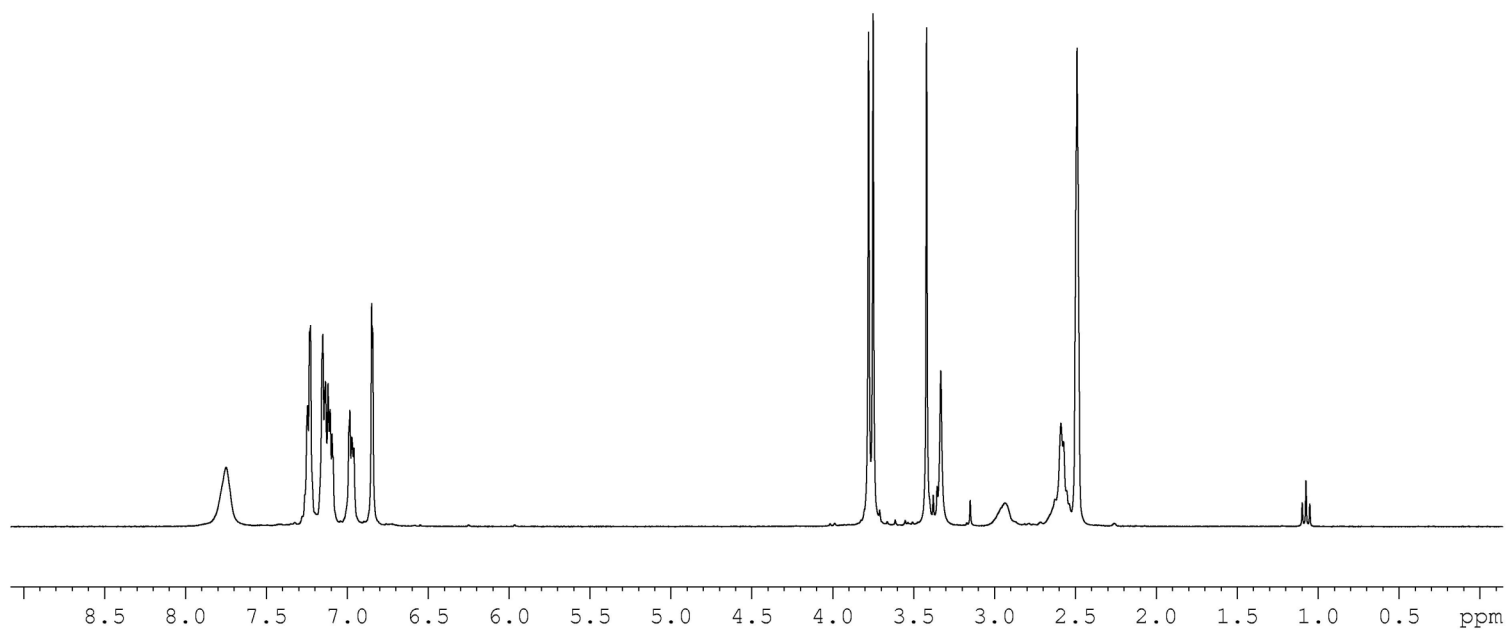


$^{13}\text{C}$  APT NMR spectrum of 24b (CDCl<sub>3</sub> + TMS, 25°C)

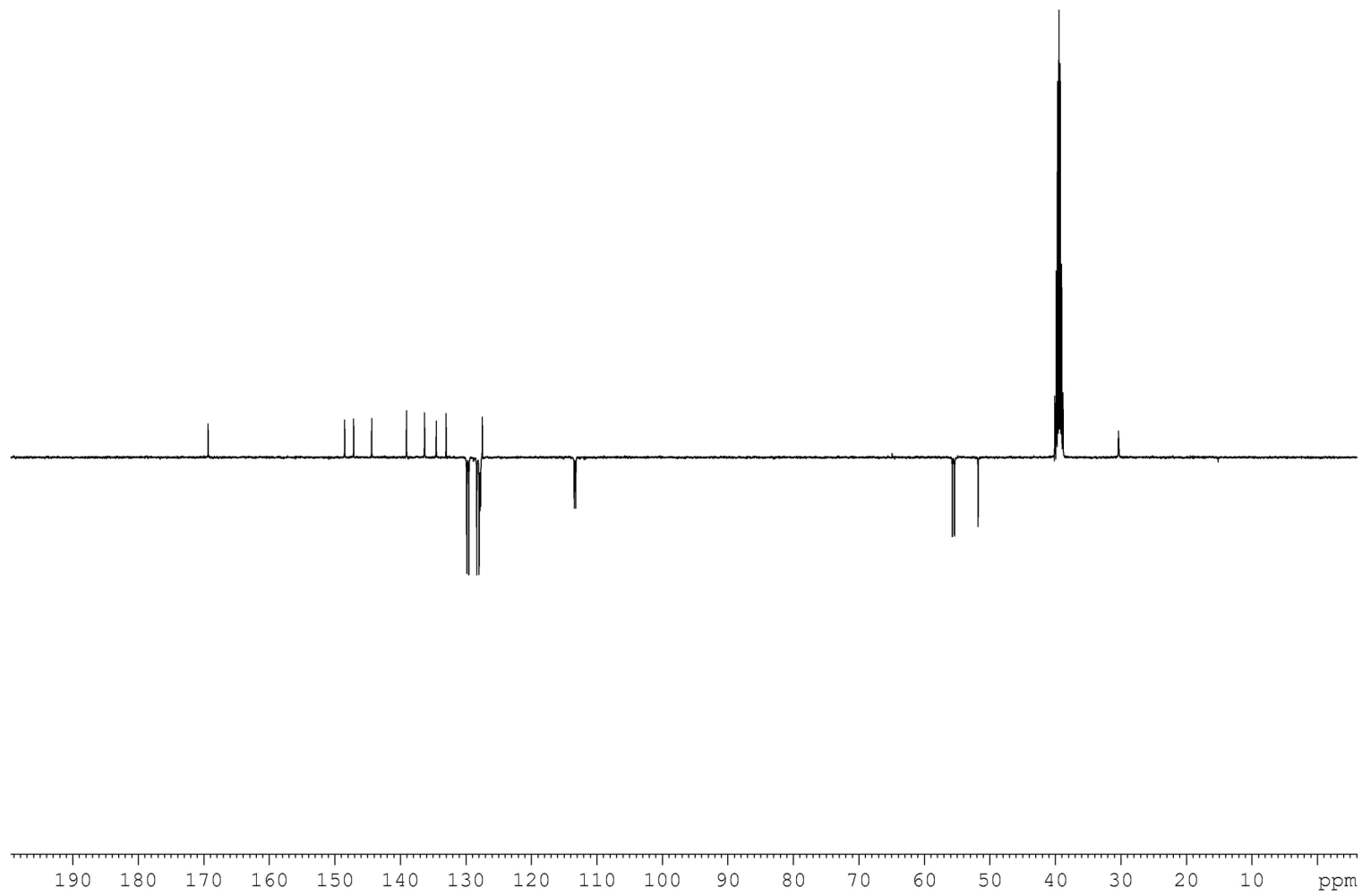




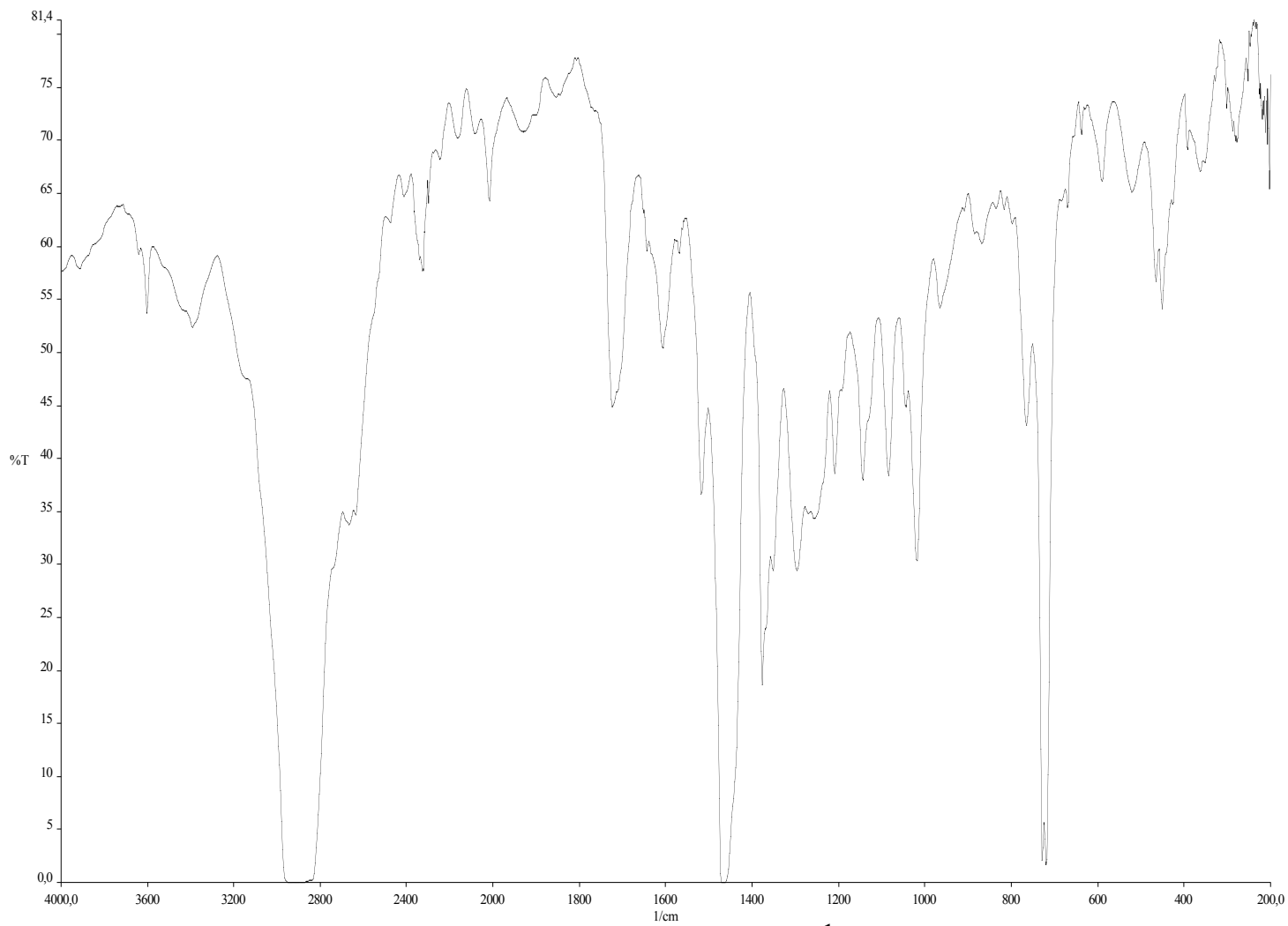
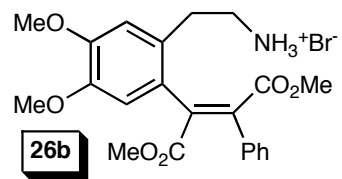
IR spectrum of 25b (Nujol,  $\text{cm}^{-1}$ )



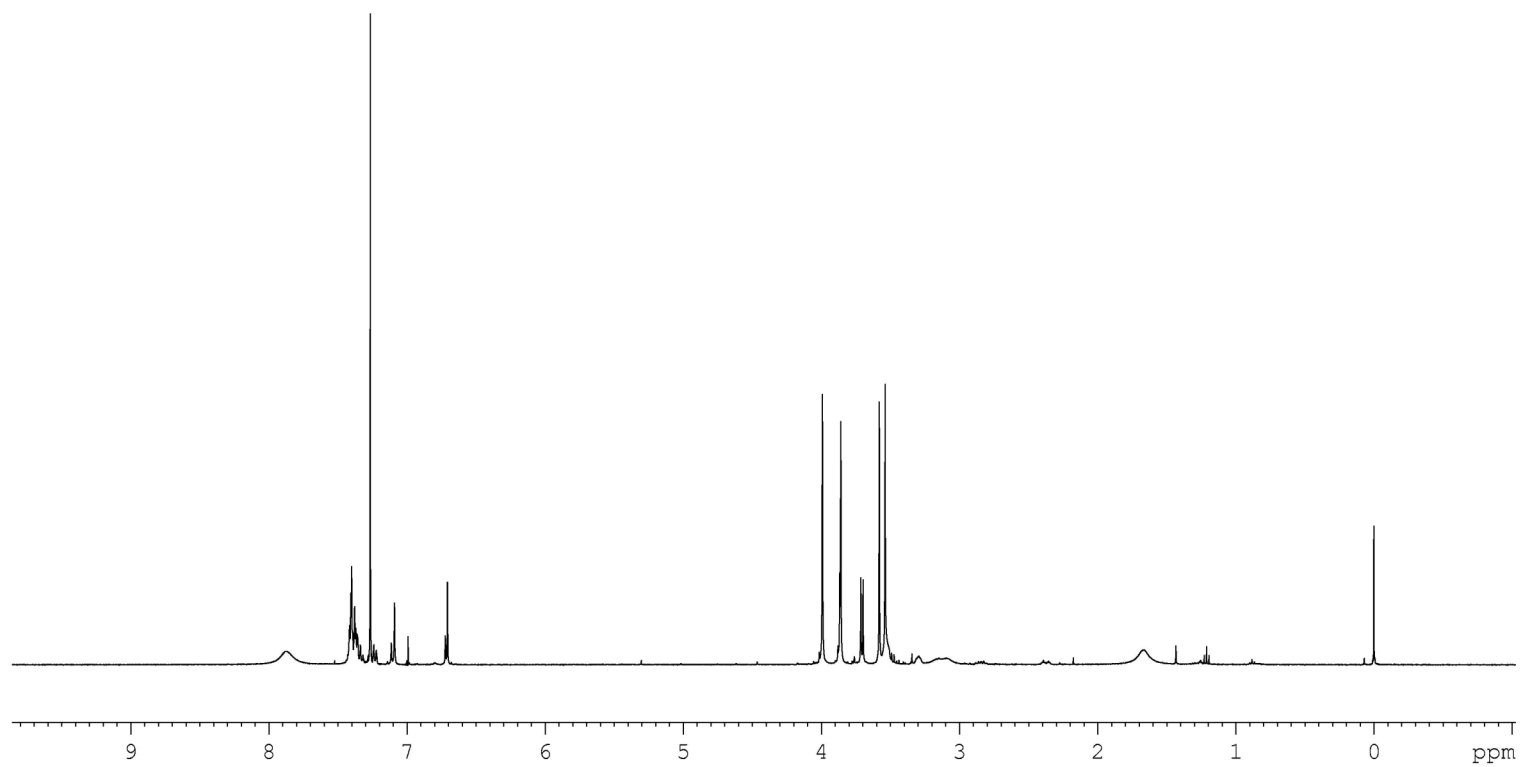
**$^1\text{H}$  NMR spectrum of 25b (DMSO- $d_6$ , 25 °C)**



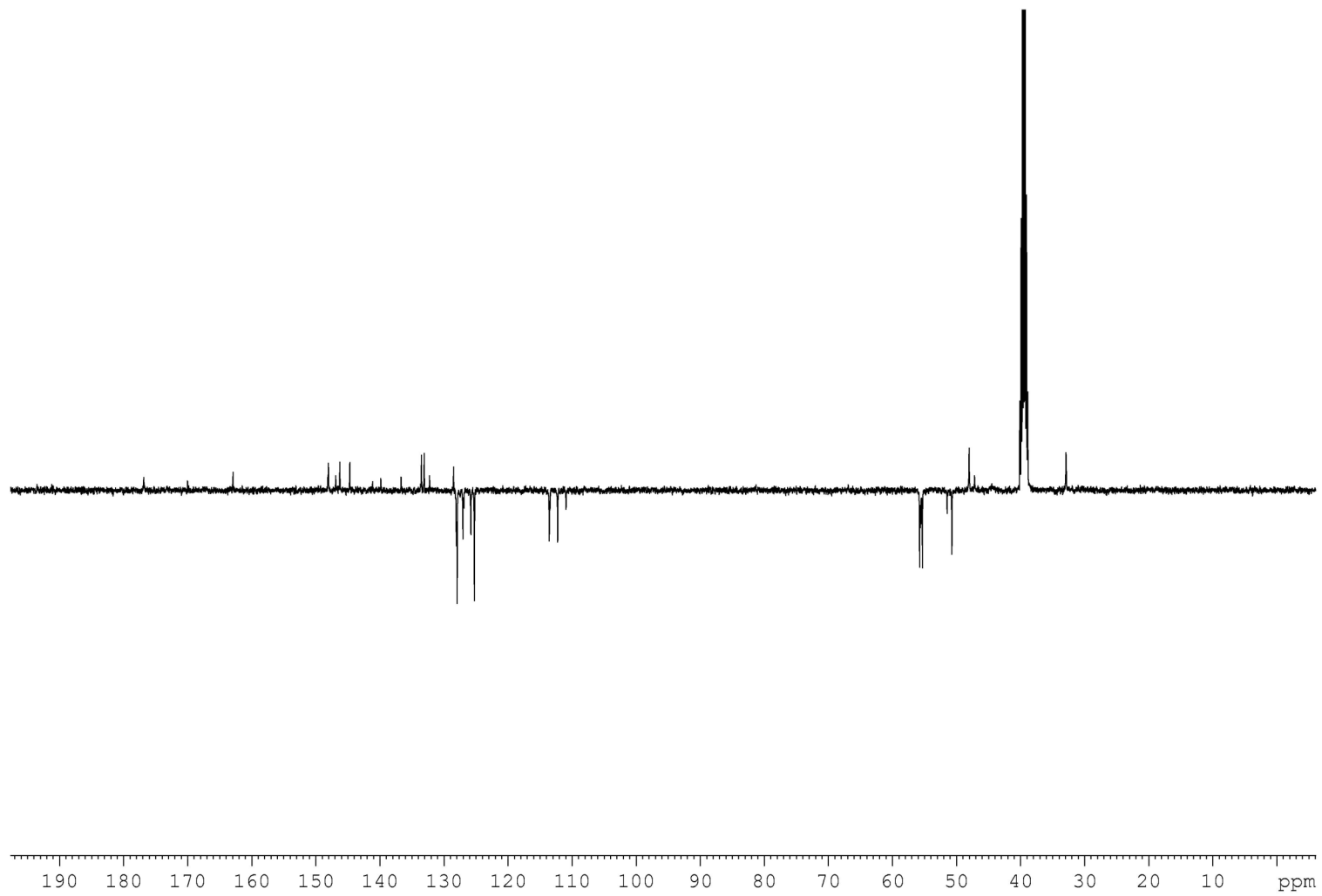
$^{13}\text{C}$  APT NMR spectrum of 25b (DMSO- $d_6$ , 25 °C)



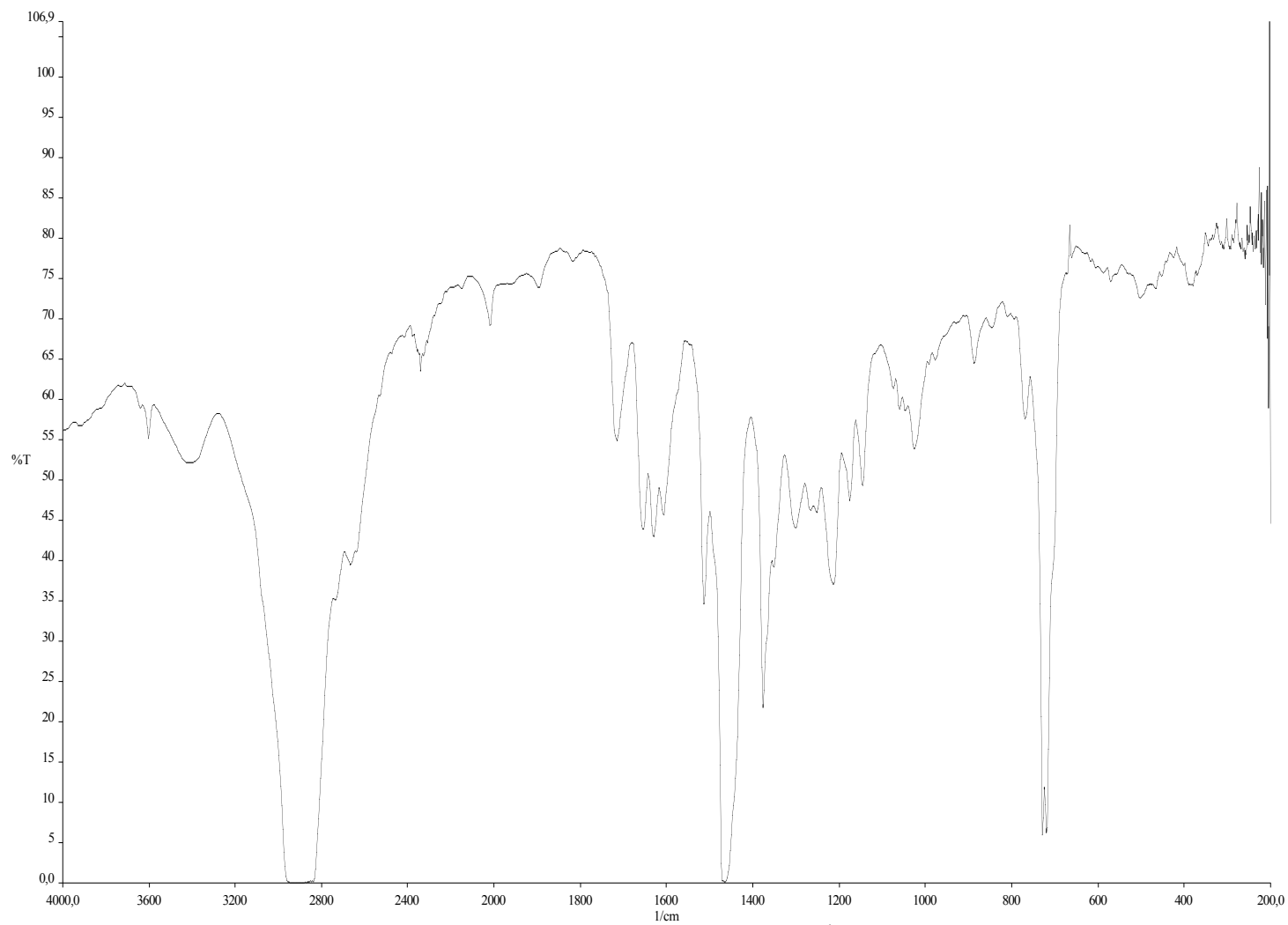
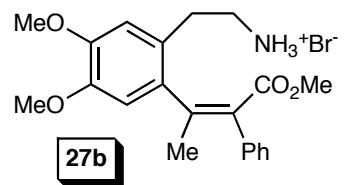
IR spectrum of 26b (Nujol, cm<sup>-1</sup>)



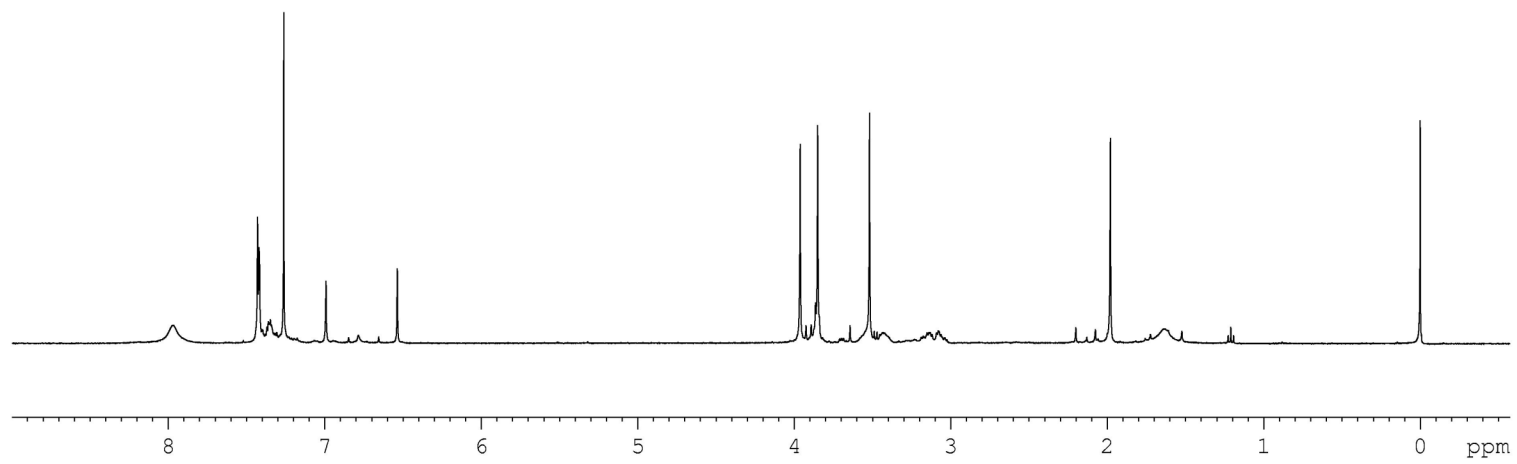
**$^1\text{H}$  NMR spectrum of 26b (CDCl<sub>3</sub> + TMS, 25 °C)**



$^{13}\text{C}$  APT NMR spectrum of **26b** (DMSO- $d_6$ , 25 °C)

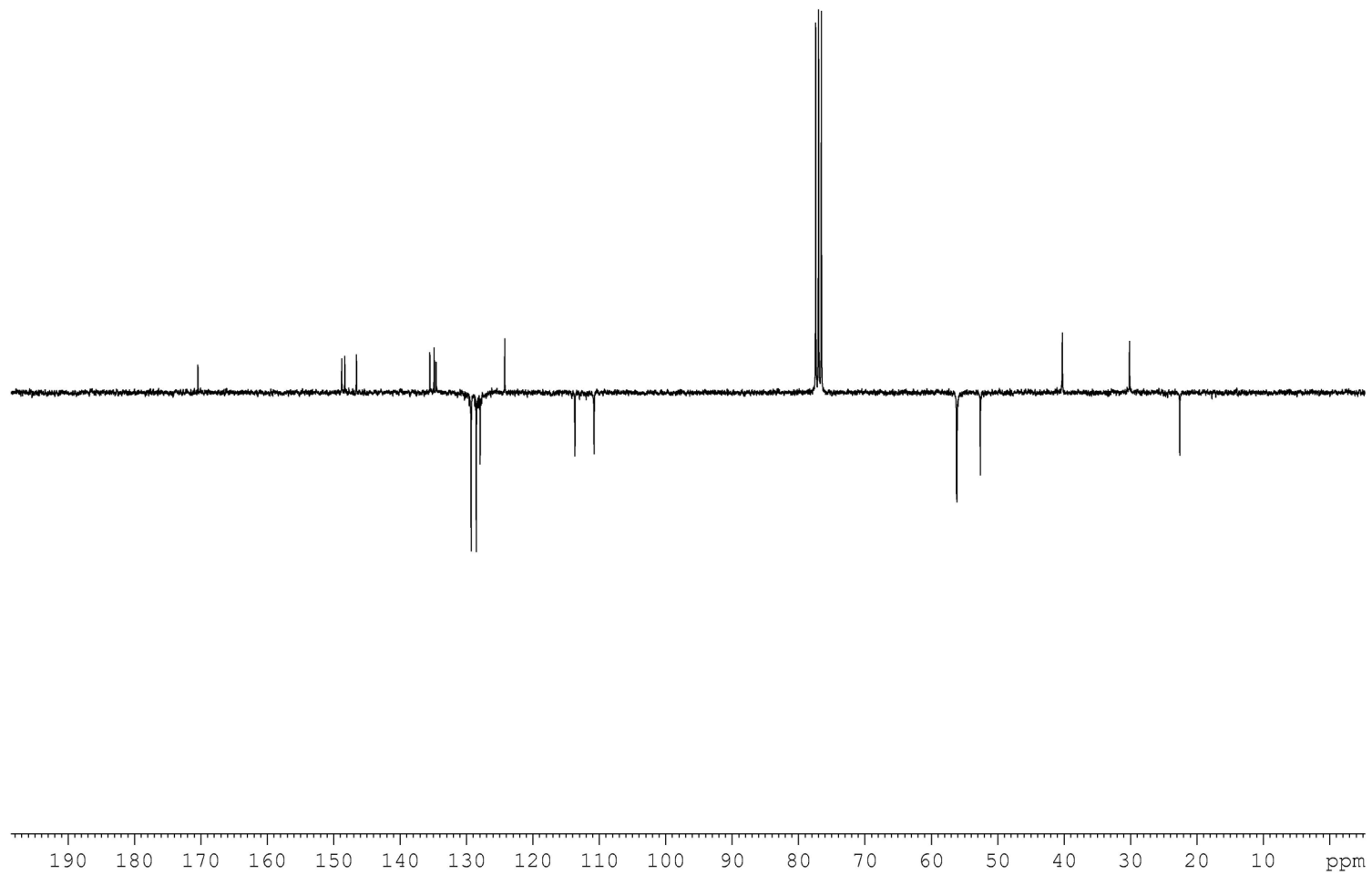


IR spectrum of 27b (Nujol, cm<sup>-1</sup>)

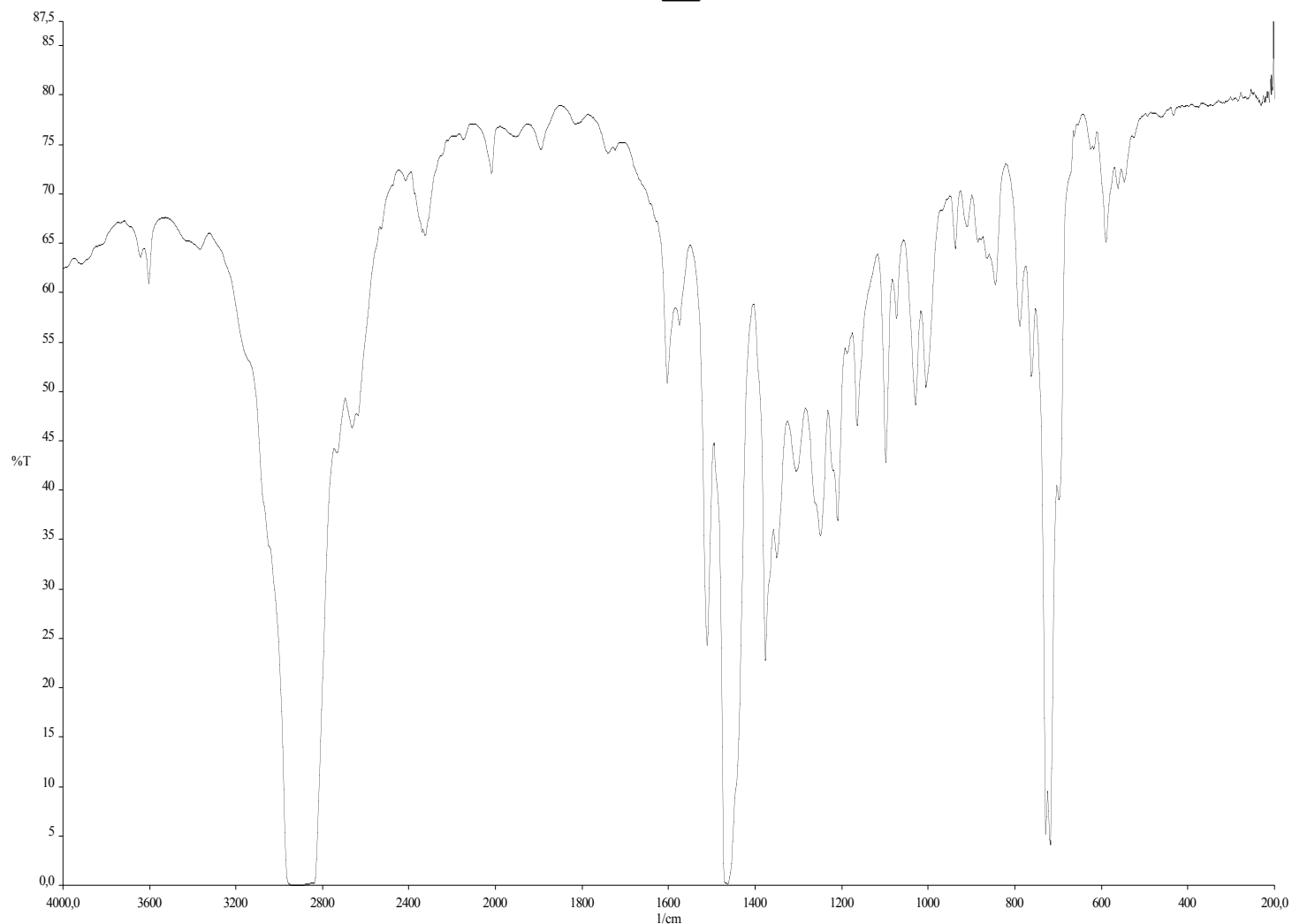
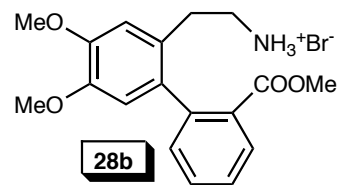


**$^1\text{H}$  NMR spectrum of 27b (CDCl<sub>3</sub> + TMS, 25 °C)**

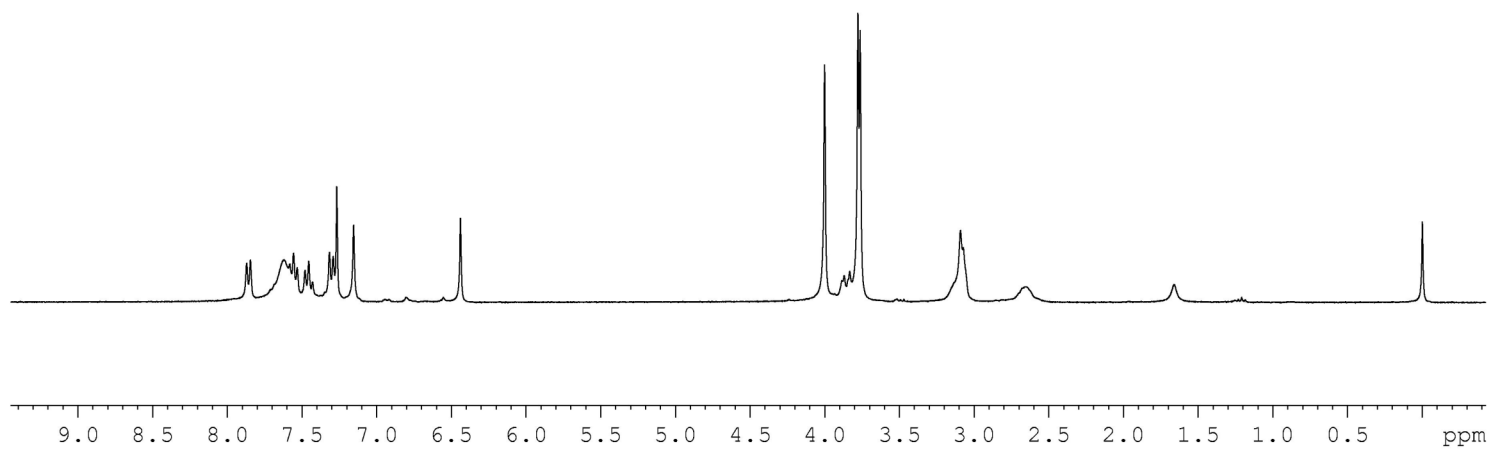




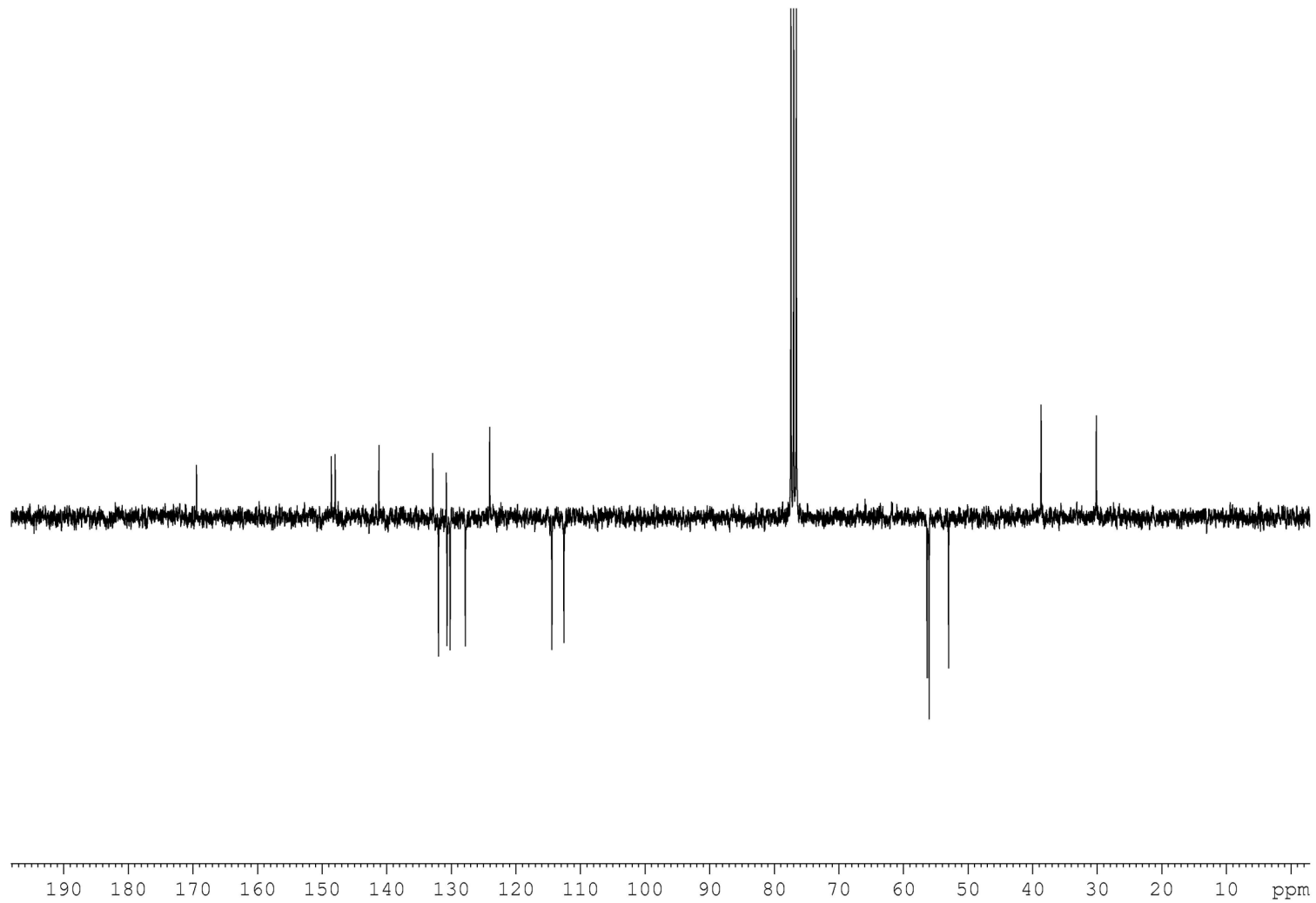
$^{13}\text{C}$  APT NMR spectrum of 27b ( $\text{CDCl}_3 + \text{TMS}$ , 25 °C)



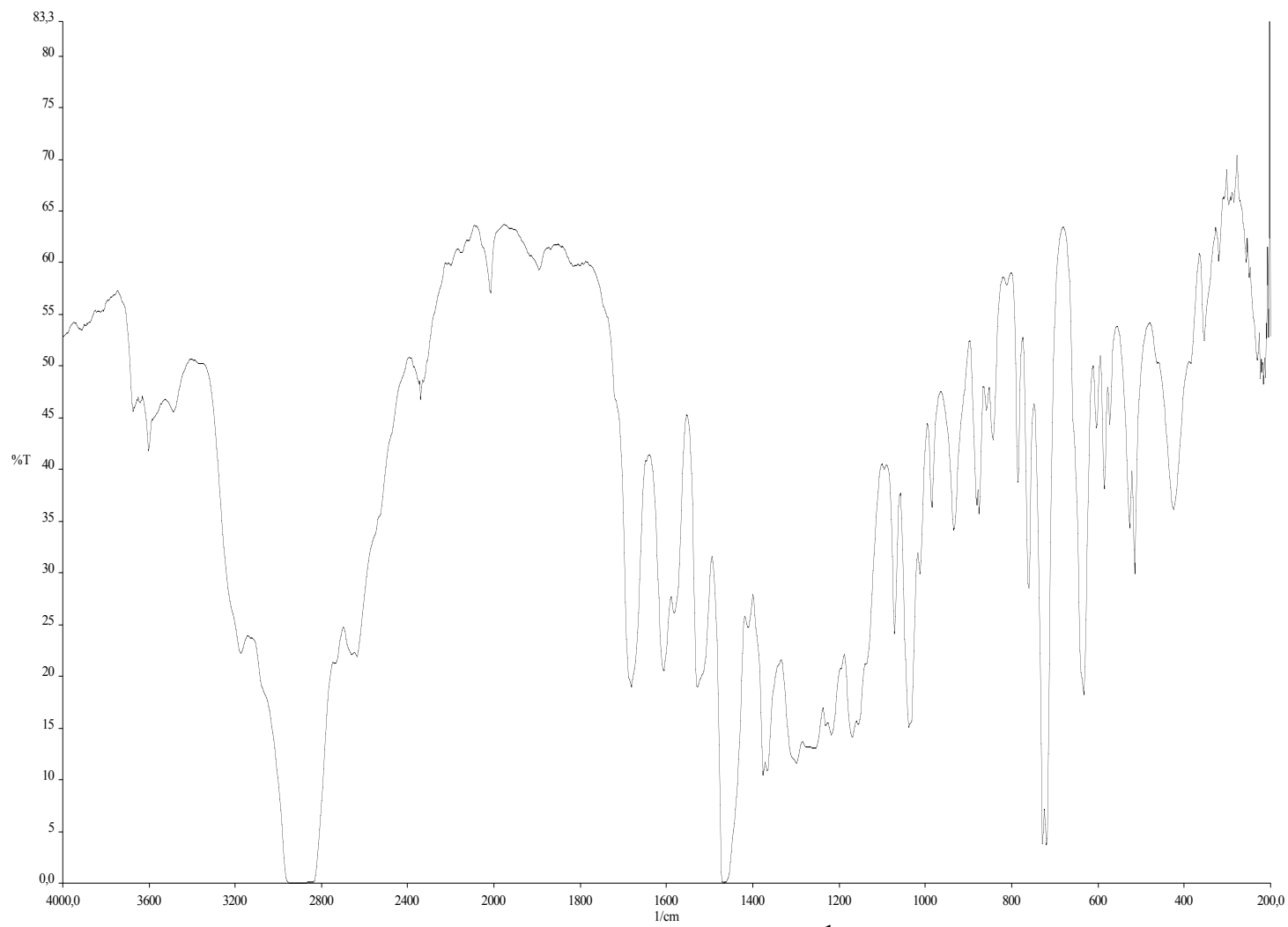
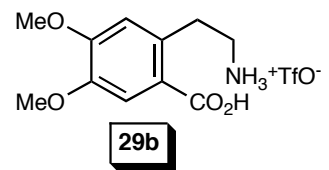
IR spectrum of 28b (Nujol, cm<sup>-1</sup>)



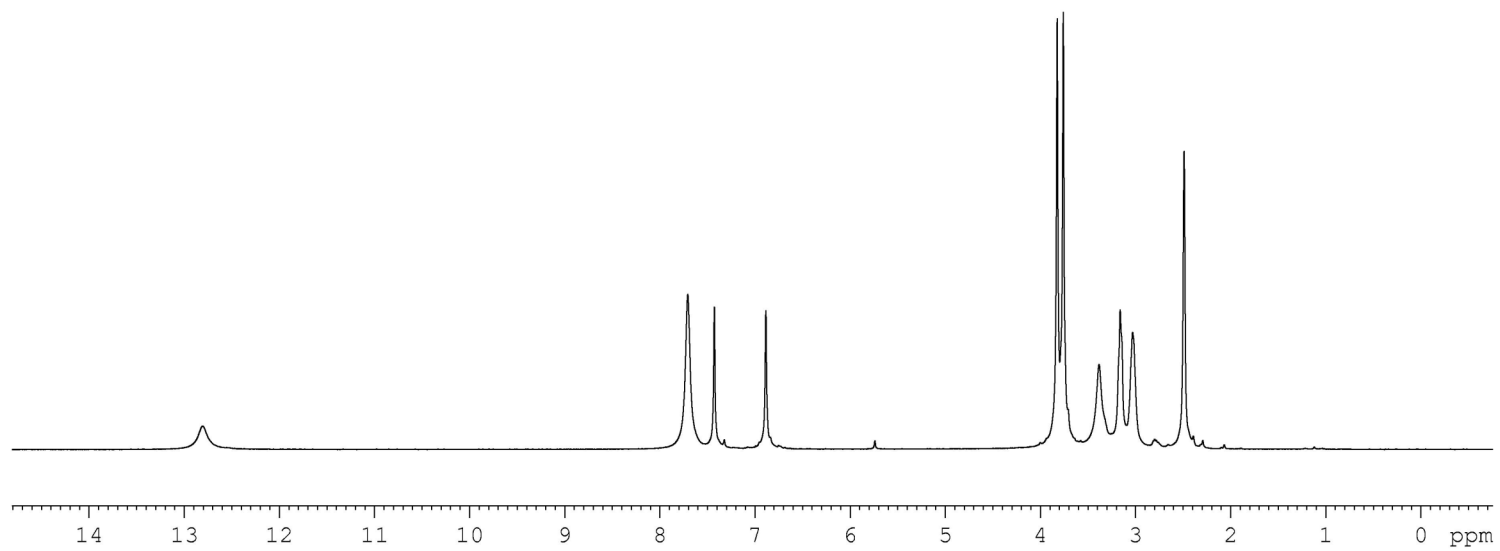
**$^1\text{H}$  NMR spectrum of 28b (CDCl<sub>3</sub> + TMS, 25 °C)**



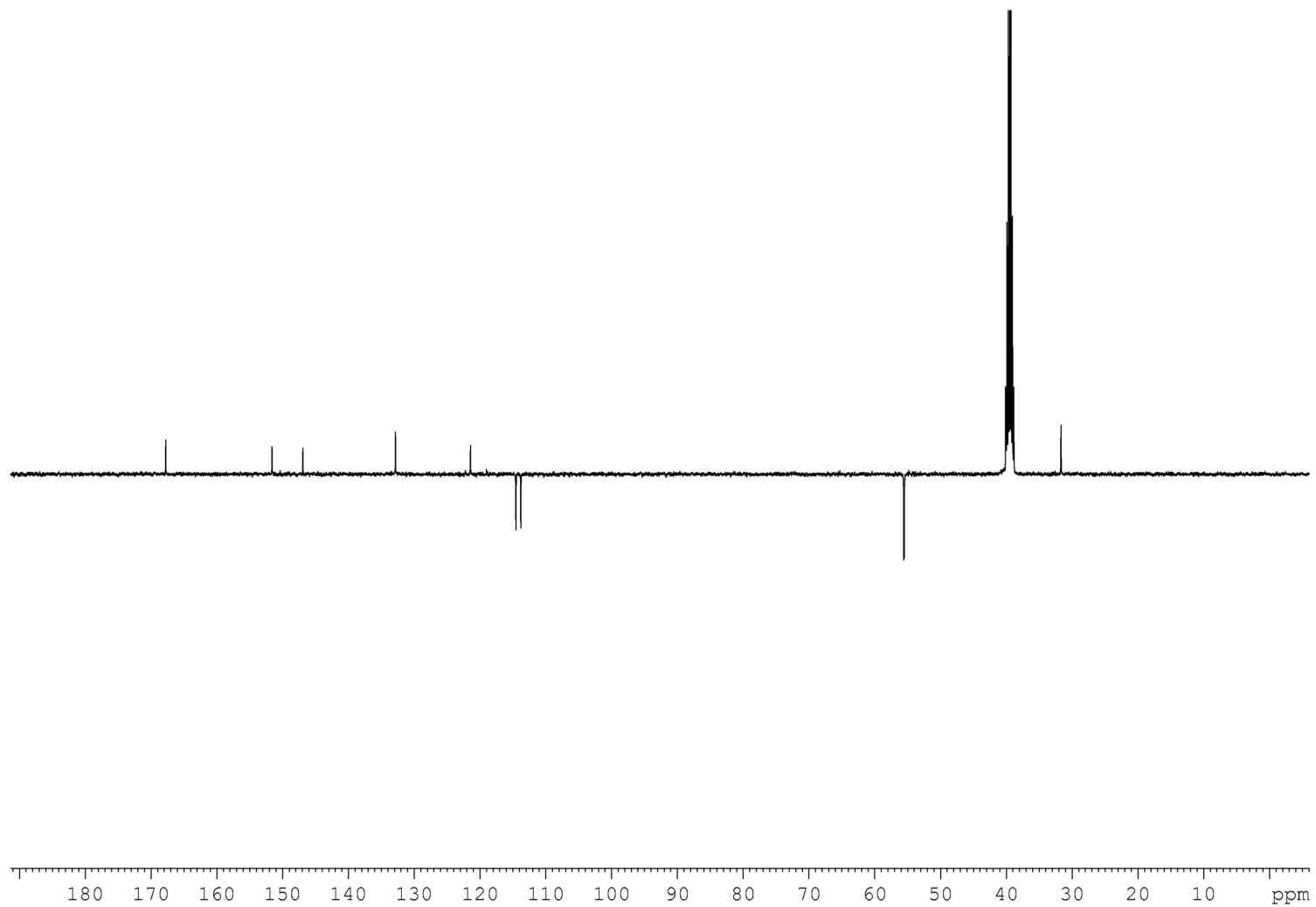
$^{13}\text{C}$  APT NMR spectrum of 28b (CDCl<sub>3</sub> + TMS, 25 °C)



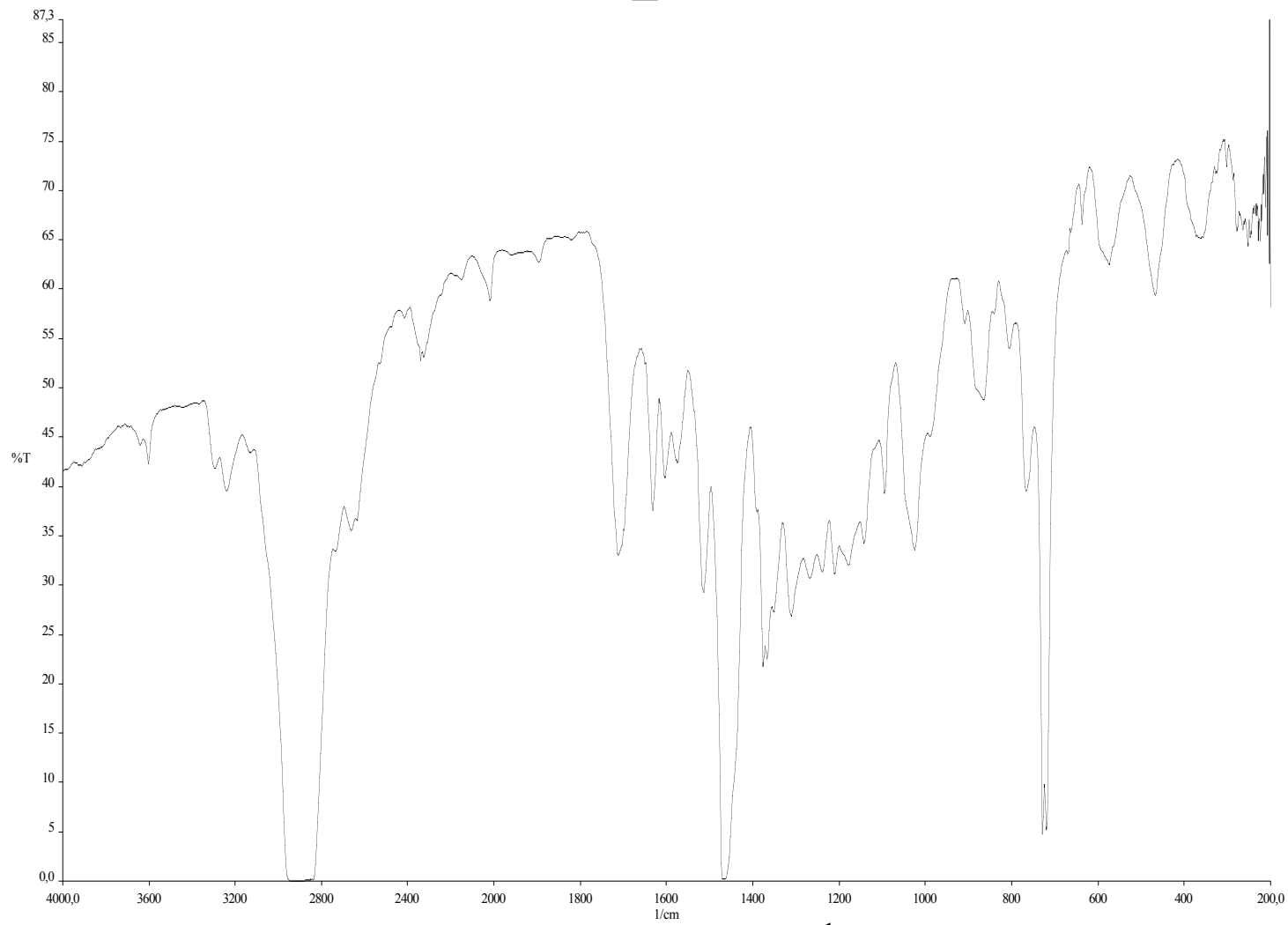
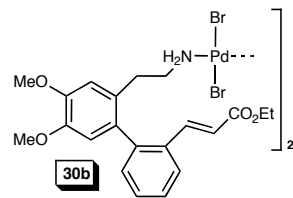
**IR spectrum of 29b (Nujol, cm<sup>-1</sup>)**



**$^1\text{H}$  NMR spectrum of **29b** ( $\text{DMSO-}d_6$ ,  $25\text{ }^\circ\text{C}$ )**

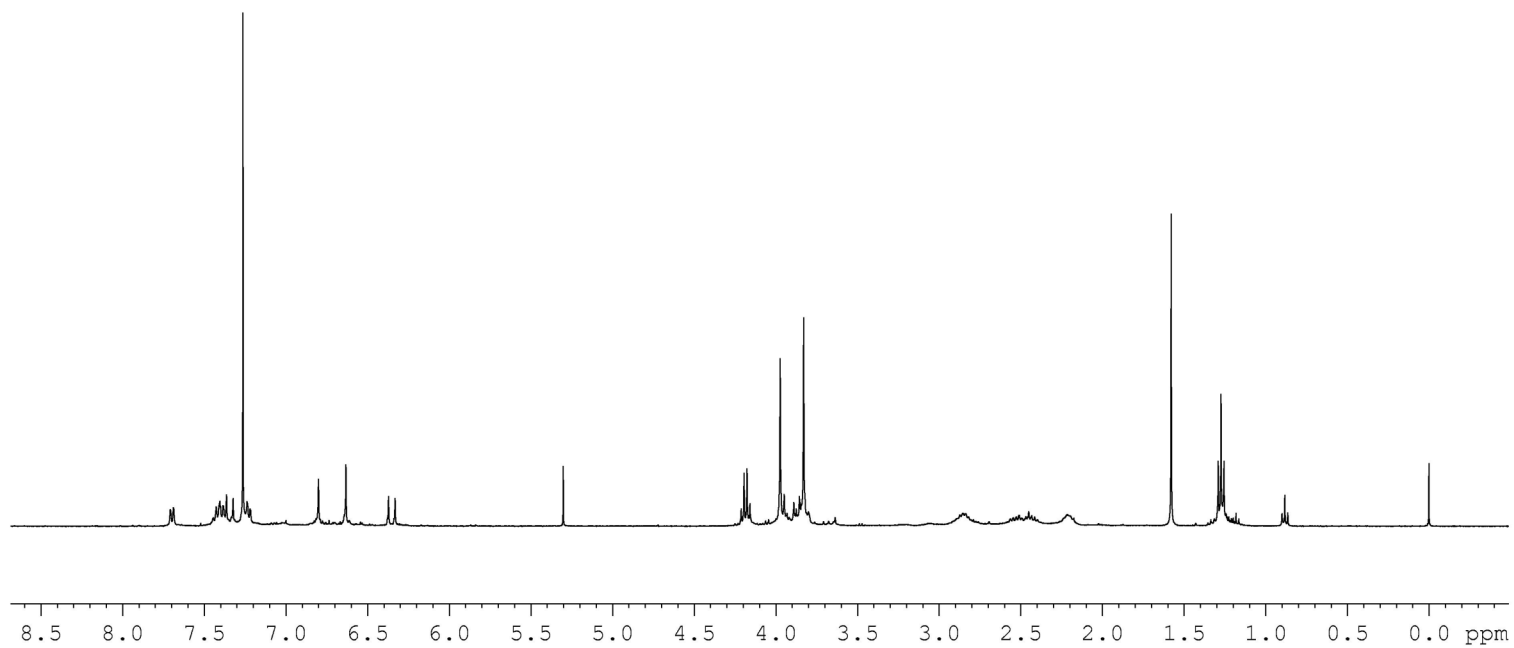


$^{13}\text{C}$  APT NMR spectrum of **29b** (DMSO- $d_6$ , 25 °C)

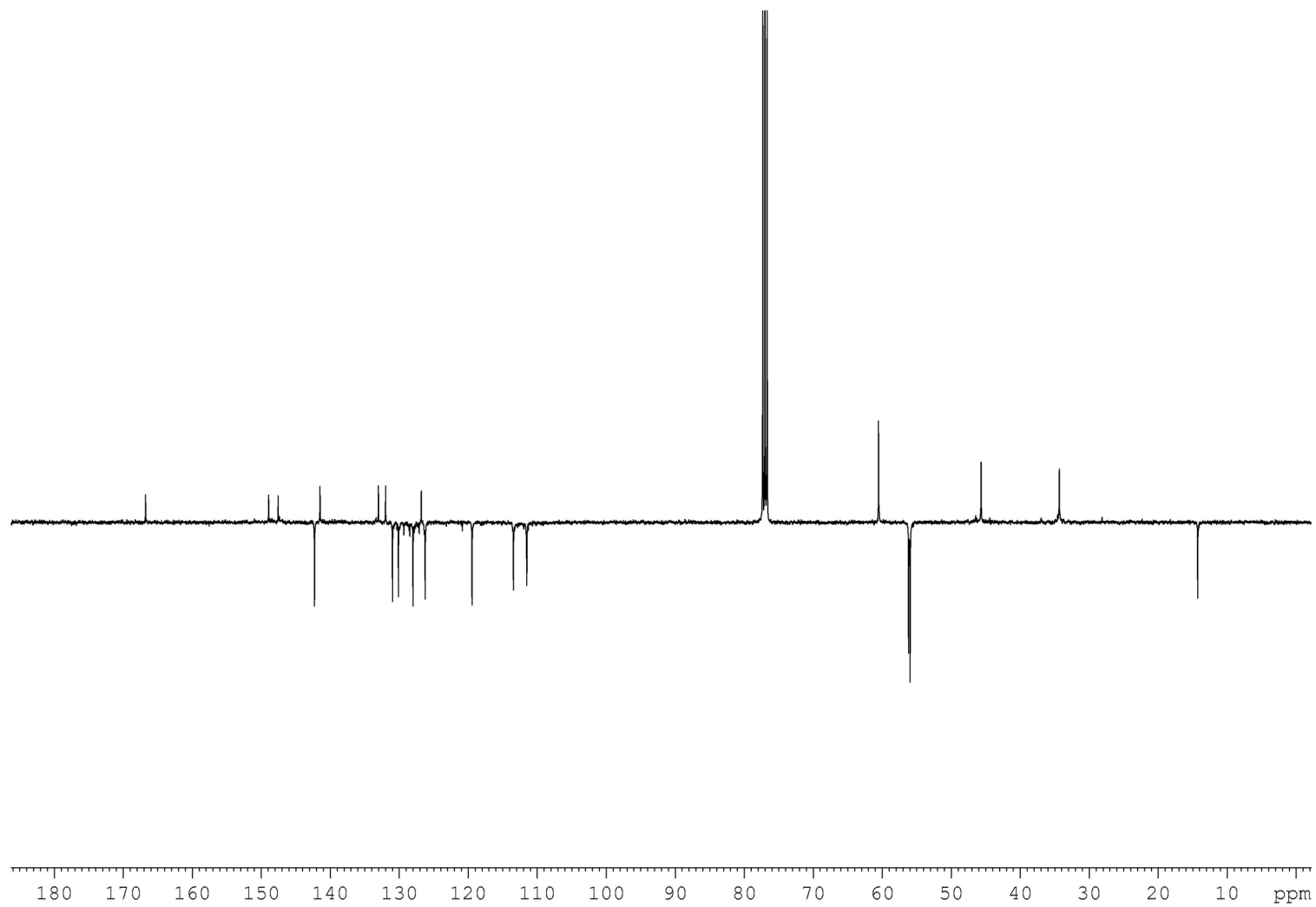


IR spectrum of 30b (Nujol, cm<sup>-1</sup>)

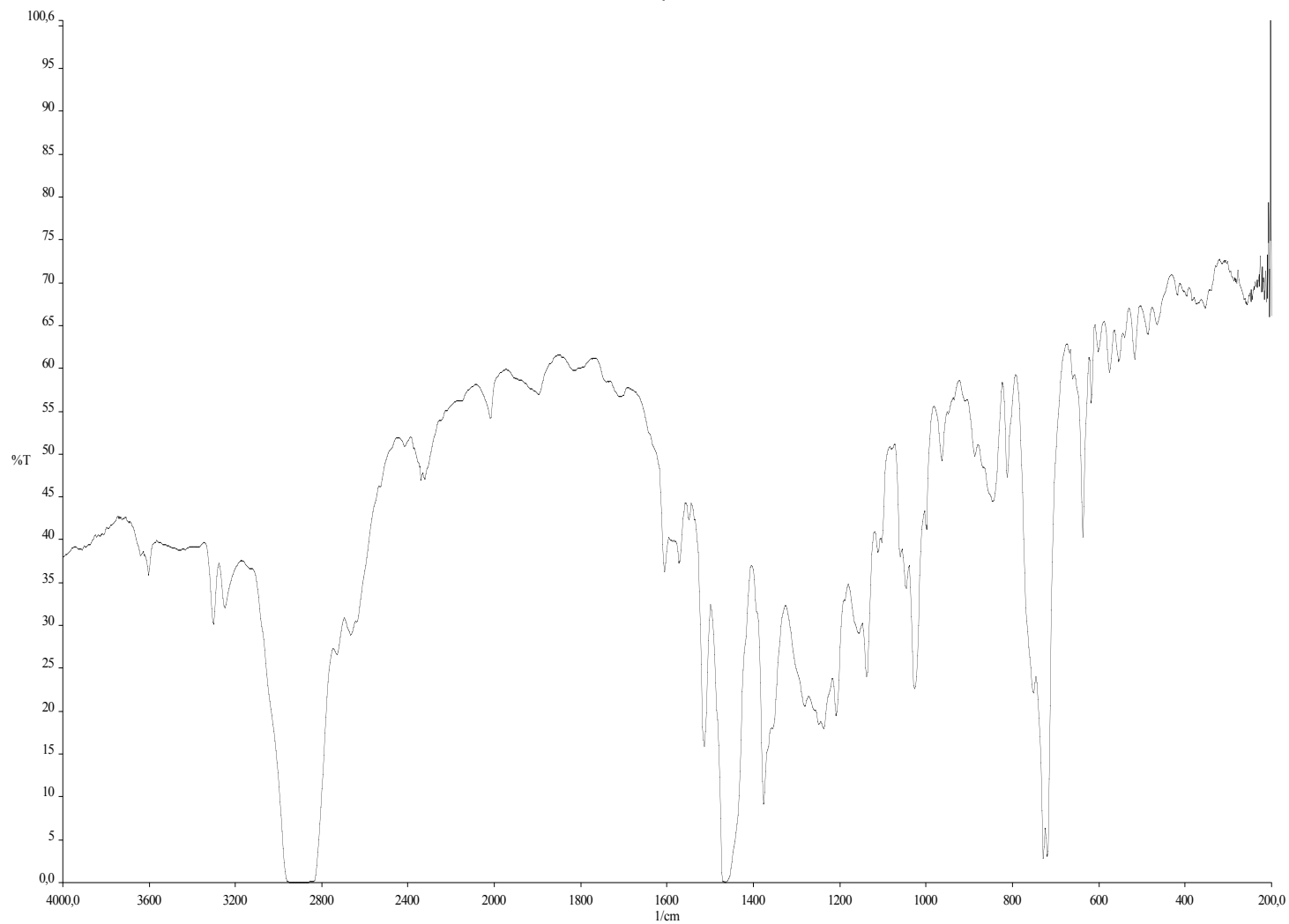
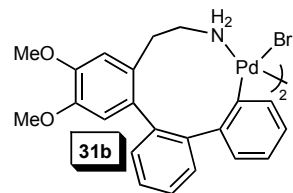


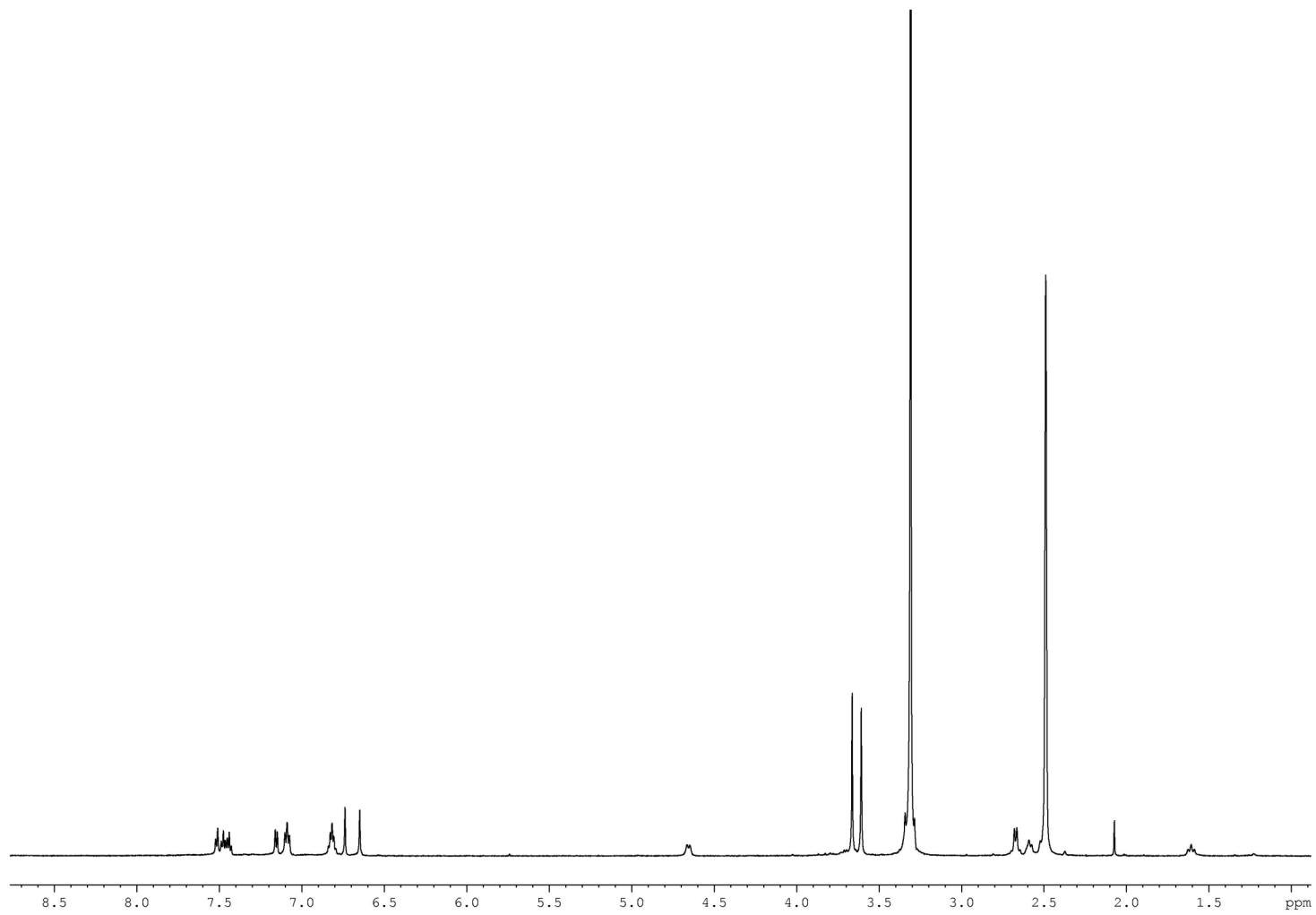


$^1\text{H}$  NMR spectrum of 30b ( $\text{CDCl}_3$  + TMS, 25 °C)

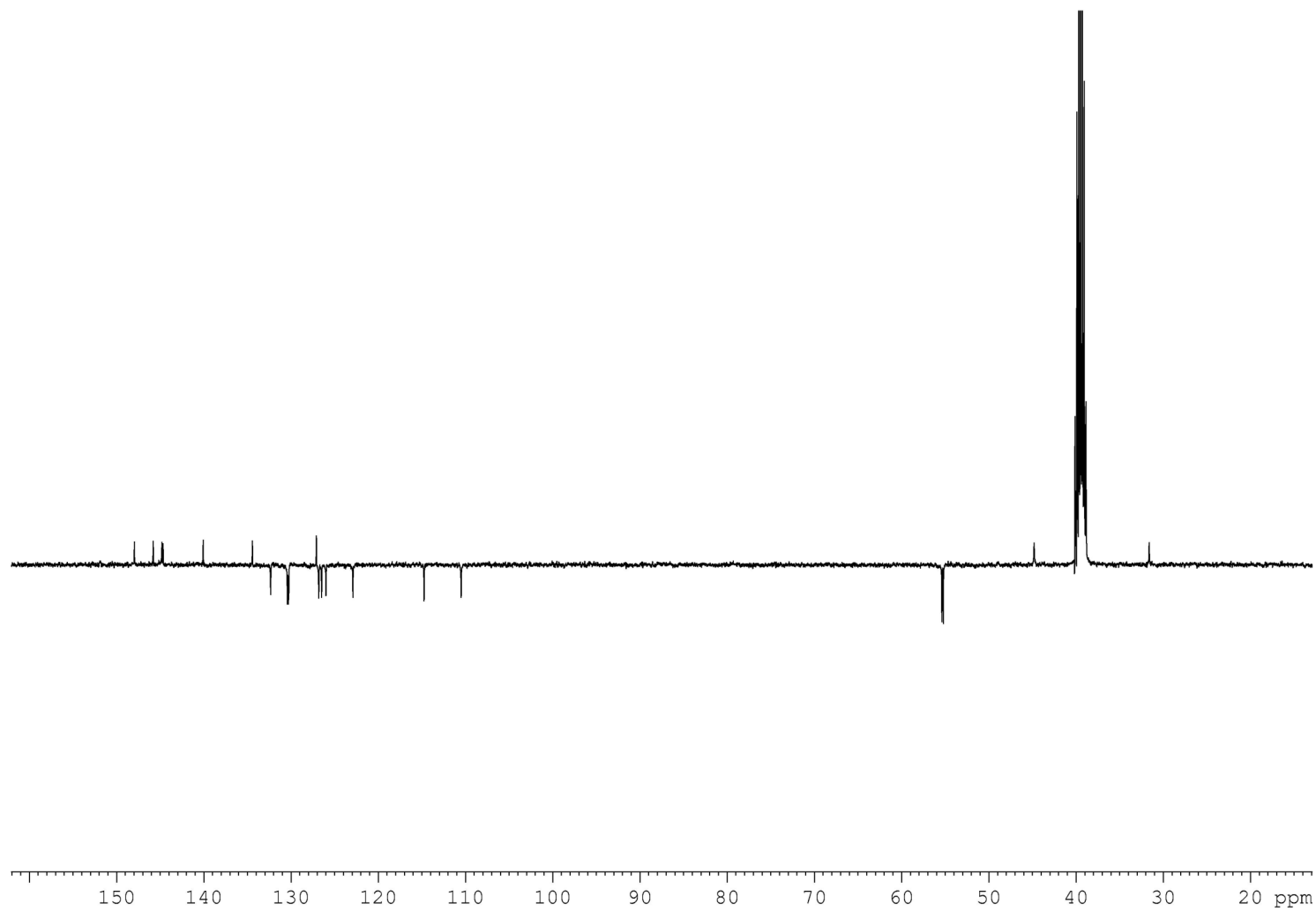


$^{13}\text{C}$  APT NMR spectrum of **30b** ( $\text{CDCl}_3 + \text{TMS}$ ,  $25\text{ }^\circ\text{C}$ )

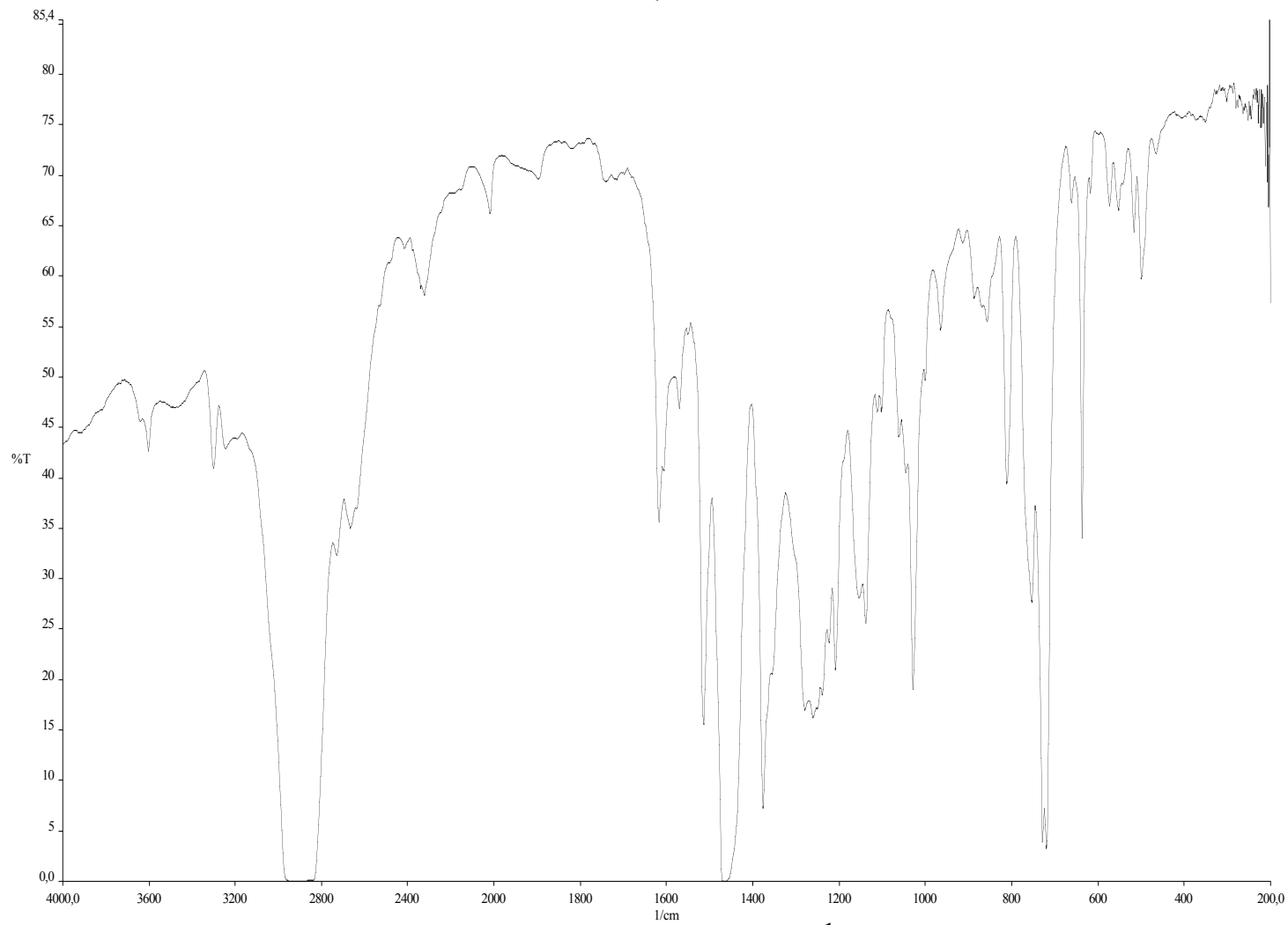
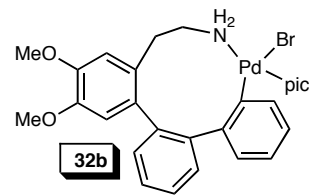




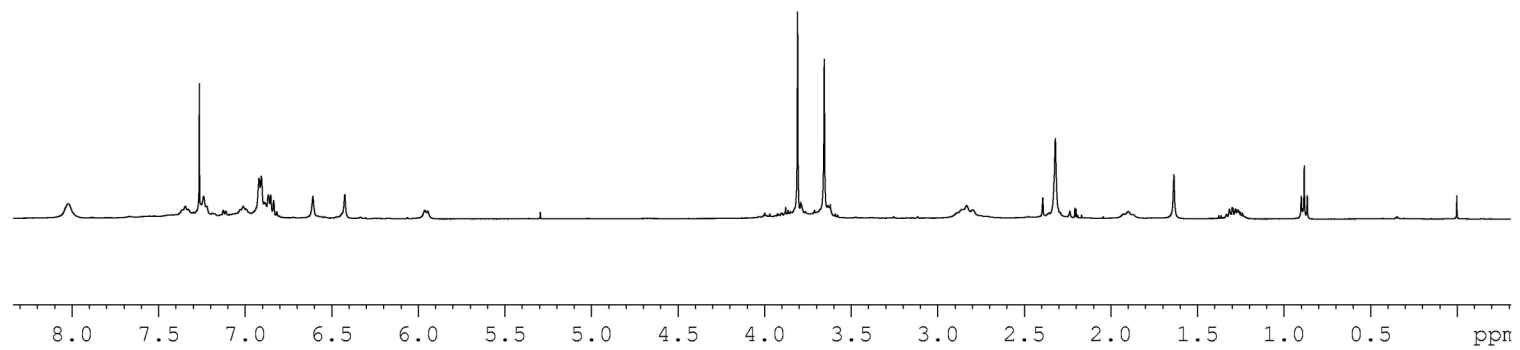
**$^1\text{H}$  NMR spectrum of 31b (DMSO- $d_6$ , 25 °C)**



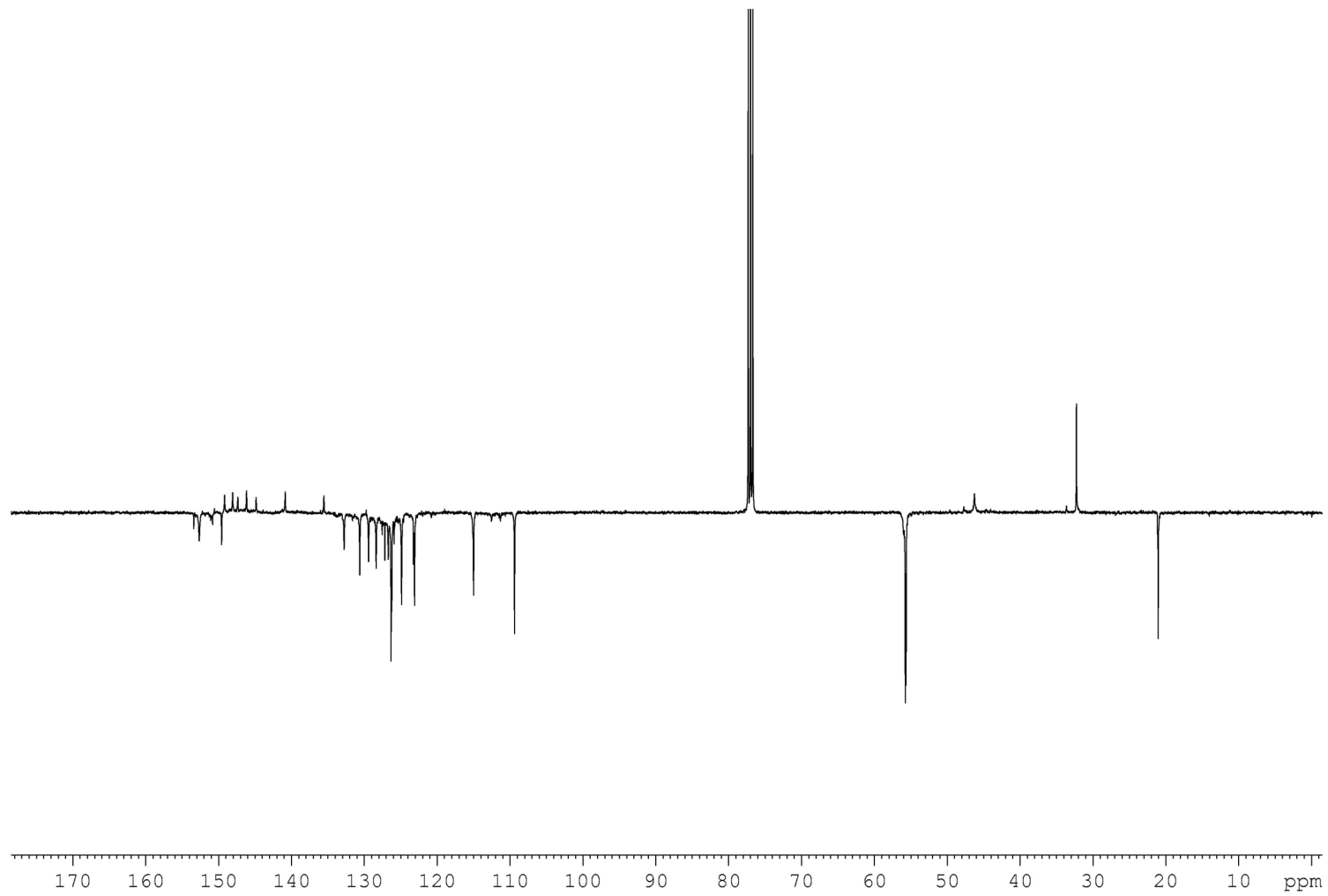
$^{13}\text{C}$  APT NMR spectrum of 31b (DMSO- $d_6$ , 25 °C)



IR spectrum of 32b (Nujol,  $\text{cm}^{-1}$ )

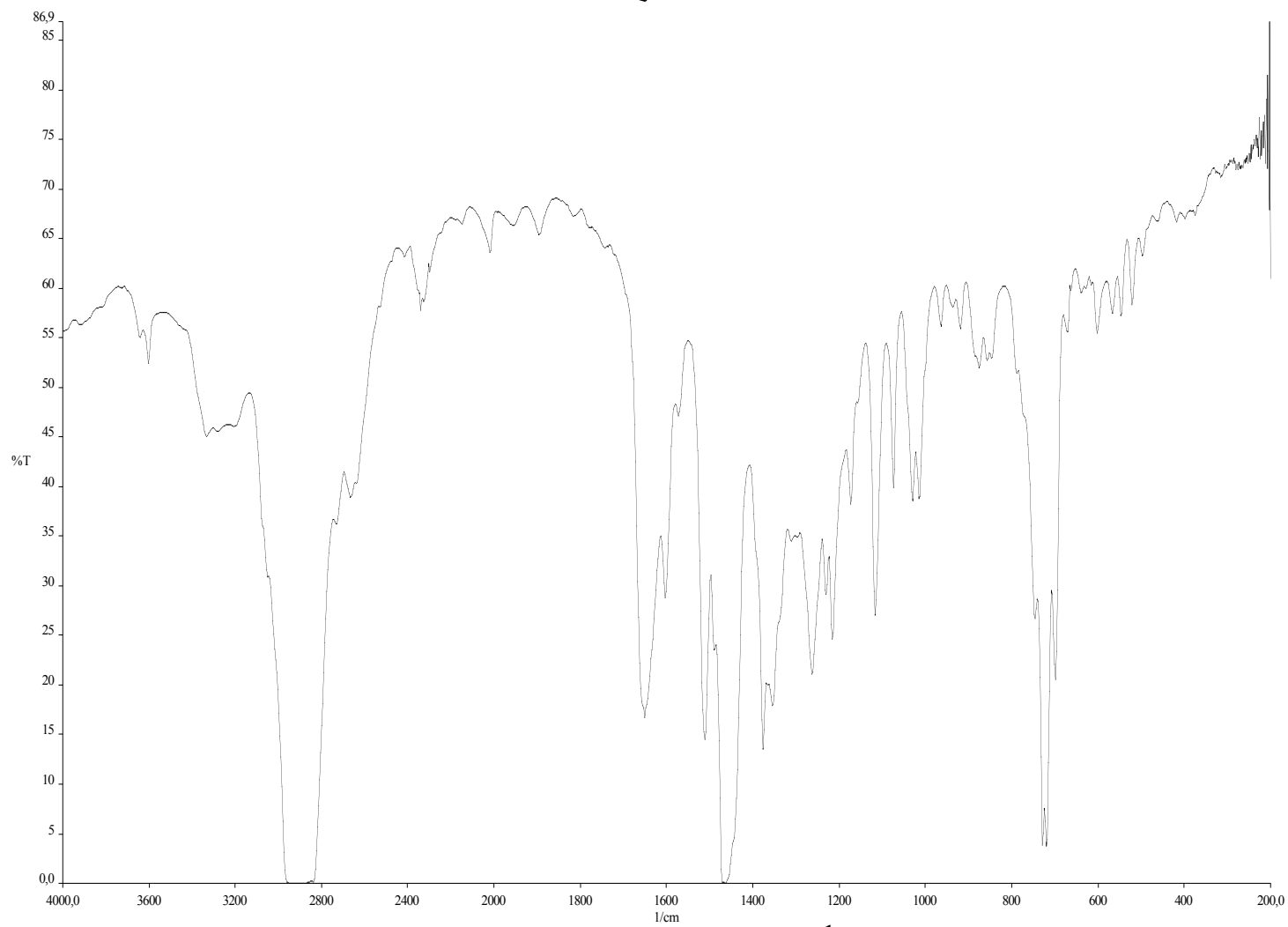
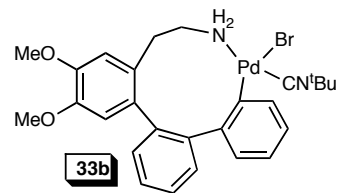


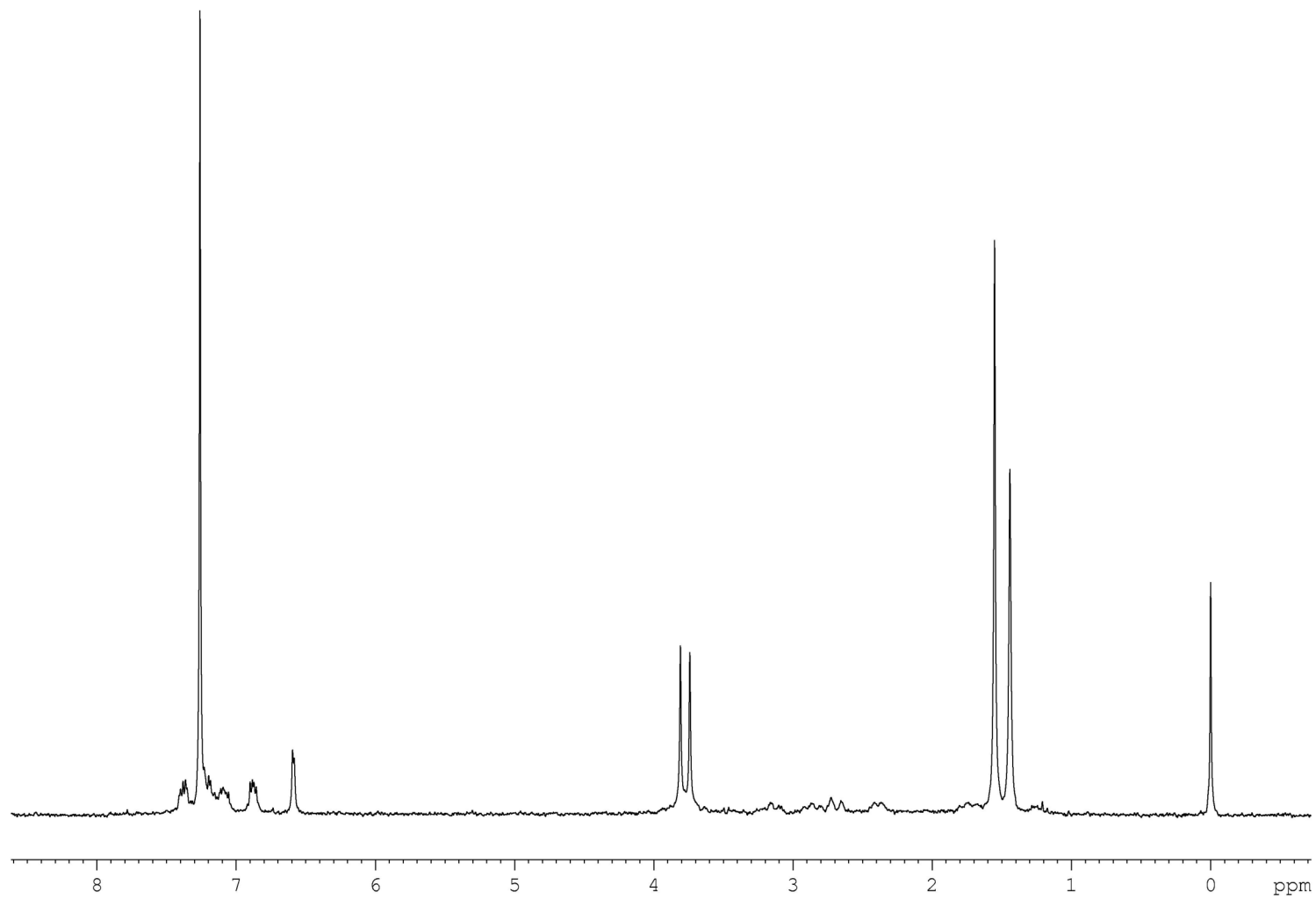
**$^1\text{H}$  NMR spectrum of 32b (CDCl<sub>3</sub> + TMS, 25 °C)**



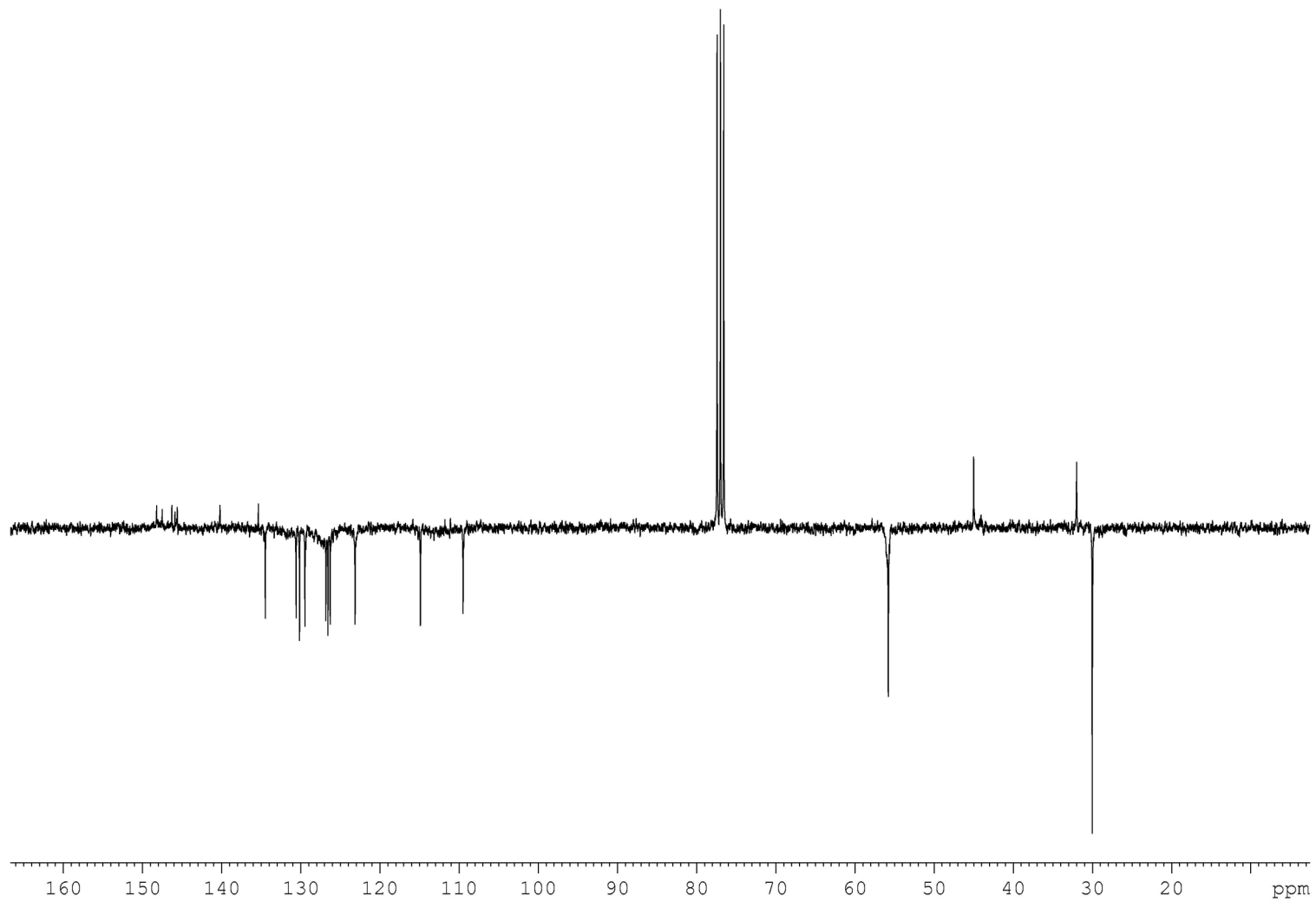
**<sup>13</sup>C APT NMR spectrum of 32b (CDCl<sub>3</sub> + TMS, 25 °C)**



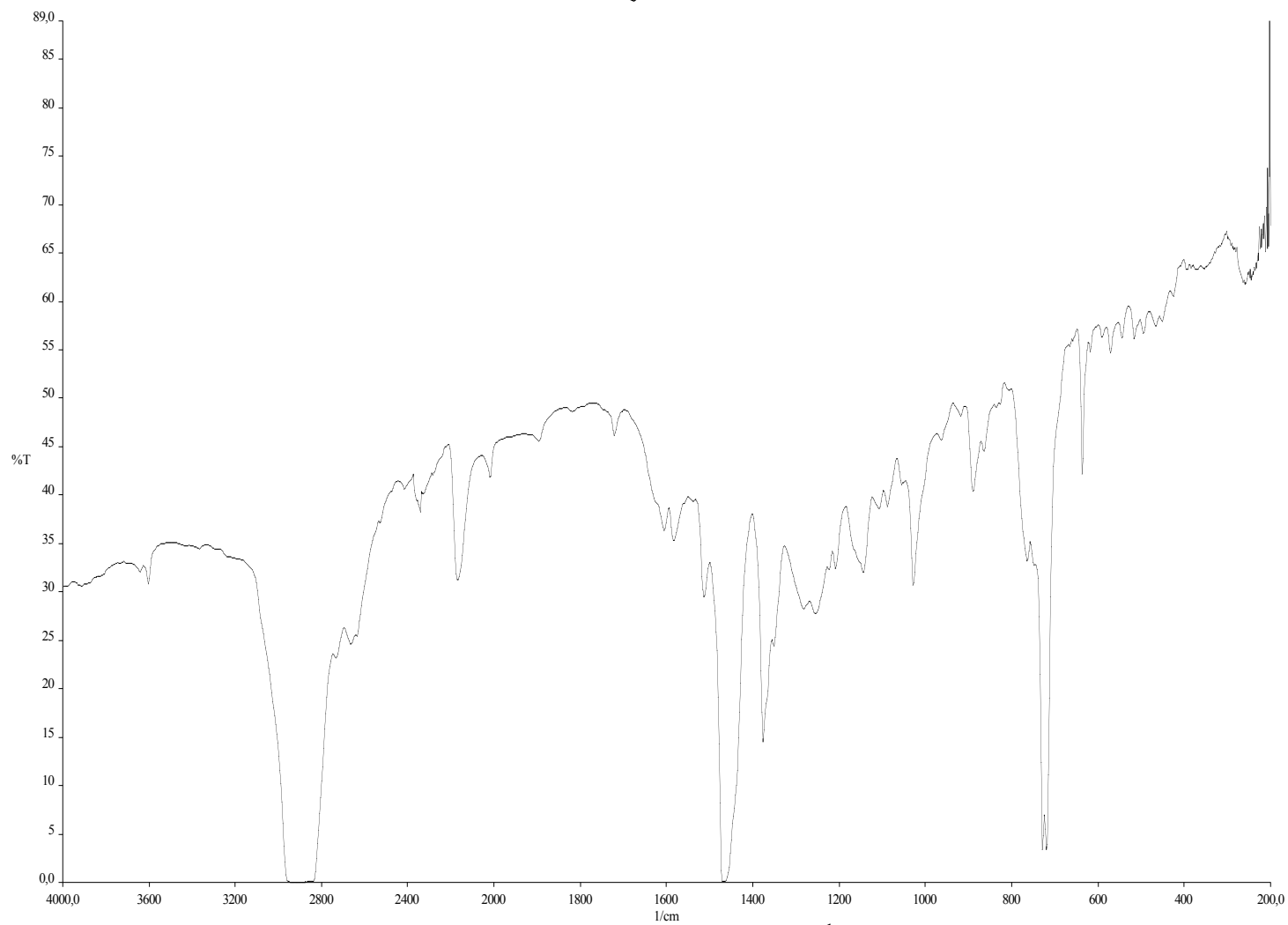
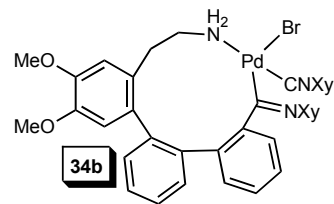




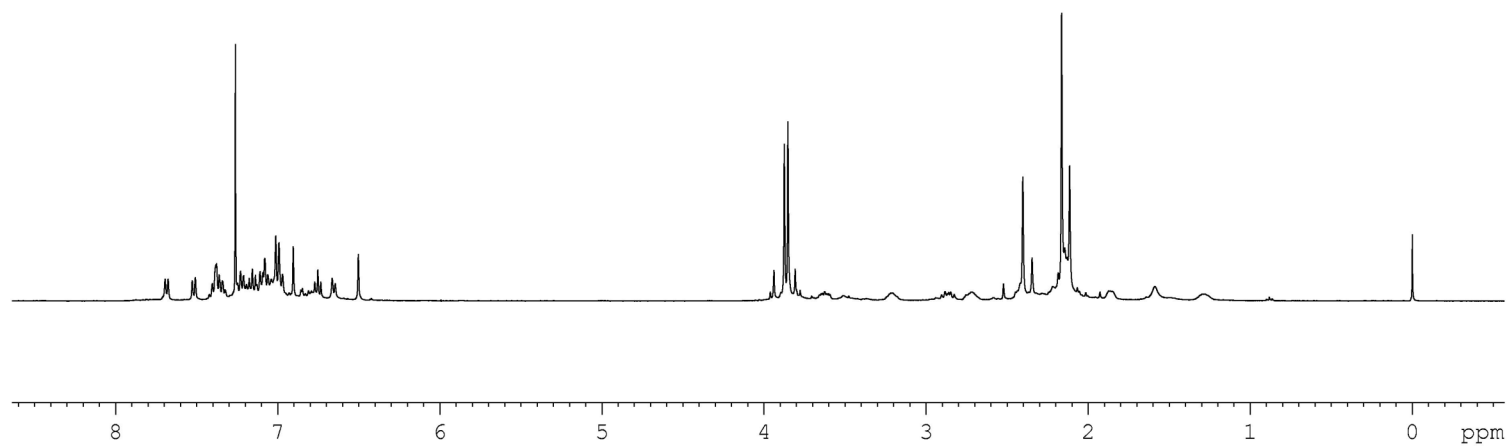
**$^1\text{H}$  NMR spectrum of 33b (CDCl<sub>3</sub> + TMS, 25 °C)**



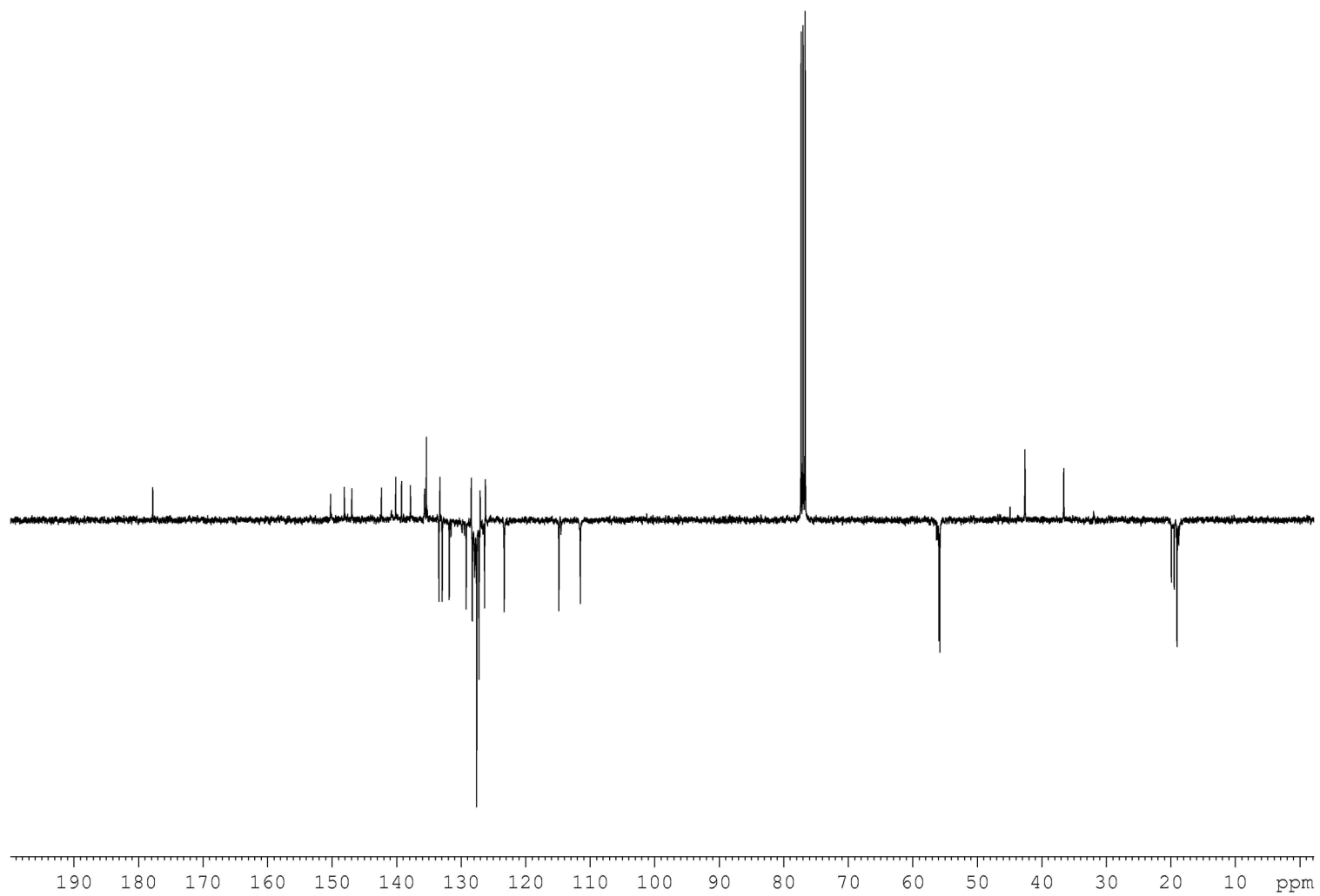
$^{13}\text{C}$  APT NMR spectrum of **33b** ( $\text{CDCl}_3 + \text{TMS}$ ,  $25\text{ }^\circ\text{C}$ )



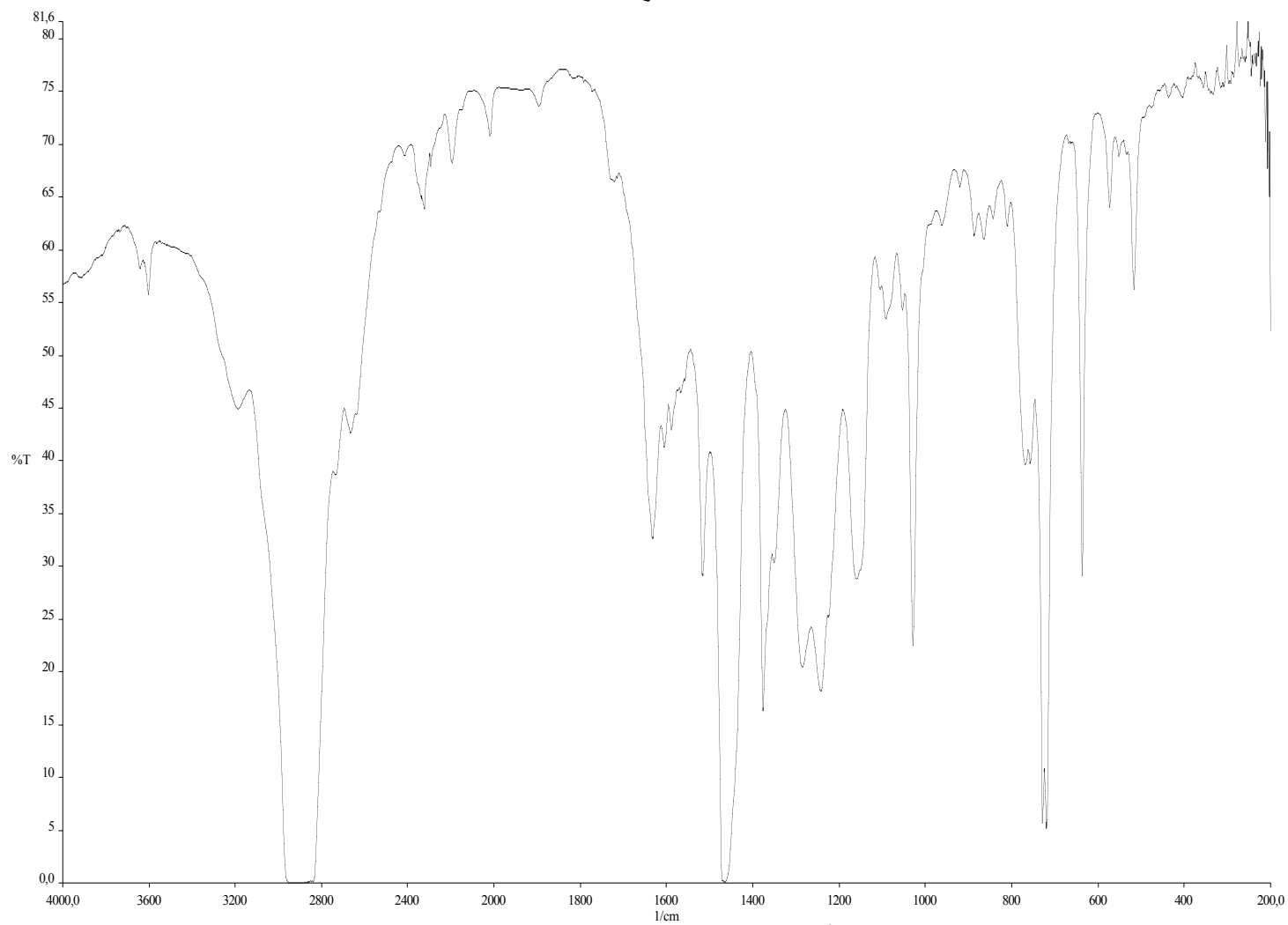
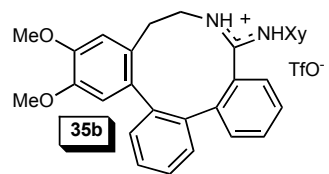
**IR spectrum of 34b (Nujol,  $\text{cm}^{-1}$ )**



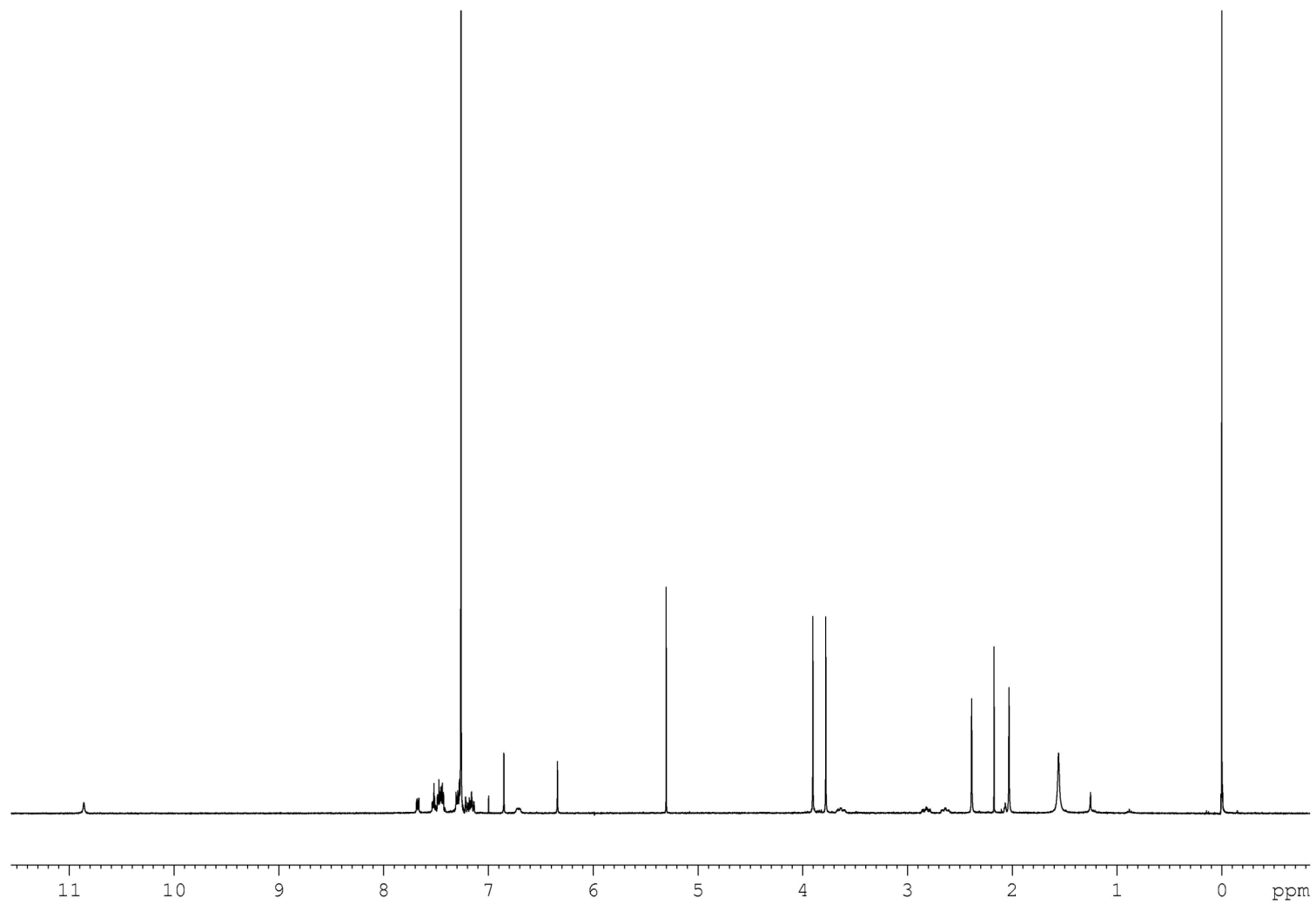
**$^1\text{H}$  NMR spectrum of 34b (CDCl<sub>3</sub> + TMS, 25 °C)**



$^{13}\text{C}$  APT NMR spectrum of **34b** ( $\text{CDCl}_3 + \text{TMS}$ , 25 °C)

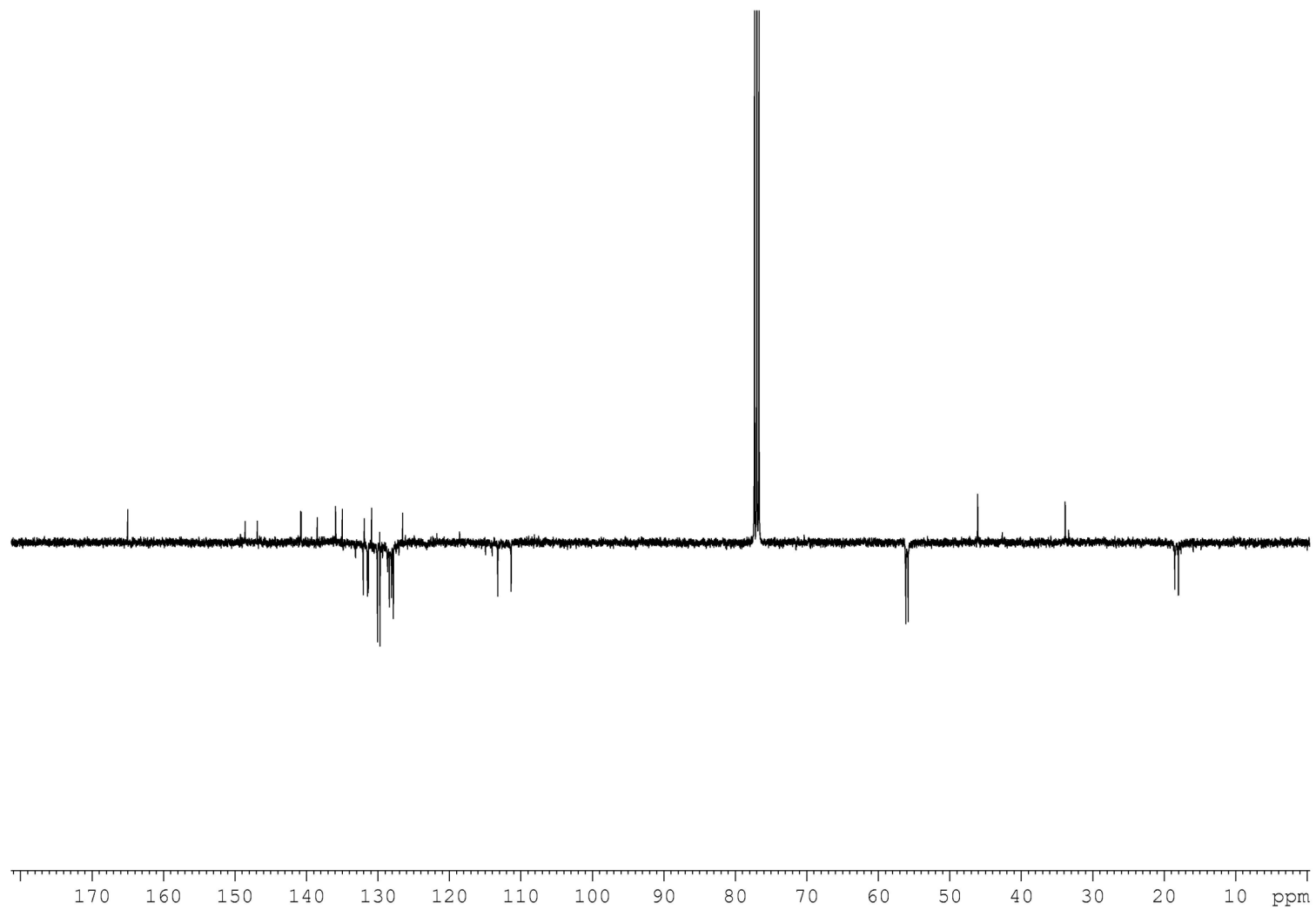


IR spectrum of 35b (Nujol, cm<sup>-1</sup>)

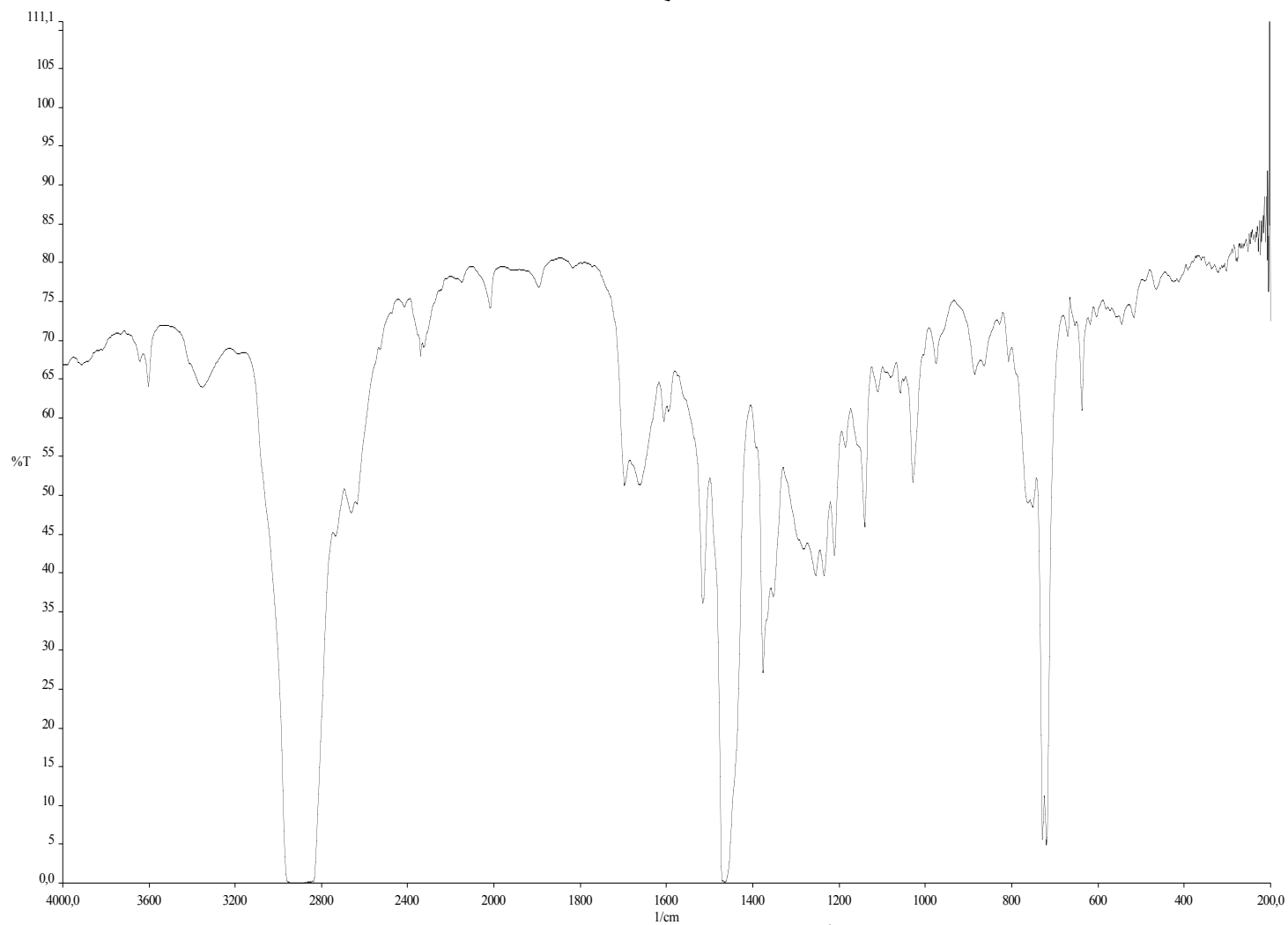
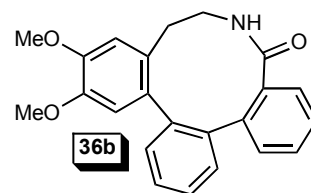


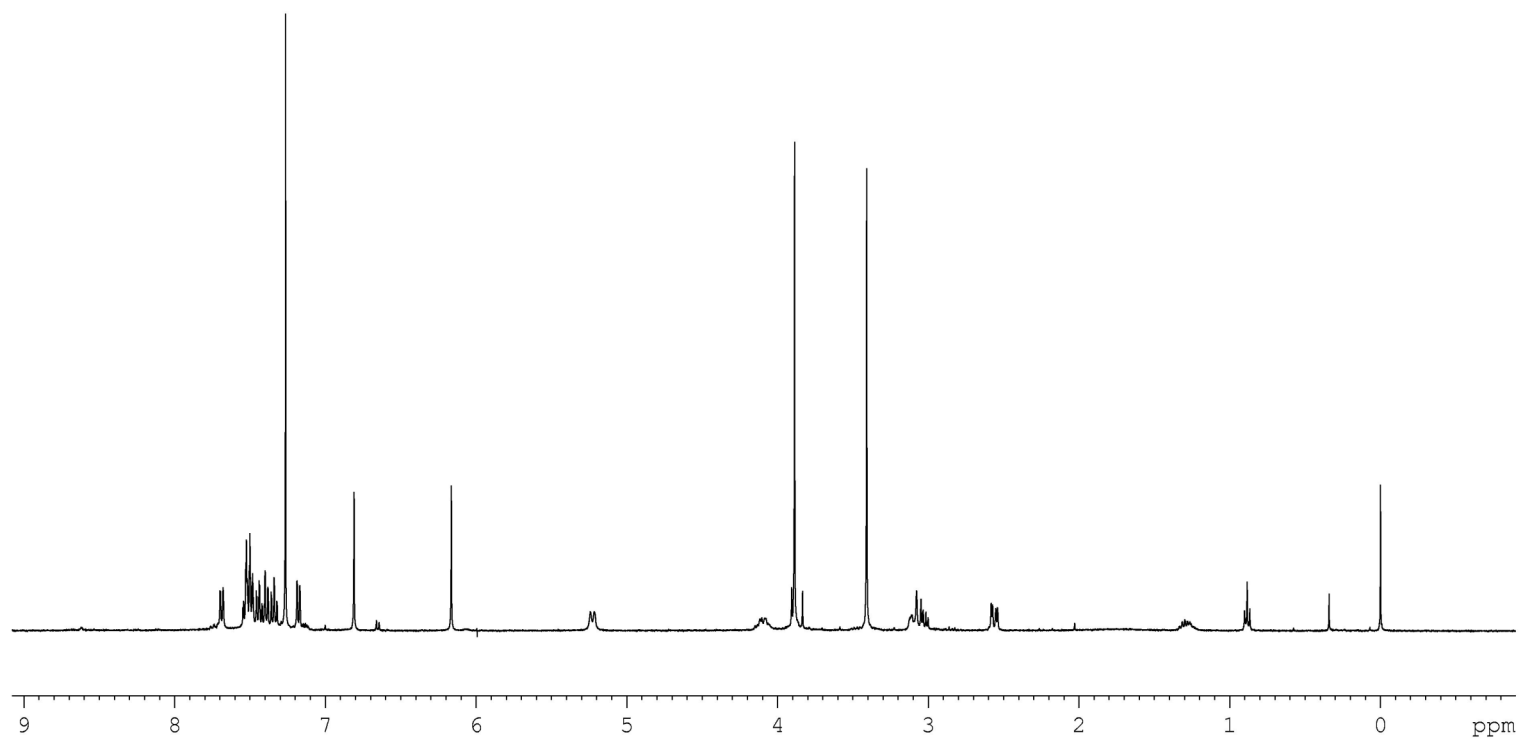
$^1\text{H}$  NMR spectrum of 35b ( $\text{CDCl}_3$  + TMS, 25 °C)



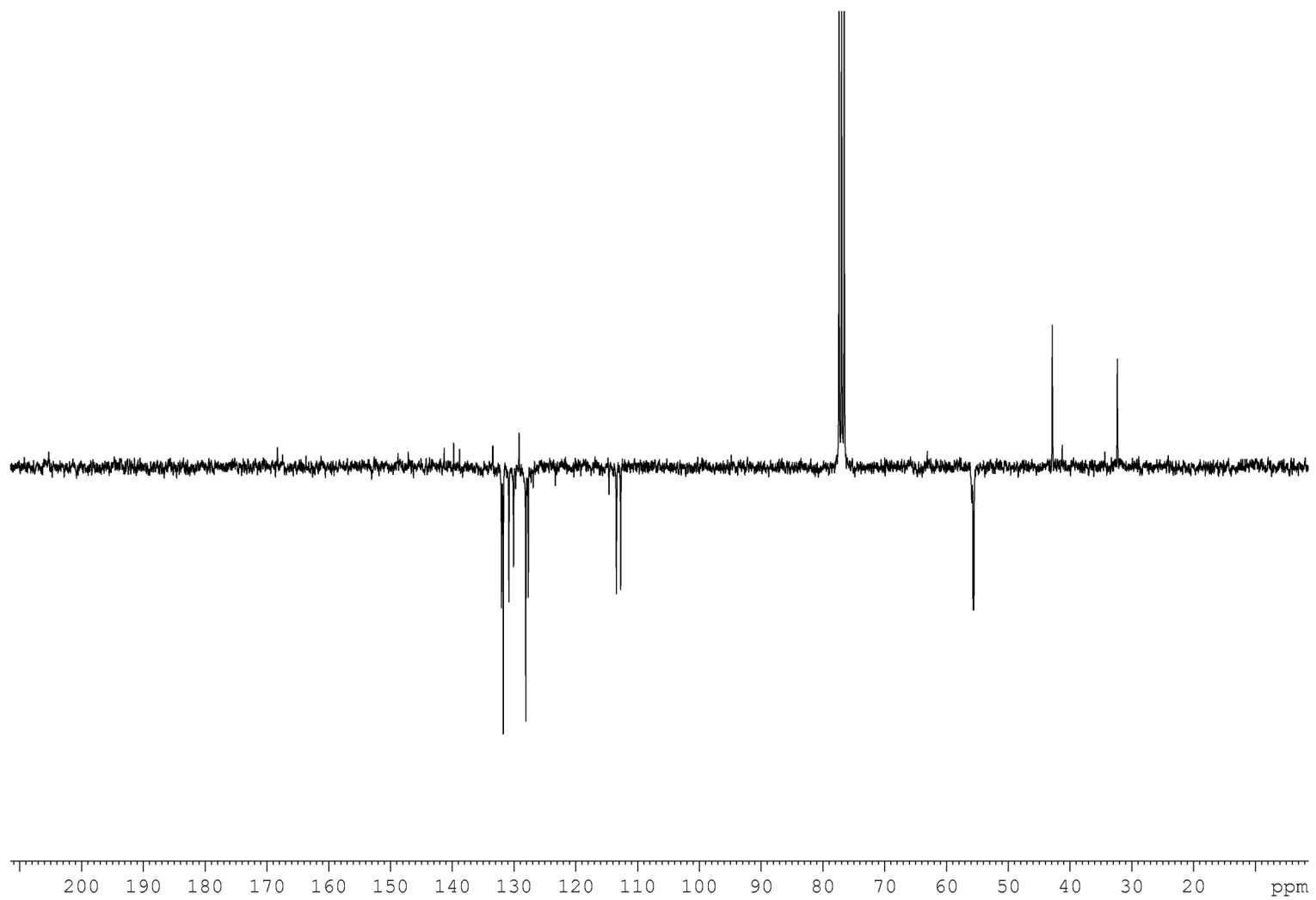


$^{13}\text{C}$  APT NMR spectrum of **35b** ( $\text{CDCl}_3 + \text{TMS}$ , 25 °C)





$^1\text{H}$  NMR spectrum of 36b ( $\text{CDCl}_3$  + TMS, 25 °C)



$^{13}\text{C}$  APT NMR spectrum of **36b** ( $\text{CDCl}_3 + \text{TMS}$ ,  $25\text{ }^\circ\text{C}$ )