

Synthesis, characterization of some Novel N-Substituted derivatives of 3-(benzo[b]thiophen-2yl)-5-(4-(substituted) phenyl) 4,5 dihydro-1H-pyrazole and its pharmacological studies.

Jeyanthi S^a and Muniyappan N^{a*}

a, Saraswathi Narayanan College of Arts and Science, Madurai Kamaraj University, Madurai-625022, Tamil Nadu, India.
[sakthisai588@gmail.com]

a* Saraswathi Narayanan College of Arts and Science, Madurai Kamaraj University, Madurai-625022, Tamil Nadu, India.
[nmuniyappan@gmail.com]

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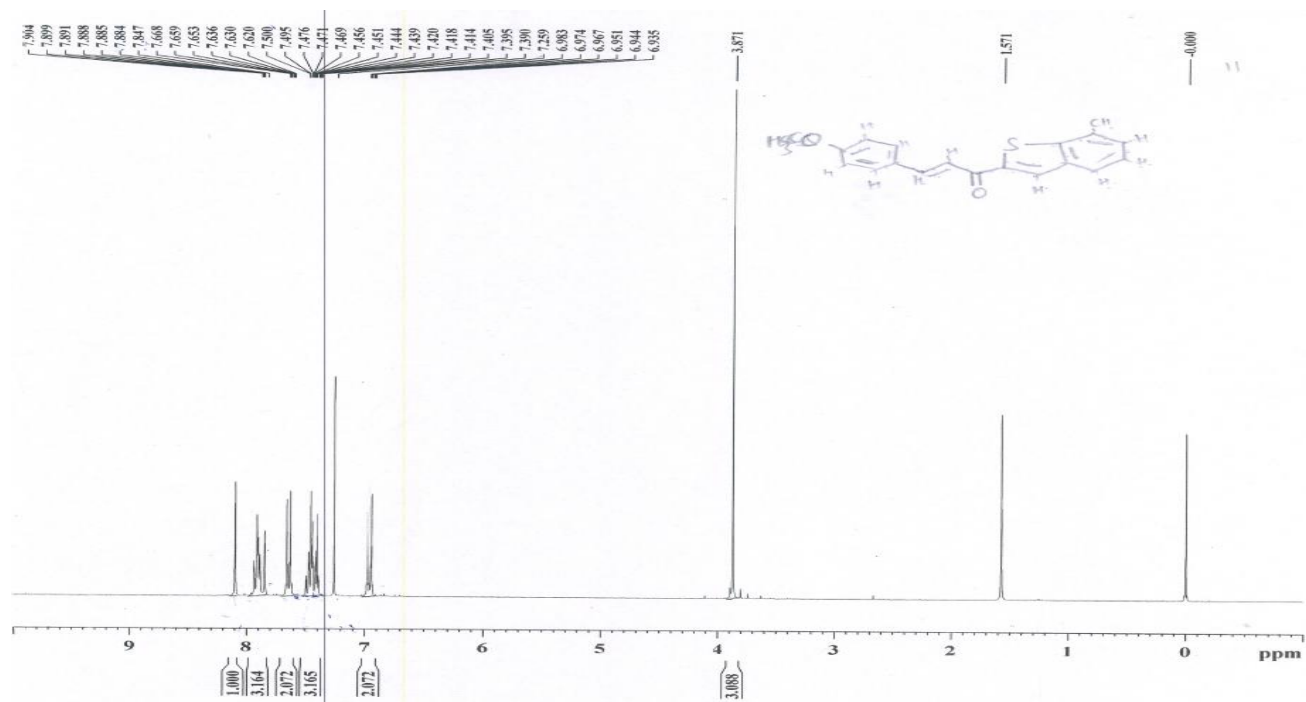


Figure 1. ^1H NMR spectrum of compound **1a** (CDCl_3 , 300 MHz, 298 K)

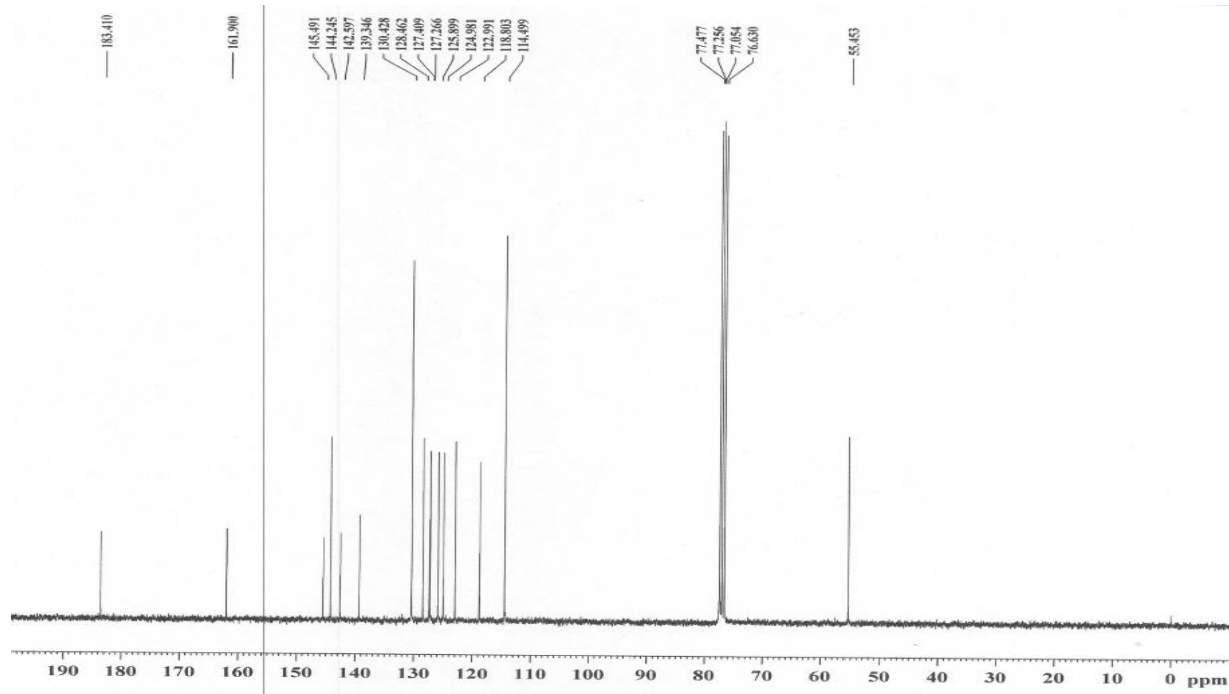


Figure 2. ^{13}C NMR spectrum of compound **1a** (CDCl_3 , 75 MHz, 297 K)

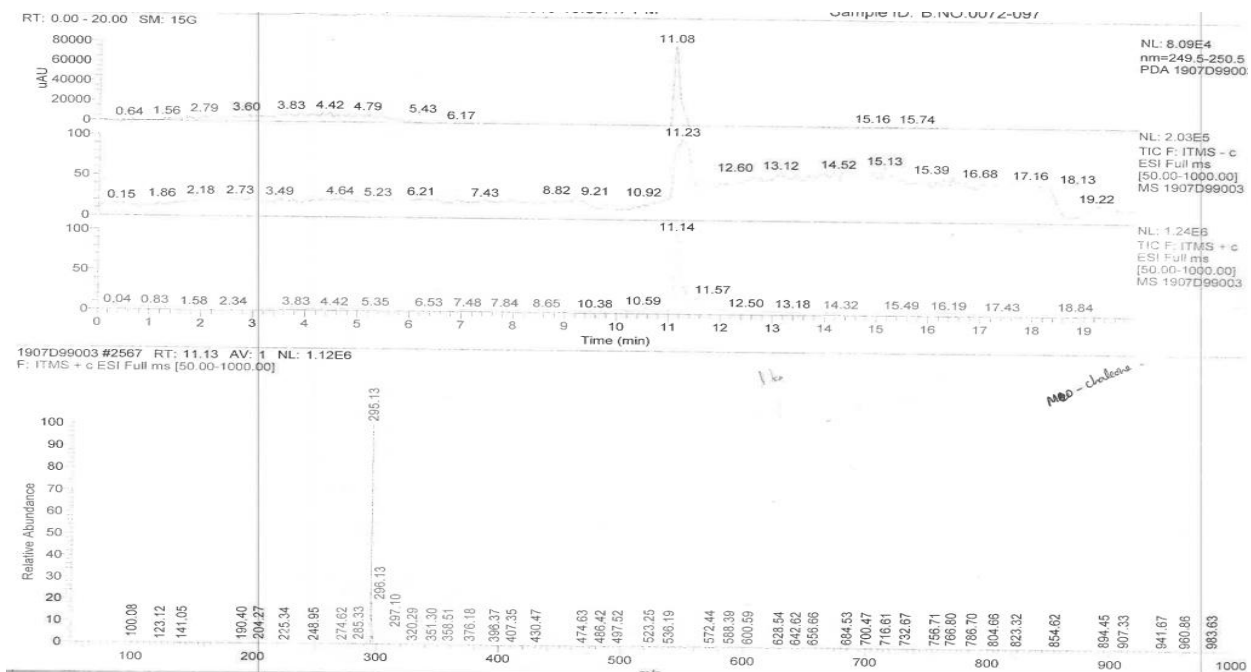


Figure 3. LC-MS mass spectrum of compound 1a

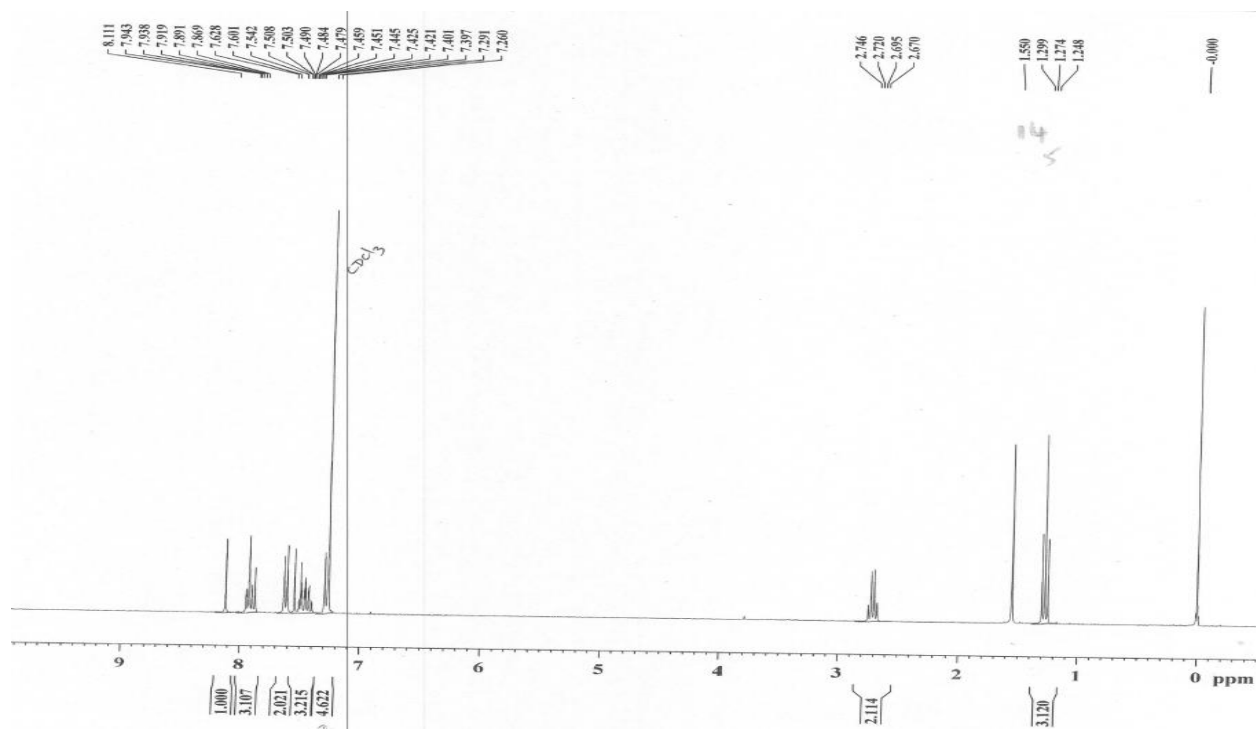


Figure 4 ^1H NMR spectrum of compound 1b (CDCl_3 , 300 MHz, 298 K)

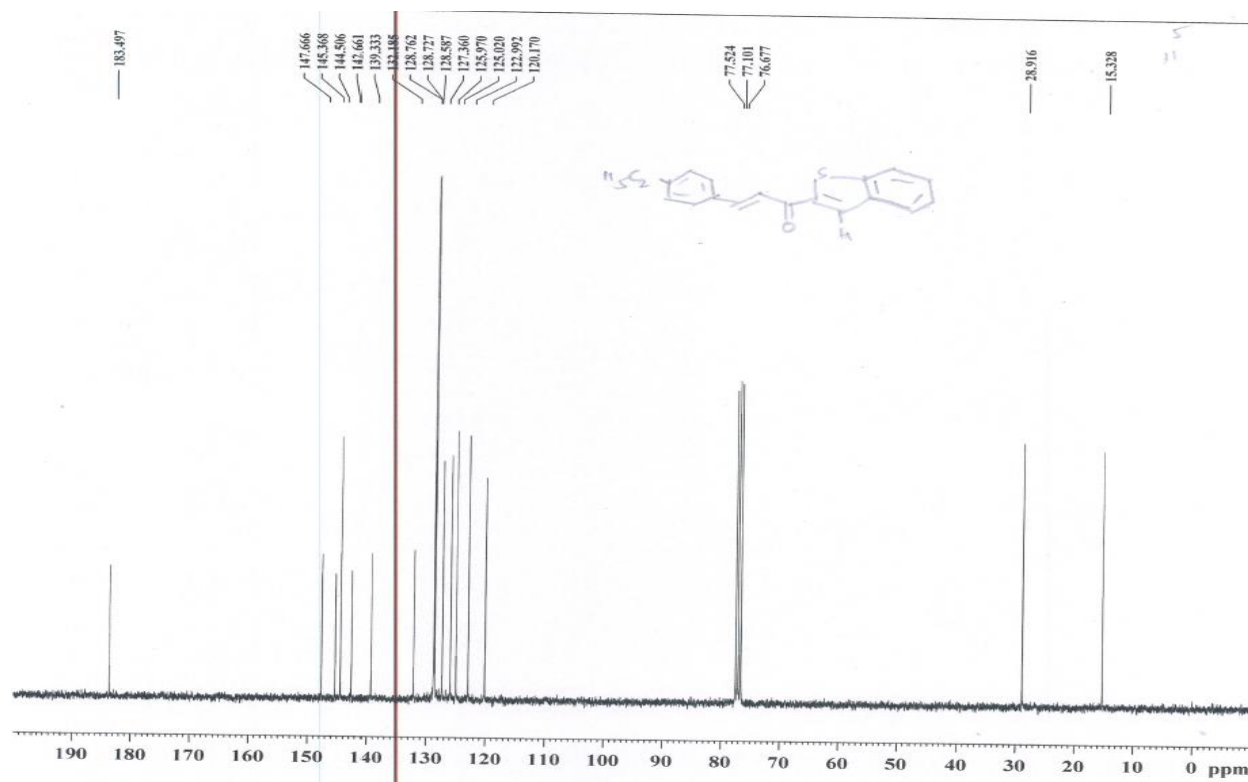


Figure 5 ¹³C NMR spectrum of compound 1b (CDCl₃, 75 MHz, 297 K)

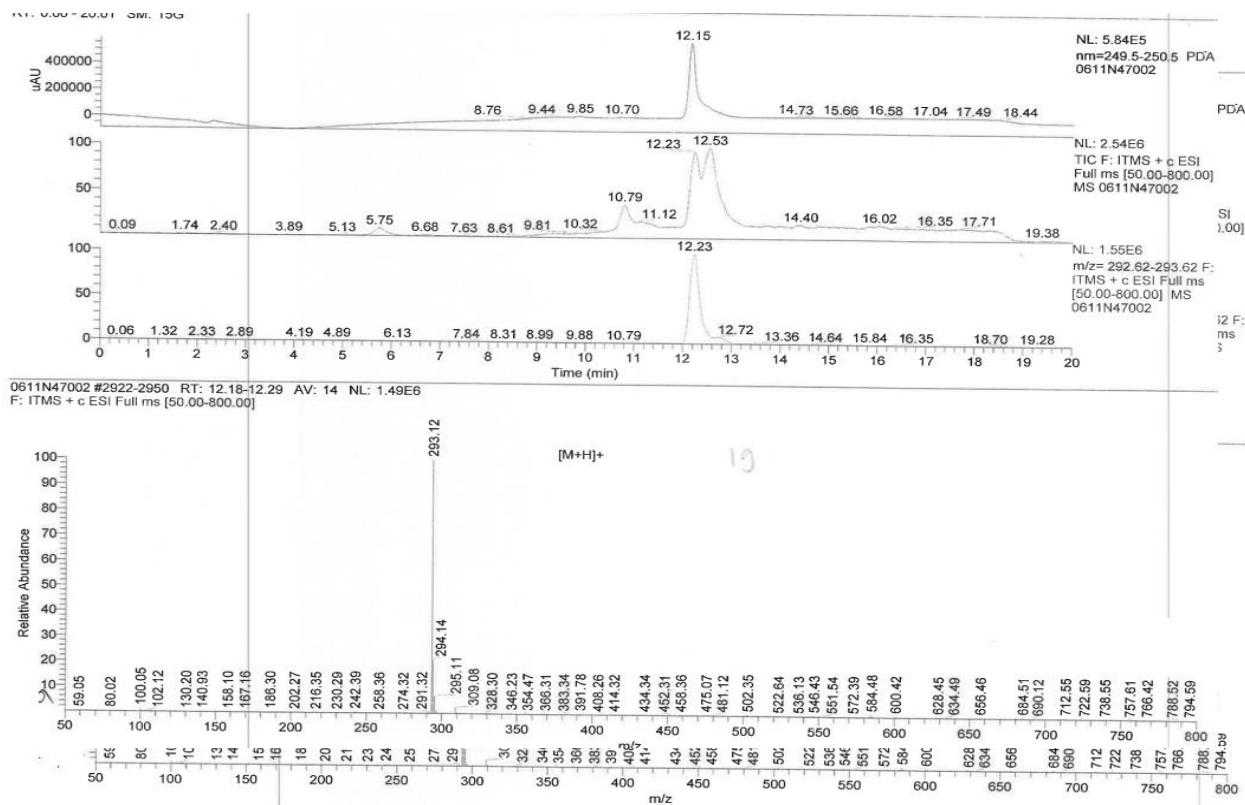


Figure 6. LC-MS mass spectrum of compound 1b

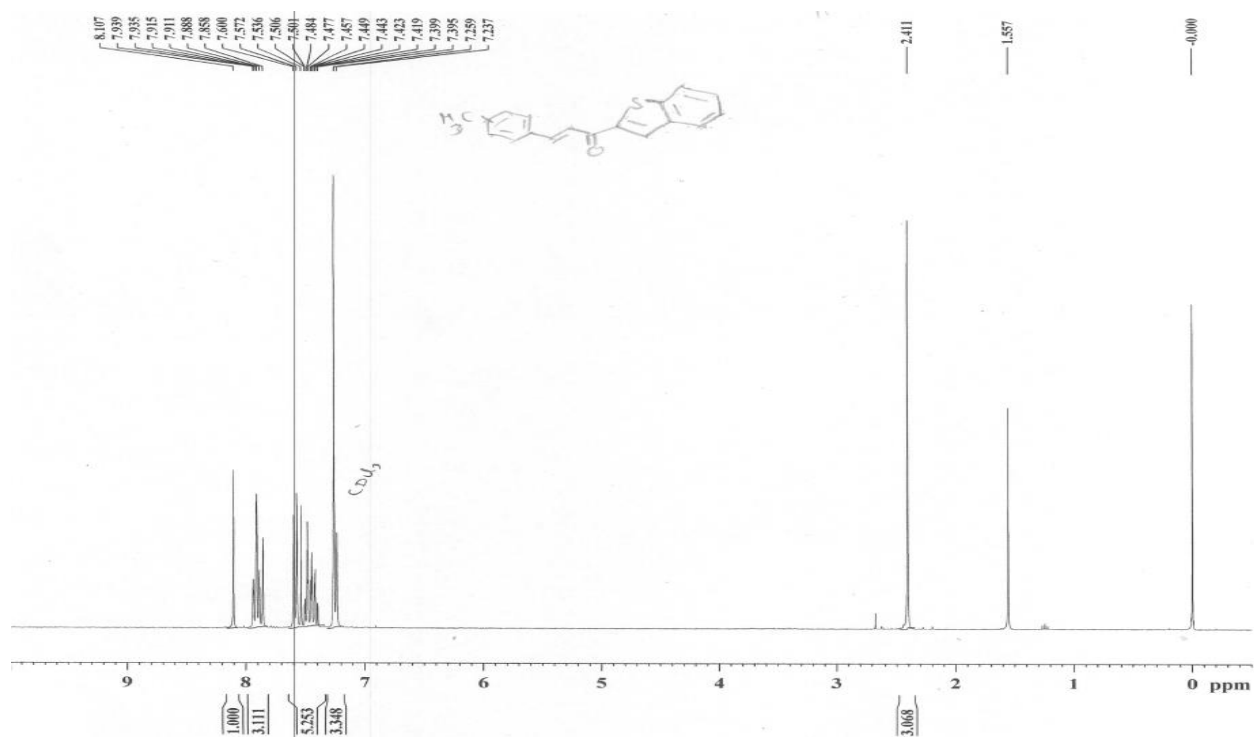


Figure 7. ¹H NMR spectrum of compound **1c** (CDCl₃, 300 MHz, 298 K)

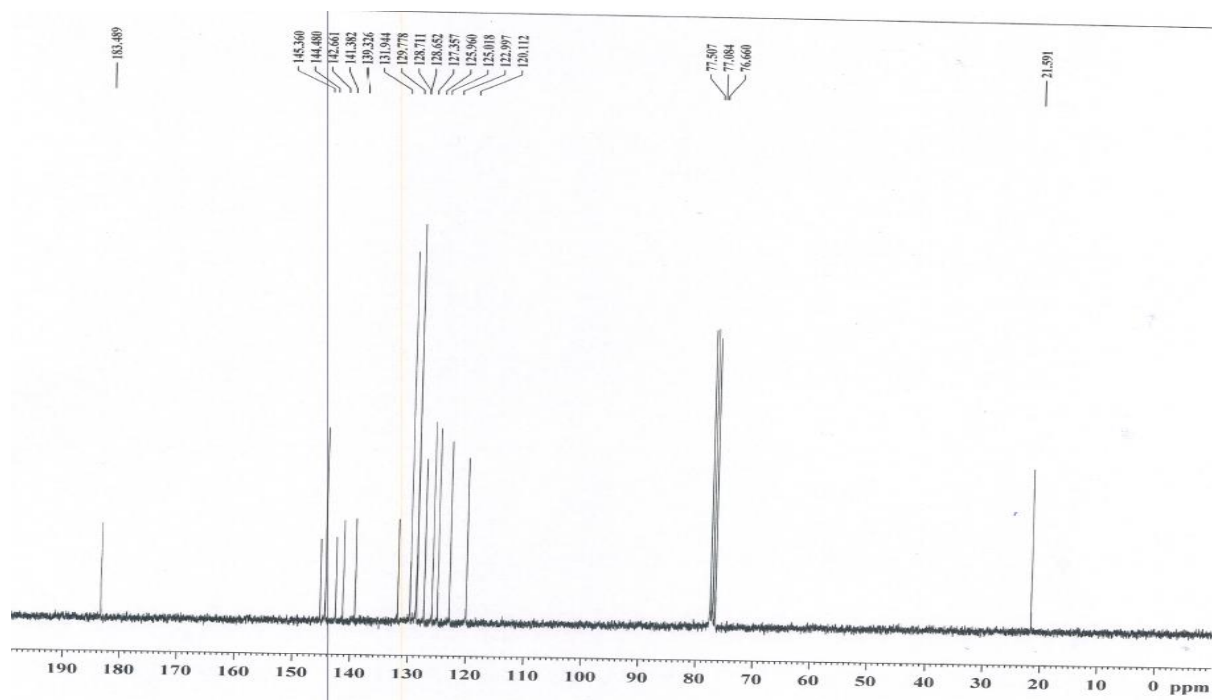


Figure 8. ¹³C NMR spectrum of compound **1c** (CDCl₃, 75 MHz, 297 K)

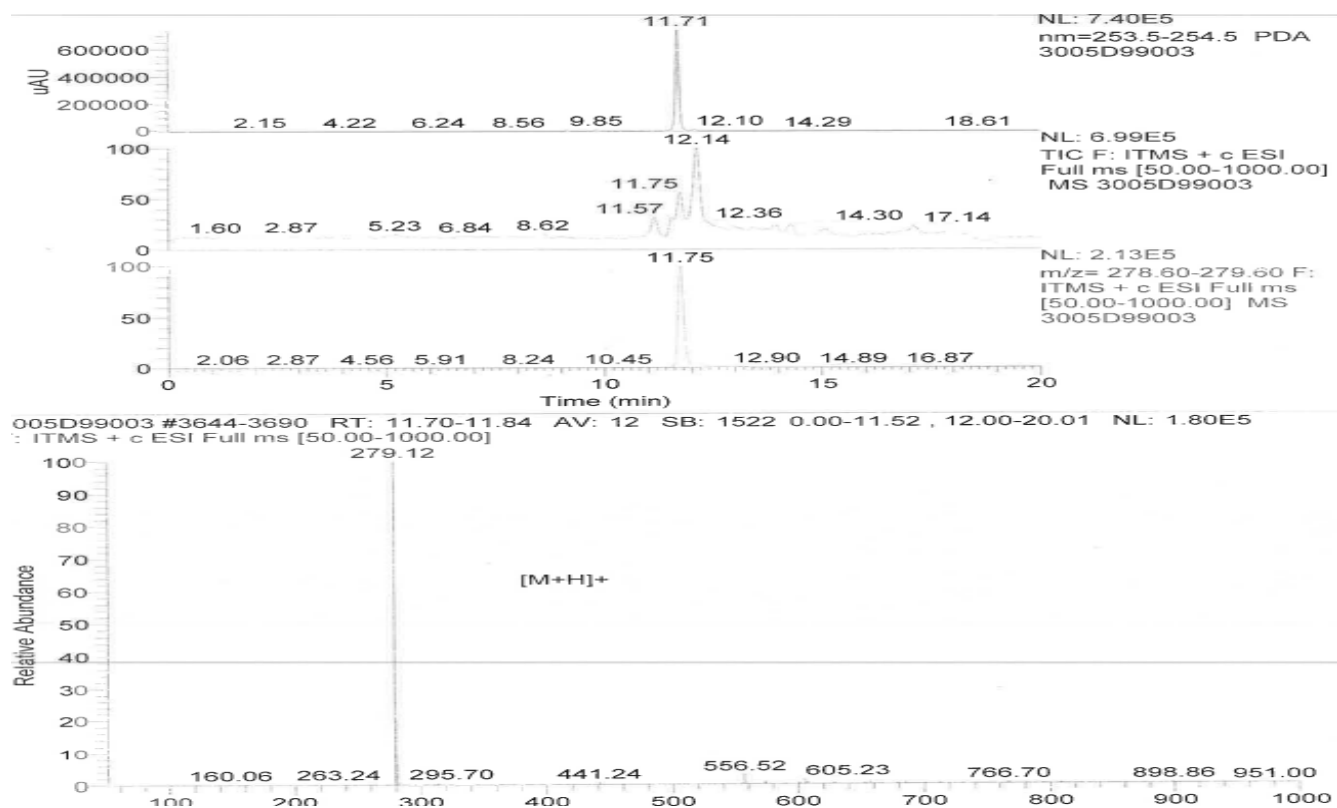


Figure 9. LC-MS mass spectrum of compound **1c**

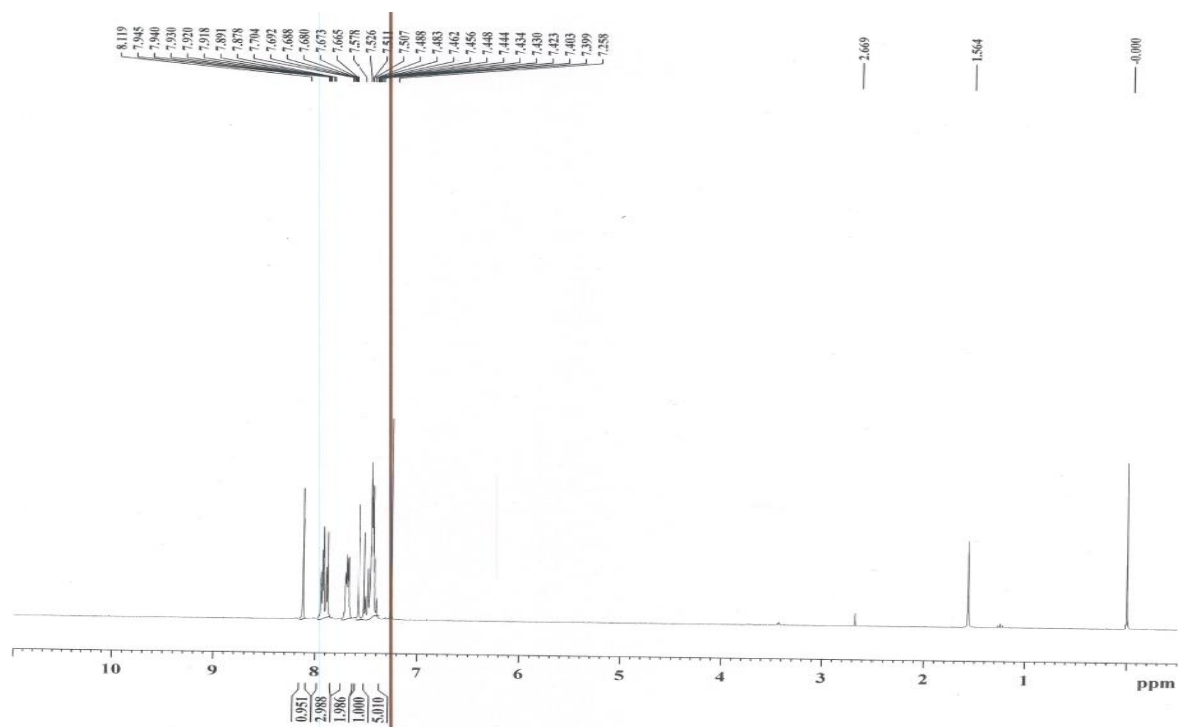


Figure 10. ^1H NMR spectrum of compound **1d** (CDCl_3 , 300 MHz, 298 K)

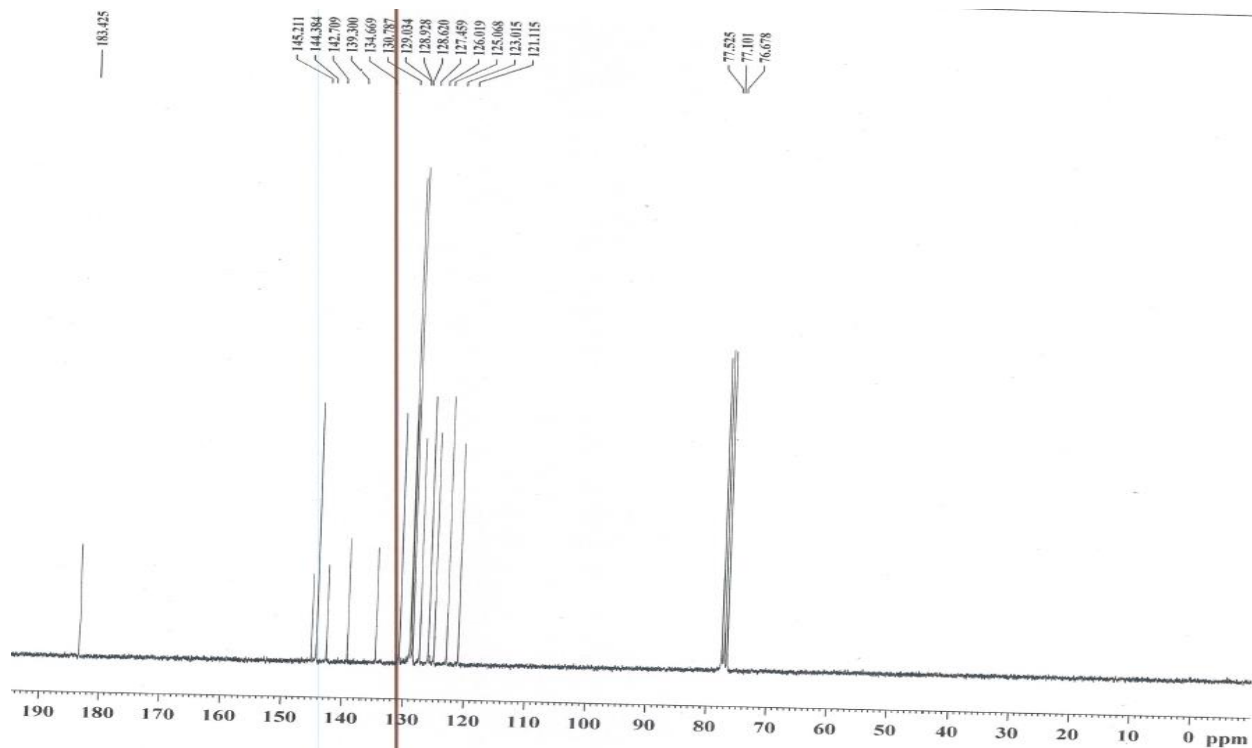


Figure 11. ^{13}C NMR spectrum of compound **1d** (CDCl_3 , 75 MHz, 297 K)

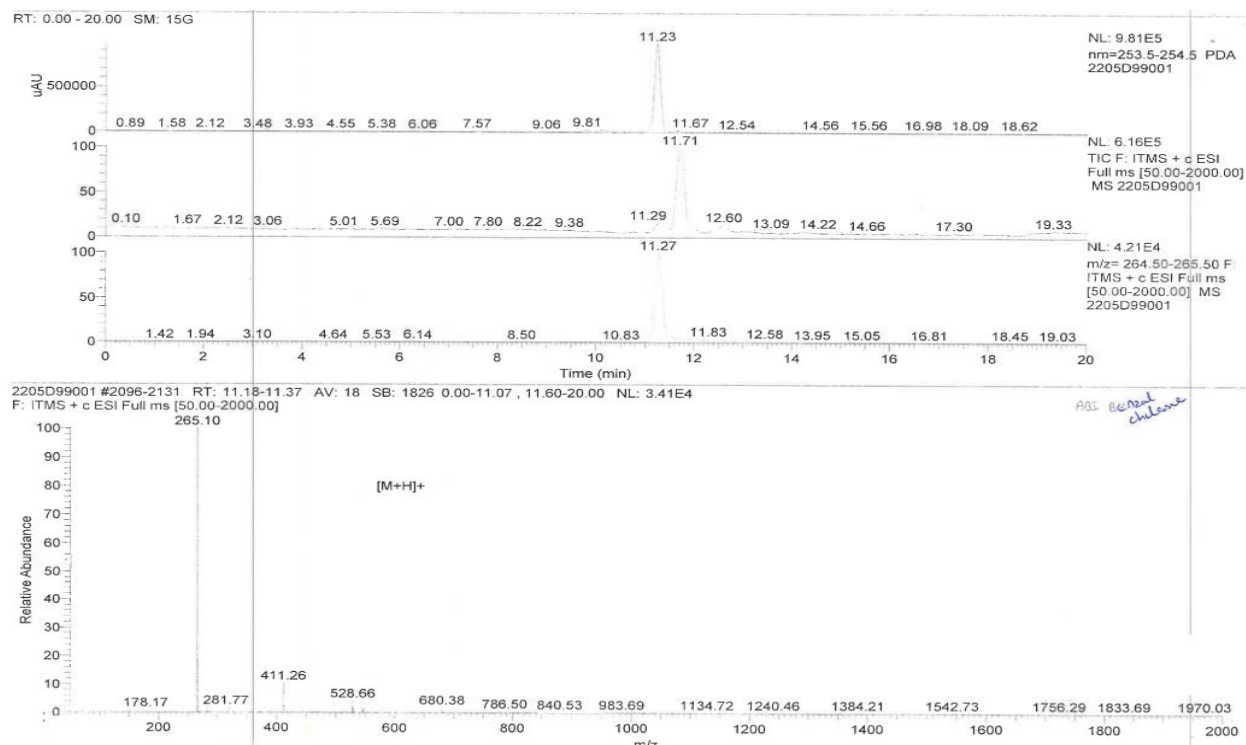


Figure 12. LC-MS mass spectrum of compound **1d**

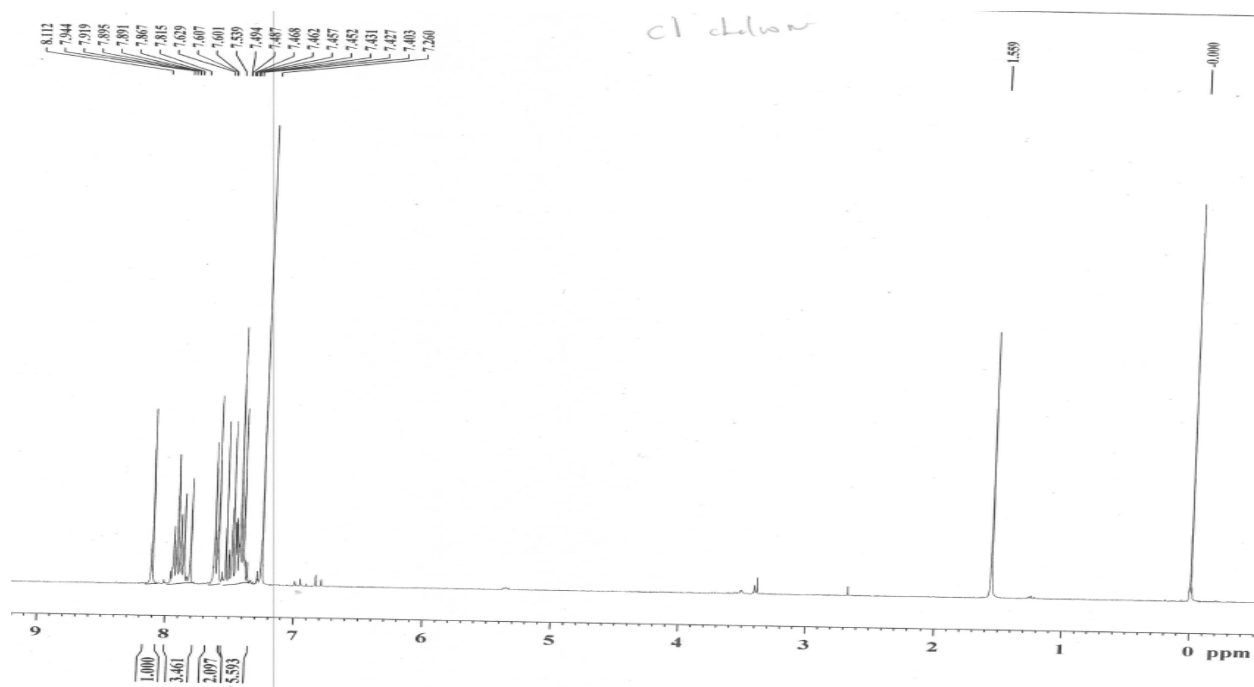


Figure 13 ^1H NMR spectrum of compound **1e** (CDCl_3 , 300 MHz, 298 K)

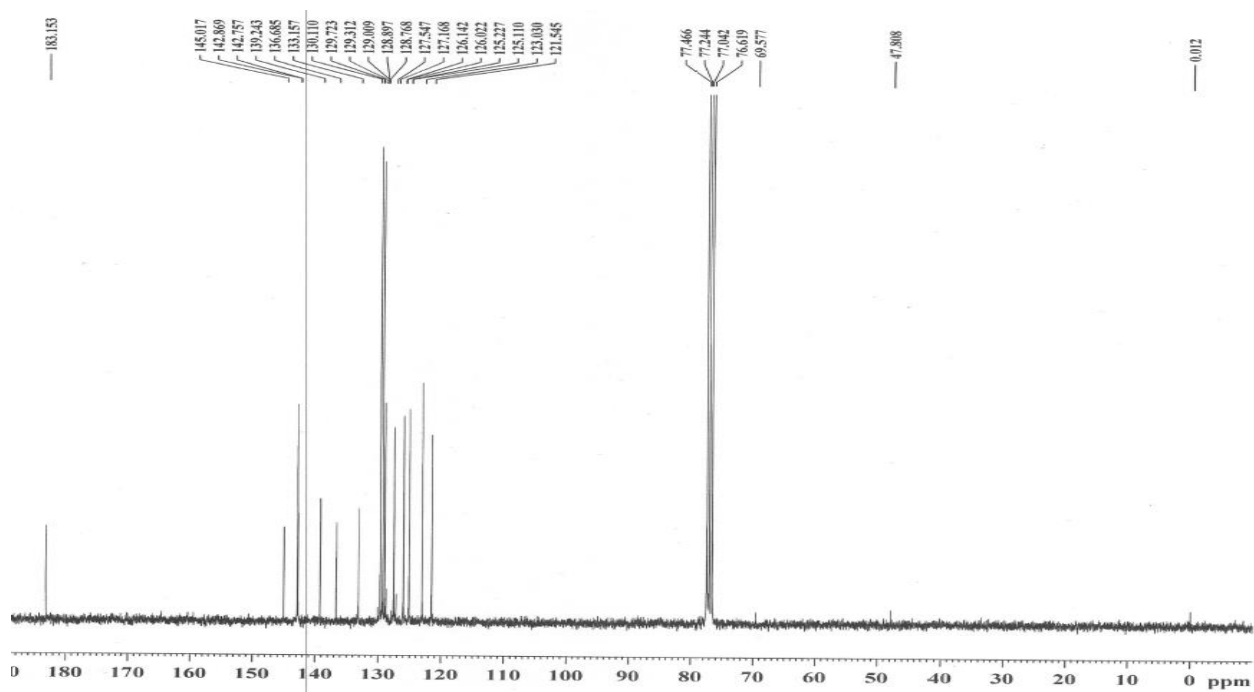


Figure 14. ^{13}C NMR spectrum of compound **1e** (CDCl_3 , 75 MHz, 297 K)

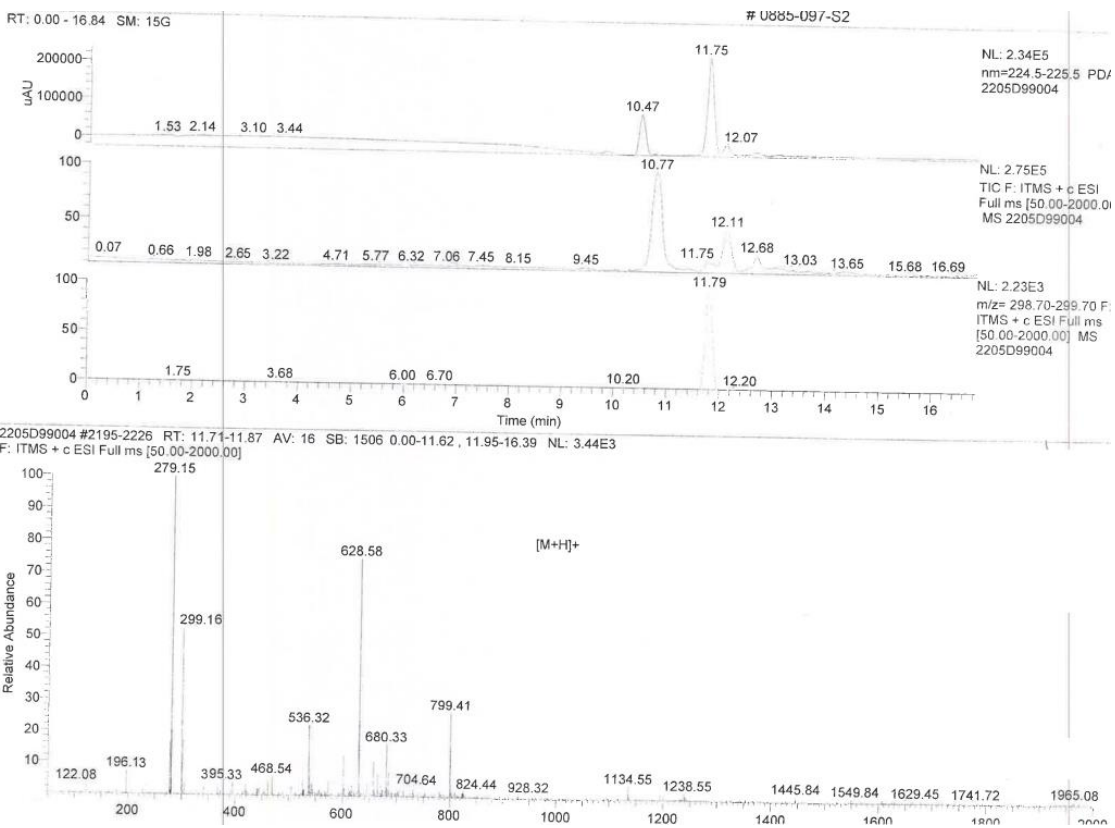


Figure 15. LC-MS mass spectrum of compound **1e**

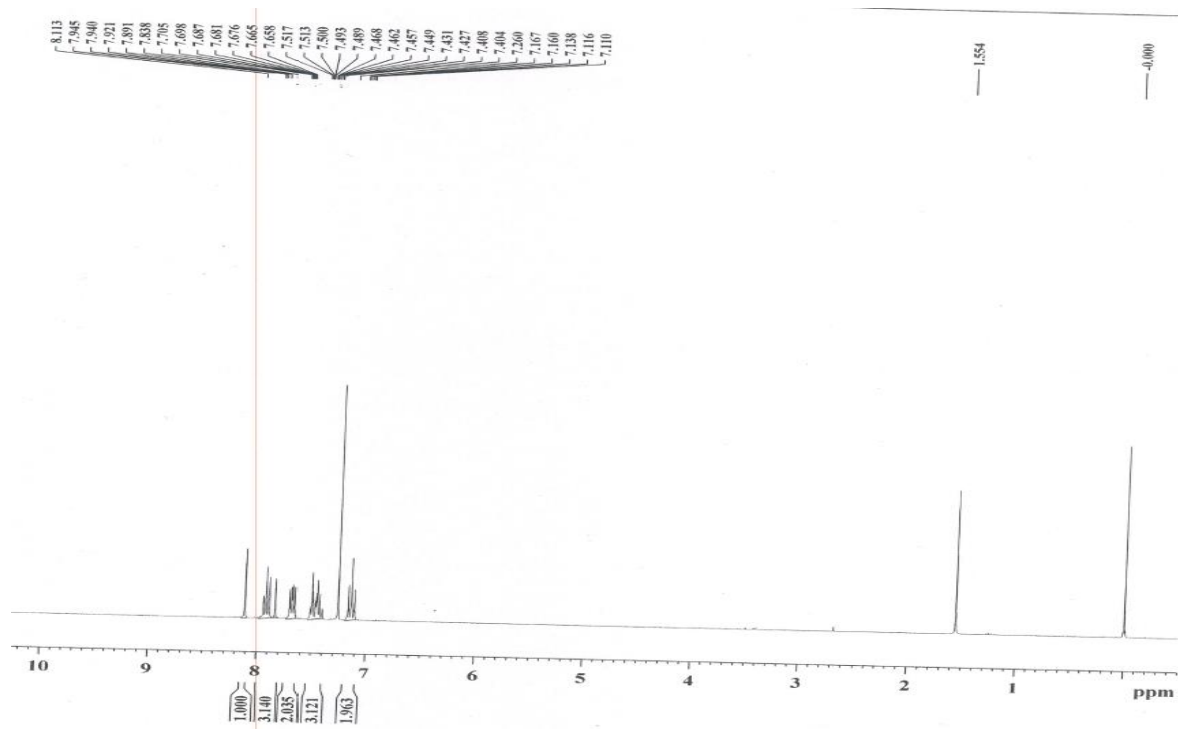


Figure 16. ¹H NMR spectrum of compound **1f** (CDCl₃, 300 MHz, 298 K)

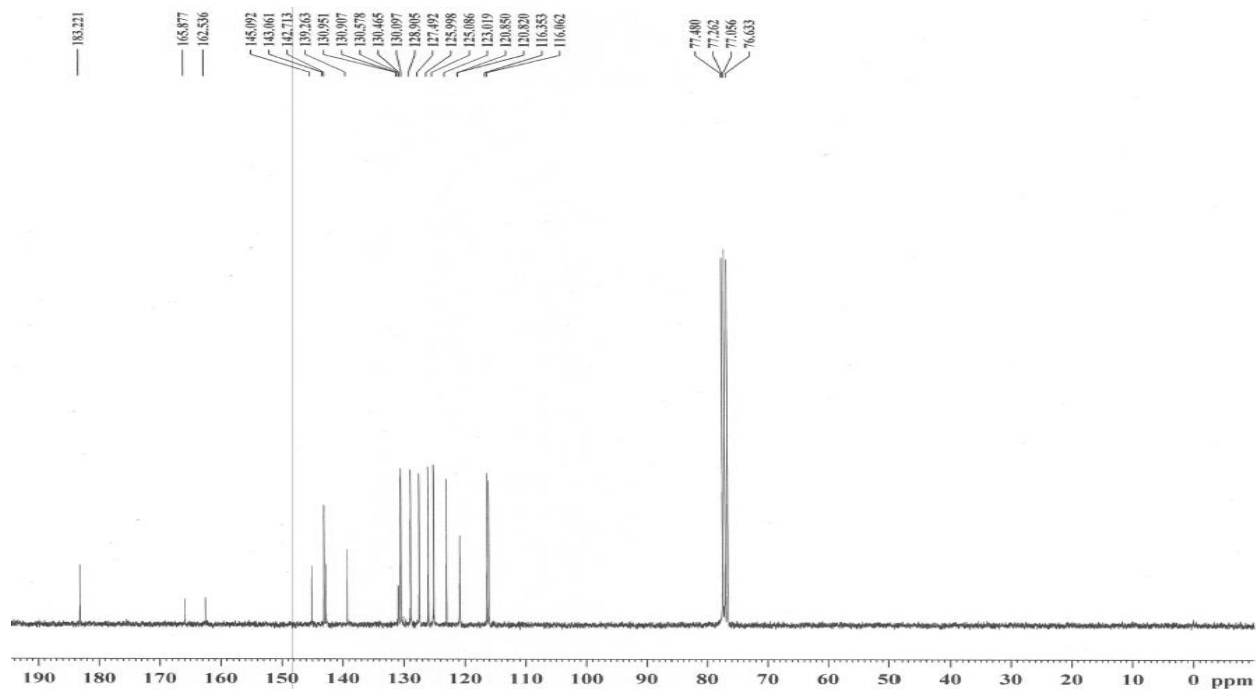


Figure 17. ^{13}C NMR spectrum of compound **1f** (CDCl_3 , 75 MHz, 297 K)

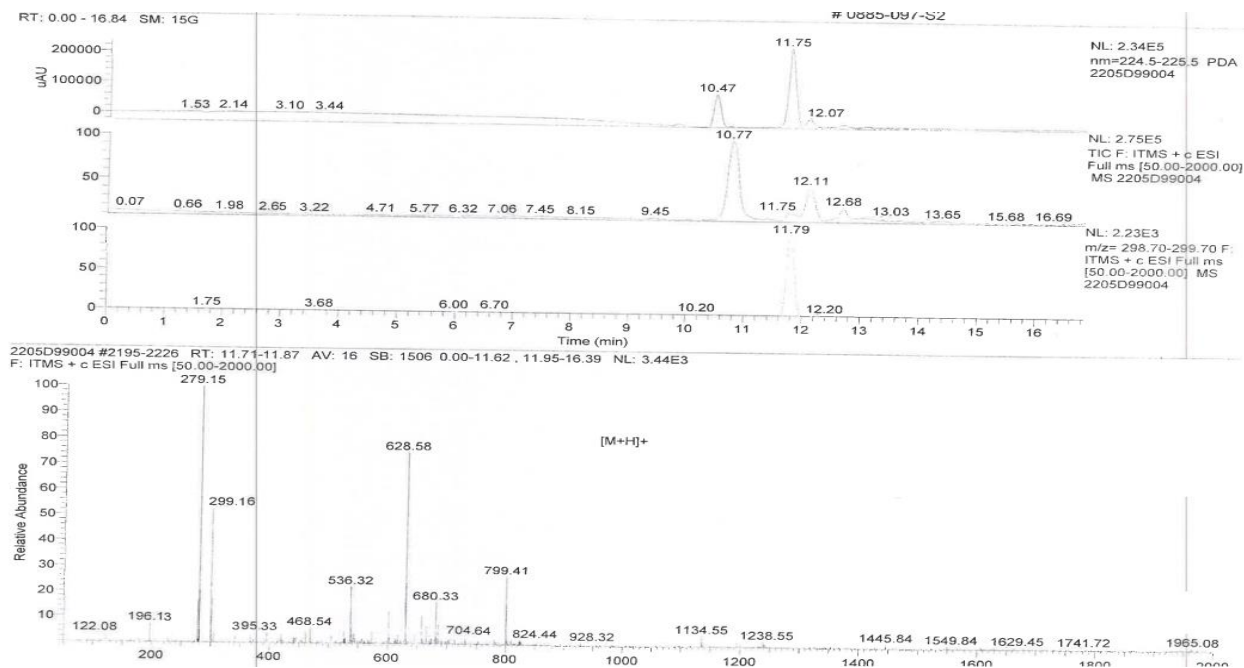


Figure 18. LC-MS mass spectrum of compound **1f**

Figure 19. ^1H NMR spectrum of compound **1g** (CDCl_3 , 300 MHz, 298 K)

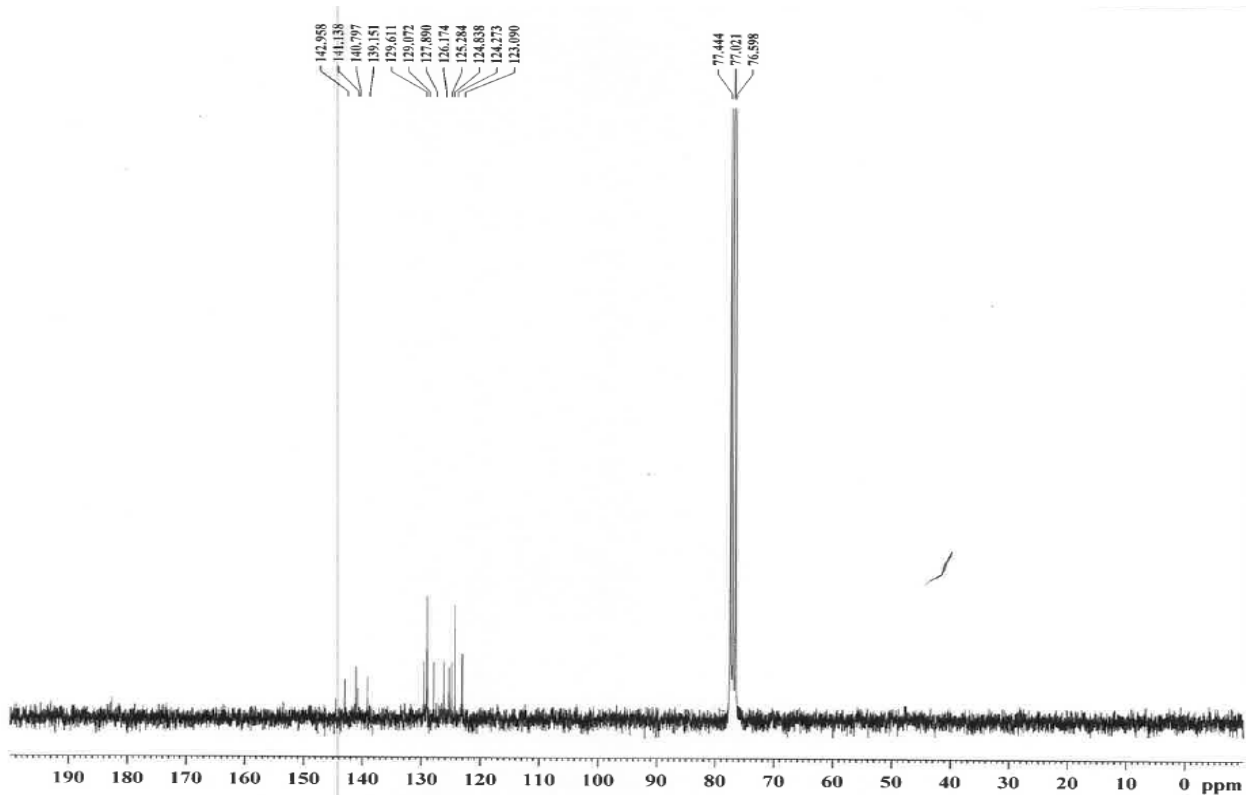


Figure 20. ^{13}C NMR spectrum of compound **1g** (CDCl_3 , 75 MHz, 297 K)

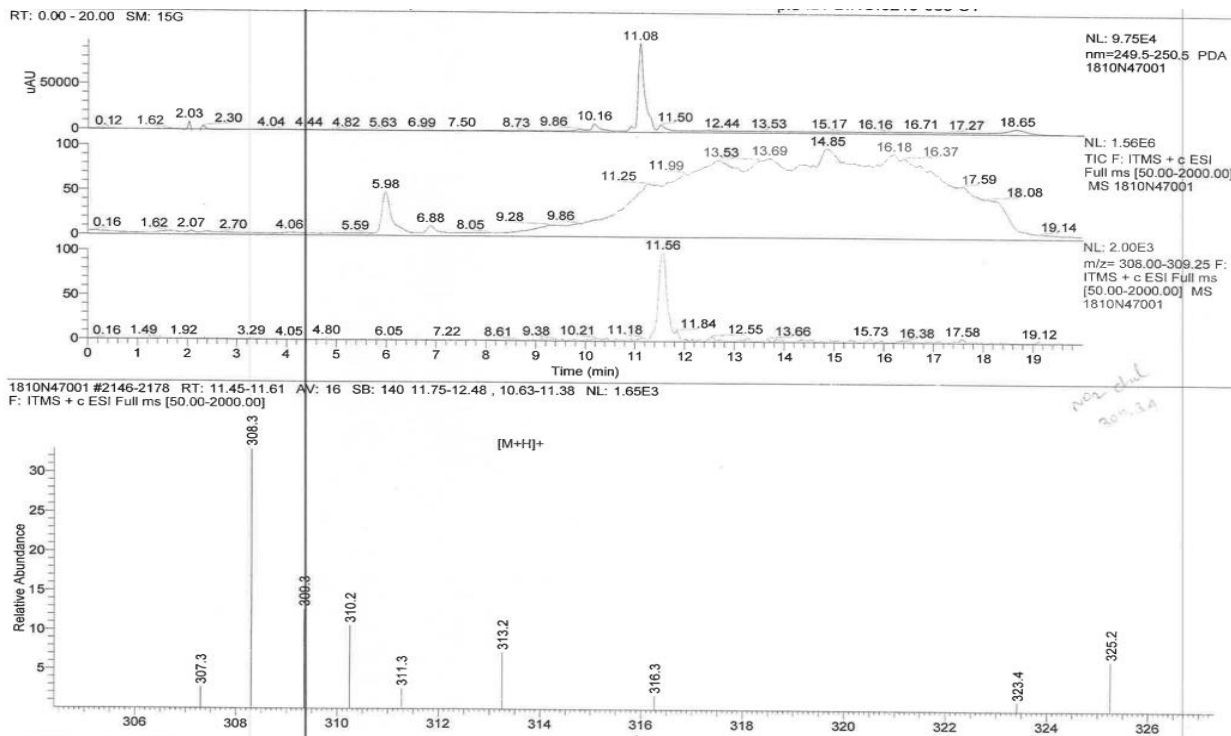


Figure 21. LC-MS mass spectrum of compound **1g**

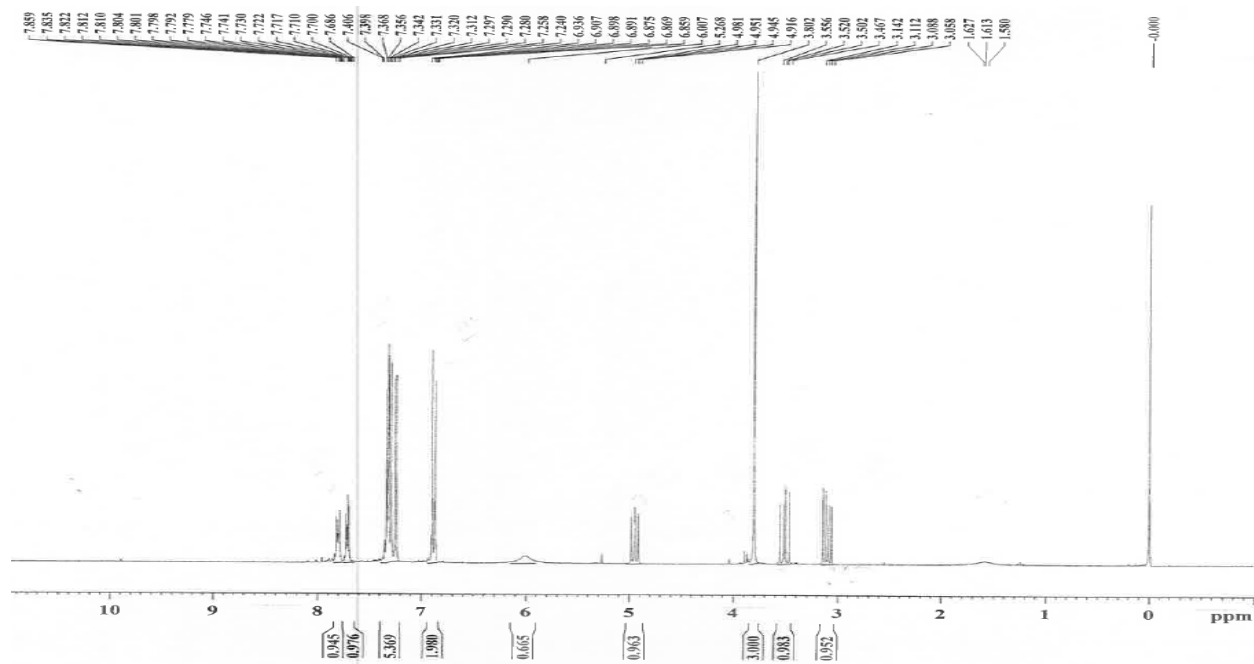


Figure 22. ^1H NMR spectrum of compound **2a** (CDCl_3 , 300 MHz, 298 K)

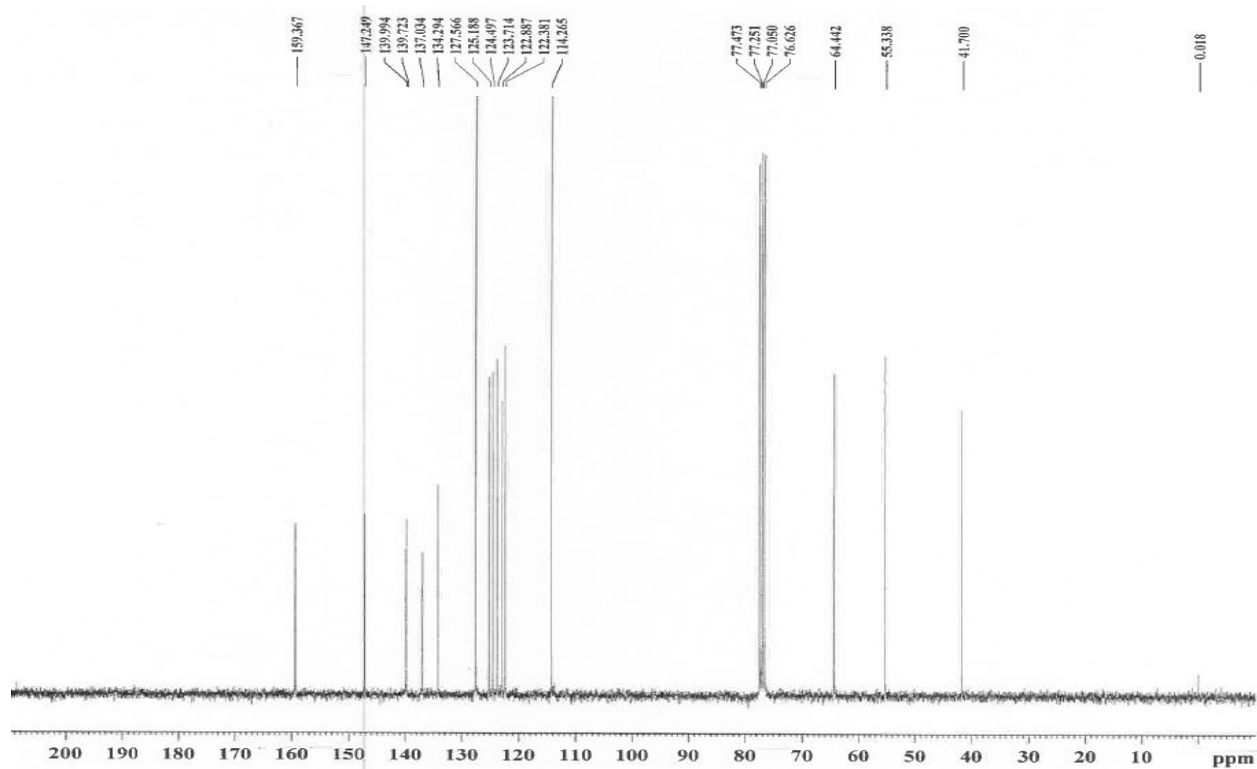


Figure 23. ^{13}C NMR spectrum of compound **2a** (CDCl_3 , 75 MHz, 297 K)

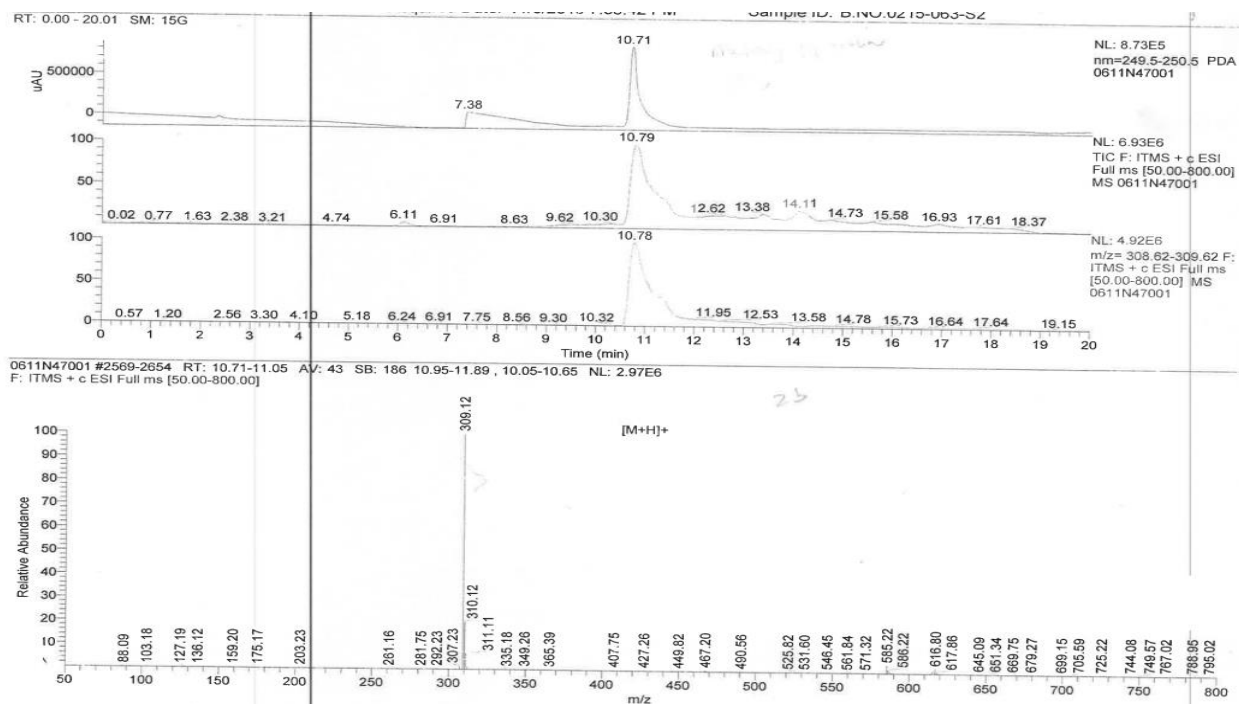


Figure 24. LC-MS mass spectrum of compound 2a

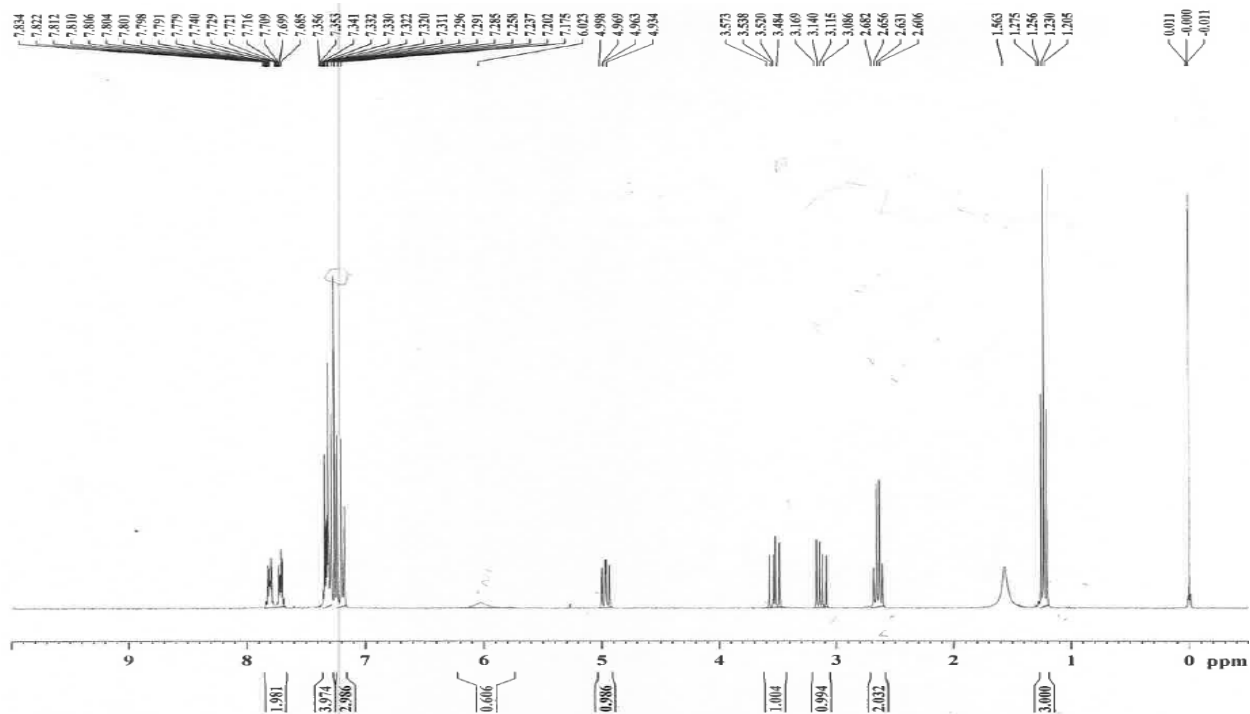


Figure 25. ¹H NMR spectrum of compound 2b (CDCl₃, 300 MHz, 298 K)

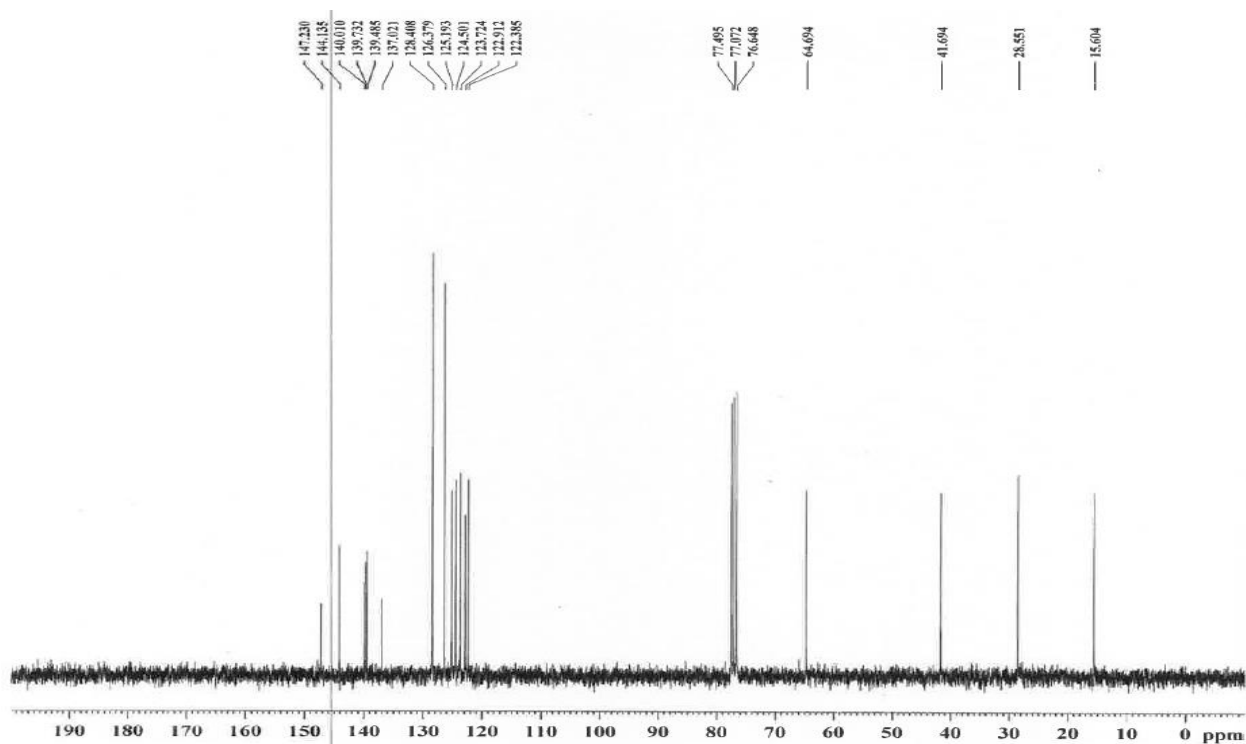


Figure 26. ^{13}C NMR spectrum of compound **2b** (CDCl_3 , 75 MHz, 297 K)

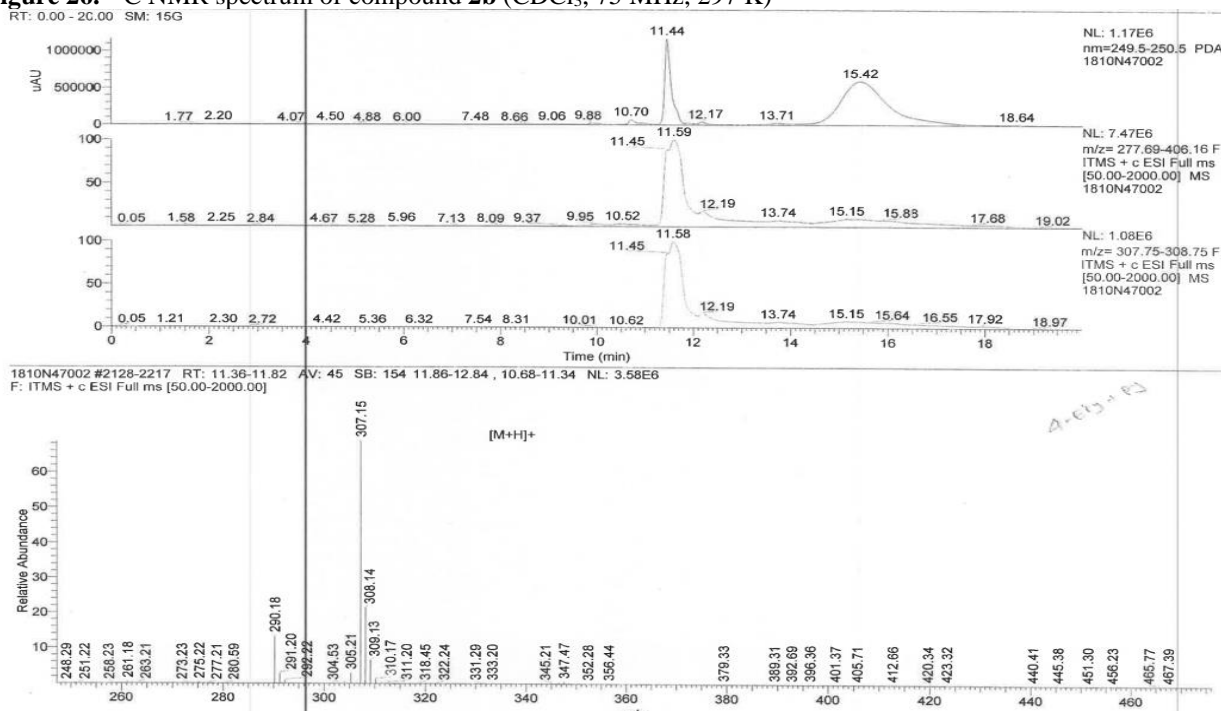


Figure 27. LC-MS mass spectrum of compound **2b**

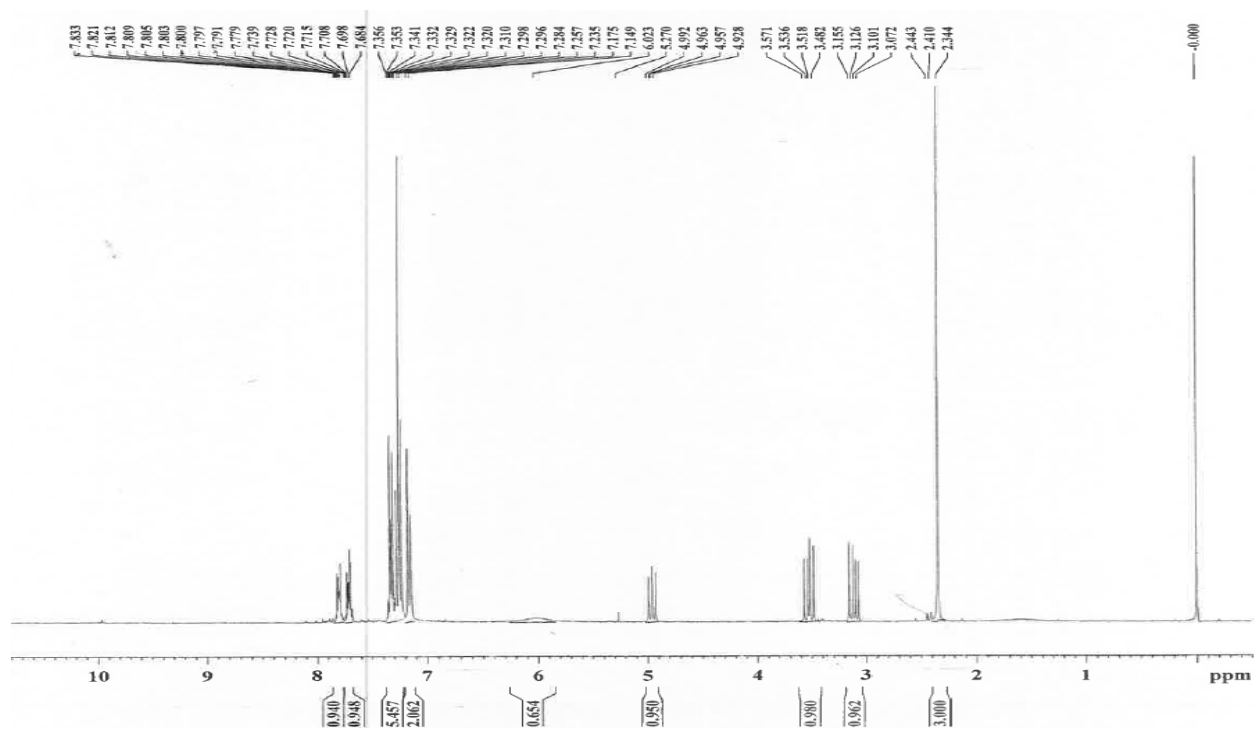


Figure 28. ^1H NMR spectrum of compound **2c** (CDCl_3 , 300 MHz, 298 K)

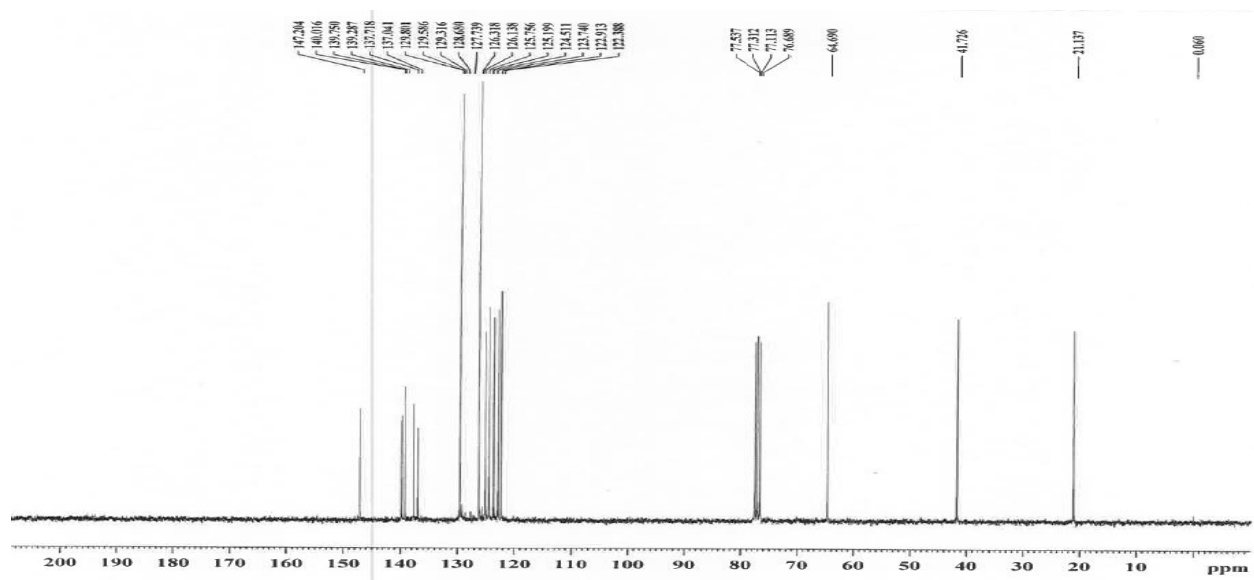


Figure 29. ^{13}C NMR spectrum of compound **2c** (CDCl_3 , 75 MHz, 297 K)

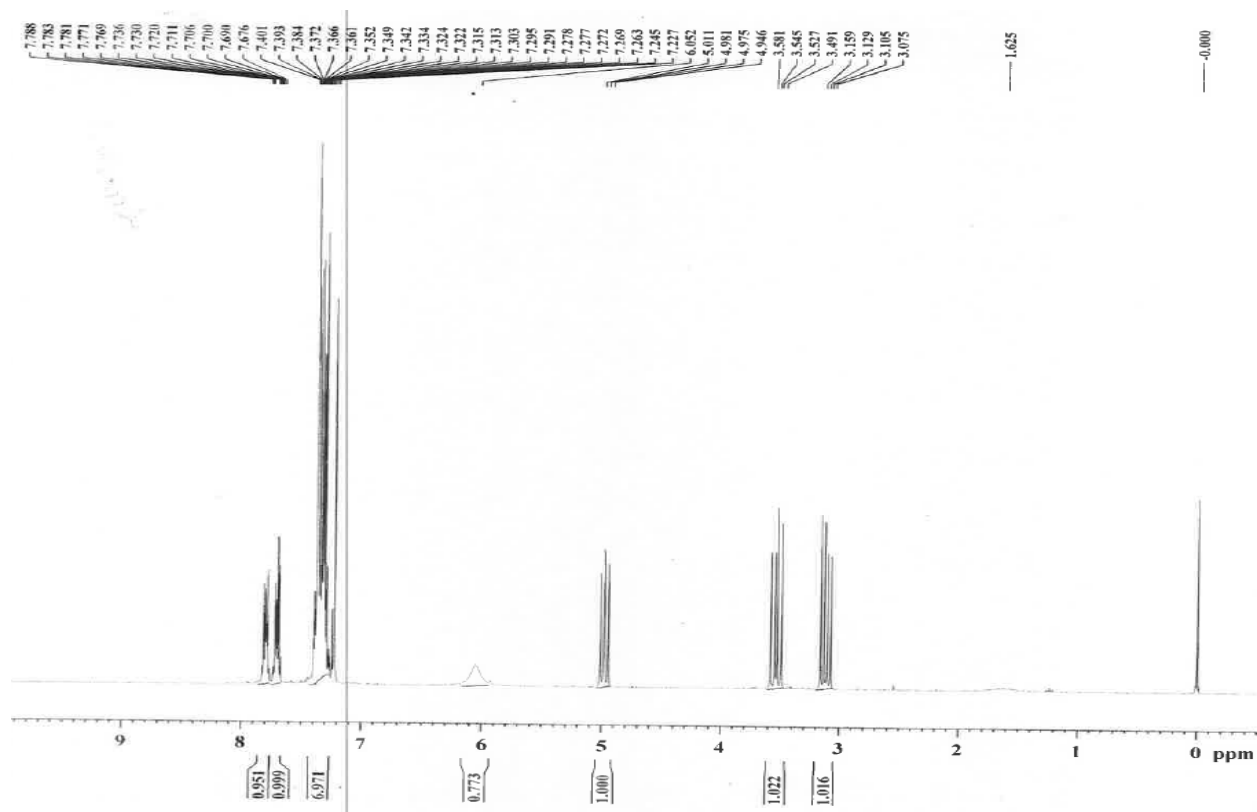


Figure 30. ^1H NMR spectrum of compound **2d** (CDCl_3 , 300 MHz, 298 K)

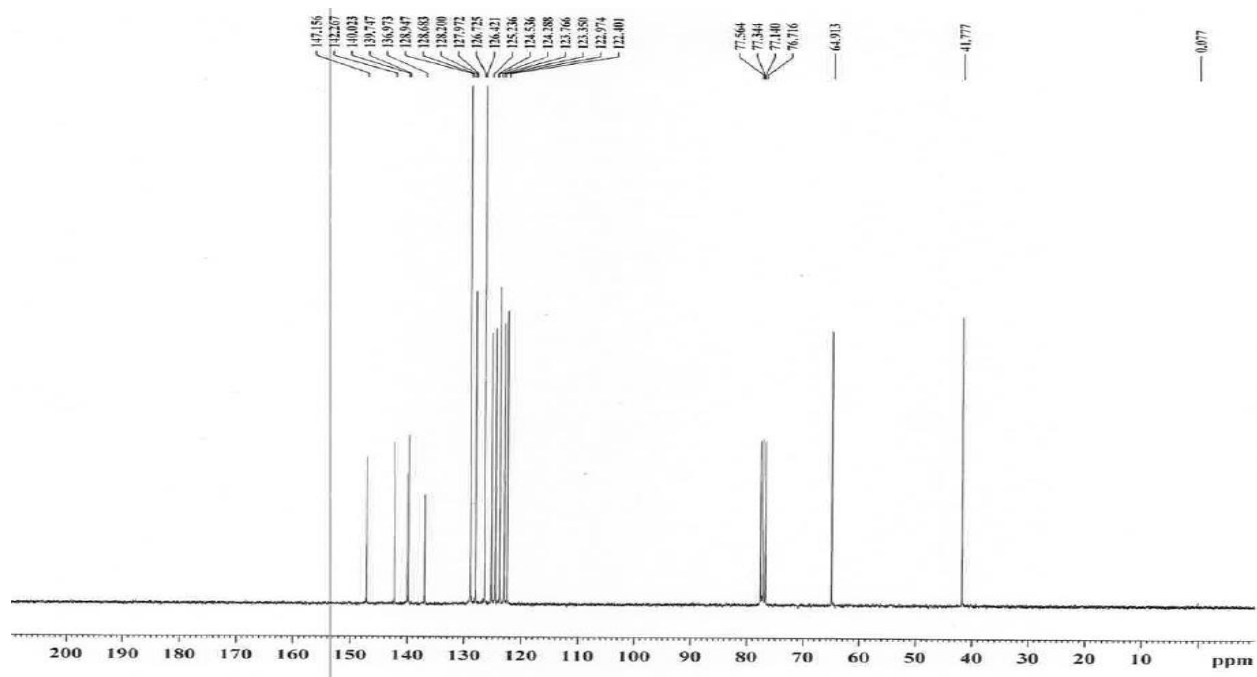


Figure 31. ^{13}C NMR spectrum of compound **2d** (CDCl_3 , 75 MHz, 297 K)

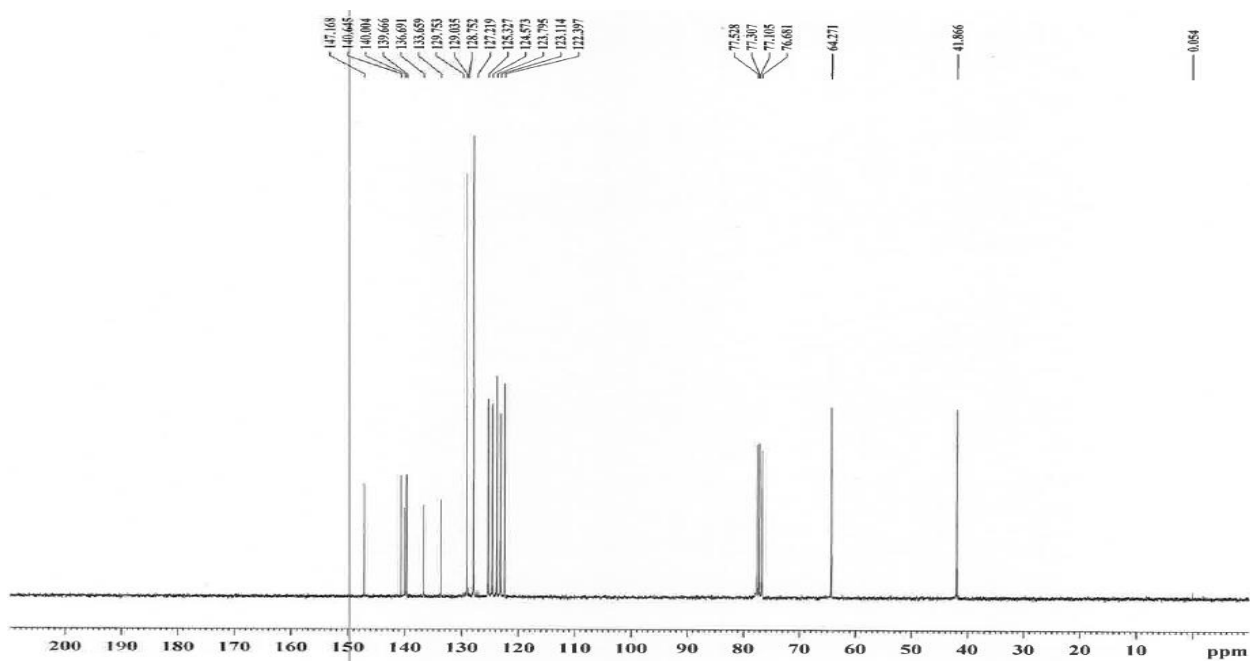


Figure 34. ^{13}C NMR spectrum of compound **2e** (CDCl_3 , 75 MHz, 297 K)

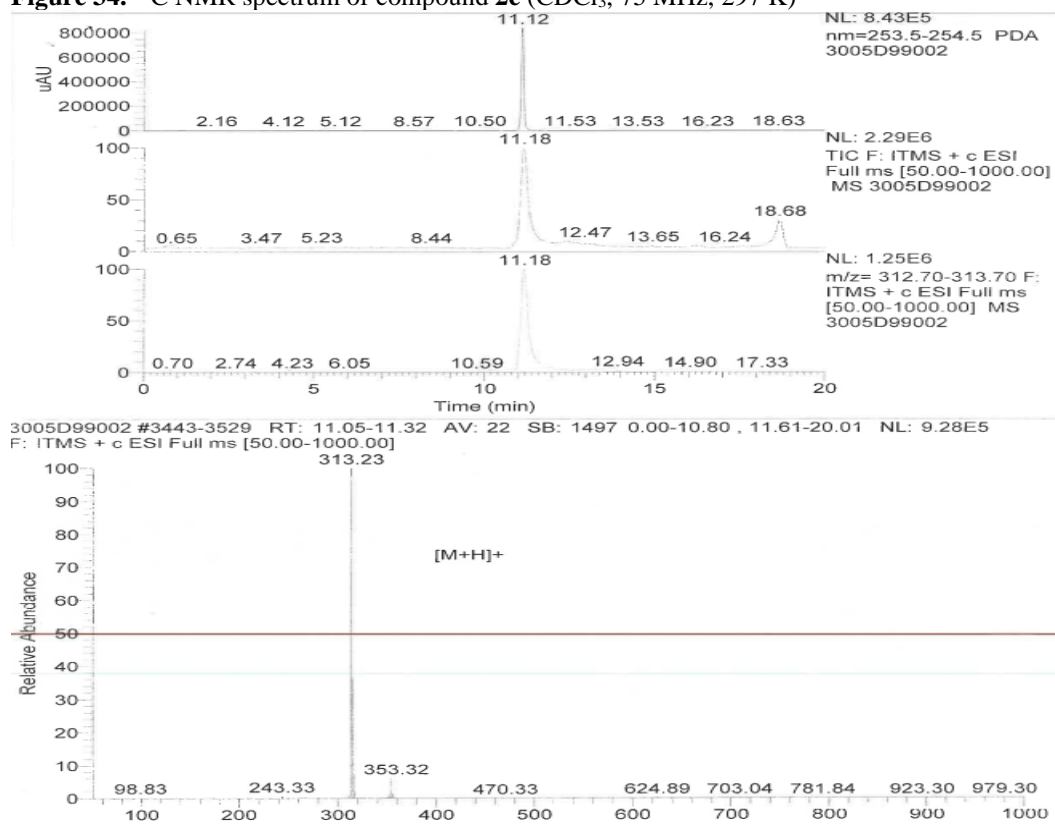


Figure 35. LC-MS mass spectrum of compound **2e**

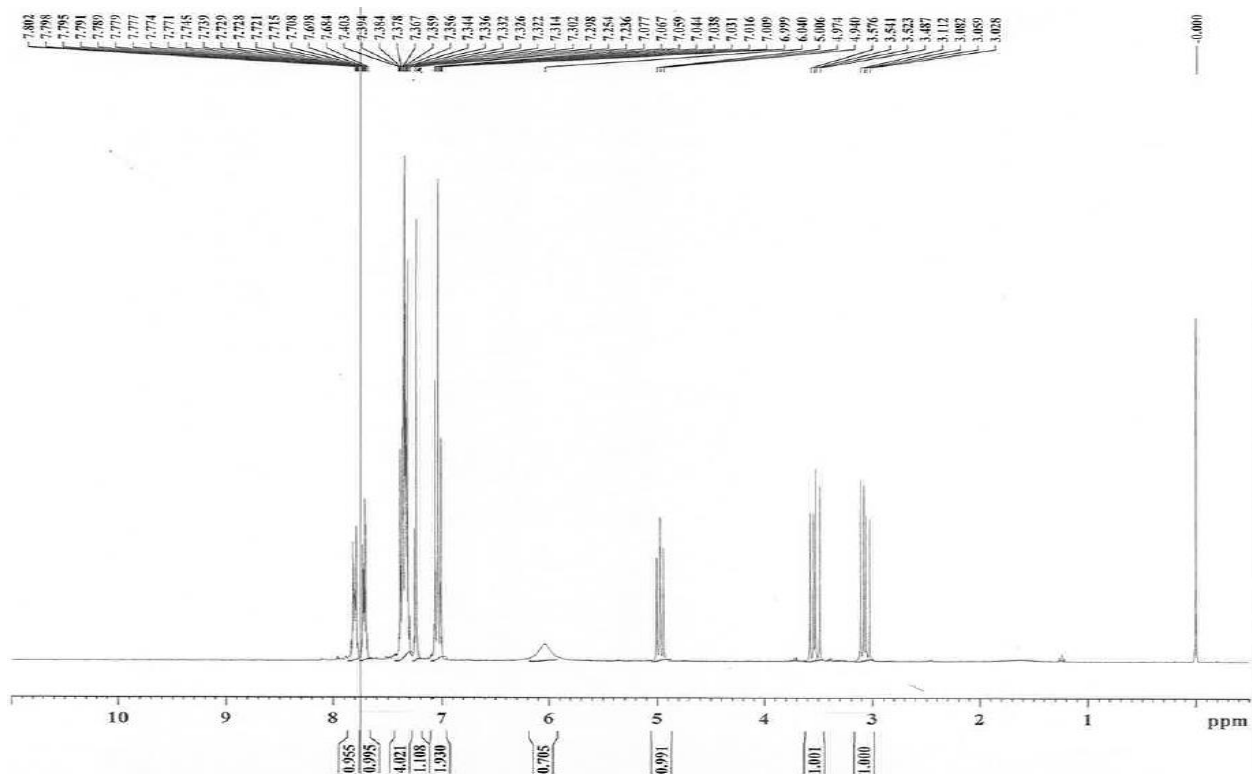


Figure 36. ^1H NMR spectrum of compound **2f** (CDCl_3 , 300 MHz, 298 K)

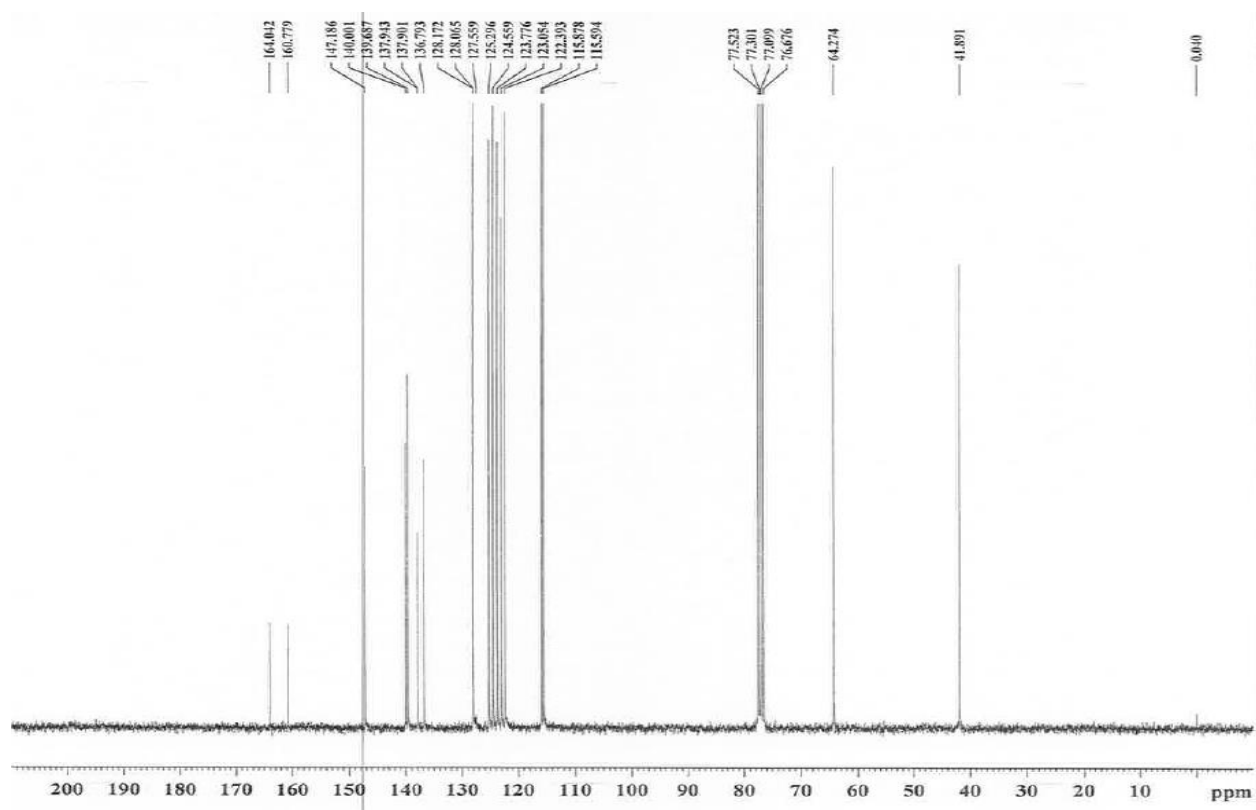


Figure 37. ^{13}C NMR spectrum of compound **2f** (CDCl_3 , 75 MHz, 297 K)

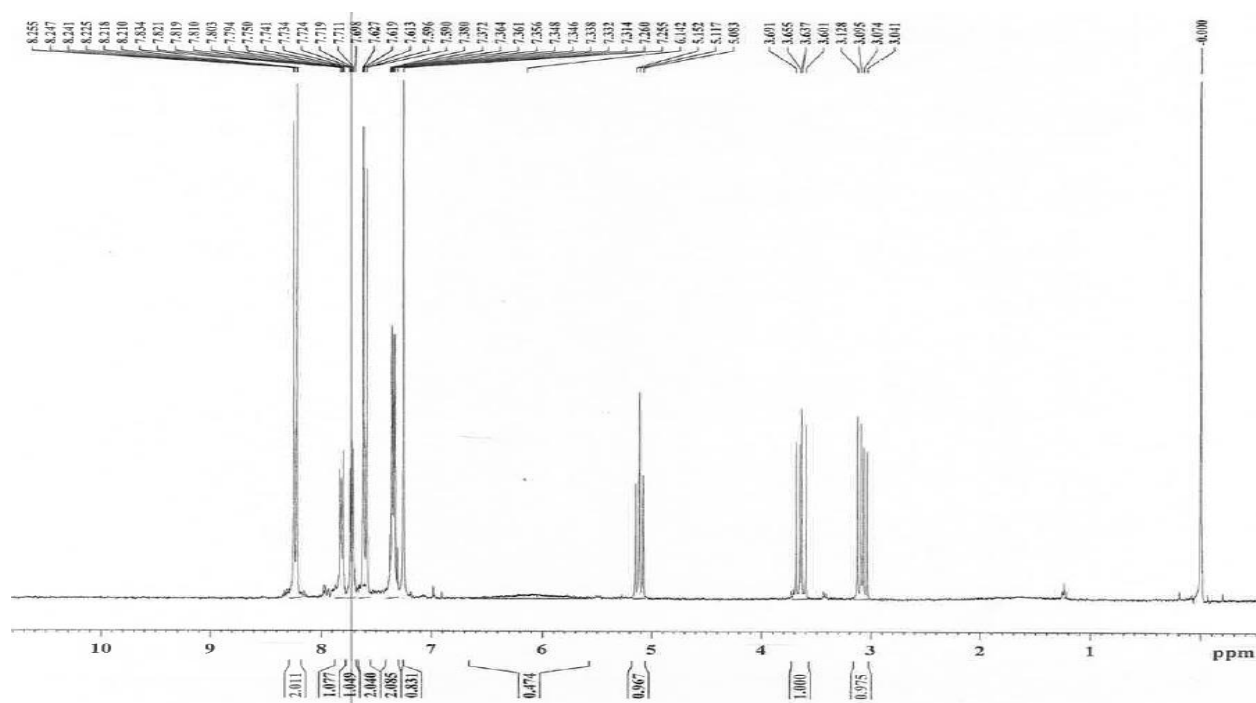


Figure 38. ^1H NMR spectrum of compound **2g** (CDCl_3 , 300 MHz, 298 K)

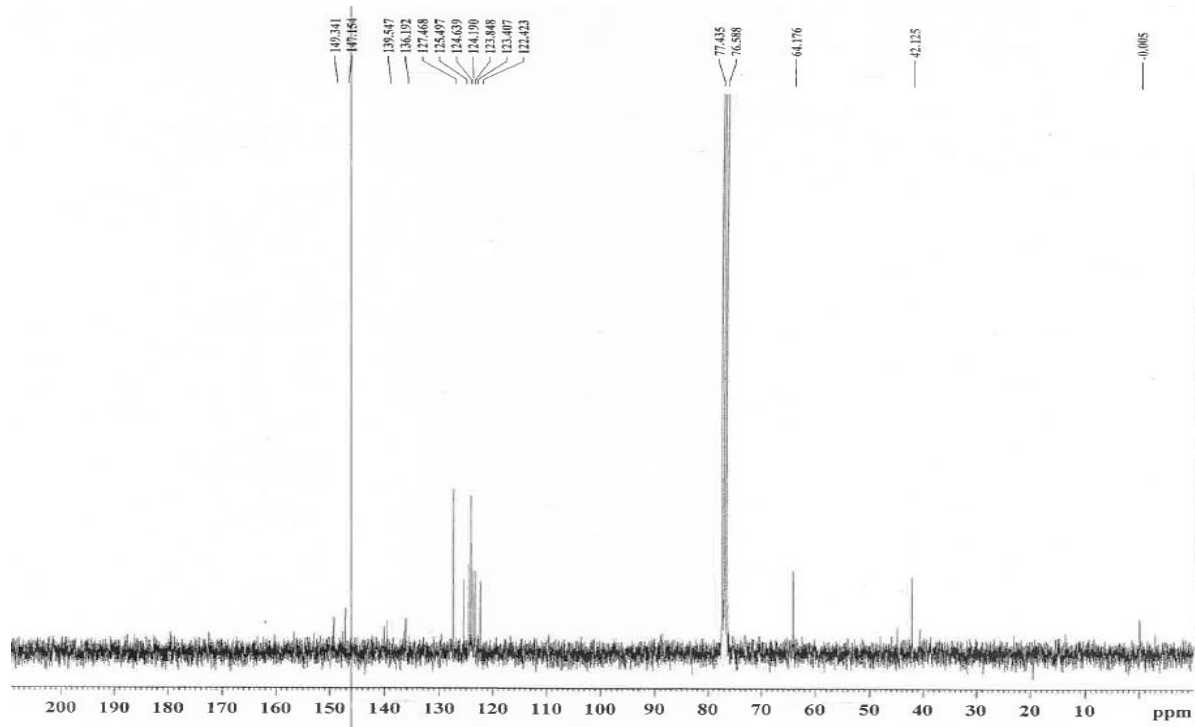


Figure 39. ^{13}C NMR spectrum of compound **2g** (CDCl_3 , 75 MHz, 297 K)

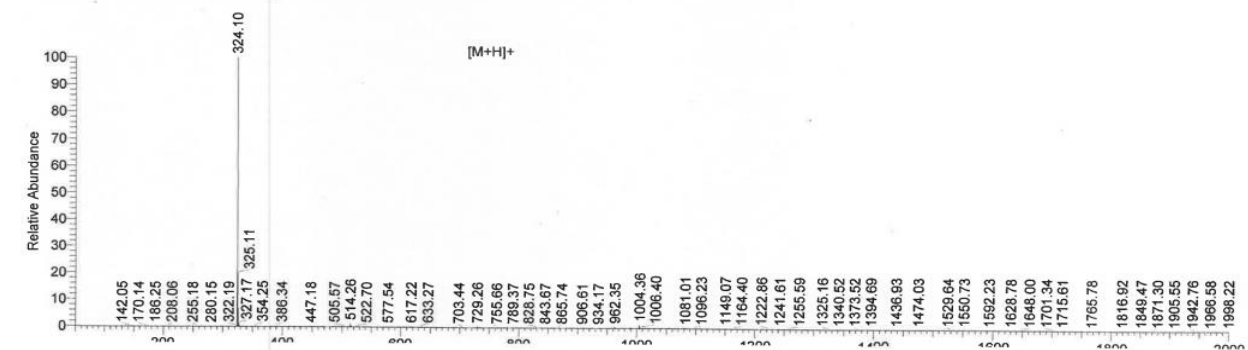
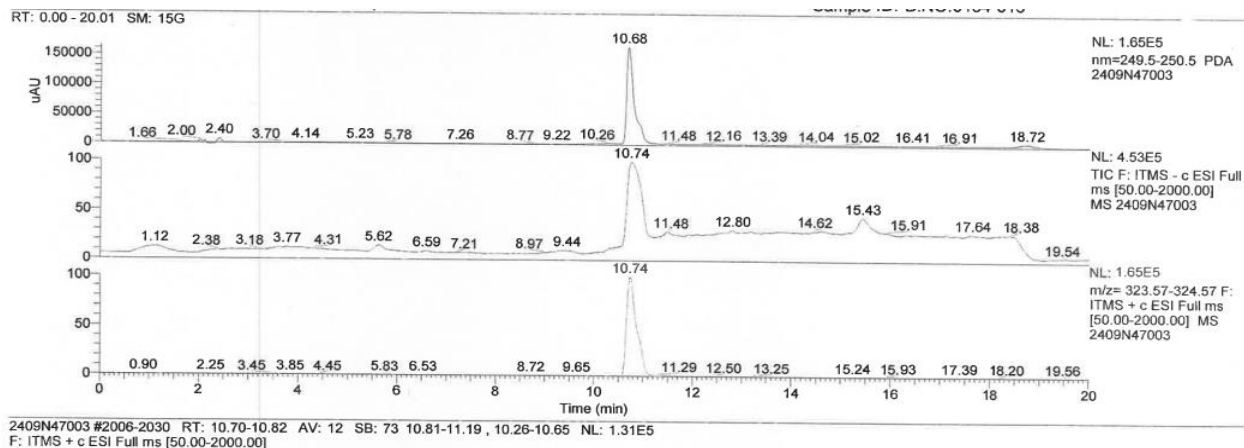


Figure 40. LC-MS mass spectrum of compound **2g**

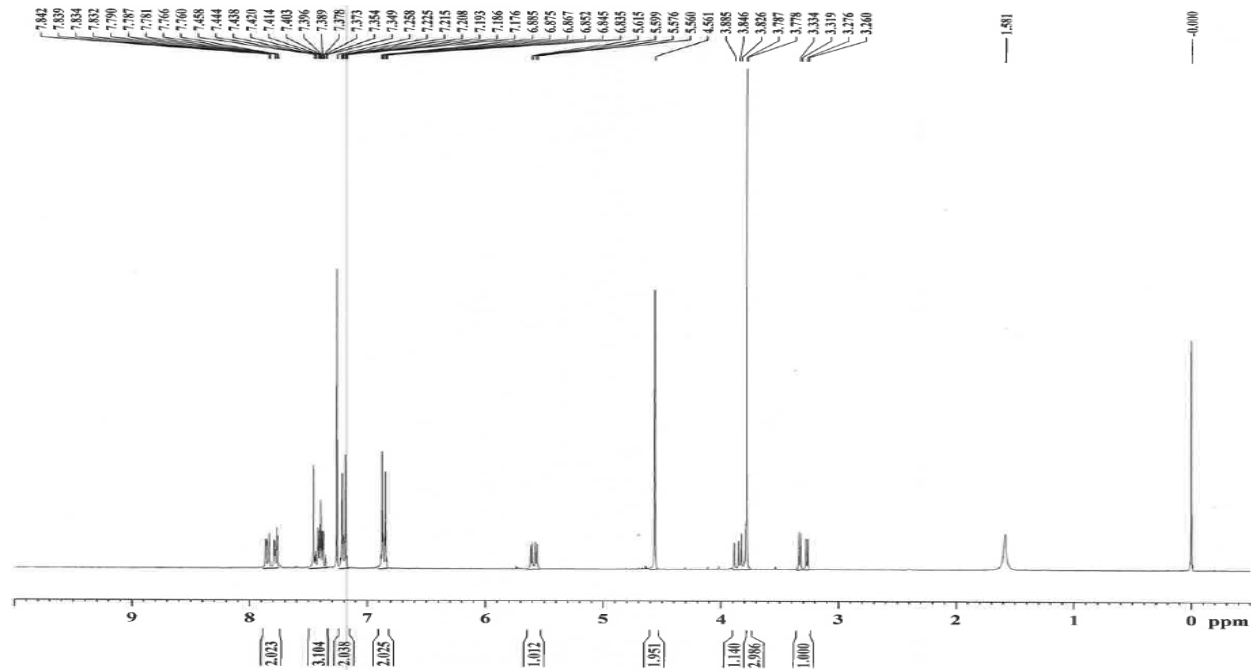


Figure 41. ^1H NMR spectrum of compound **3a** (CDCl_3 , 300 MHz, 298 K)

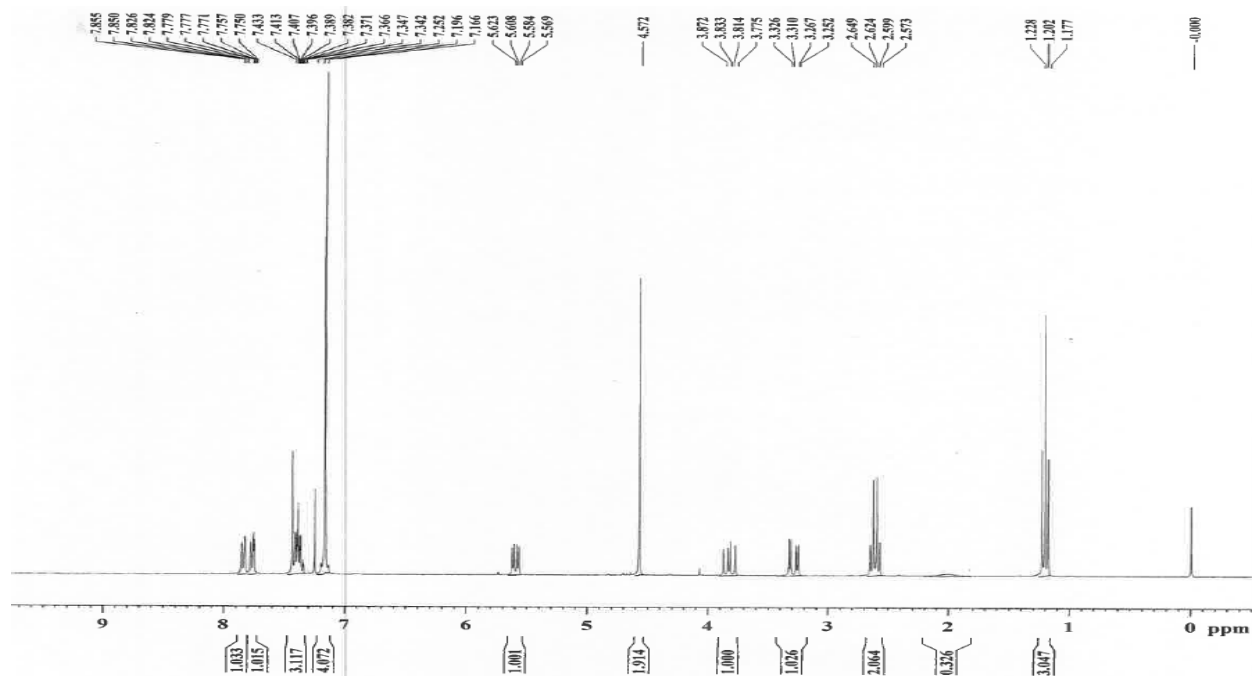


Figure 42. ^1H NMR spectrum of compound **3b** (CDCl_3 , 300 MHz, 298 K)

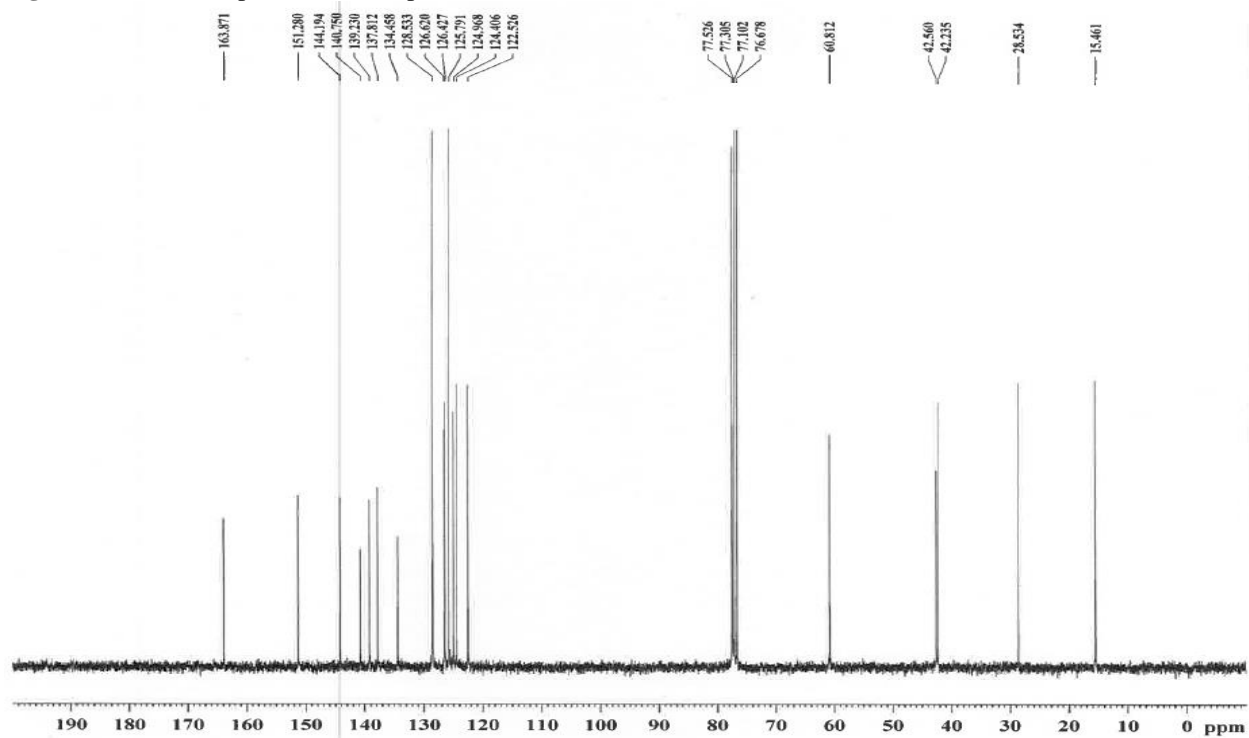


Figure 43. ^{13}C NMR spectrum of compound **3b** (CDCl_3 , 75 MHz, 297 K)

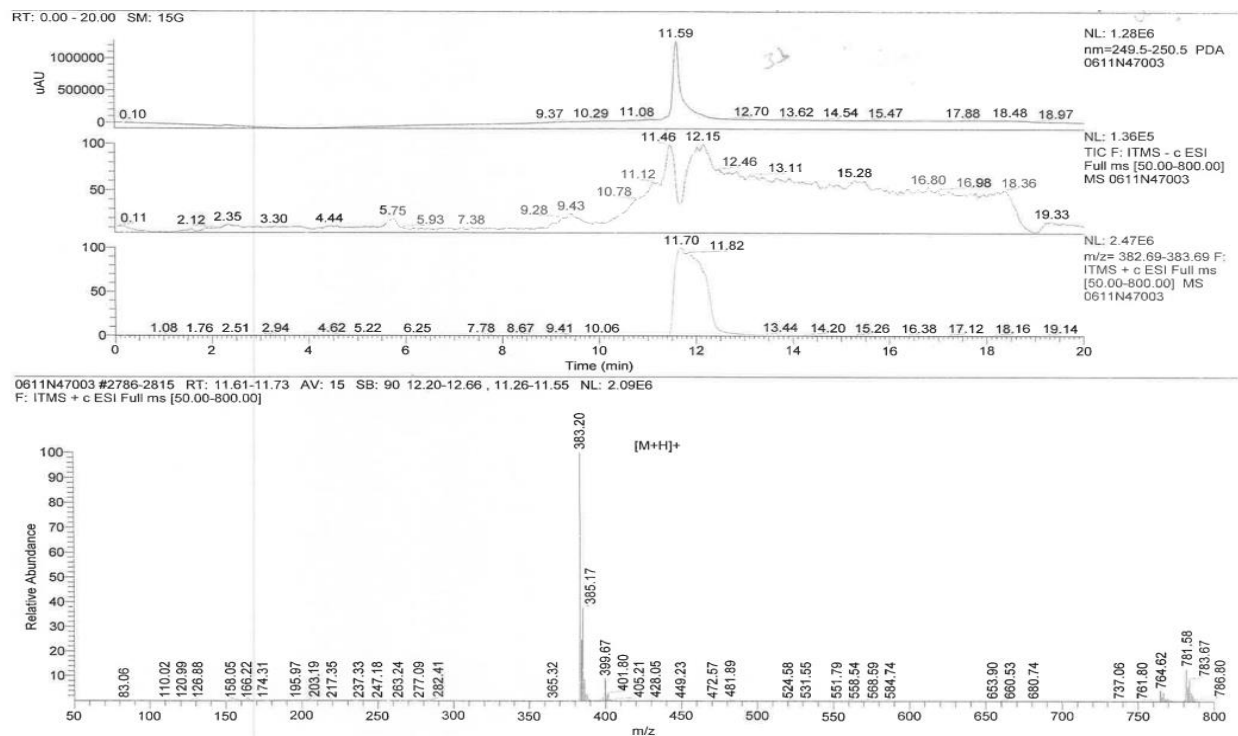


Figure 44. LC-MS mass spectrum of compound **3b**

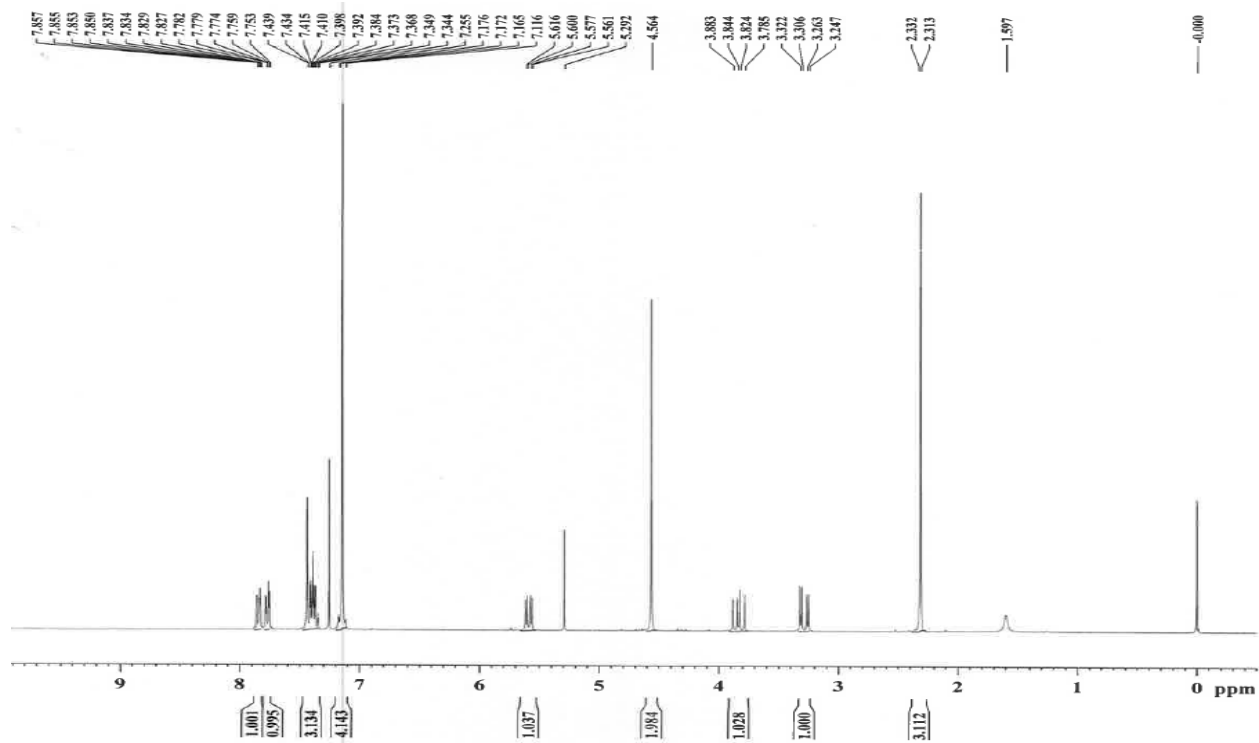


Figure 45. ¹H NMR spectrum of compound **3c** (CDCl₃, 300 MHz, 298 K)

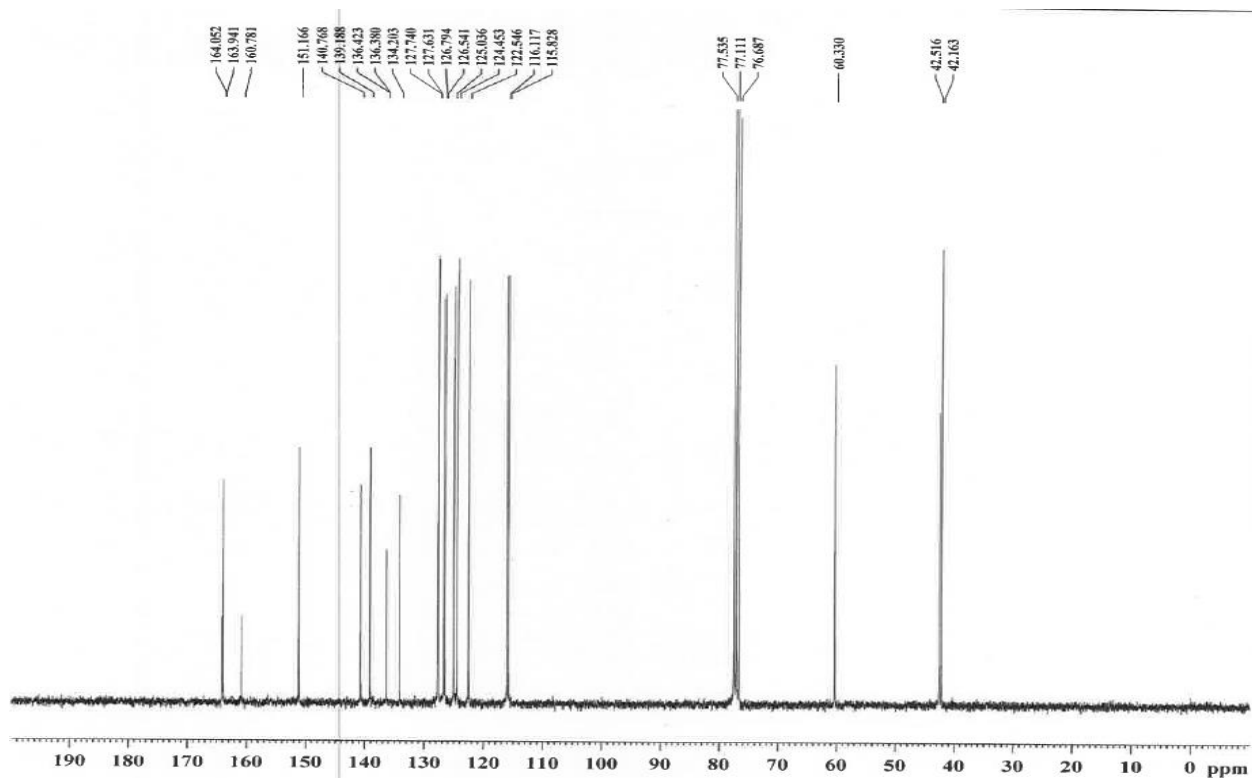


Figure 48. ^{13}C NMR spectrum of compound **3d** (CDCl_3 , 75 MHz, 297 K)

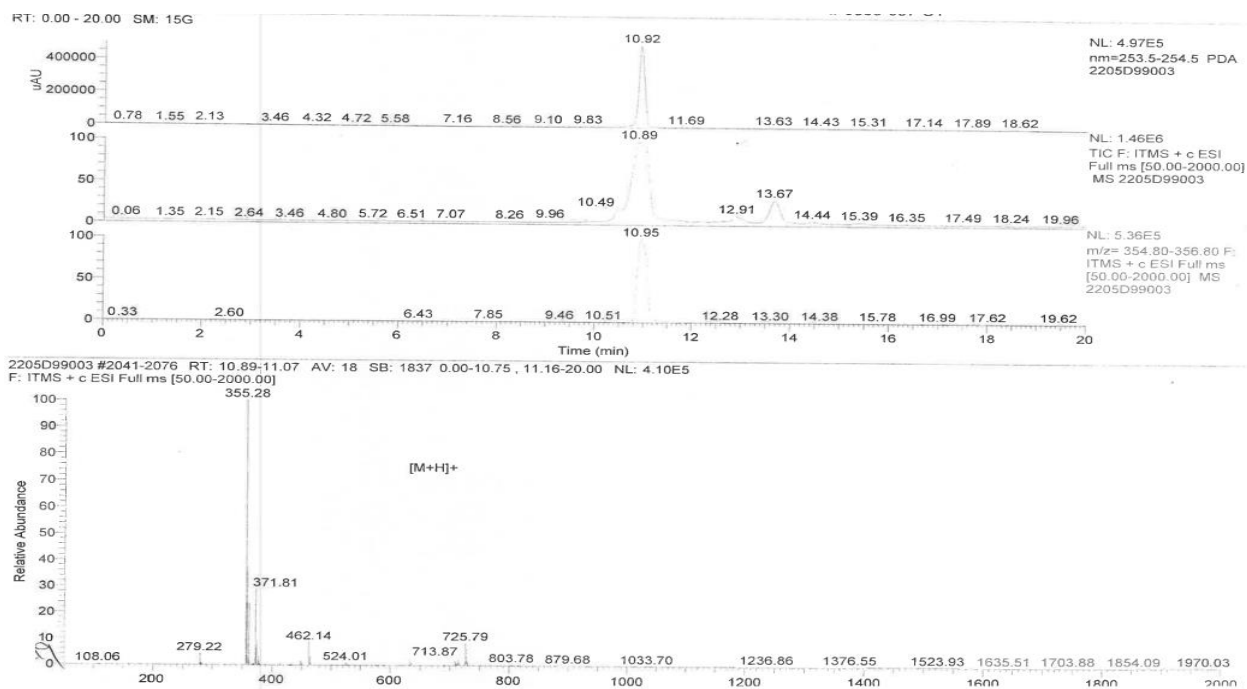


Figure 49. LC-MS mass spectrum of compound **3d**

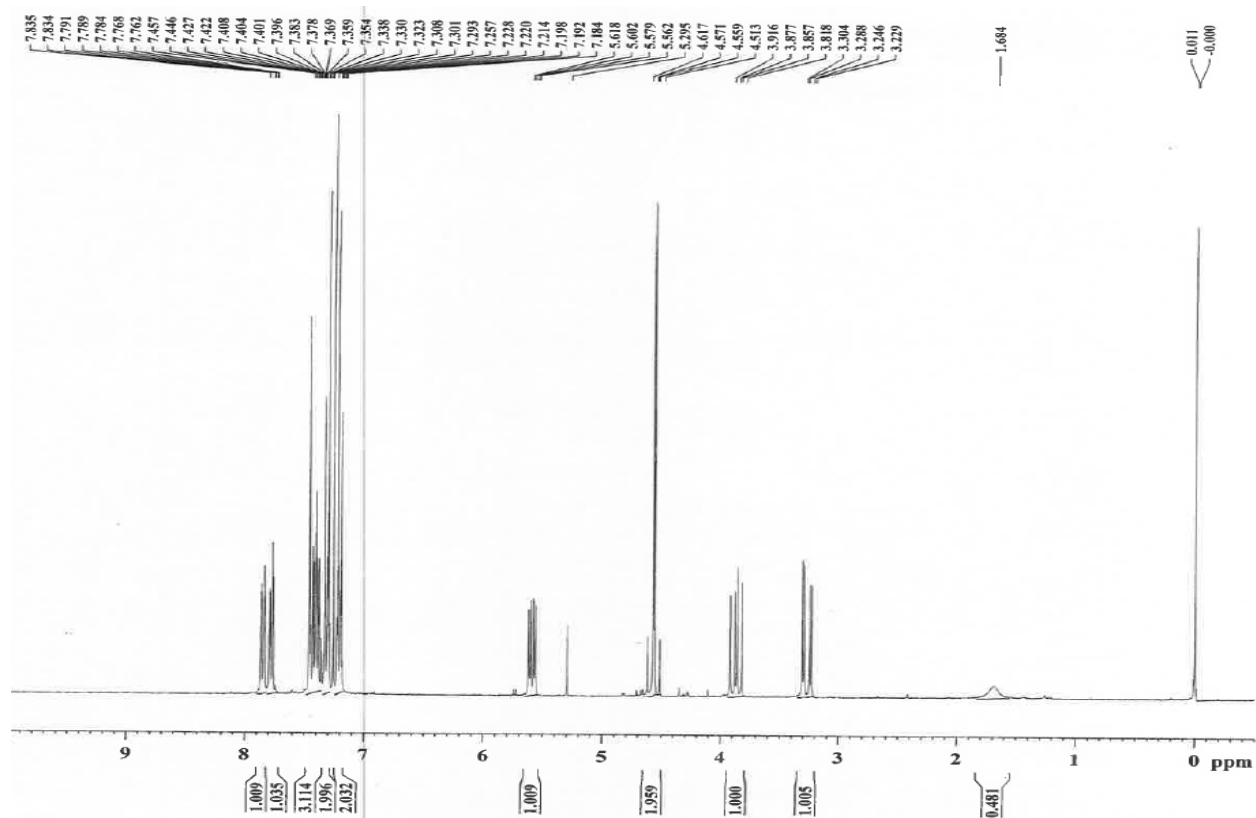


Figure 50. ^1H NMR spectrum of compound **3e** (CDCl_3 , 300 MHz, 298 K)

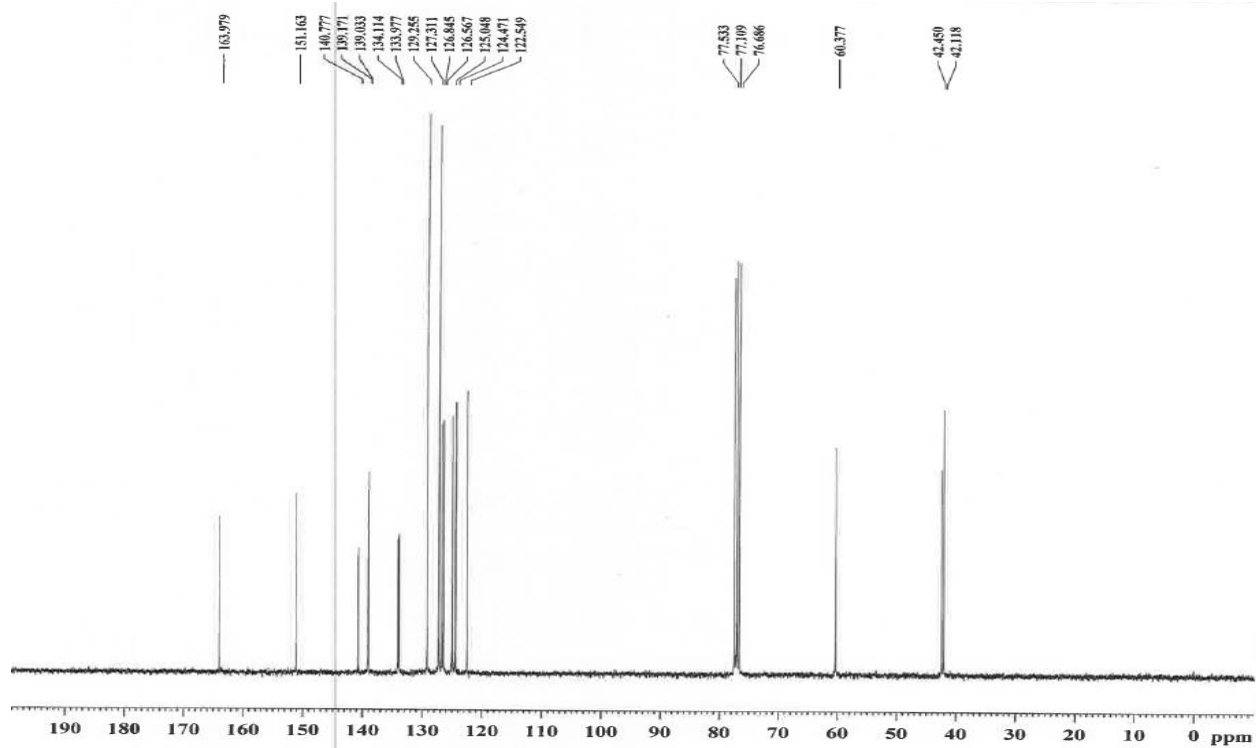


Figure 51. ^{13}C NMR spectrum of compound **3e** (CDCl_3 , 75 MHz, 297 K)

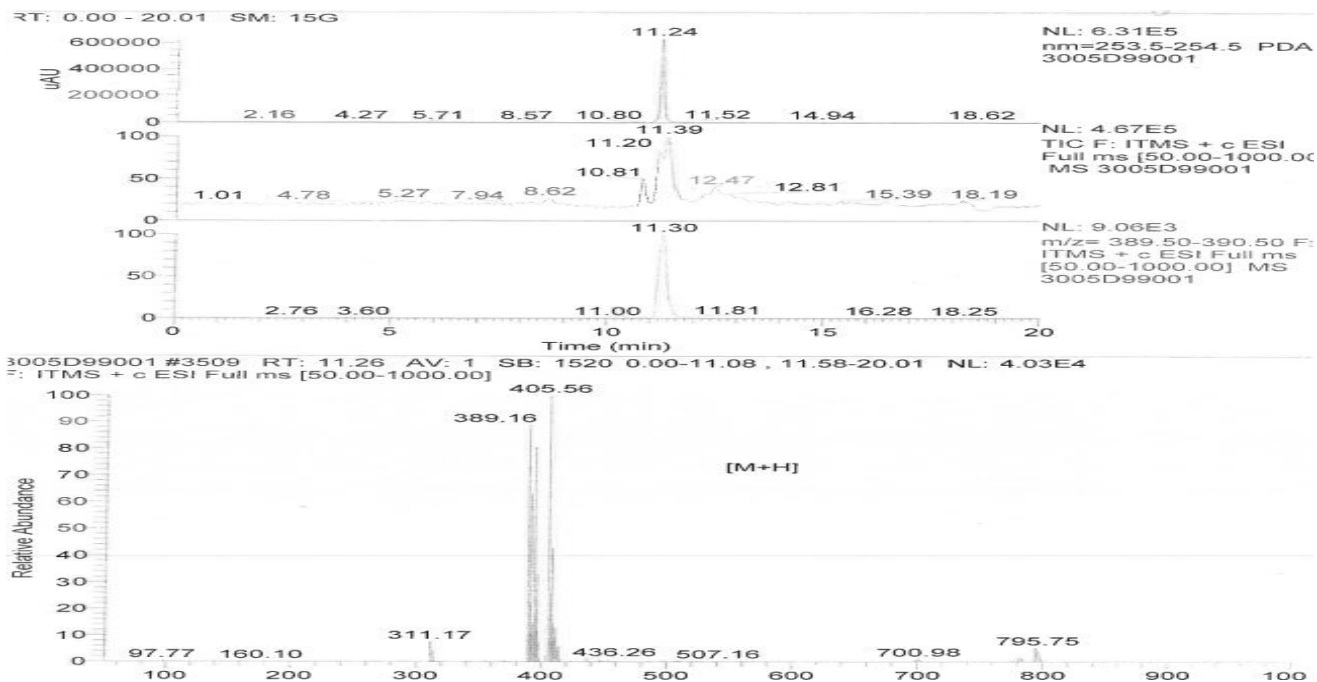


Figure 52. LC-MS mass spectrum of compound **3e**

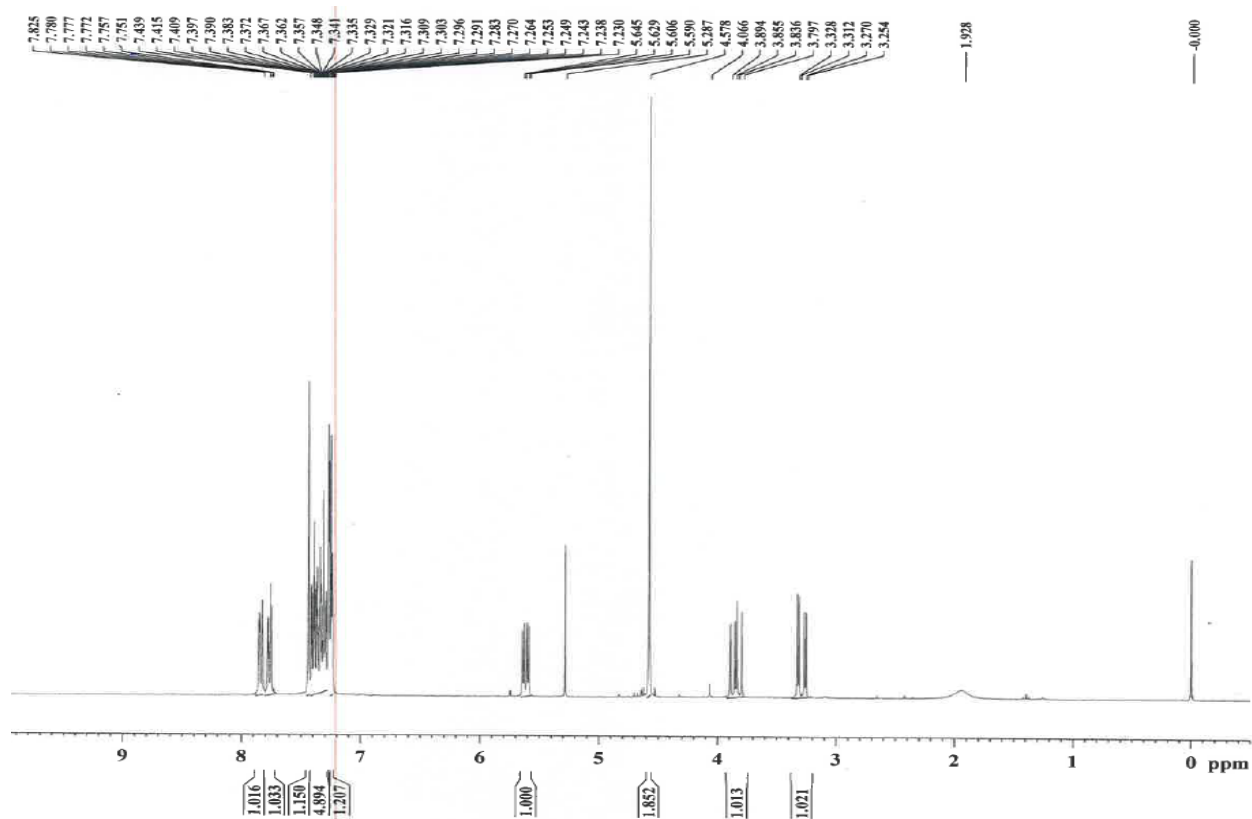


Figure 53. ^1H NMR spectrum of compound **3f** (CDCl_3 , 300 MHz, 298 K)

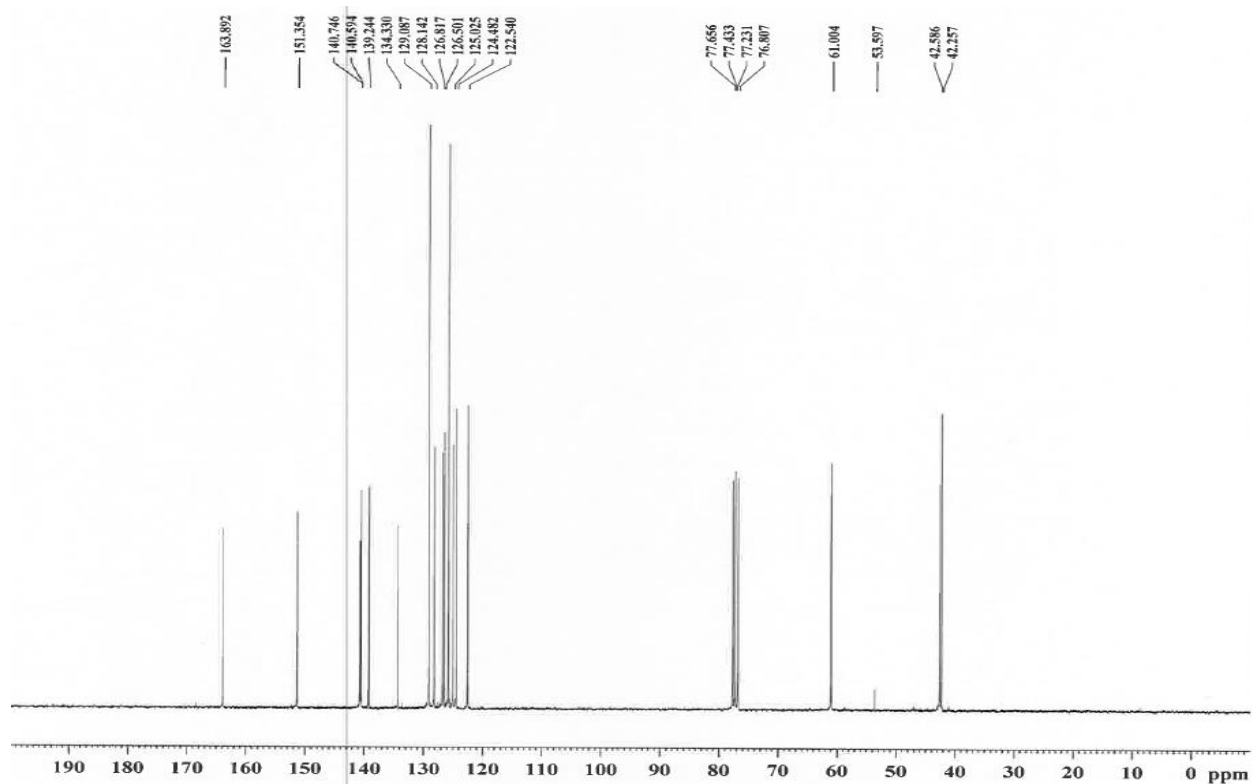


Figure 54. ^{13}C NMR spectrum of compound **3f** (CDCl_3 , 75 MHz, 297 K)

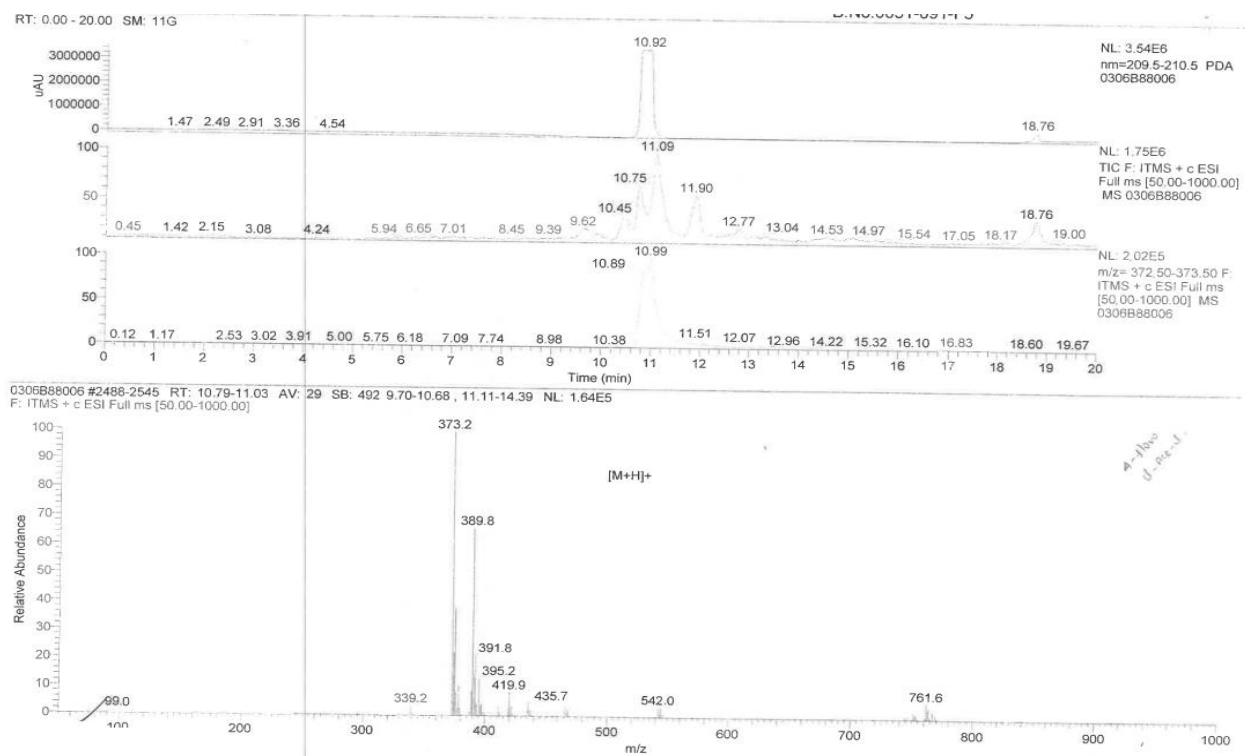


Figure 55 LC-MS mass spectrum of compound **3f**

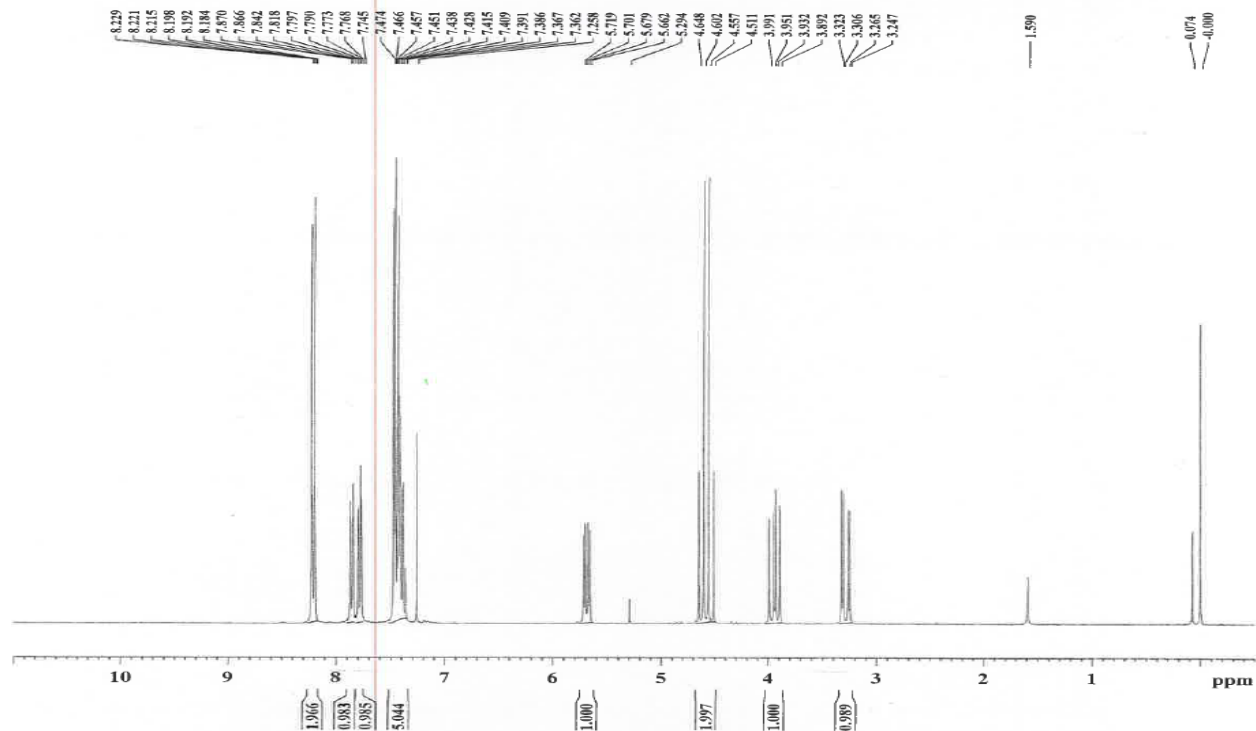


Figure 56. ^1H NMR spectrum of compound **3g** (CDCl_3 , 300 MHz, 298 K)

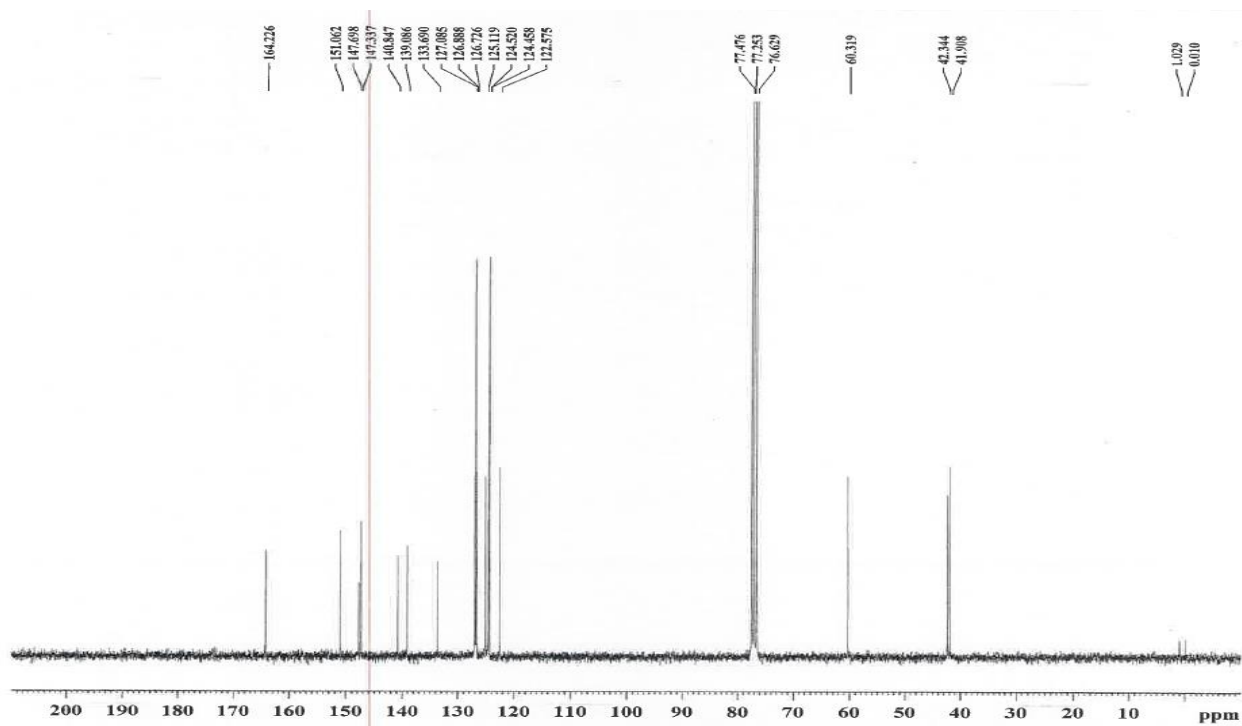


Figure 57. ^{13}C NMR spectrum of compound **3g** (CDCl_3 , 75 MHz, 297 K)

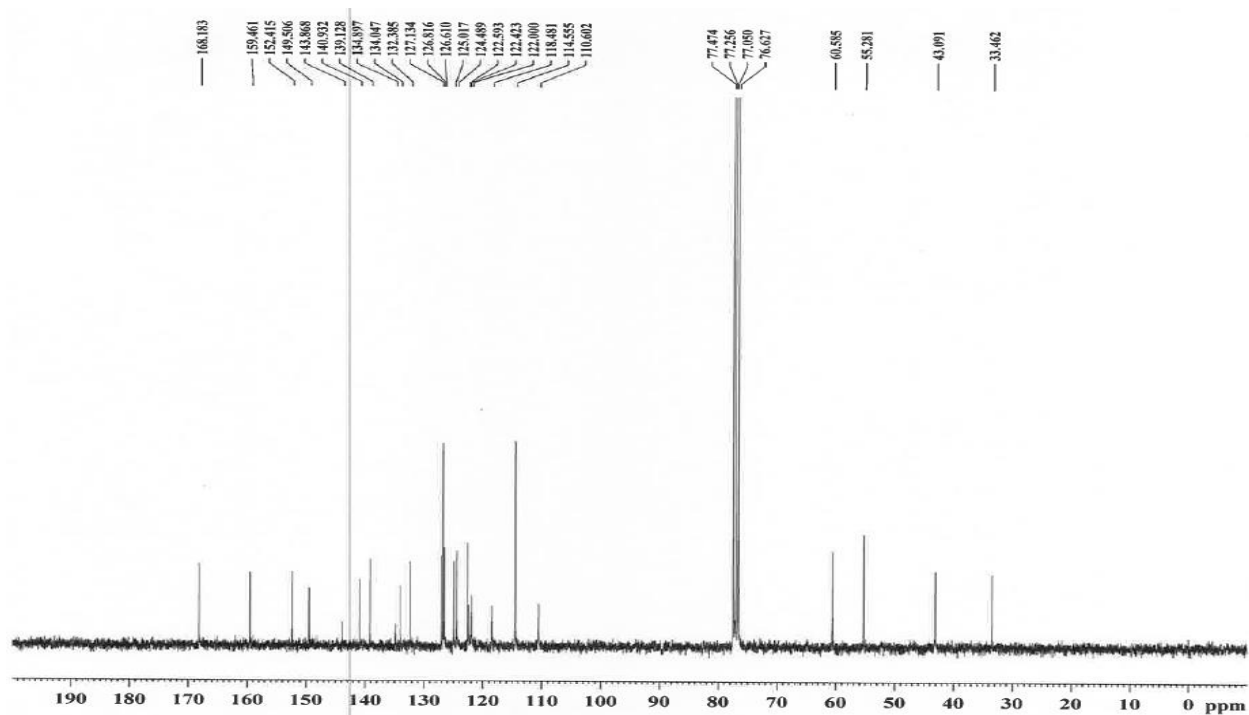


Figure 60. ^{13}C NMR spectrum of compound **4a** (CDCl_3 , 75 MHz, 297 K)

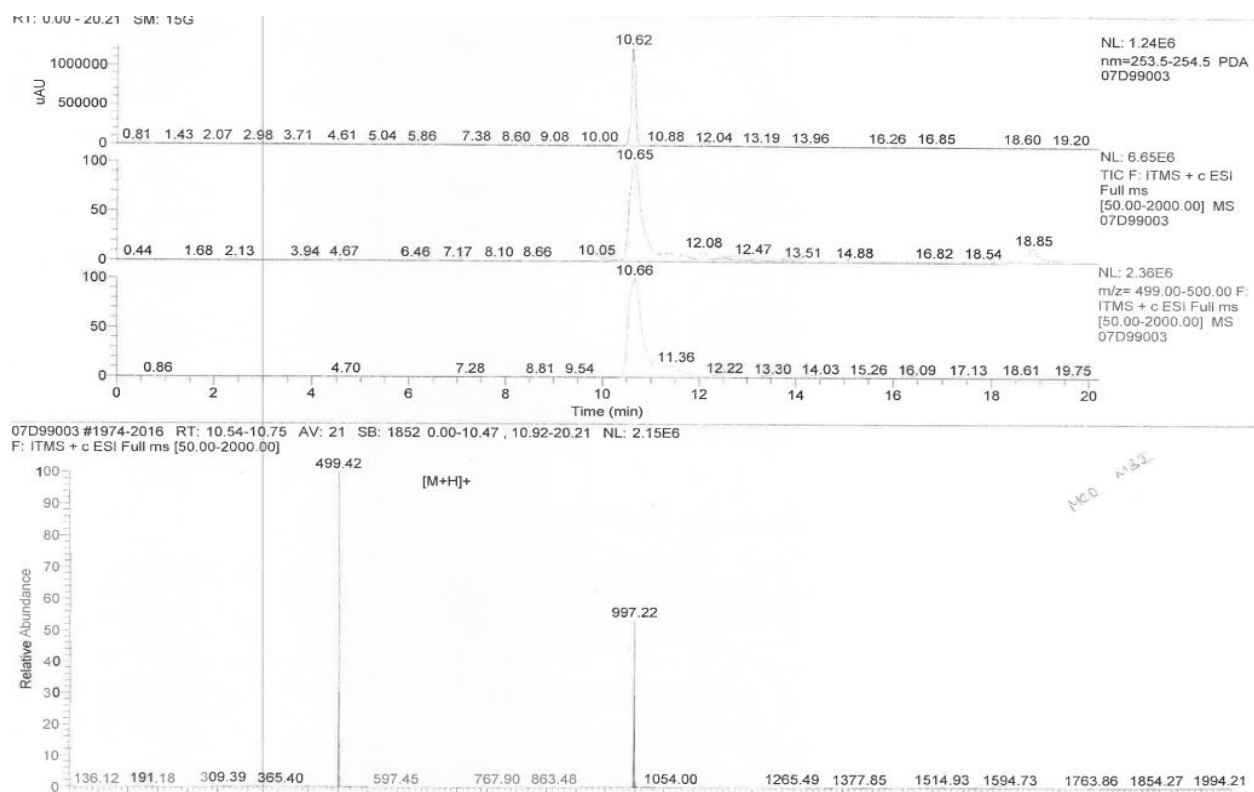


Figure 61. LC-MS mass spectrum of compound **4a**

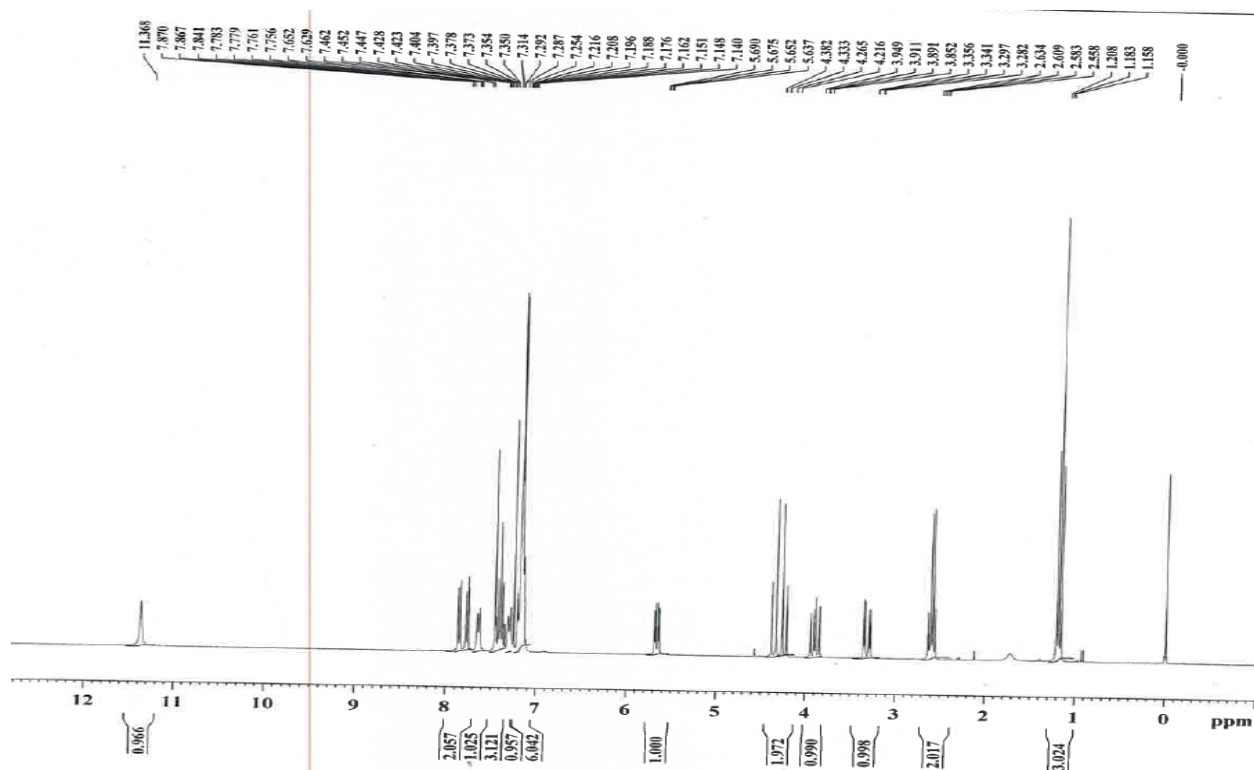


Figure 62. ^1H NMR spectrum of compound **4b** (CDCl_3 , 300 MHz, 298 K)

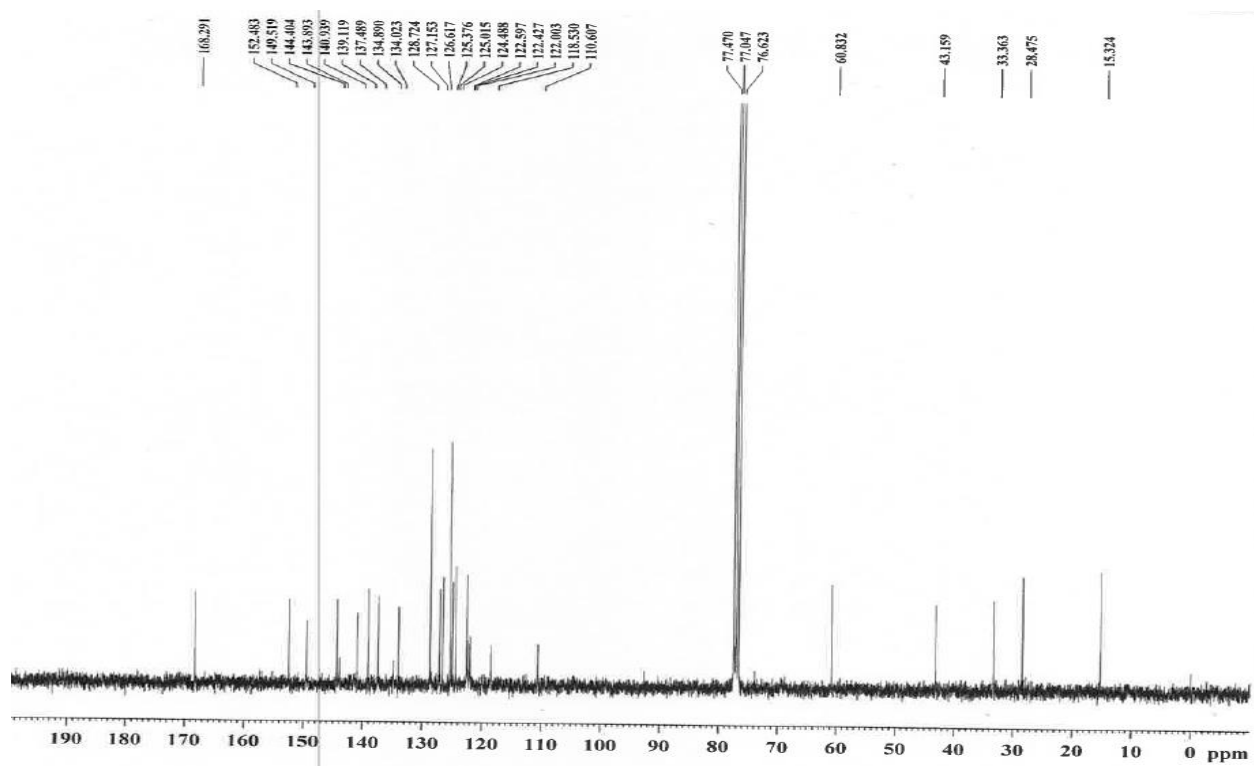


Figure 63. ^{13}C NMR spectrum of compound **4b** (CDCl_3 , 75 MHz, 297 K)

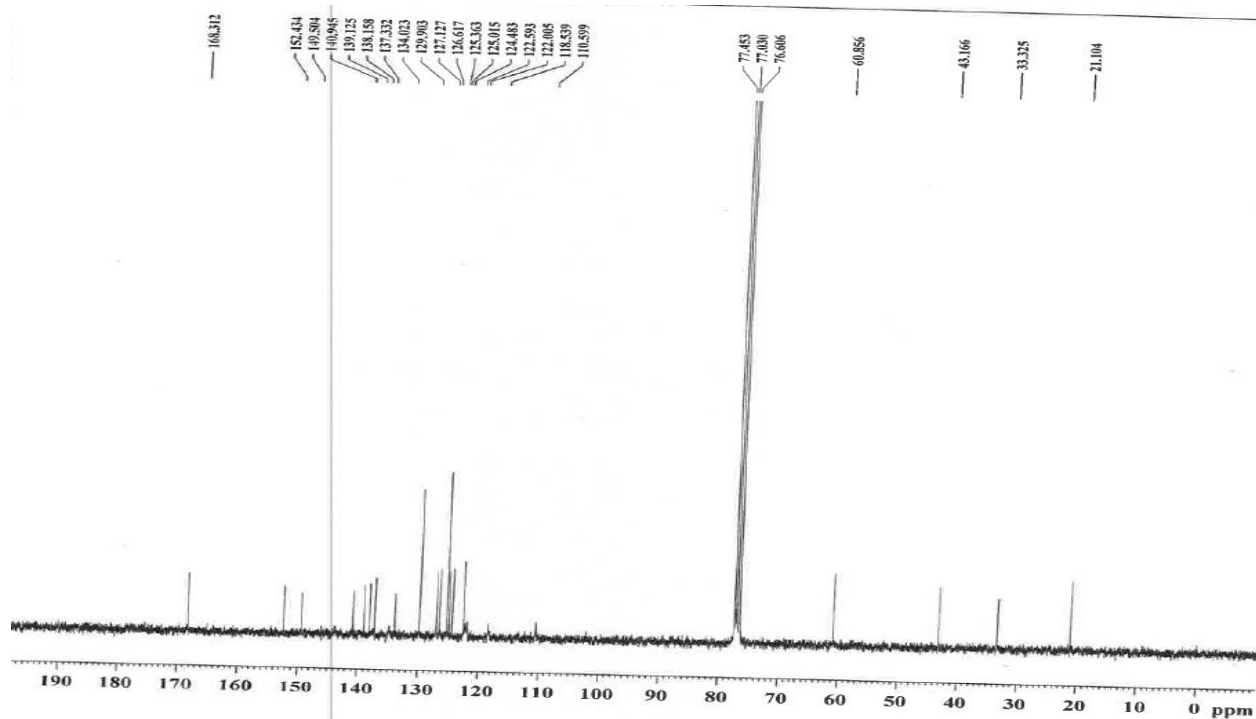


Figure 66. ^{13}C NMR spectrum of compound **4c** (CDCl_3 , 75 MHz, 297 K)

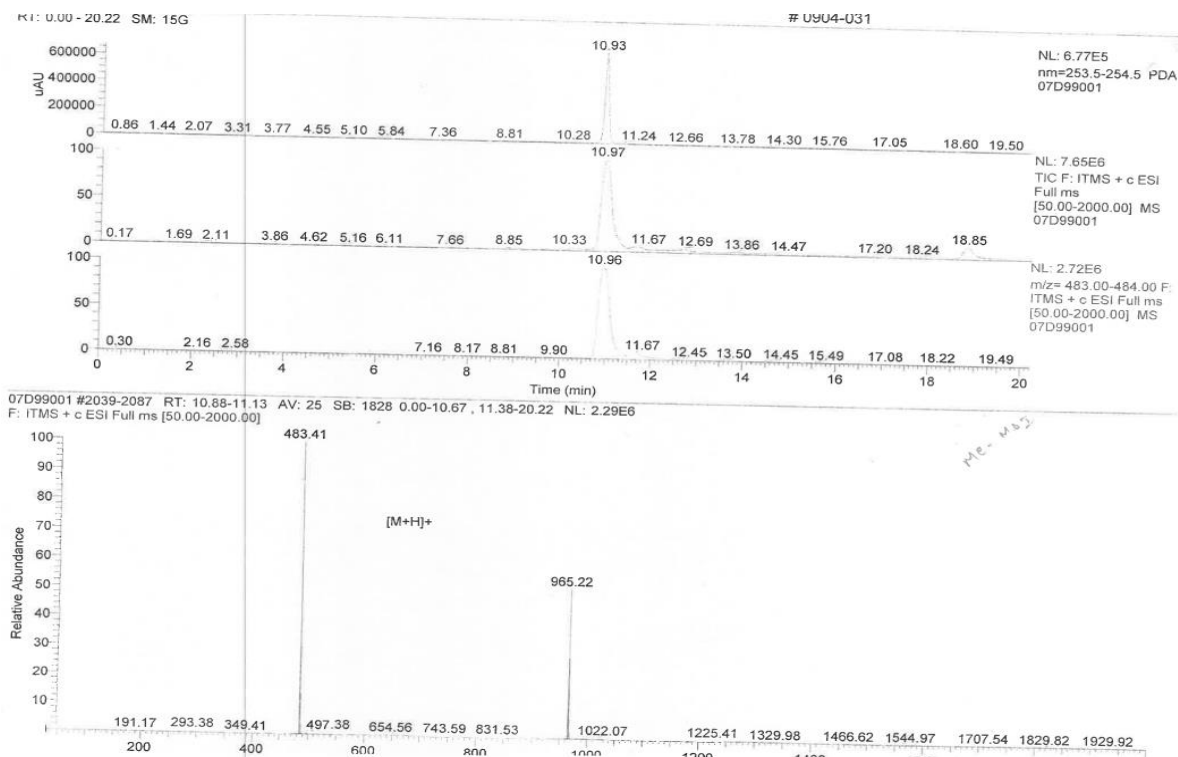


Figure 67. LC-MS mass spectrum of compound **4c**

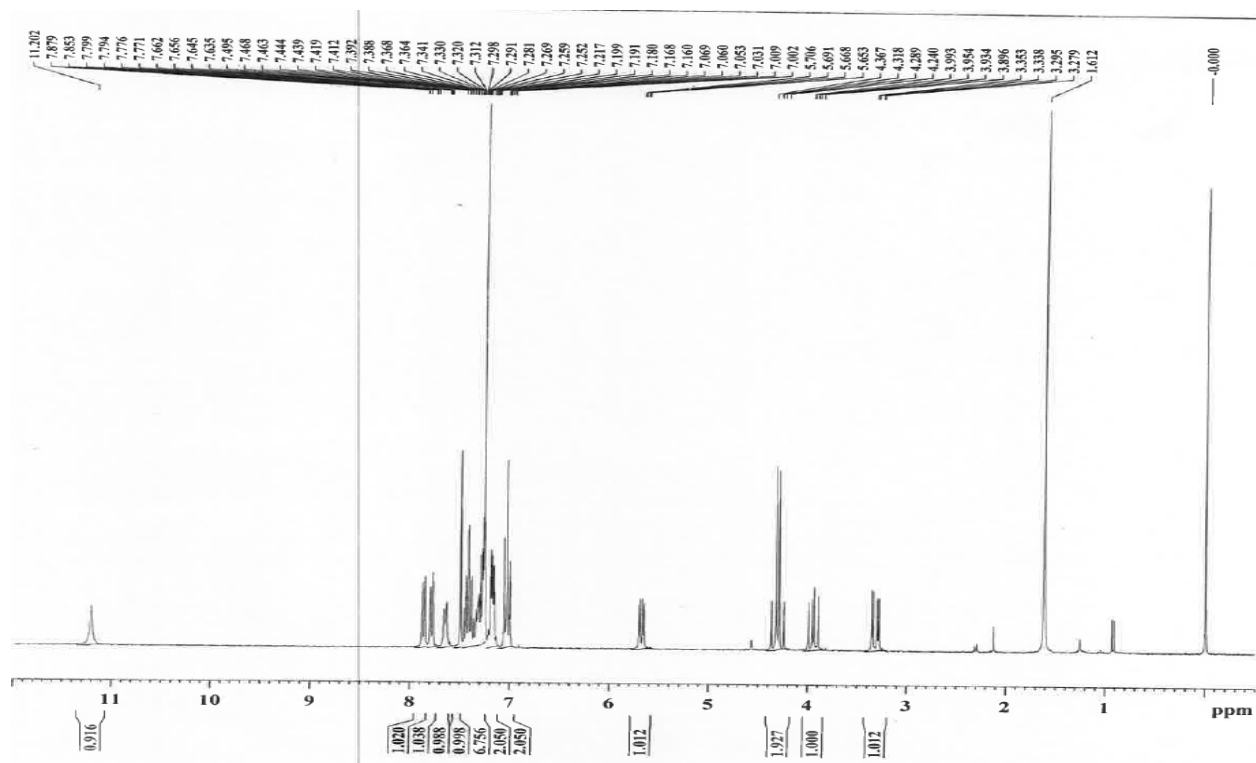


Figure 68. ^1H NMR spectrum of compound **4d** (CDCl_3 , 300 MHz, 298 K)

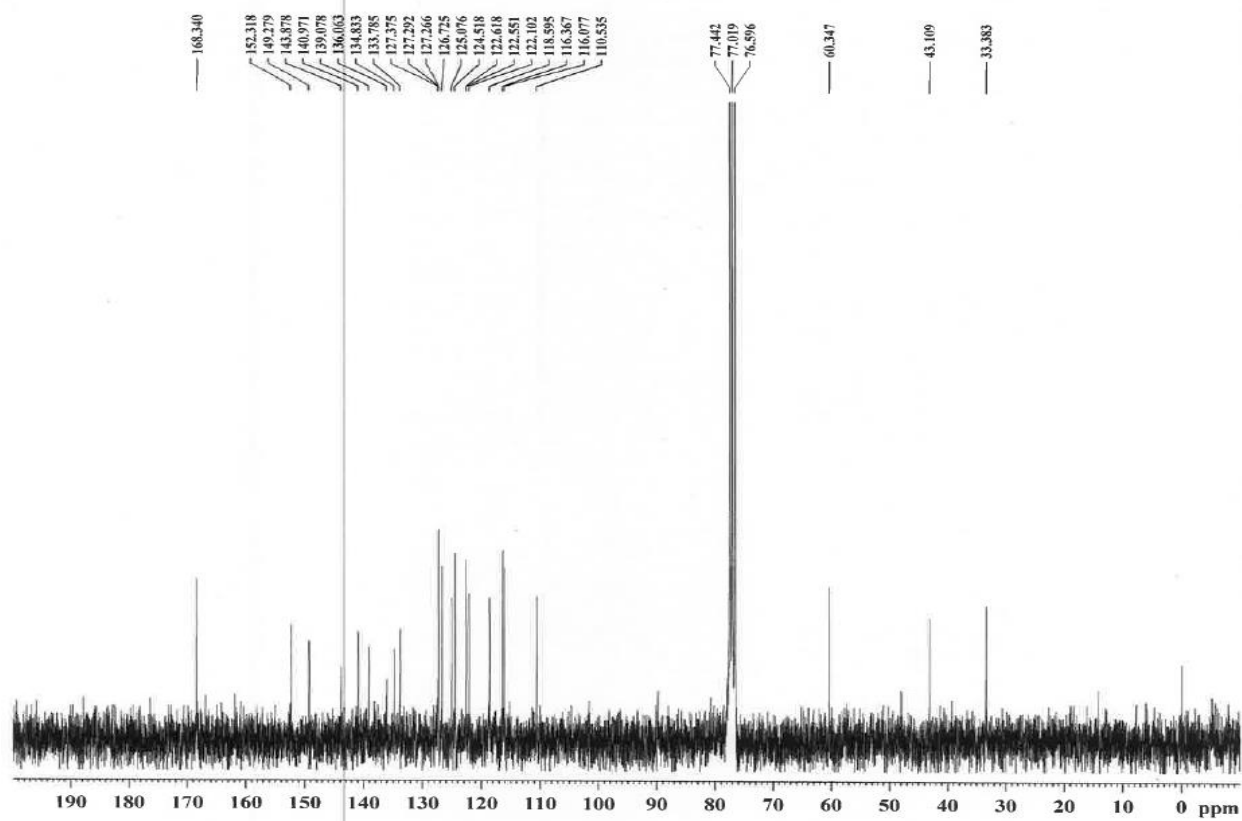


Figure 69. ^{13}C NMR spectrum of compound **4d** (CDCl_3 , 75 MHz, 297 K)

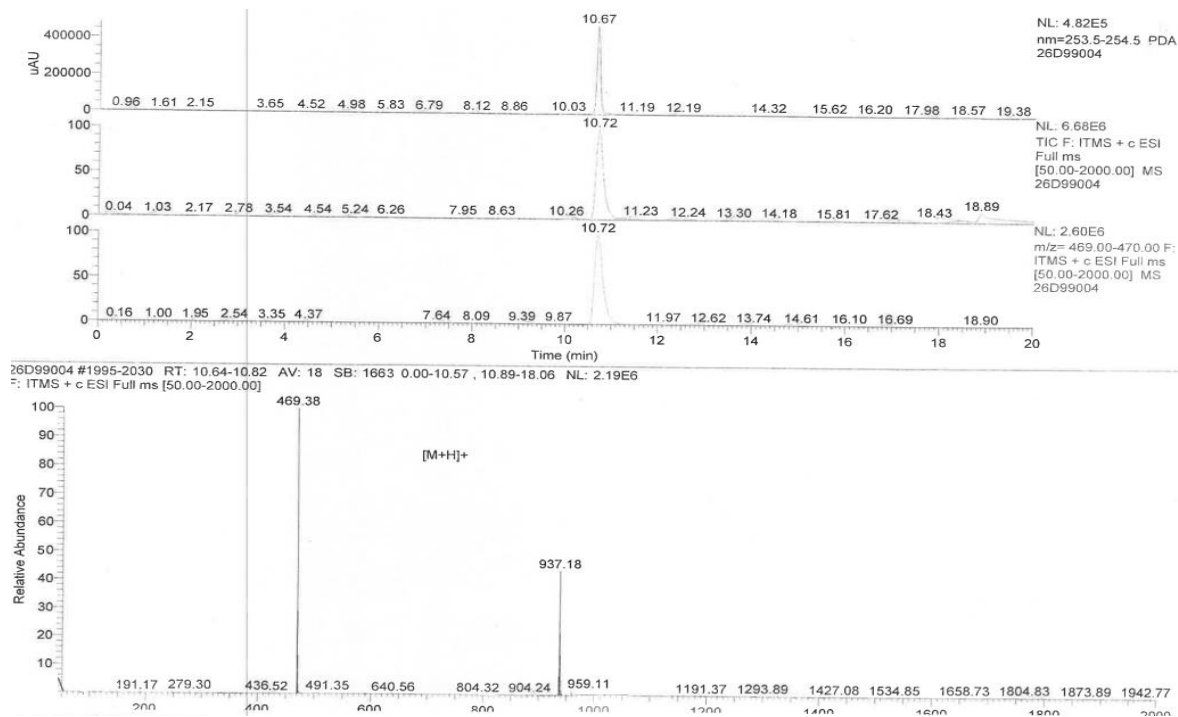


Figure 70. LC-MS mass spectrum of compound 4d

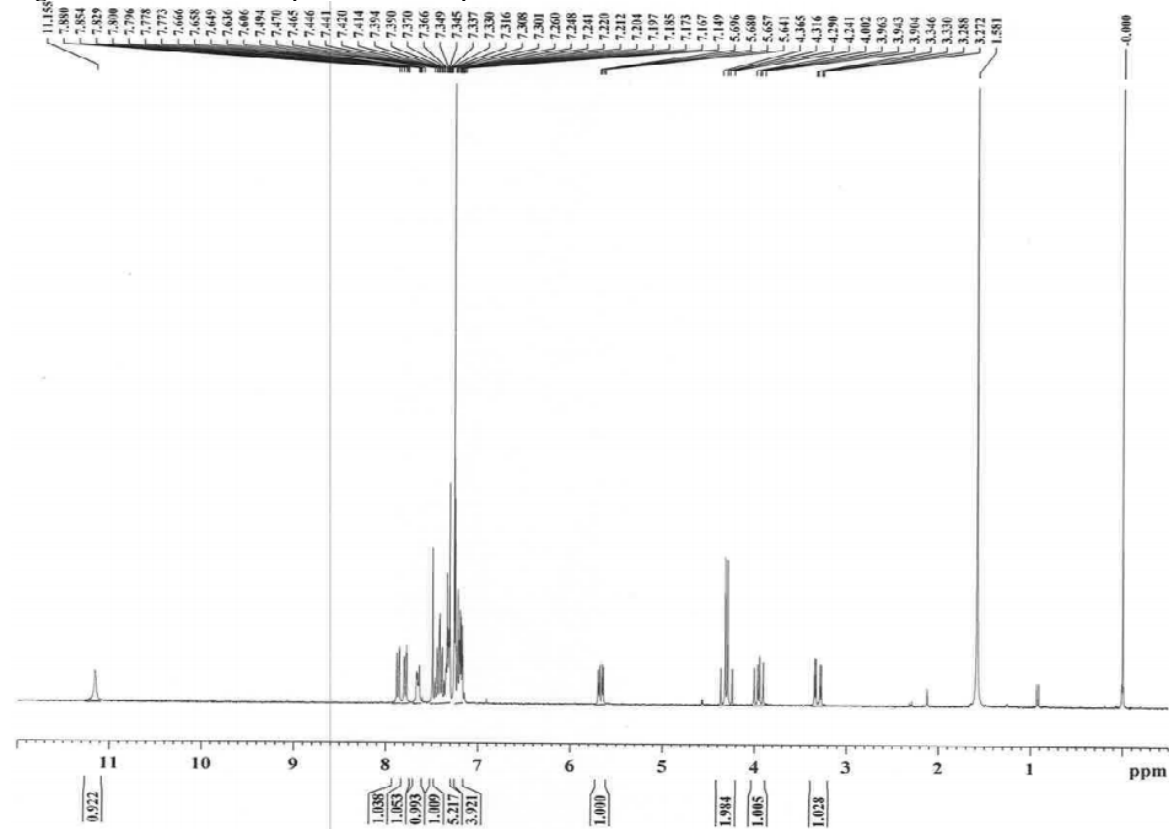


Figure 71. ¹H NMR spectrum of compound 4e (CDCl₃, 300 MHz, 298 K)

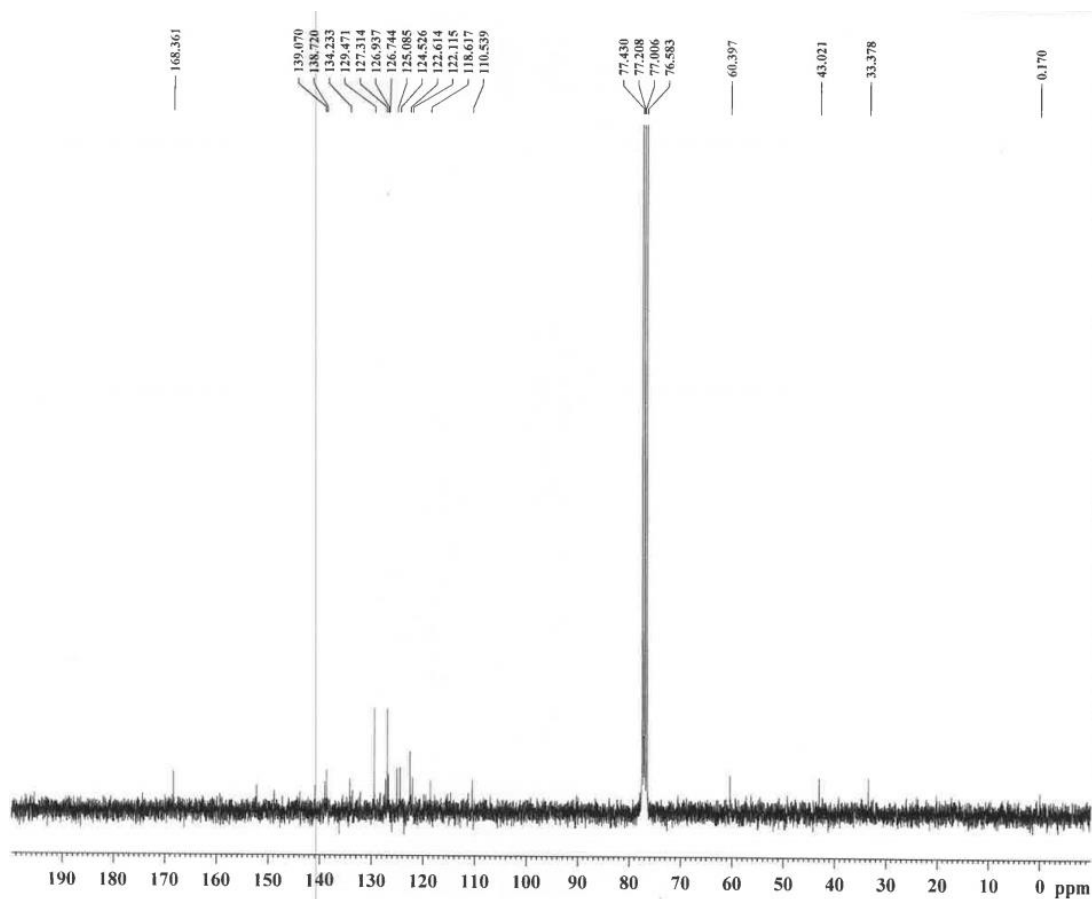


Figure 72. ^{13}C NMR spectrum of compound **4e** (CDCl_3 , 75 MHz, 297 K)

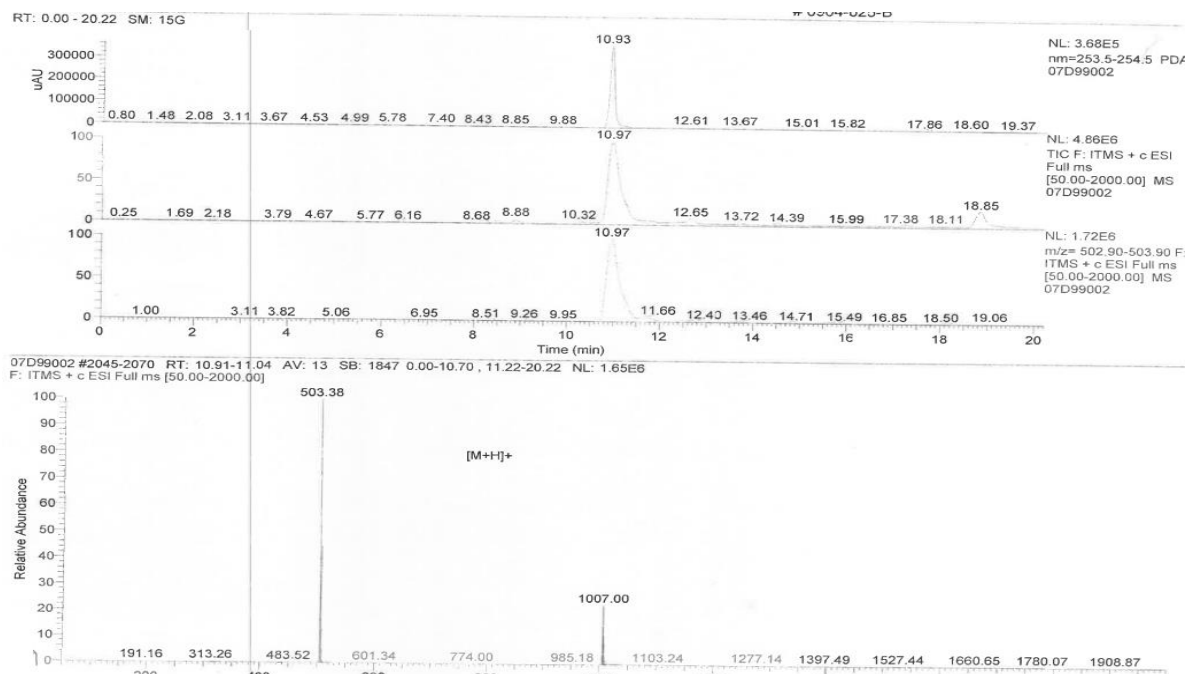


Figure 73. LC-MS mass spectrum of compound **4e**

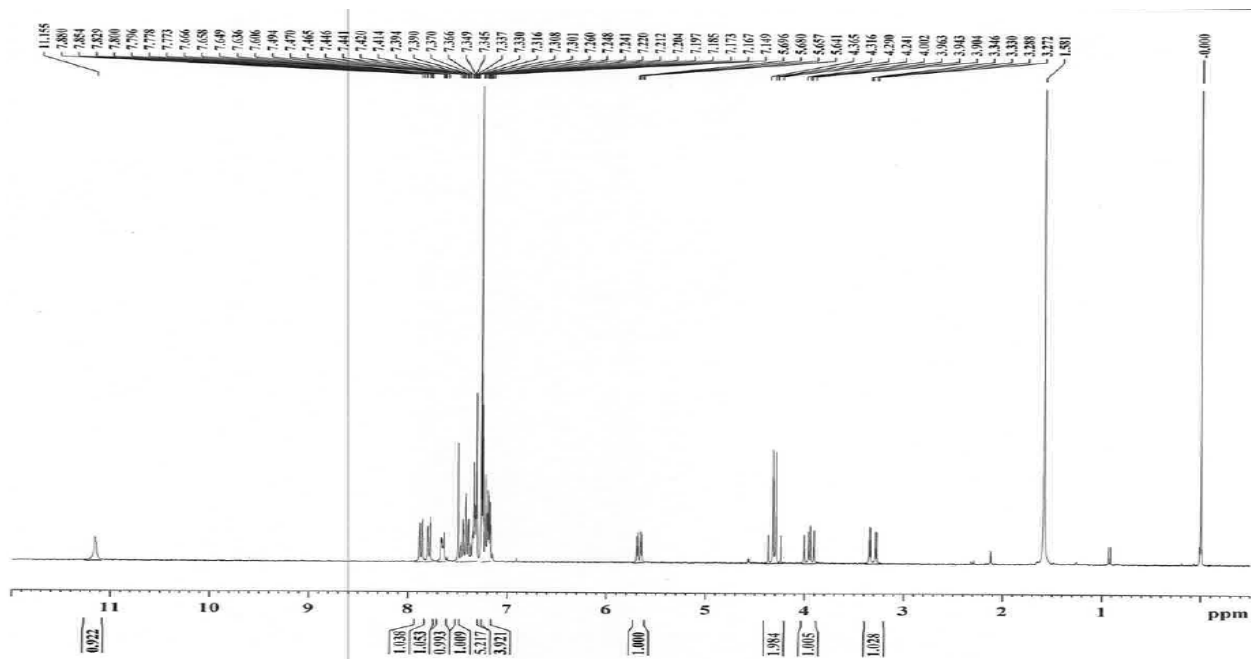


Figure 74. ^1H NMR spectrum of compound **4f** (CDCl_3 , 300 MHz, 298 K)

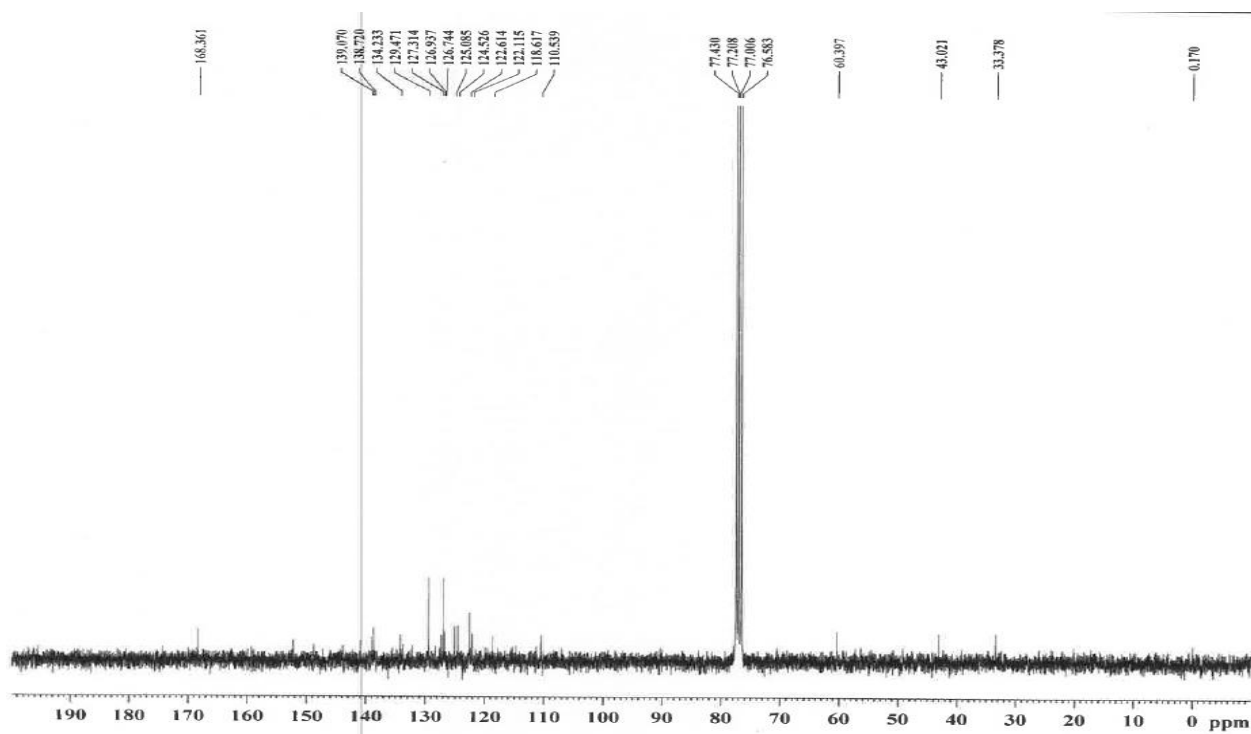


Figure 75. ^{13}C NMR spectrum of compound **4f** (CDCl_3 , 75 MHz, 297 K)

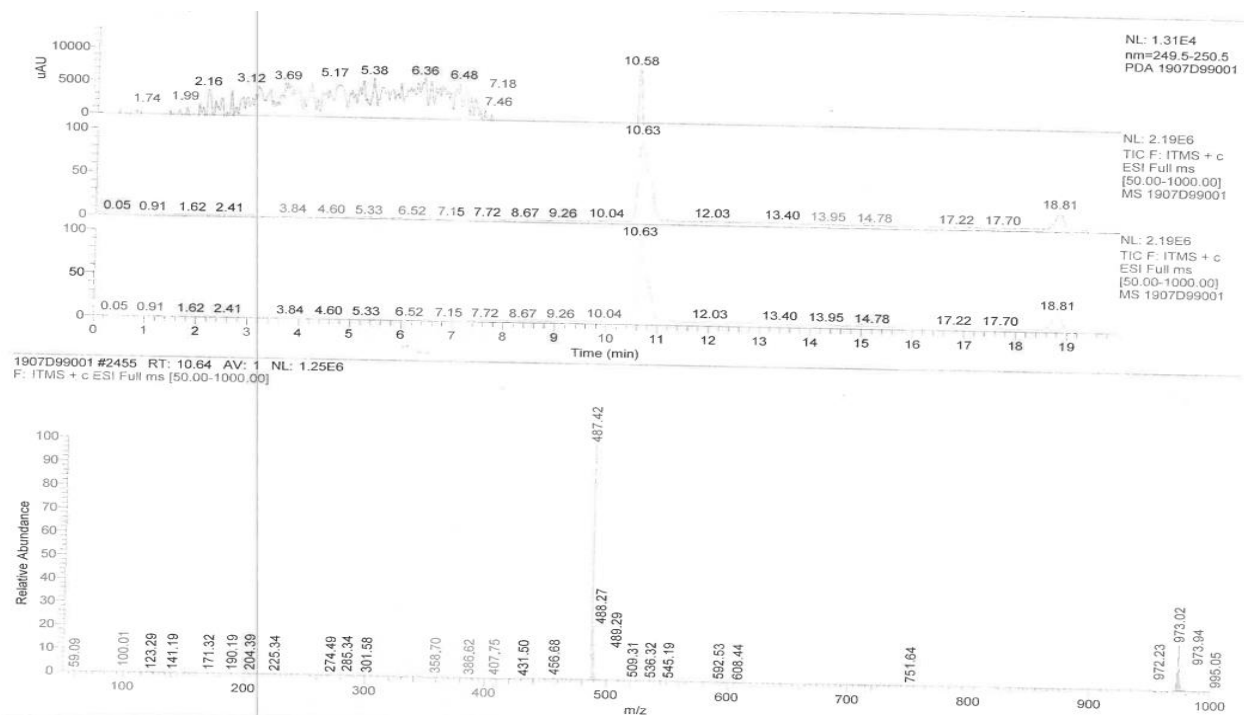


Figure 76. LC-MS mass spectrum of compound **4f**

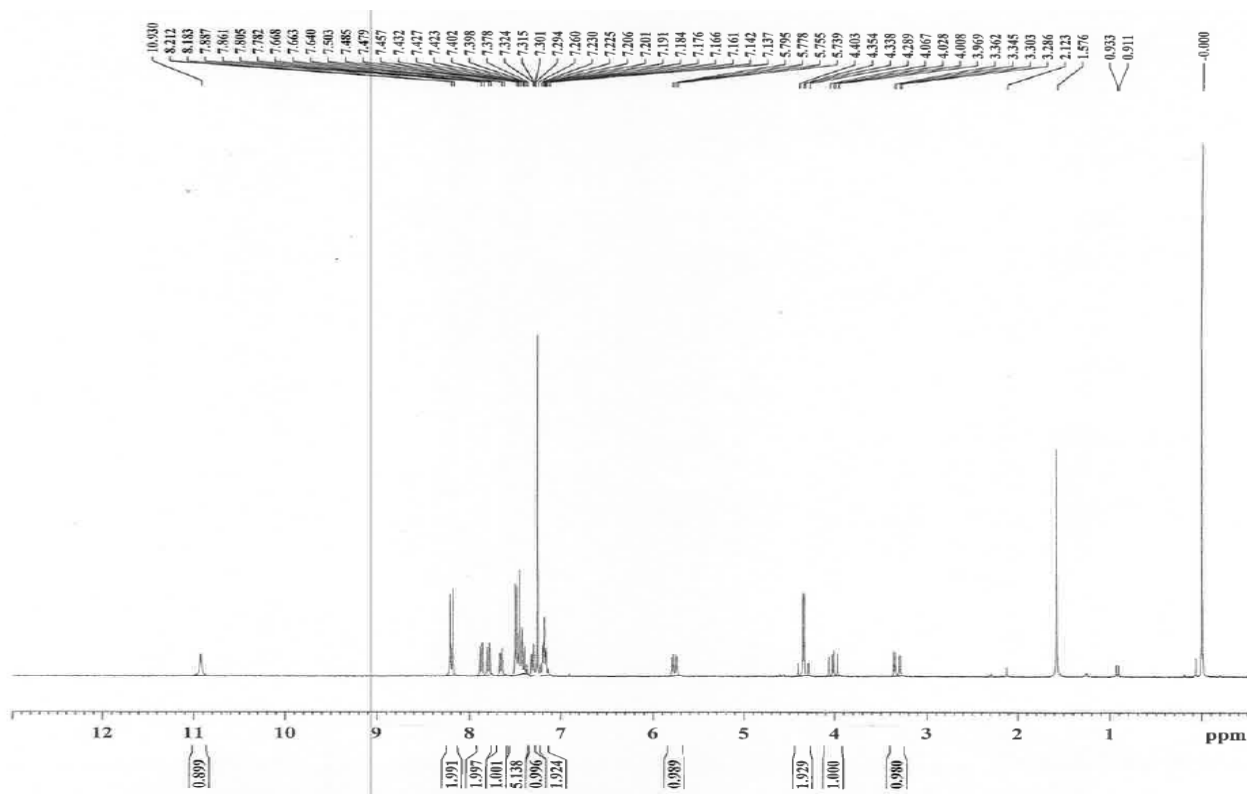


Figure 77. ^1H NMR spectrum of compound **4g** (CDCl_3 , 300 MHz, 298 K)

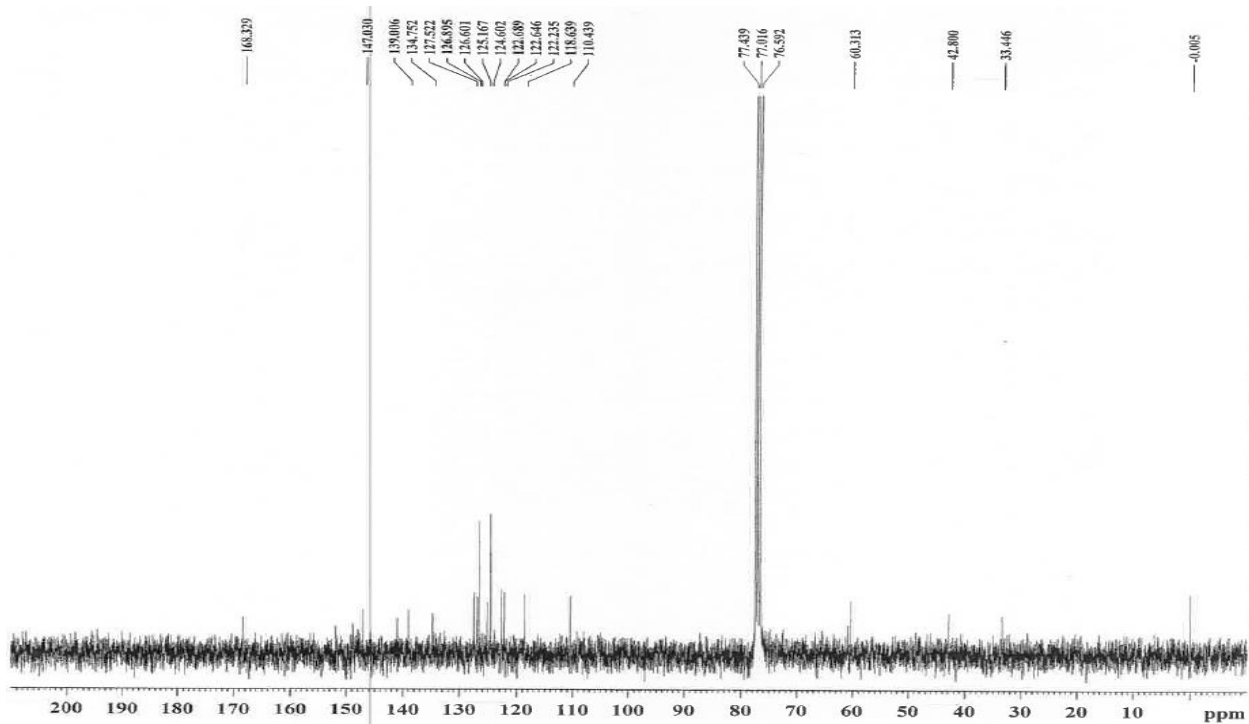


Figure 78. ^{13}C NMR spectrum of compound **4g** (CDCl_3 , 75 MHz, 297 K)

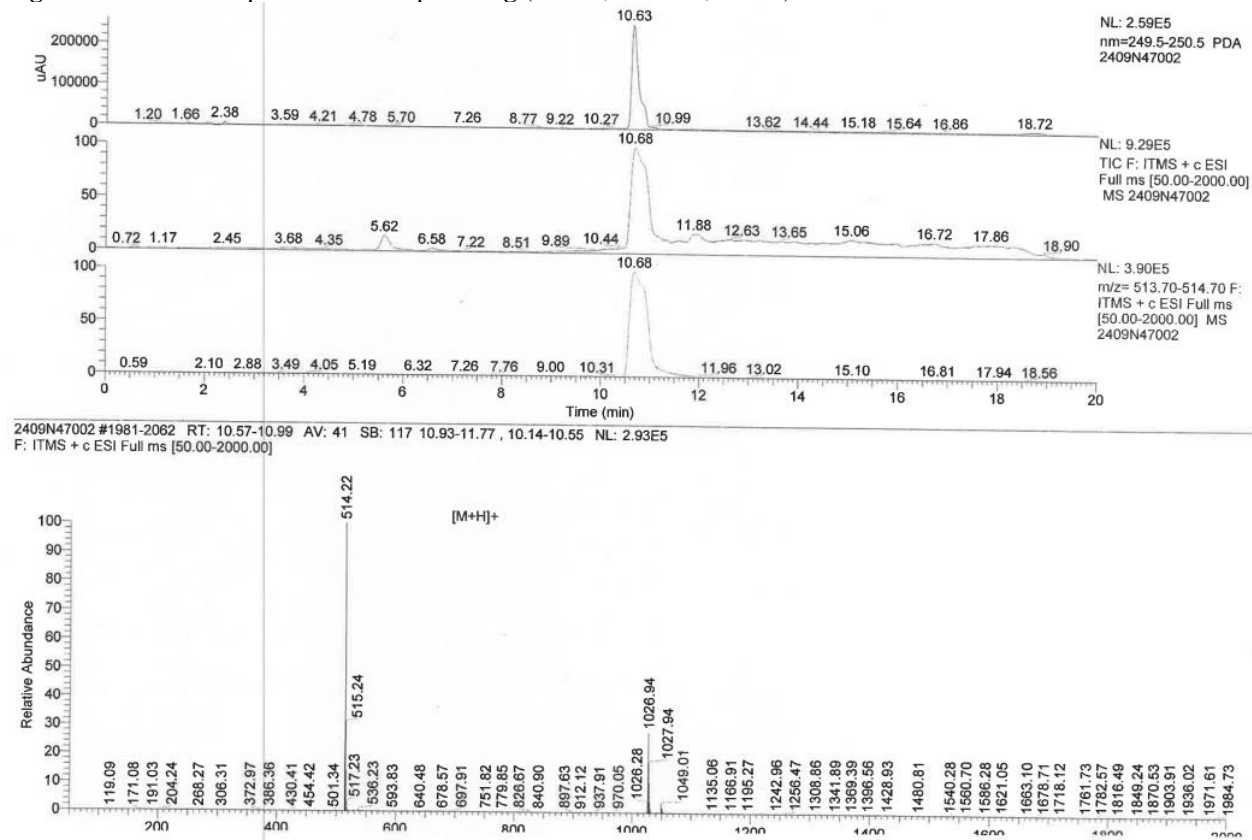


Figure 79. LC-MS mass spectrum of compound **4g**