

## Supporting Information

for

# One-pot odourless synthesis of thioesters via in situ generation of thiobenzoic acids using benzoic anhydrides and thiourea

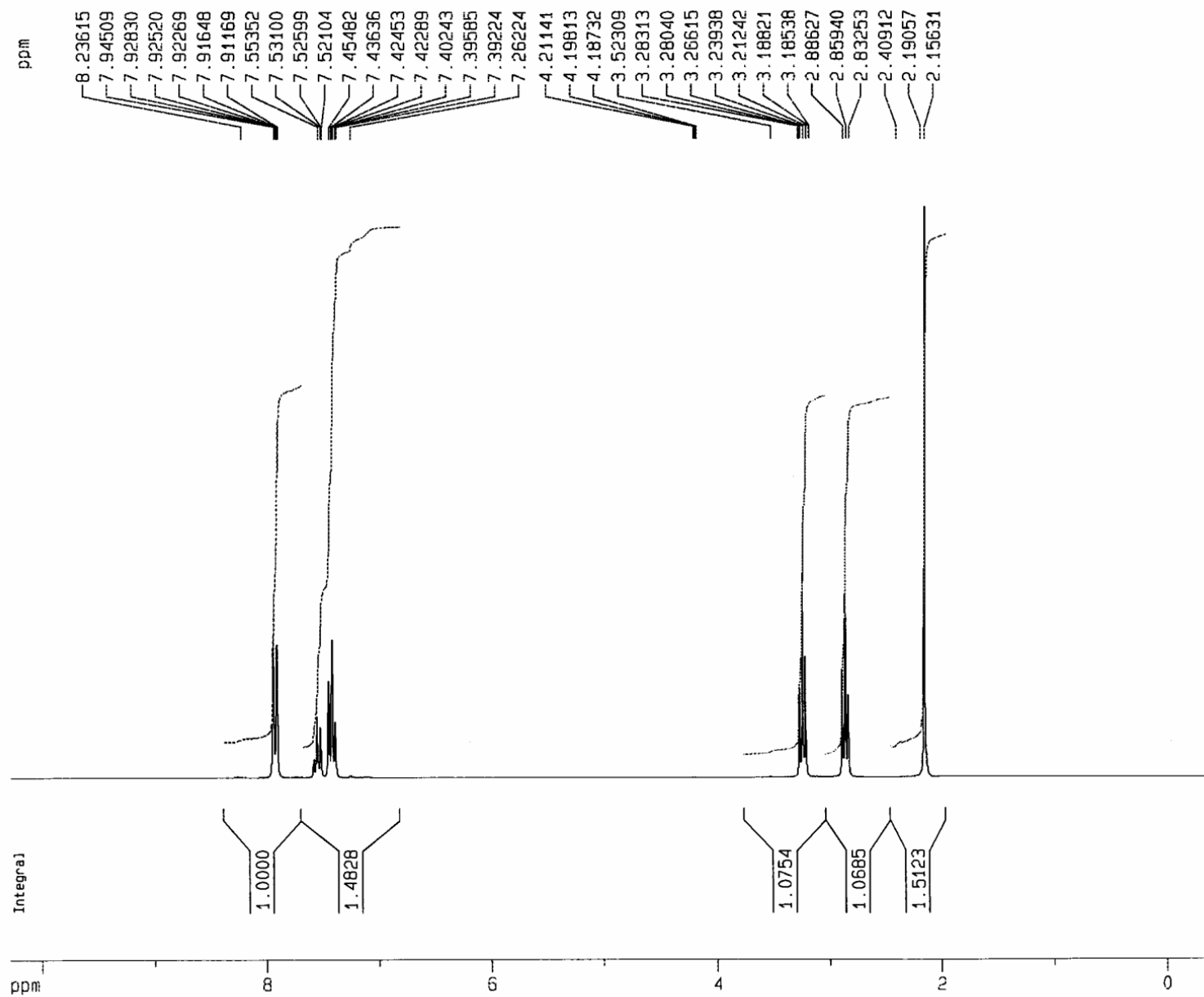
Mohammad Abbasi\*<sup>1</sup> and Reza Khalifeh<sup>2</sup>

Address: <sup>1</sup>Chemistry Department, Faculty of Sciences, Persian Gulf University, Bushehr 75169, Iran and <sup>2</sup>Department of Chemistry, Shiraz University of Technology, Shiraz, Iran

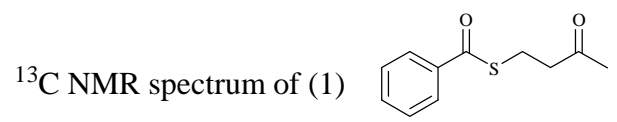
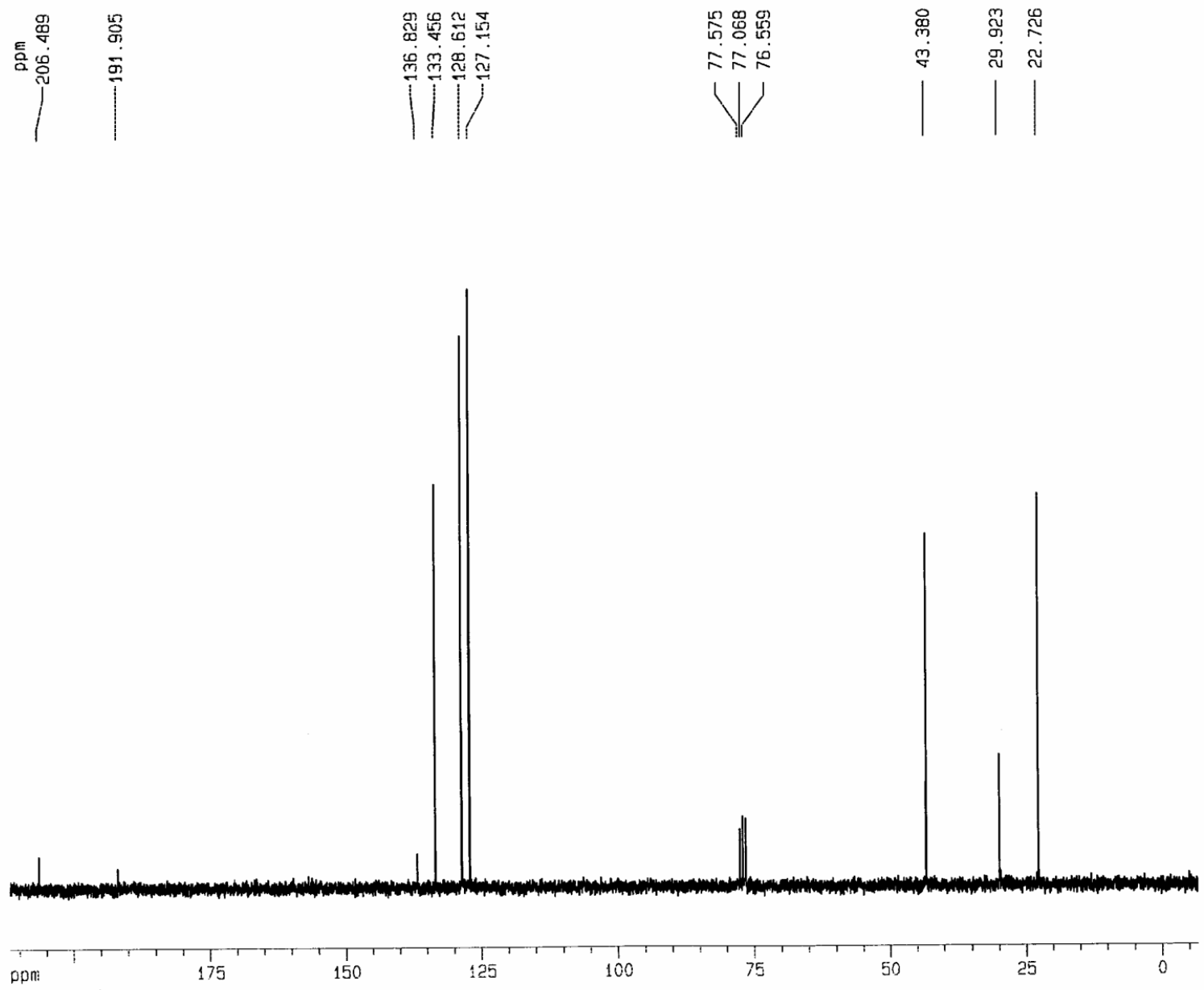
Email: Mohammad Abbasi - [abbassi@pgu.ac.ir](mailto:abbassi@pgu.ac.ir)

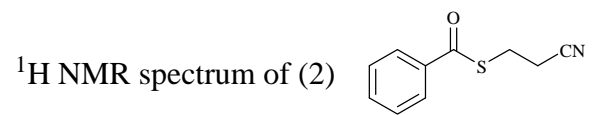
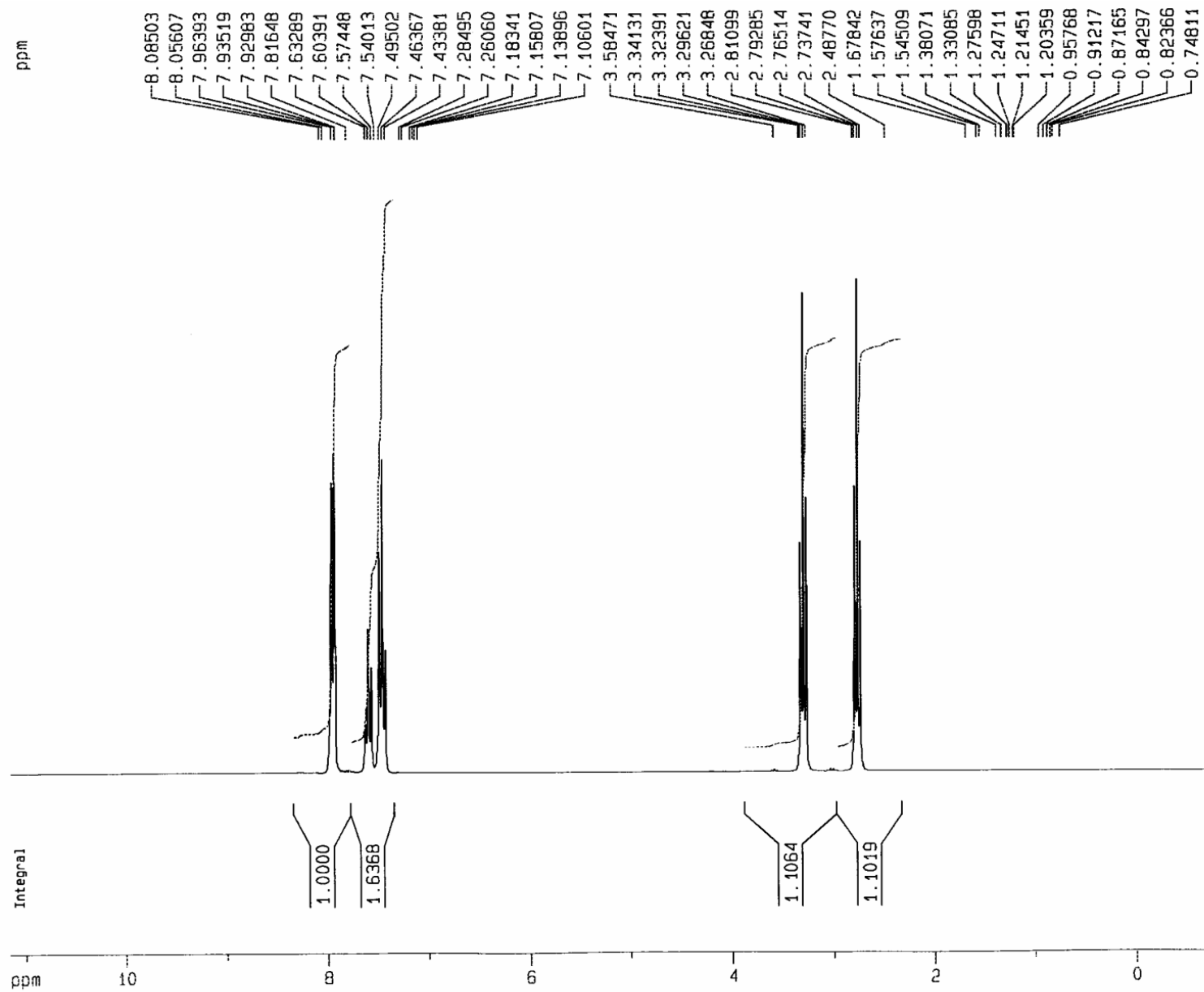
\* Corresponding author

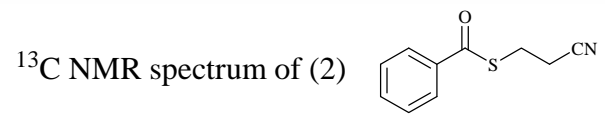
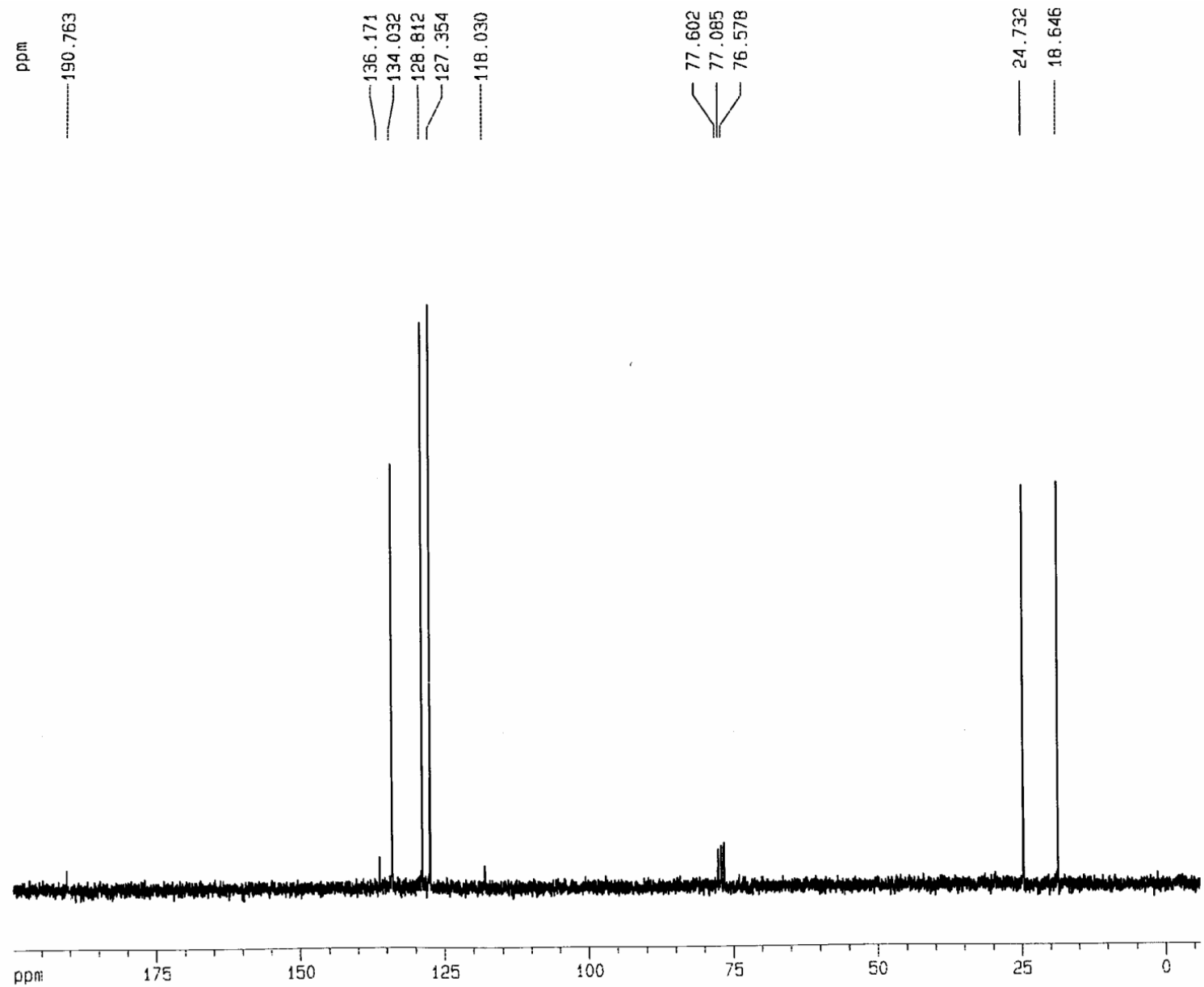
## NMR spectra

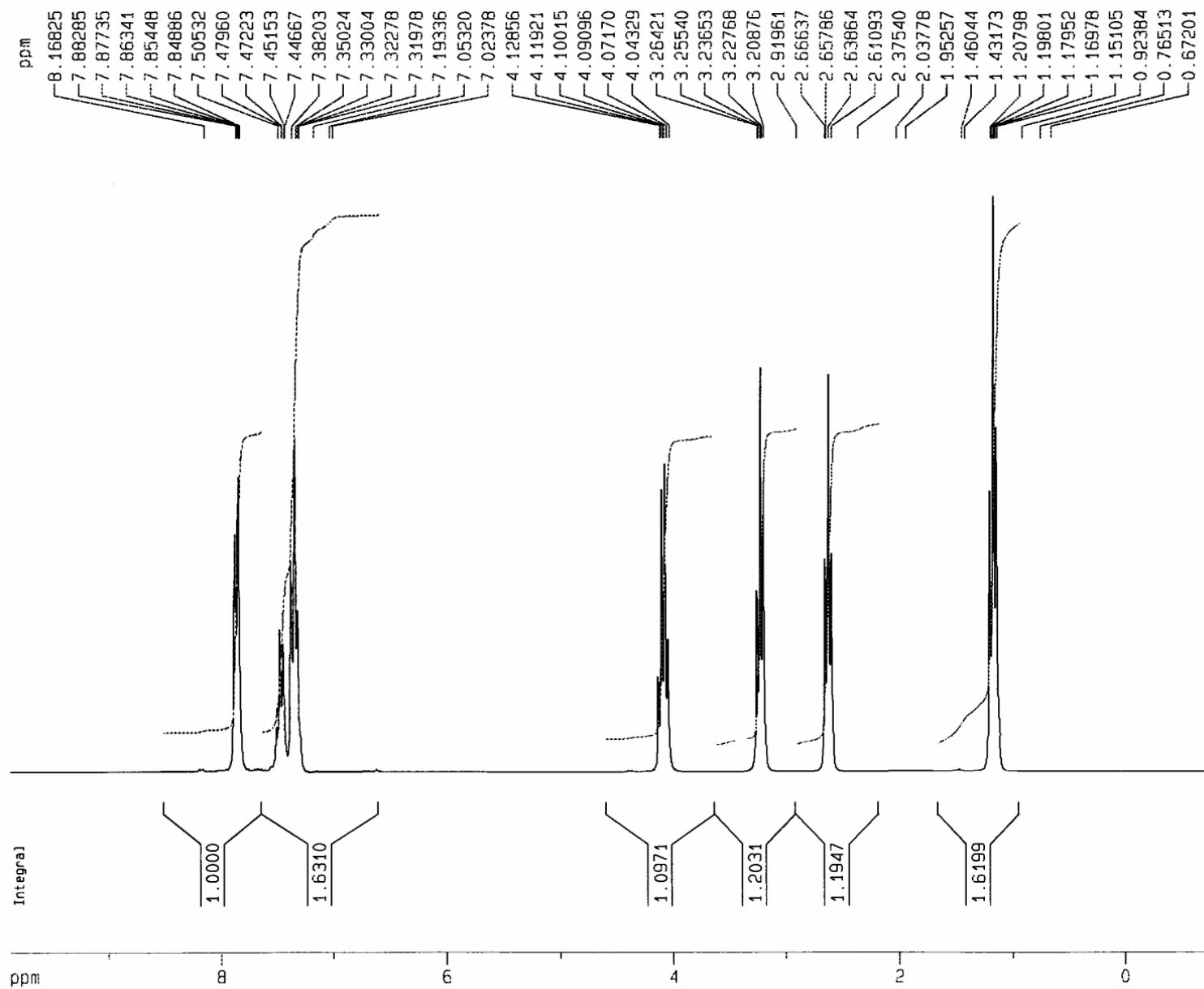


<sup>1</sup>H NMR spectrum of (1) CC(=O)CCSC(=O)c1ccc(cc1)

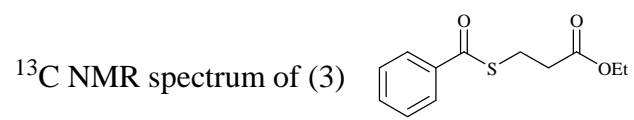
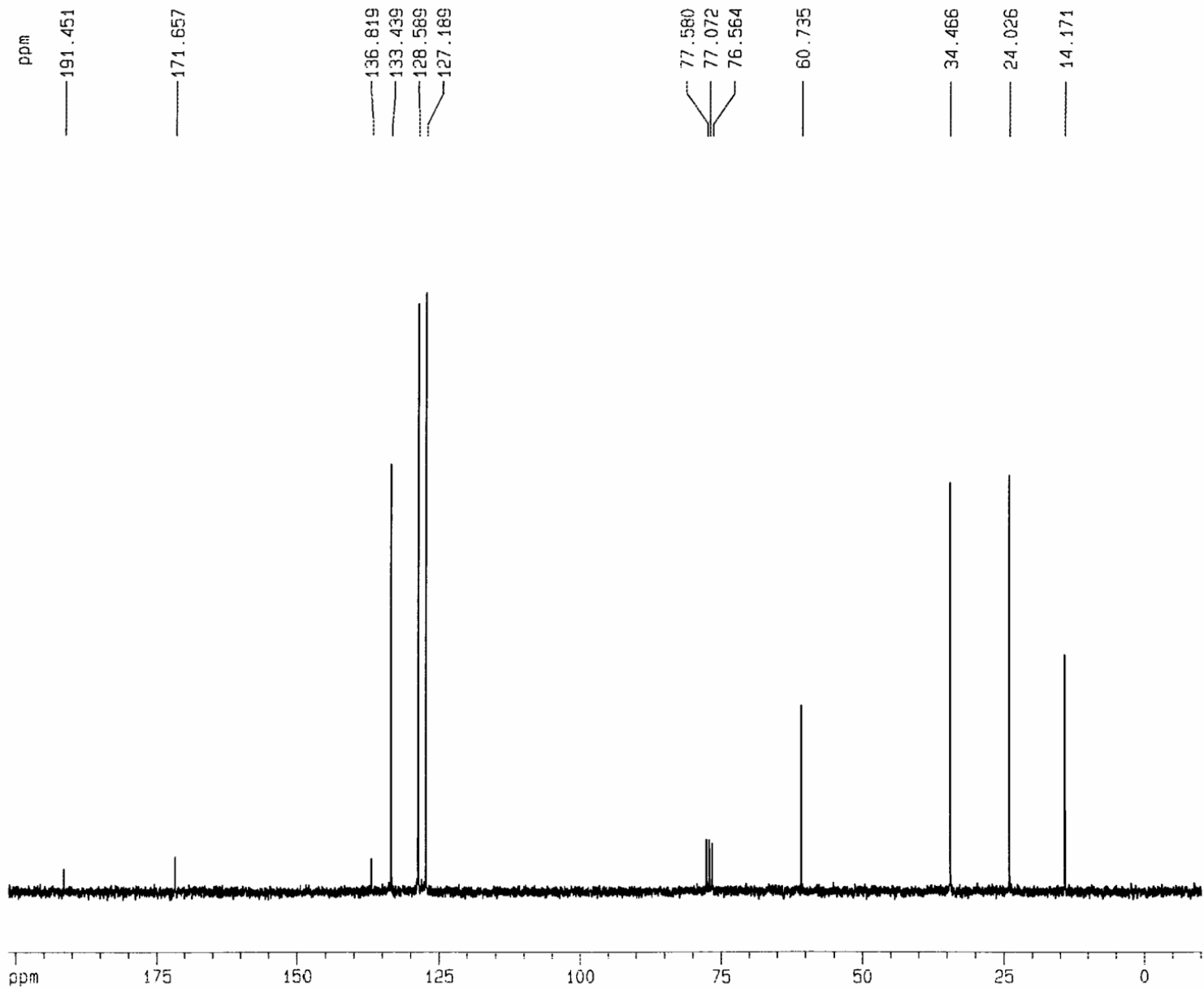


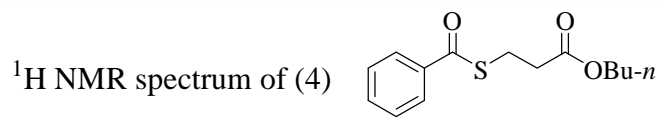
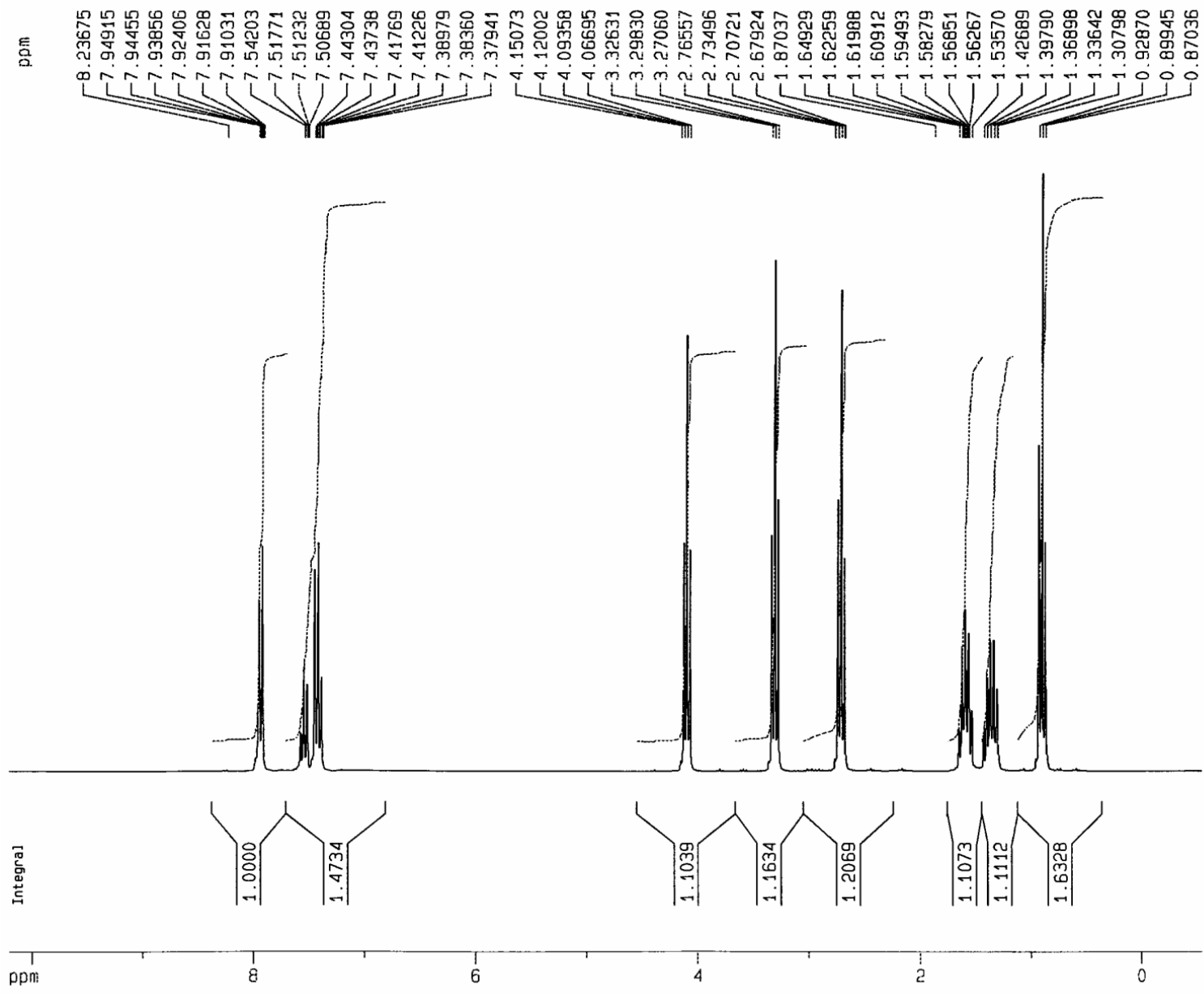




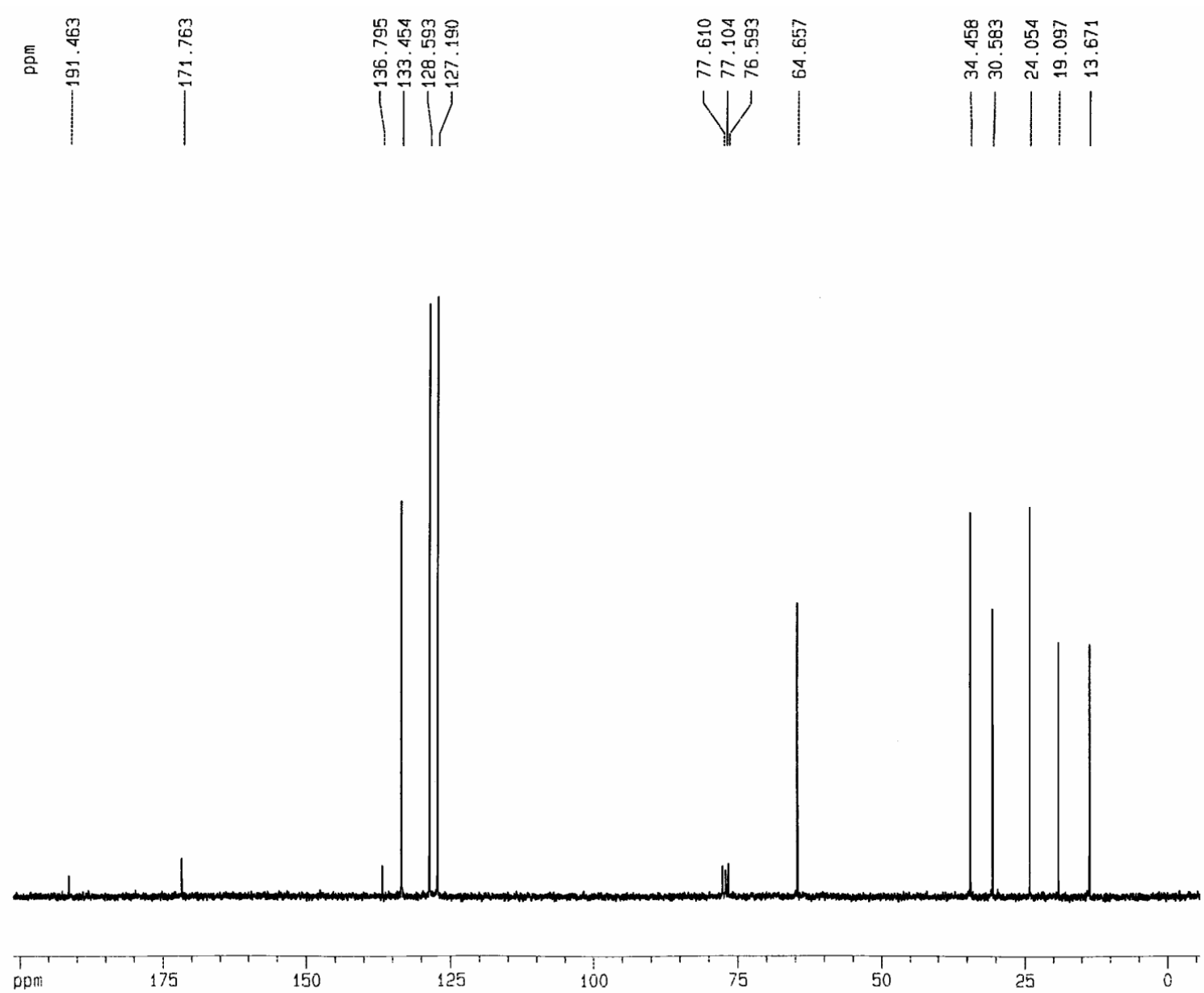


<sup>1</sup>H NMR spectrum of (3) CCOC(=O)CCSC(=O)c1ccccc1

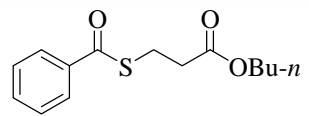


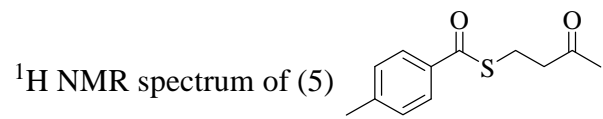
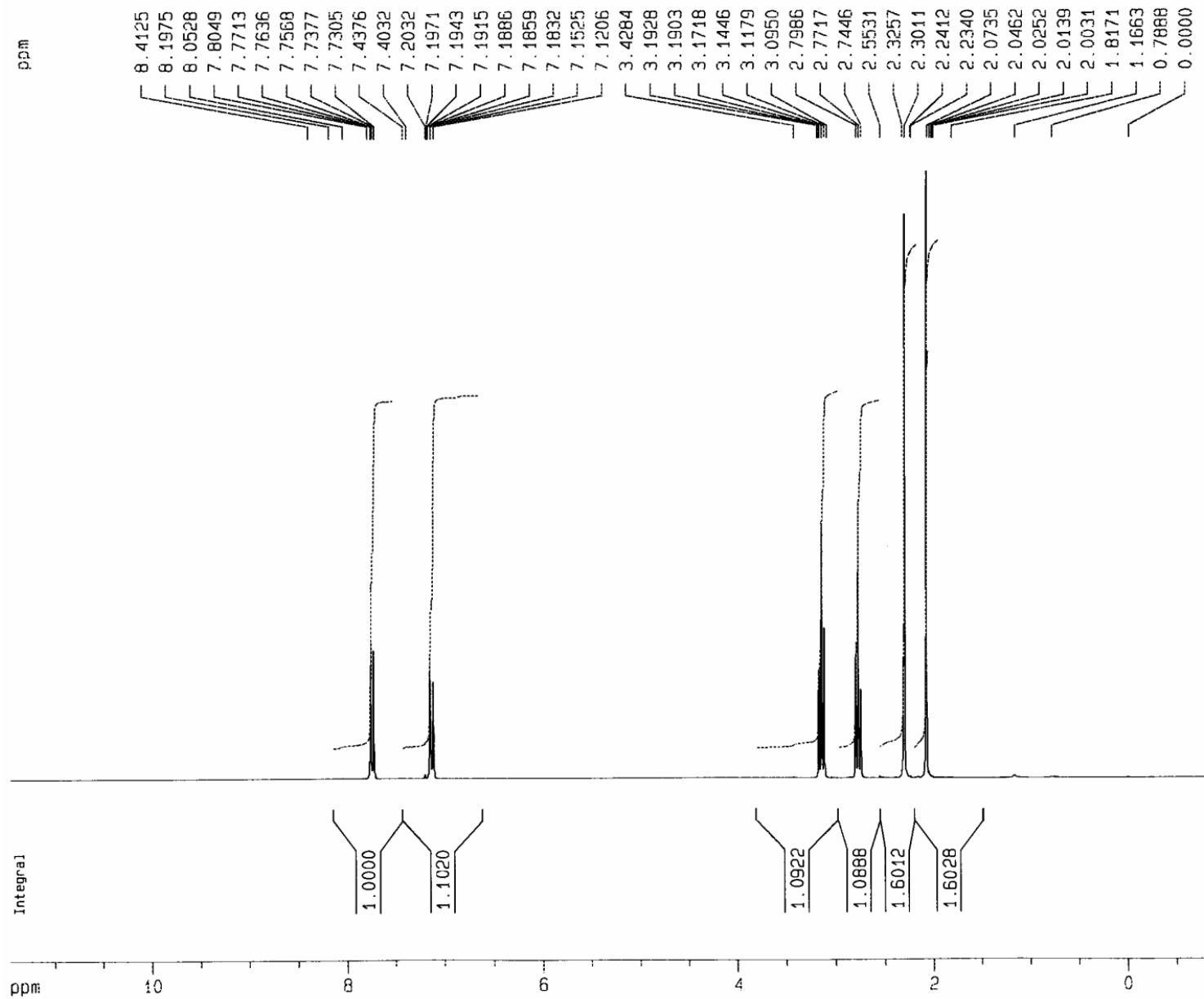


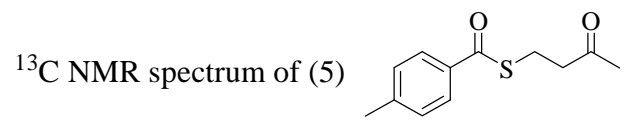
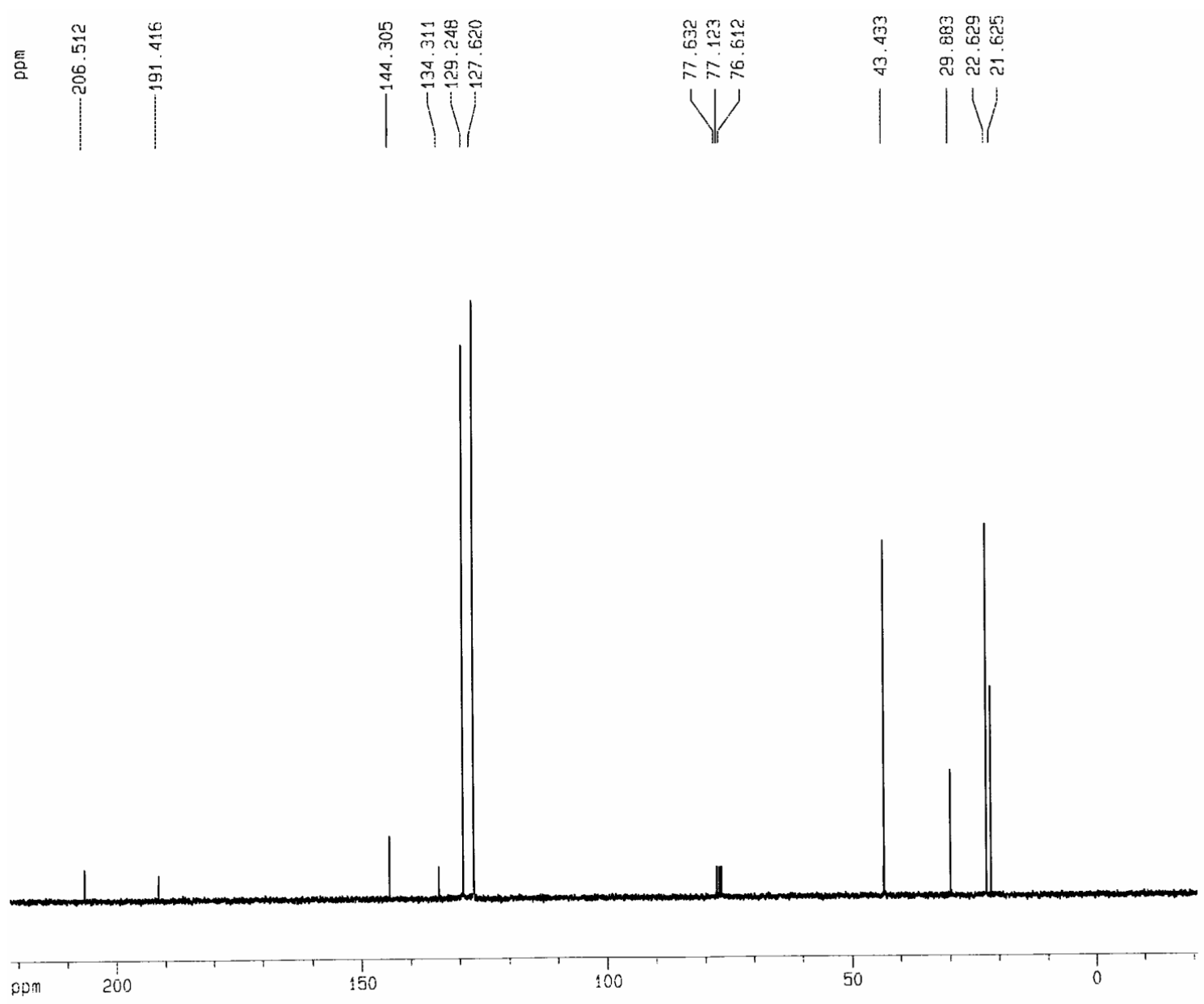


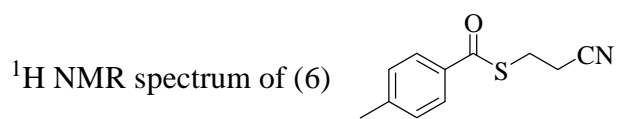
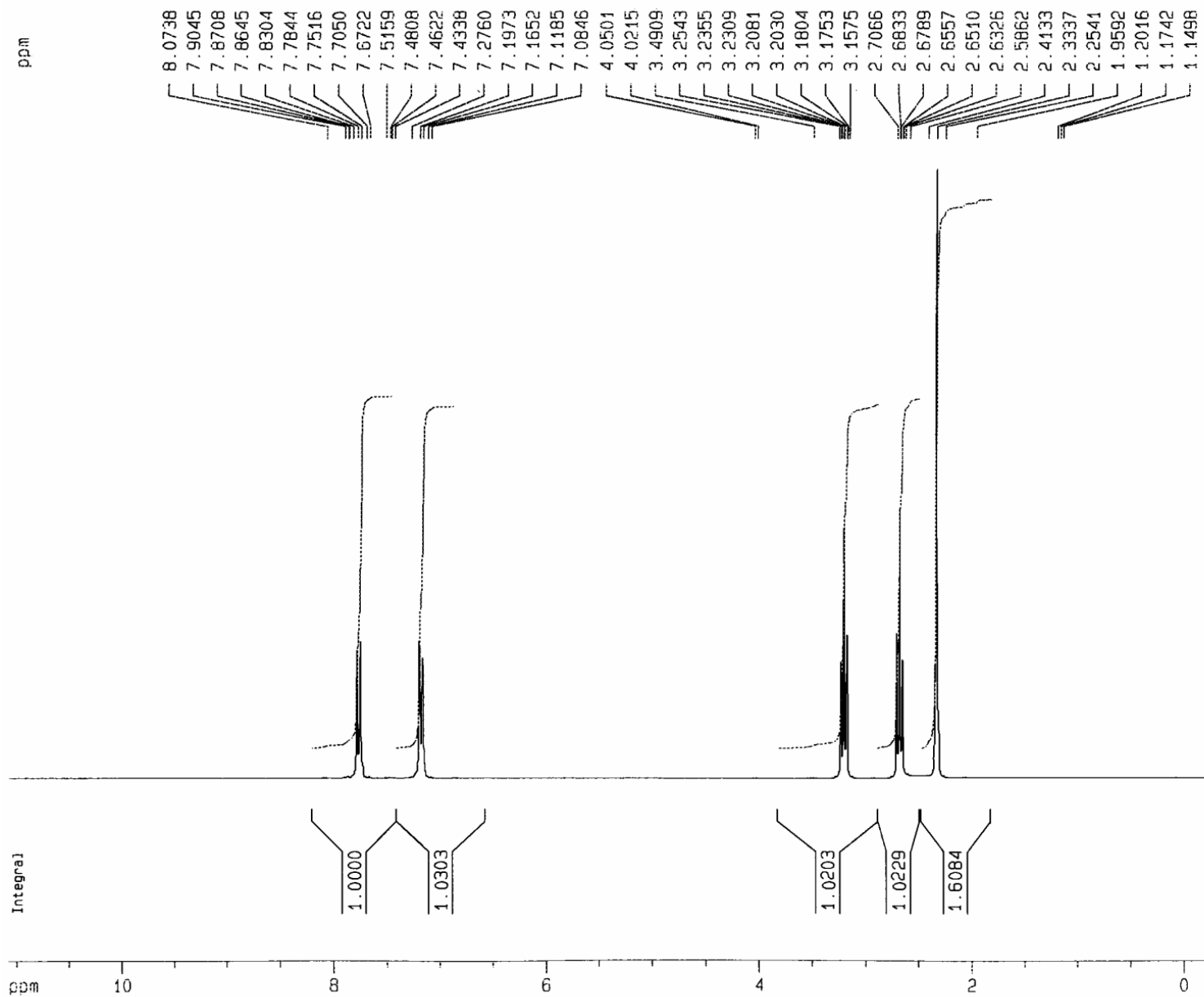


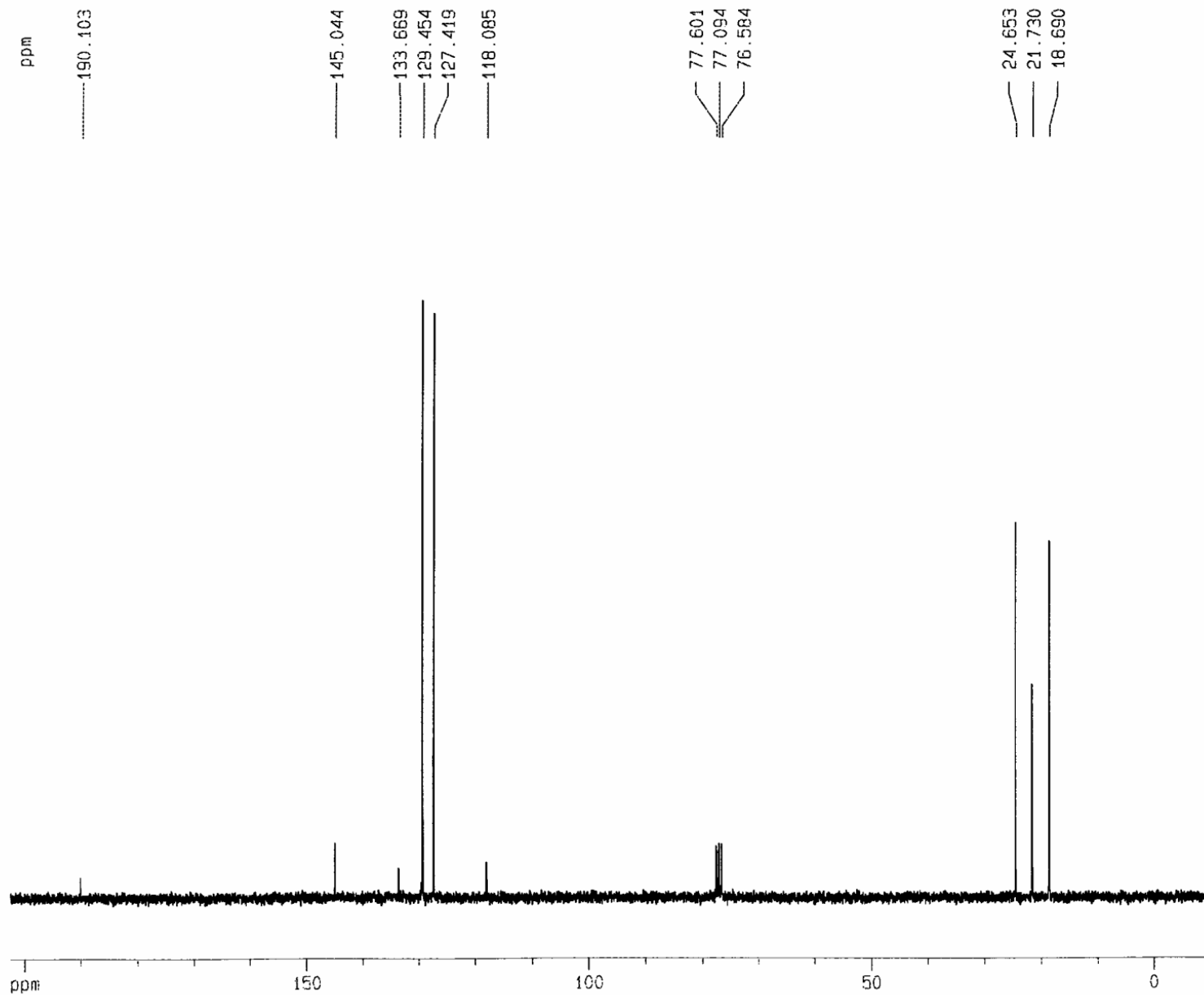
$^{13}\text{C}$  NMR spectrum of (4)



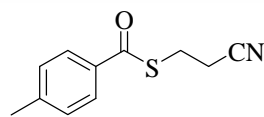


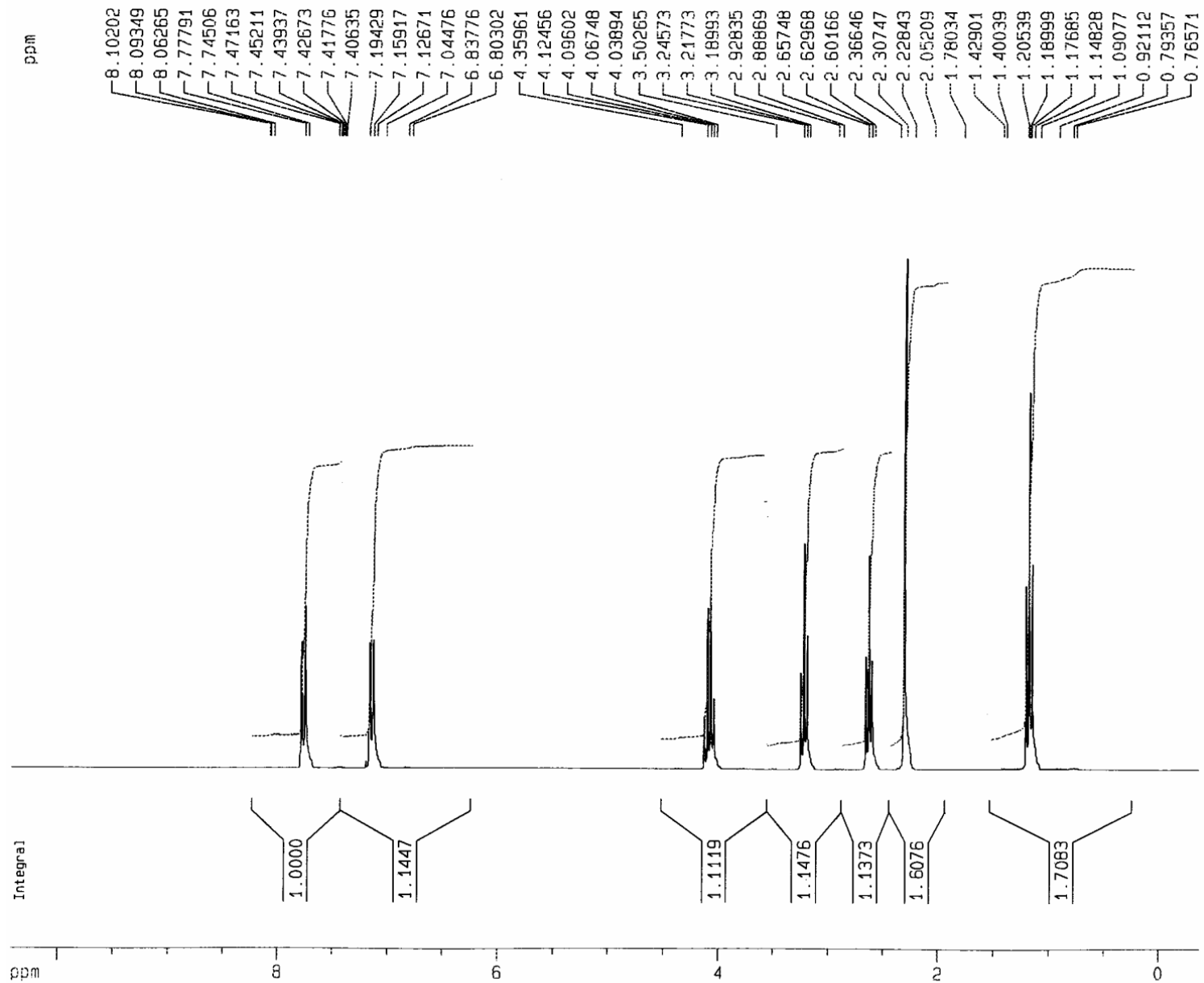




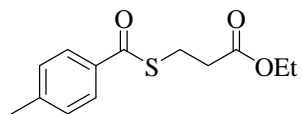


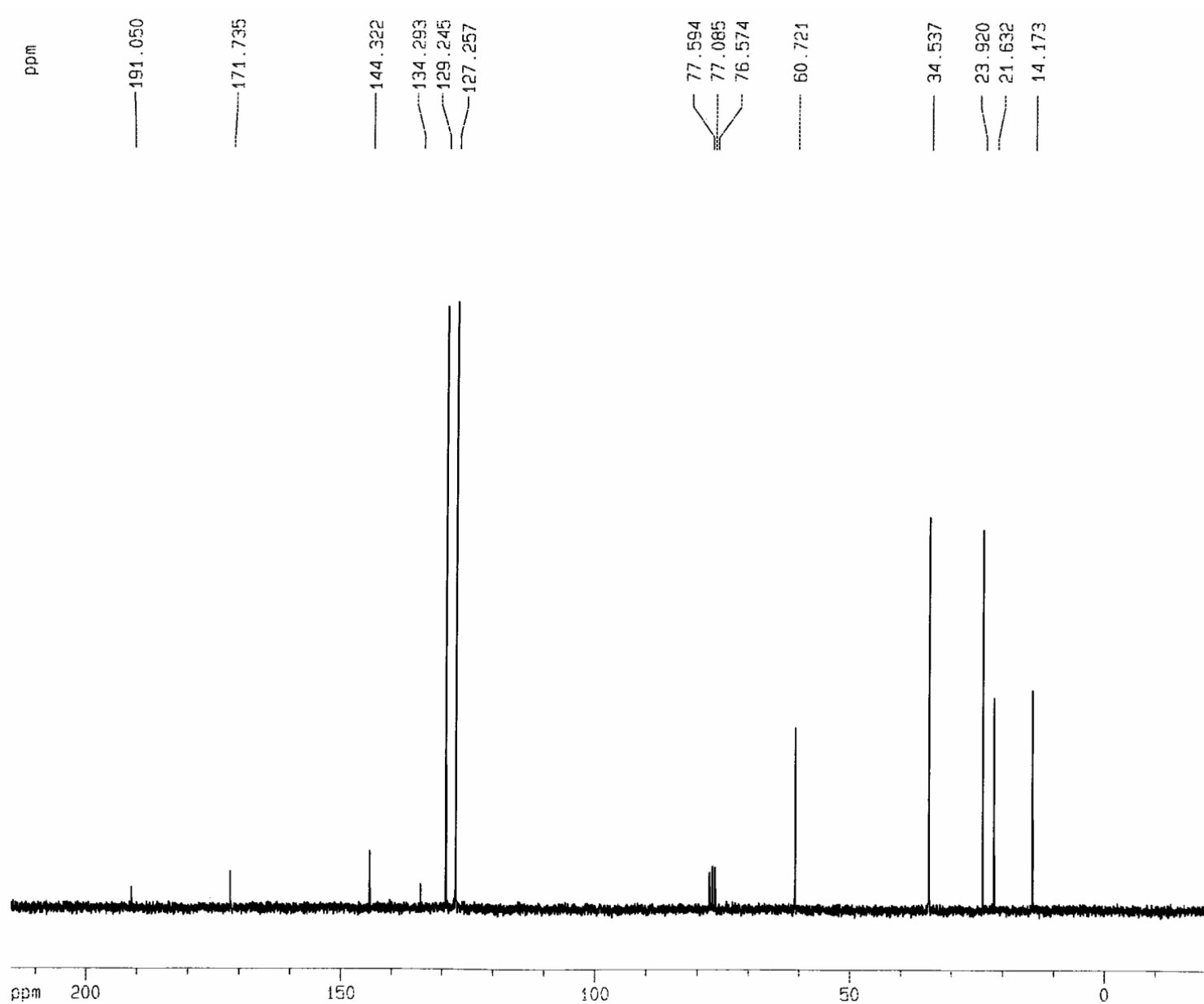
$^{13}\text{C}$  NMR spectrum of (6)



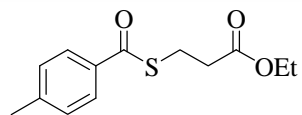


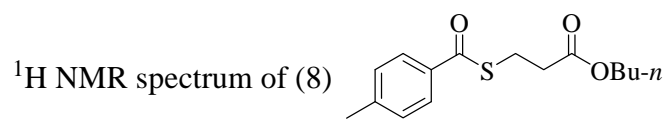
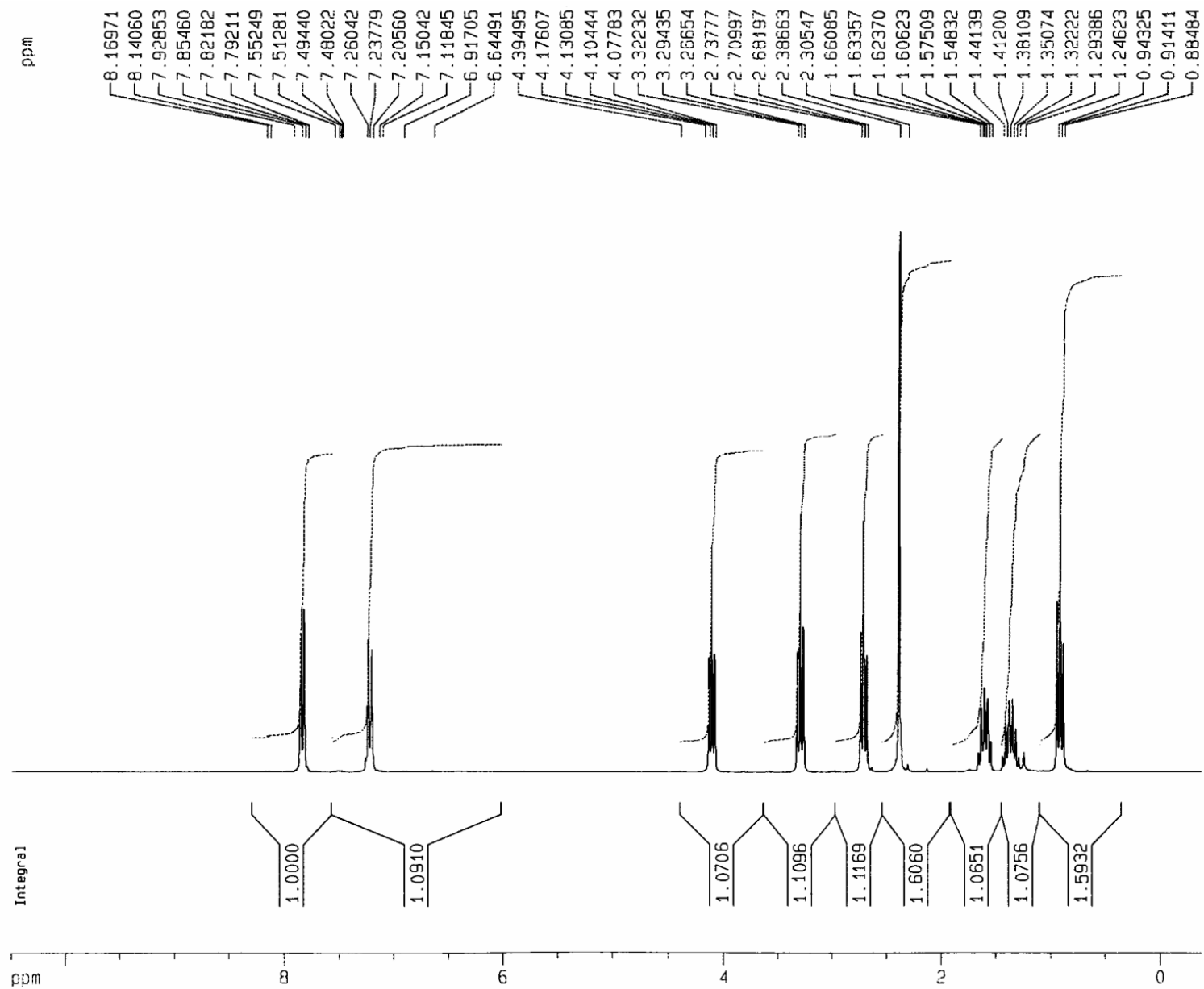
<sup>1</sup>H NMR spectrum of (7)



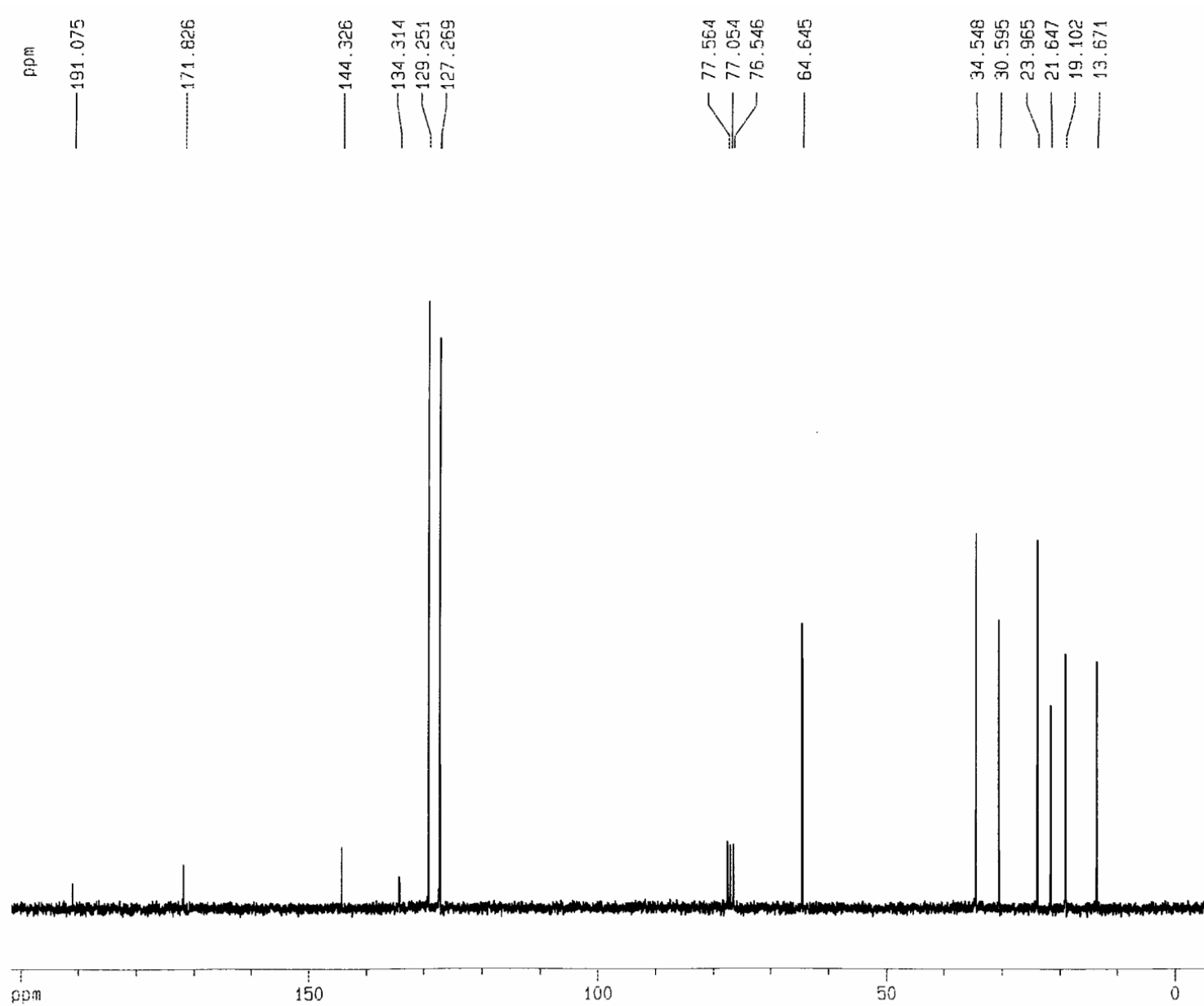


<sup>13</sup>C NMR spectrum of (7)

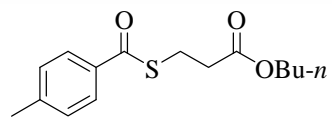


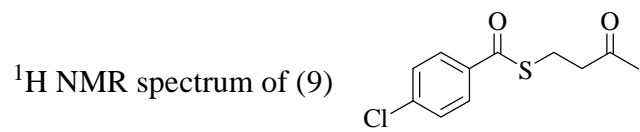
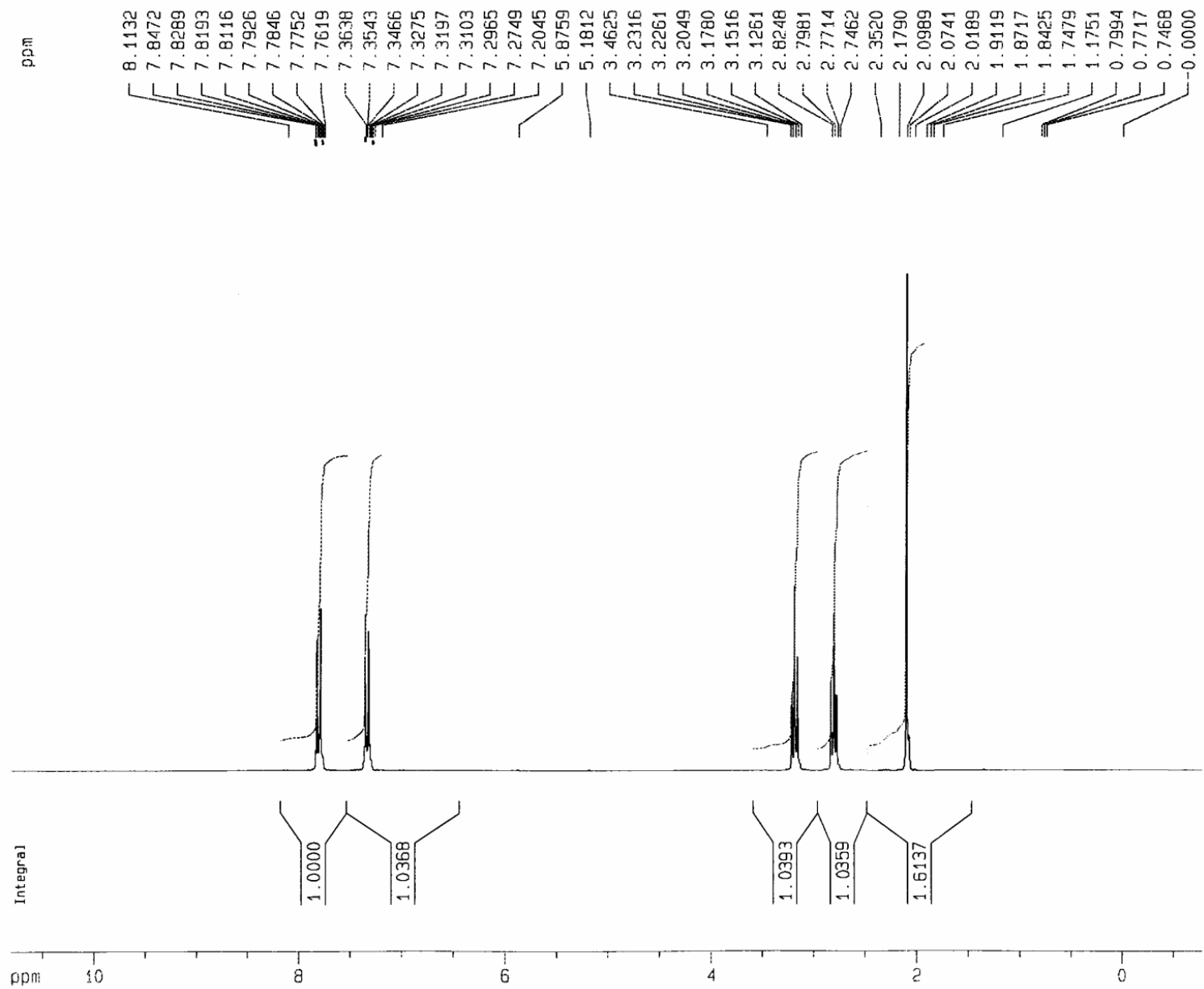


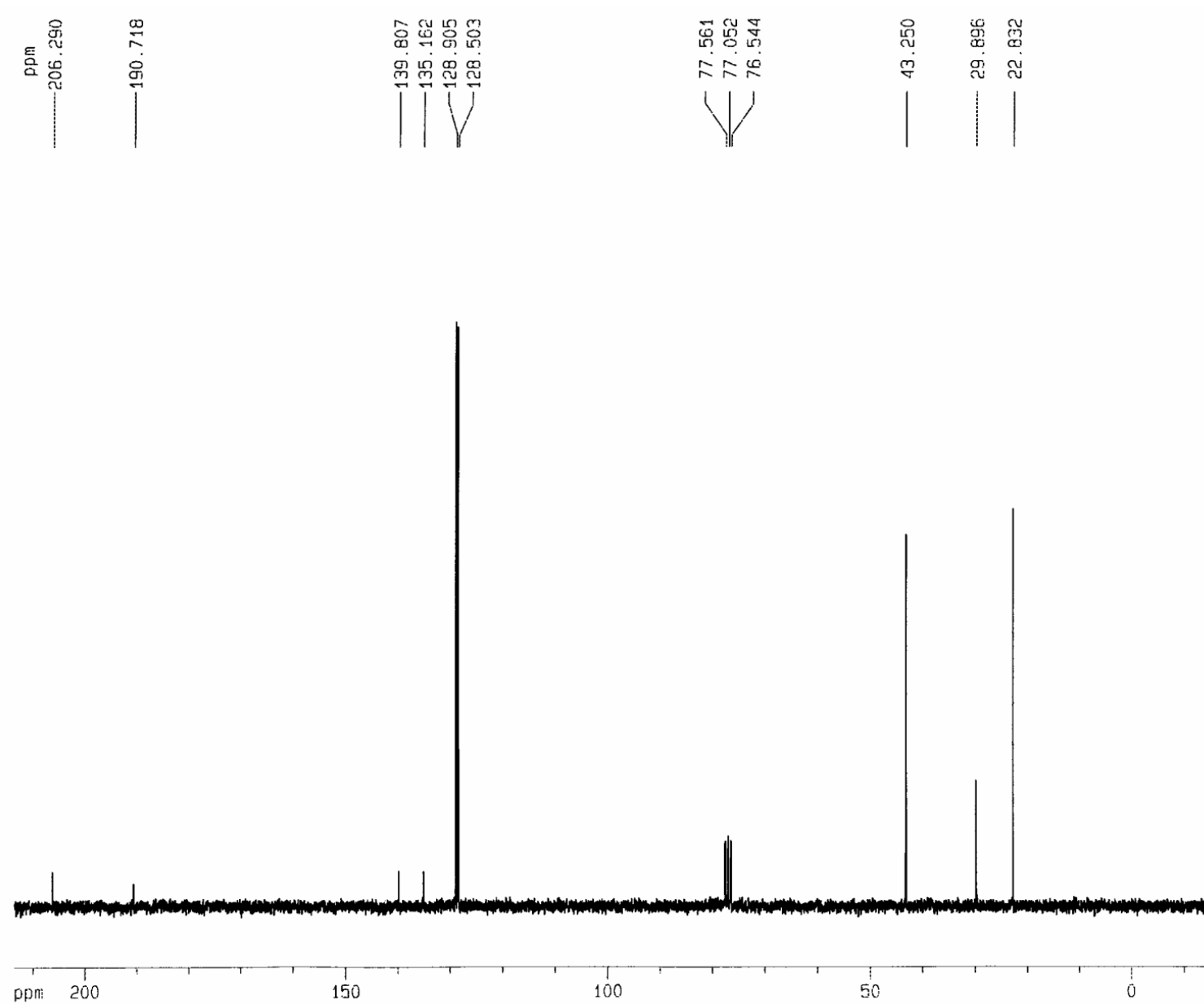




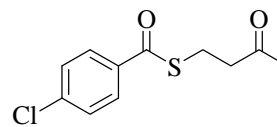
$^{13}\text{C}$  NMR spectrum of (8)

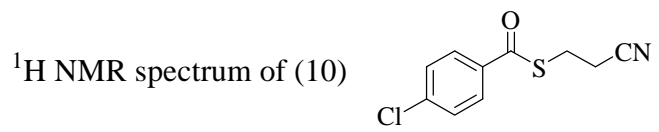
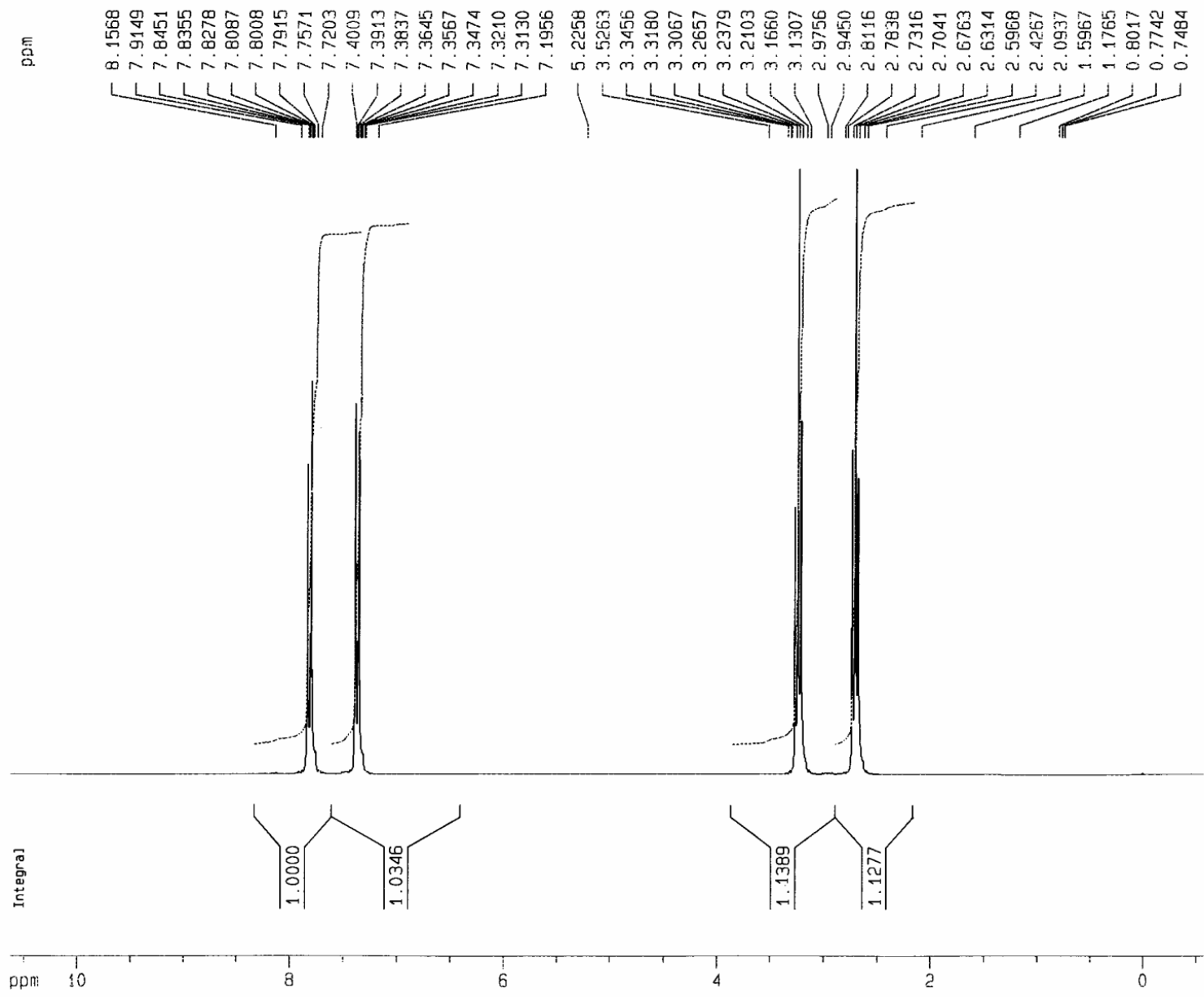


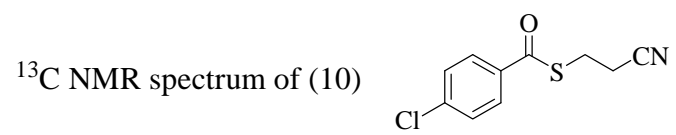
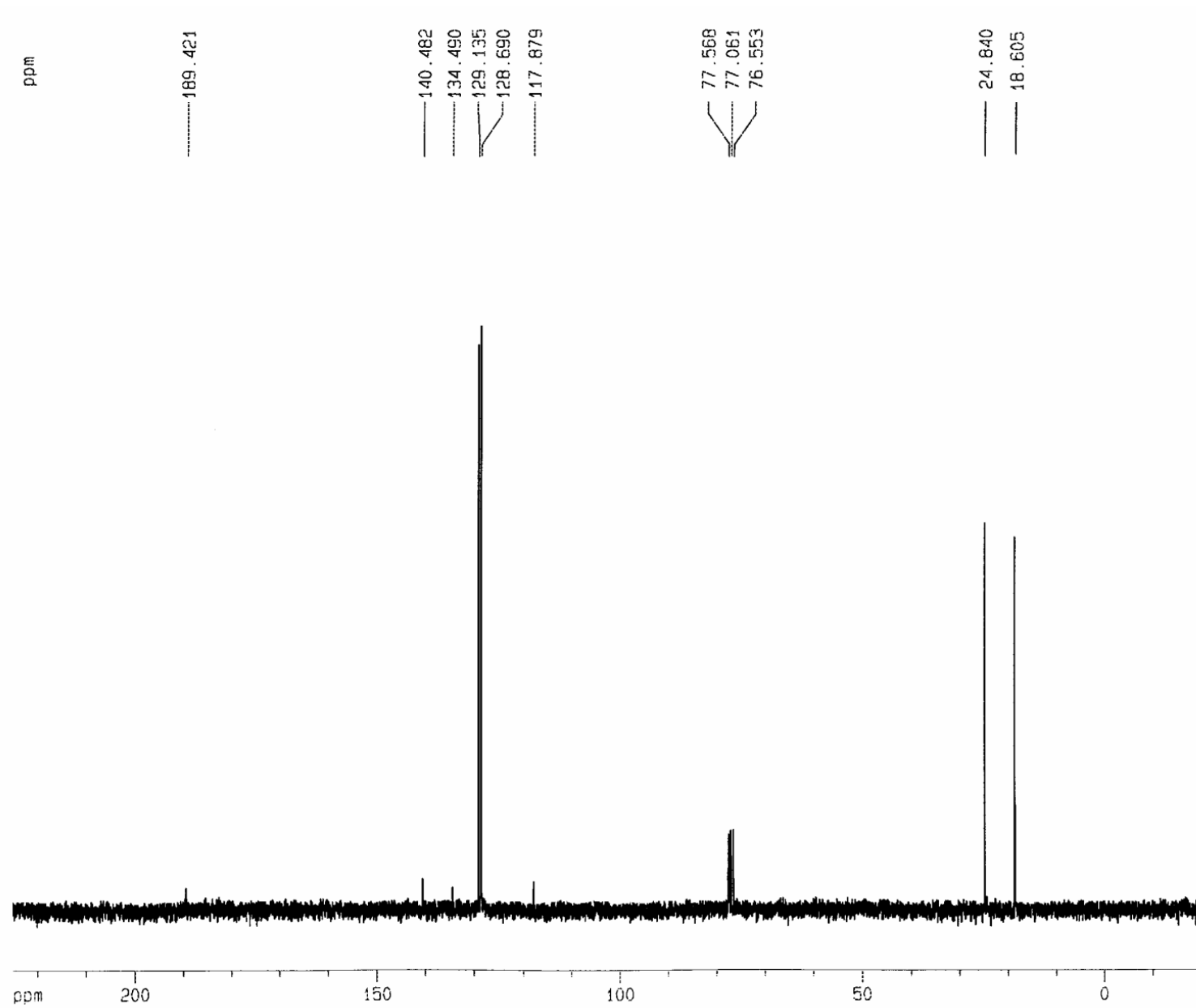


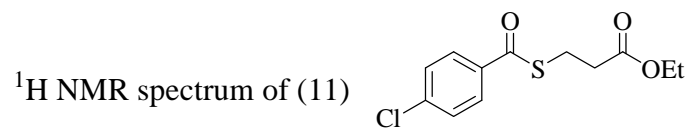
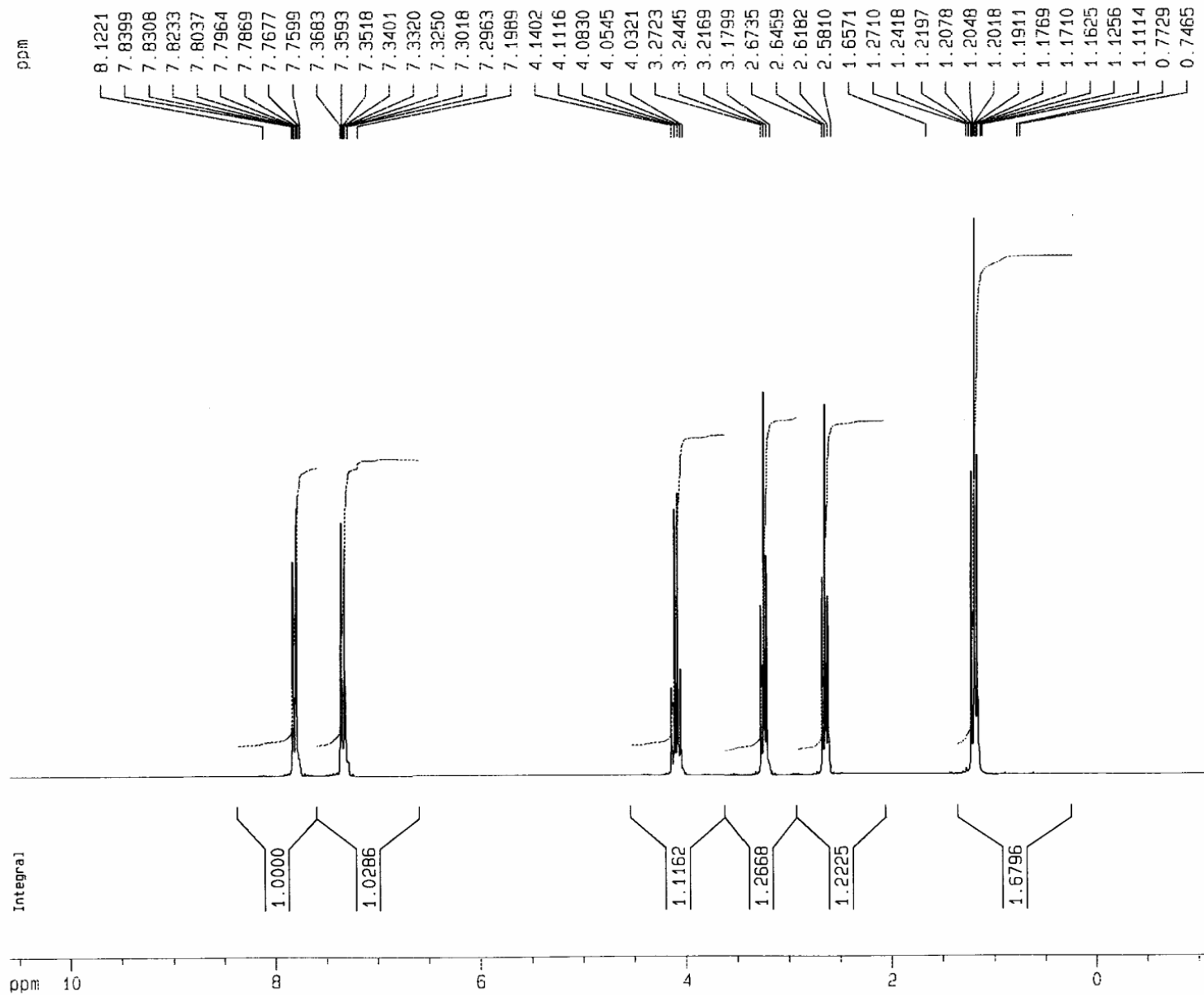


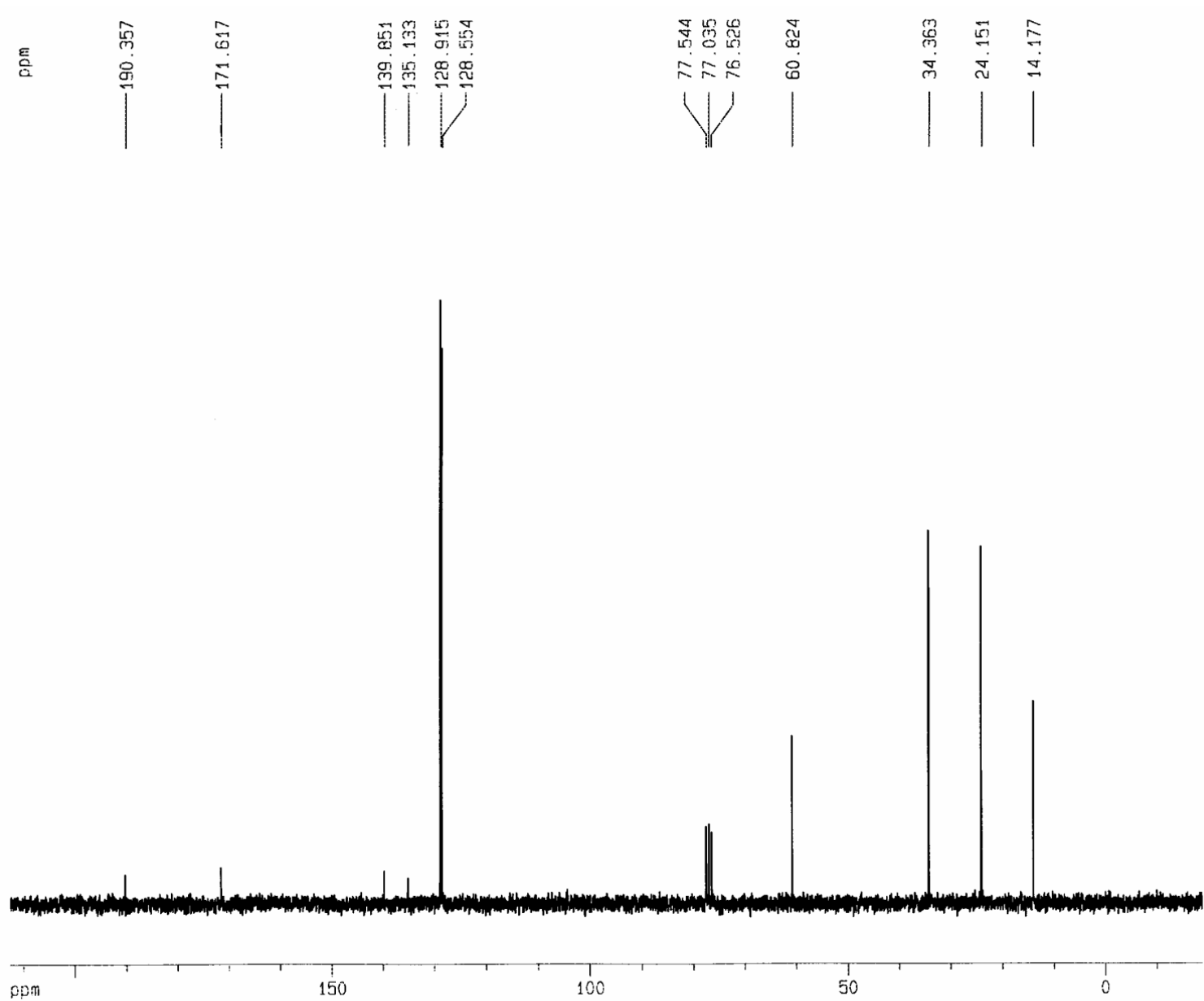
$^{13}\text{C}$  NMR spectrum of (9)



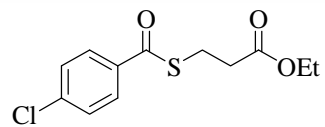


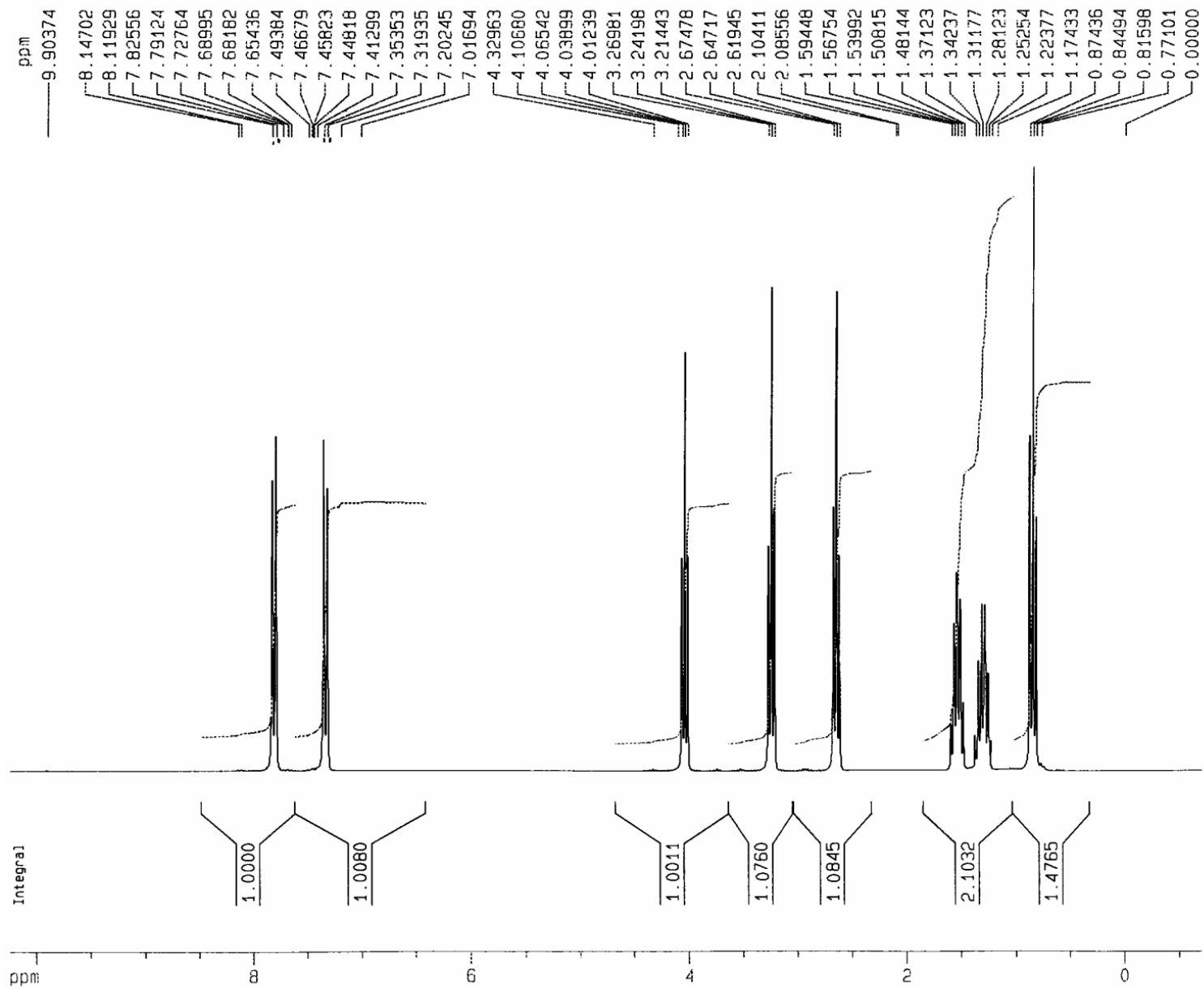




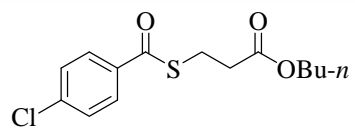


$^{13}\text{C}$  NMR spectrum of (11)

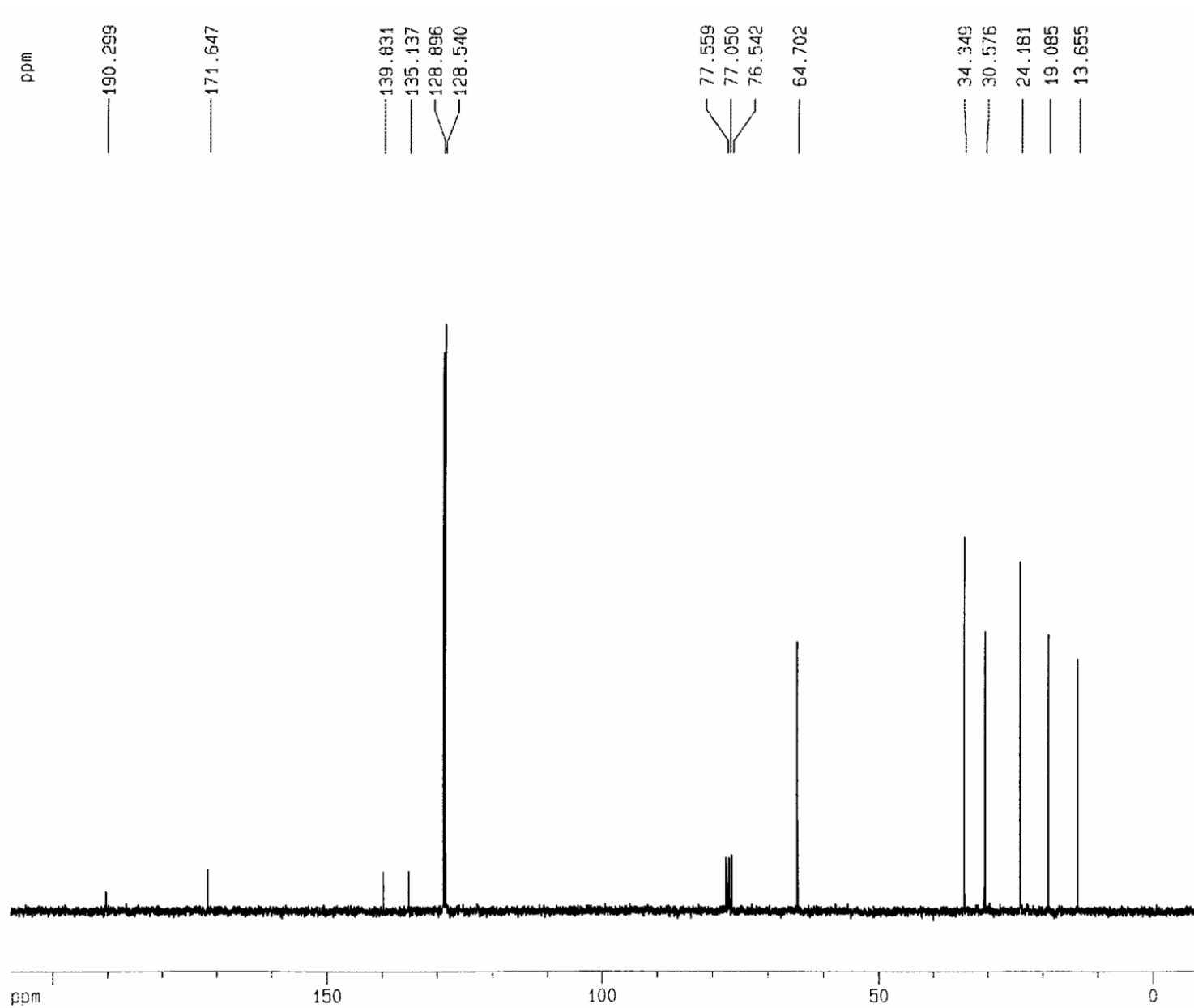




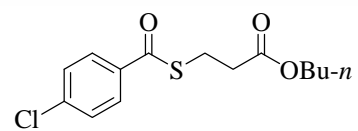
<sup>1</sup>H NMR spectrum of (12)

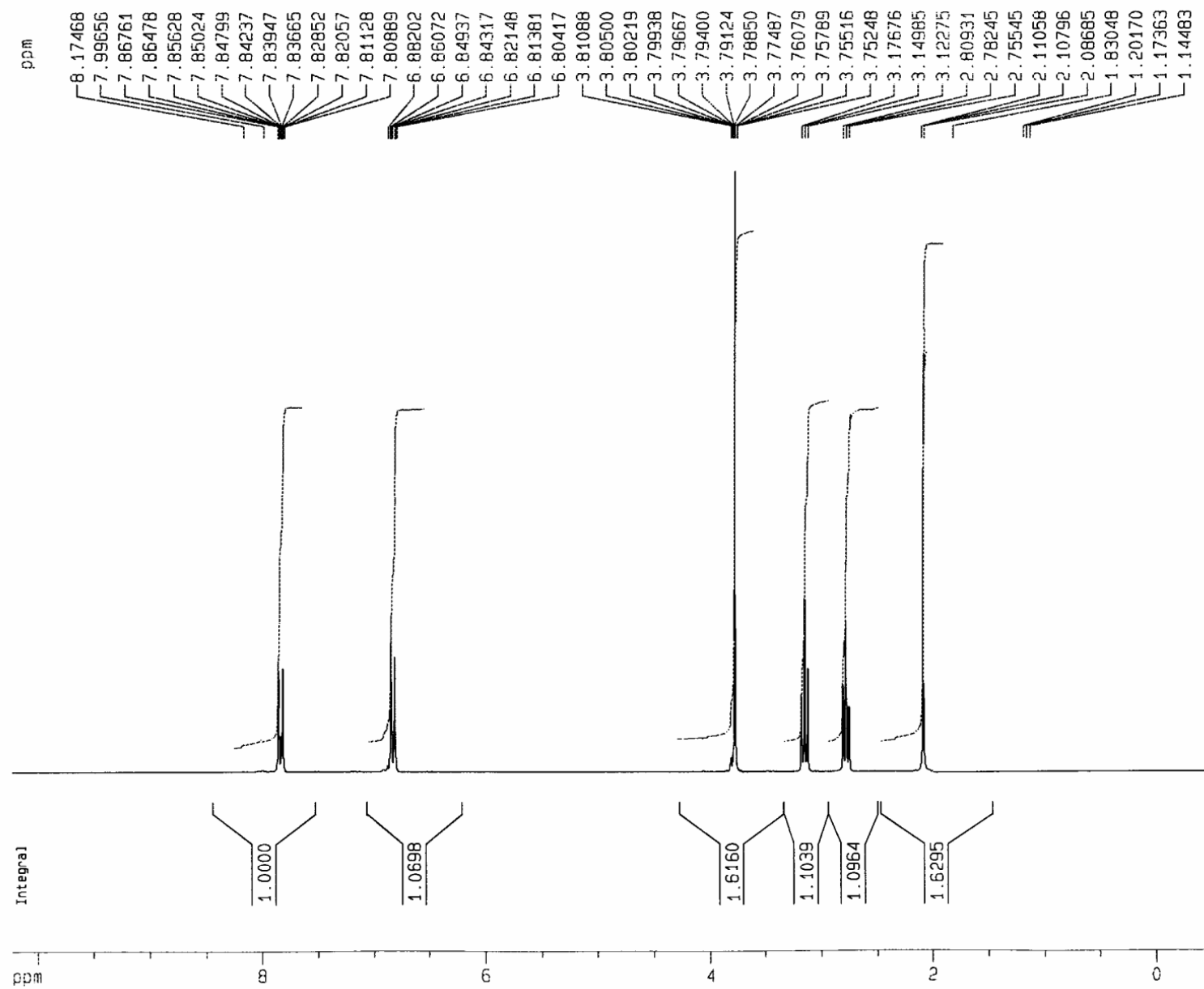




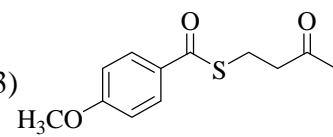


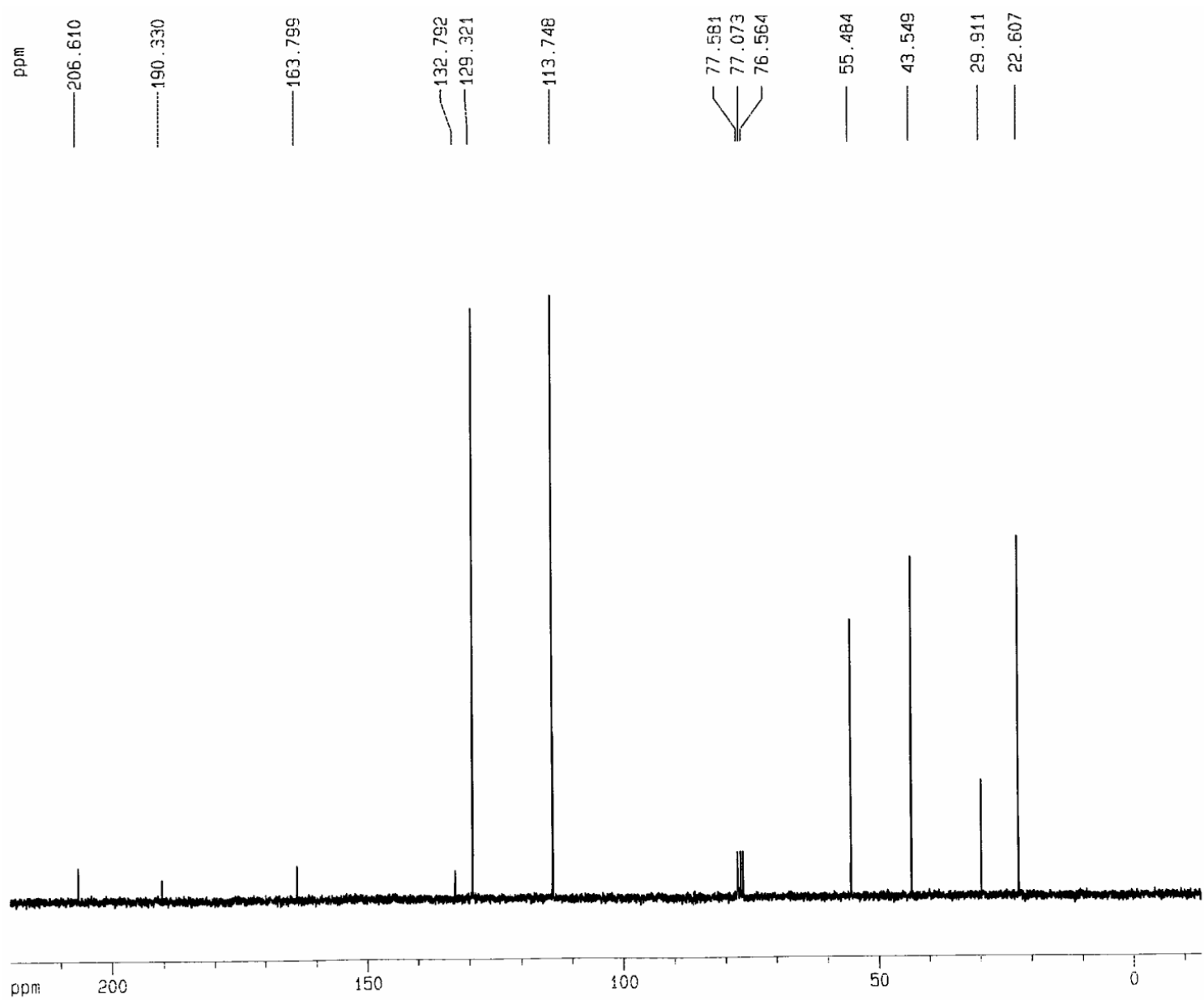
$^{13}\text{C}$  NMR spectrum of (12)



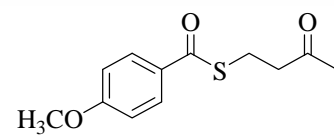


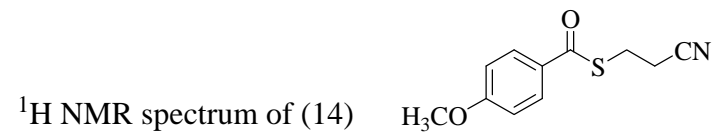
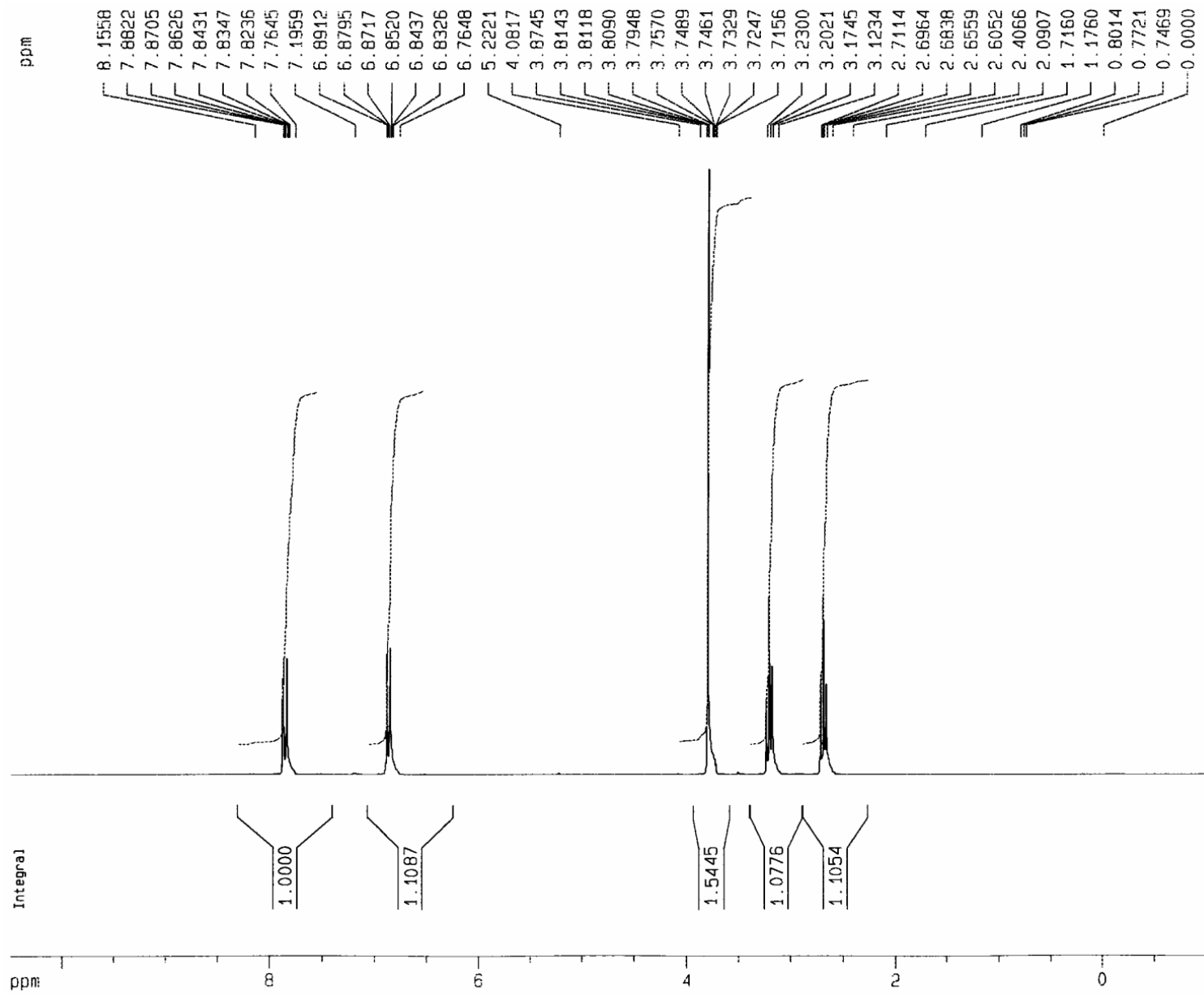
<sup>1</sup>H NMR spectrum of (13)

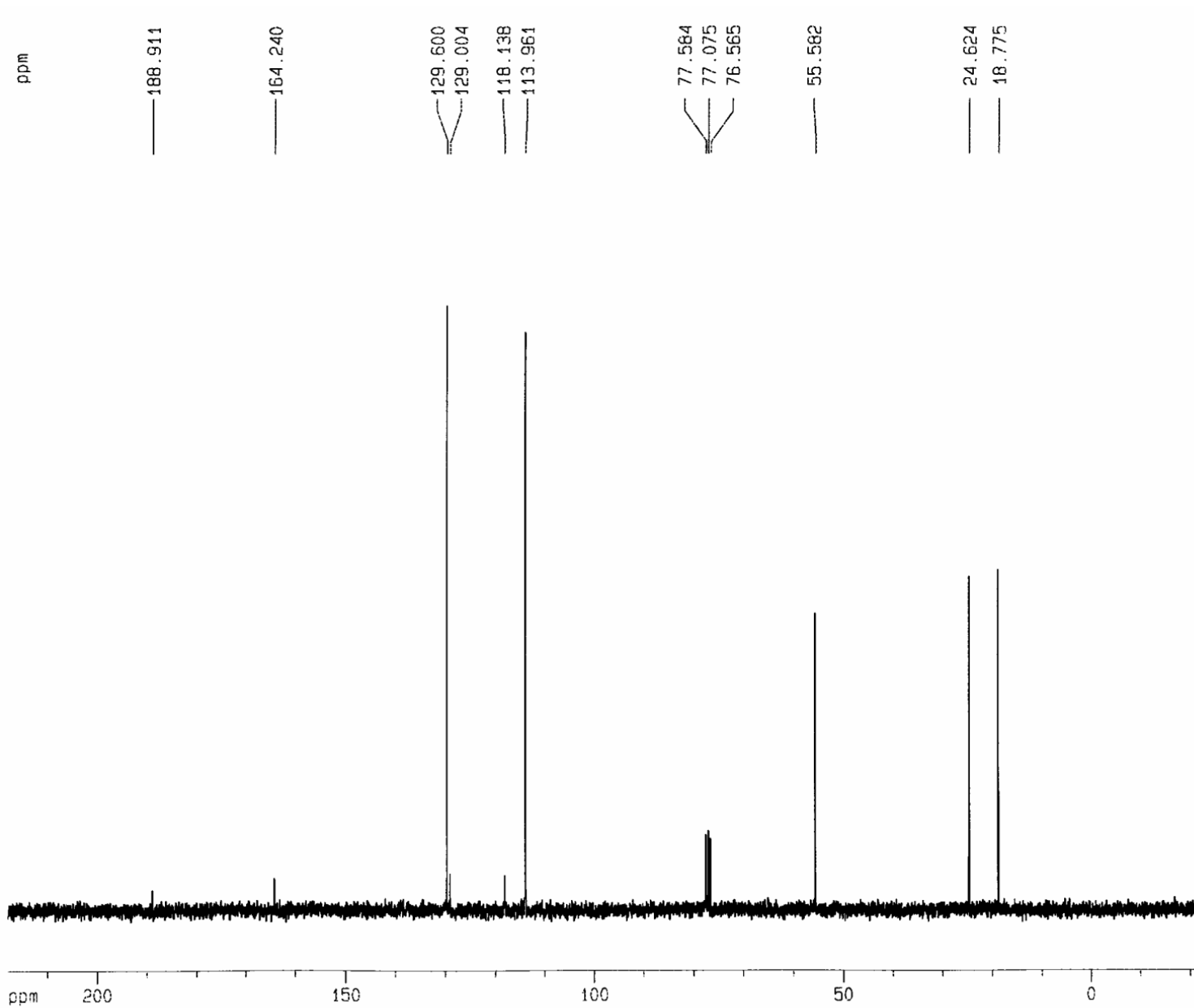




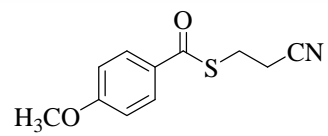
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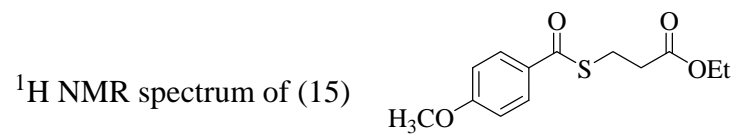
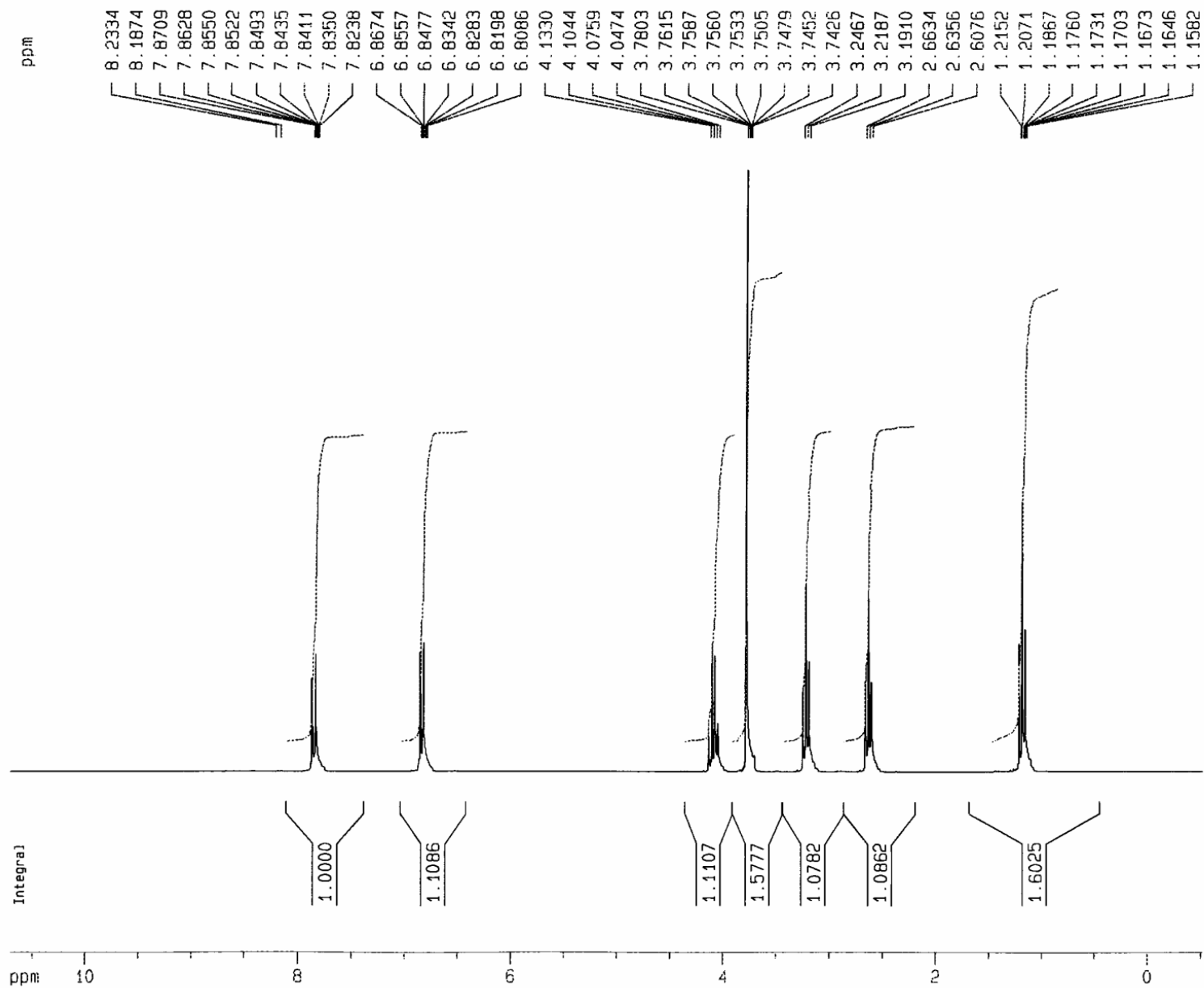


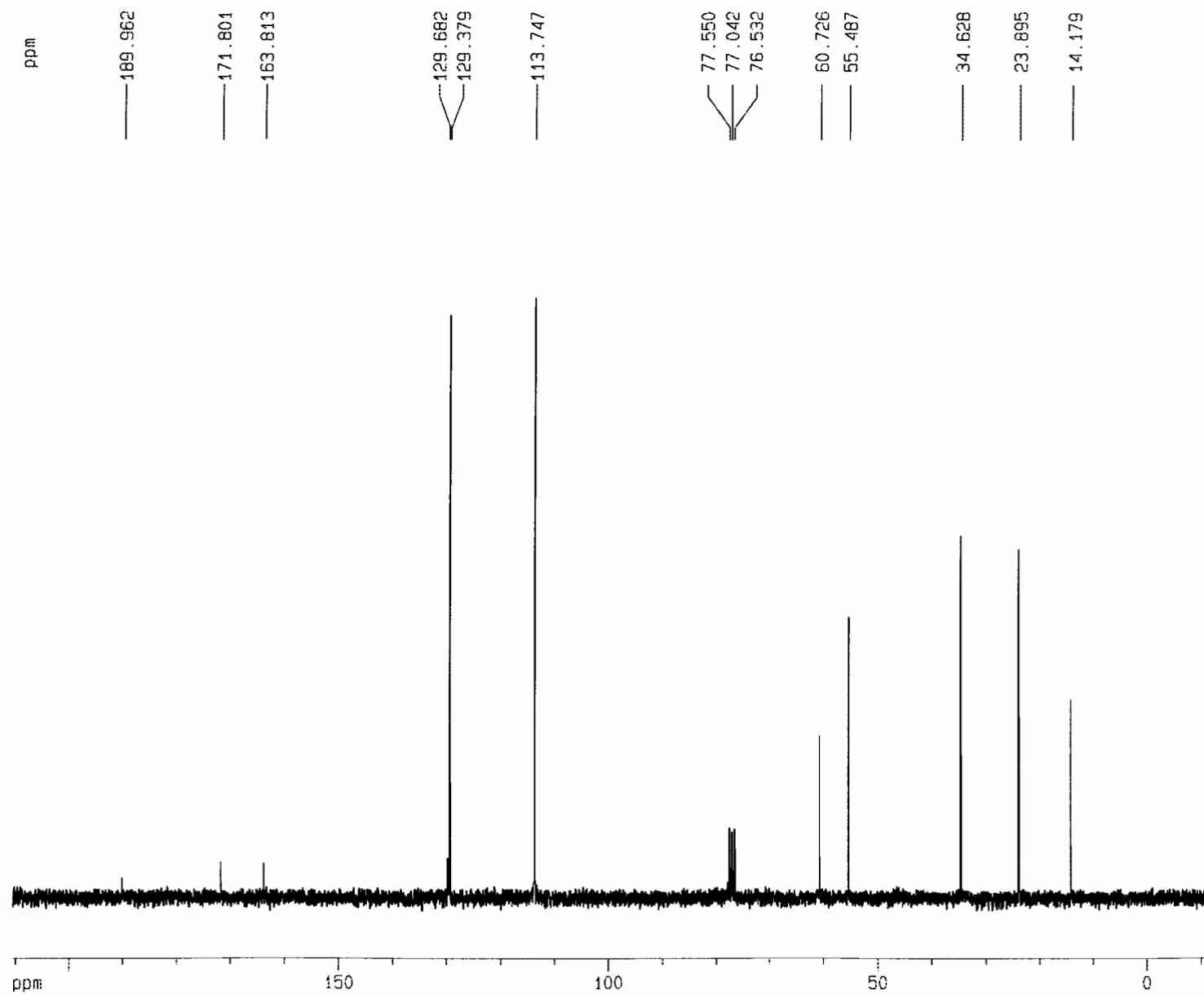




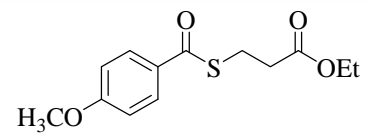
$^{13}\text{C}$  NMR spectrum of (14)

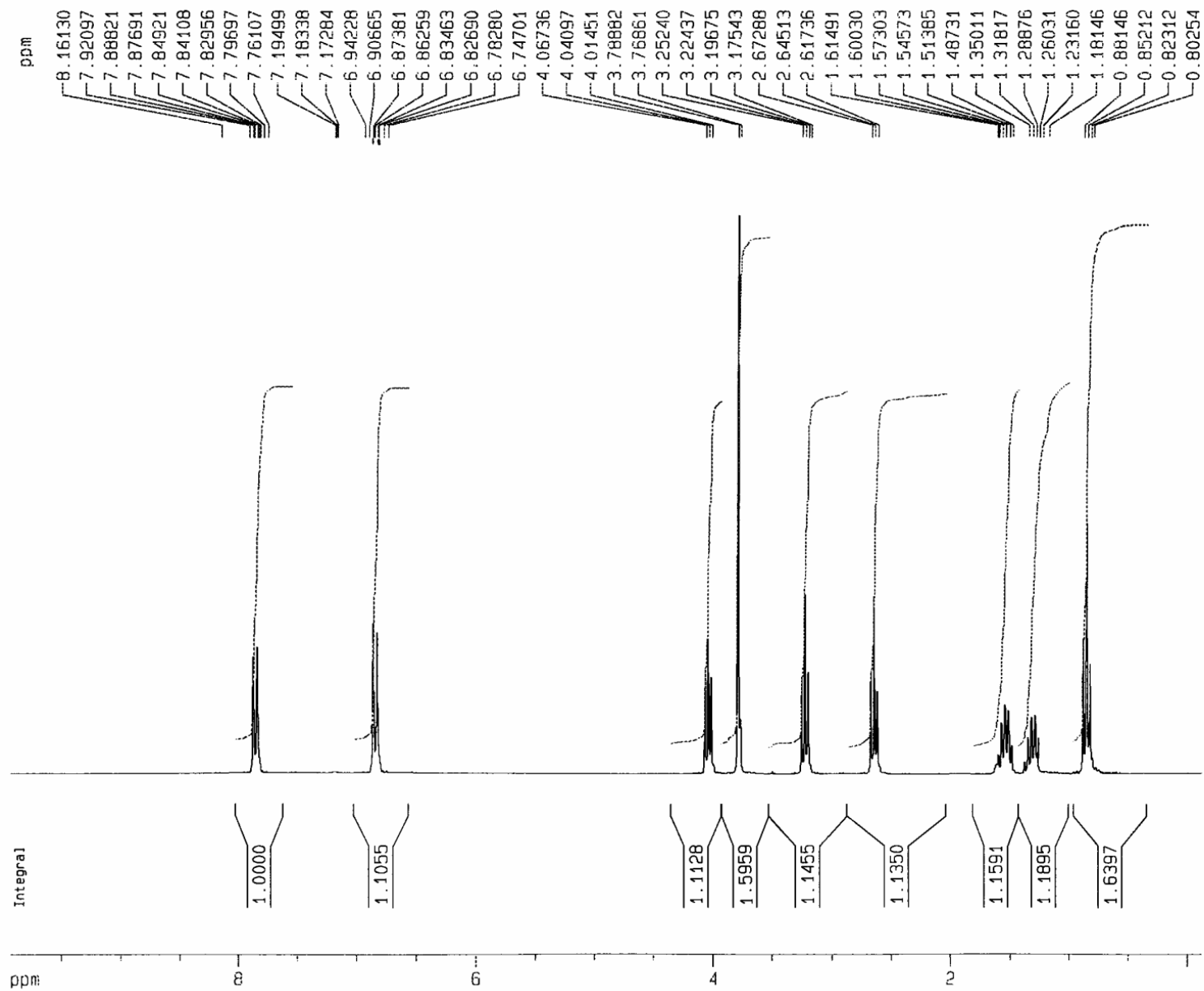




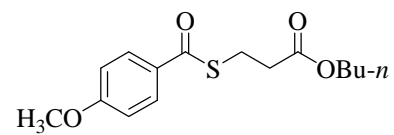


$^{13}\text{C}$  NMR spectrum of (15)

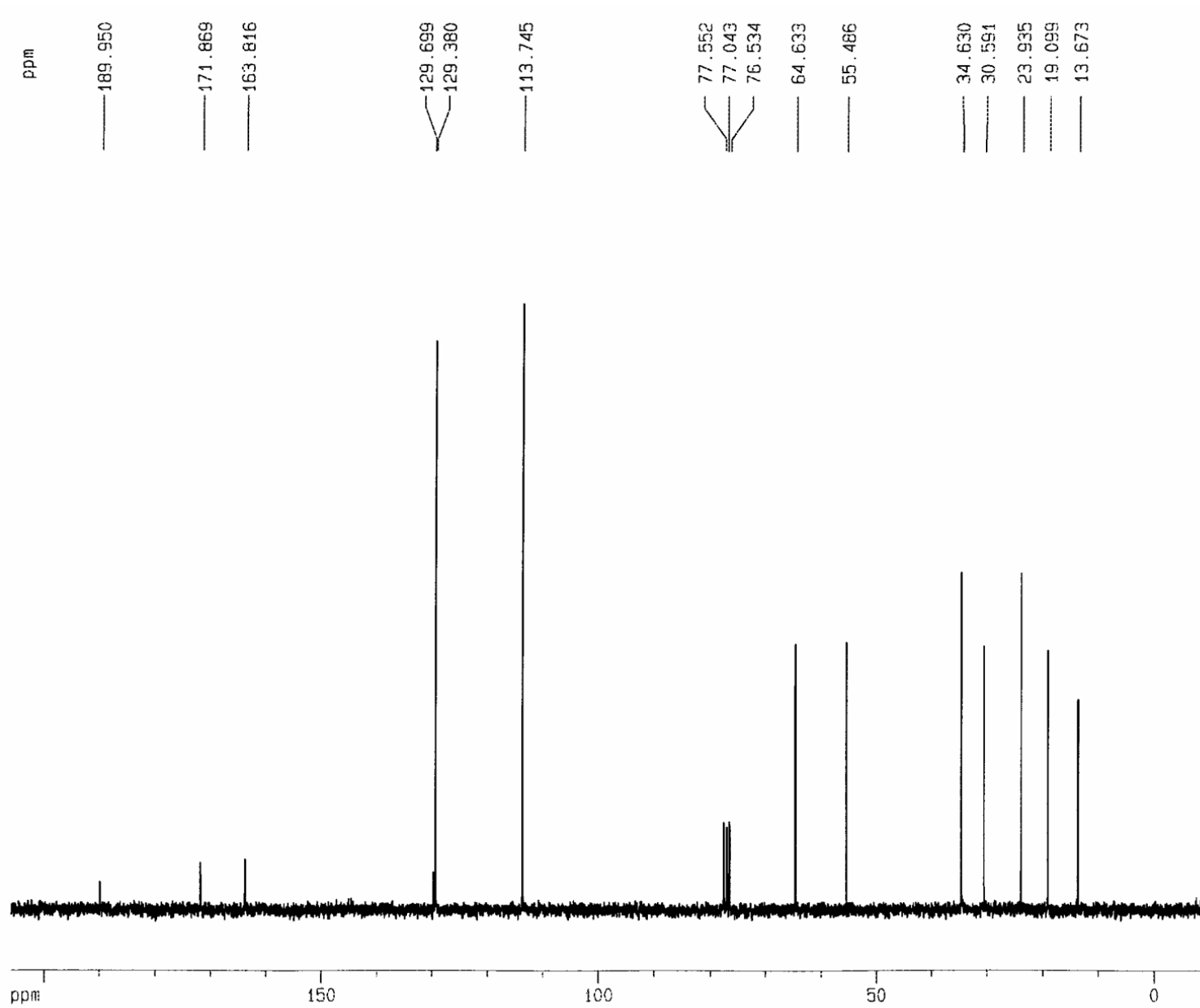




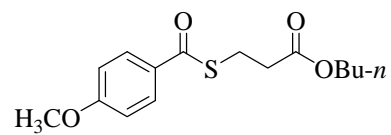
<sup>1</sup>H NMR spectrum of (16)

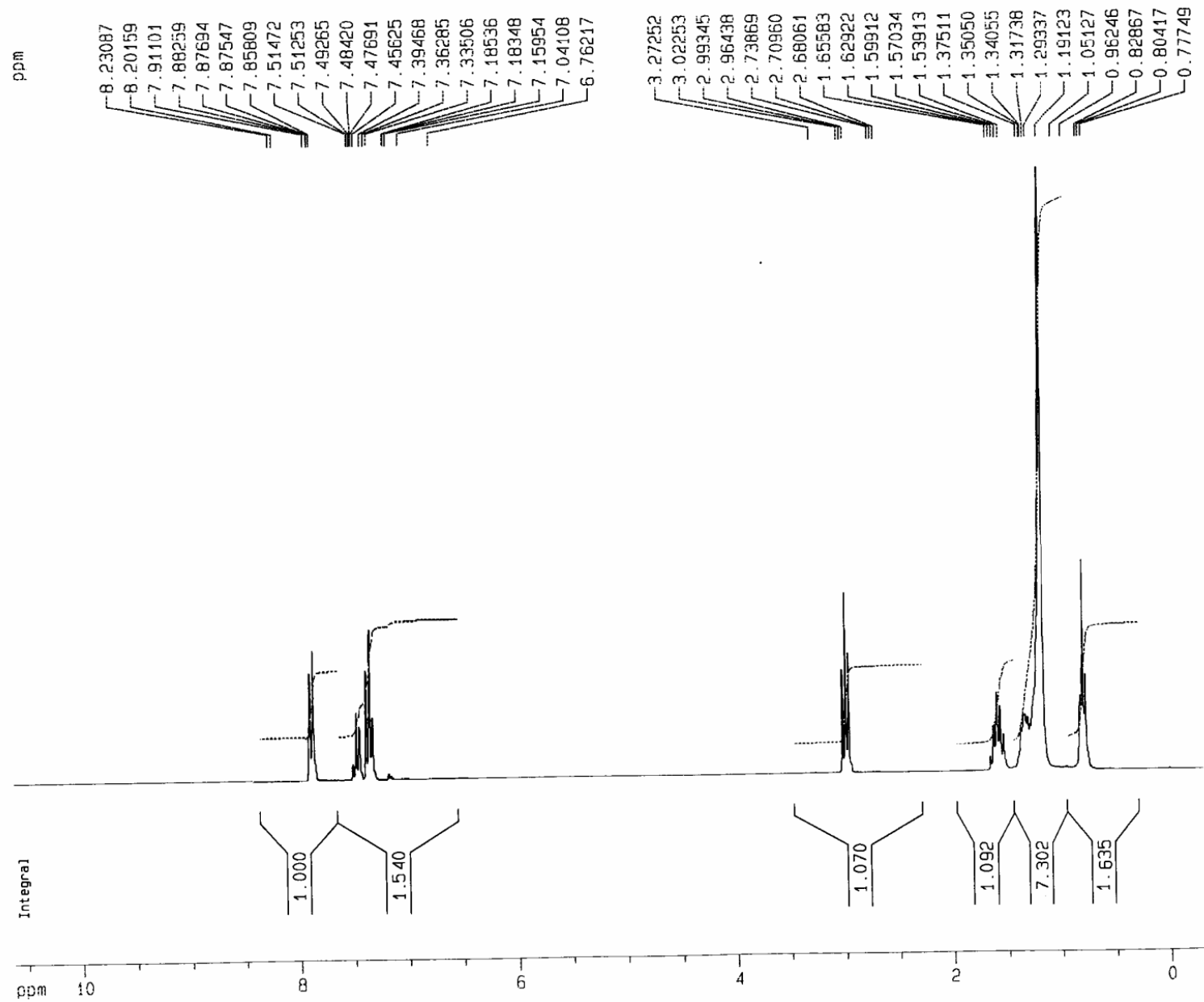




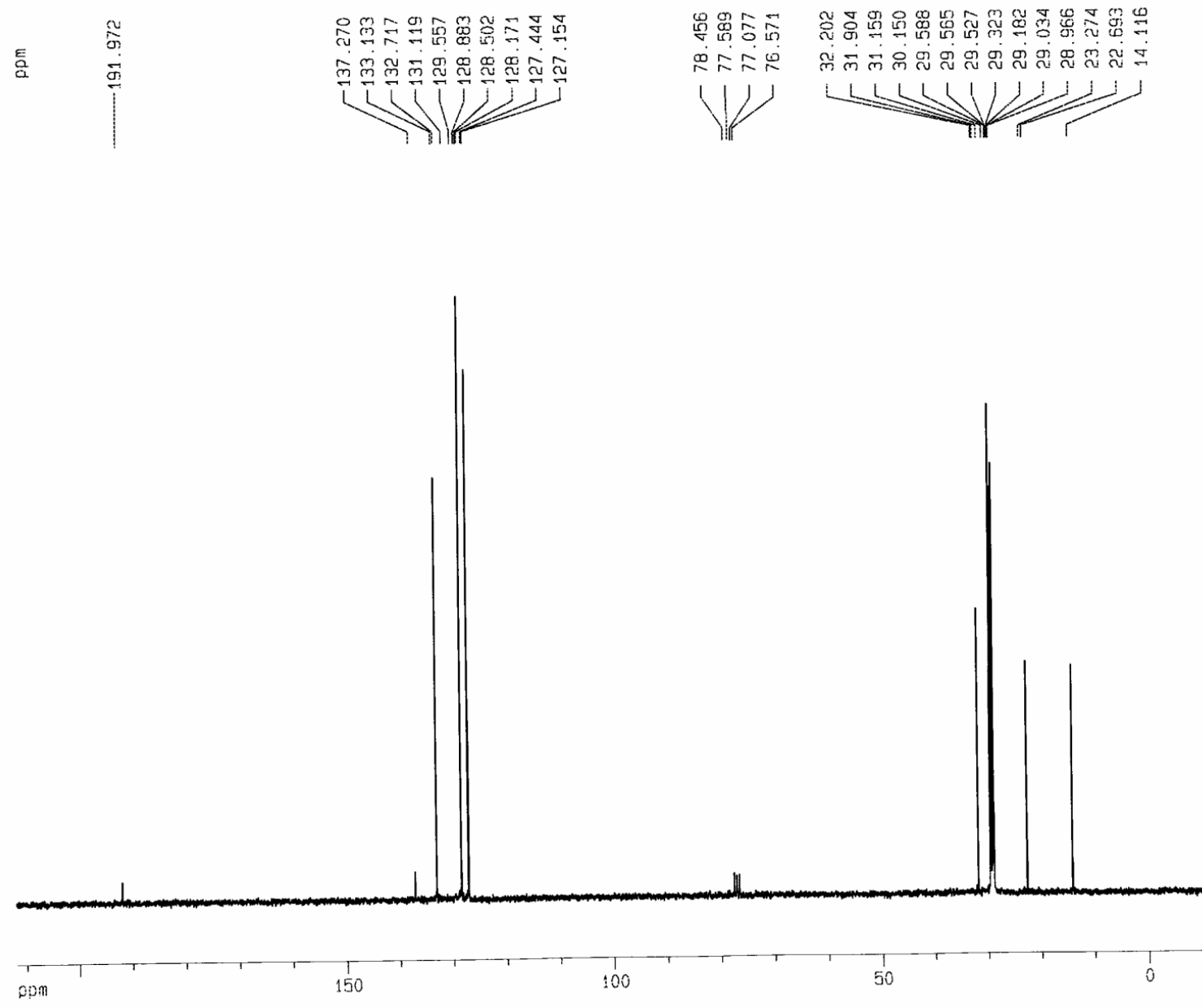


$^{13}\text{C}$  NMR spectrum of (16)

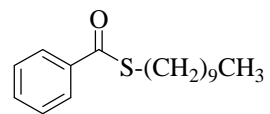


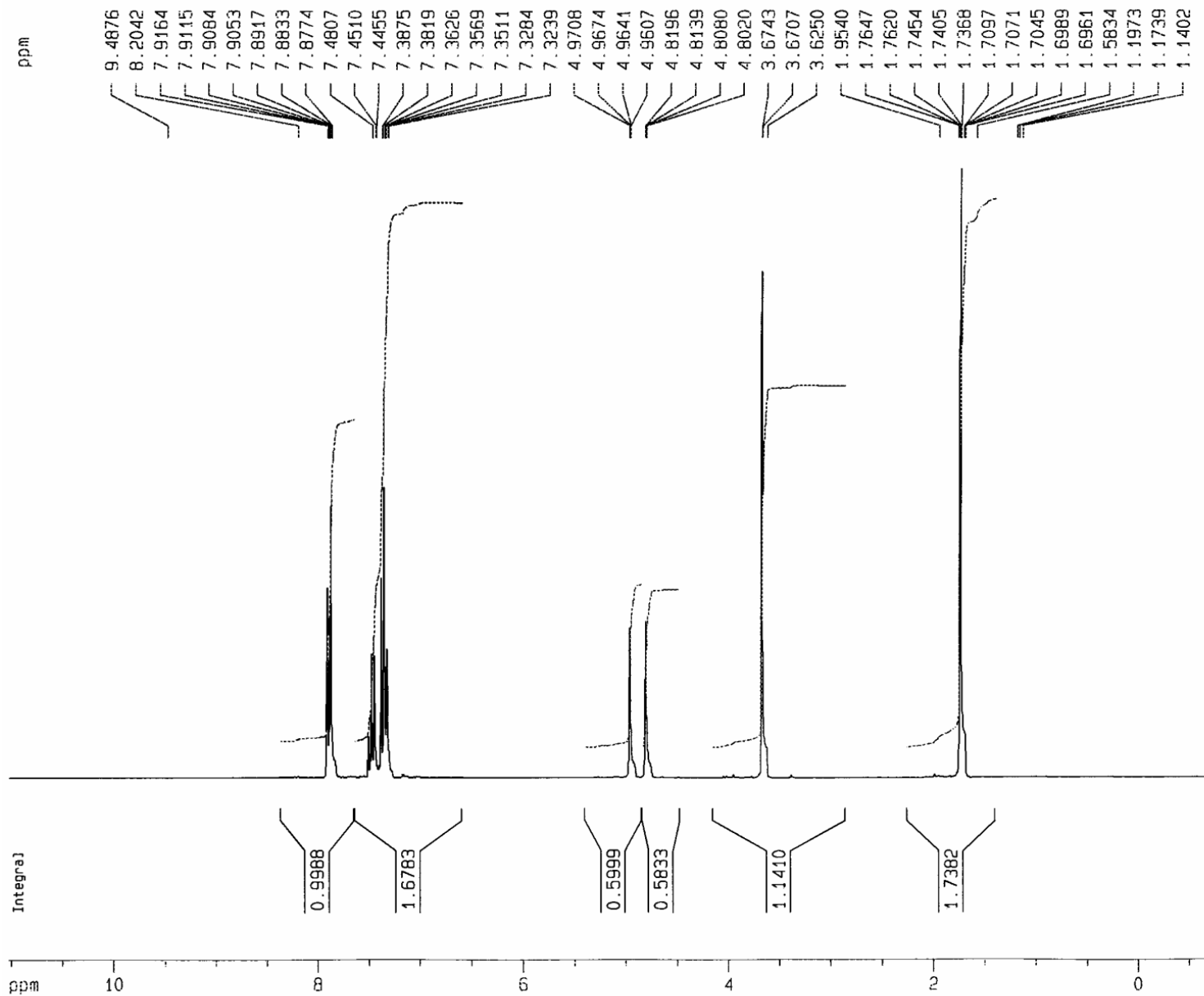


<sup>1</sup>H NMR spectrum of (17) CCCCCCCCCCCC(=O)c1ccccc1

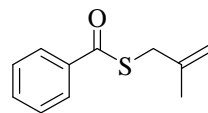


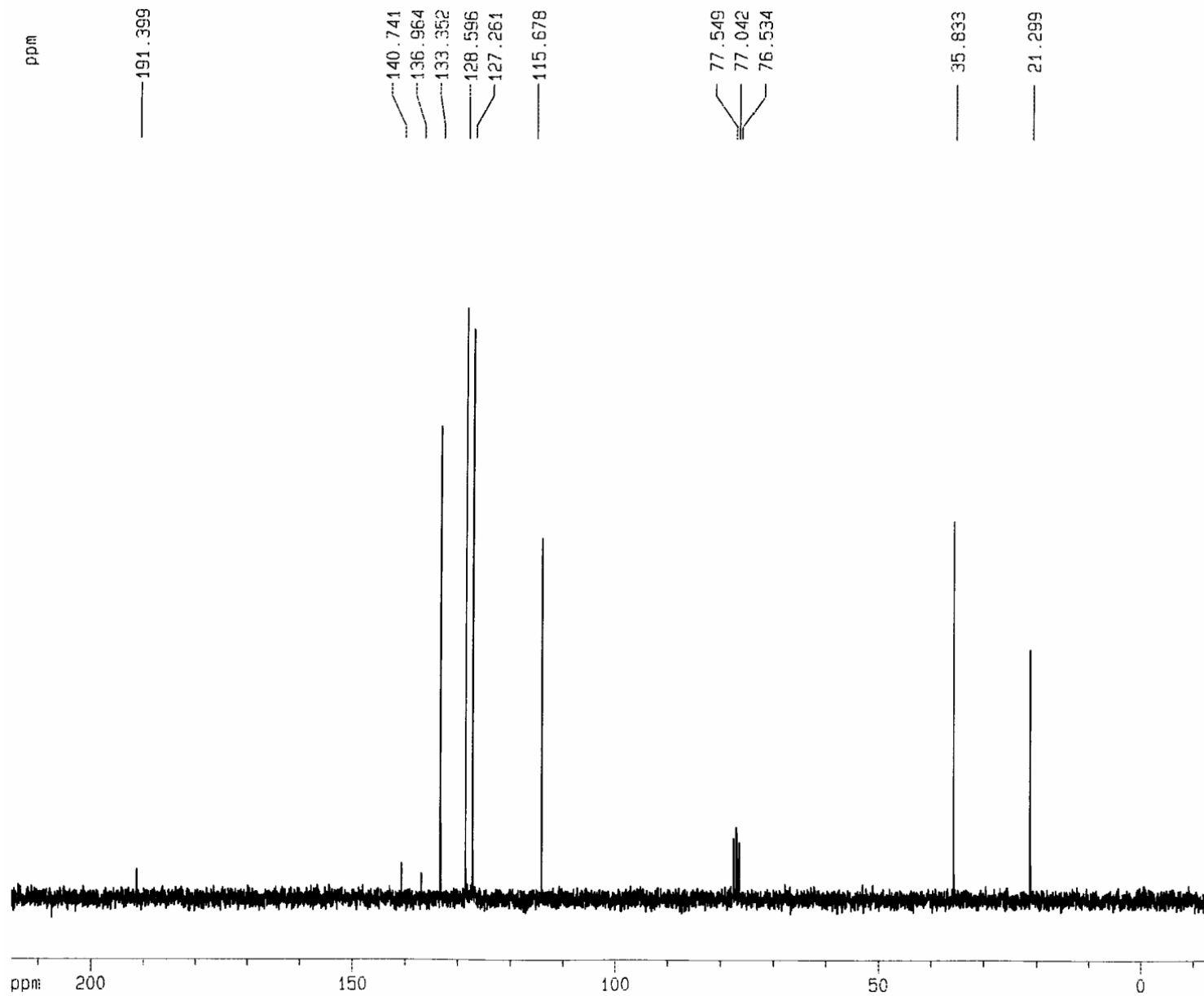
<sup>13</sup>C NMR spectrum of (17)



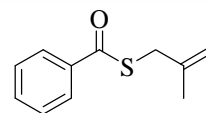


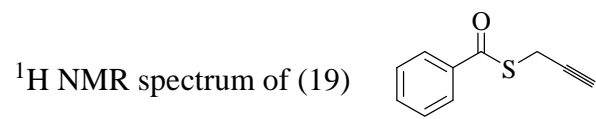
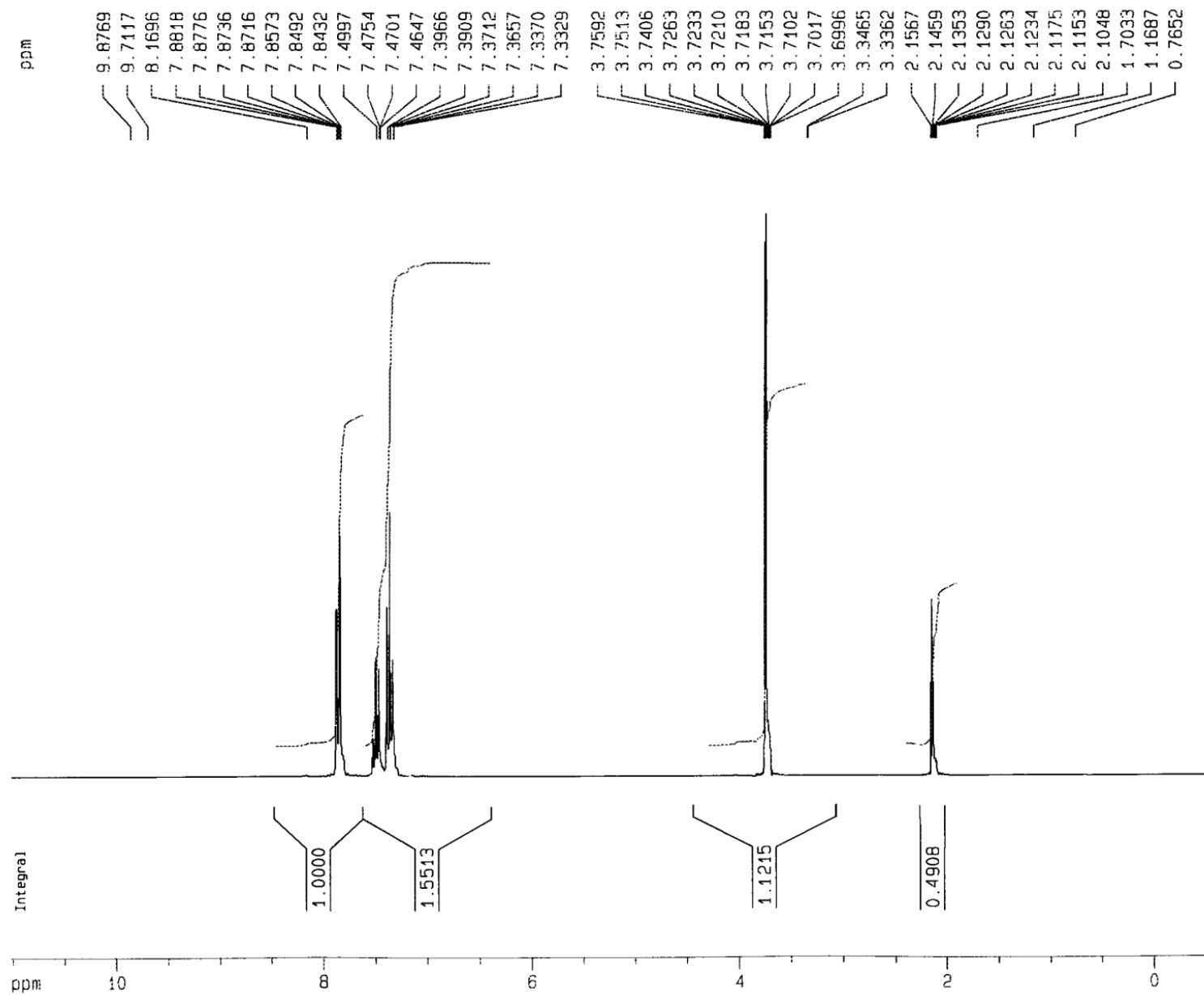
<sup>1</sup>H NMR spectrum of (18)

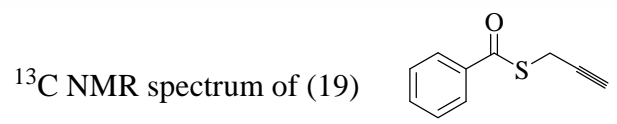
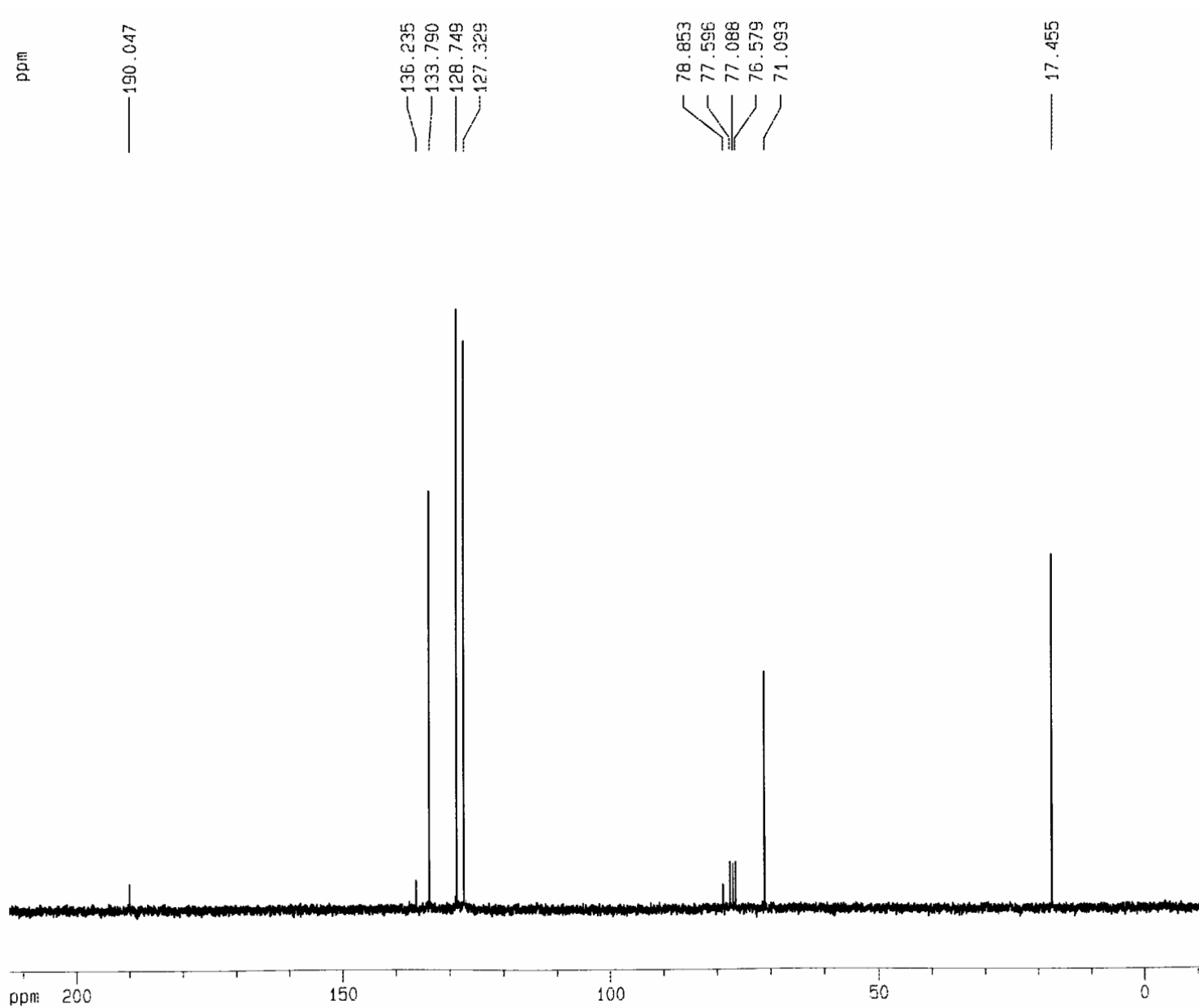


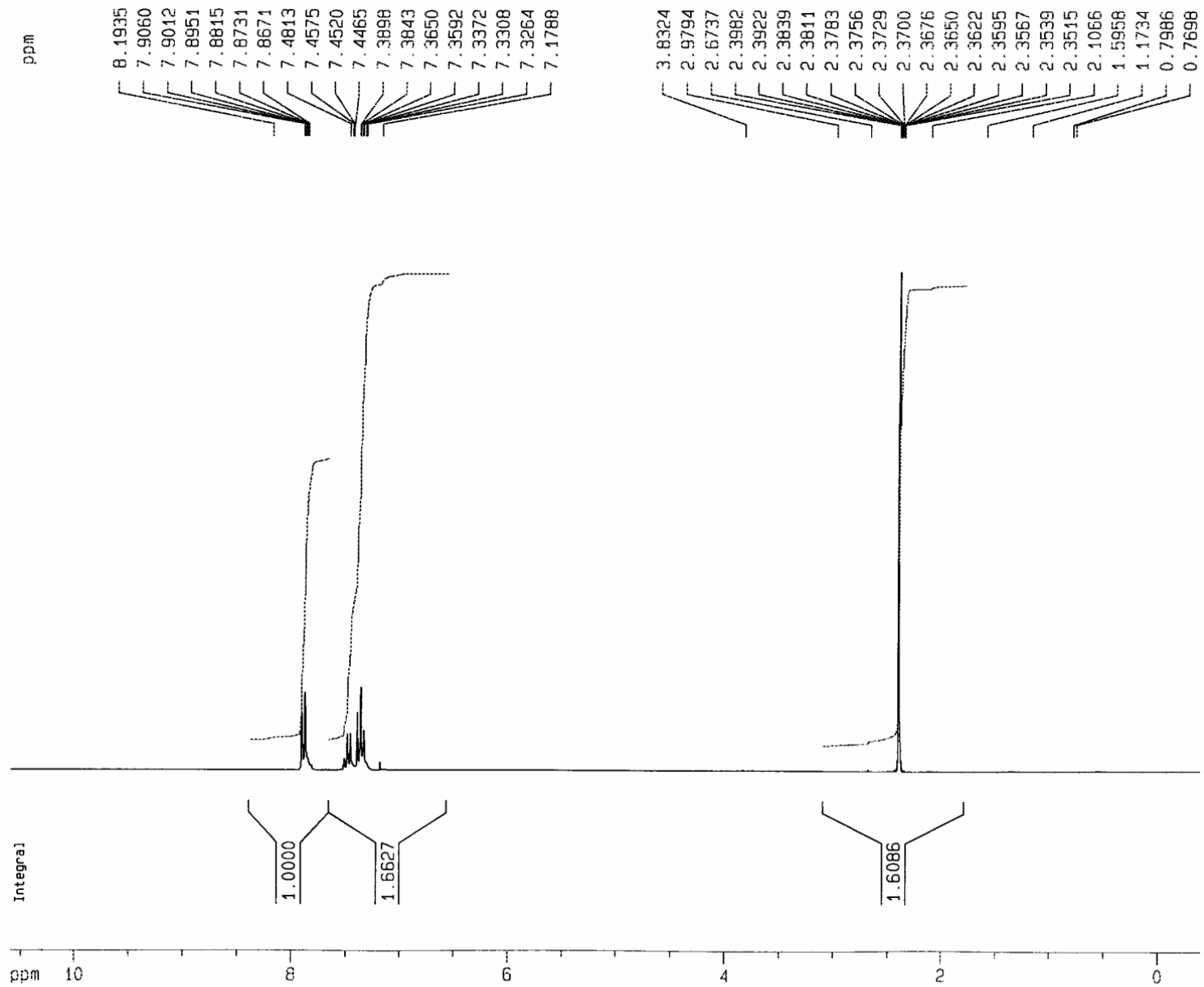


$^{13}\text{C}$  NMR spectrum of (18)



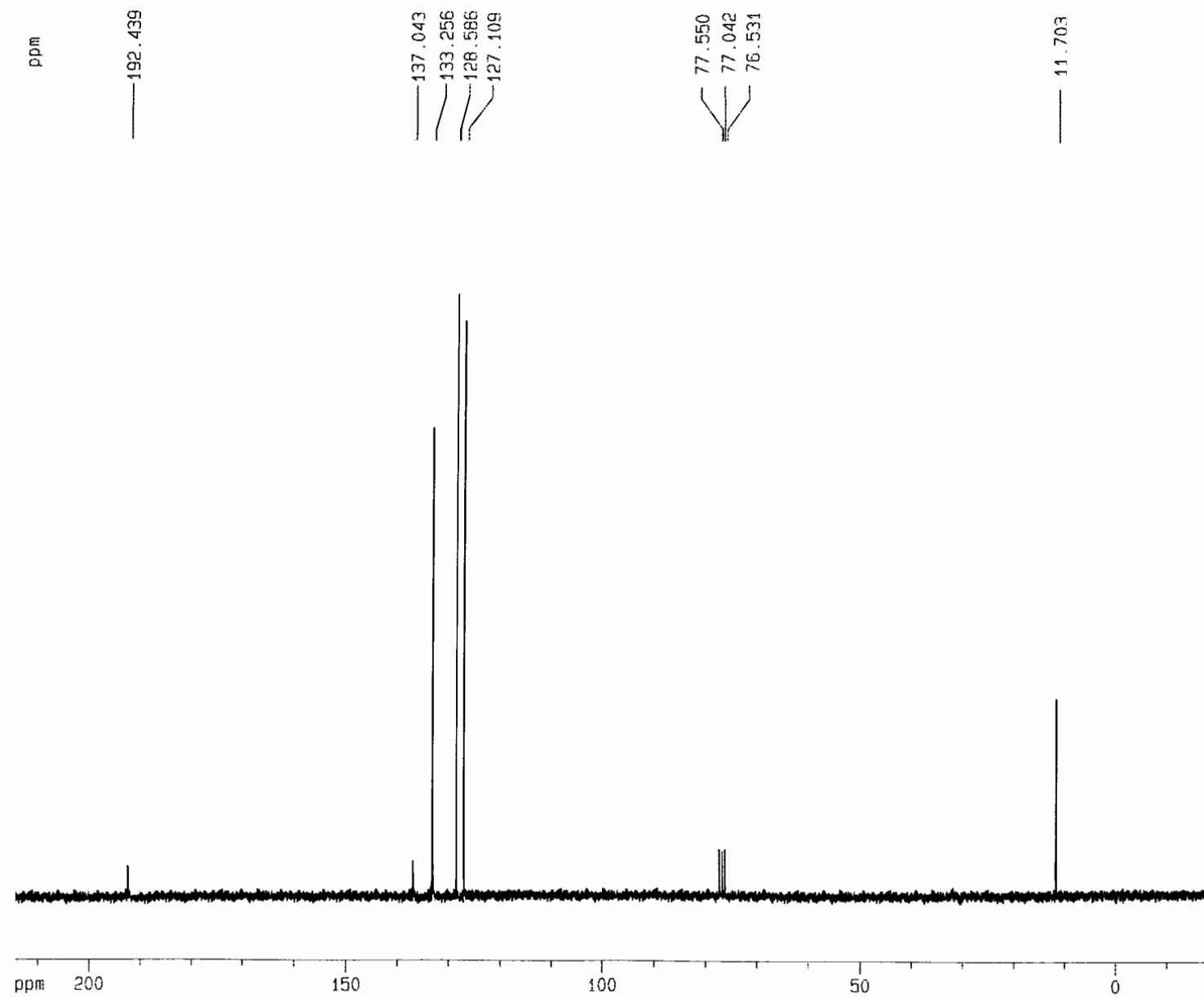




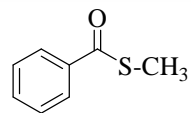


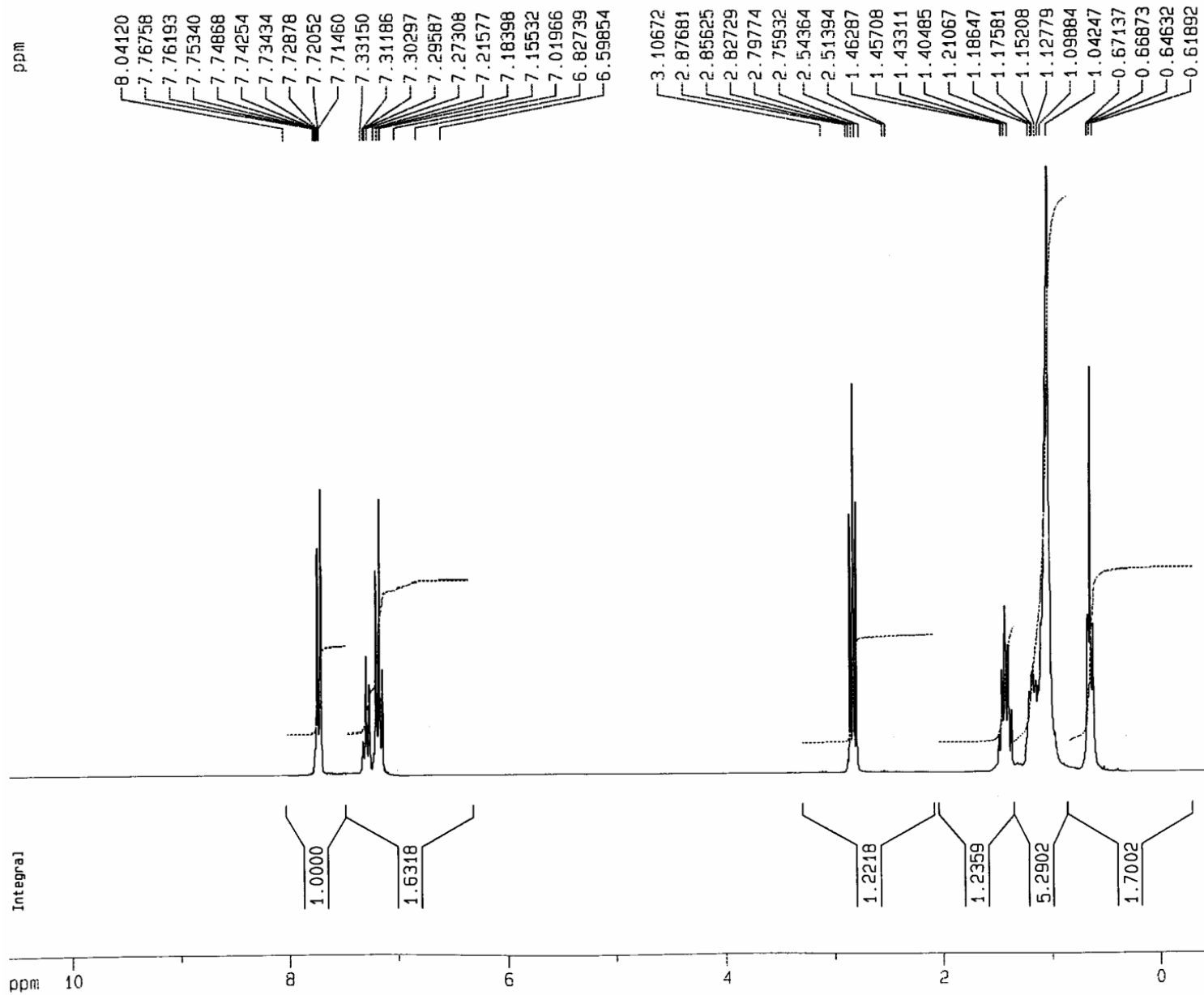
$^1\text{H}$  NMR spectrum of (20) CC(=O)c1ccccc1



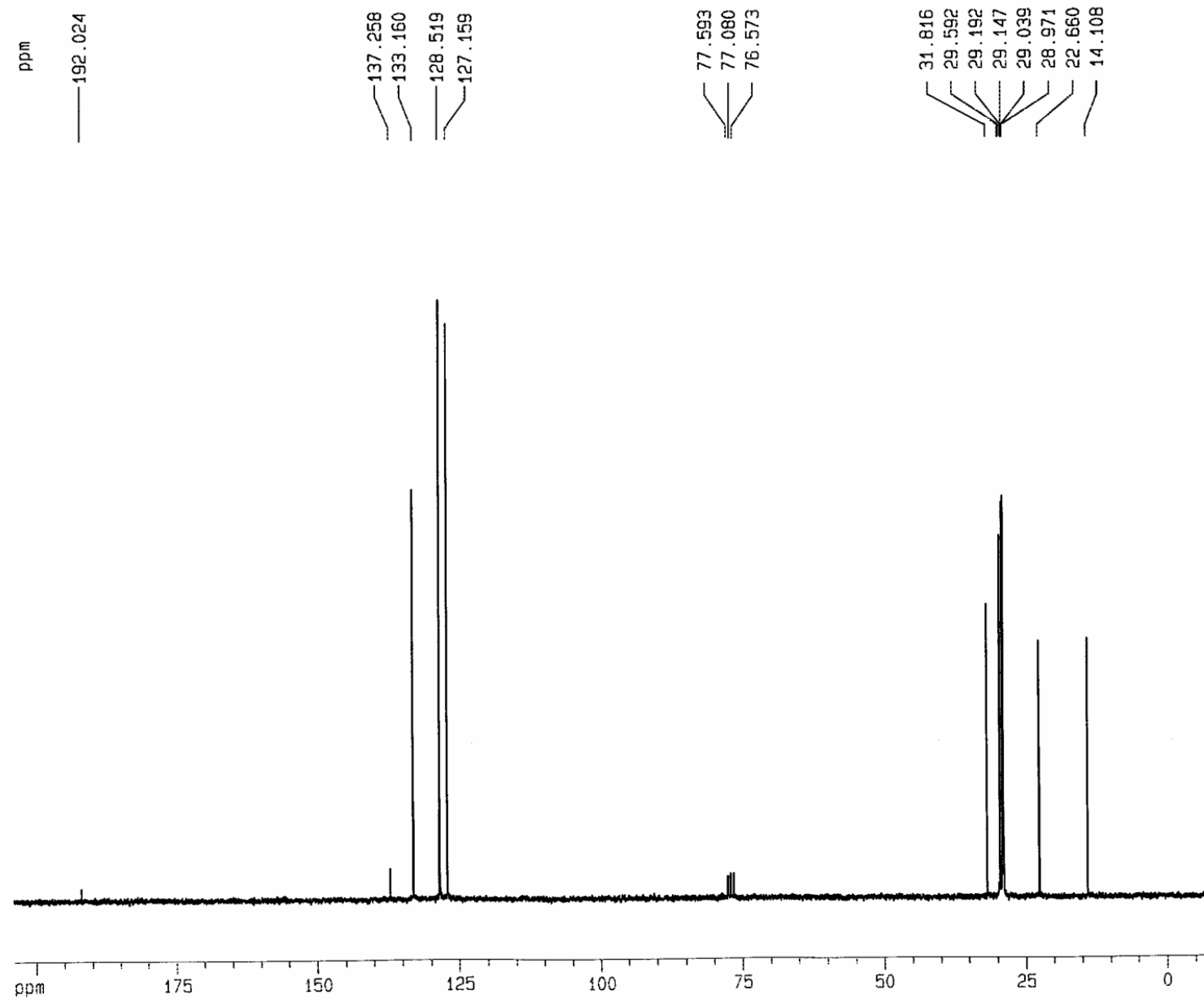


$^{13}\text{C}$  NMR spectrum of (20)

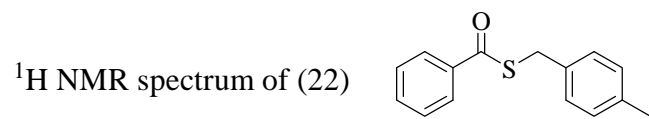
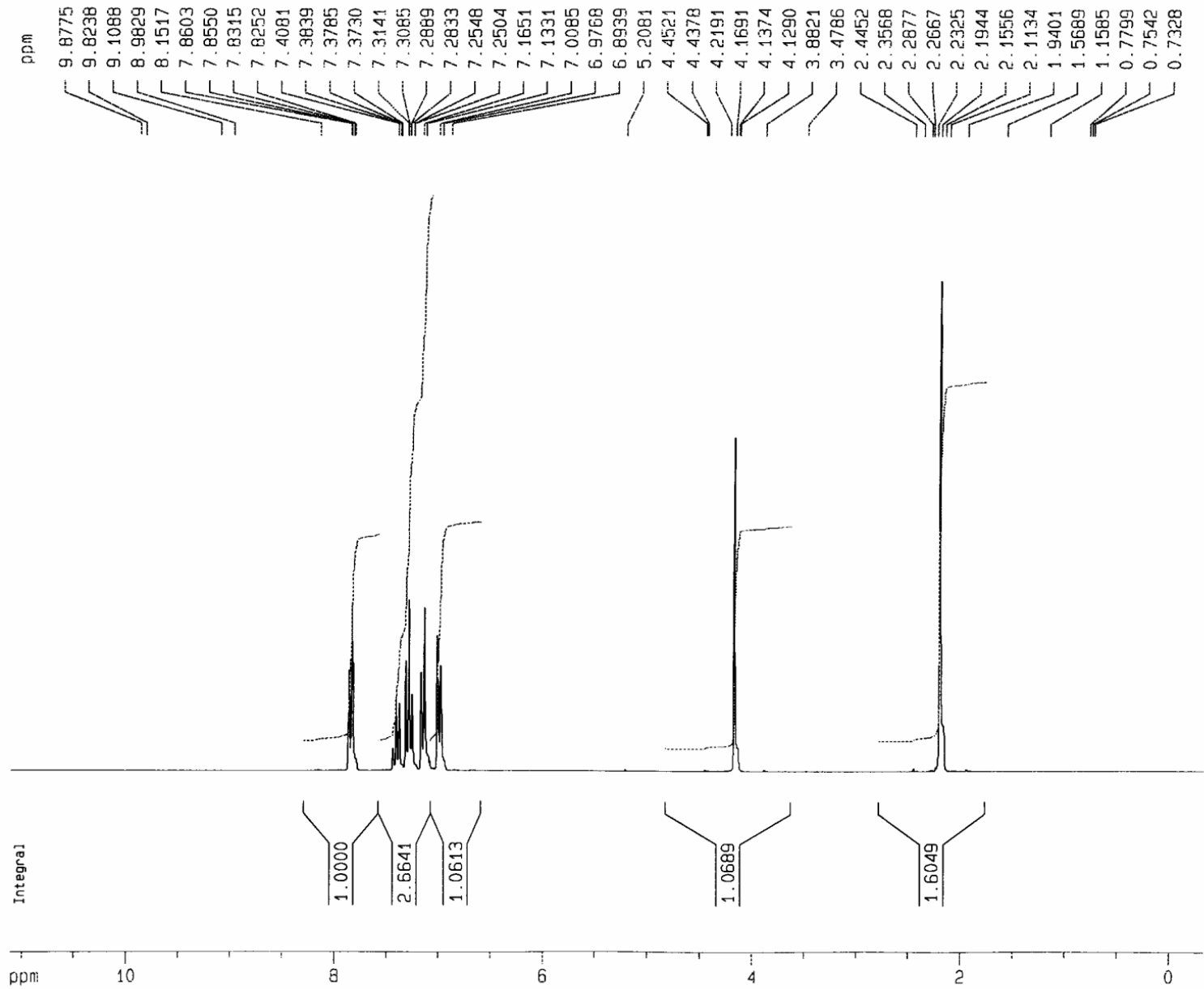


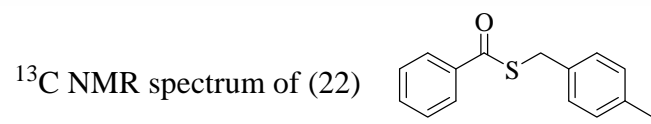
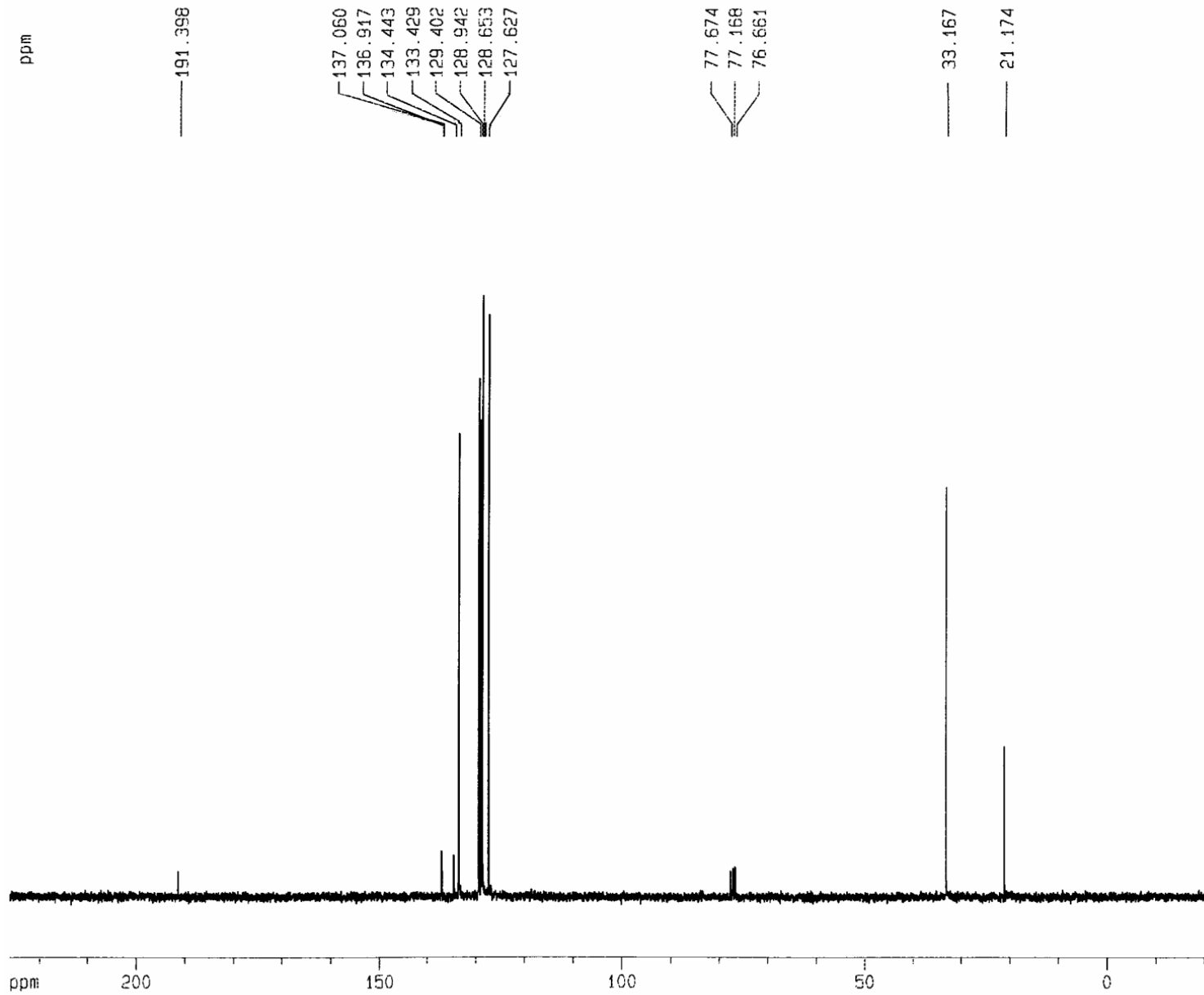


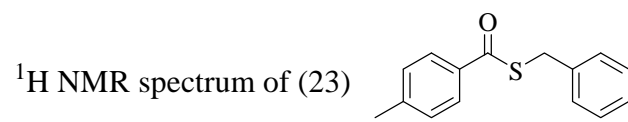
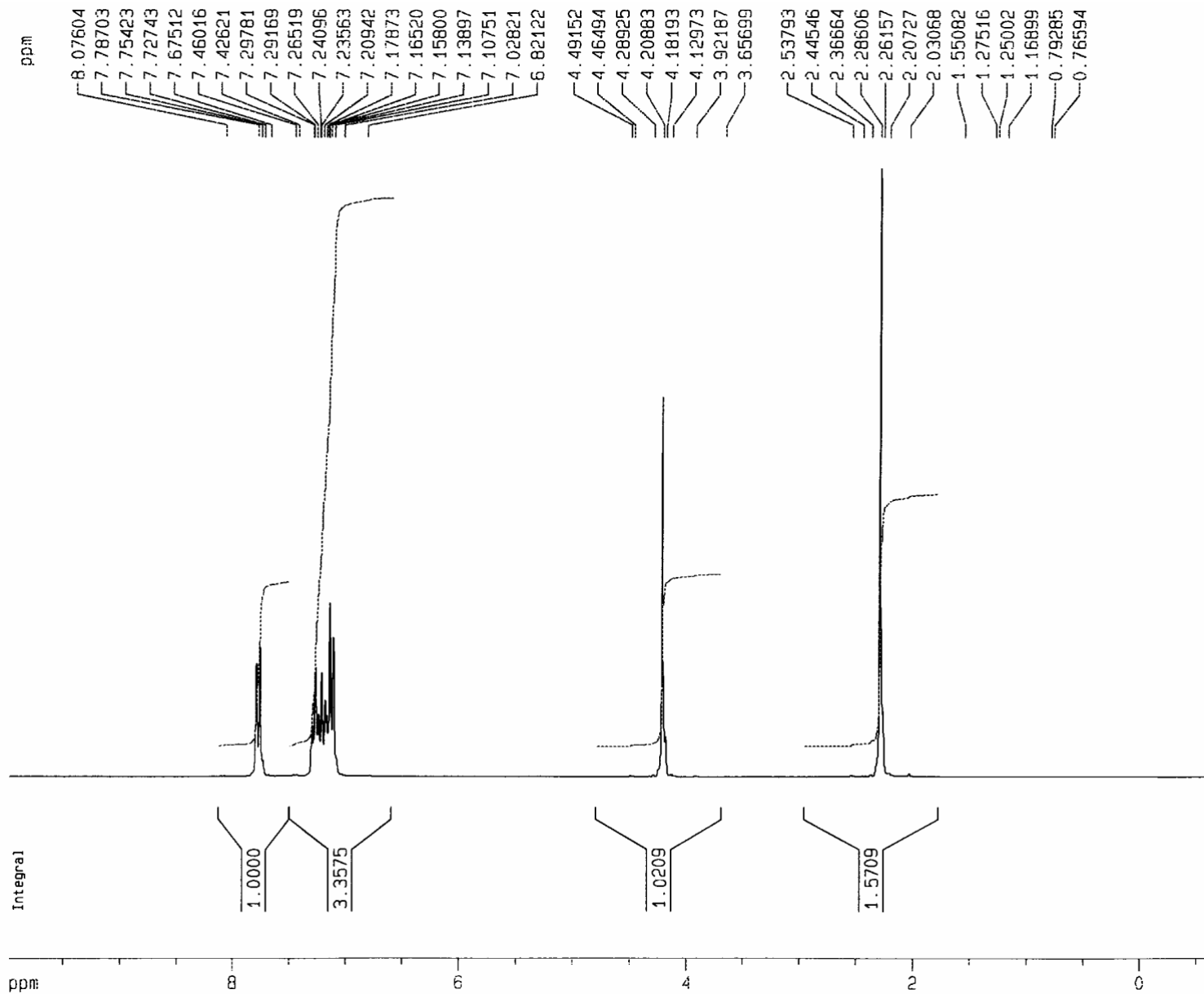
<sup>1</sup>H NMR spectrum of (21) CCCCCCCCSC(=O)c1ccccc1

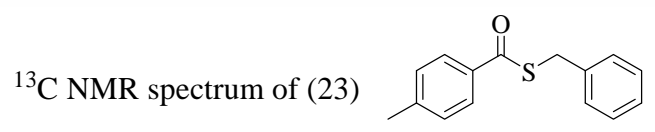
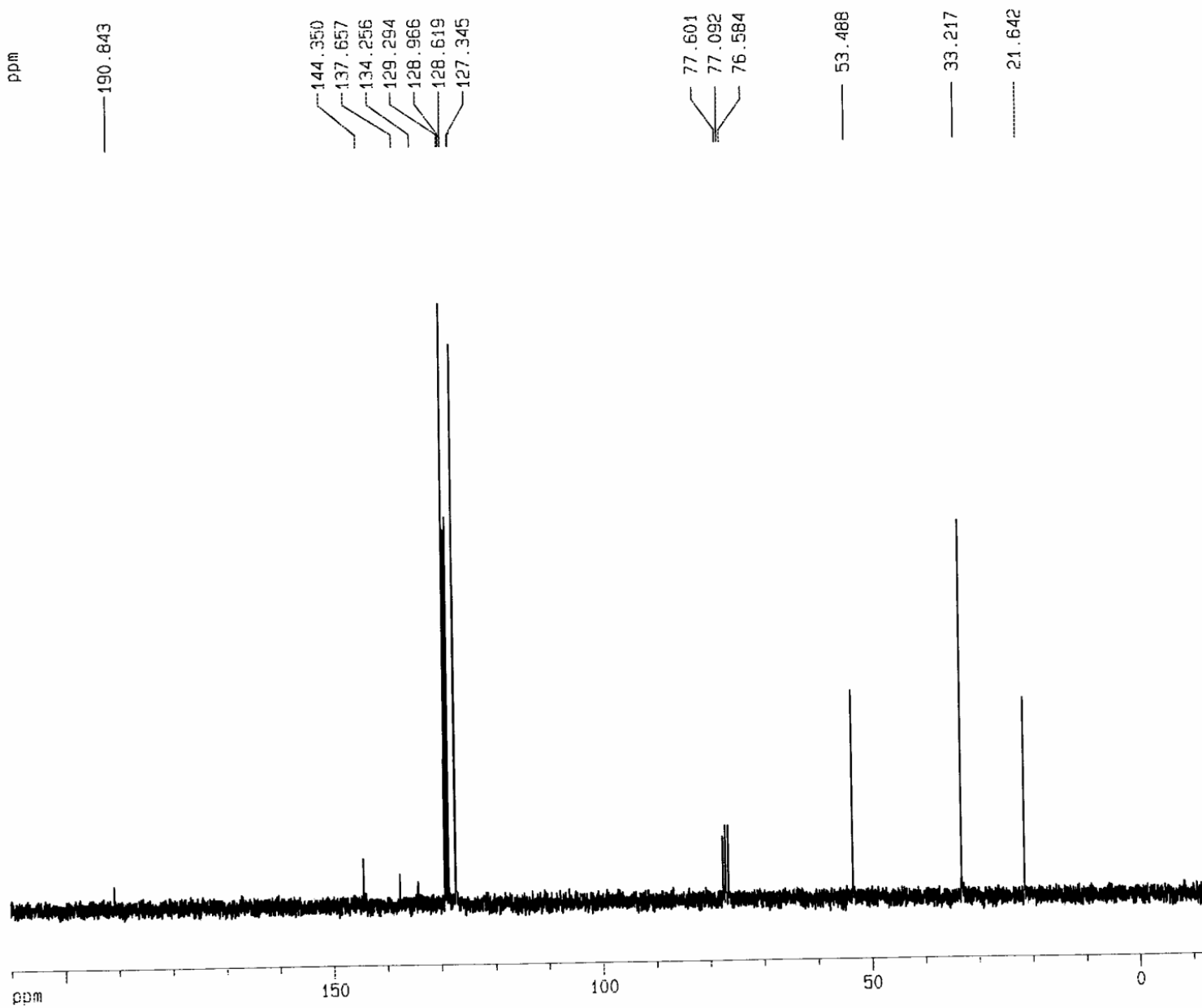


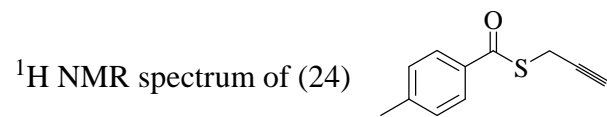
$^{13}\text{C}$  NMR spectrum of (21) CCCCCCCCSC(=O)c1ccccc1



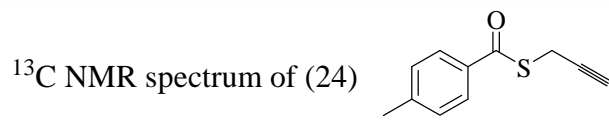
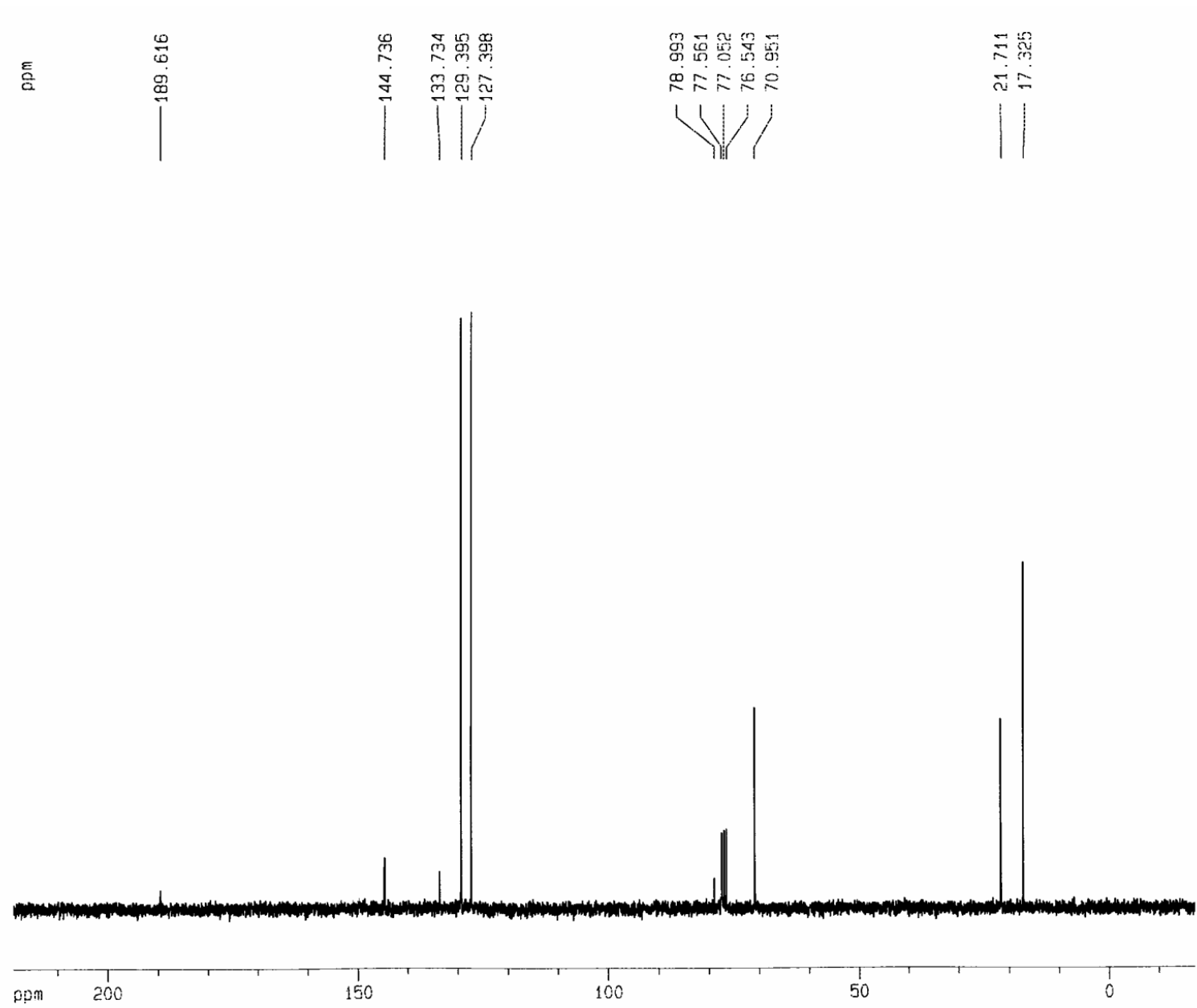


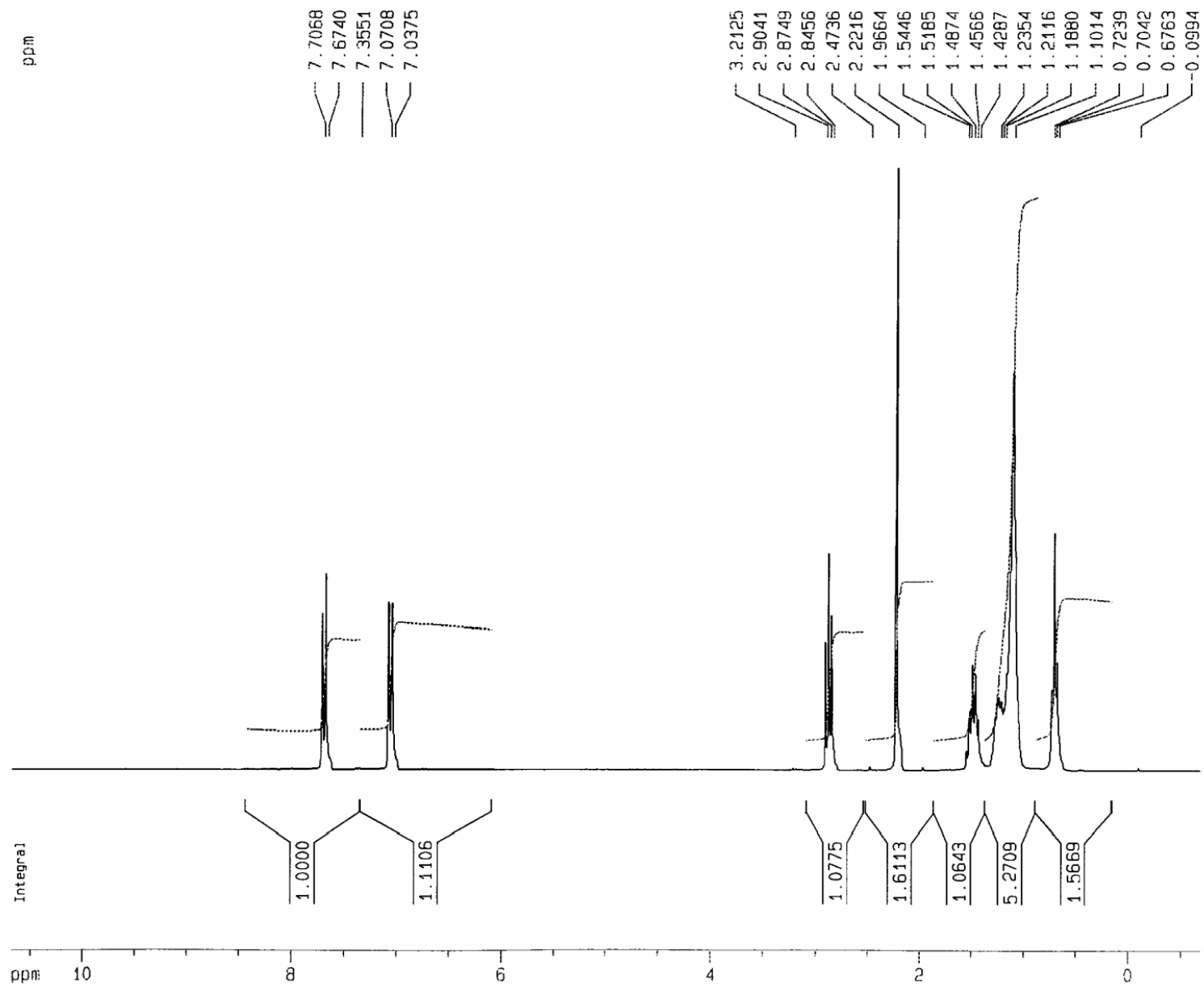




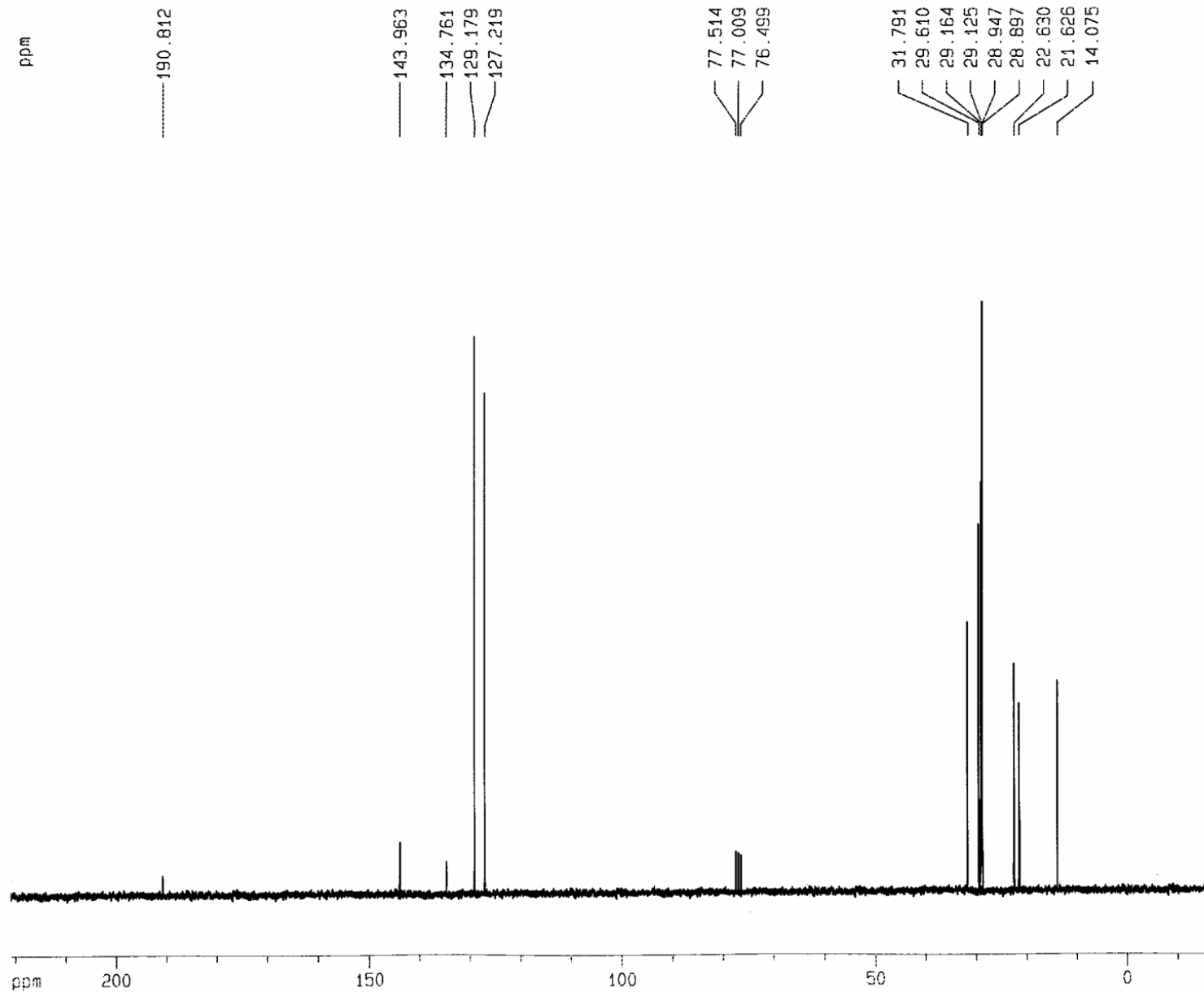




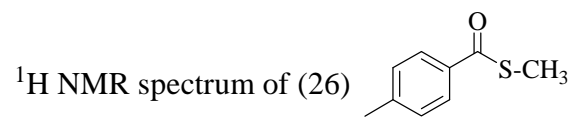
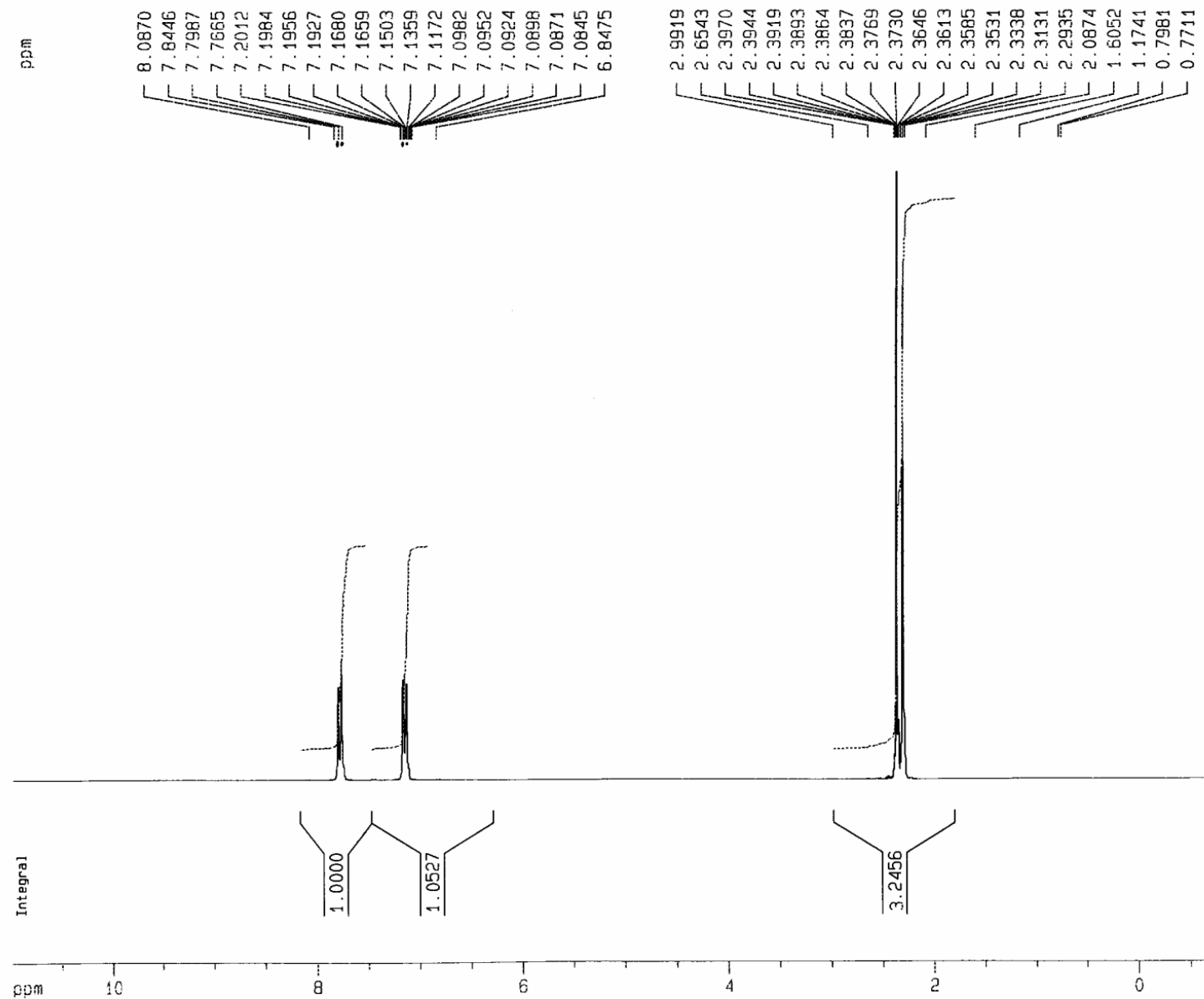


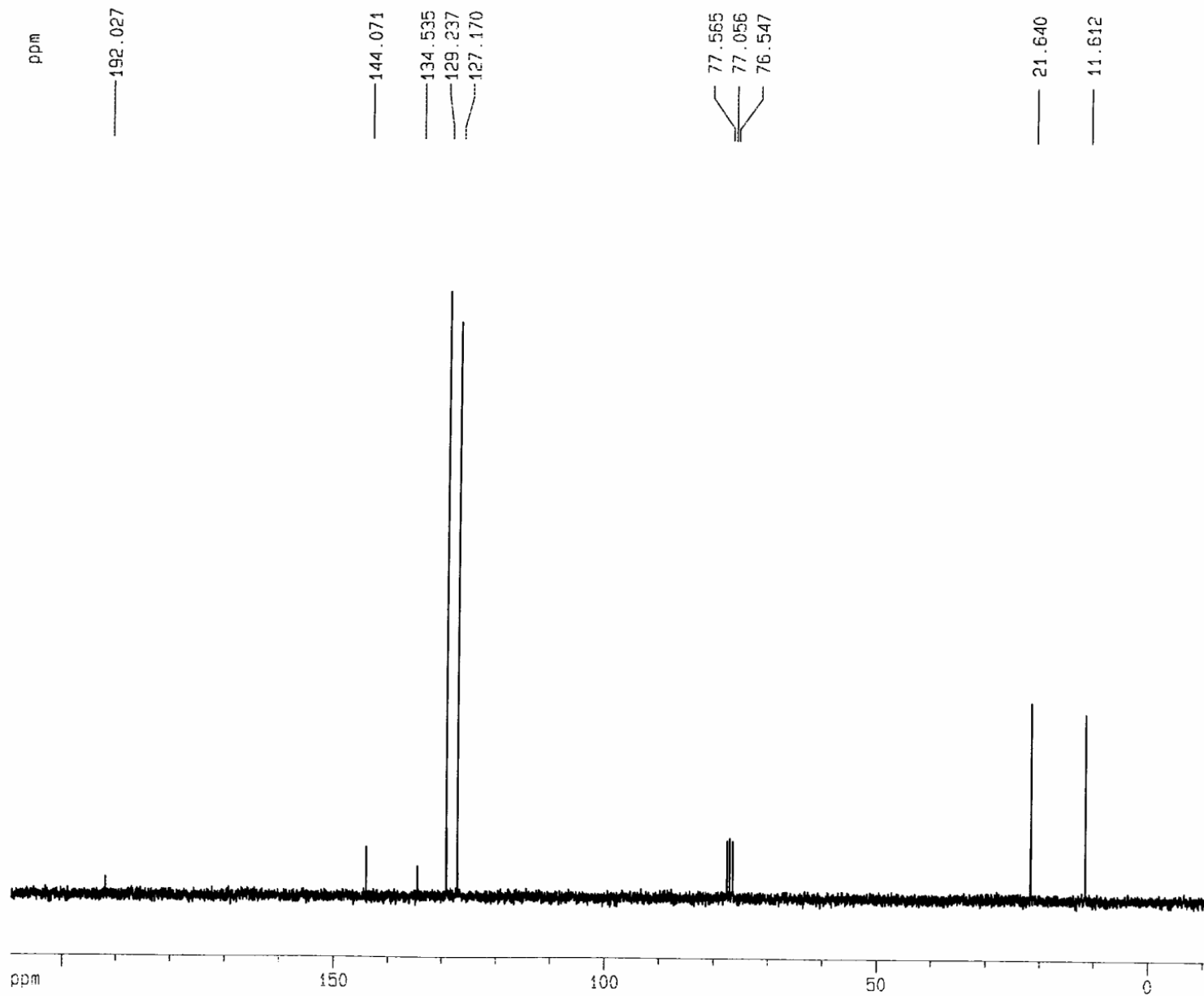


<sup>1</sup>H NMR spectrum of (25) CSCCCCCCCCC(=O)c1ccc(C)cc1

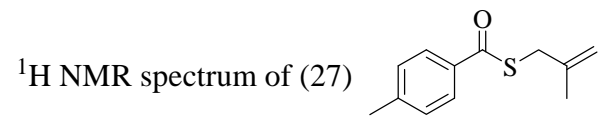
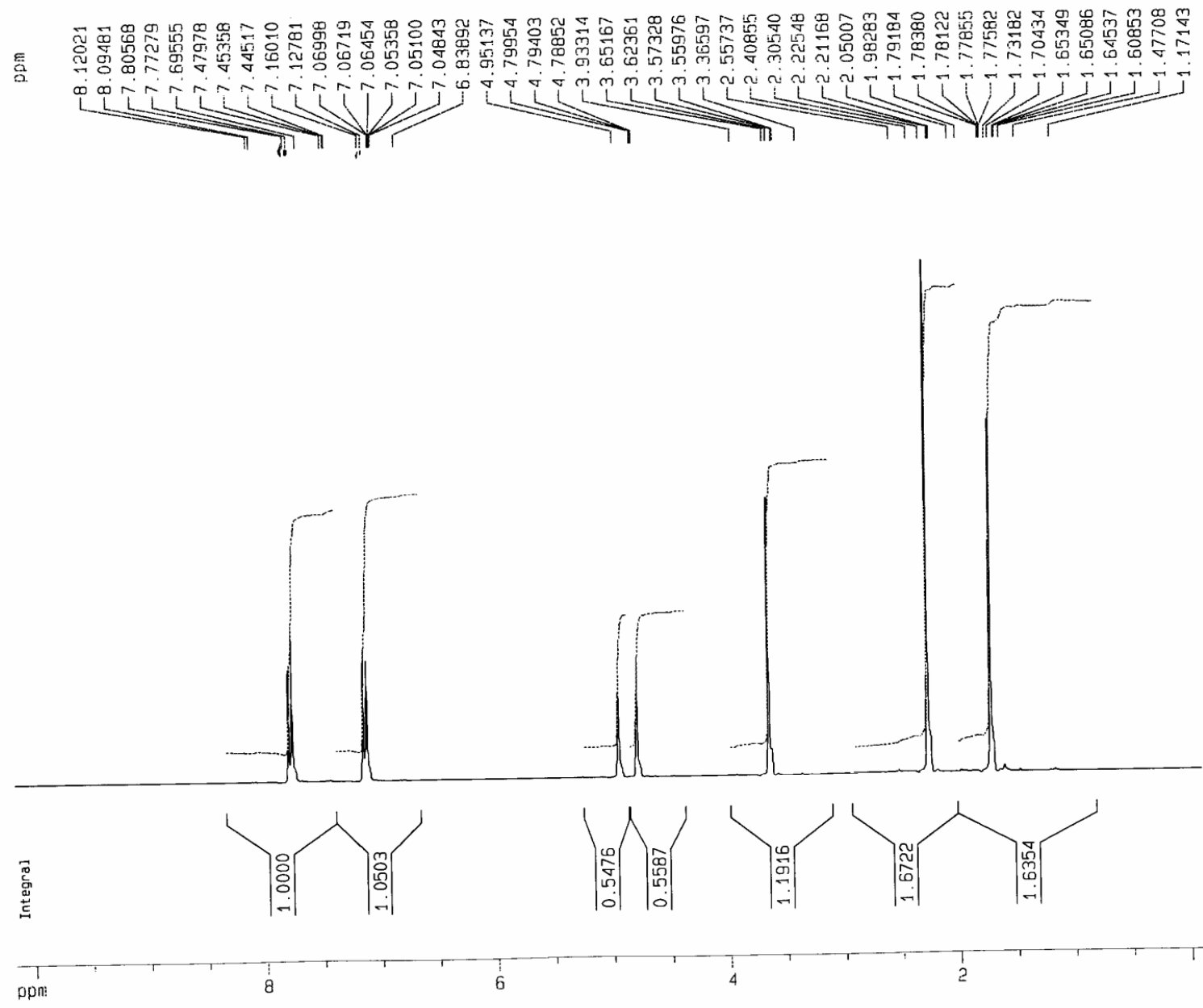


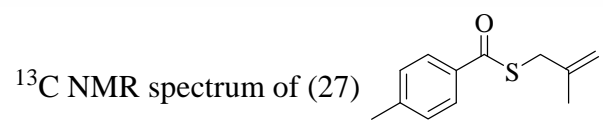
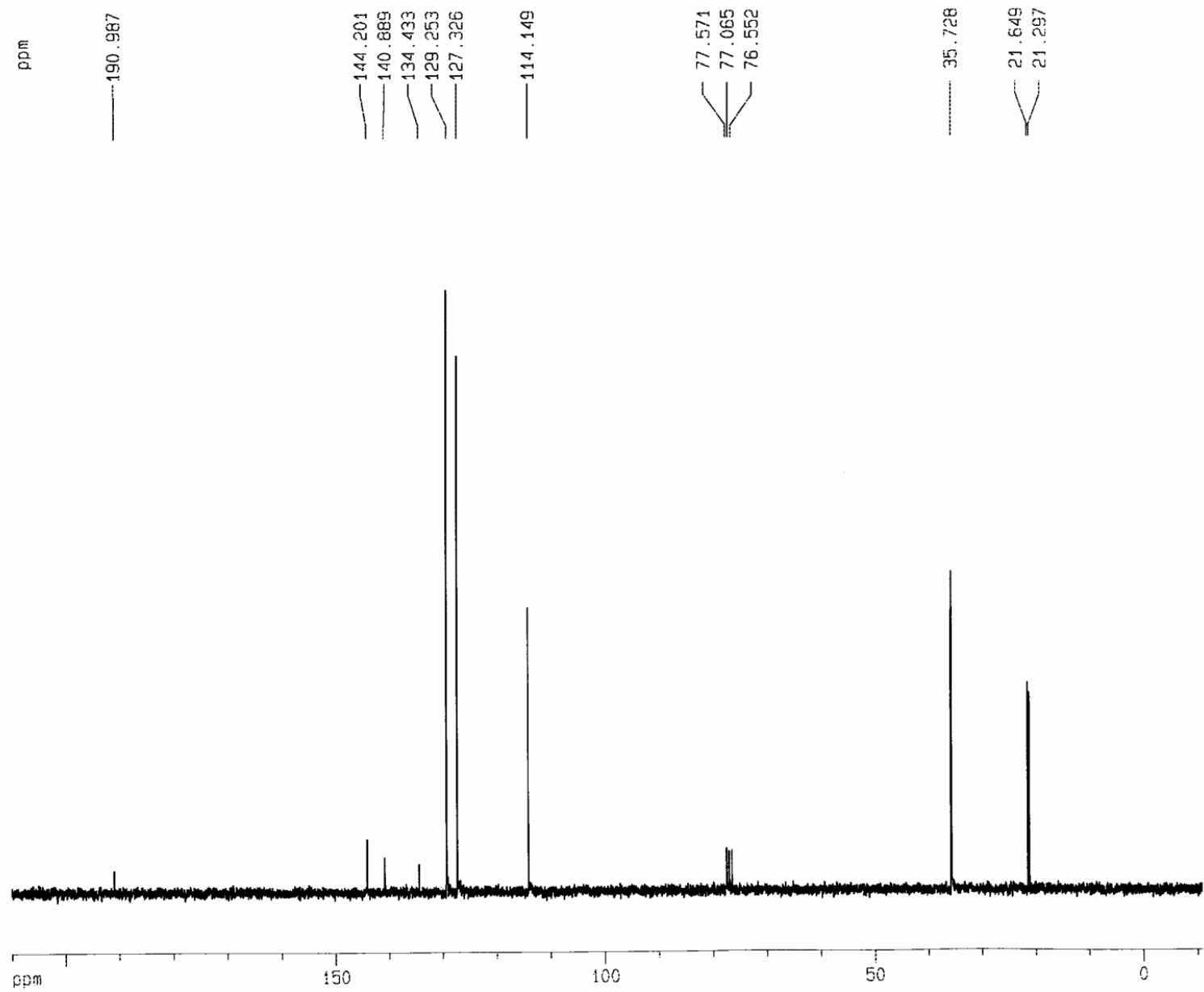
$^{13}\text{C}$  NMR spectrum of (25) CCCCCCCCC(=O)c1ccc(C)cc1

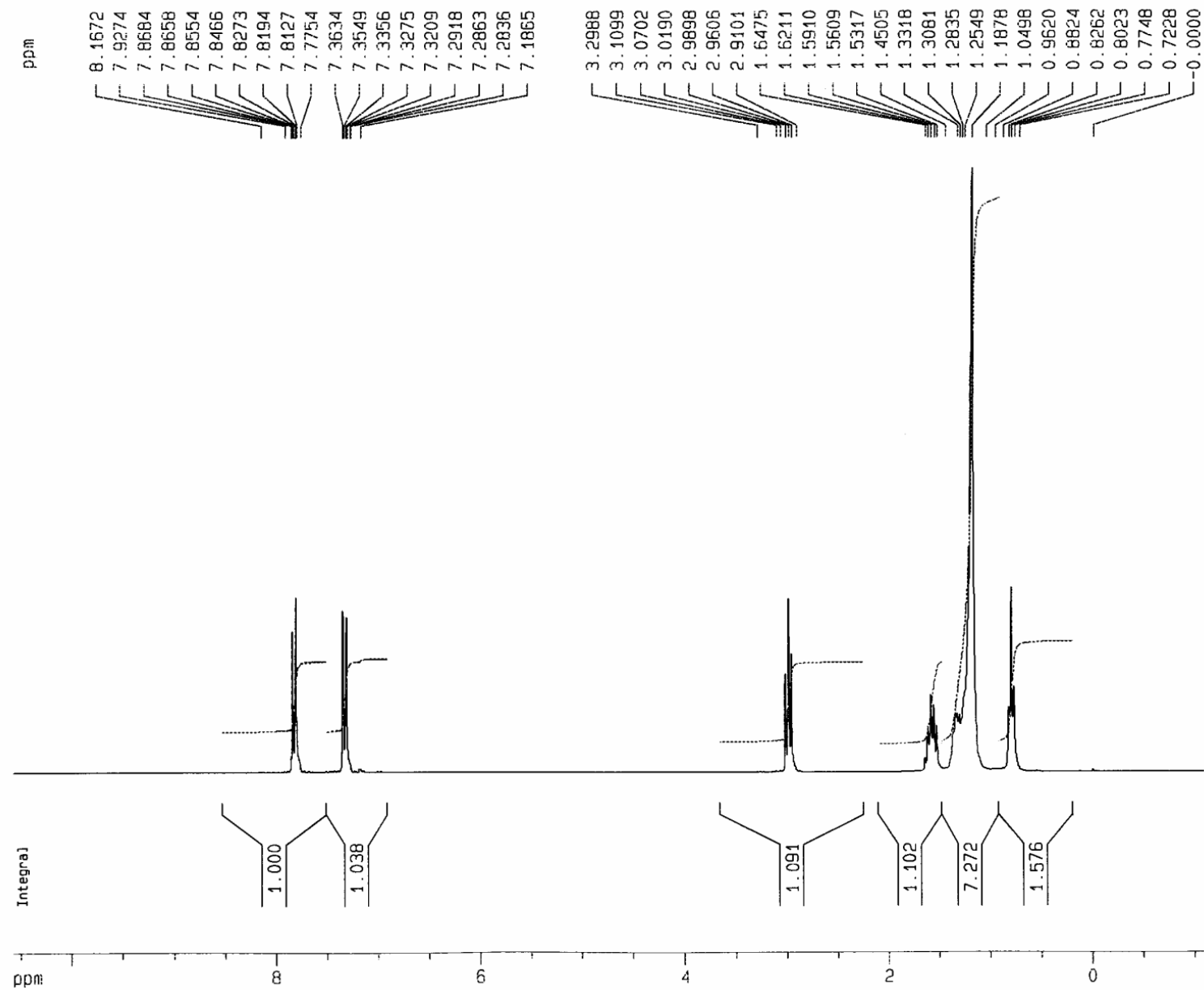




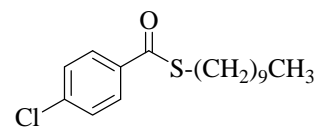
$^{13}\text{C}$  NMR spectrum of (26) Cc1ccc(C(=O)S)cc1



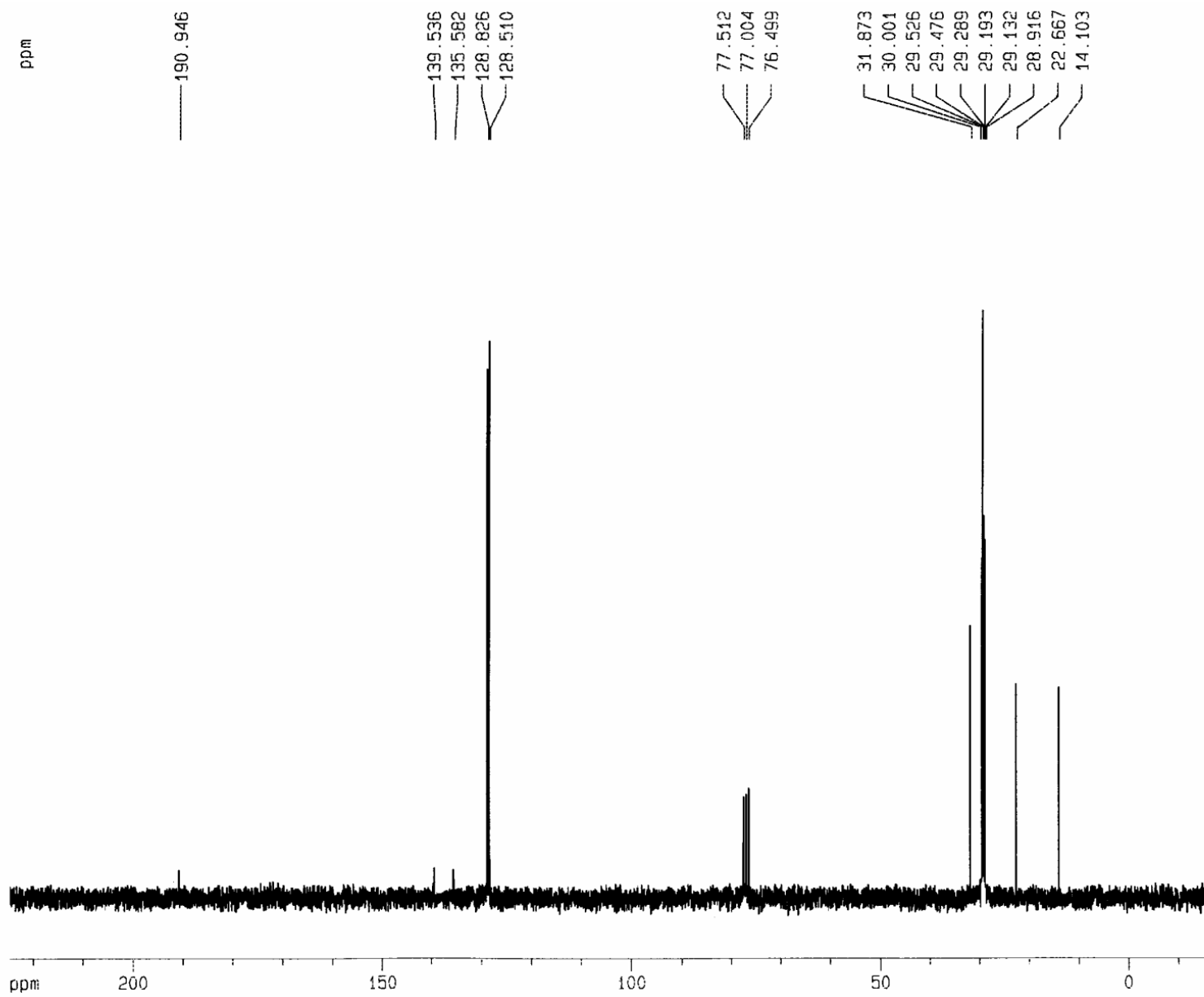




<sup>1</sup>H NMR spectrum of (28)

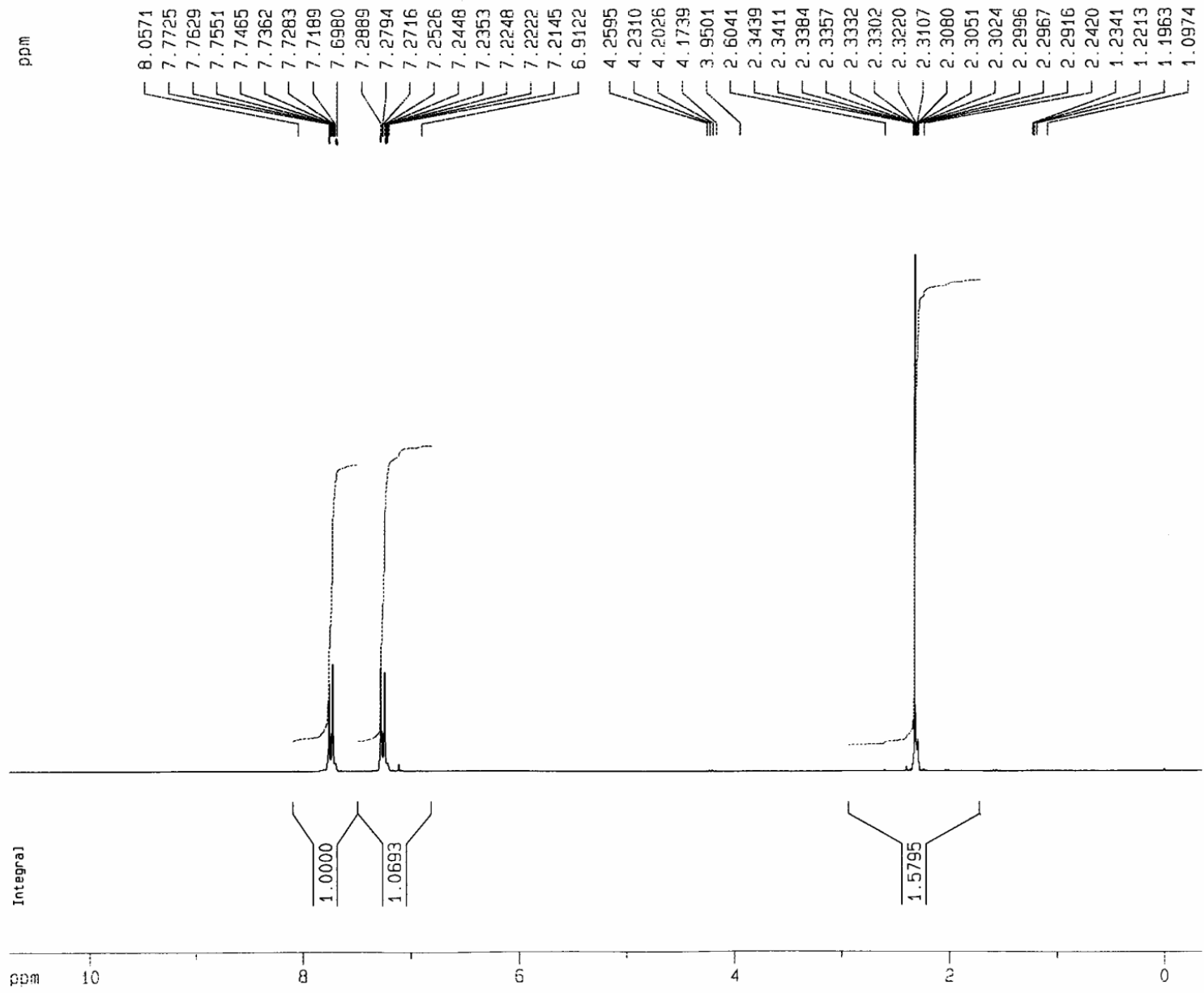




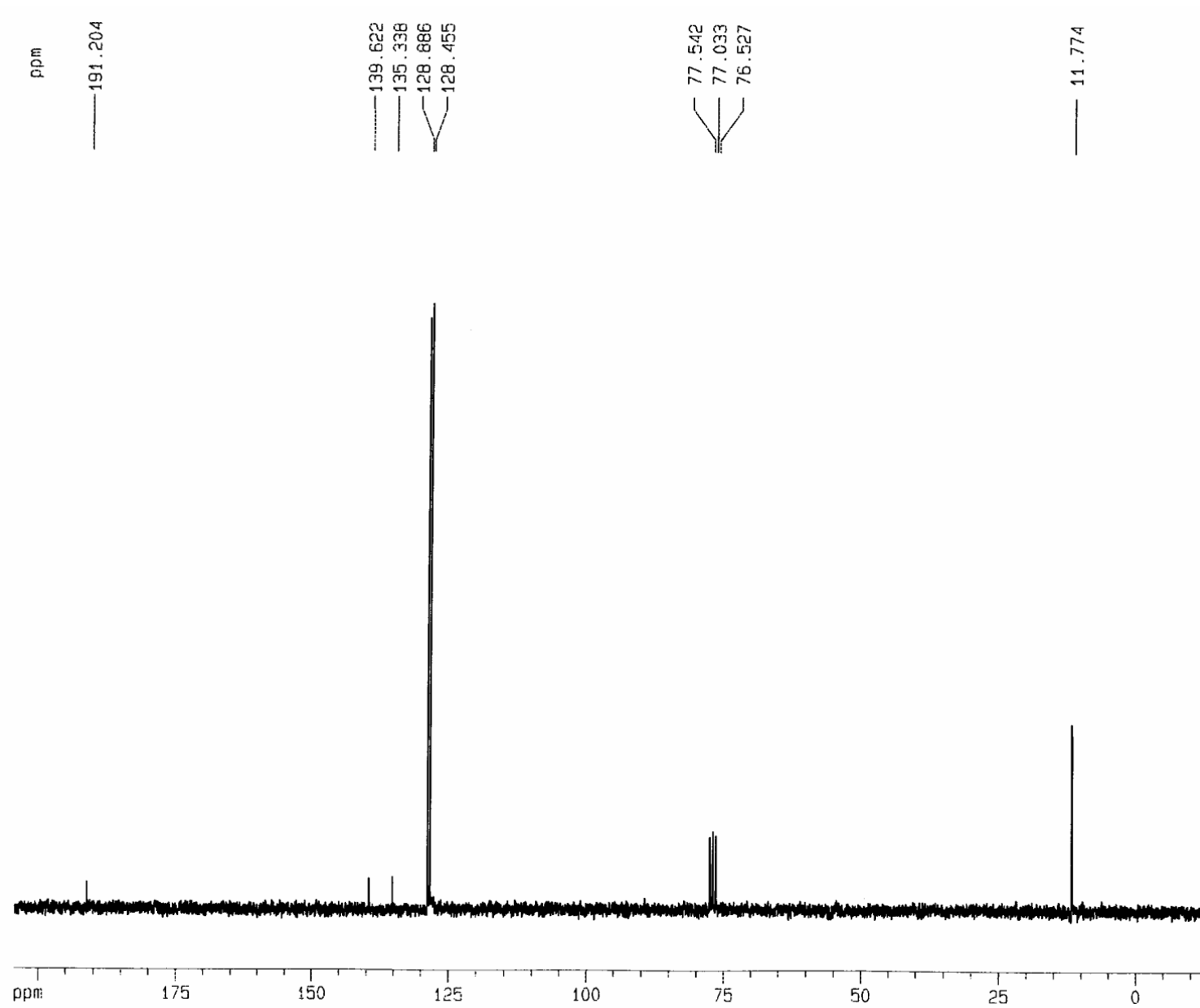


<sup>13</sup>C NMR spectrum of (28)

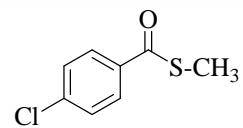
Clc1ccc(cc1)C(=O)S(CH2)9CH3

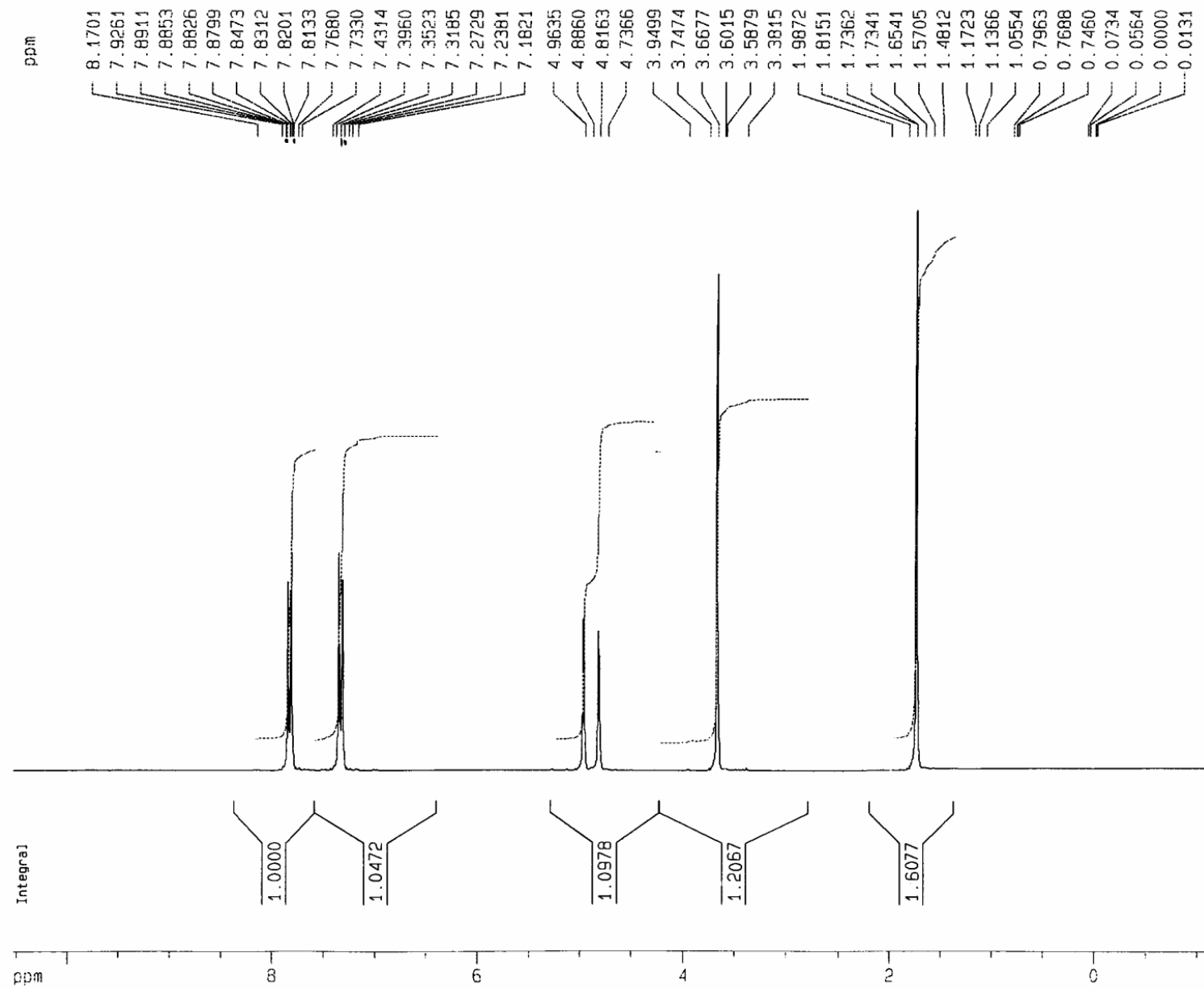


<sup>1</sup>H NMR spectrum of (29) CC(=O)c1ccc(Cl)cc1

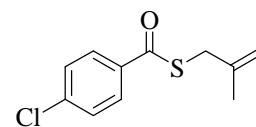


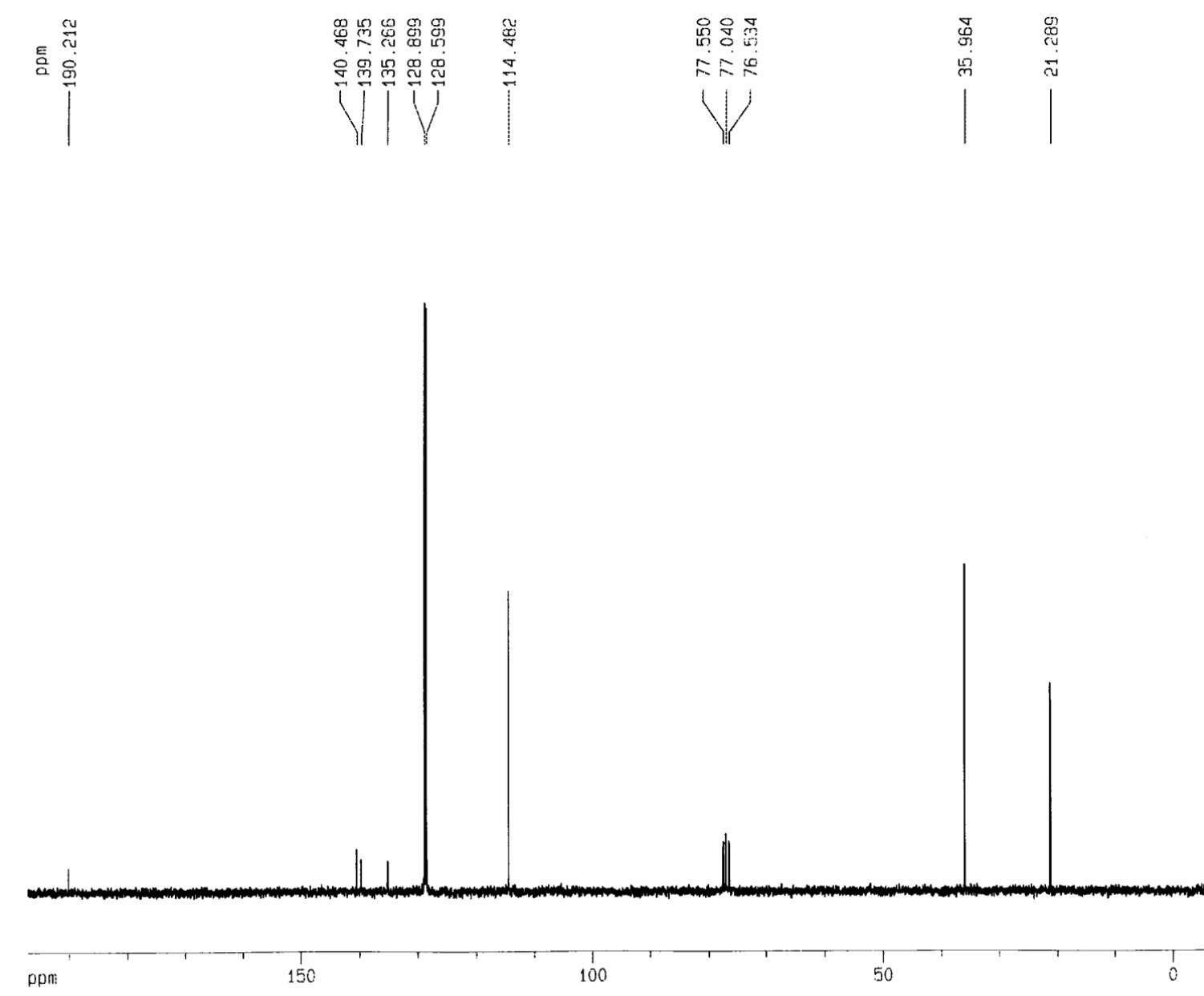
$^{13}\text{C}$  NMR spectrum of (29)



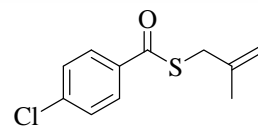


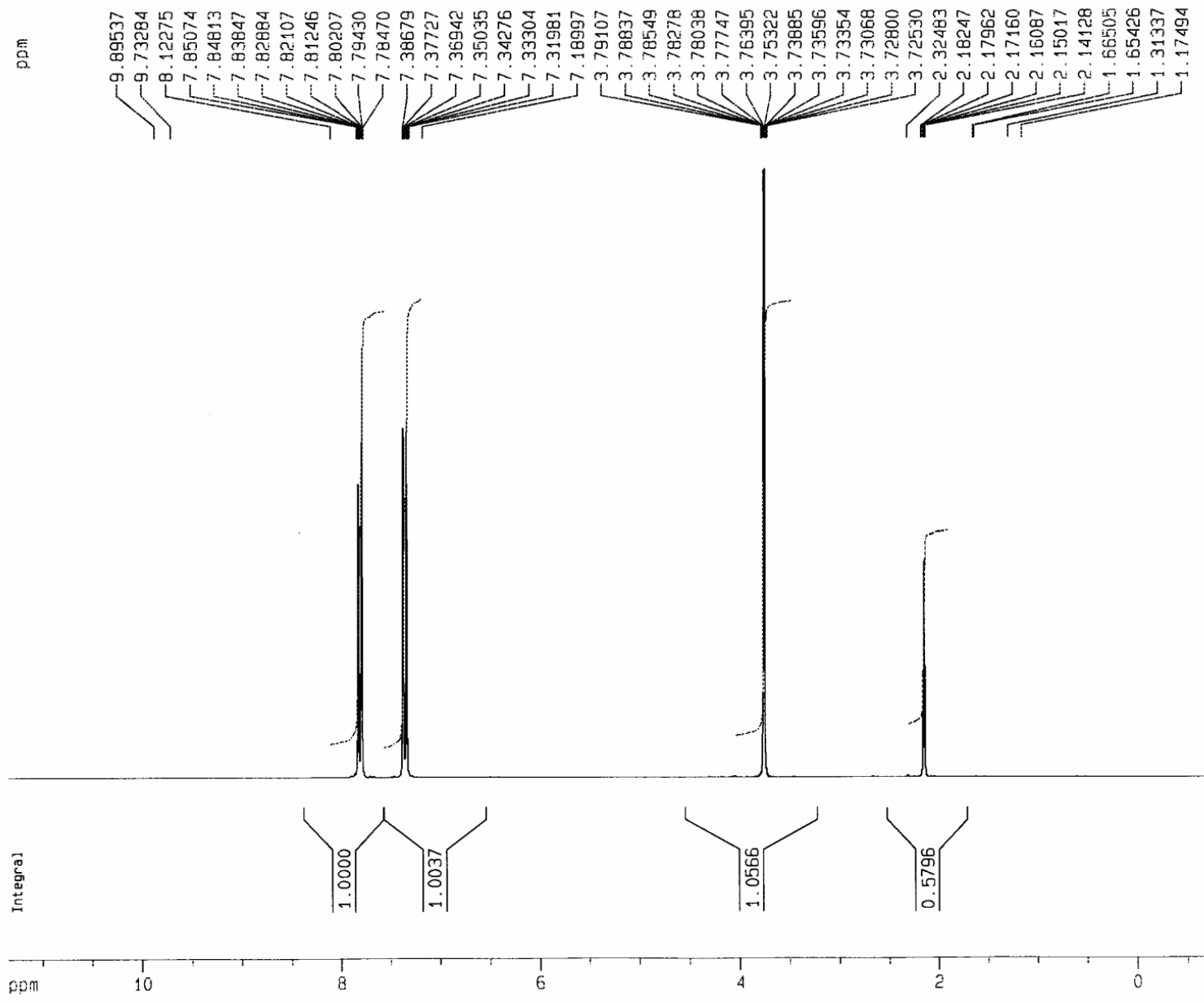
<sup>1</sup>H NMR spectrum of (30)



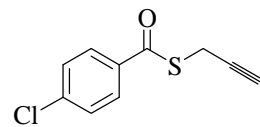


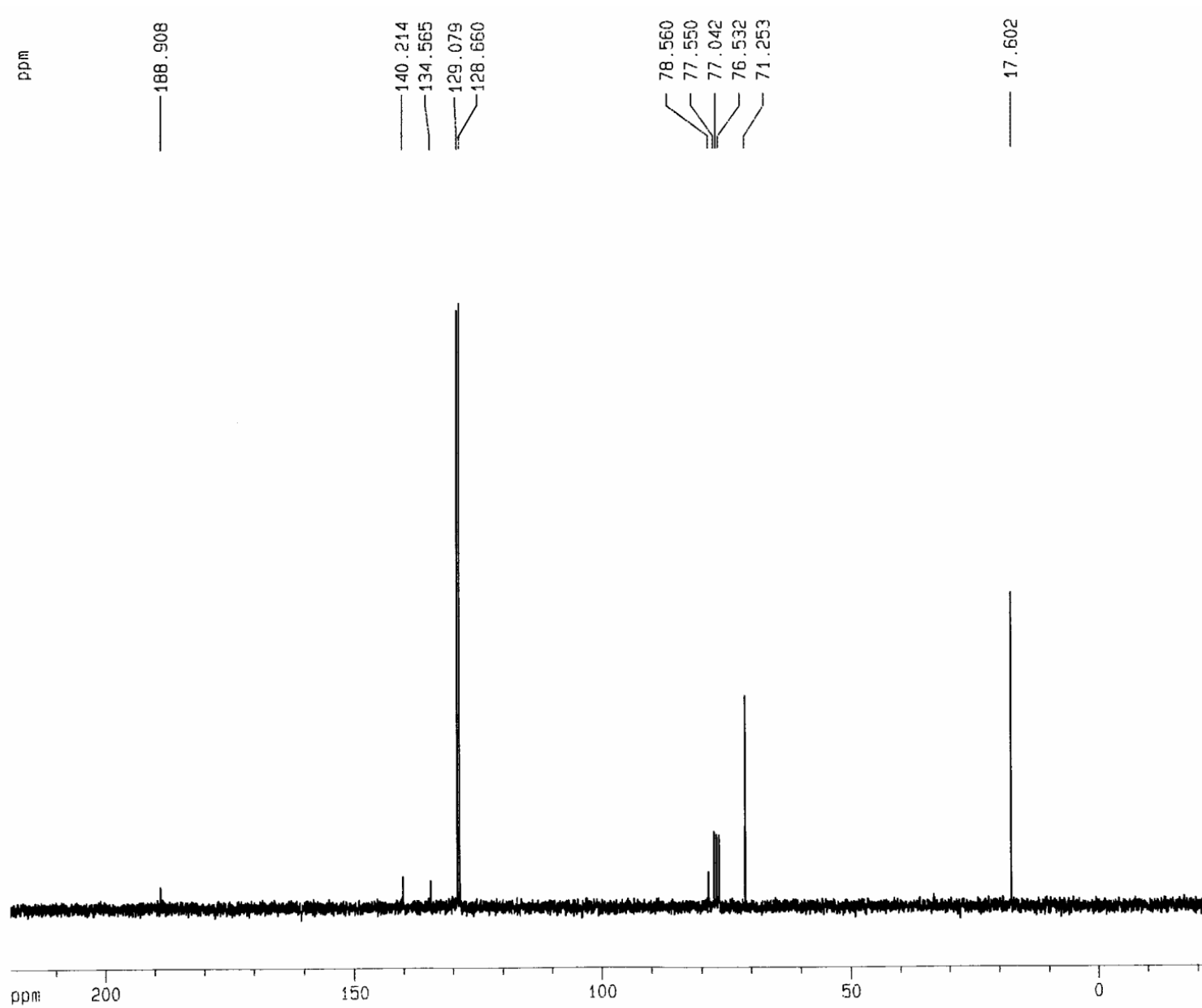
$^{13}\text{C}$  NMR spectrum of (30)



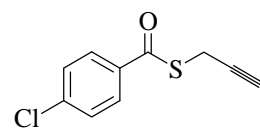


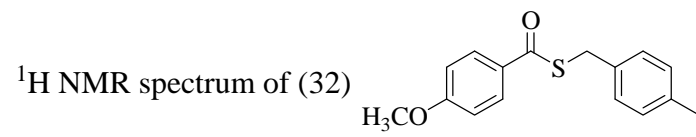
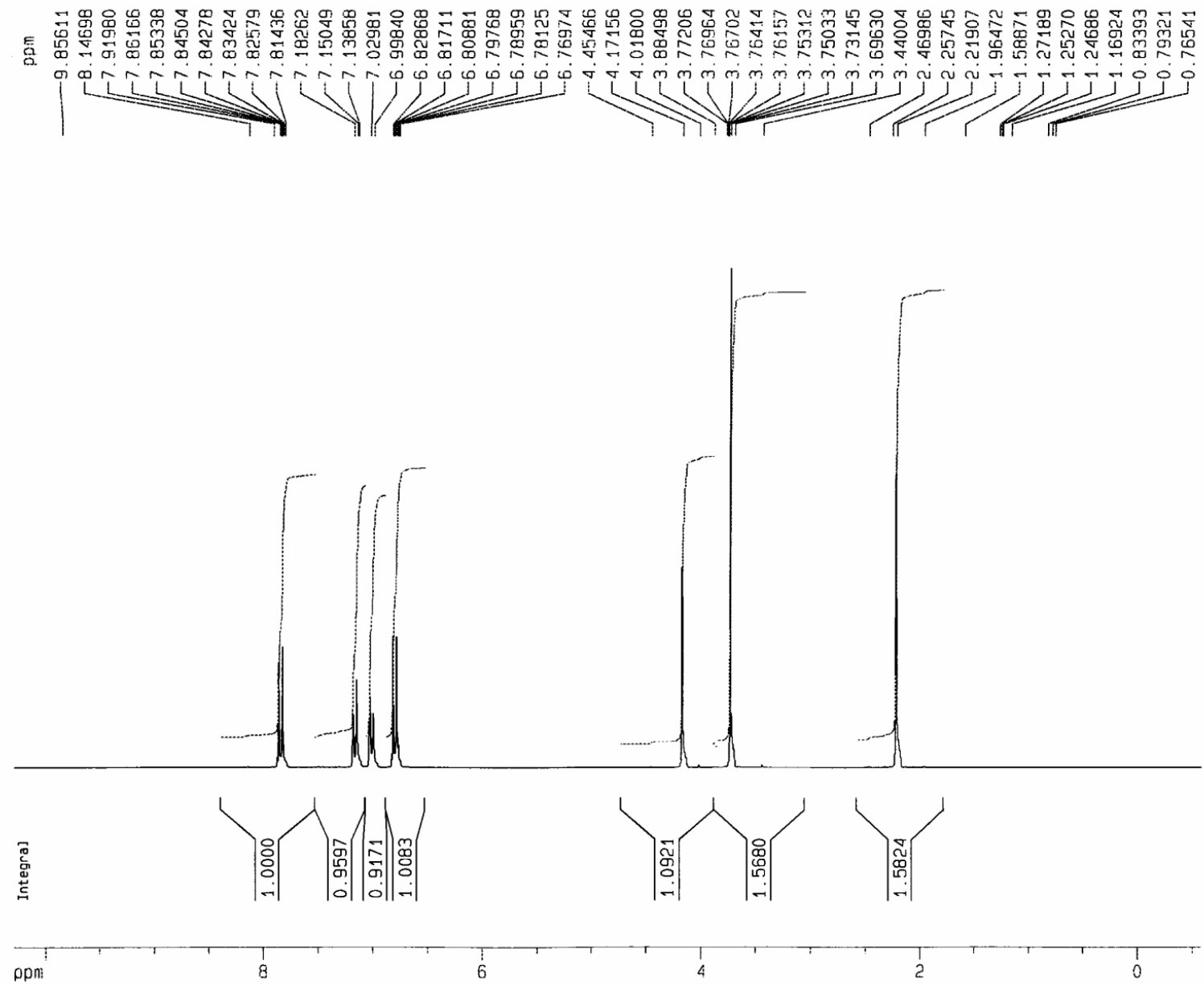
<sup>1</sup>H NMR spectrum of (31)



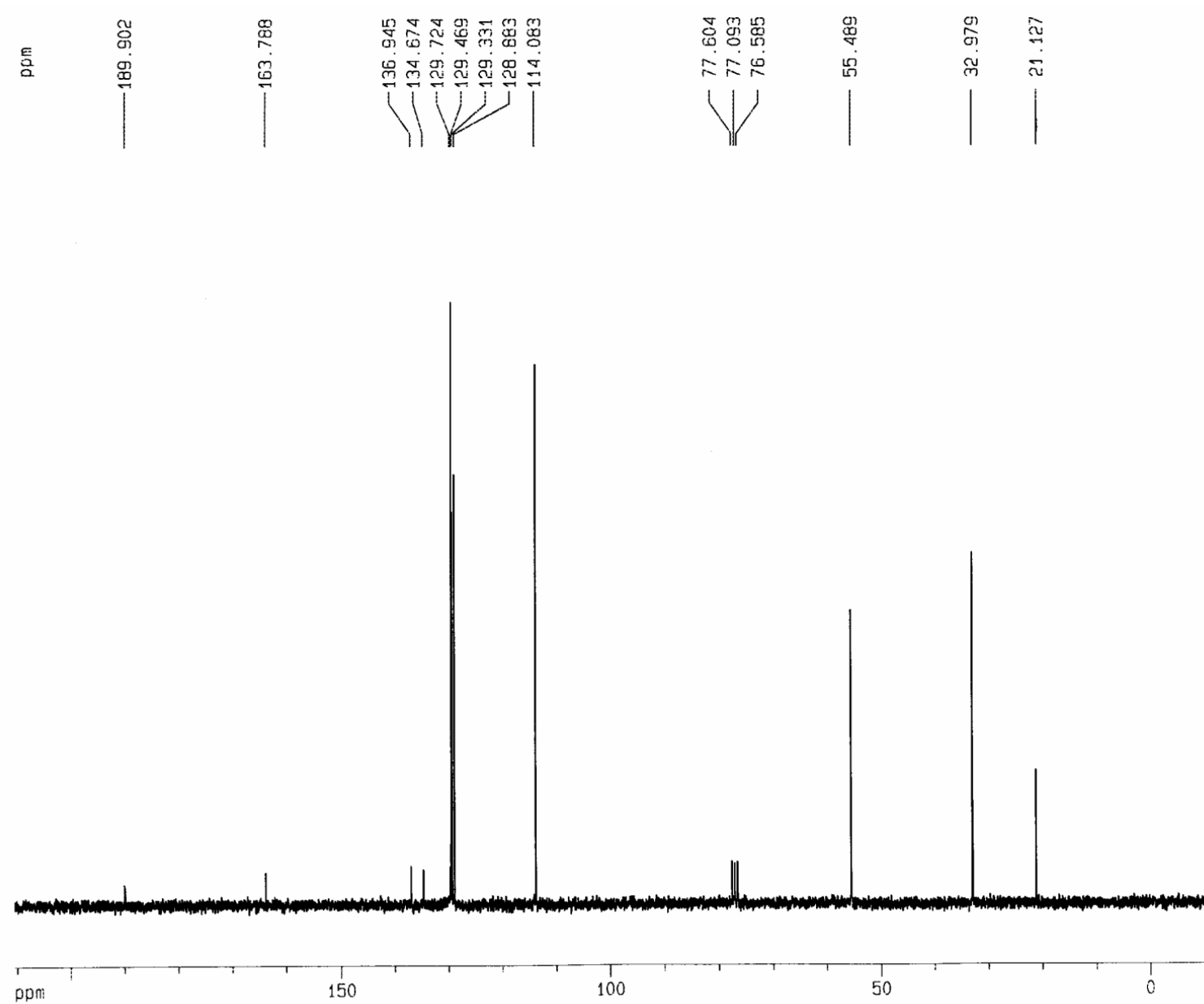


$^{13}\text{C}$  NMR spectrum of (31)

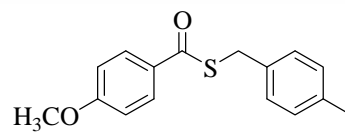


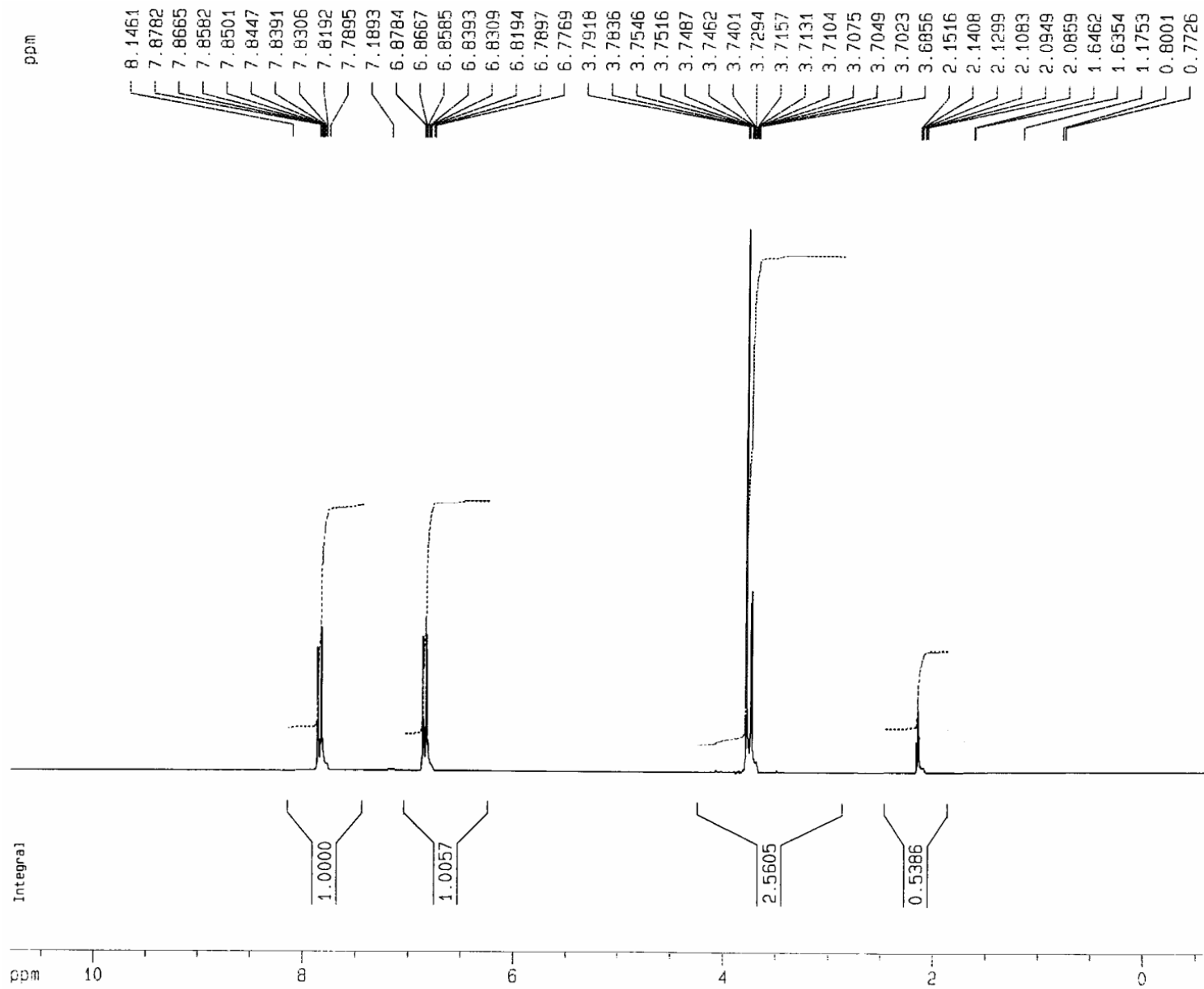




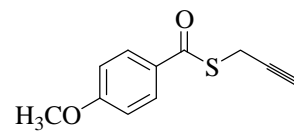


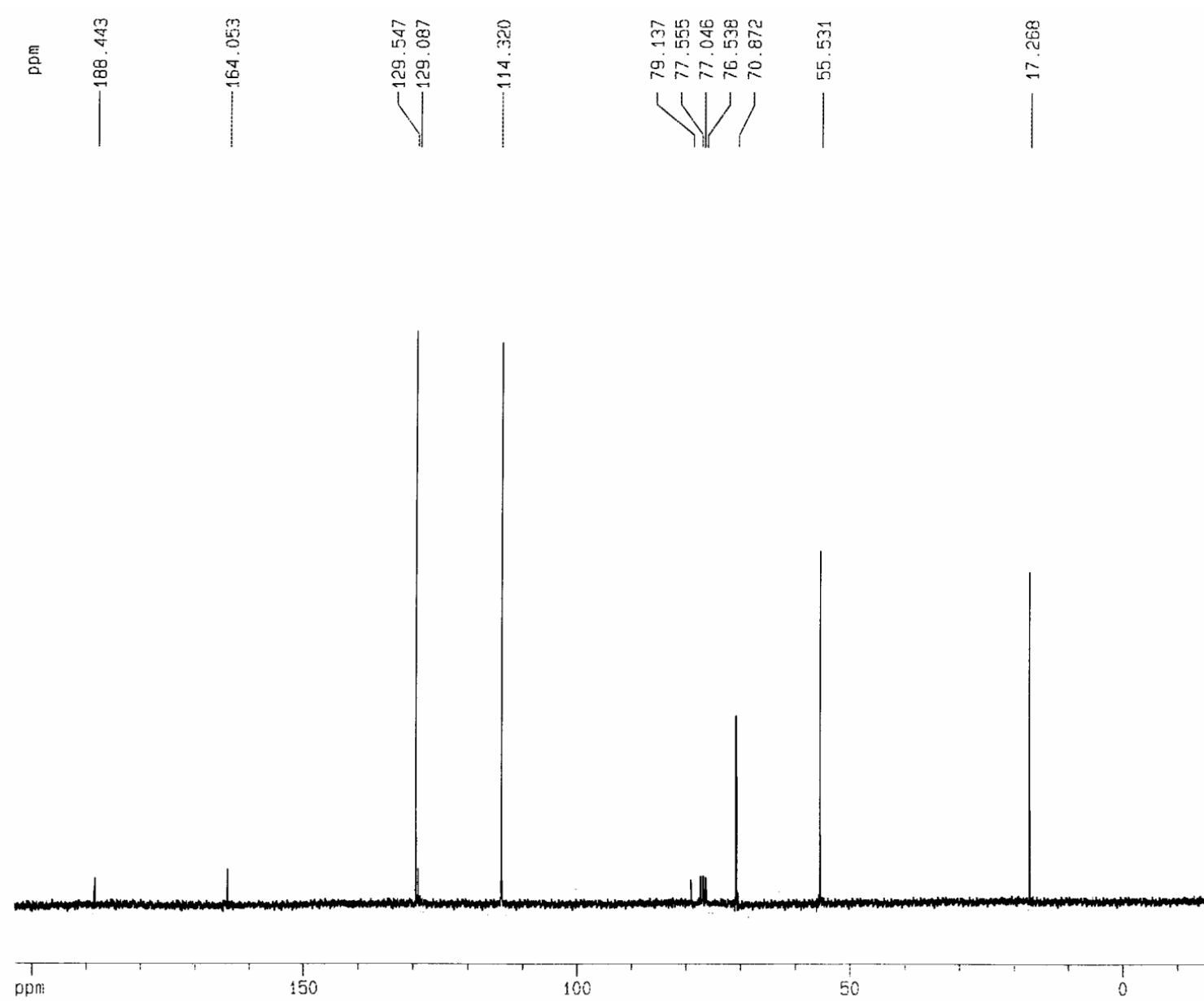
$^{13}\text{C}$  NMR spectrum of (32)



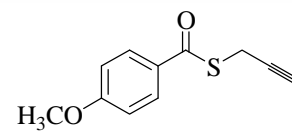


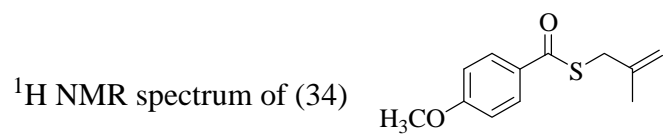
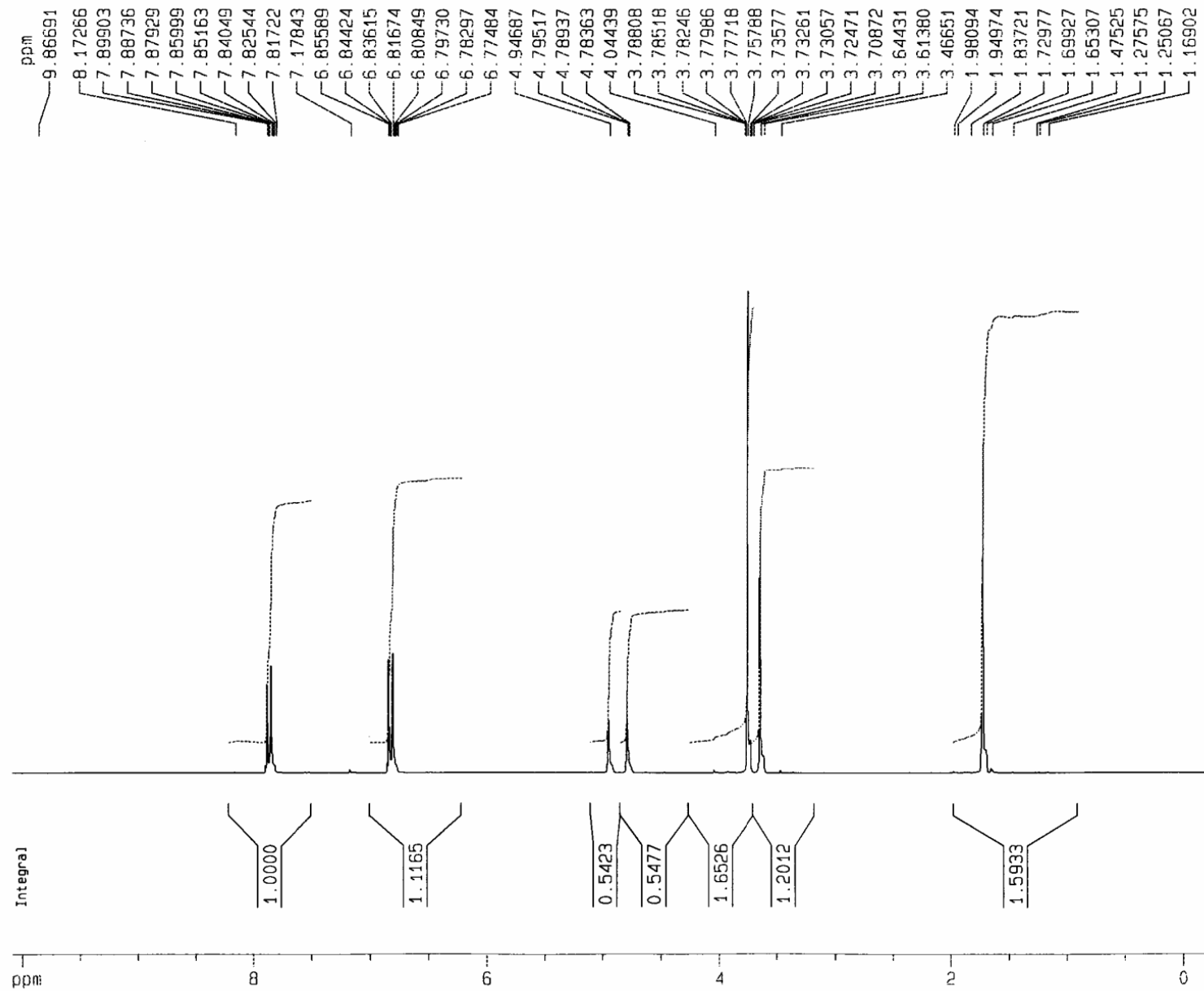
<sup>1</sup>H NMR spectrum of (33)

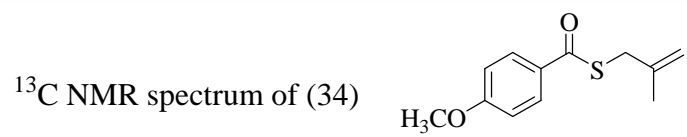
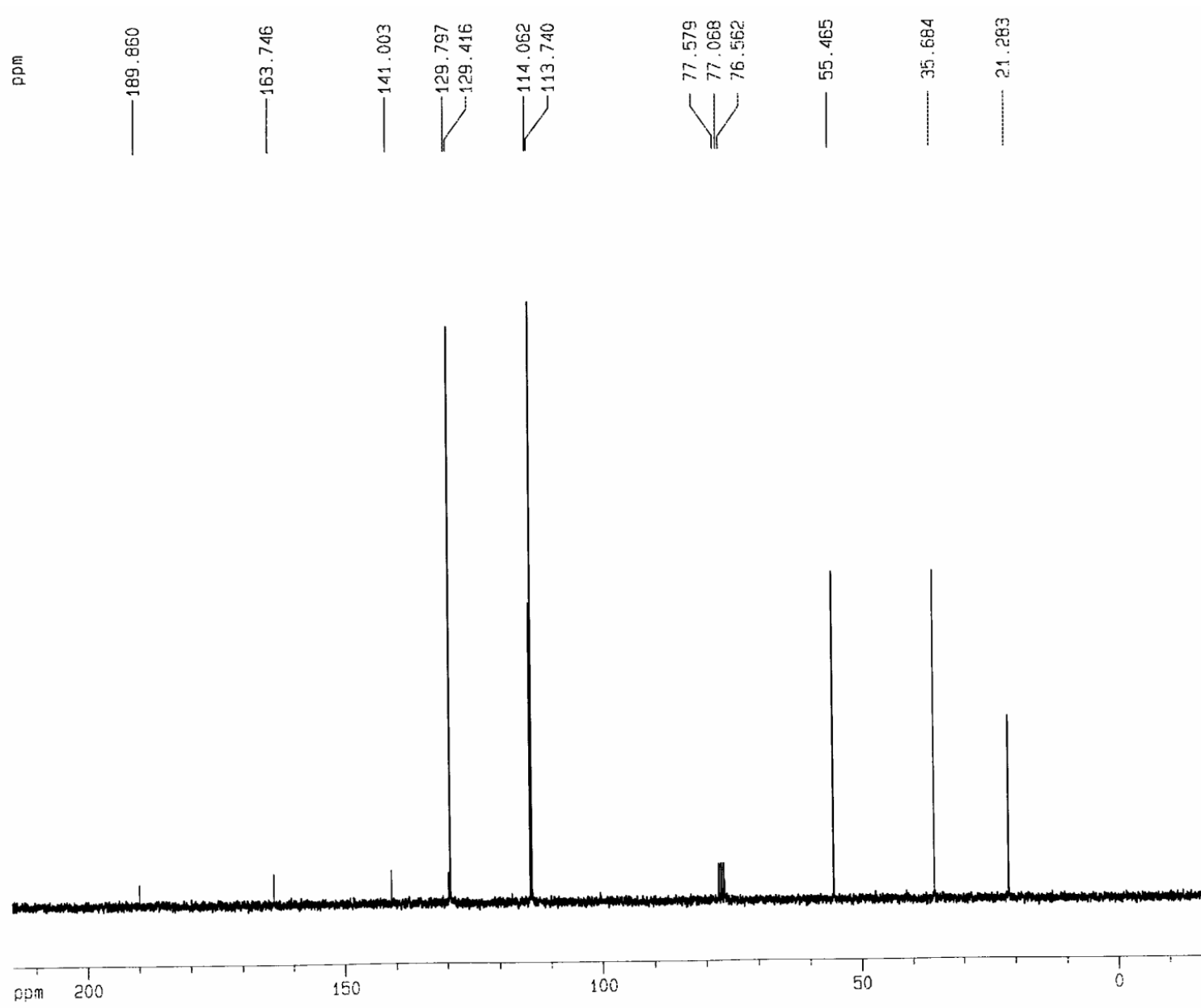




$^{13}\text{C}$  NMR spectrum of (33)

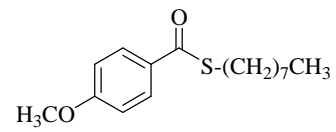


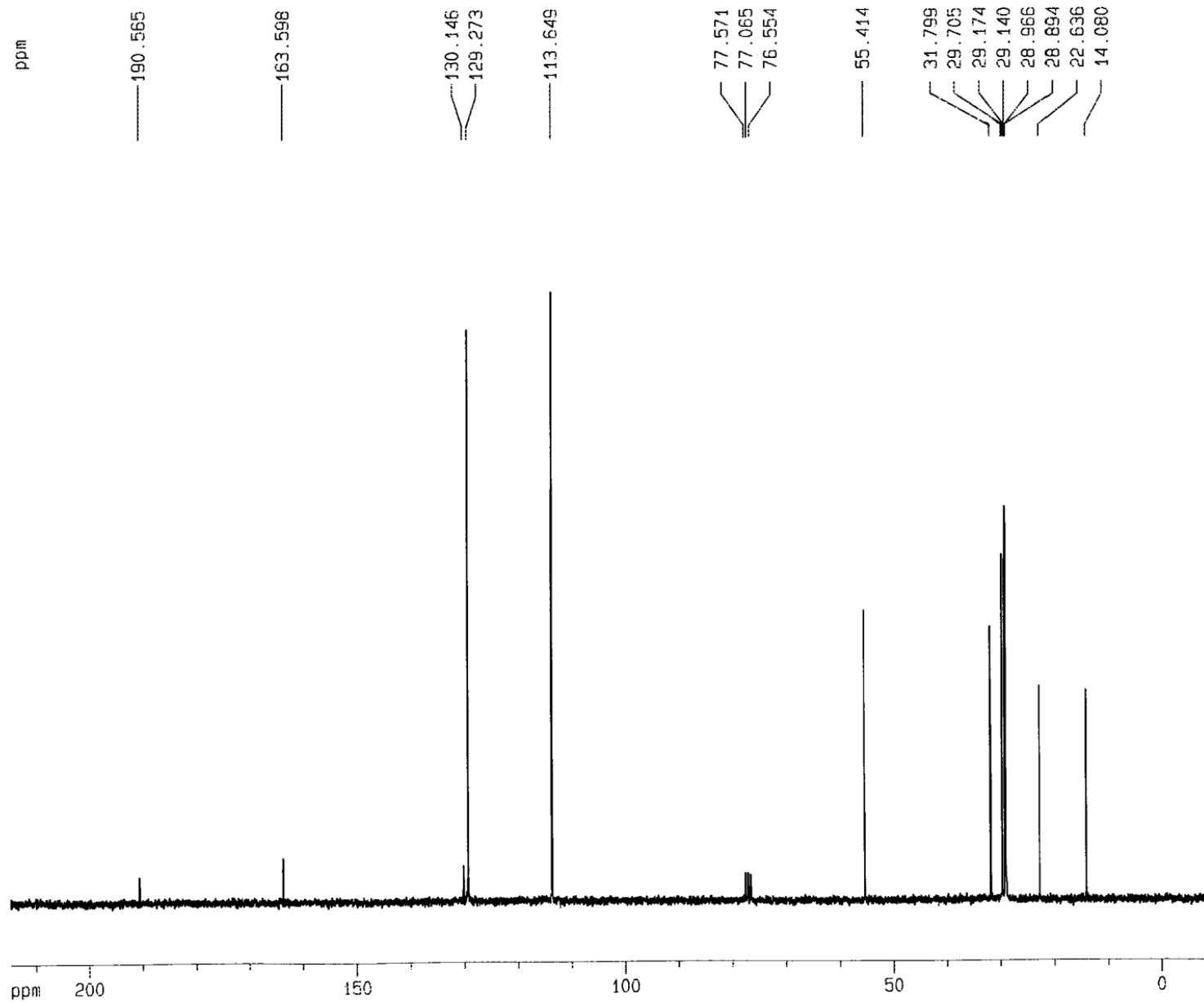




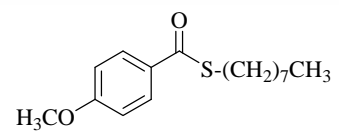


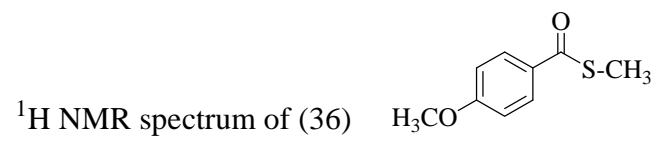
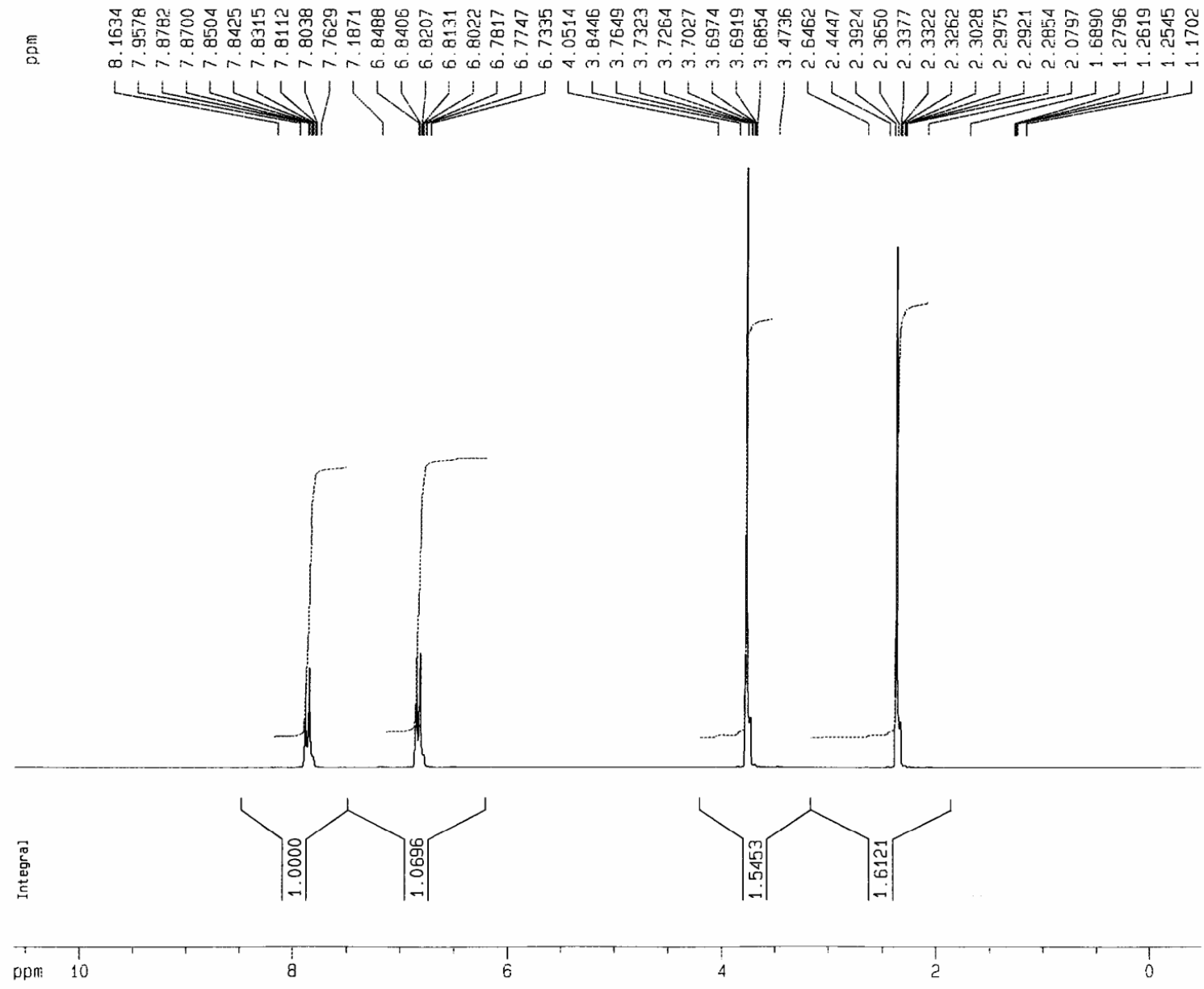
<sup>1</sup>H NMR spectrum of (35)



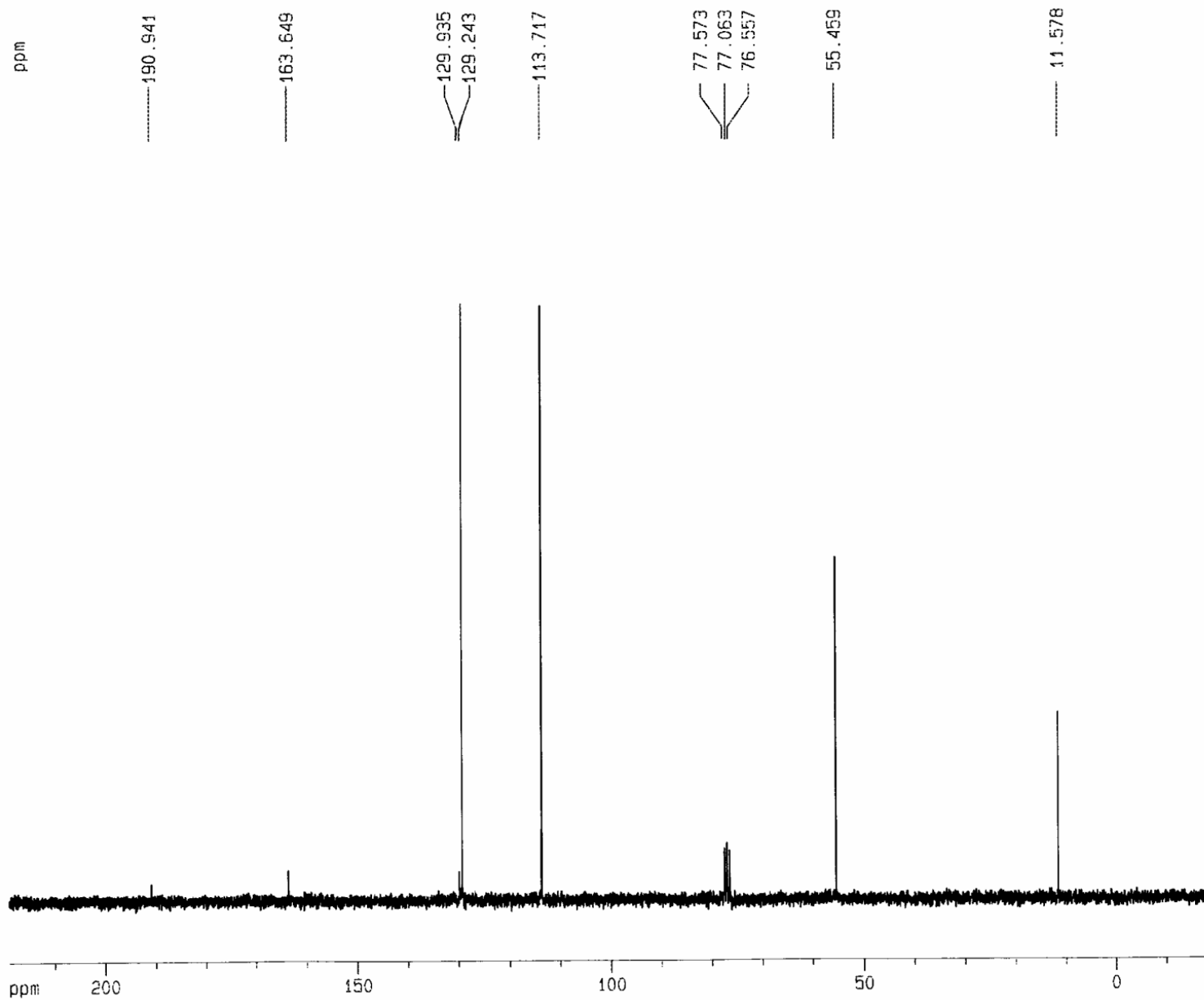


$^{13}\text{C}$  NMR spectrum of (35)









<sup>13</sup>C NMR spectrum of (36) COc1ccc(cc1)C(=O)S