



Synthesis of Medicinally Relevant Scaffolds *via* Earth Metal Catalysis

Ashley J Basson

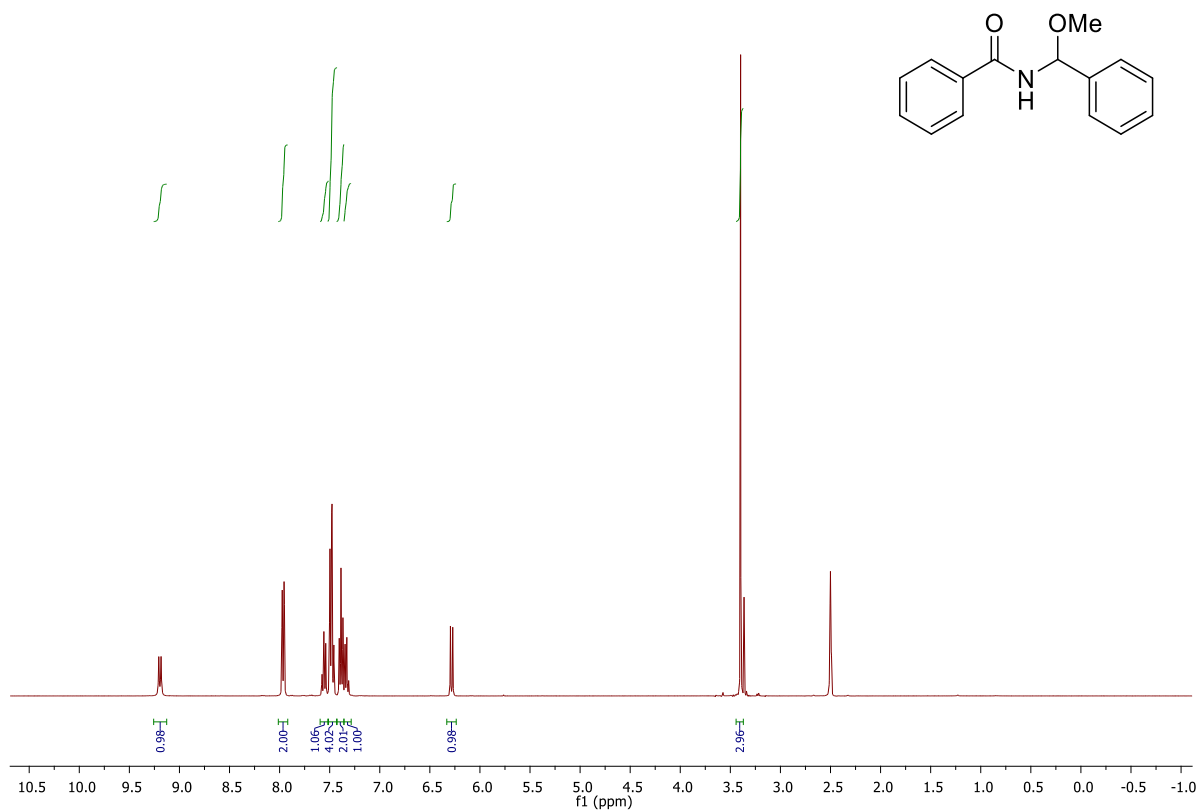
Appendix Part II

¹H and ¹³C NMR spectra

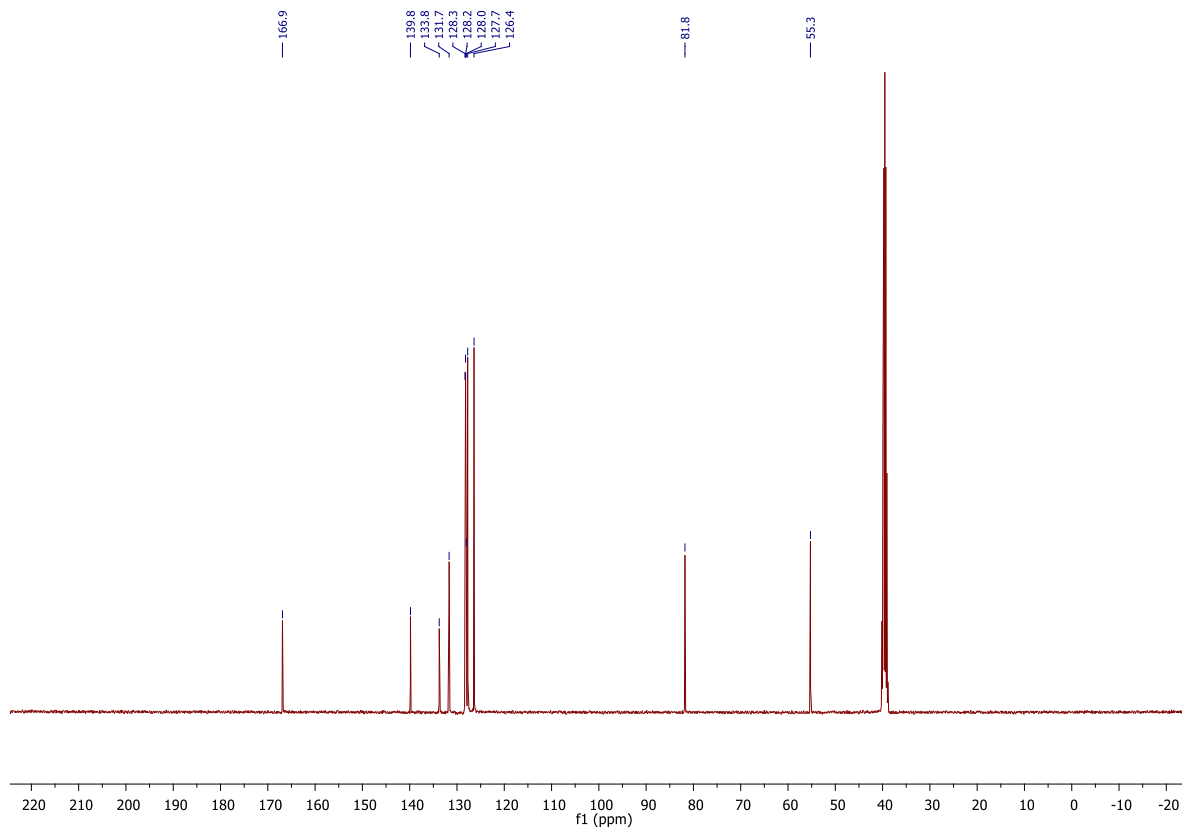
Chapters 4-8

1.1. *N*-(Methoxy(phenyl)methyl)benzamide (392a)

^1H NMR (400 MHz, DMSO-d_6)

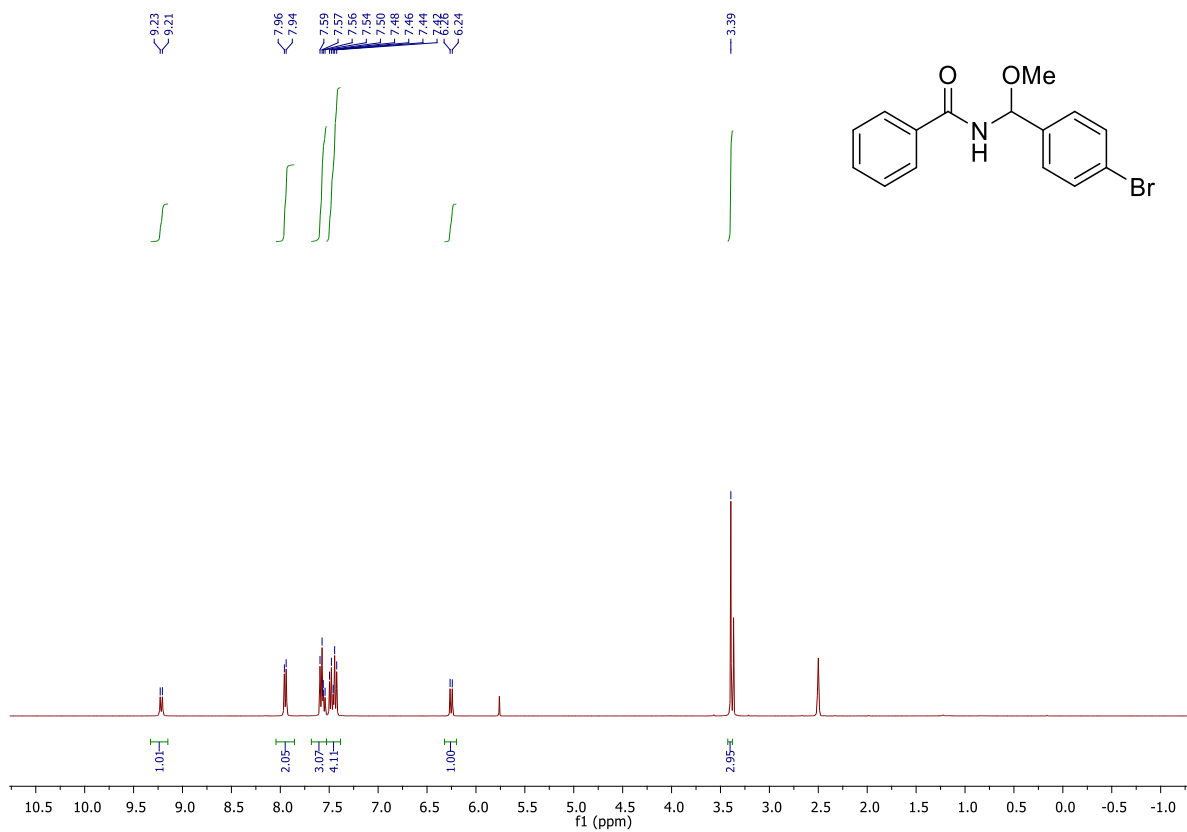


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO-d_6)

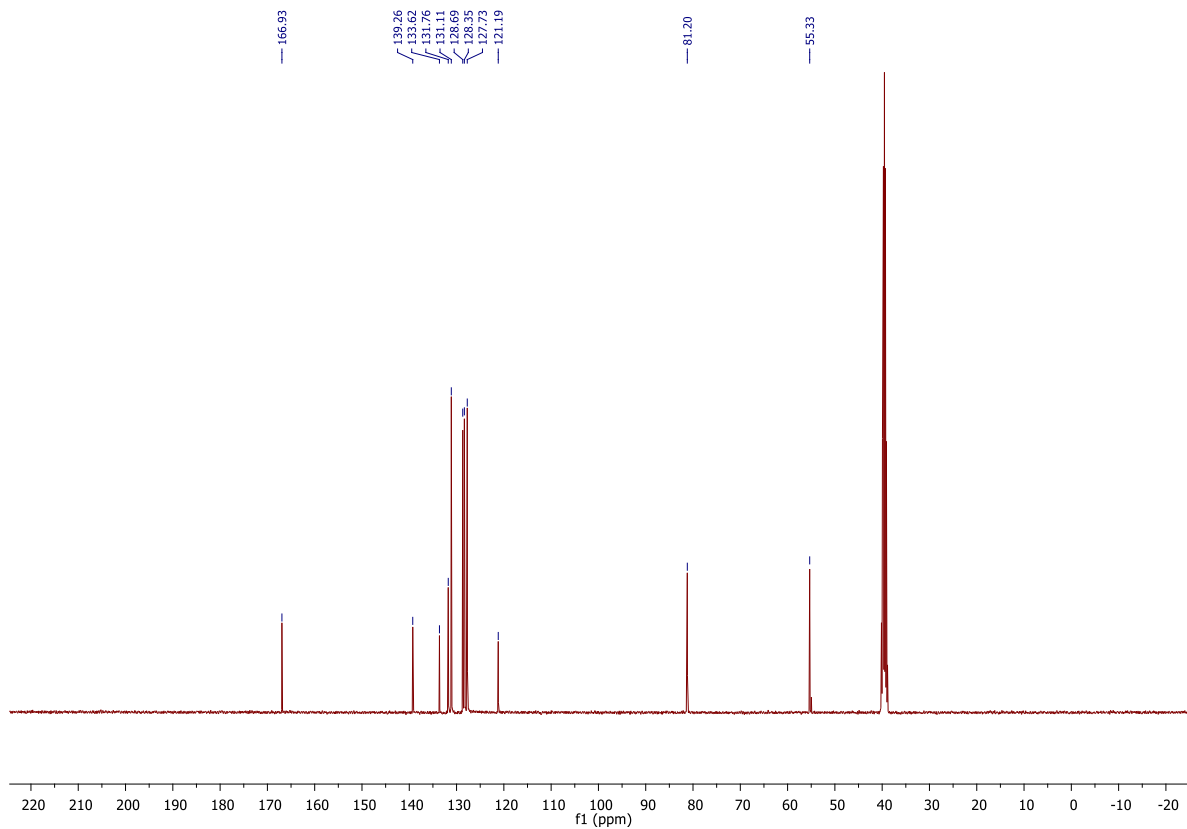


1.2. *N*-[(4-bromophenyl)(methoxy)methyl]benzamide (392b)

^1H NMR (400 MHz, DMSO-d_6)

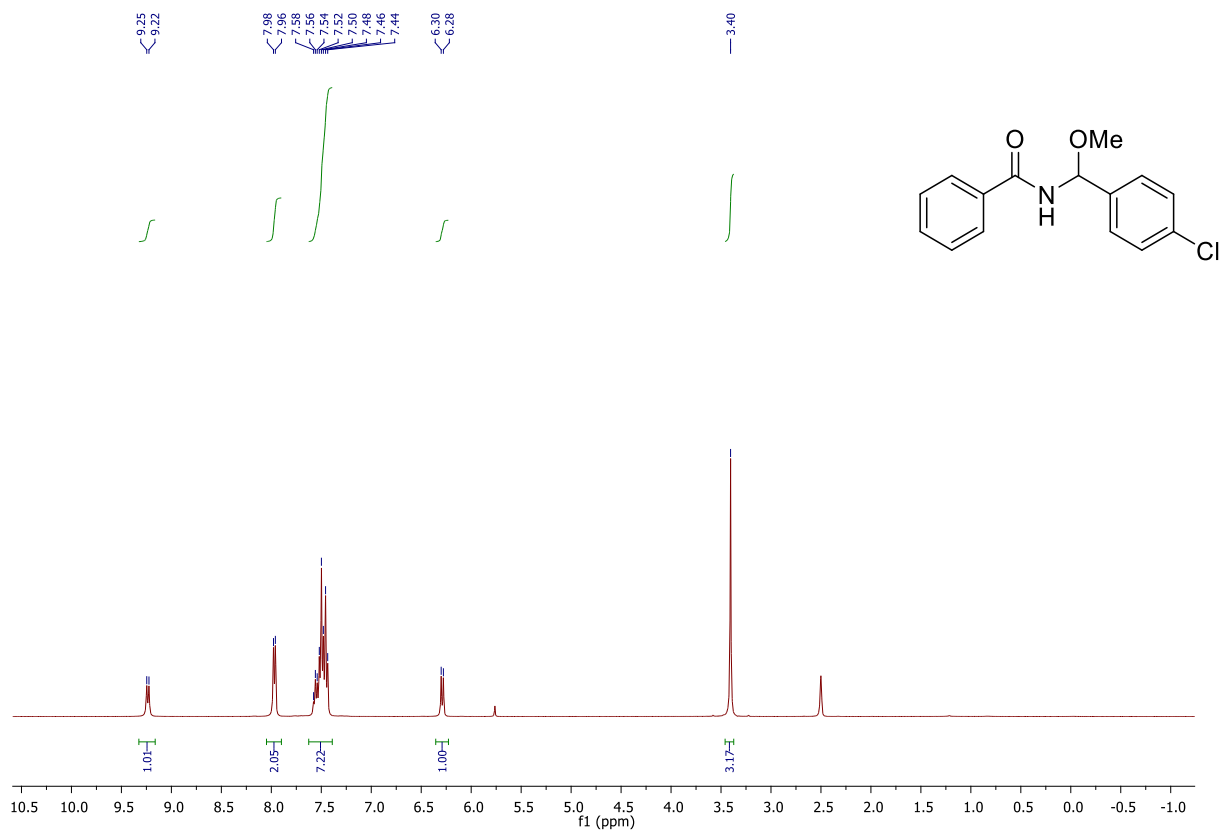


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO-d_6)

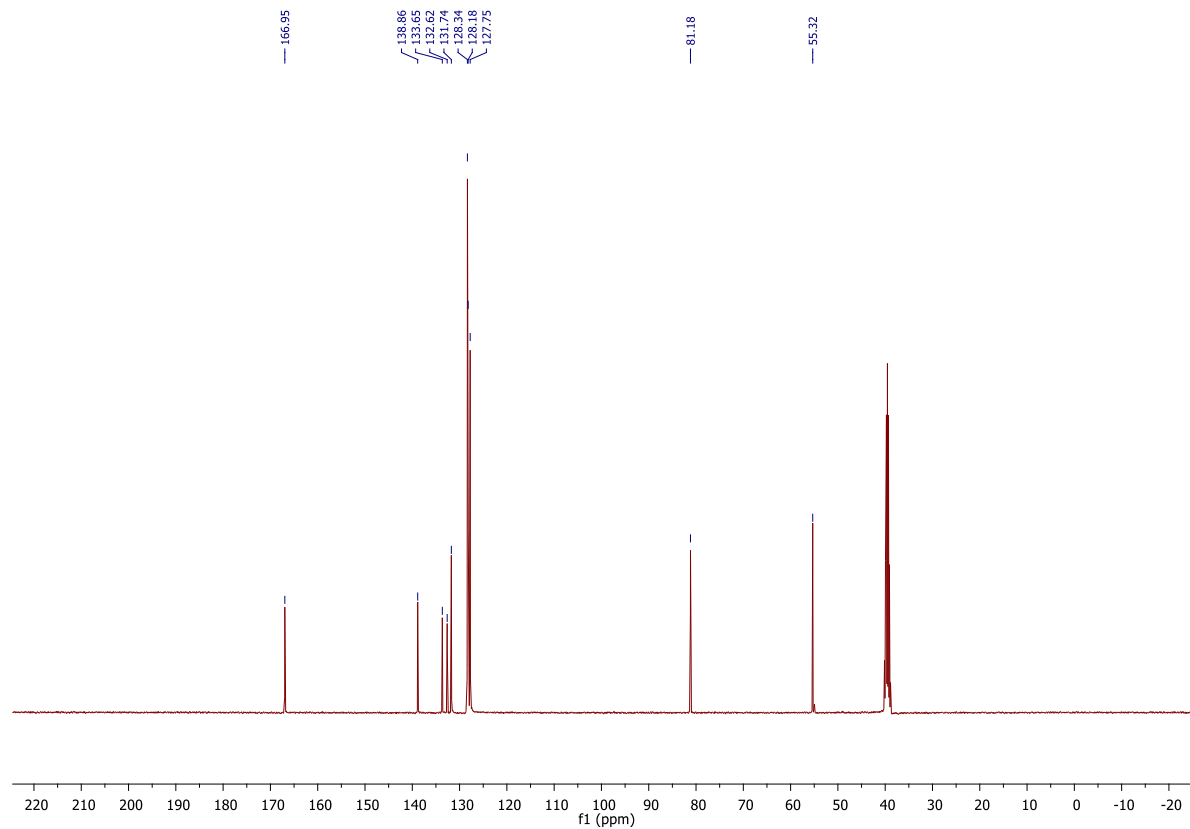


1.3. N-[(4-chlorophenyl)(methoxy)methyl]benzamide (392c)

^1H NMR (400 MHz, DMSO- d_6)

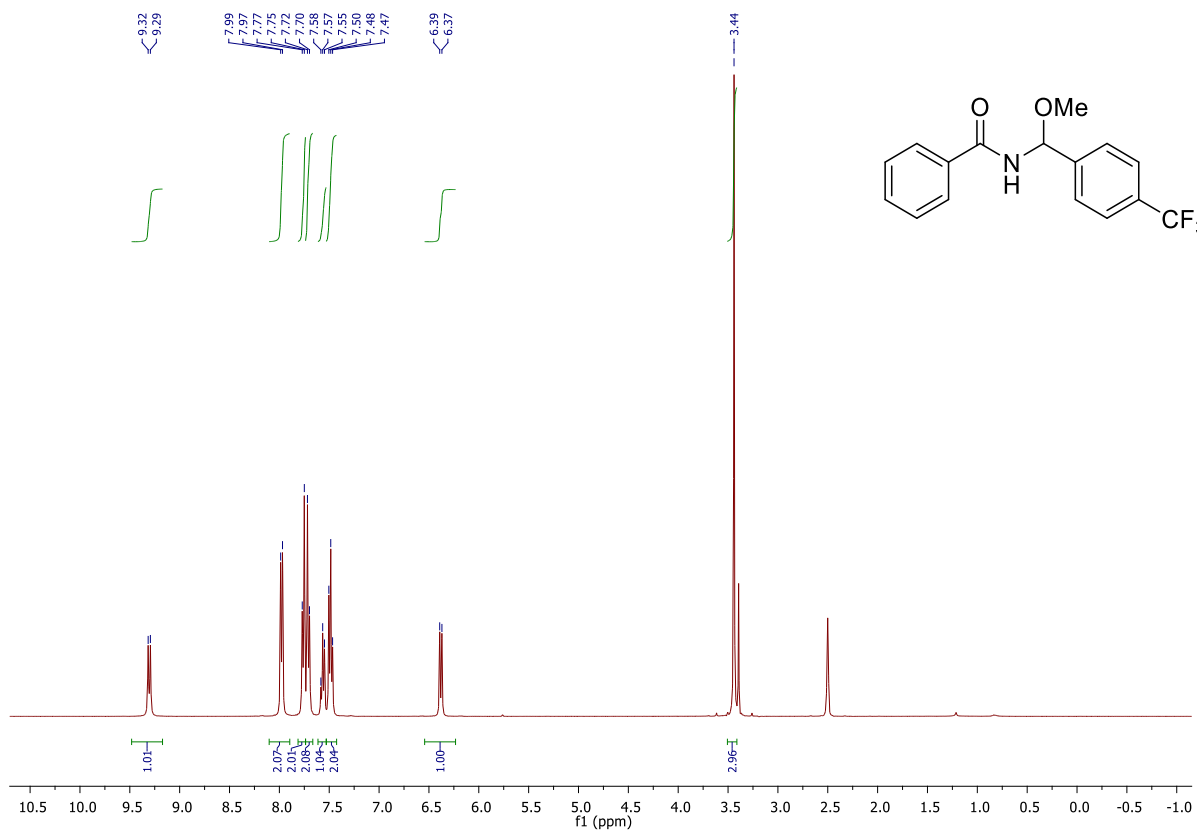


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

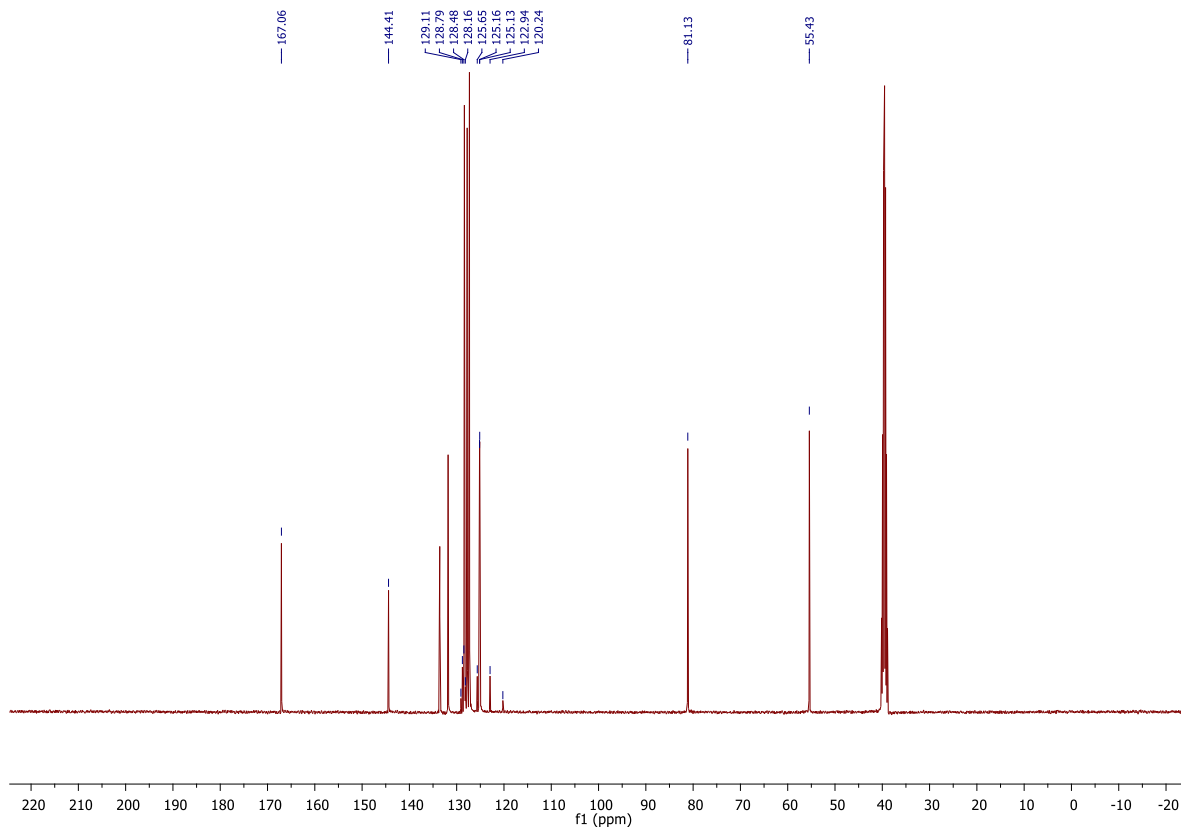


1.4. *N*-{methoxy[4-(trifluoromethyl)phenyl]methyl}benzamide (392d)

^1H NMR (400 MHz, DMSO- d_6)

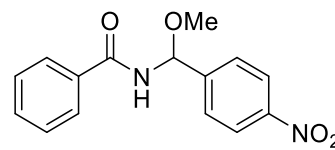
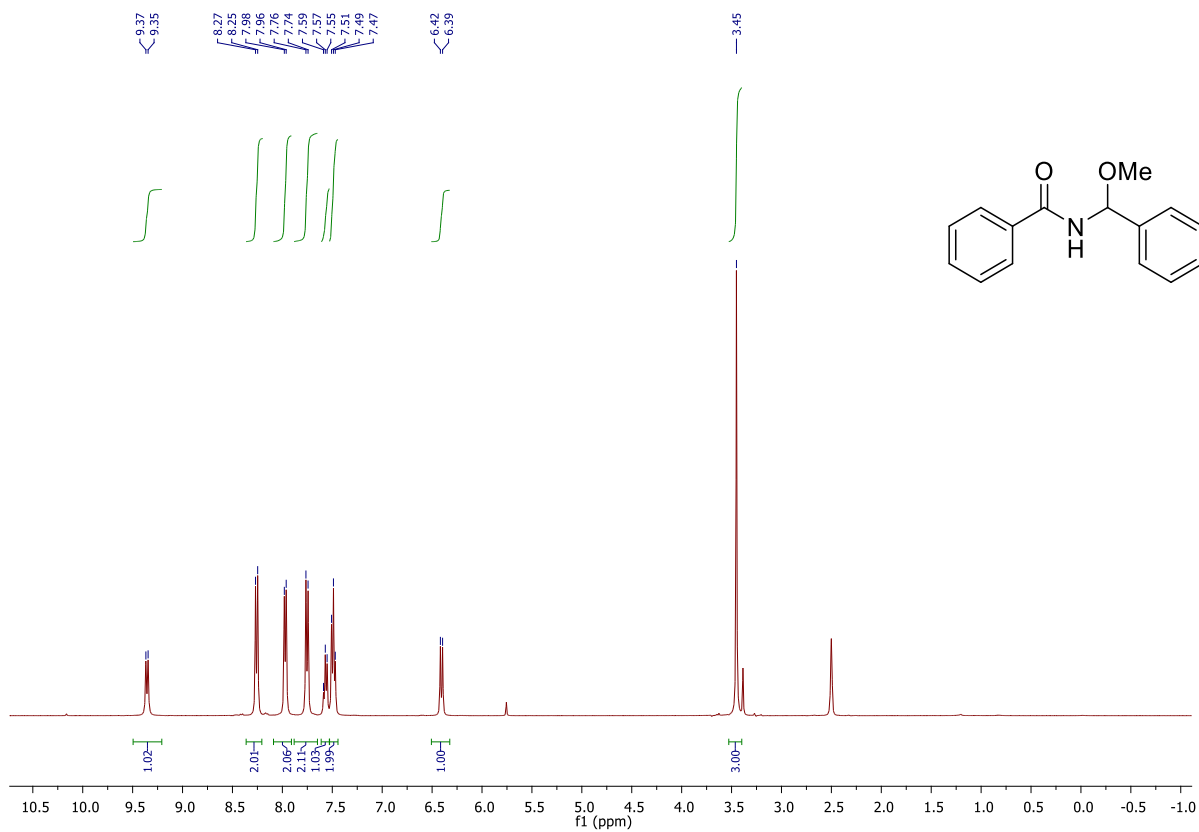


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

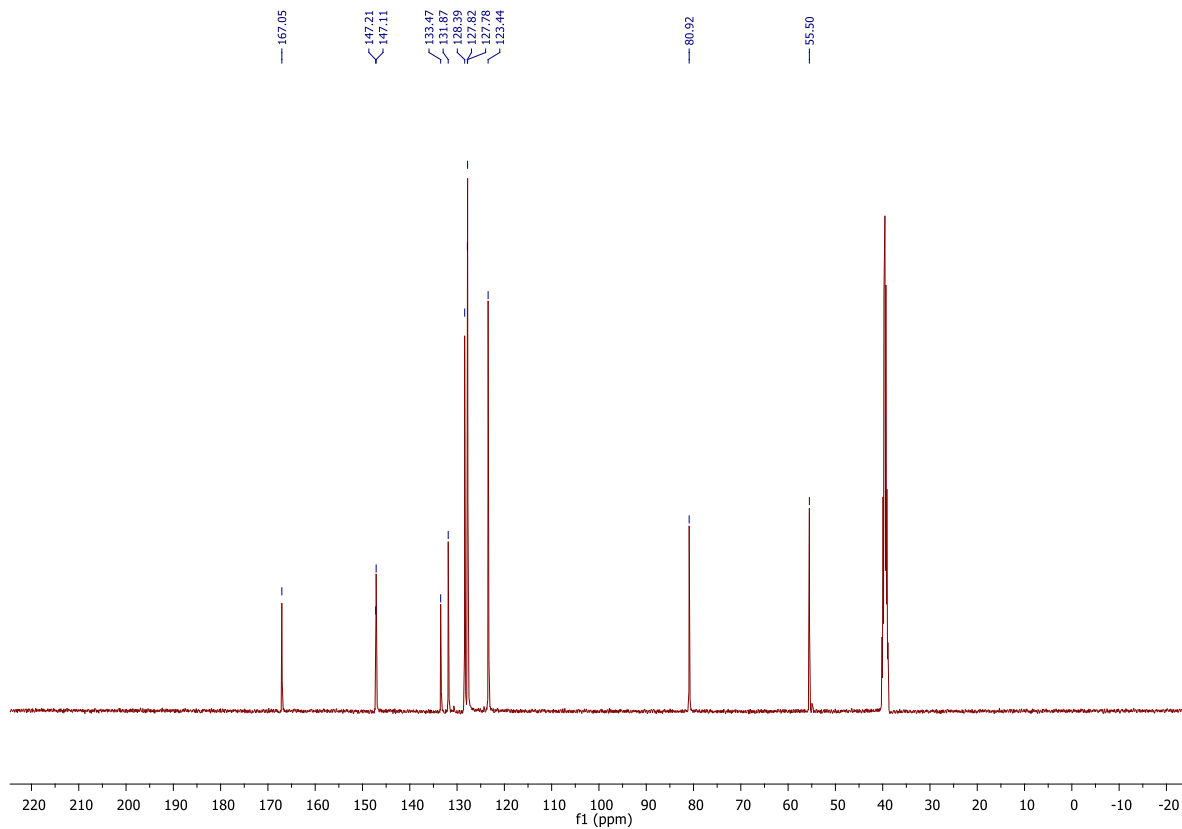


1.5. *N*-[methoxy(4-nitrophenyl)methyl]benzamide (392e)

¹H NMR (400 MHz, DMSO-d₆)

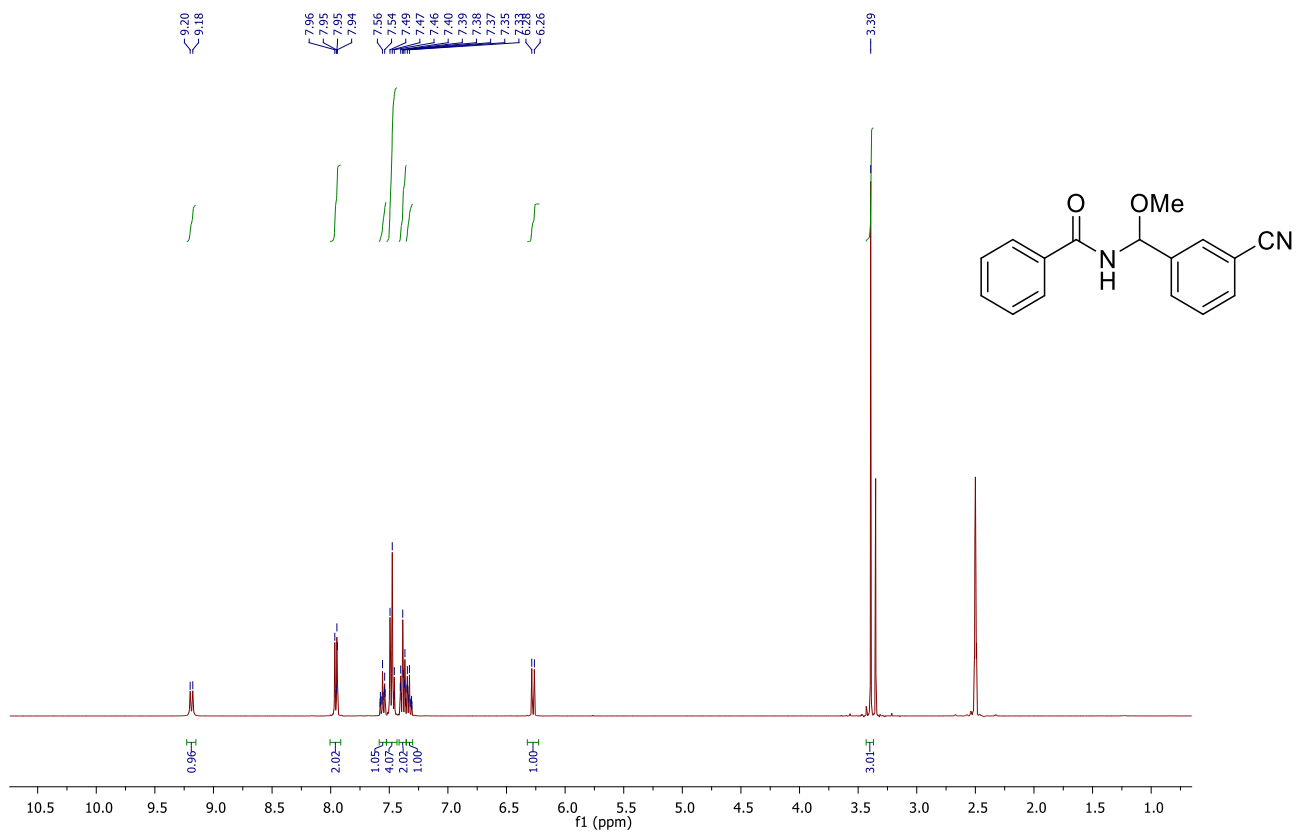


¹³C{¹H} NMR (101 MHz, DMSO-d₆)

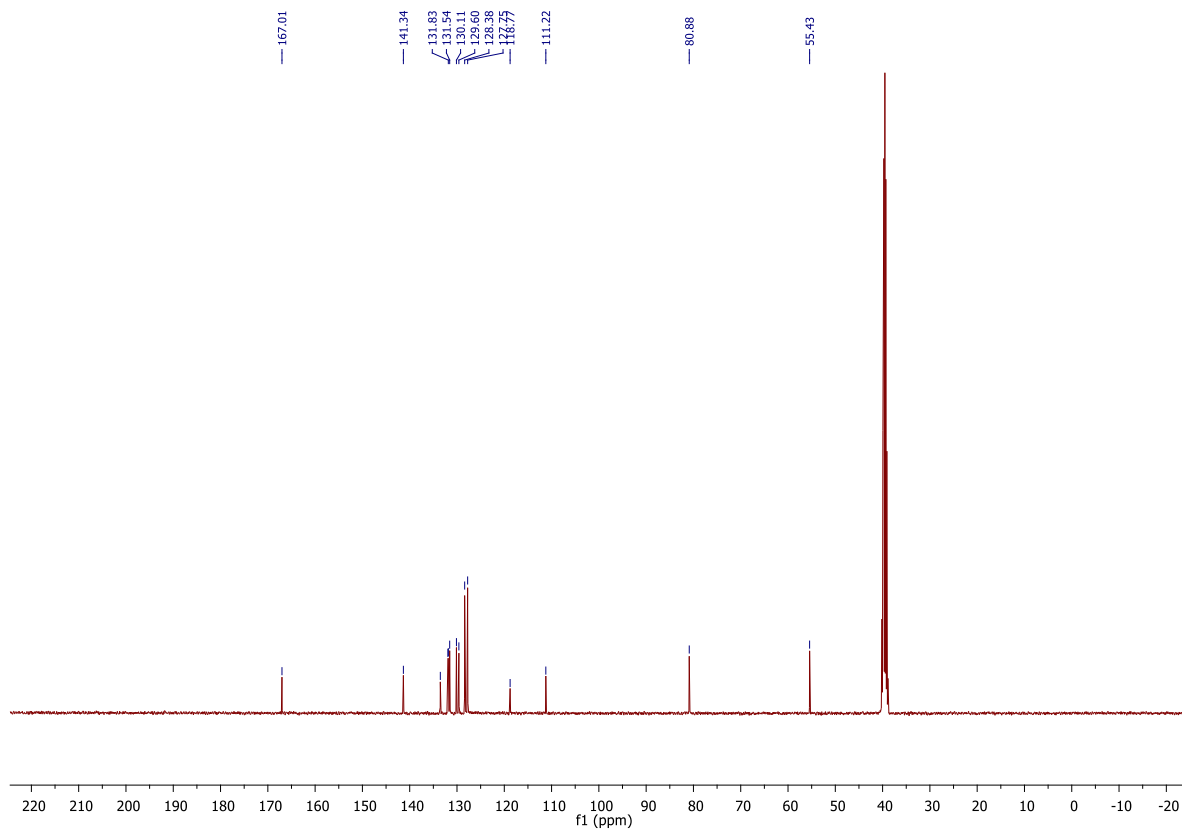


1.6. *N*-[(3-cyanophenyl)(methoxy)methyl]benzamide (392f)

¹H NMR (400 MHz, DMSO-d₆)

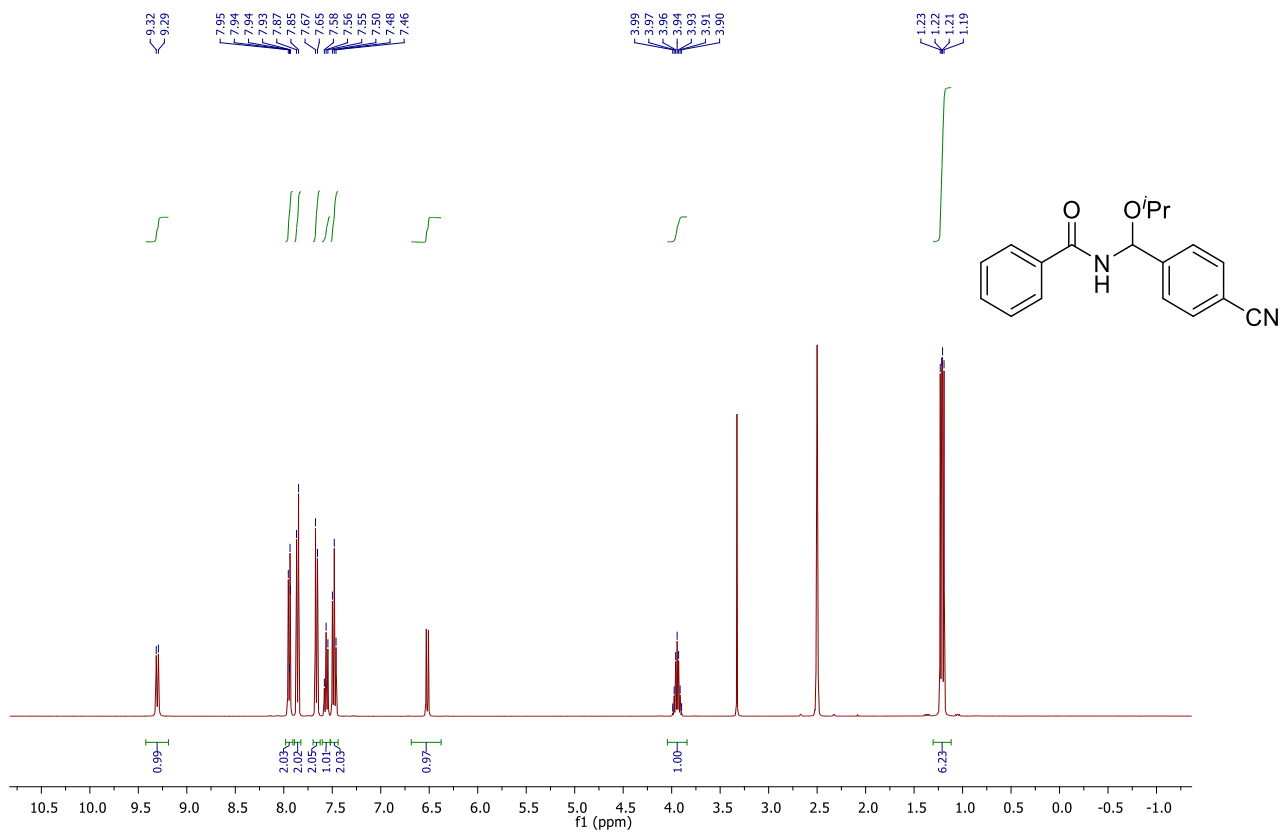


¹³C{¹H} NMR (101 MHz, DMSO-d₆)

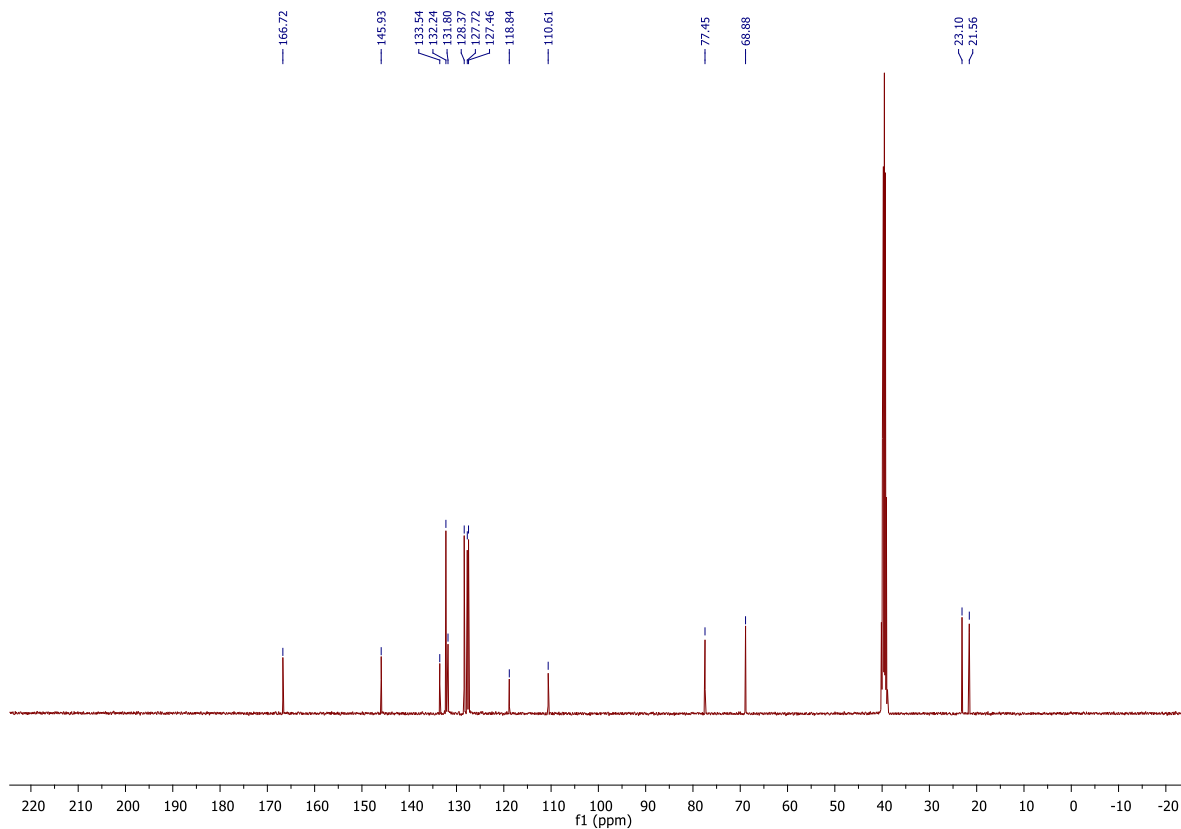


1.7. *N*-{(4-cyanophenyl)[(propan-2-yl)oxy]methyl}benzamide (403a)

^1H NMR (400 MHz, DMSO- d_6)

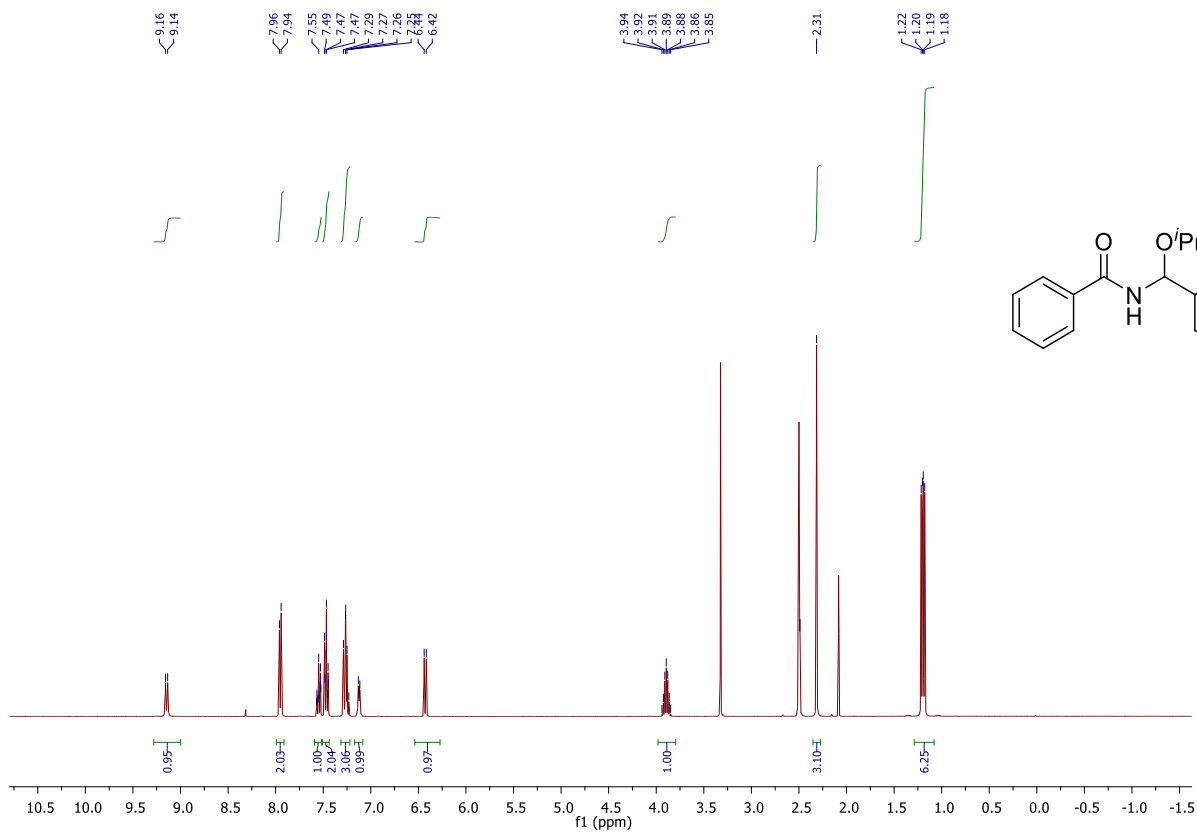


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

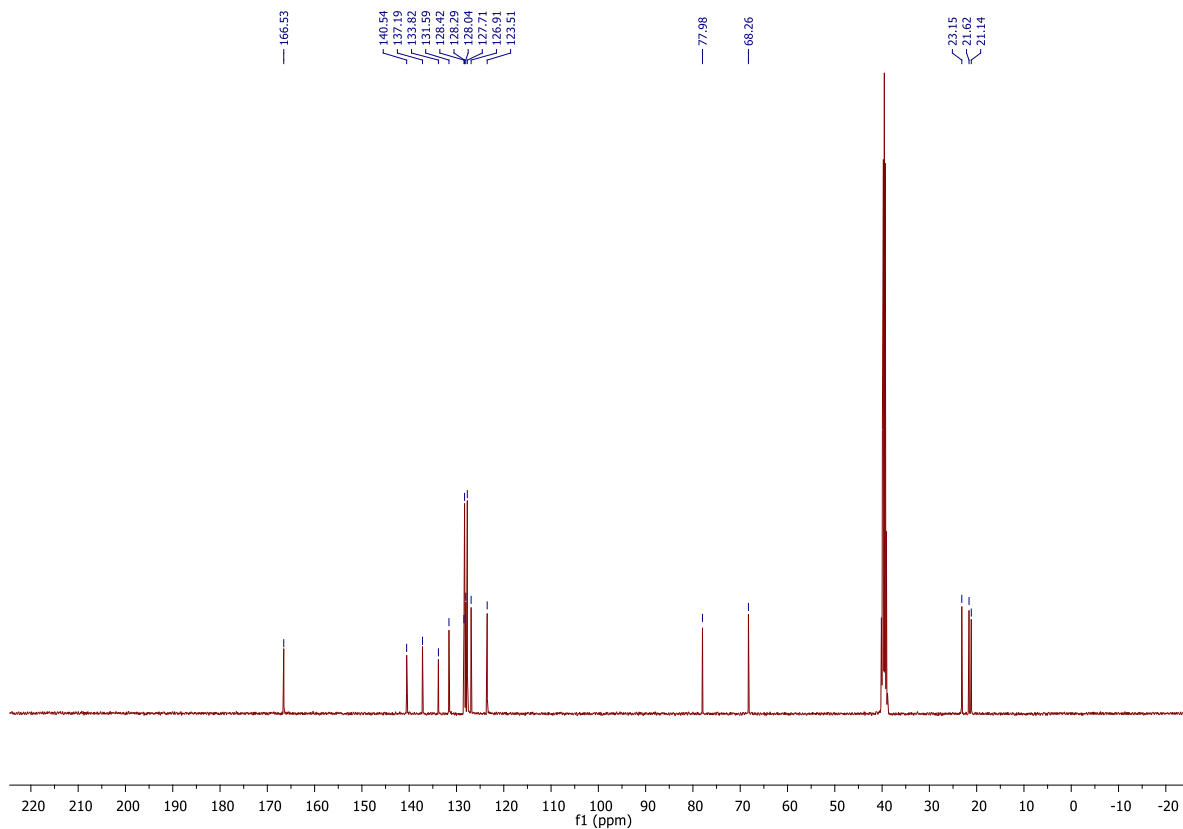


1.8. *N*-{(3-methylphenyl)[(propan-2-yl)oxy]methyl}benzamide (403b)

¹H NMR (400 MHz, DMSO-d₆)

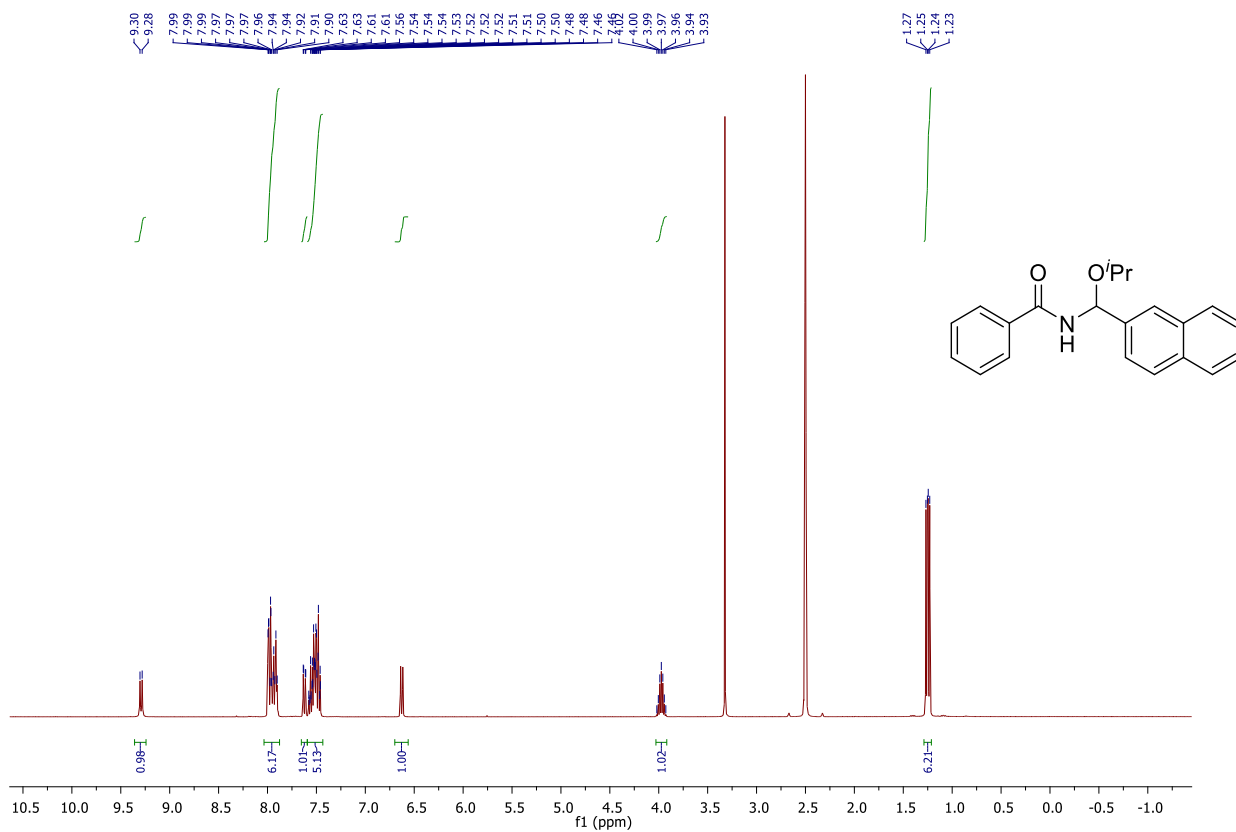


¹³C{¹H} NMR (101 MHz, DMSO-d₆)

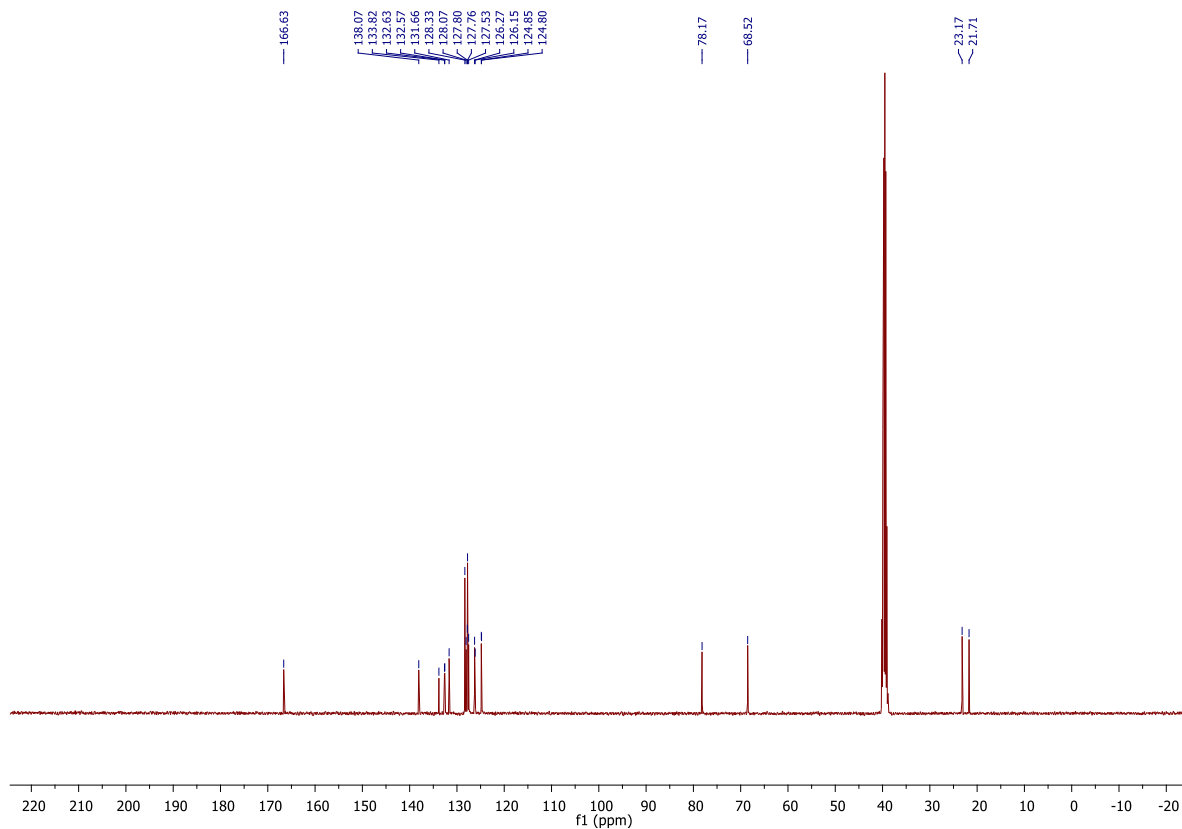


1.9. *N*-{(naphthalen-2-yl)[(propan-2-yl)oxy]methyl}benzamide (403c)

^1H NMR (400 MHz, DMSO- d_6)

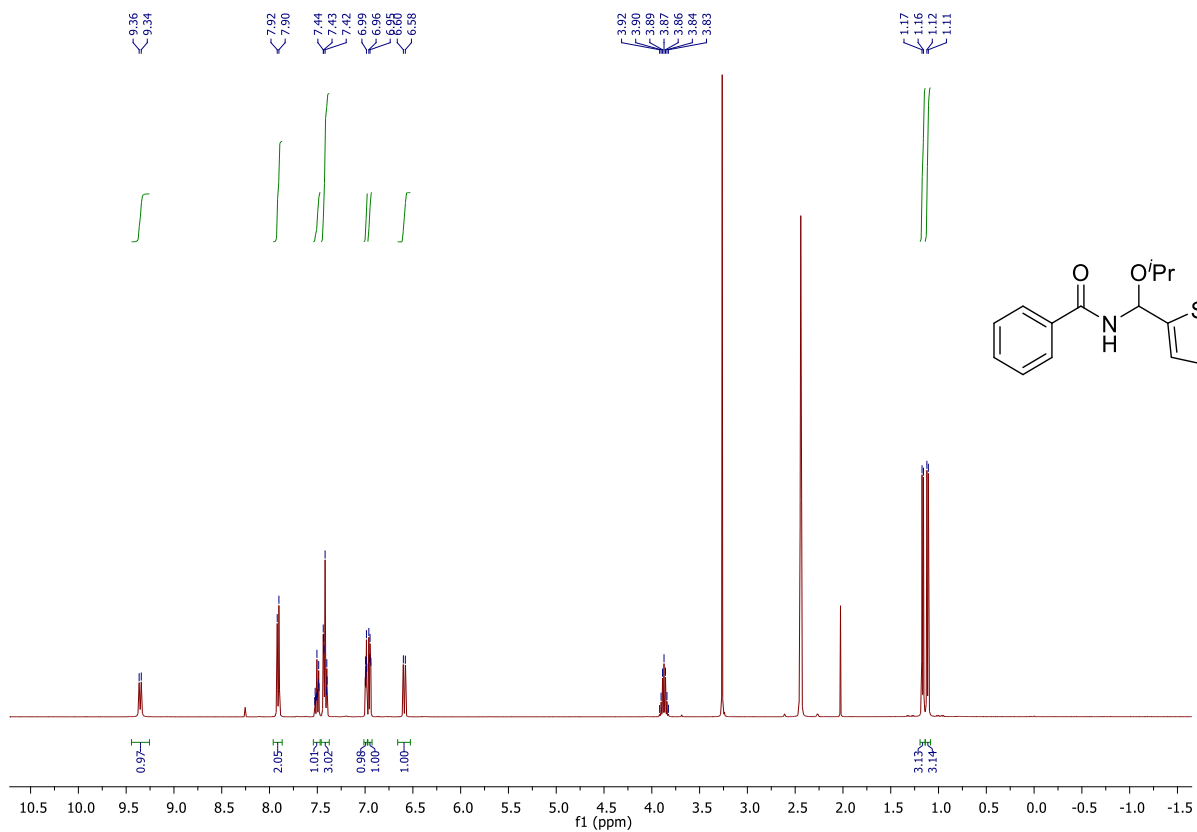


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

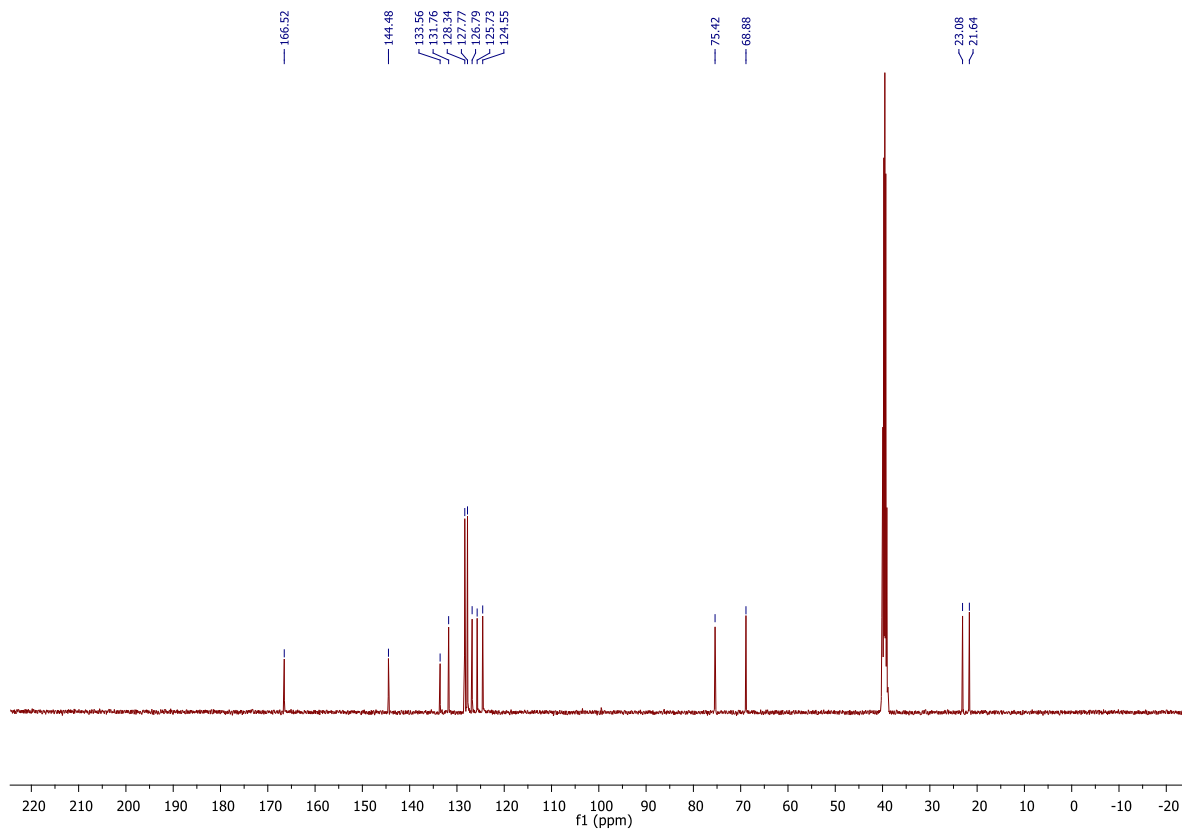


1.10. *N*-{[(propan-2-yl)oxy](thiophen-2-yl)methyl}benzamide (403d)

^1H NMR (400 MHz, DMSO- d_6)

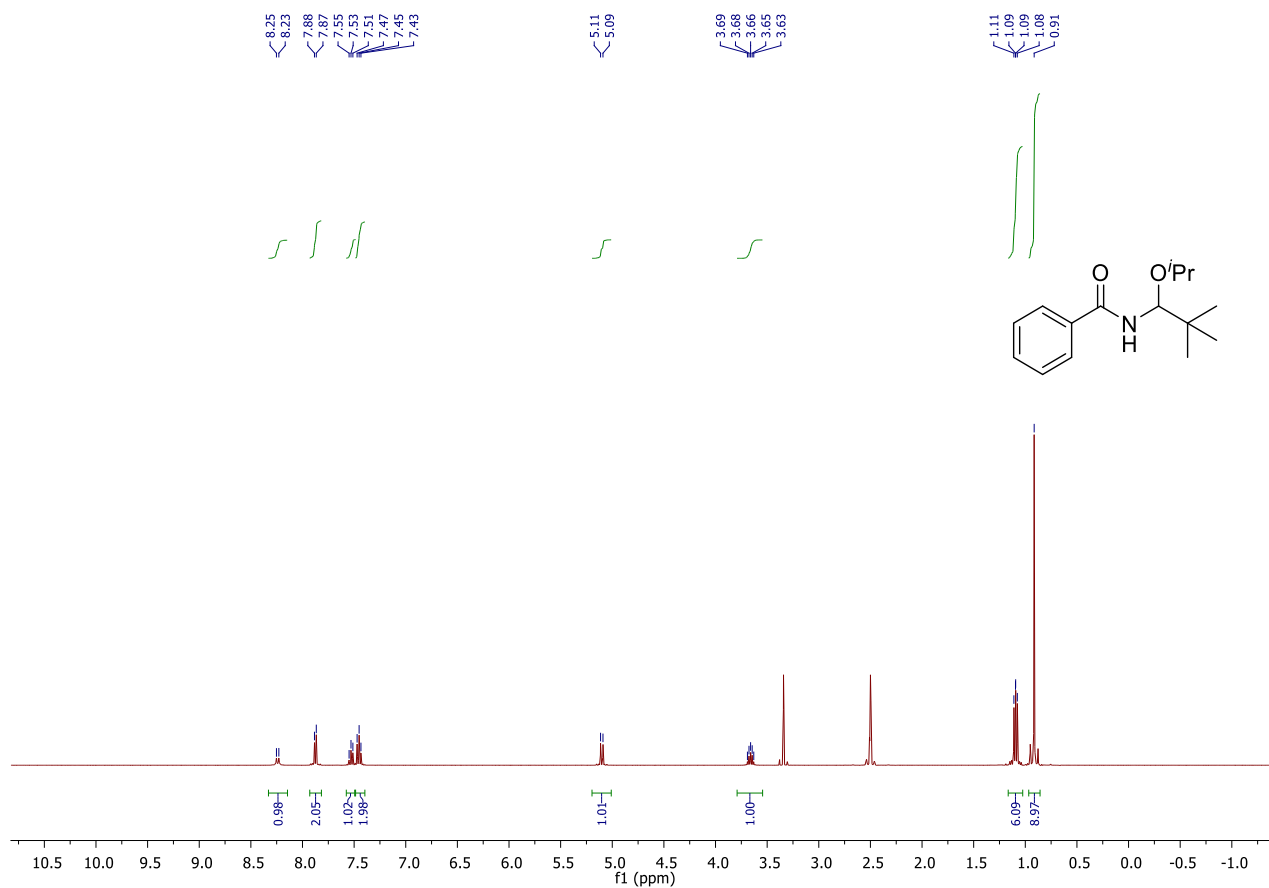


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

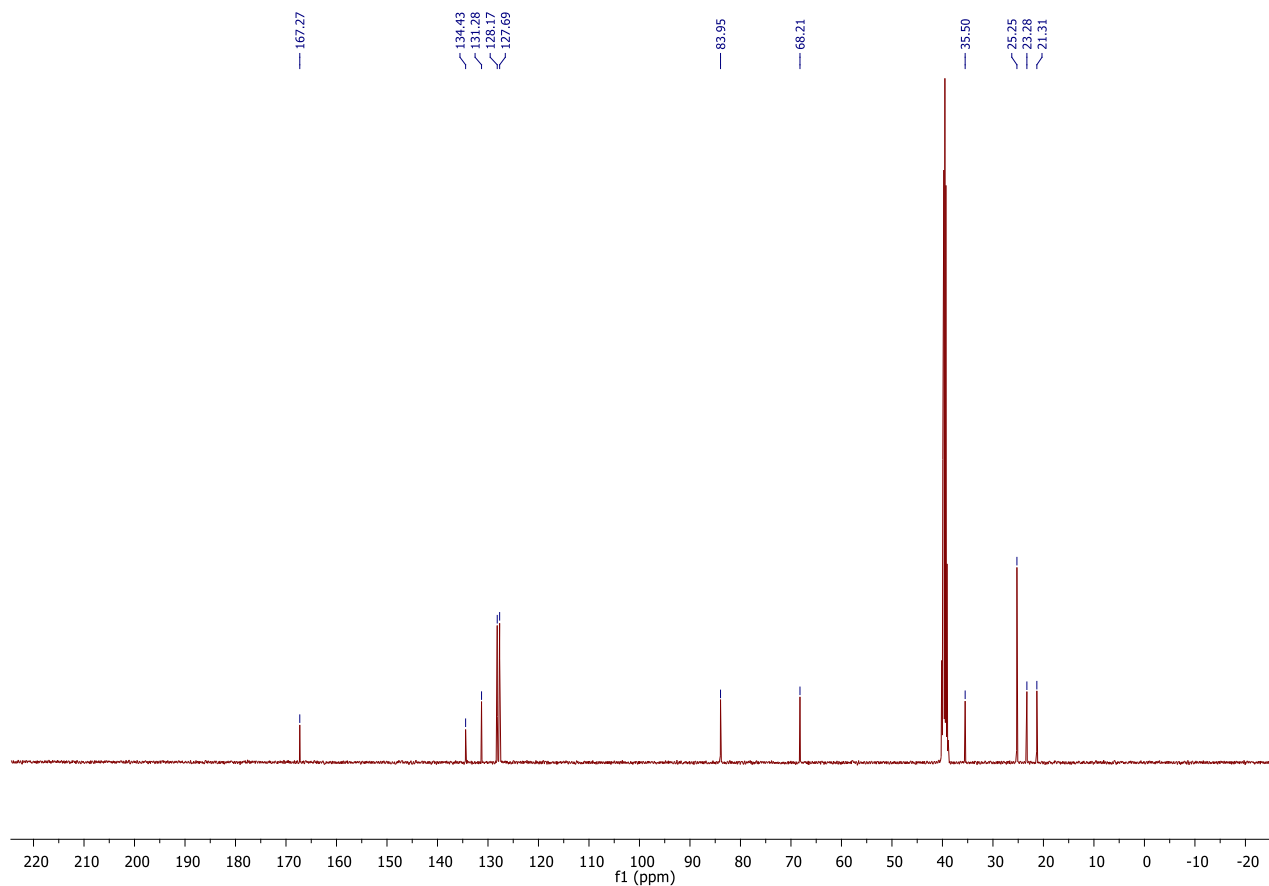


1.11. *N*-(1-isopropoxy-2,2-dimethyl-propyl)benzamide (403f)

^1H NMR (400 MHz, DMSO- d_6)

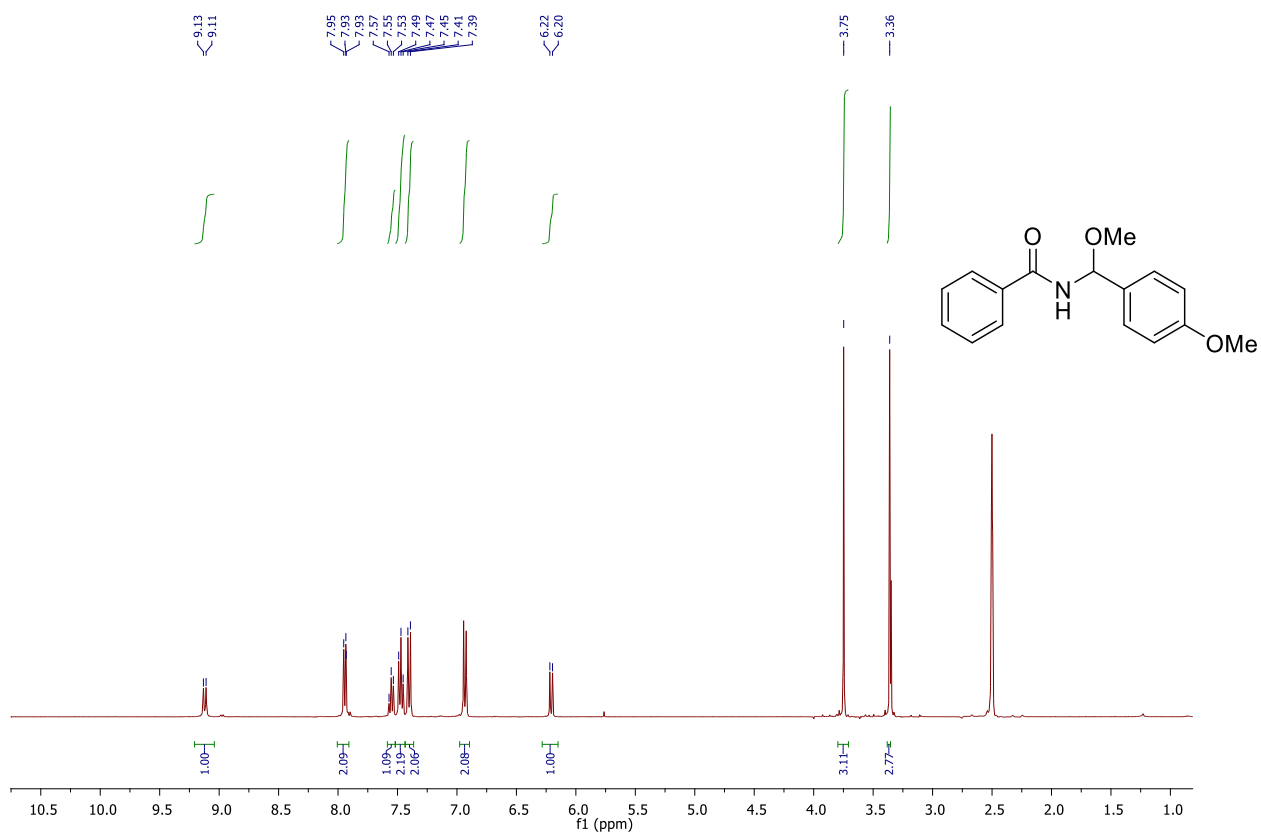


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

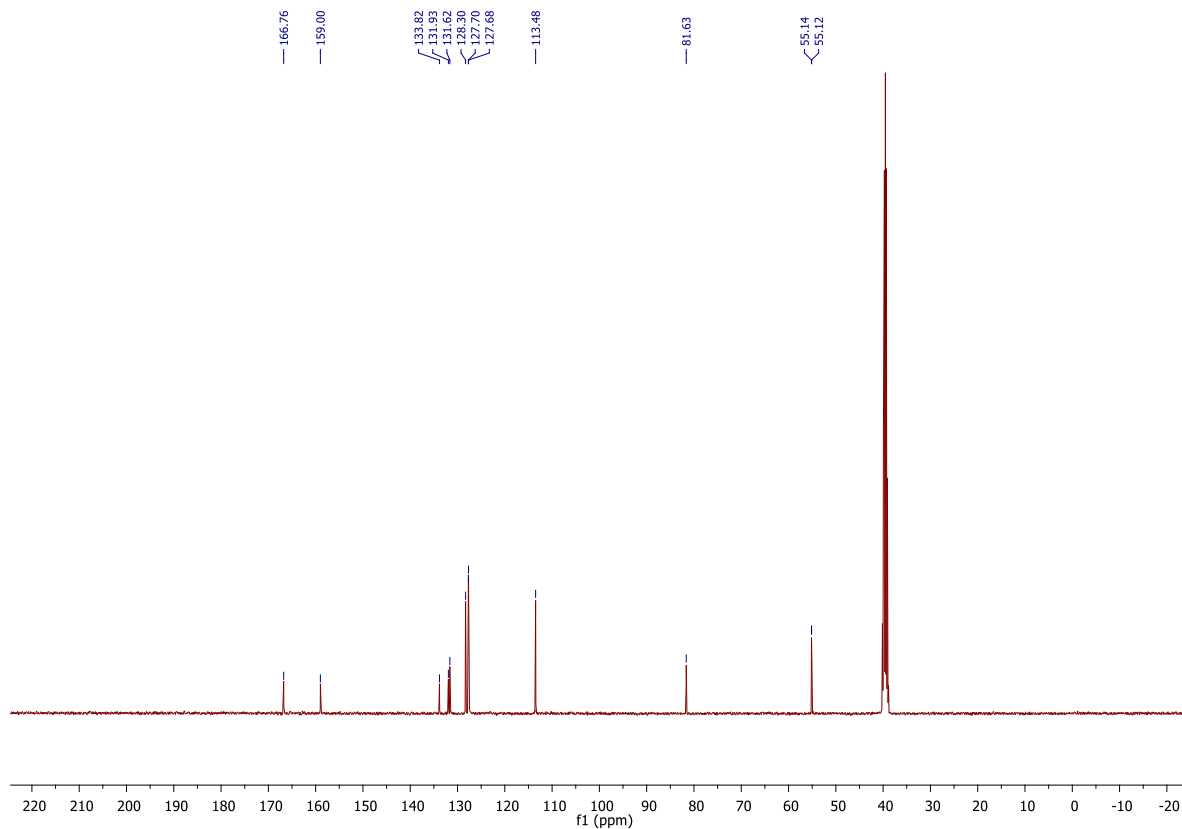


1.12. *N*-[methoxy(4-methoxyphenyl)methyl]benzamide (392I)

^1H NMR (400 MHz, DMSO-d_6)

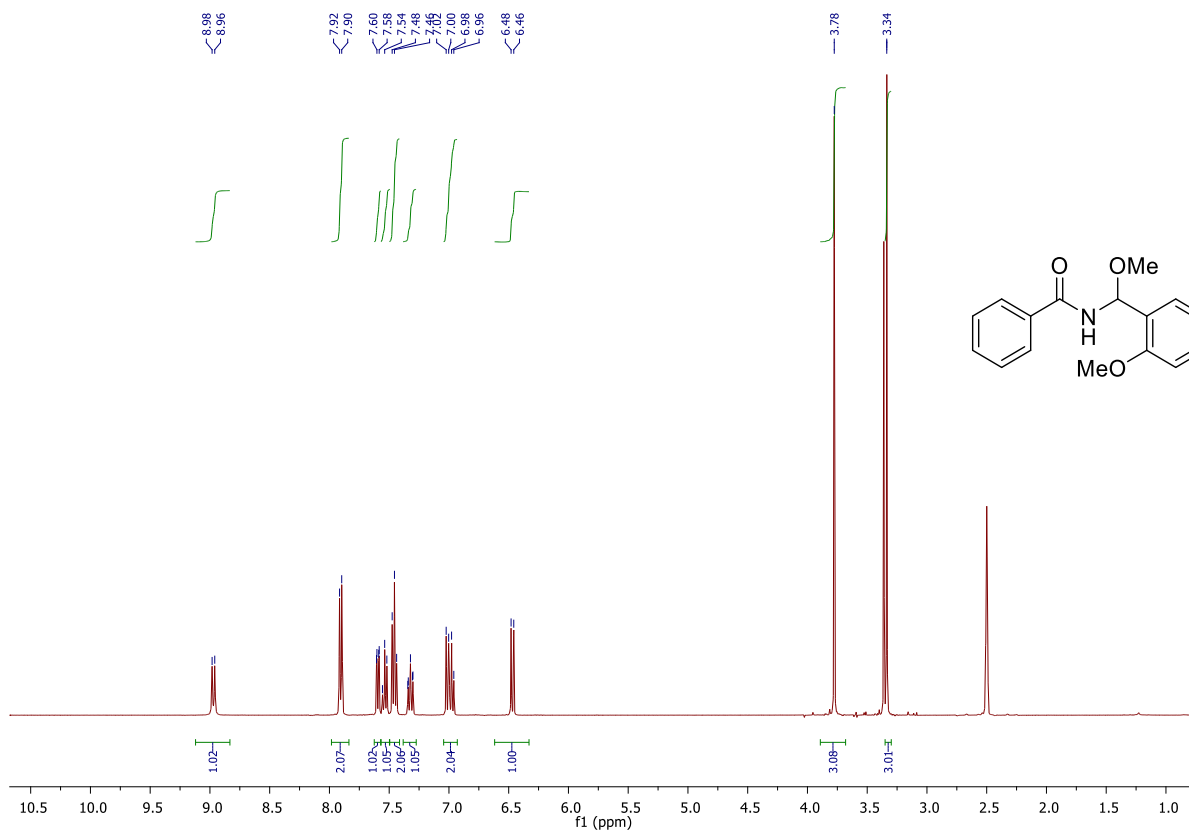


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO-d_6)

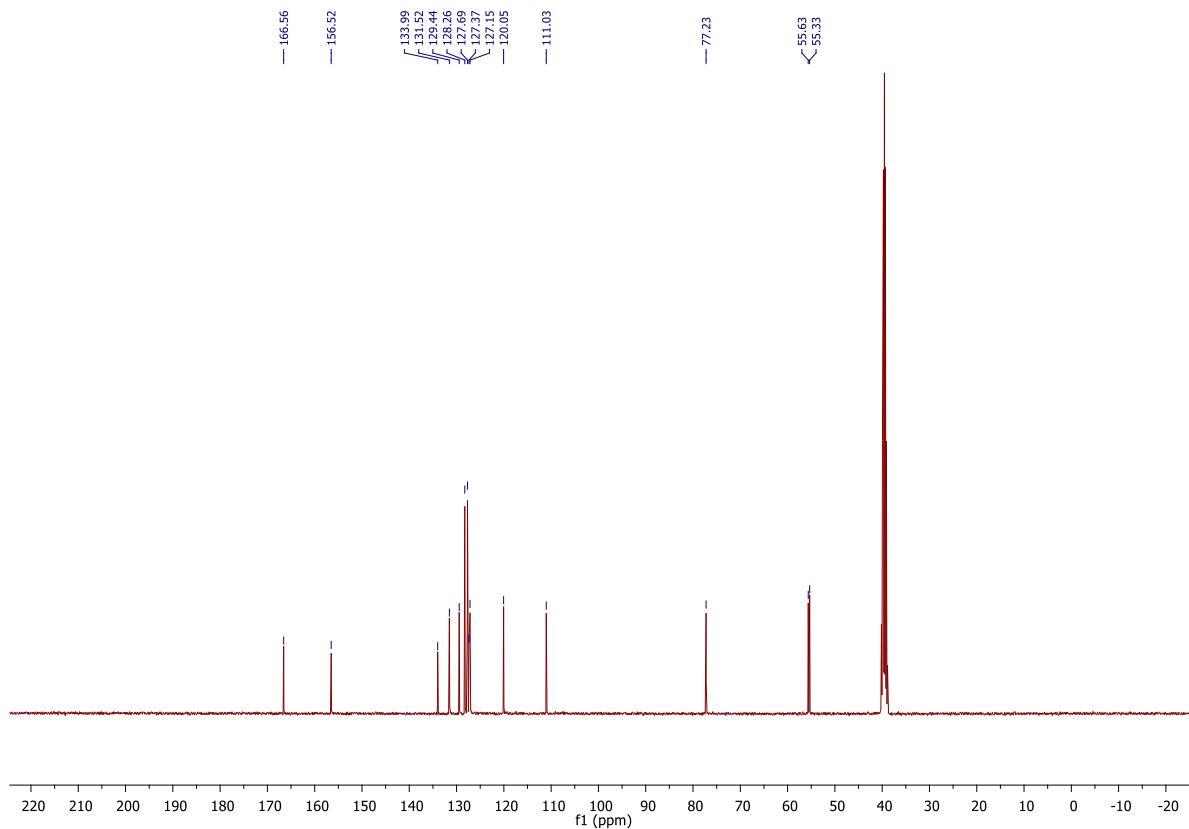


1.13. *N*-[methoxy(2-methoxyphenyl)methyl]benzamide (392m)

^1H NMR (400 MHz, DMSO-d_6)

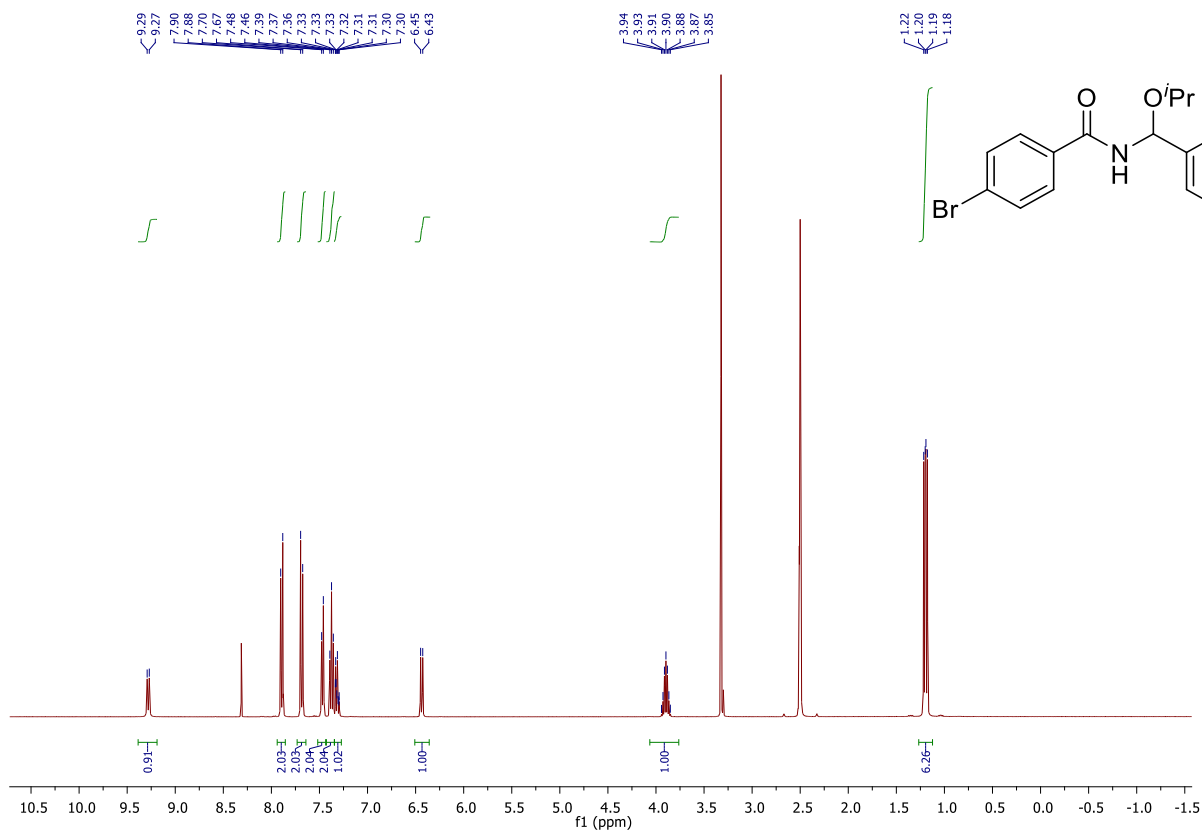


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO-d_6)

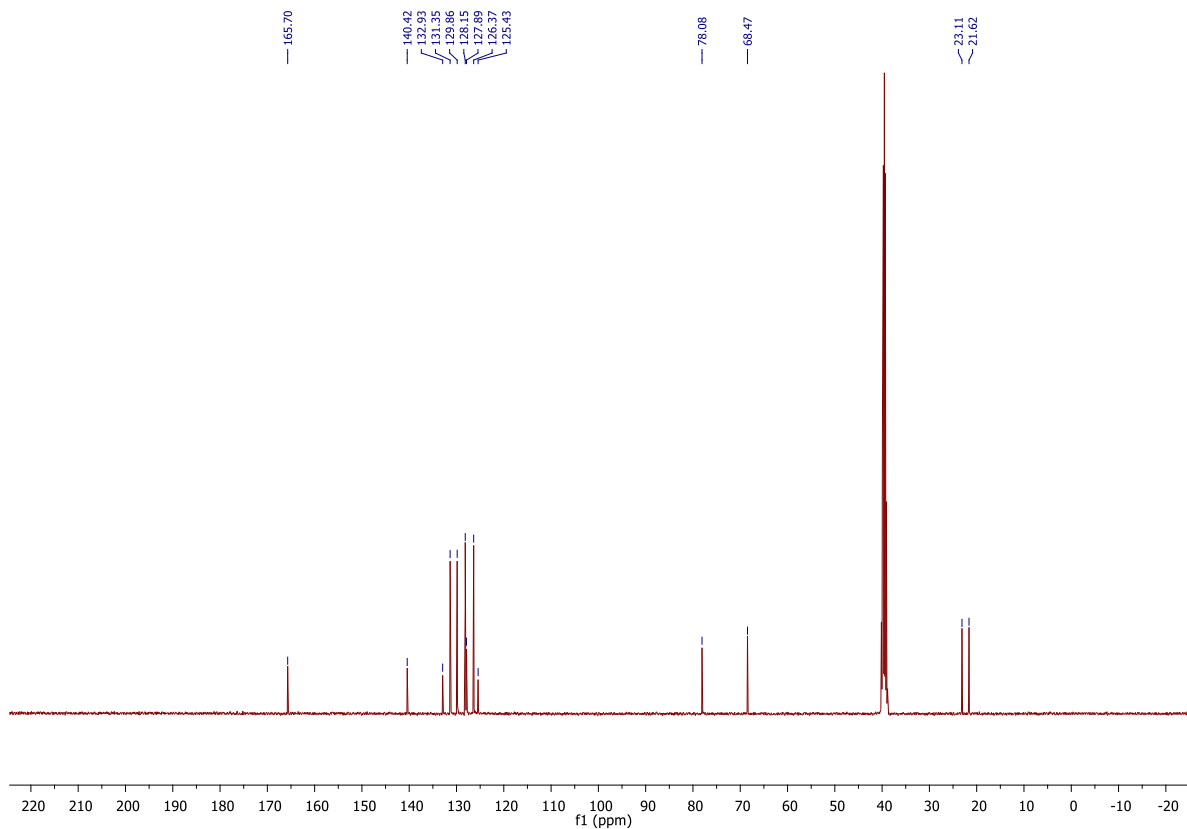


1.14. 4-bromo-N-{phenyl}[(propan-2-yl)oxy]methylbenzamide (407a)

^1H NMR (400 MHz, DMSO- d_6)

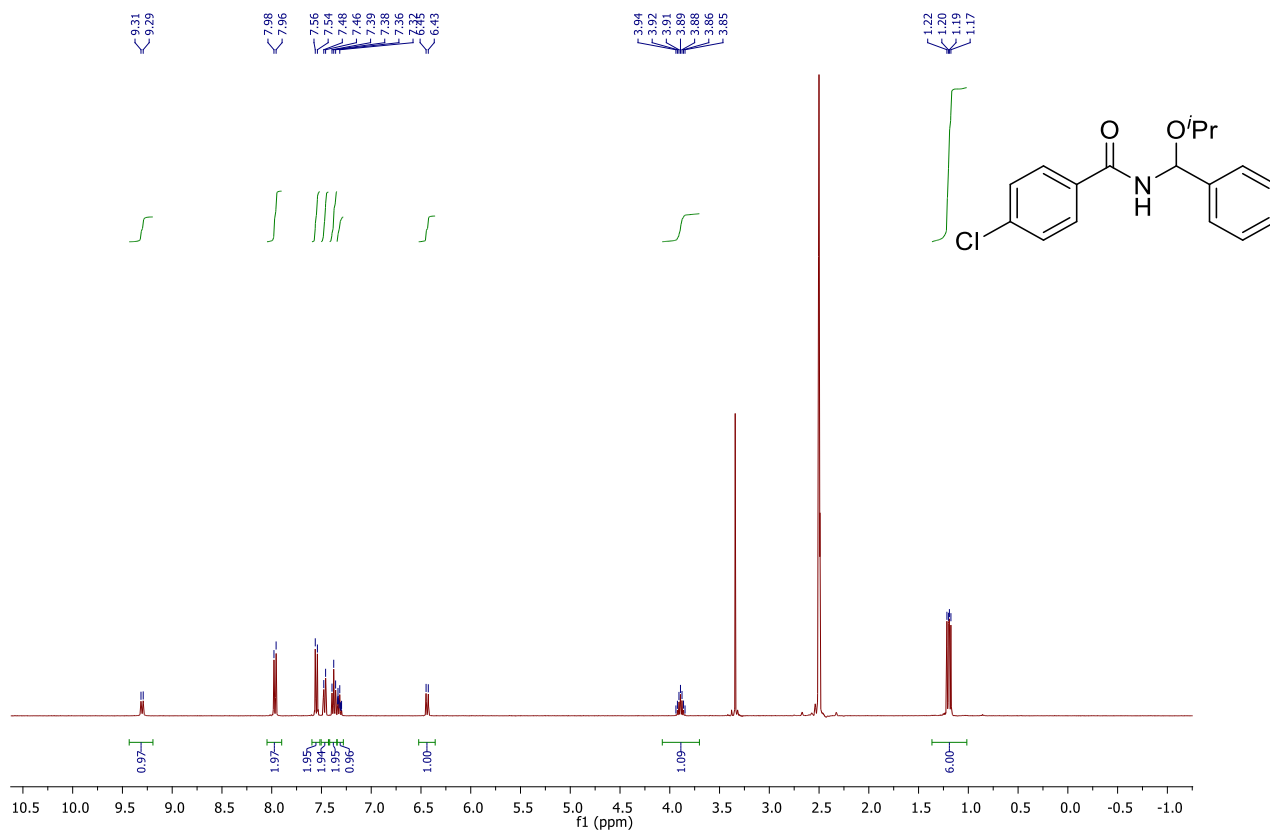


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

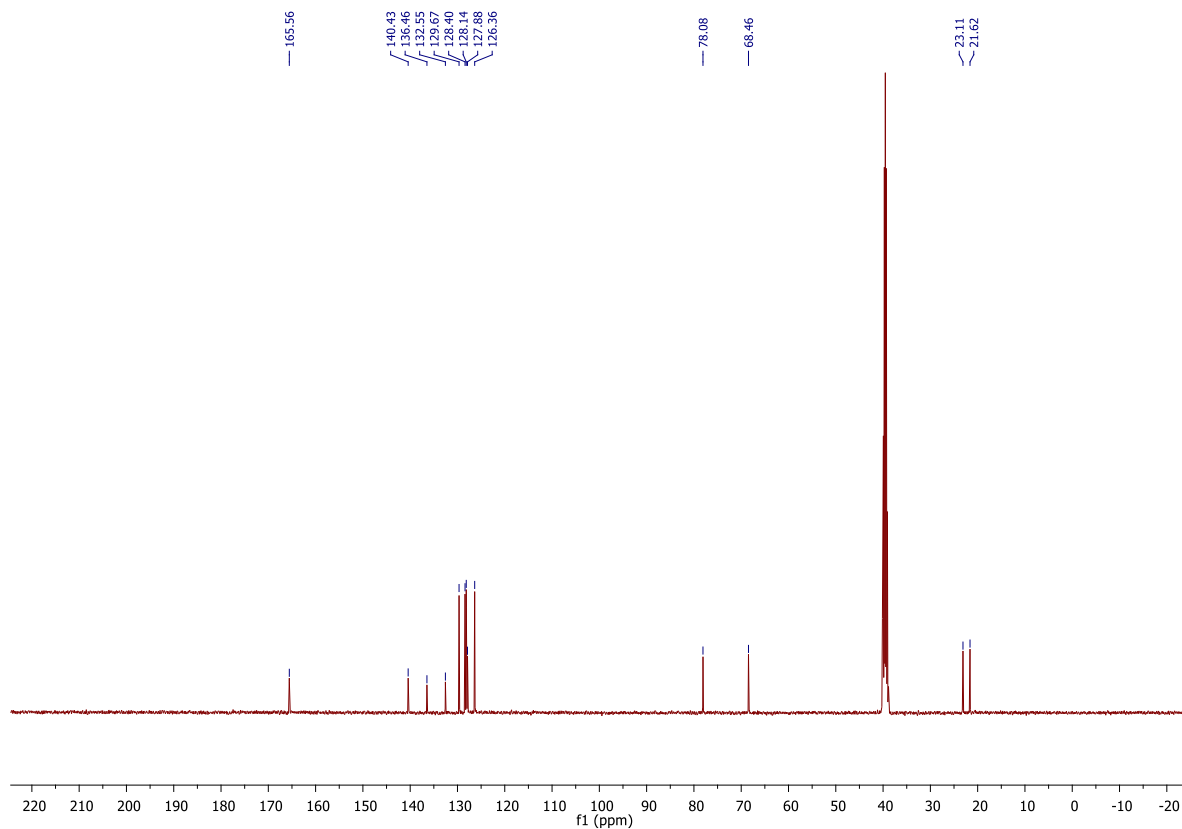


1.15. 4-chloro-N-{phenyl[(propan-2-yl)oxy]methyl}benzamide (407b)

^1H NMR (400 MHz, DMSO- d_6)

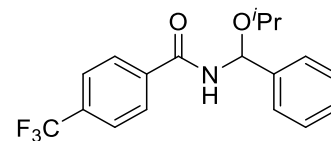
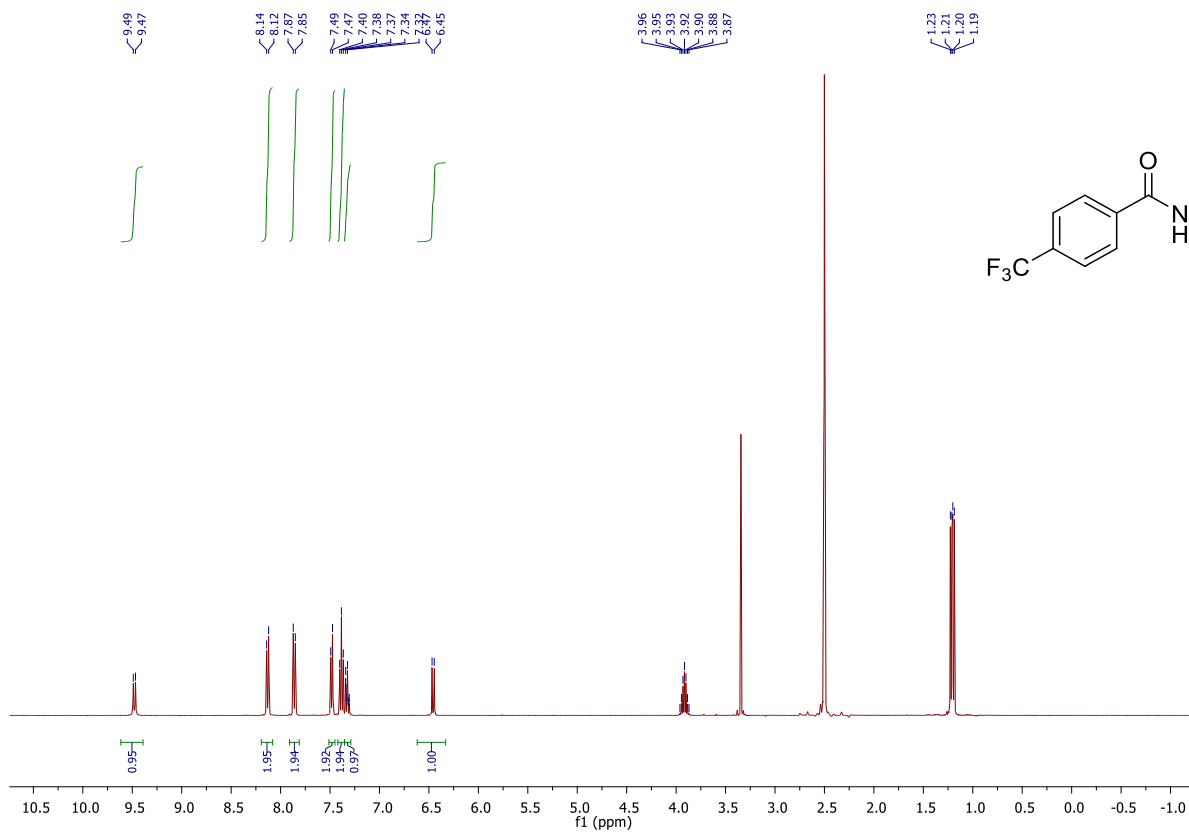


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

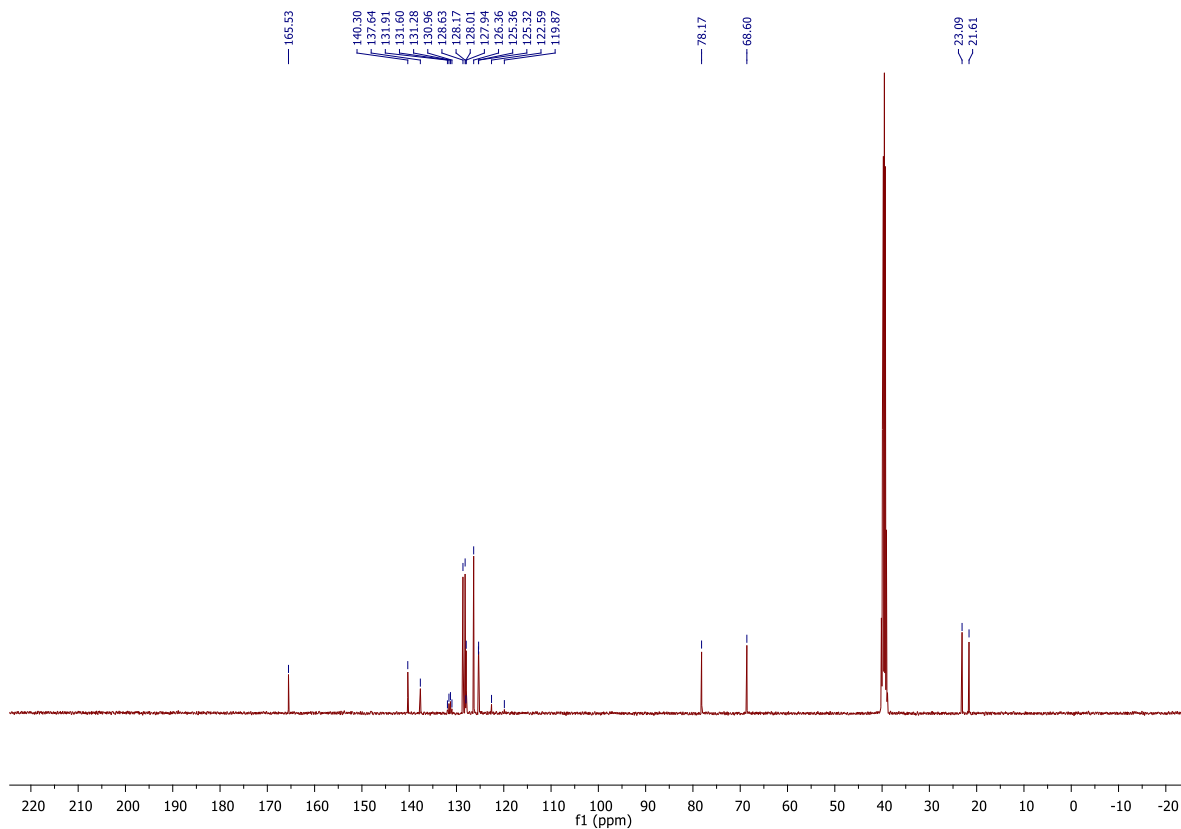


1.16. *N*-{phenyl[(propan-2-yl)oxy]methyl}-4-(trifluoromethyl)benzamide (407c)

^1H NMR (400 MHz, DMSO- d_6)

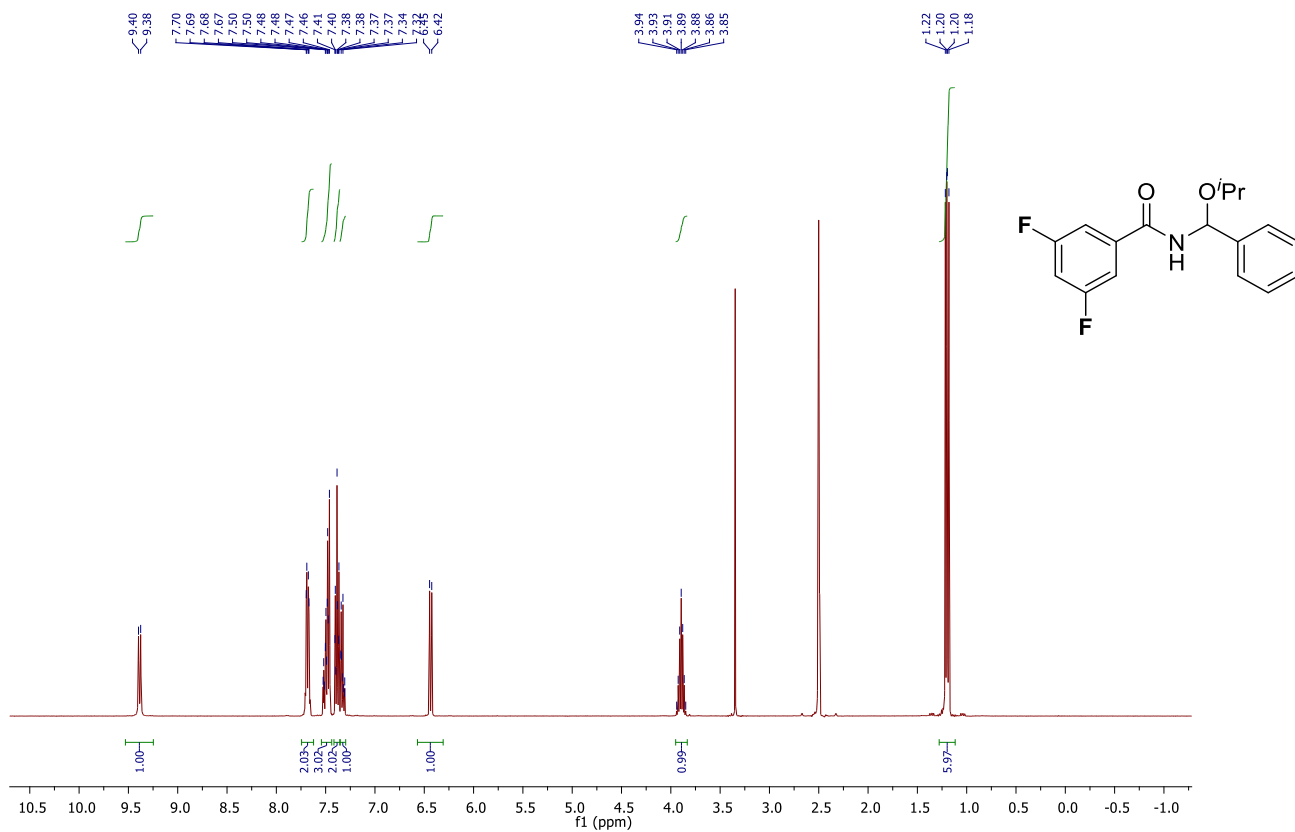


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

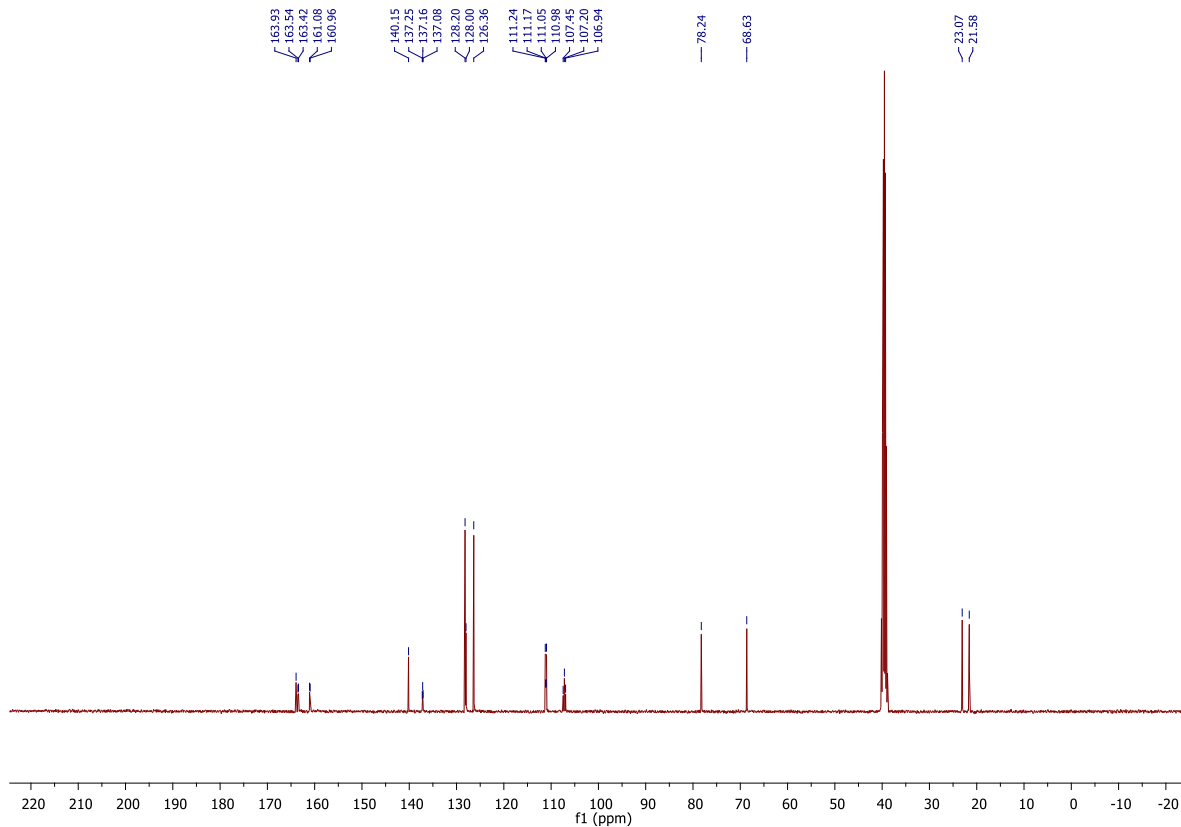


1.17. 3,5-difluoro-*N*-{phenyl[(propan-2-yl)oxy]methyl}benzamide (407d)

^1H NMR (400 MHz, DMSO- d_6)

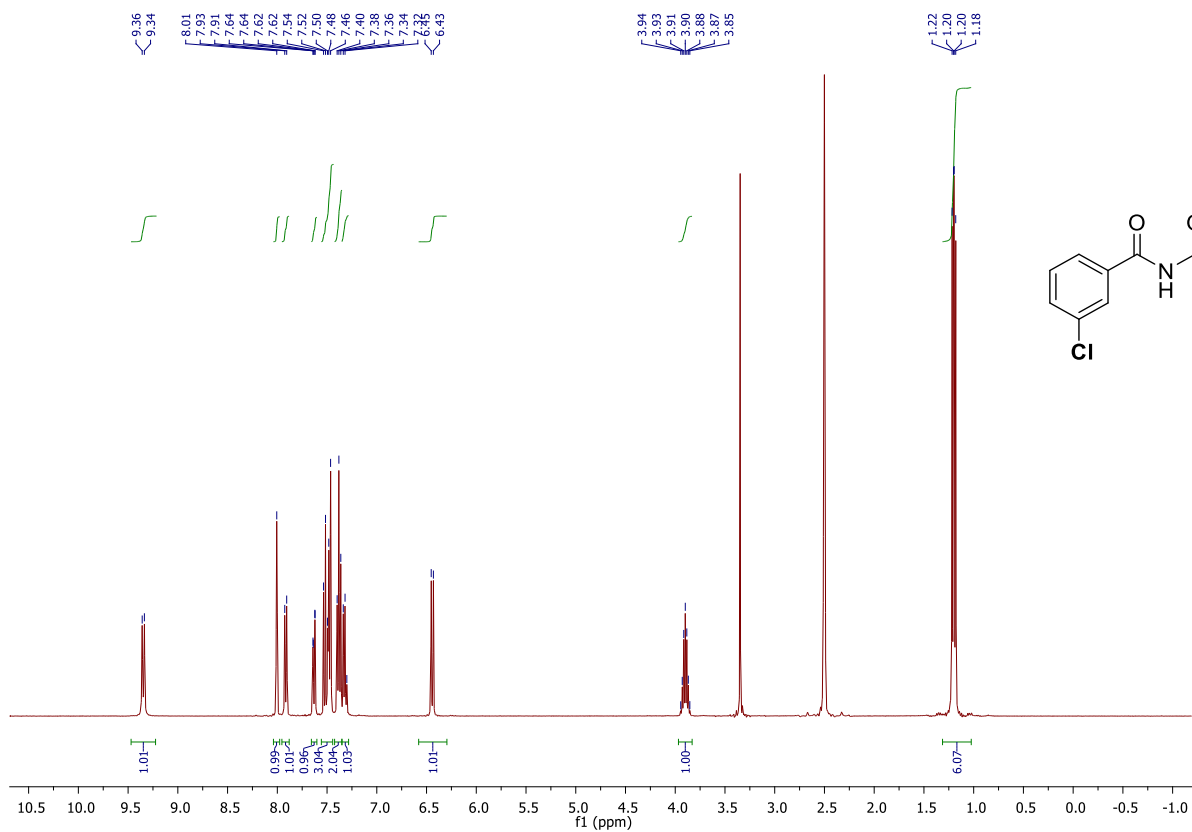


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

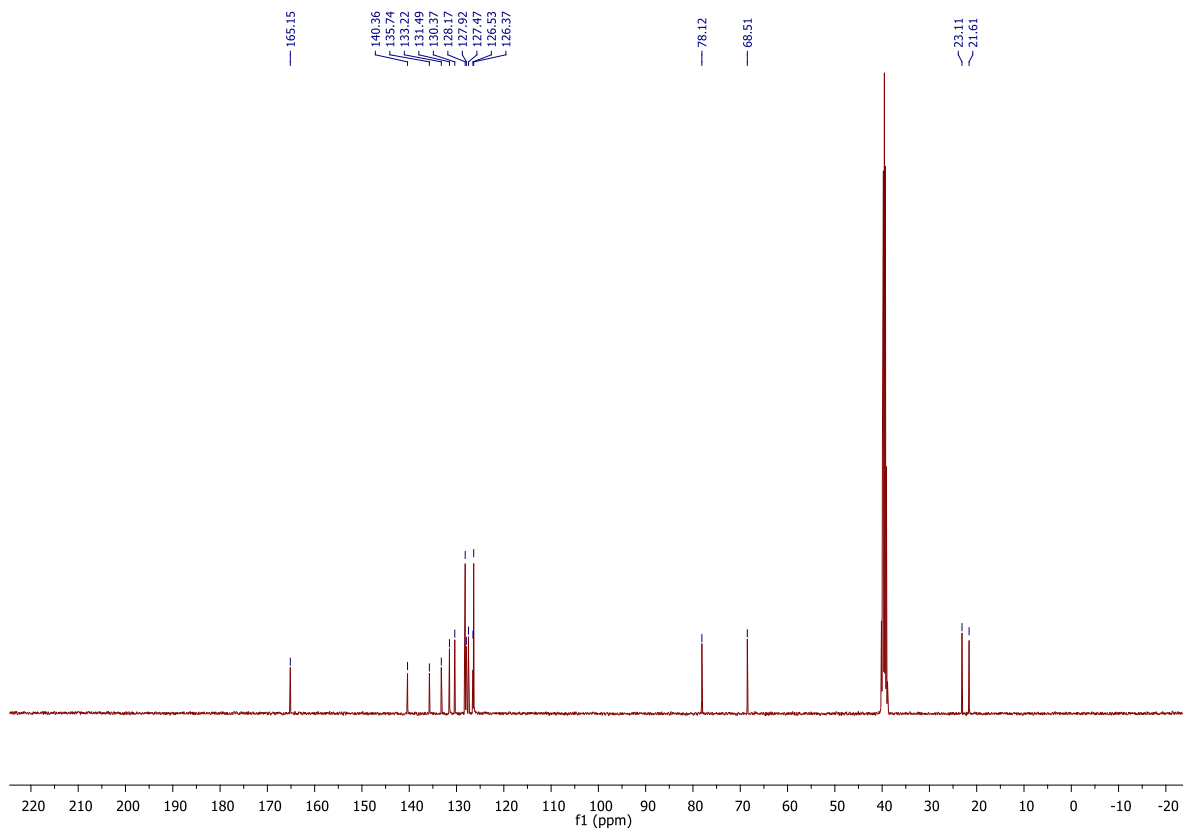


1.18. 3-chloro-N-{phenyl[(propan-2-yl)oxy]methyl}benzamide (407e)

^1H NMR (400 MHz, DMSO- d_6)

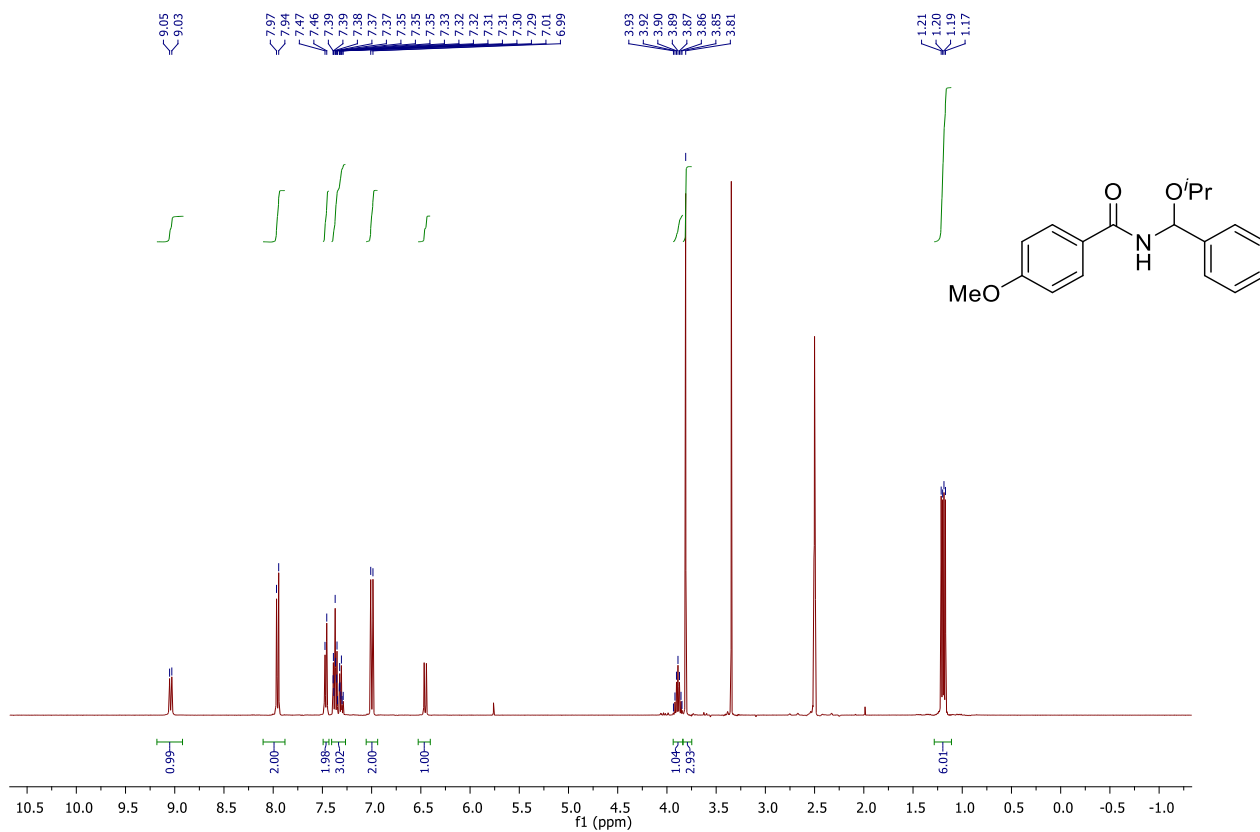


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

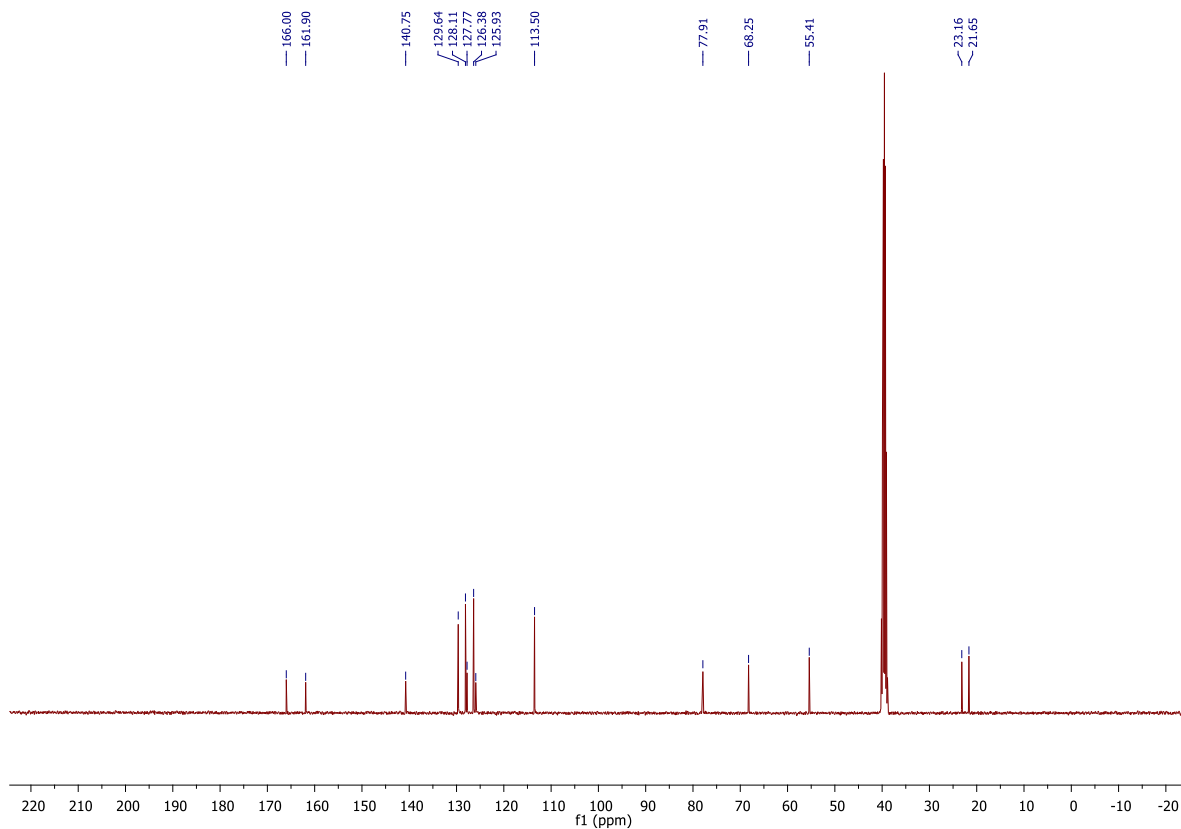


1.19. 4-methoxy-N-{phenyl[(propan-2-yl)oxy]methyl}benzamide (407f)

^1H NMR (400 MHz, DMSO- d_6)

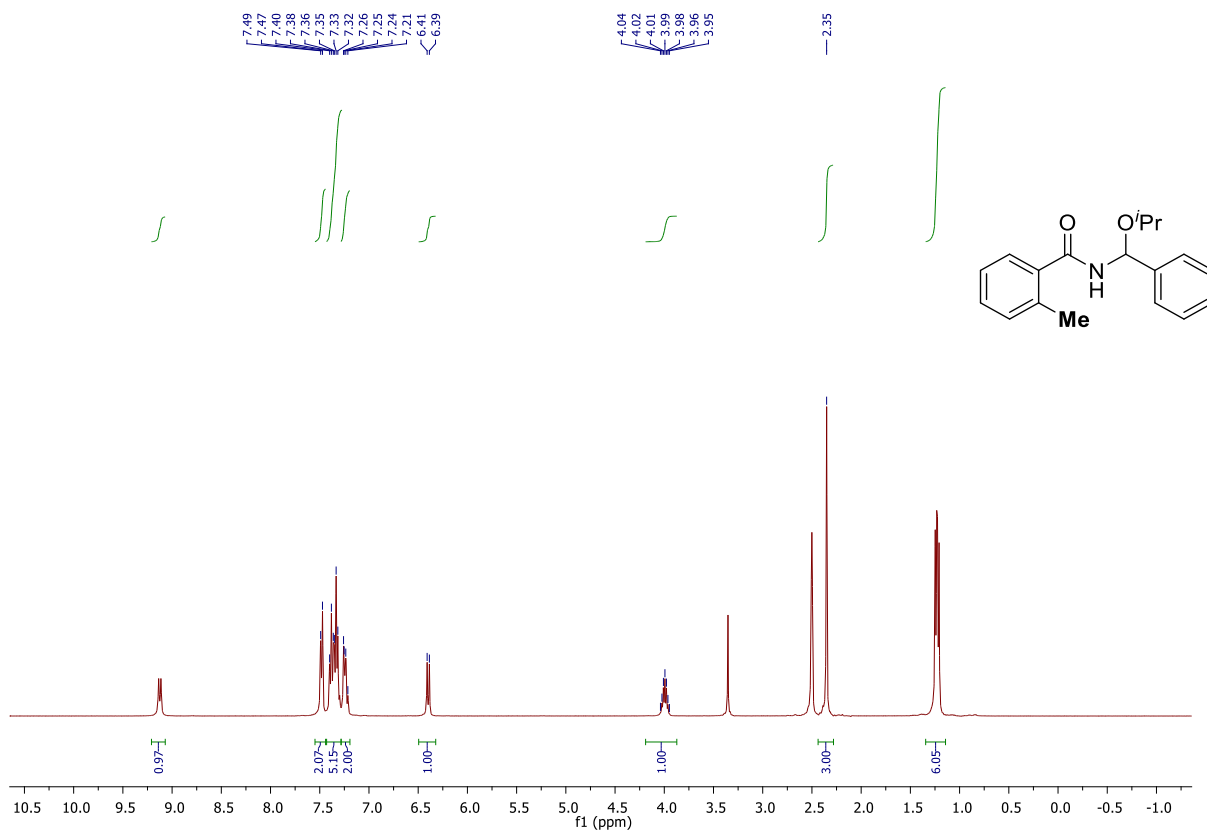


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

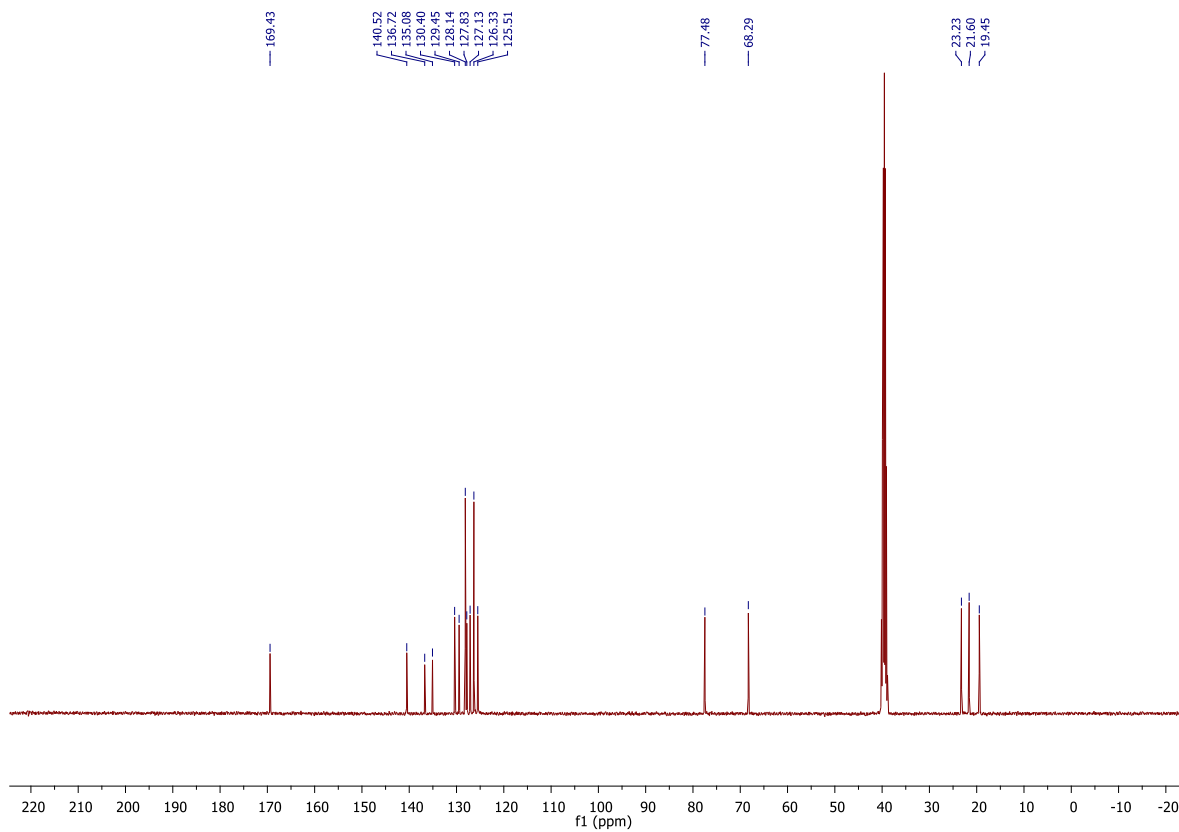


1.20. 2-methyl-N-{phenyl[(propan-2-yl)oxy]methyl}benzamide (407g)

^1H NMR (400 MHz, DMSO- d_6)

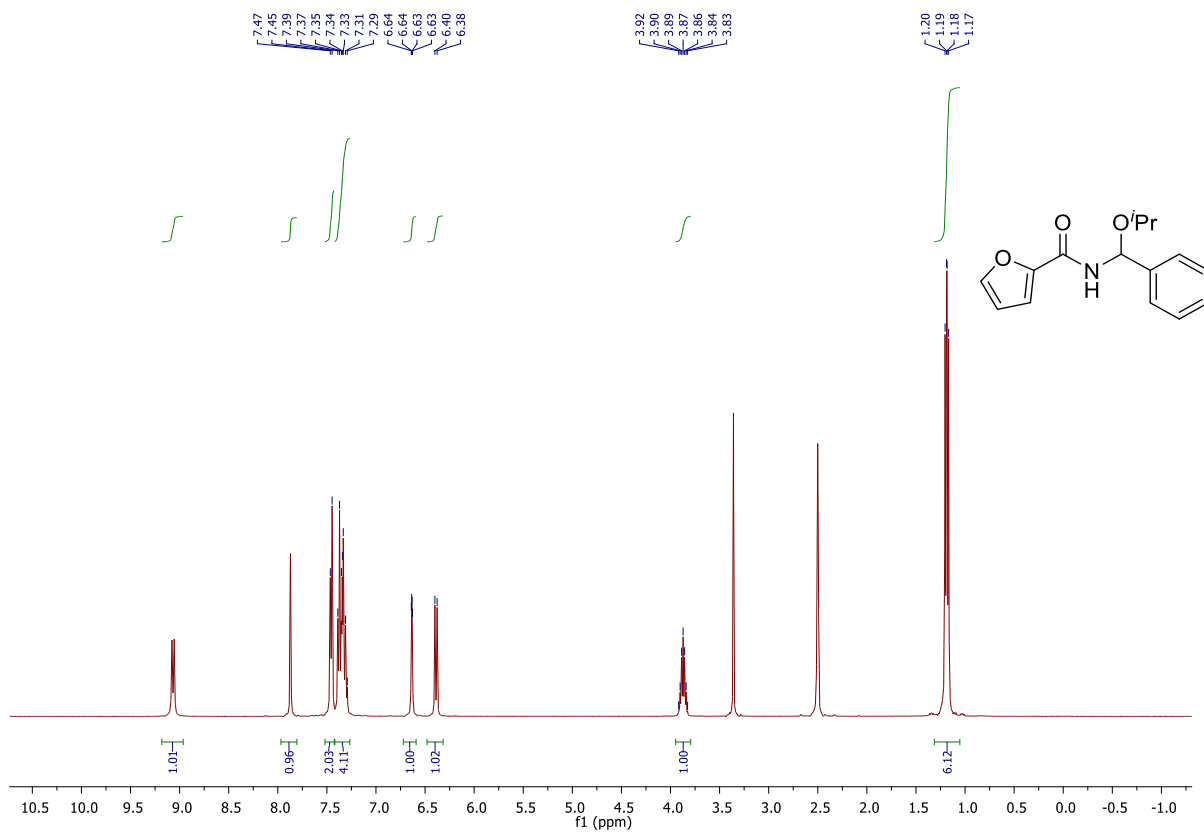


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

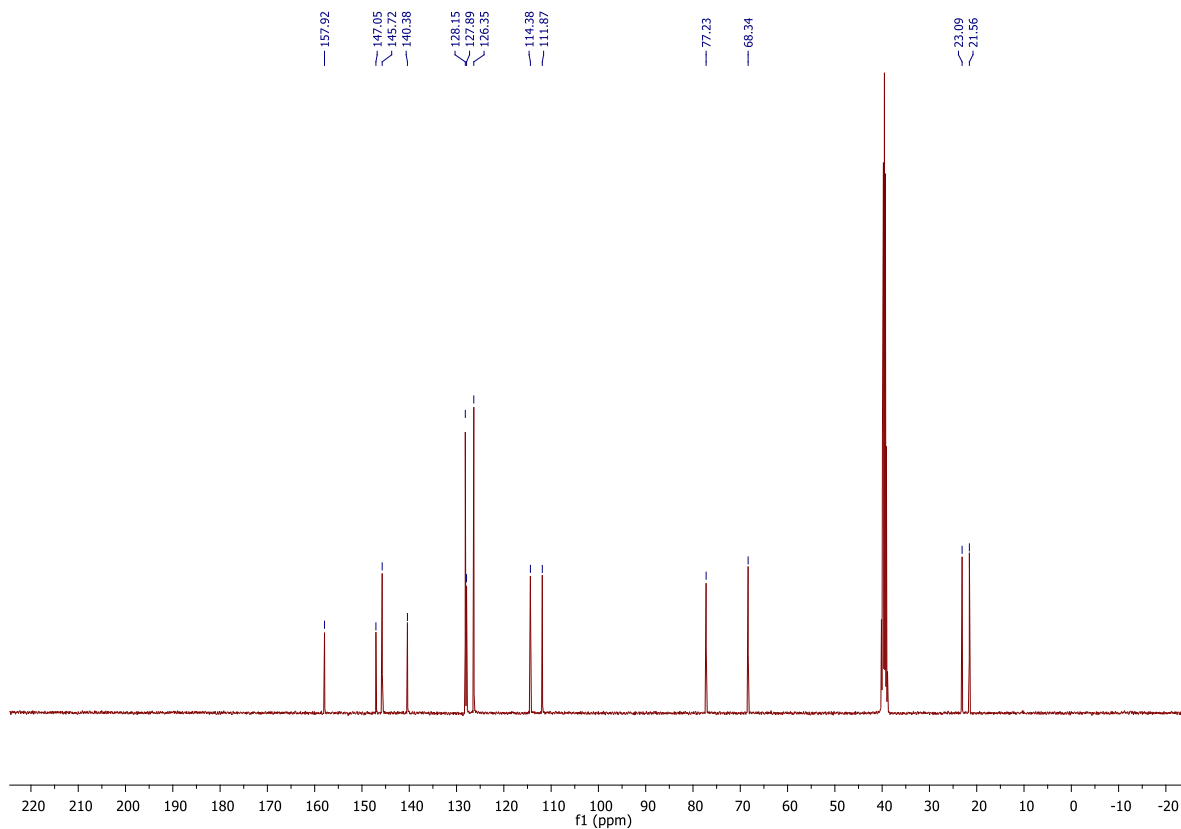


1.21. *N*-{phenyl[(propan-2-yl)oxy]methyl}furan-2-carboxamide (407h)

^1H NMR (400 MHz, DMSO- d_6)

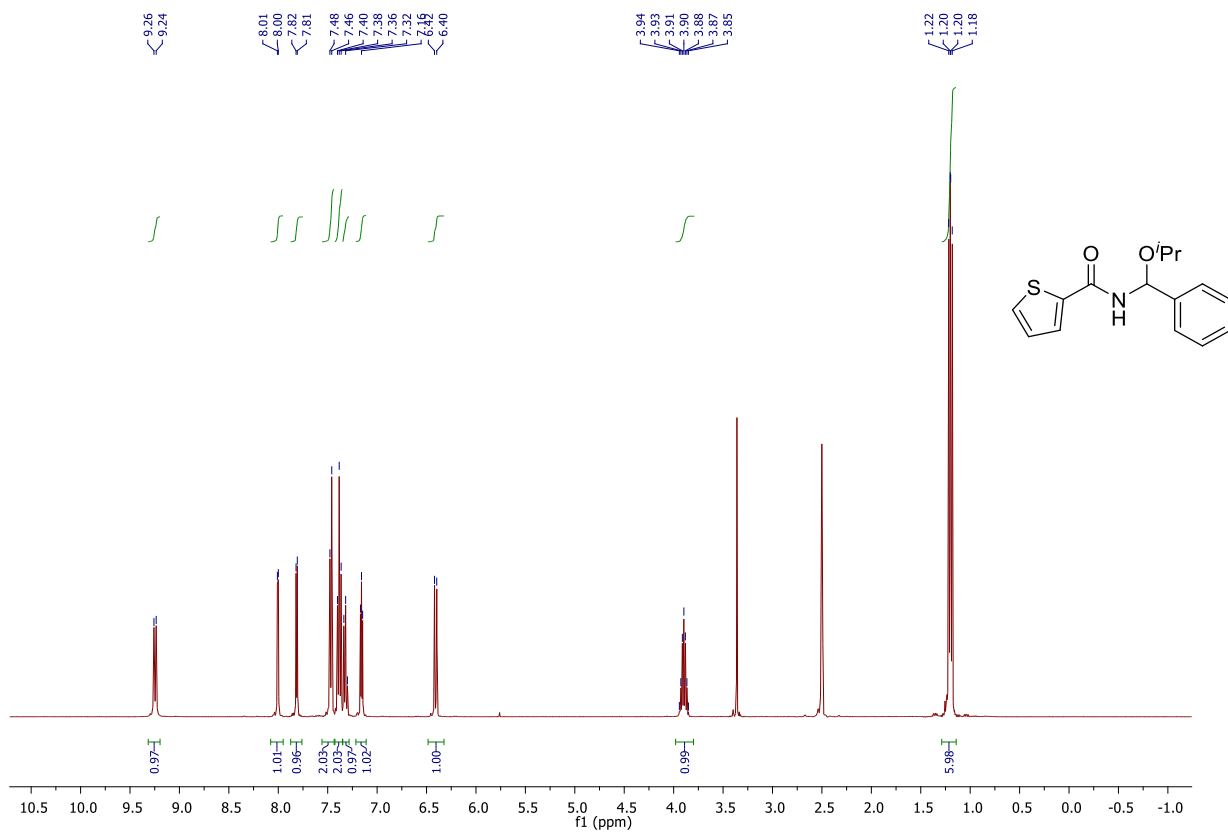


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

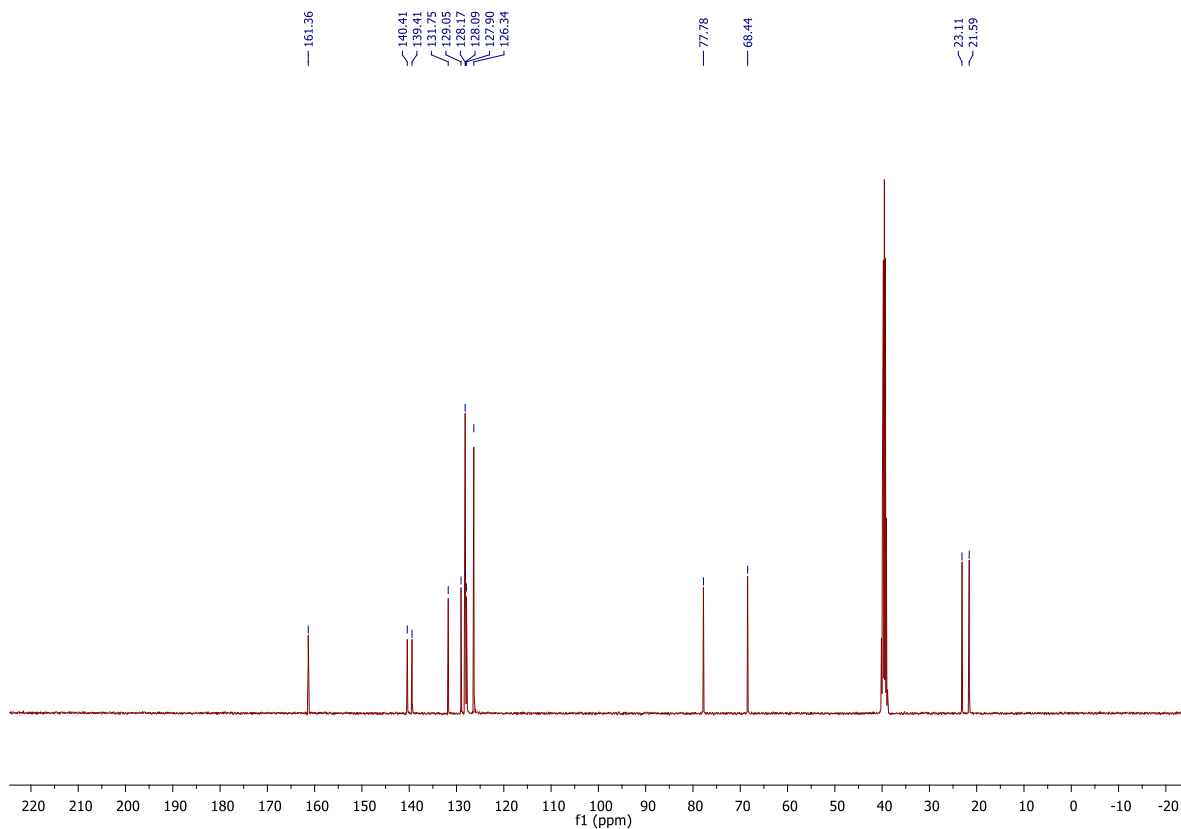


1.22. *N*-{phenyl[(propan-2-yl)oxy]methyl}thiophene-2-carboxamide (407i)

^1H NMR (400 MHz, DMSO- d_6)

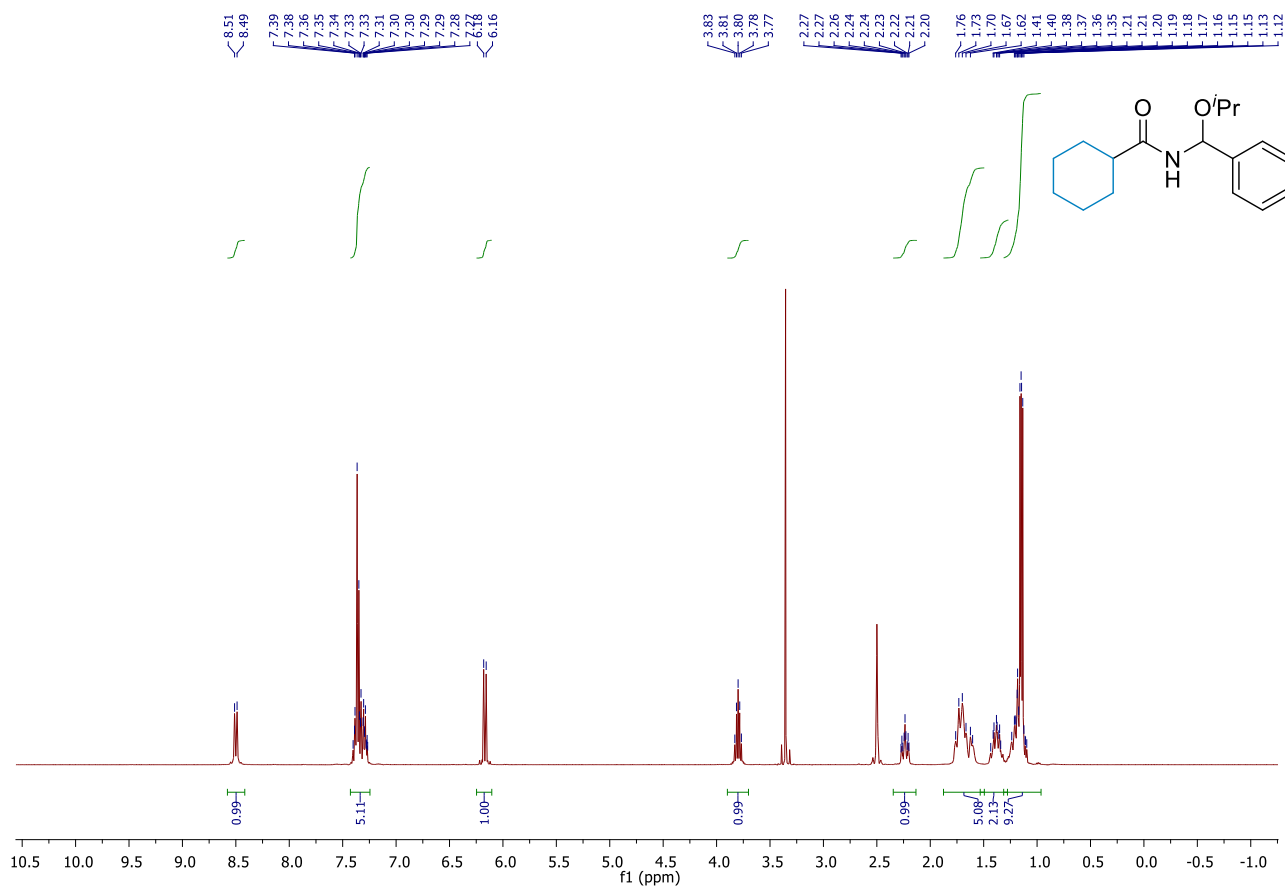


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

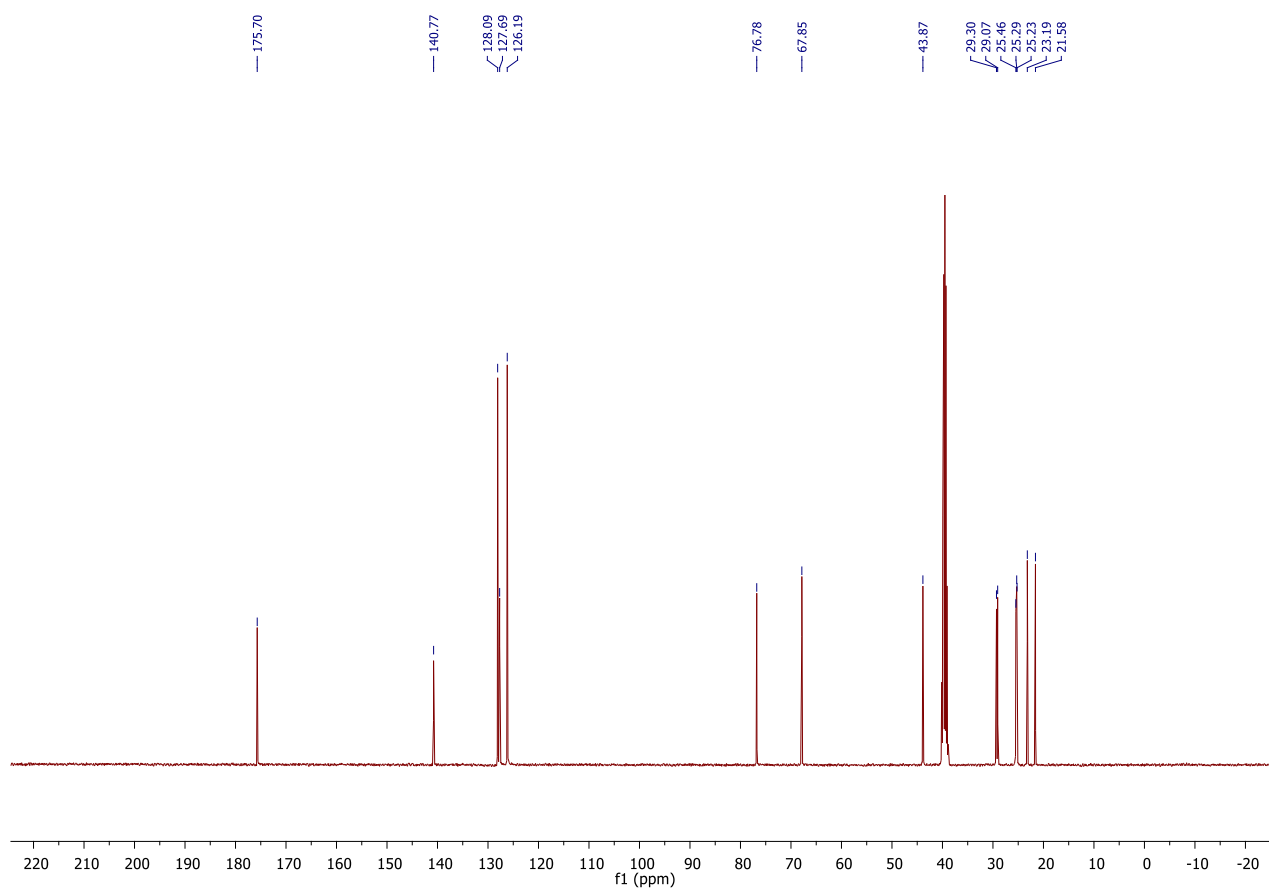


1.23. N-[isopropoxy(phenyl)methyl]cyclohexanecarboxamide (407)

^1H NMR (400 MHz, DMSO- d_6)

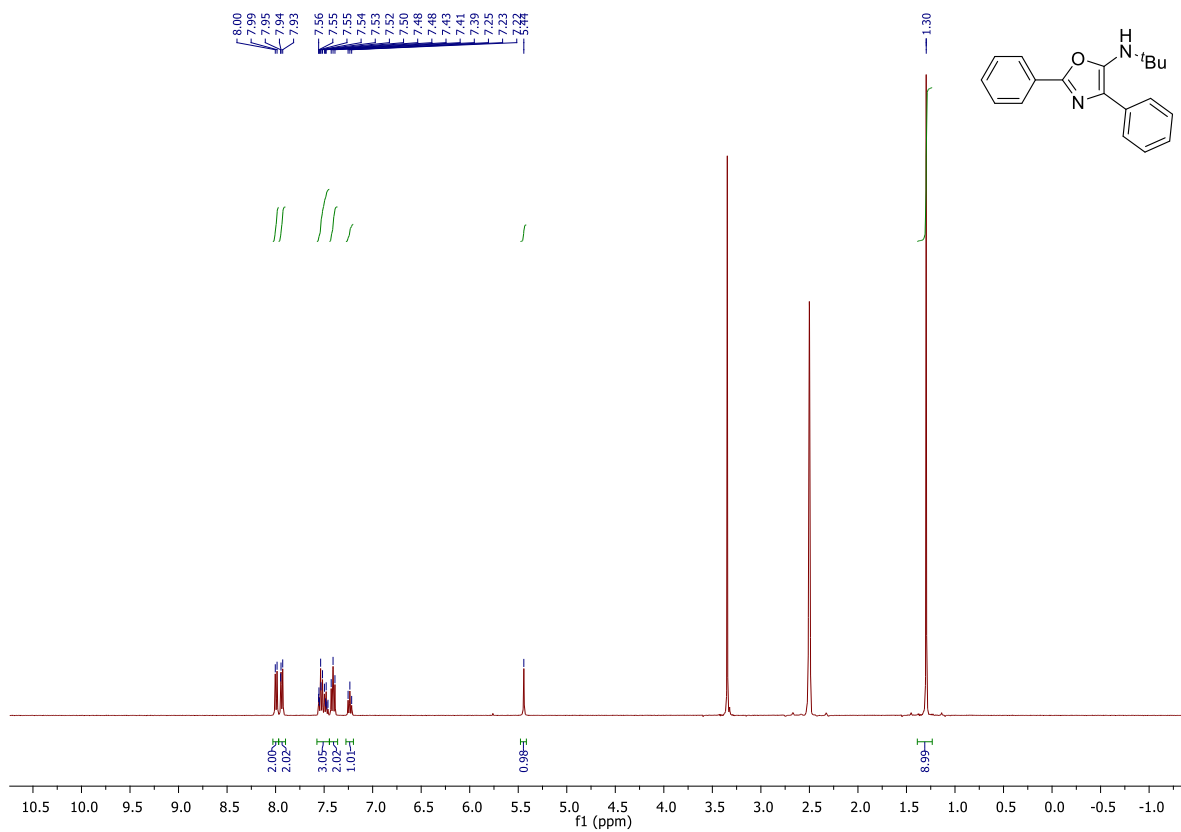


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

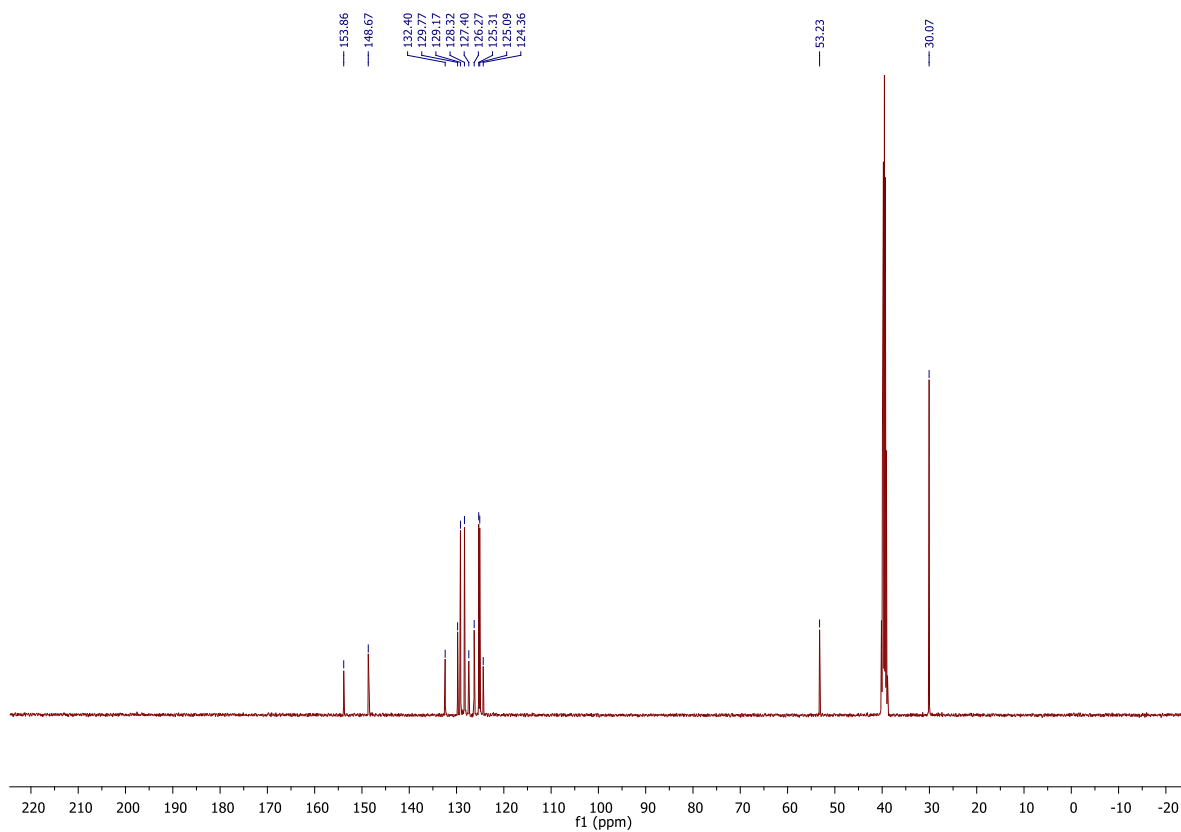


1.24. *N*-(*tert*-butyl)-2,4-diphenyloxazol-5-amine (395a)

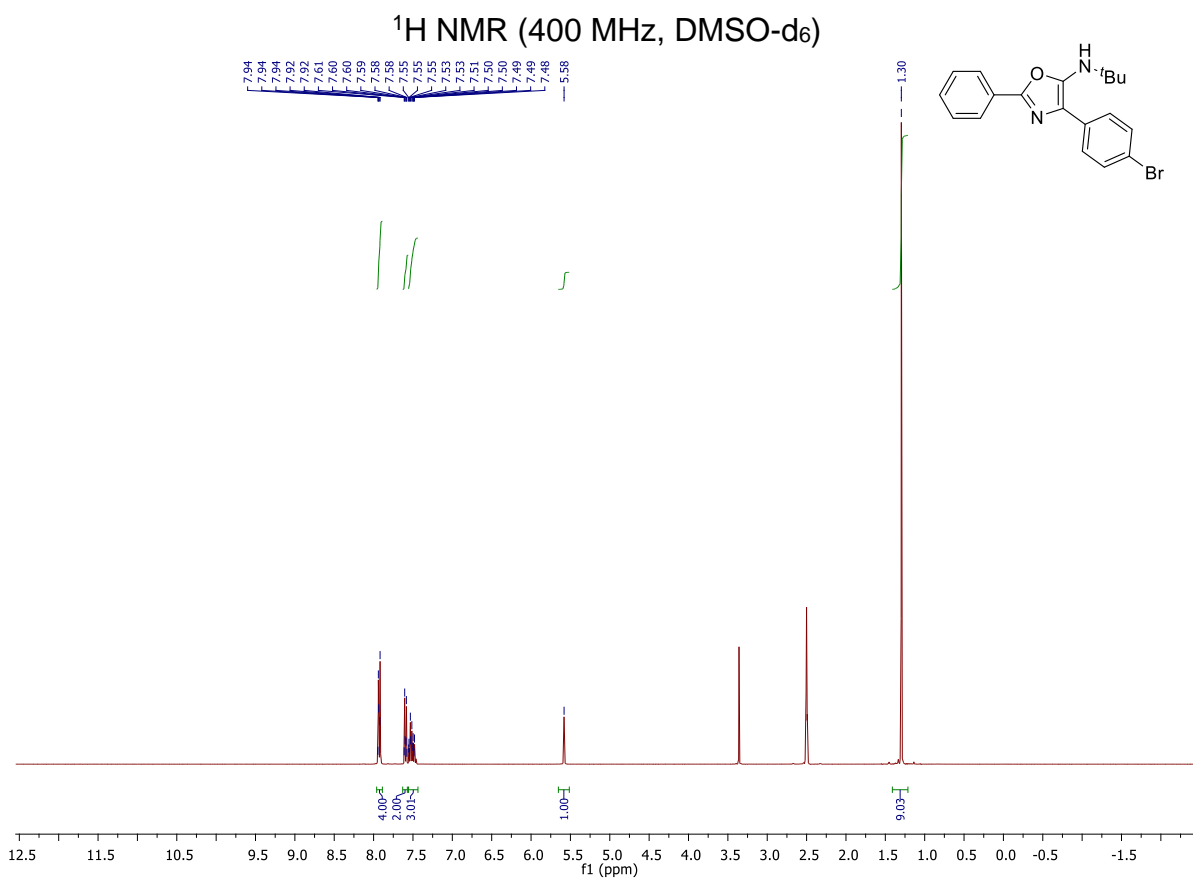
^1H NMR (400 MHz, DMSO-d_6)



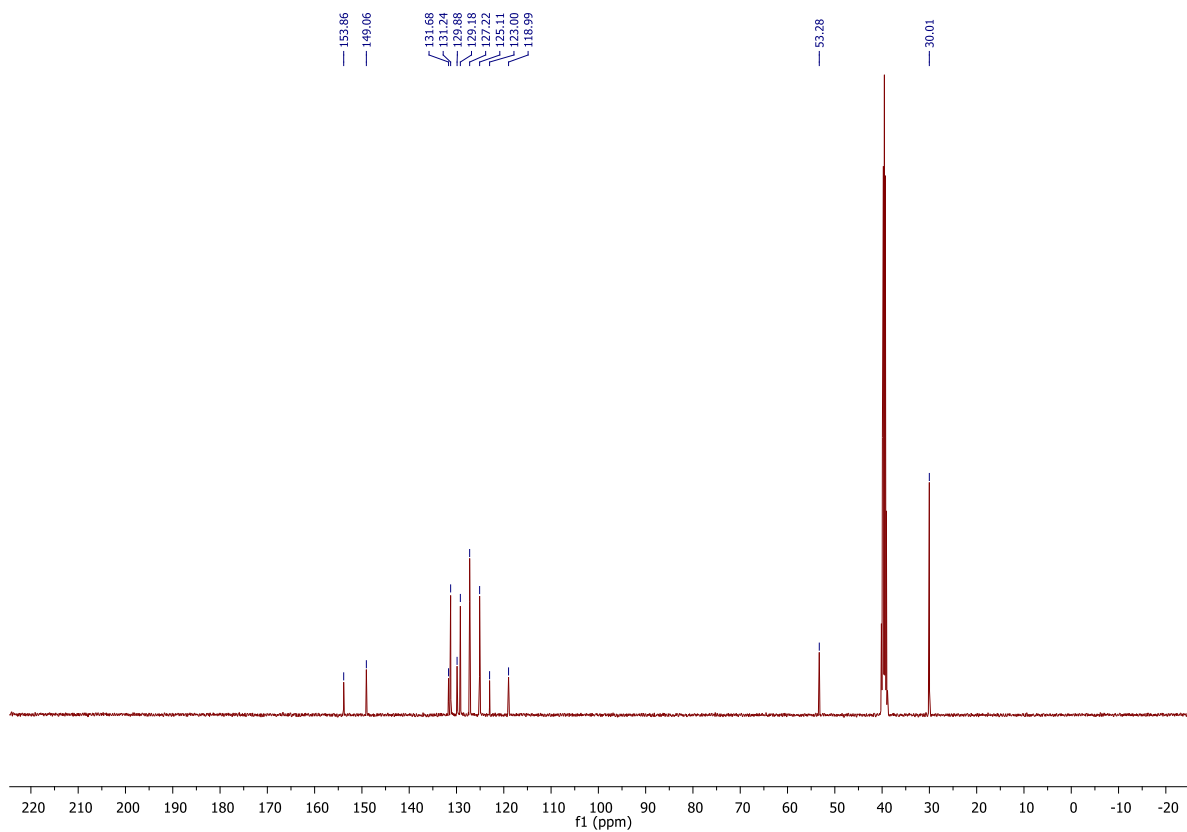
$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO-d_6)



1.25. 4-(4-bromophenyl)-*N*-(*tert*-butyl)-2-phenyloxazol-5-amine (395b)

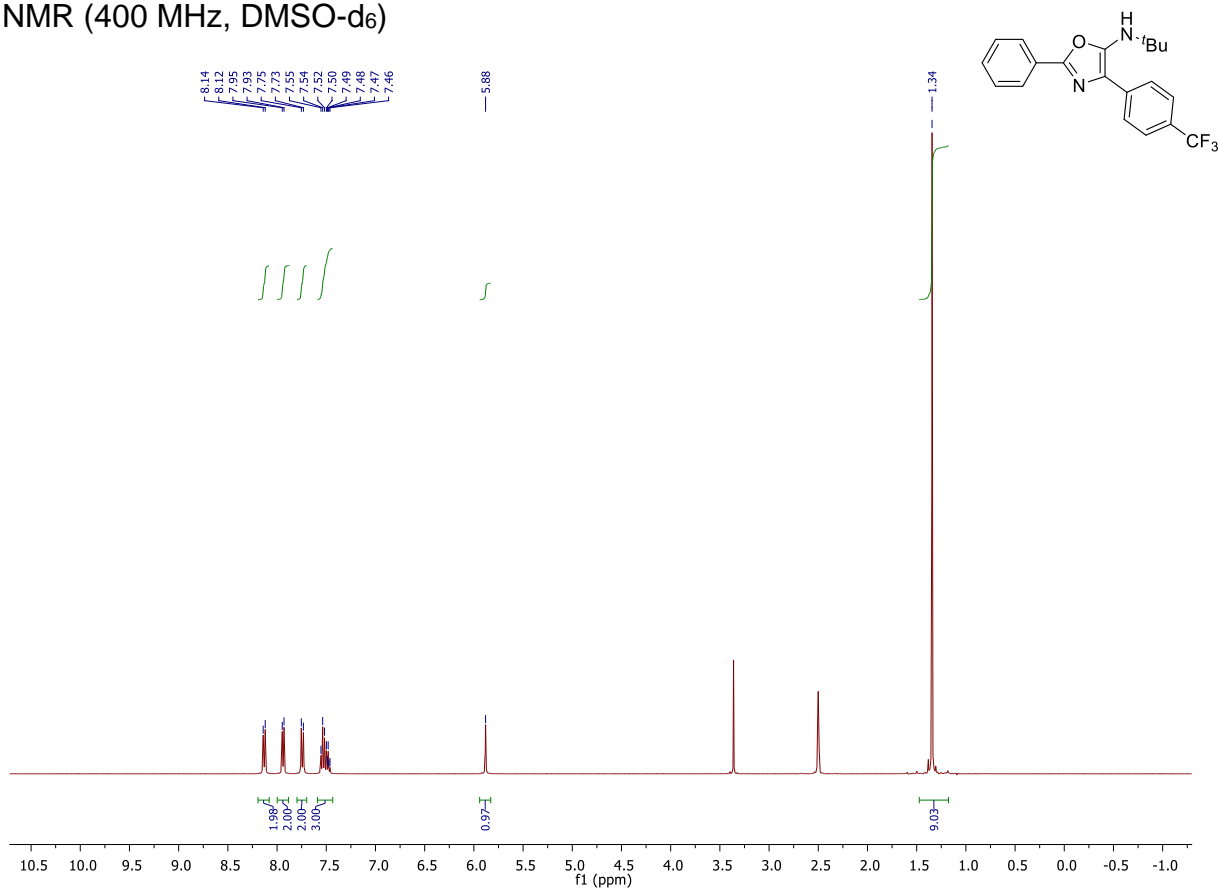


¹³C{¹H} NMR (101 MHz, DMSO-d₆)

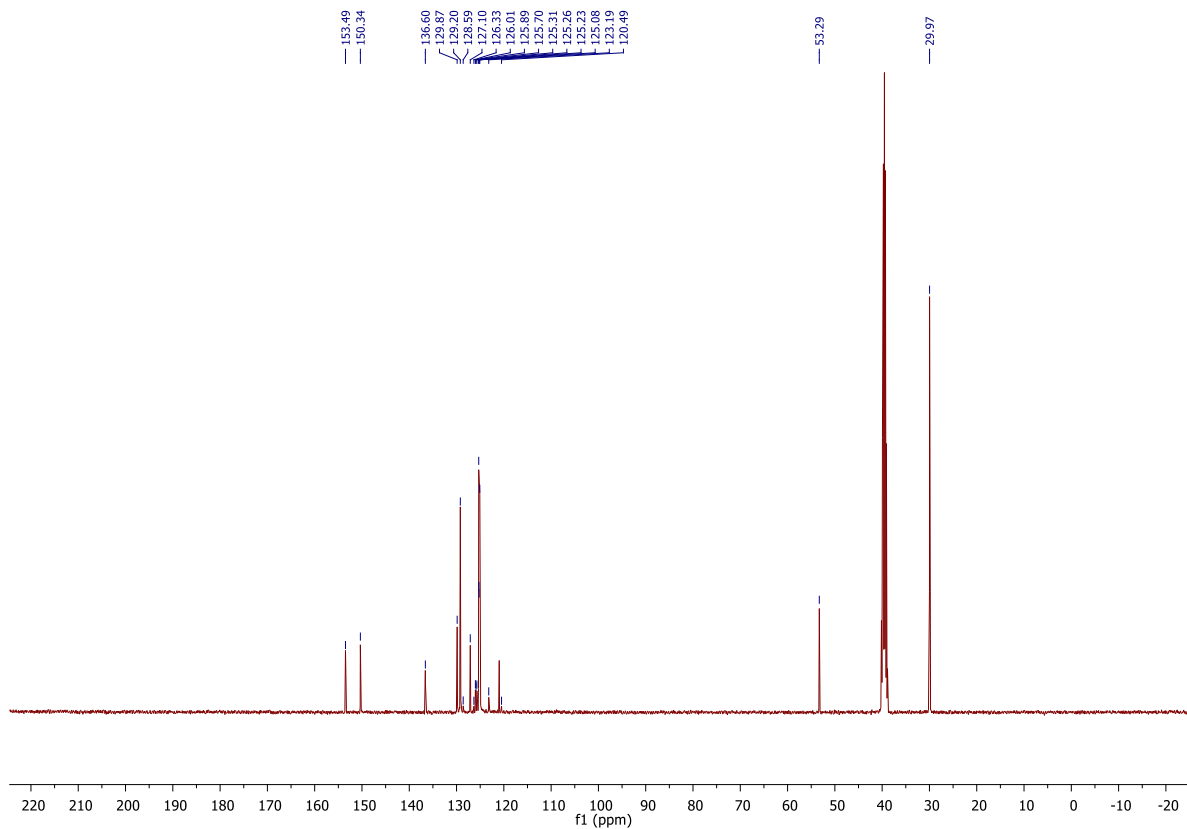


1.26. *N*-*tert*-butyl-2-phenyl-4-[4-(trifluoromethyl)phenyl]-1,3-oxazol-5-amine (395c)

^1H NMR (400 MHz, DMSO- d_6)

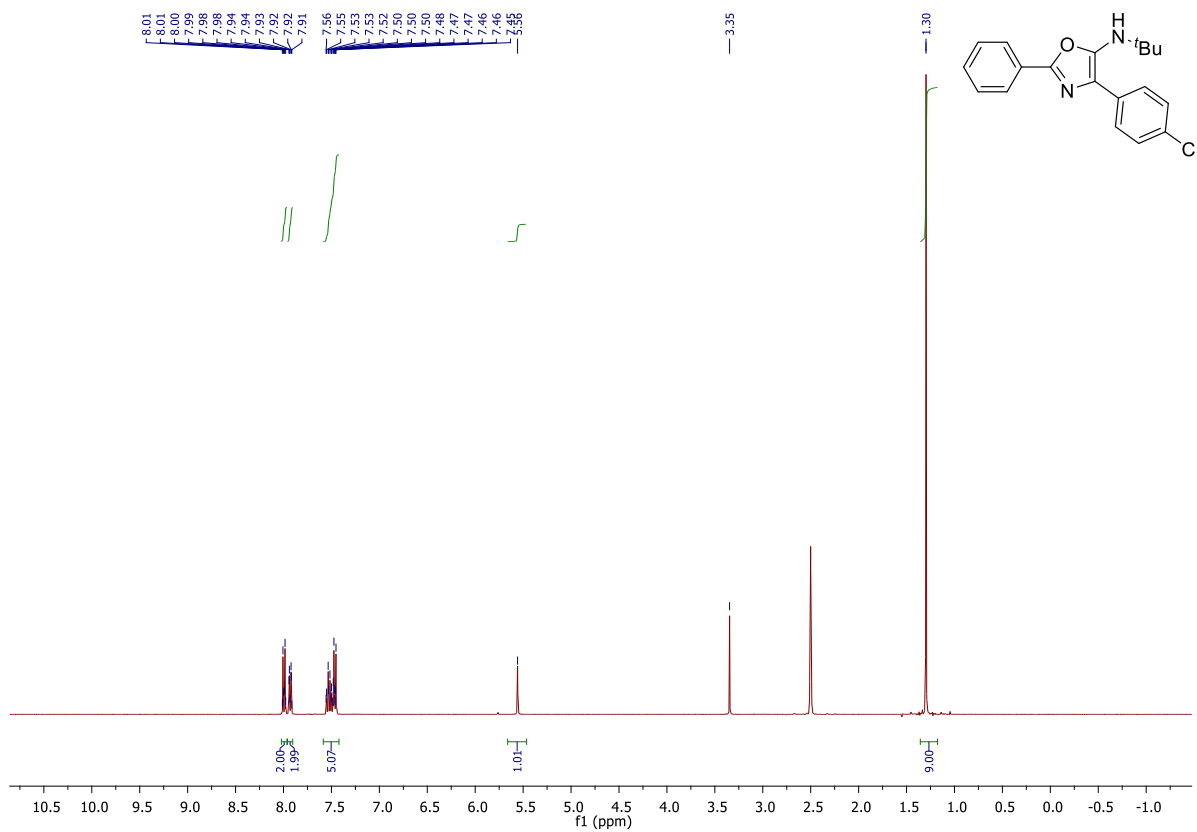


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

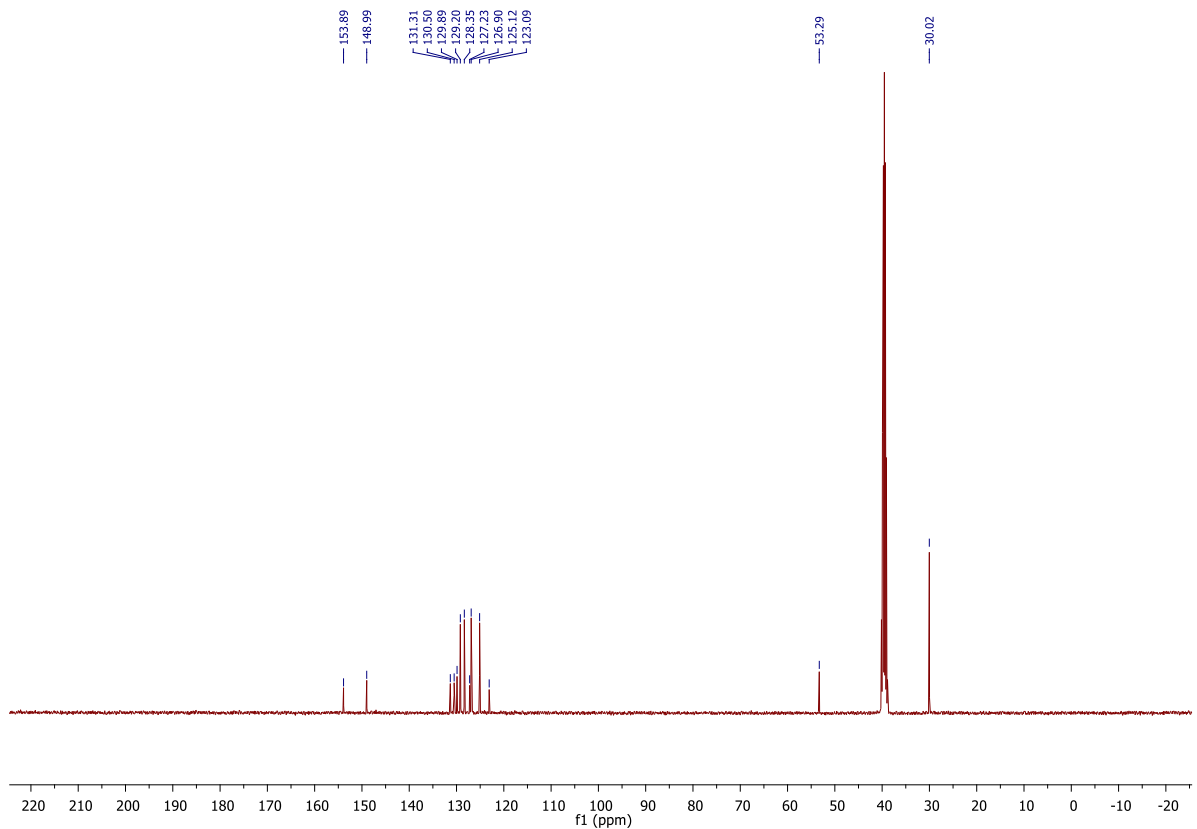


1.27. *N*-tert-butyl-4-(4-chlorophenyl)-2-phenyl-1,3-oxazol-5-amine (395d)

^1H NMR (400 MHz, DMSO- d_6)

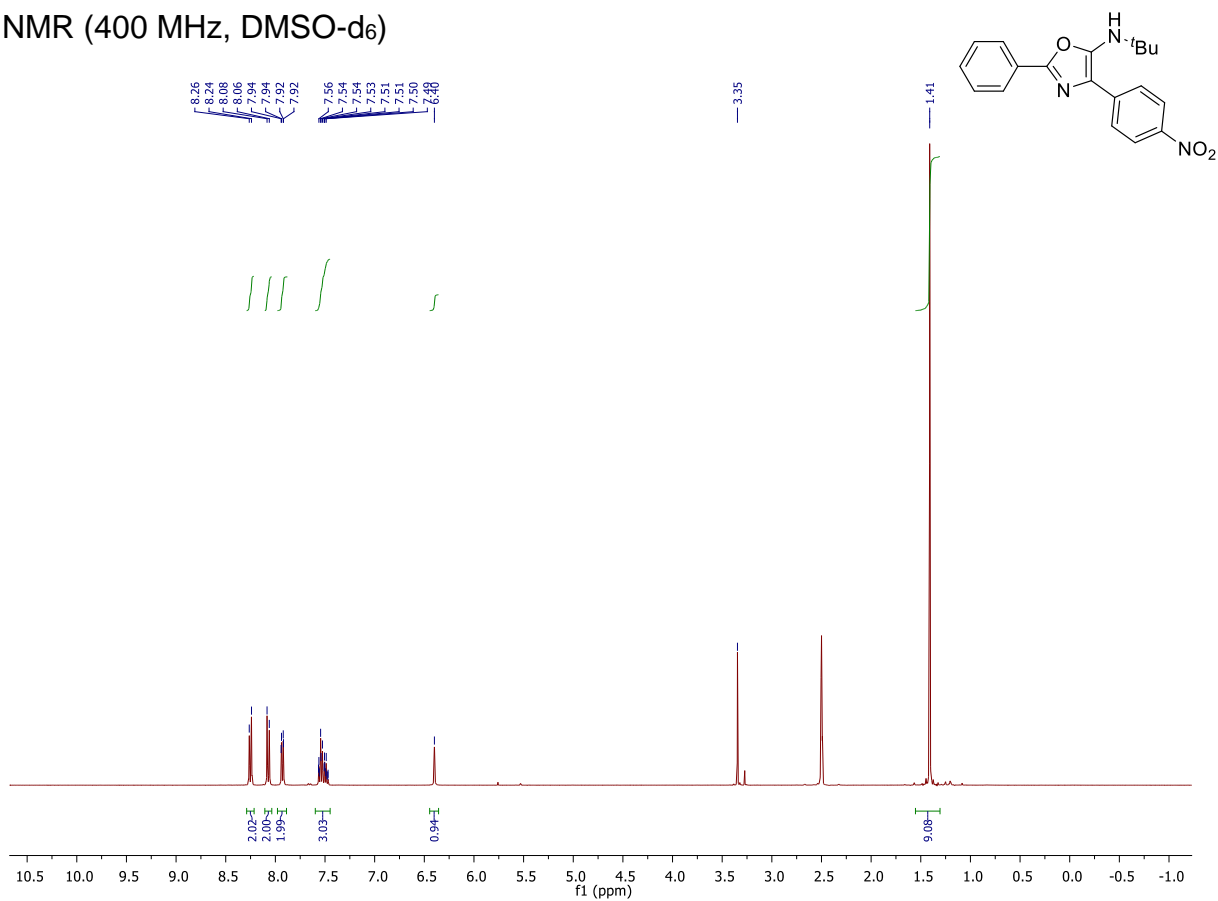


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

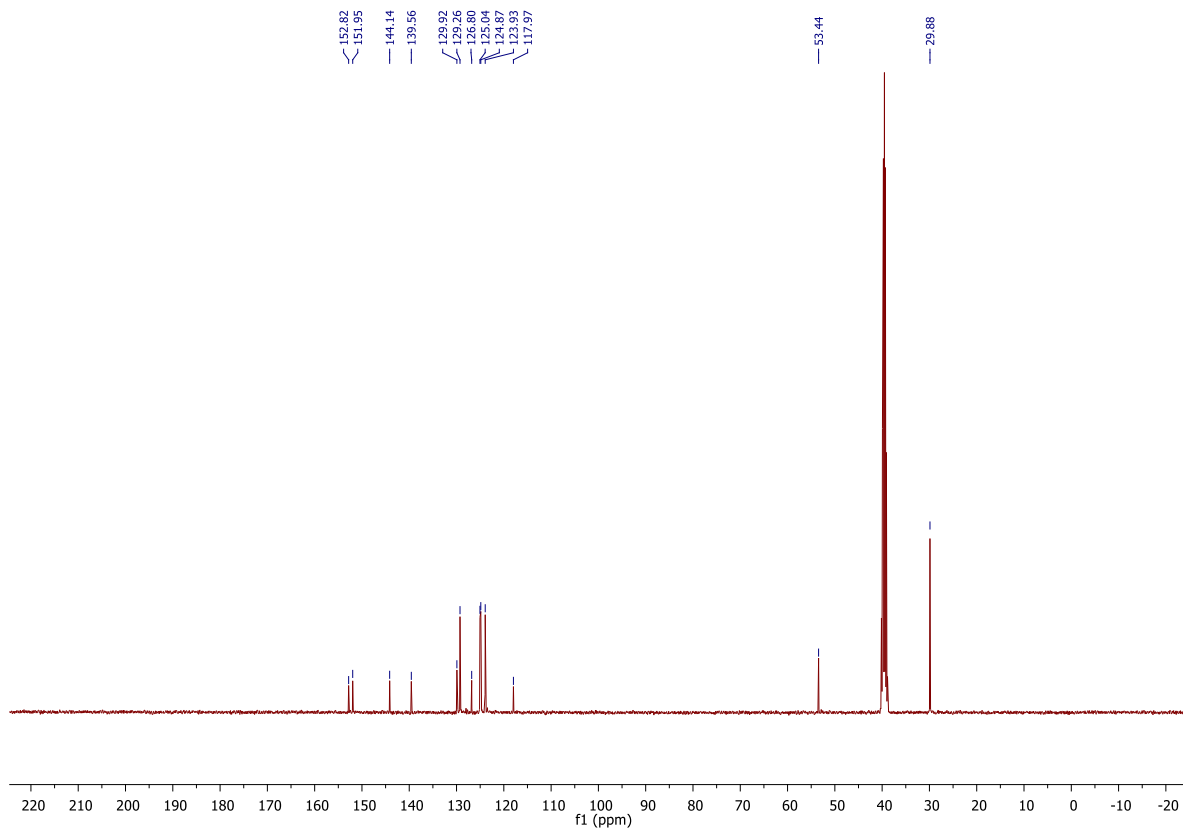


1.28. *N*-tert-butyl-4-(4-nitrophenyl)-2-phenyl-1,3-oxazol-5-amine (395e)

^1H NMR (400 MHz, DMSO- d_6)

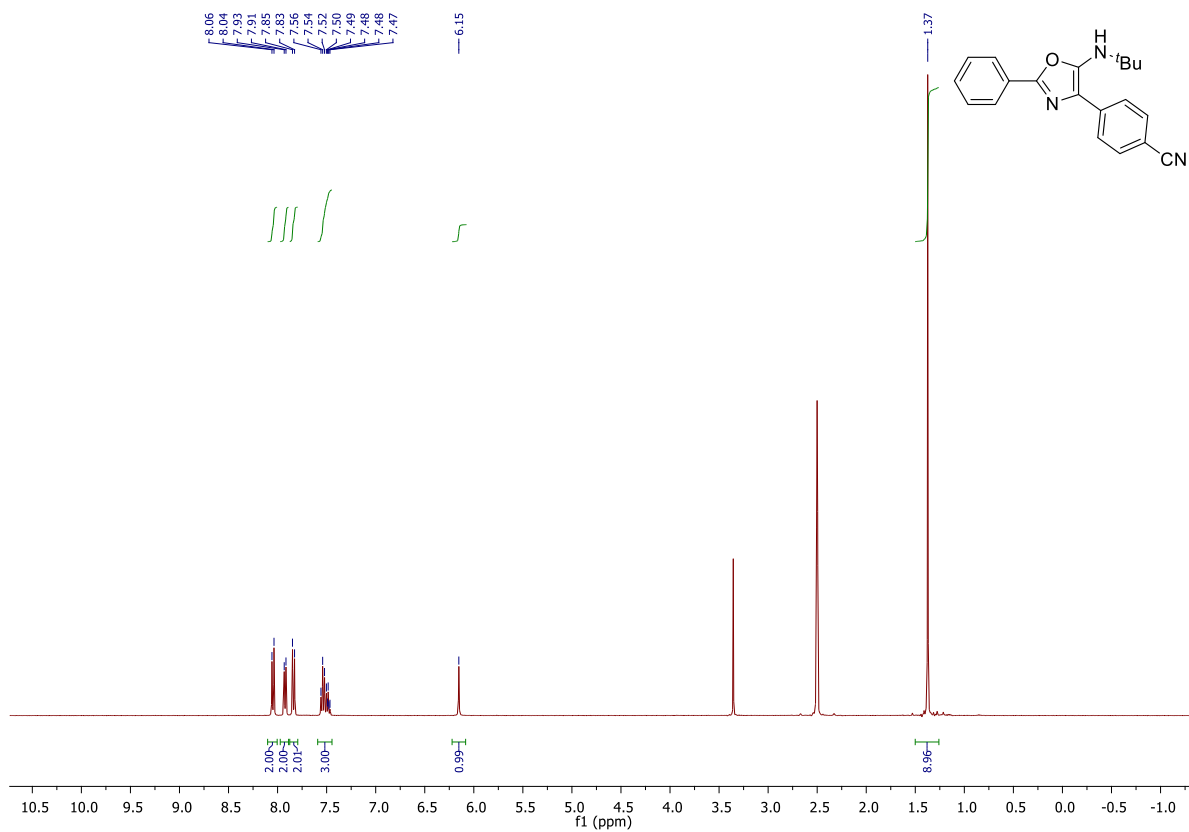


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

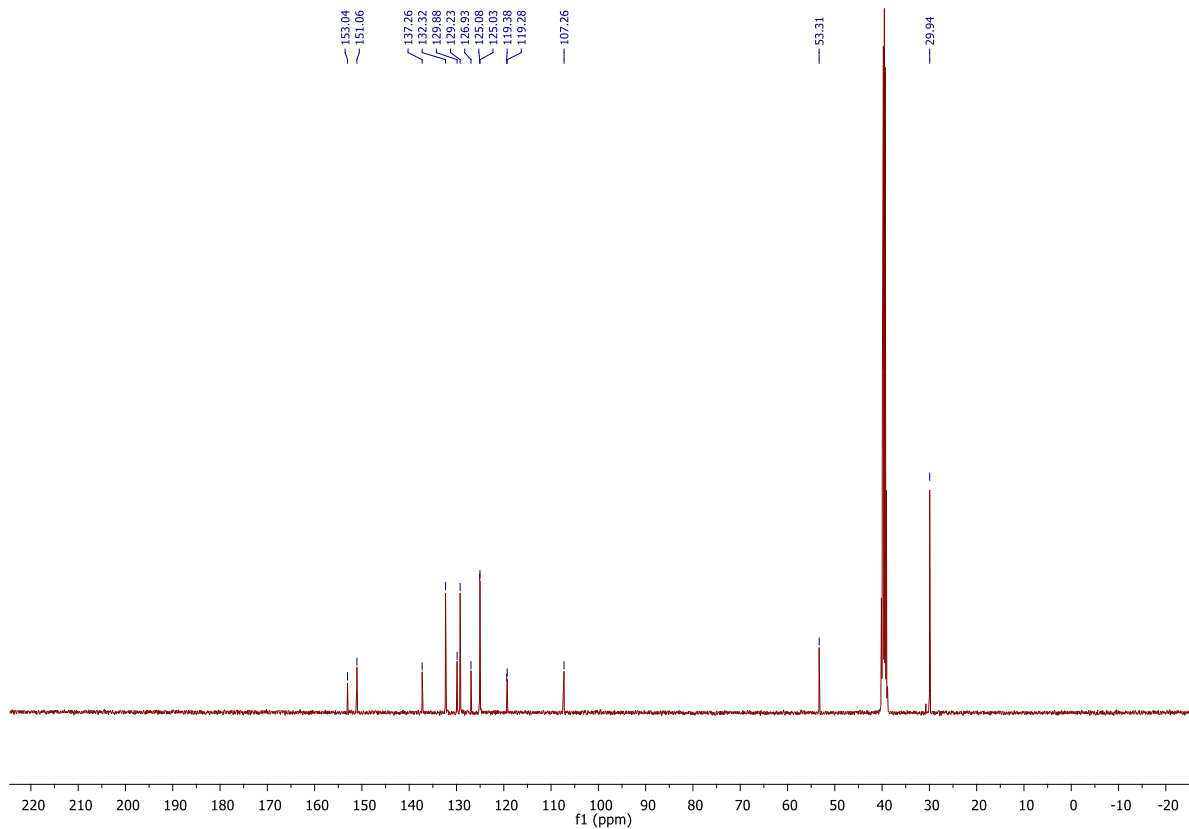


1.29. 4-[5-(*tert*-butylamino)-2-phenyl-1,3-oxazol-4-yl]benzonitrile (395f)

^1H NMR (400 MHz, DMSO- d_6)

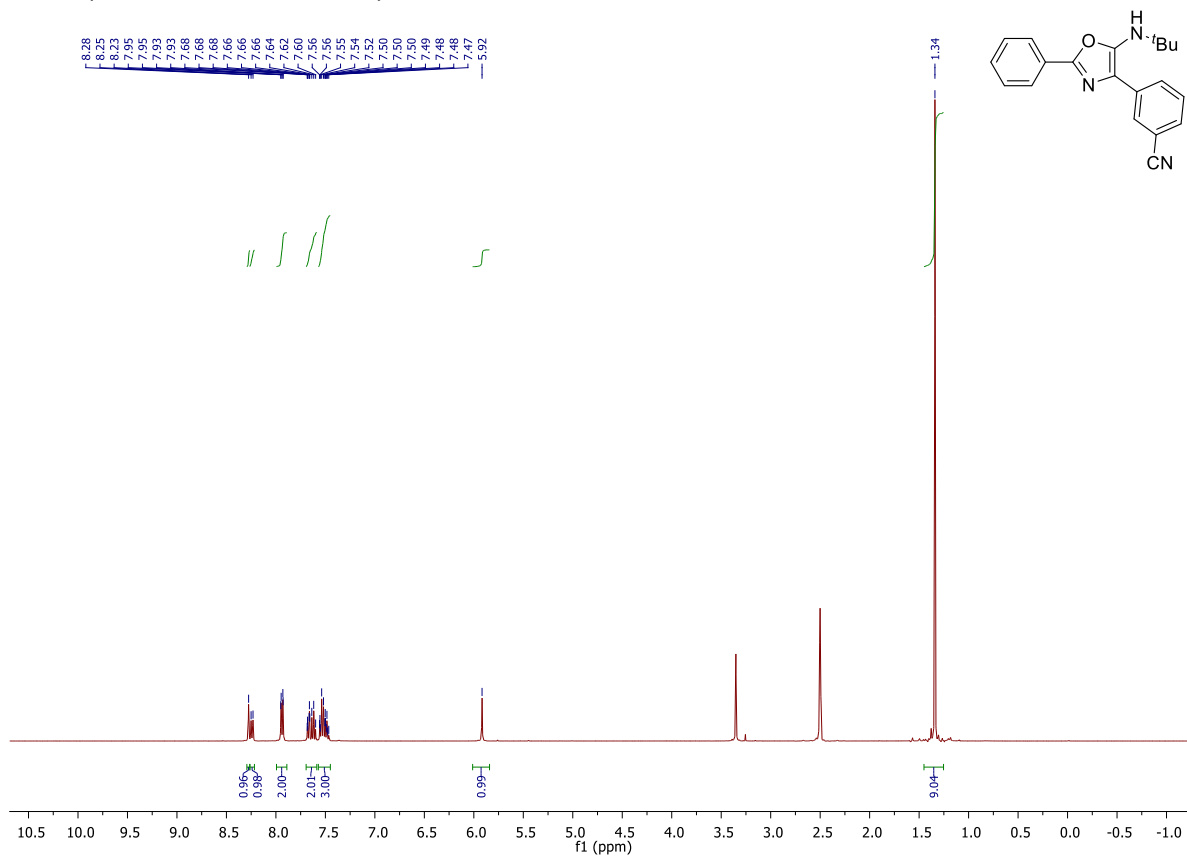


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

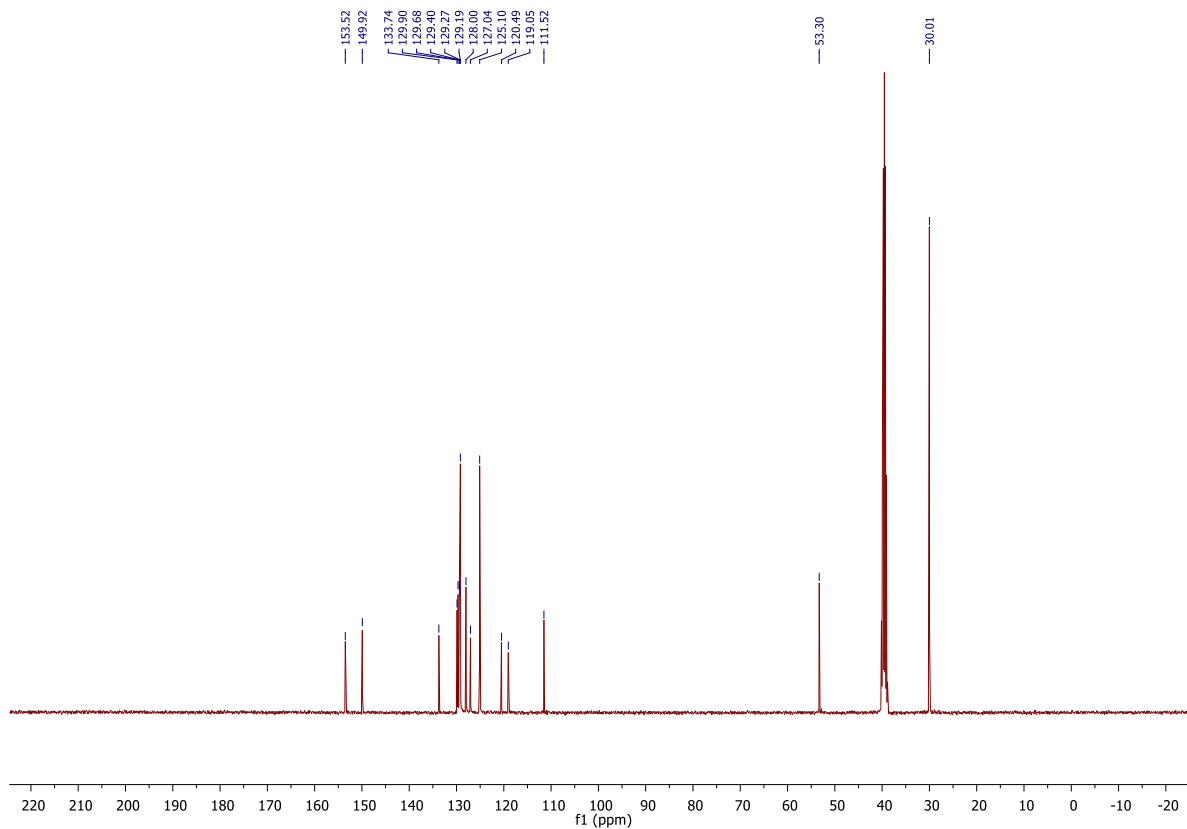


1.30. 3-[5-(*tert*-butylamino)-2-phenyl-1,3-oxazol-4-yl]benzonitrile (395g)

^1H NMR (400 MHz, DMSO- d_6)

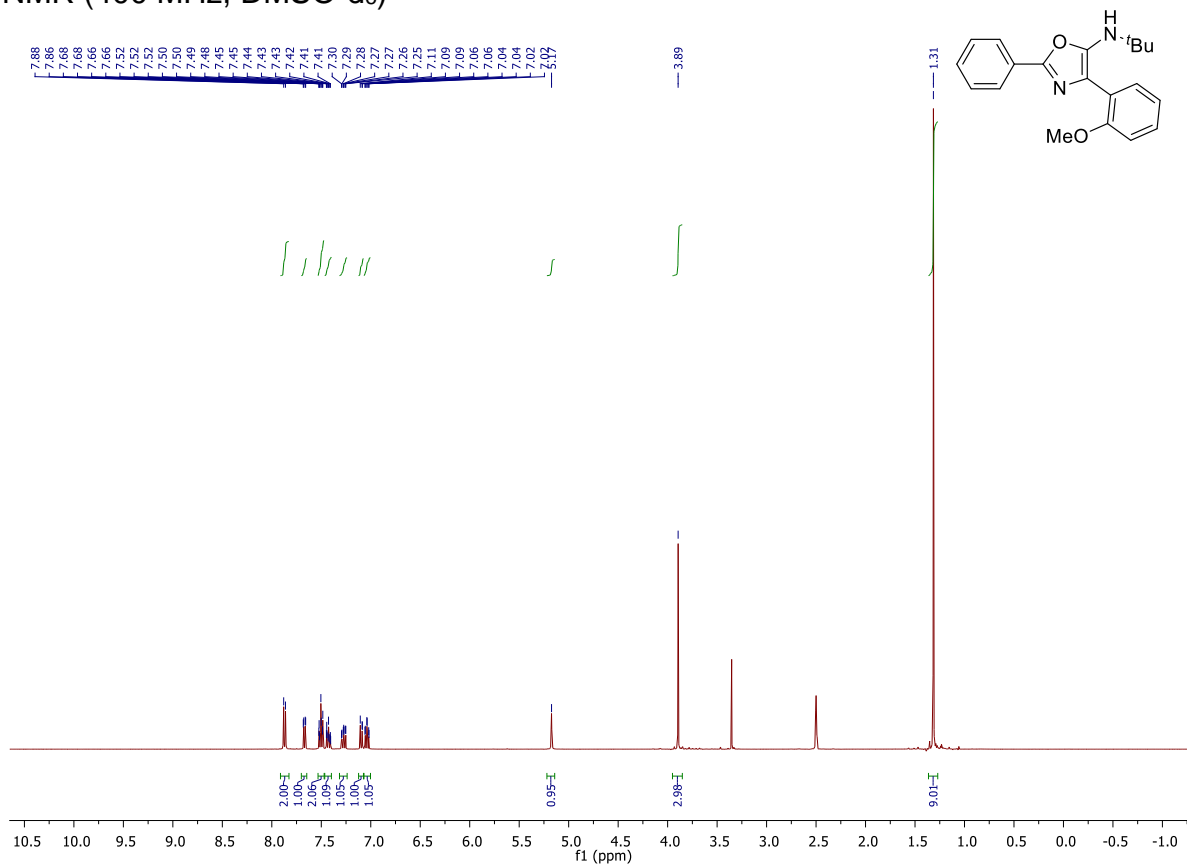


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

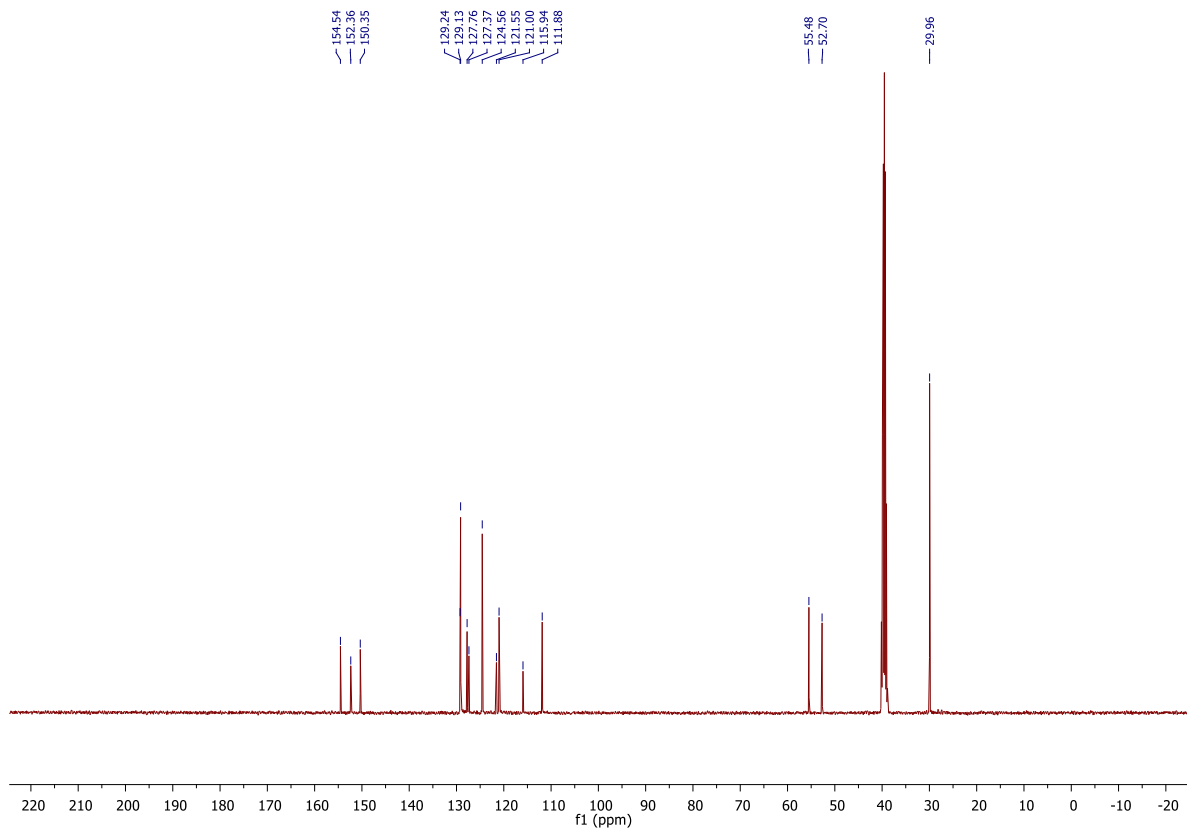


1.31. *N*-*tert*-butyl-4-(2-methoxyphenyl)-2-phenyl-1,3-oxazol-5-amine (395h)

^1H NMR (400 MHz, DMSO-d_6)

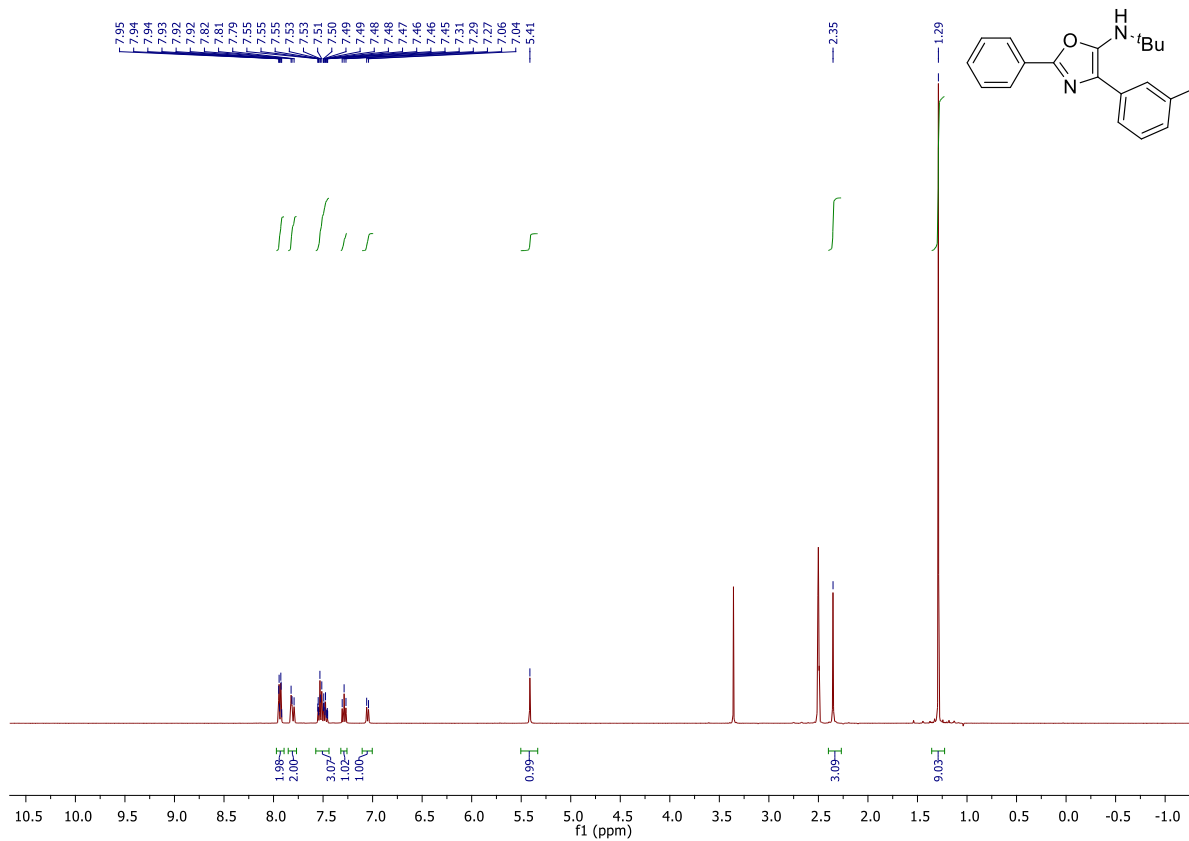


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO-d_6)

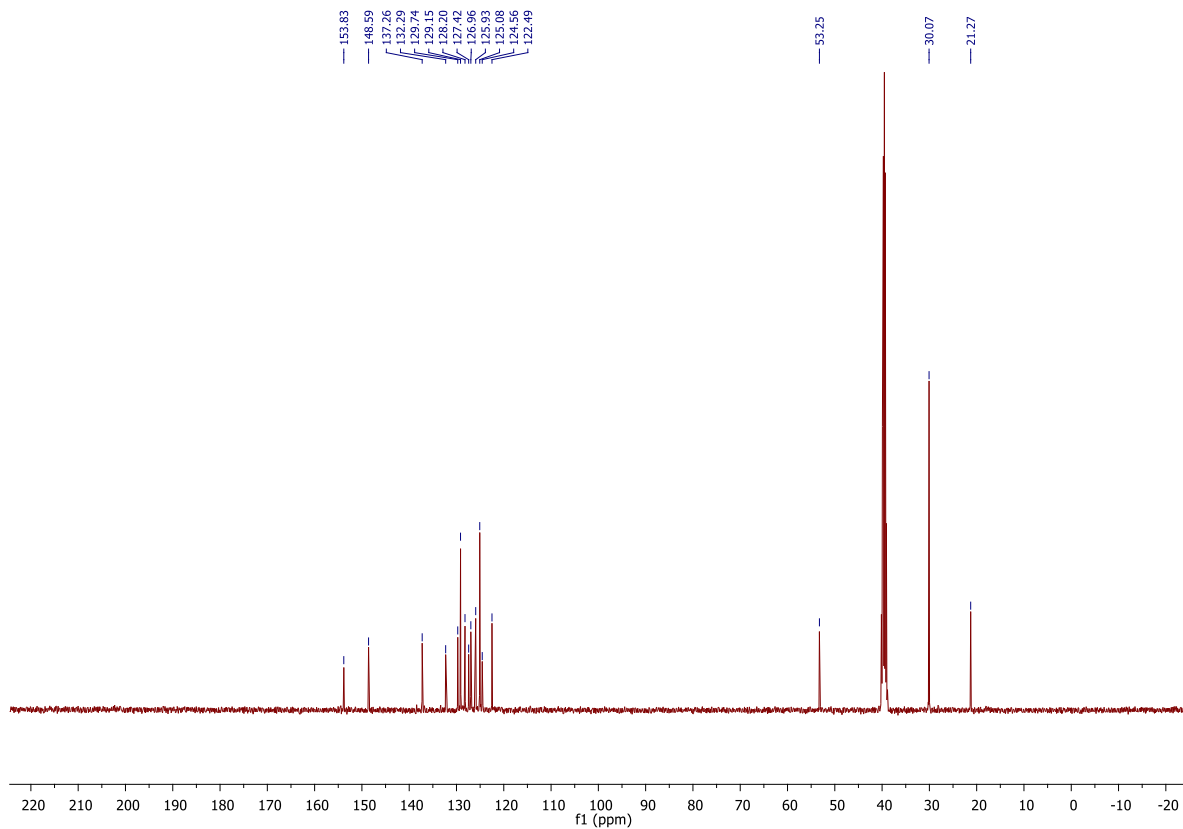


1.32. *N*-tert-butyl-4-(3-methylphenyl)-2-phenyl-1,3-oxazol-5-amine (395i)

^1H NMR (400 MHz, DMSO- d_6)

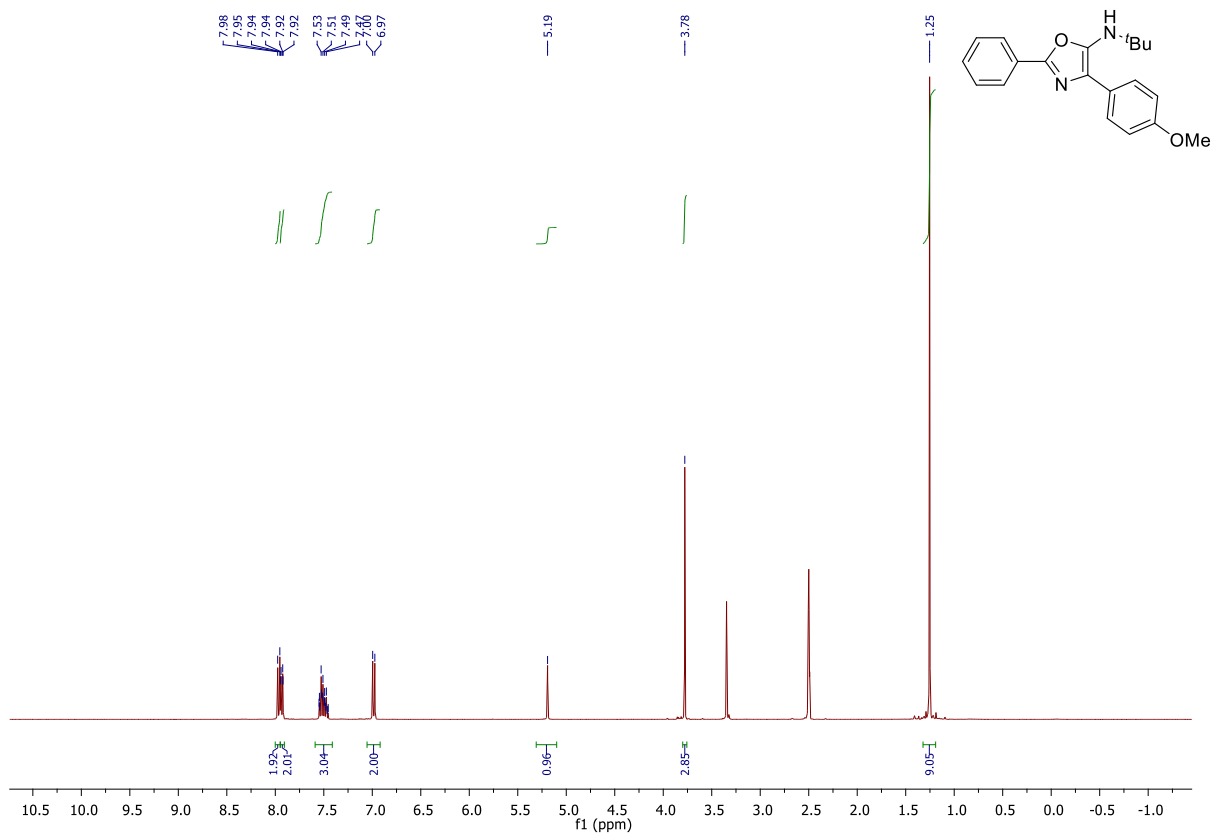


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

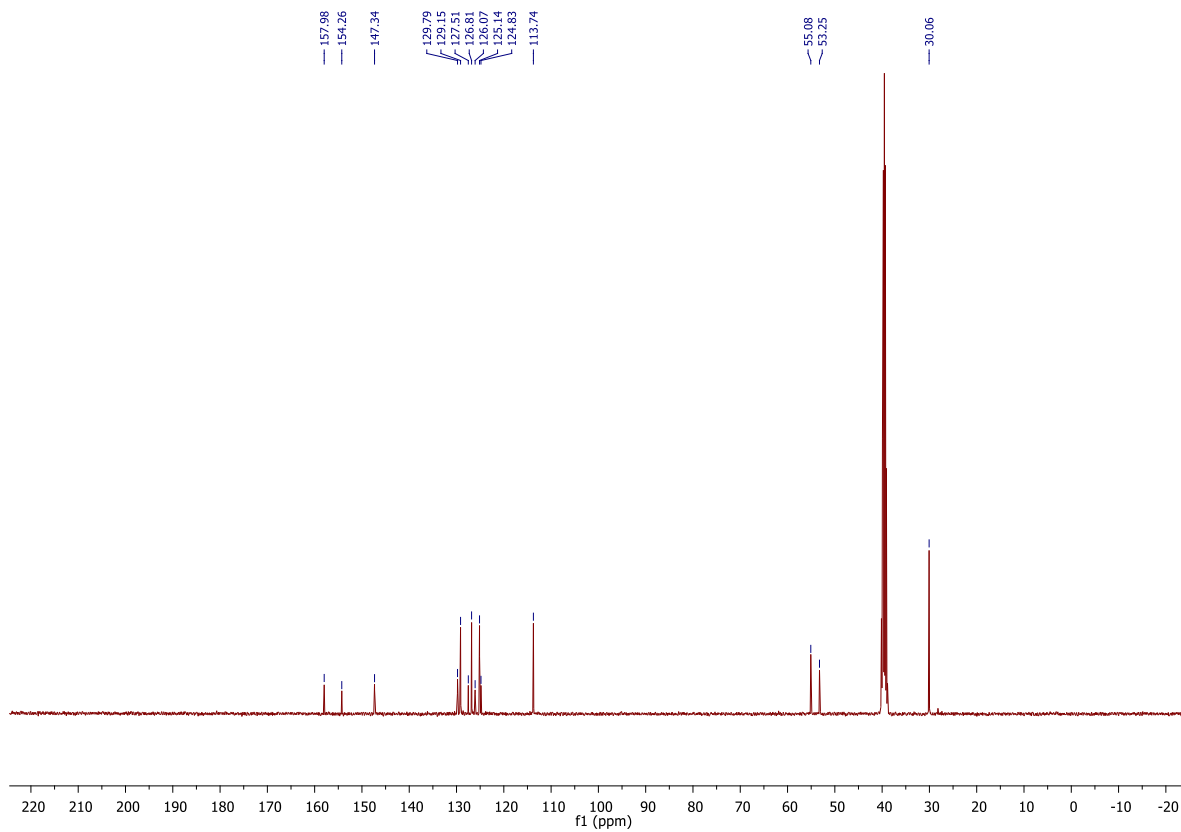


1.33. *N*-tert-butyl-4-(4-methoxyphenyl)-2-phenyl-1,3-oxazol-5-amine (395j)

^1H NMR (400 MHz, DMSO- d_6)

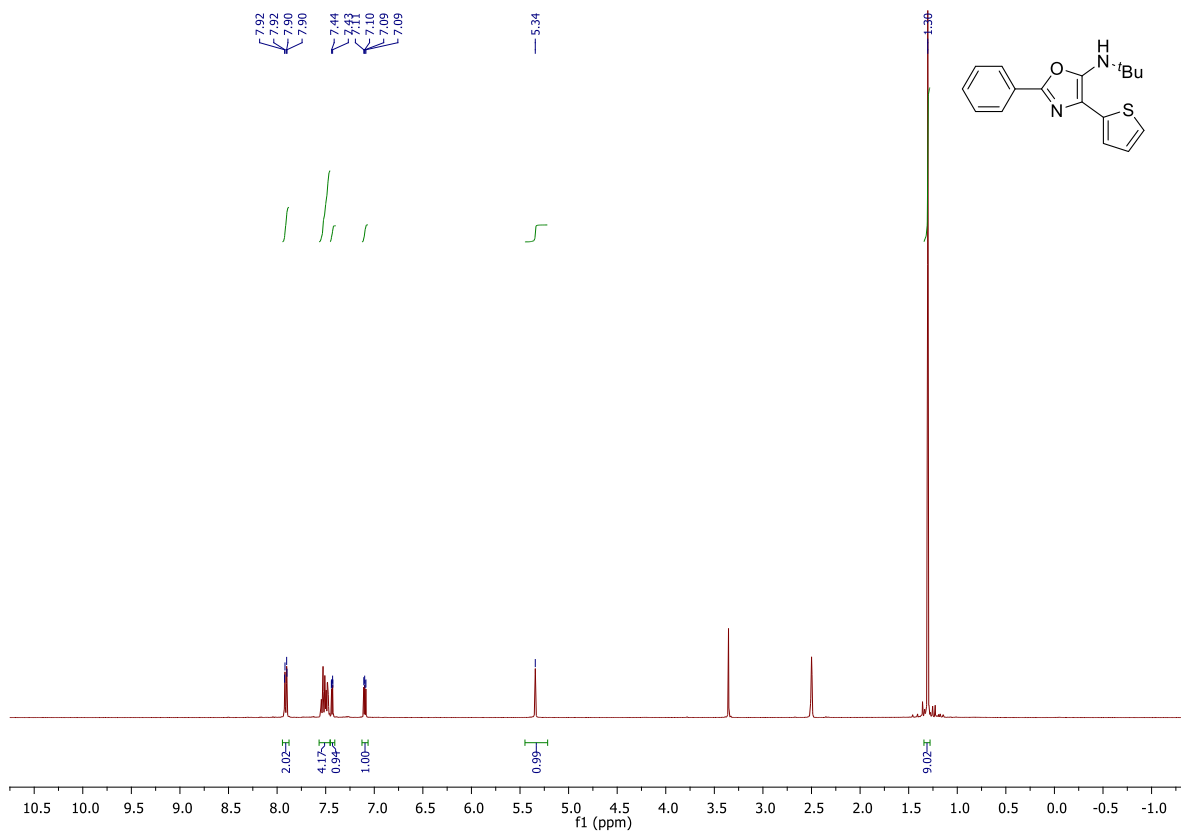


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

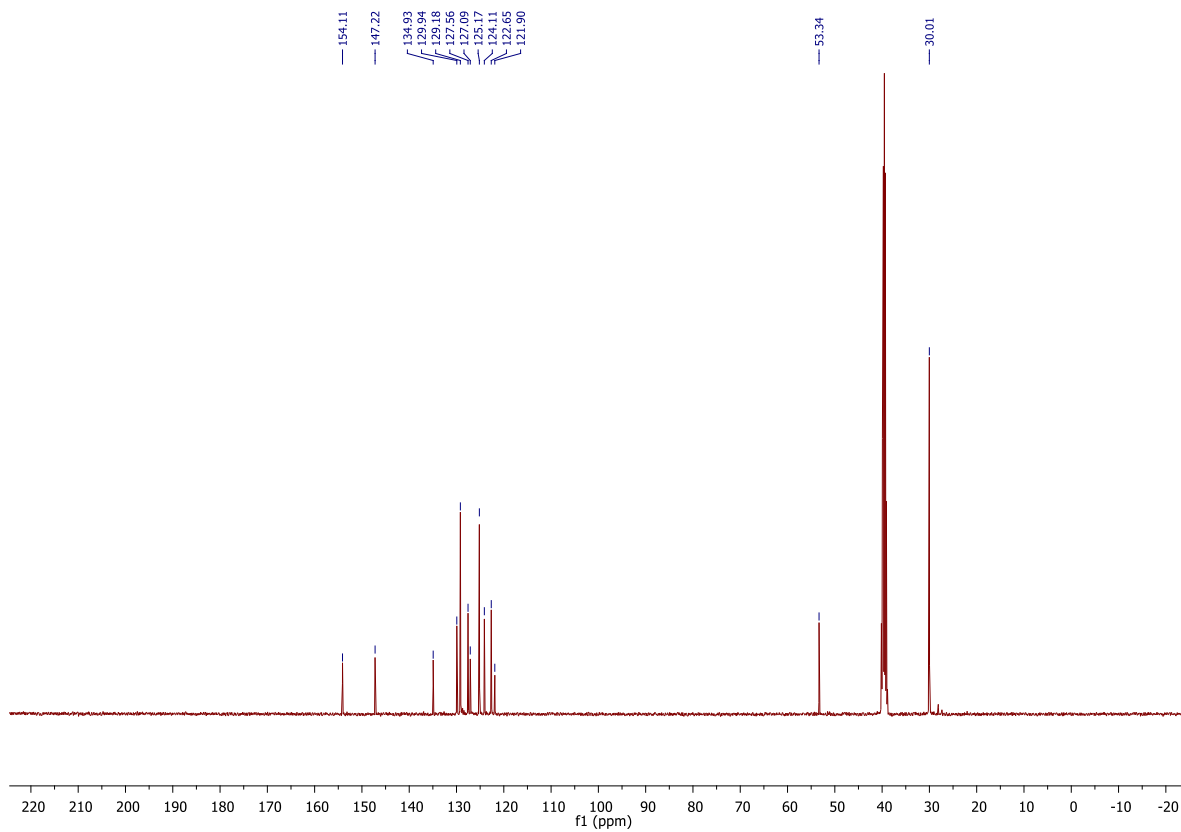


1.34. *N*-*tert*-butyl-2-phenyl-4-(thiophen-2-yl)-1,3-oxazol-5-amine (395k)

^1H NMR (400 MHz, DMSO- d_6)

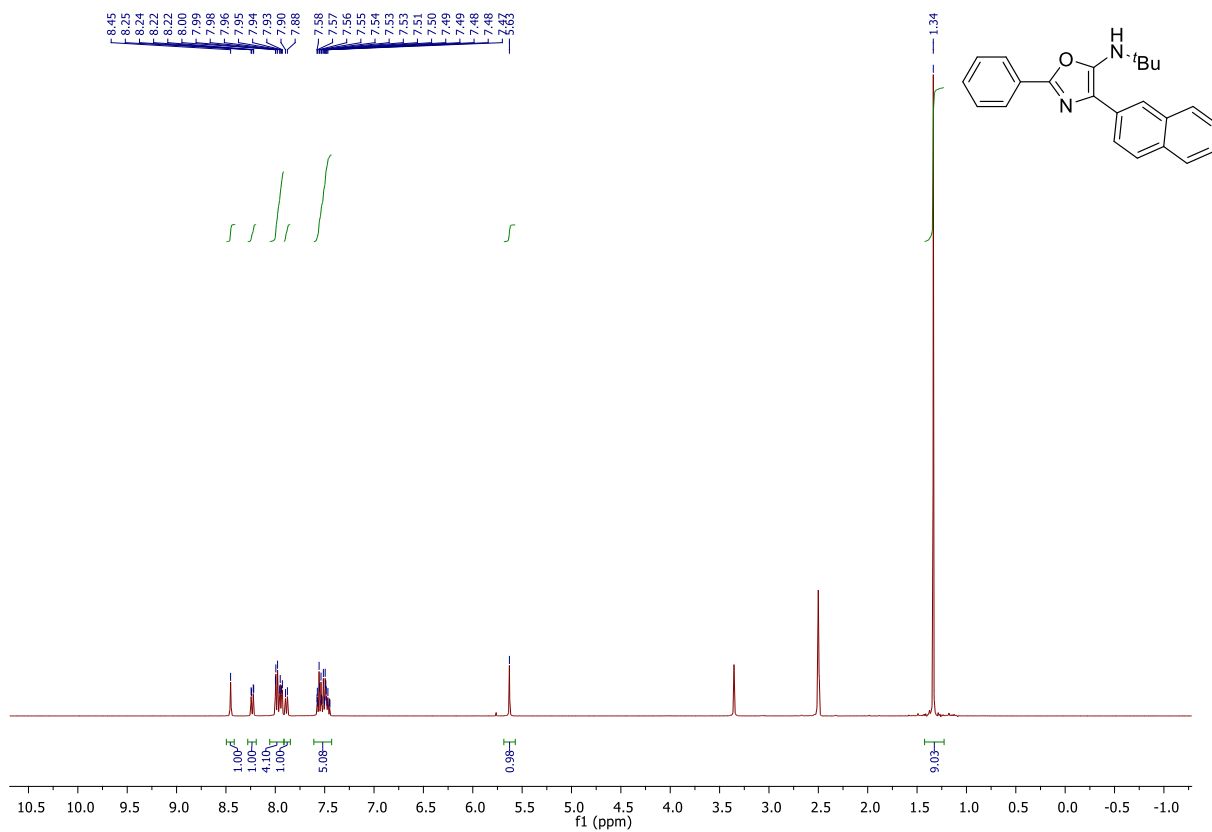


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

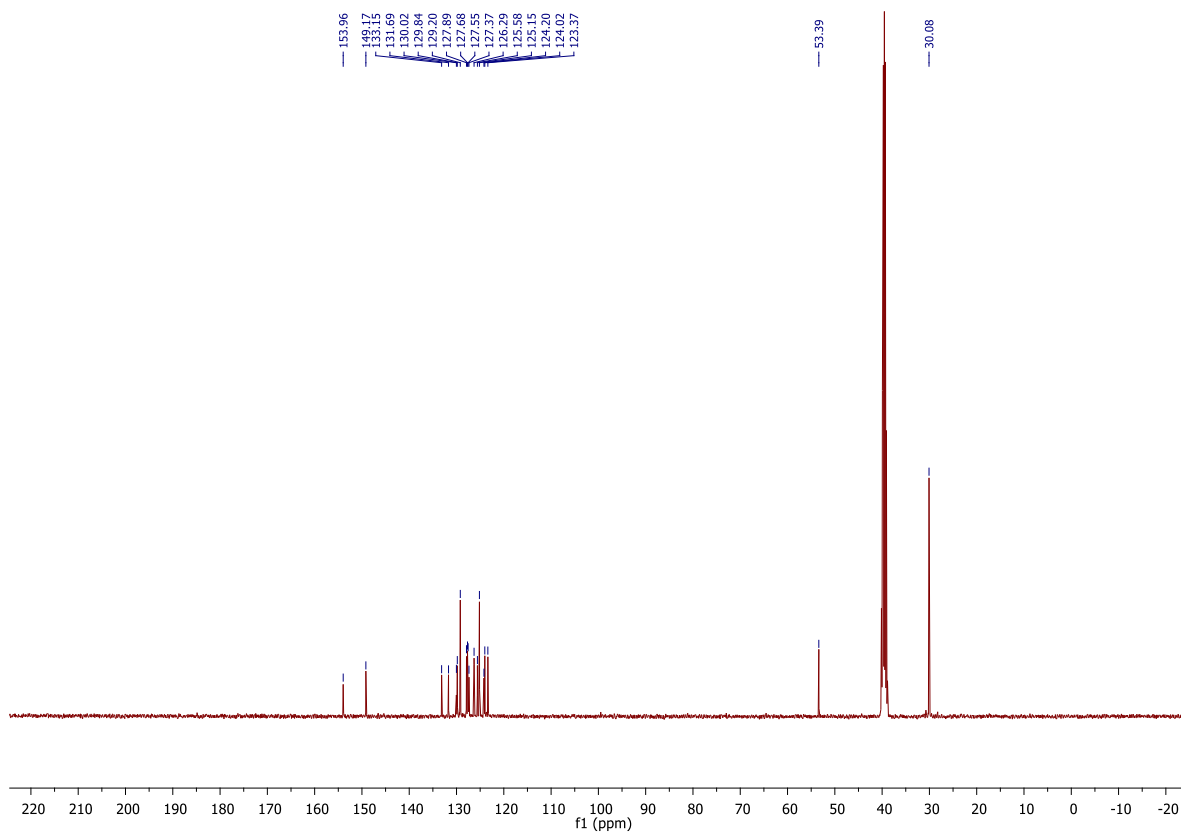


1.35. *N*-*tert*-butyl-4-(naphthalen-2-yl)-2-phenyl-1,3-oxazol-5-amine (395I)

^1H NMR (400 MHz, DMSO- d_6)

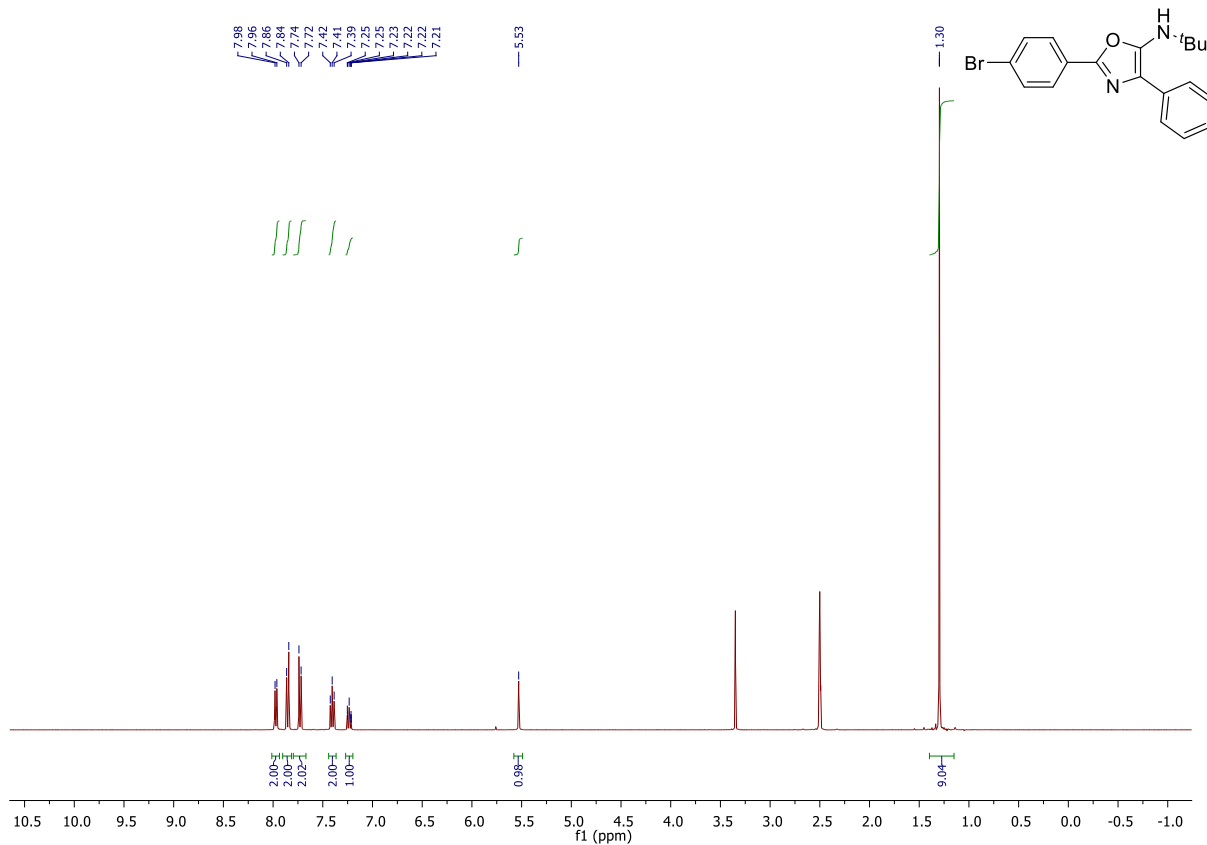


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

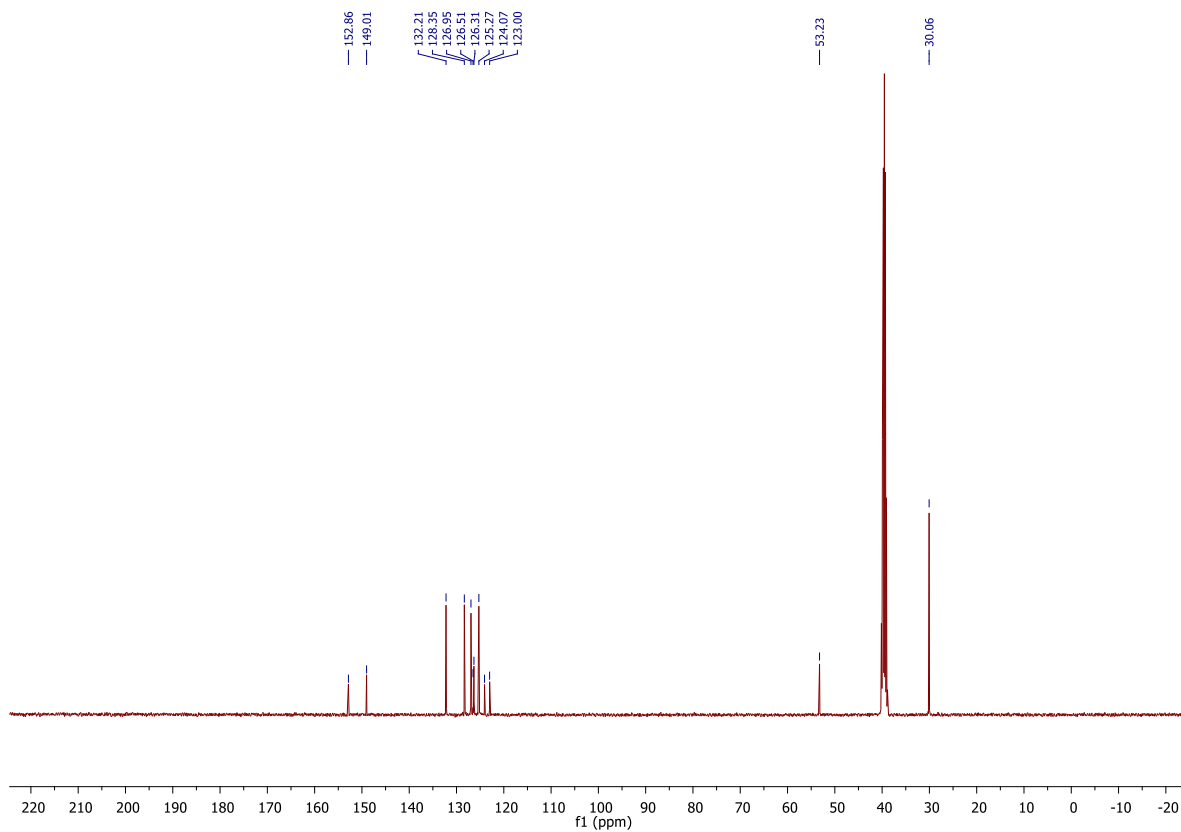


1.36. 2-(4-bromophenyl)-*N*-*tert*-butyl-4-phenyl-1,3-oxazol-5-amine (415a)

^1H NMR (400 MHz, DMSO-d_6)

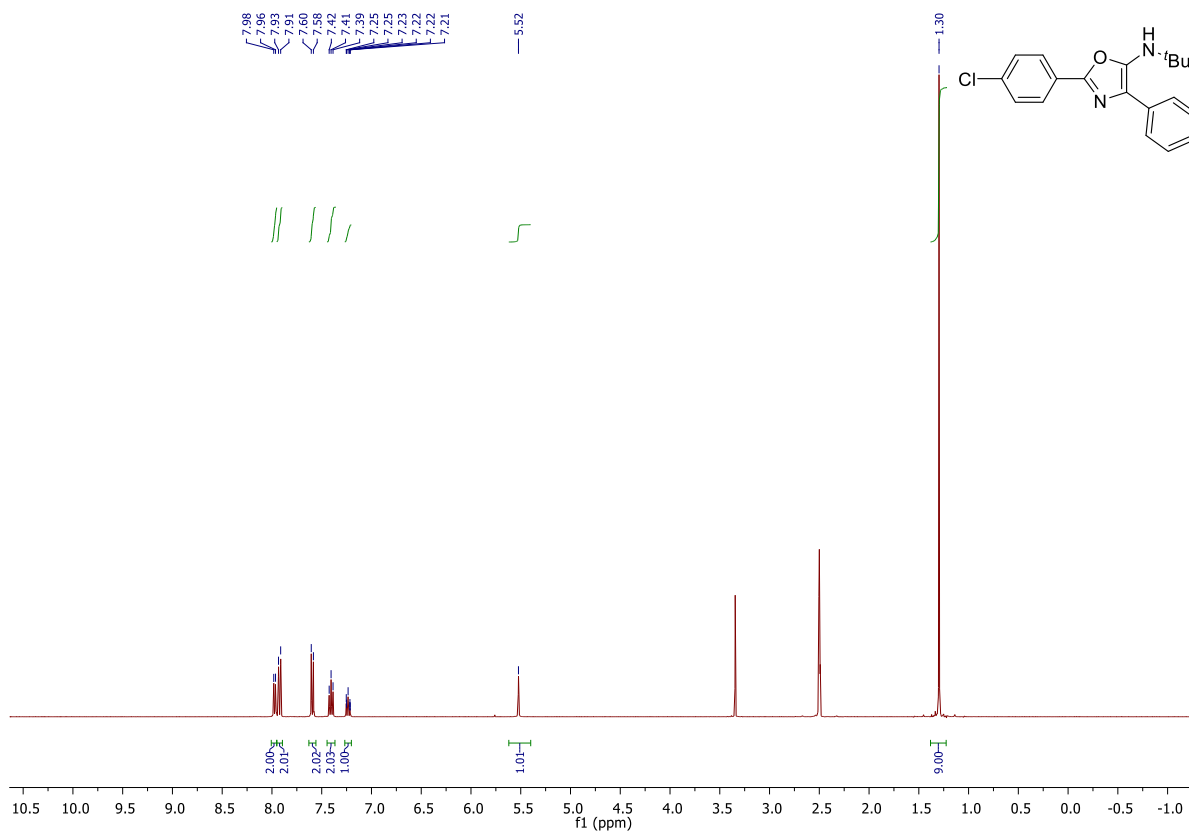


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO-d_6)

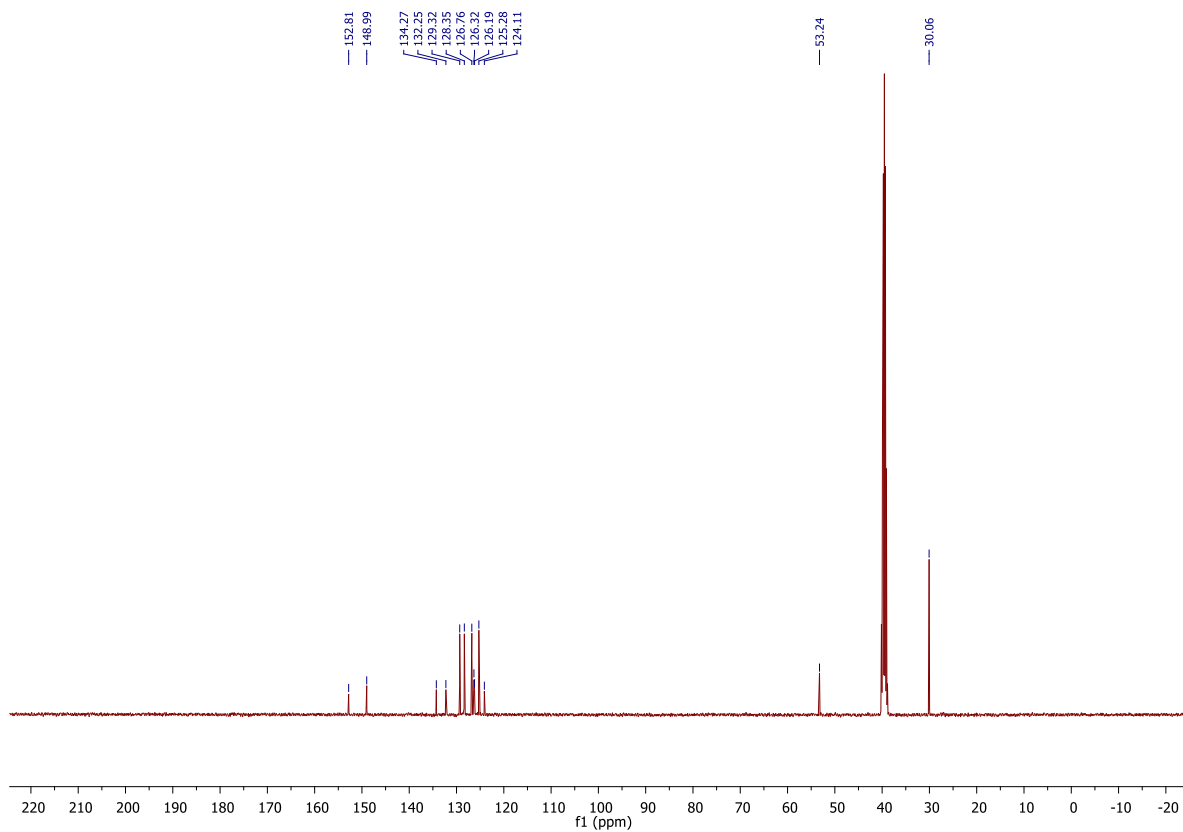


1.37. *N*-*tert*-butyl-2-(4-chlorophenyl)-4-phenyl-1,3-oxazol-5-amine (415b)

^1H NMR (400 MHz, DMSO- d_6)

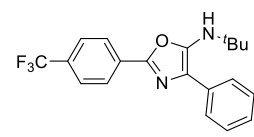
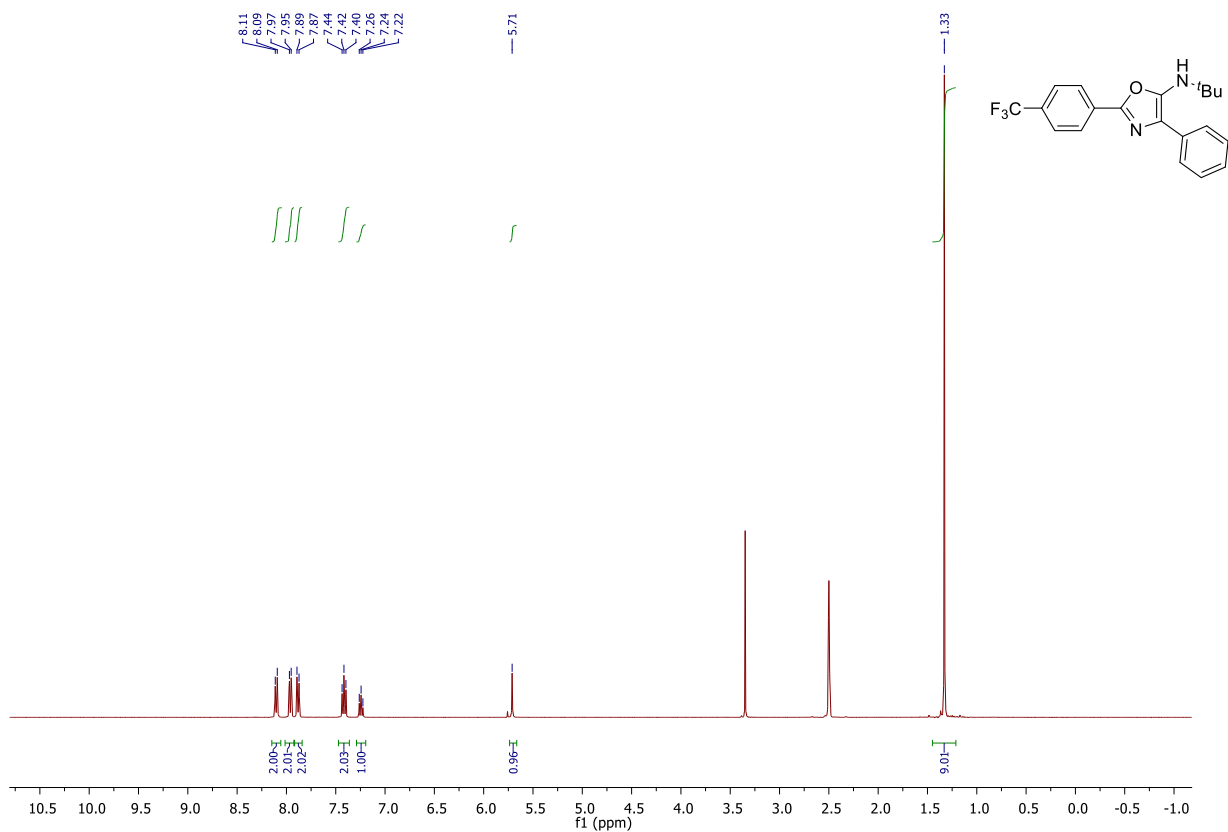


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

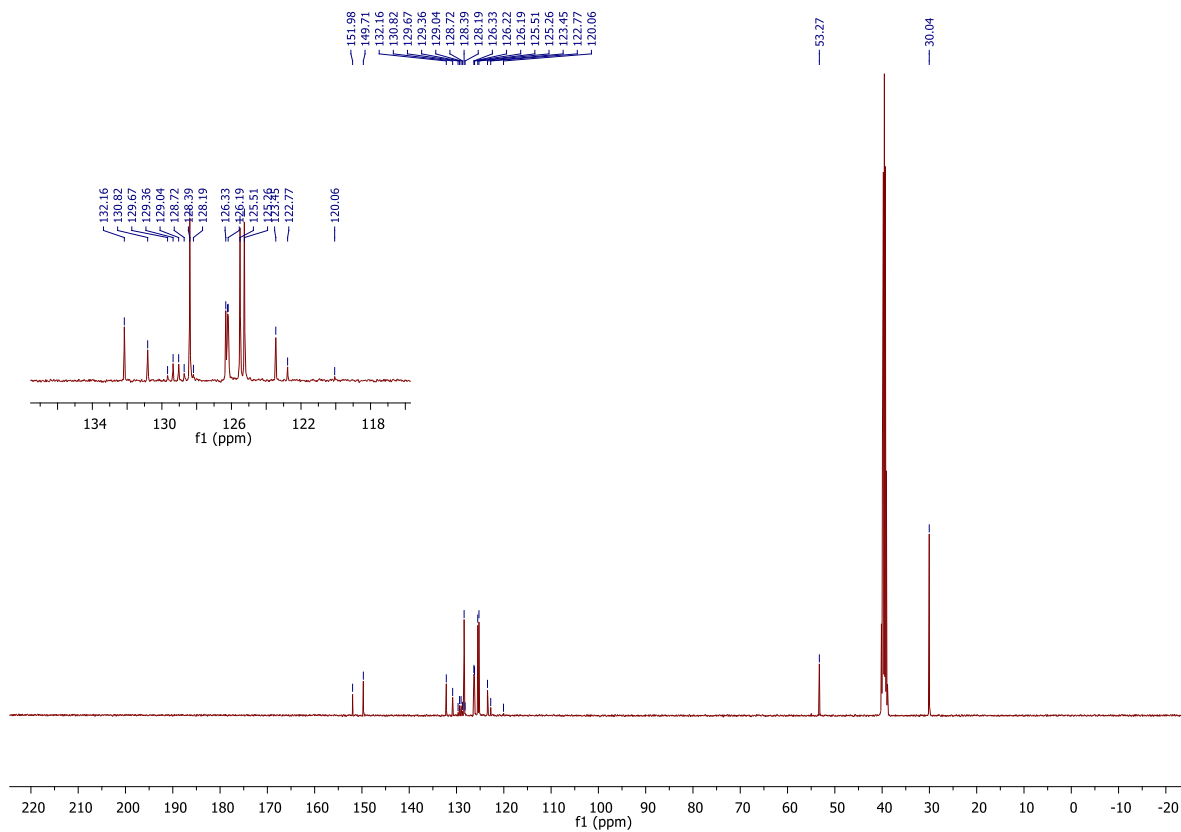


1.38. *N-tert-butyl-4-phenyl-2-[4-(trifluoromethyl)phenyl]-1,3-oxazol-5-amine (415c)*

^1H NMR (400 MHz, DMSO- d_6)

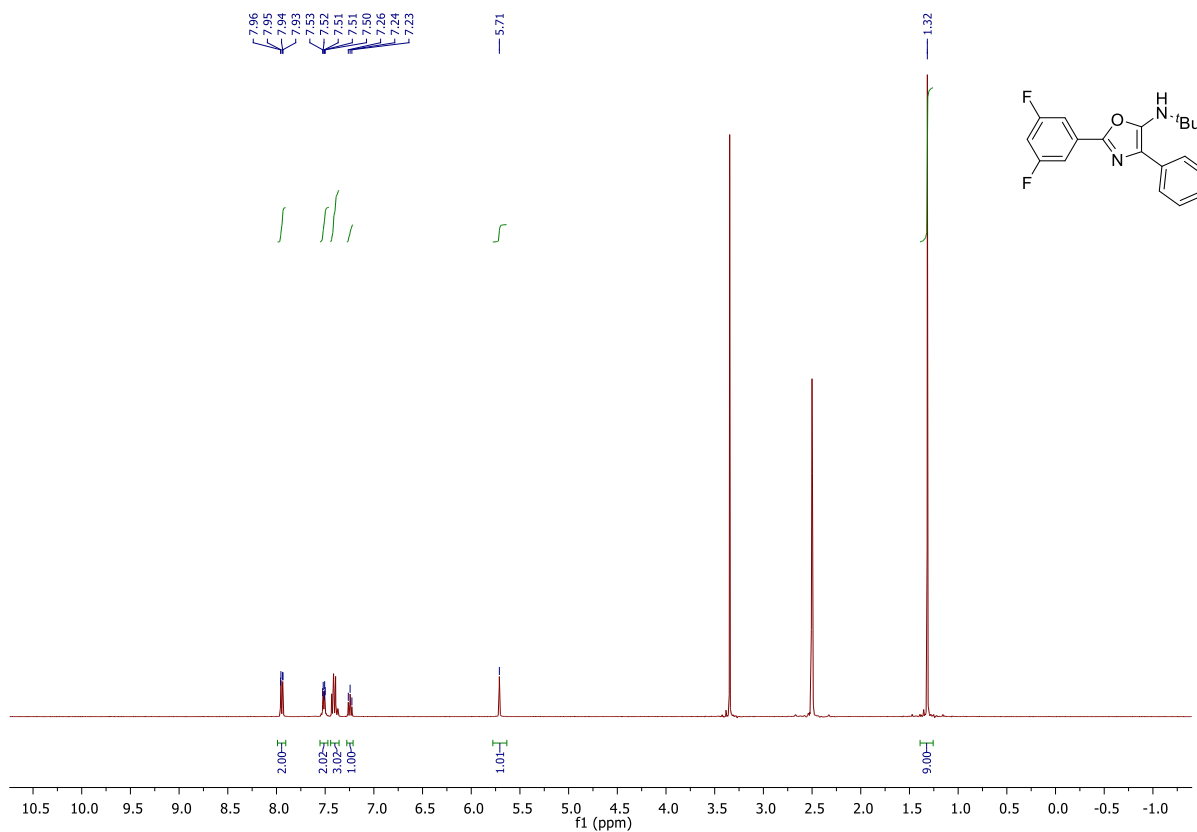


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

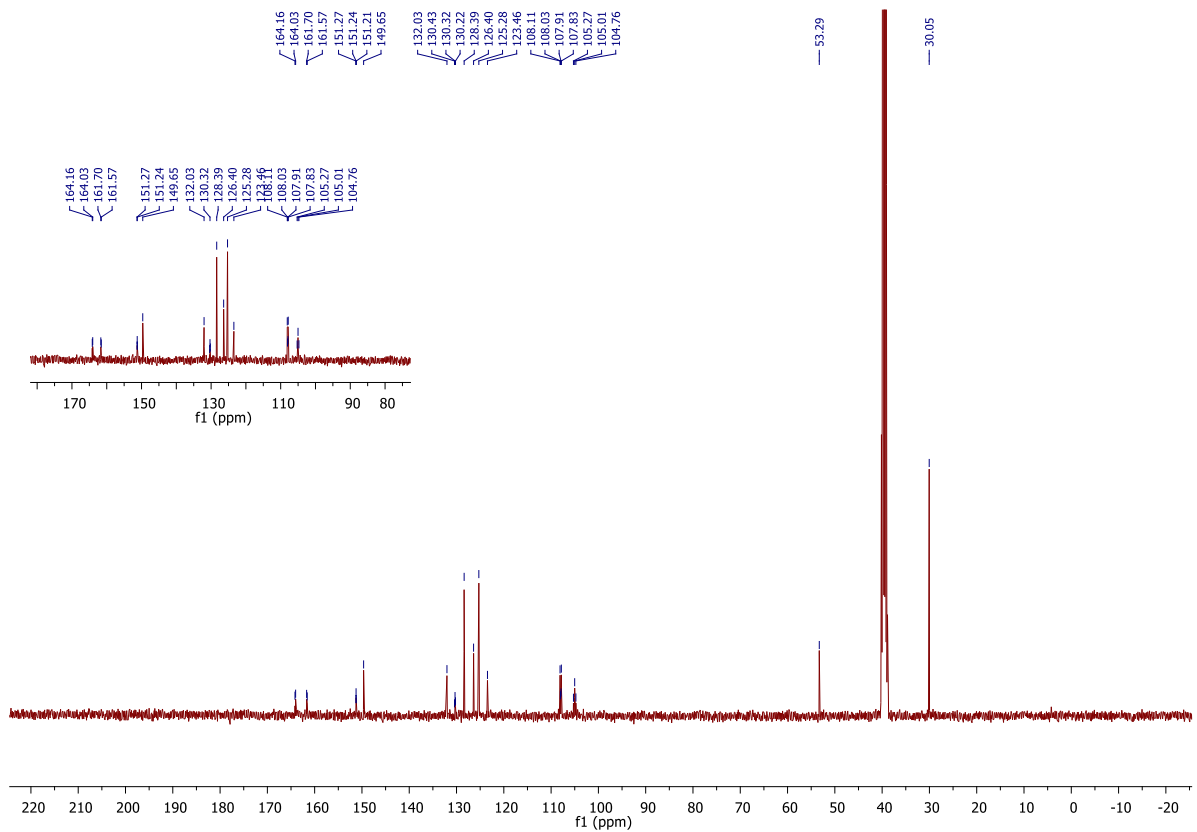


1.39. *N-tert-butyl-2-(3,5-difluorophenyl)-4-phenyl-1,3-oxazol-5-amine (415d)*

^1H NMR (400 MHz, DMSO- d_6)

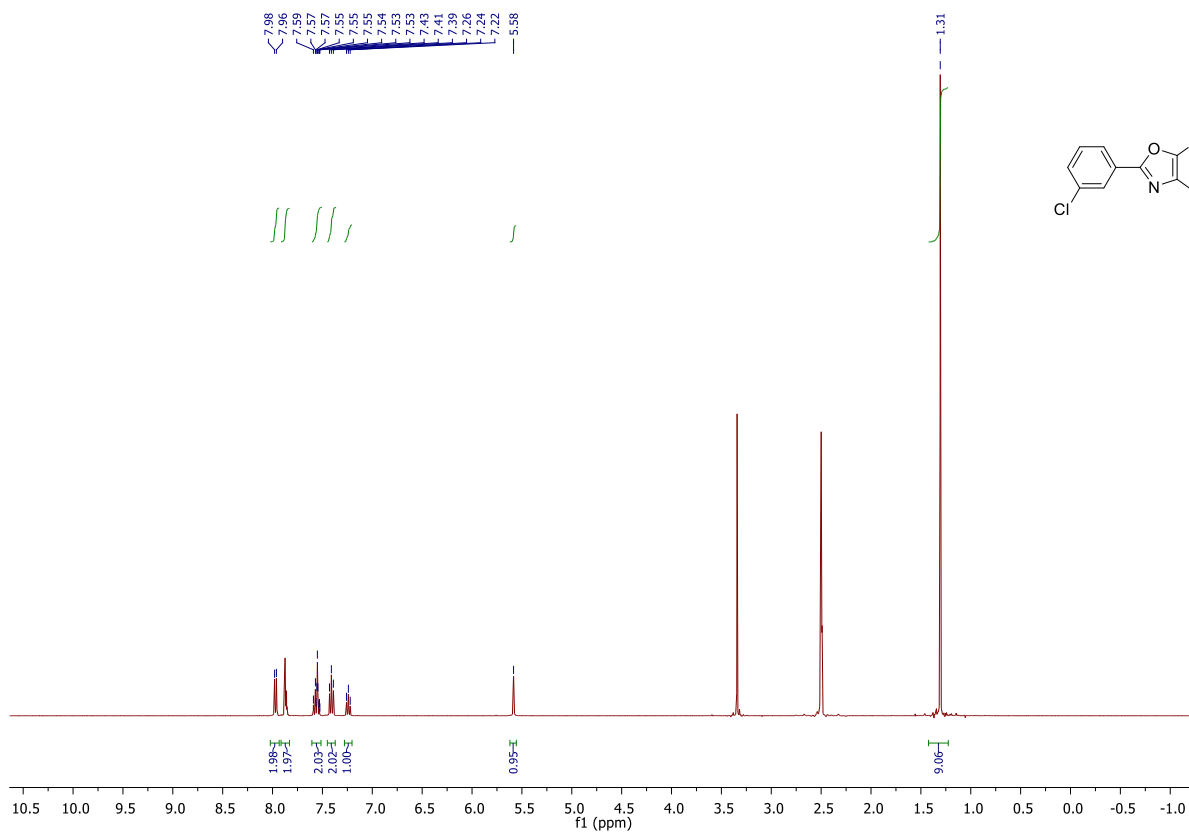


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

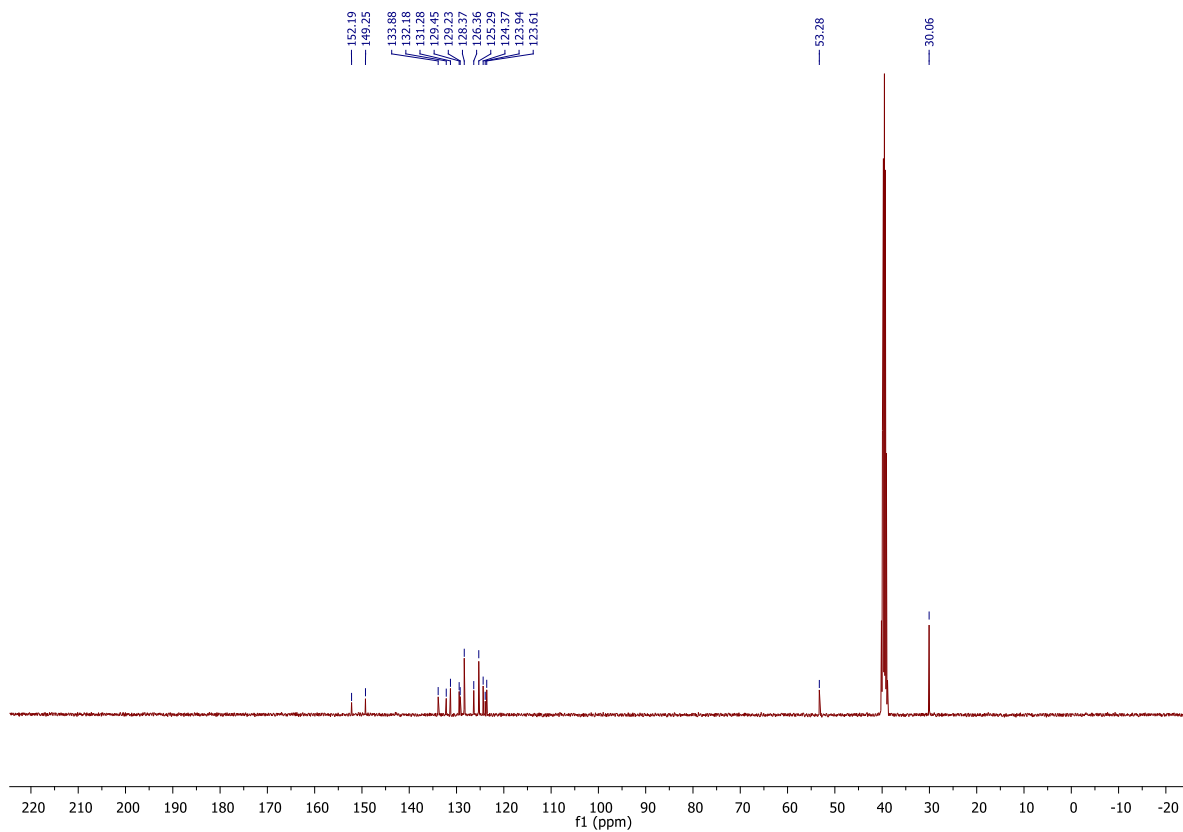


1.40. *N*-*tert*-butyl-2-(3-chlorophenyl)-4-phenyl-1,3-oxazol-5-amine (415e)

^1H NMR (400 MHz, DMSO-d_6)

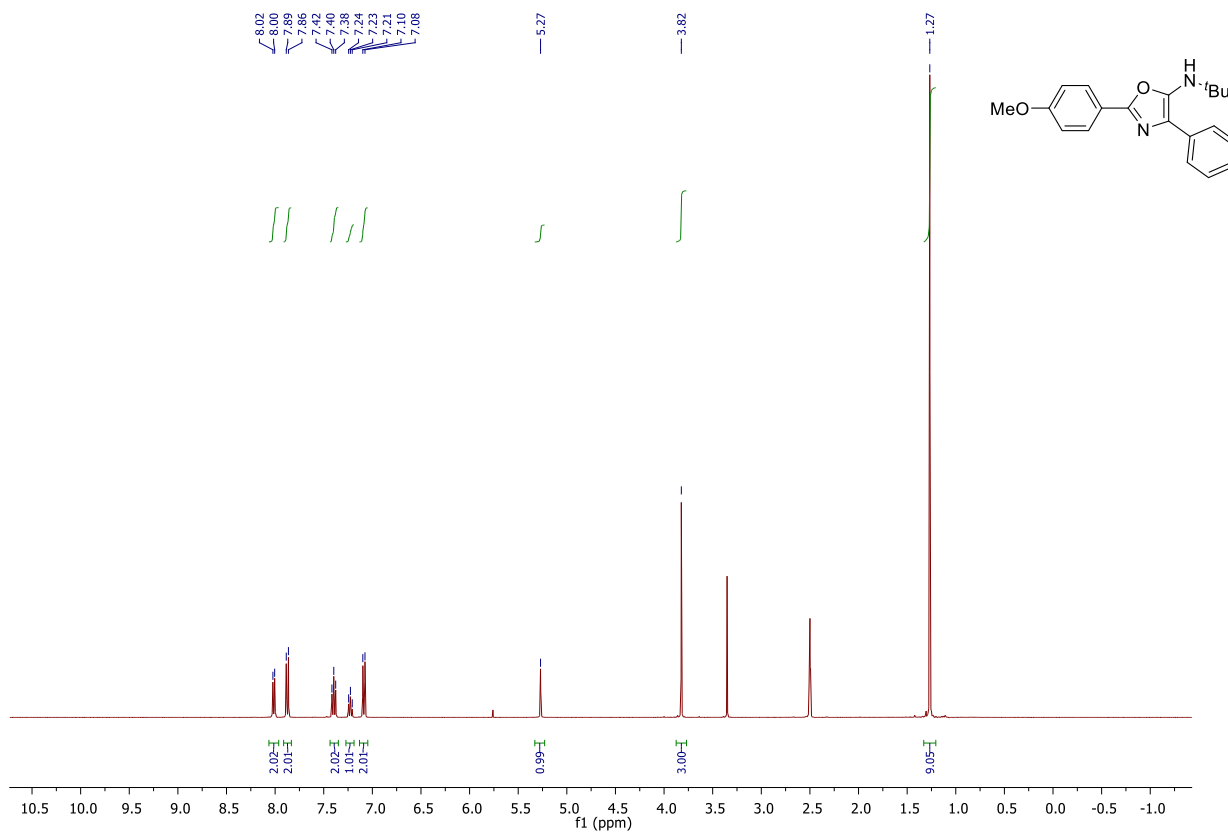


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO-d_6)

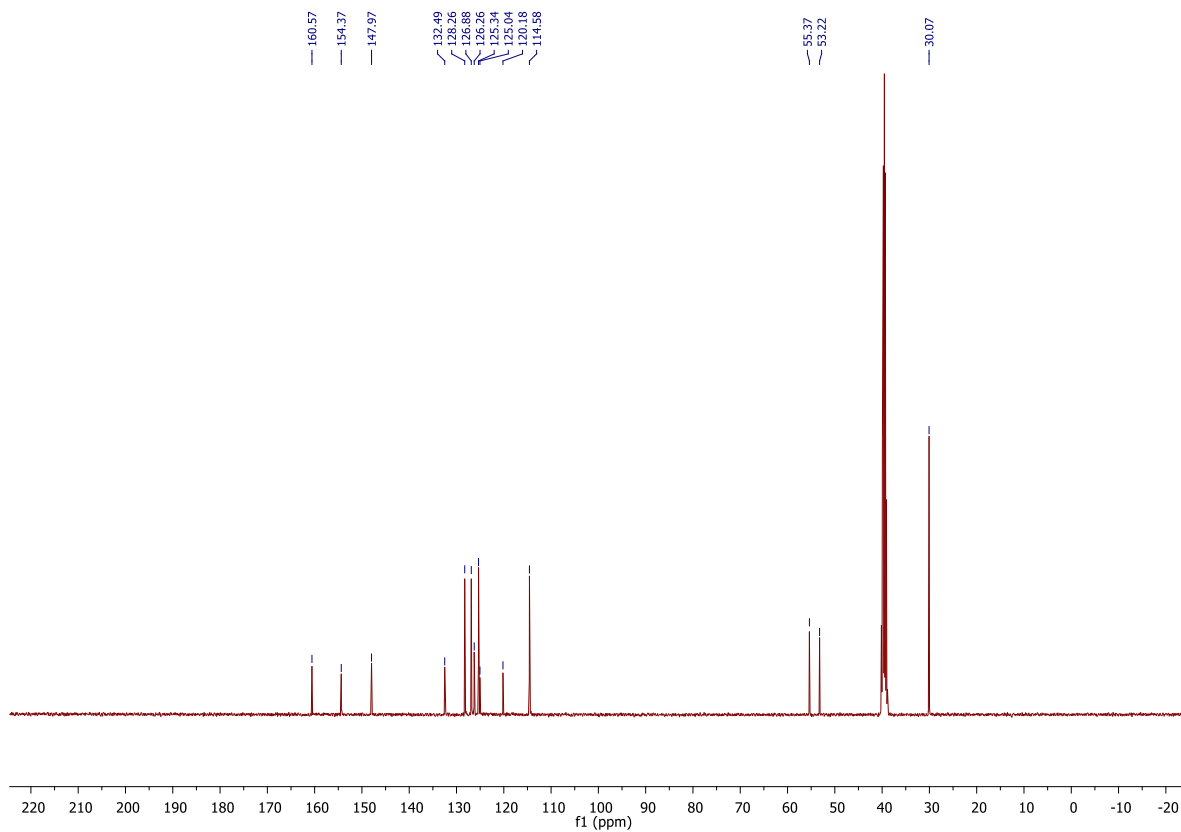


1.41. *N*-*tert*-butyl-2-(4-methoxyphenyl)-4-phenyl-1,3-oxazol-5-amine (415f)

^1H NMR (400 MHz, DMSO- d_6)

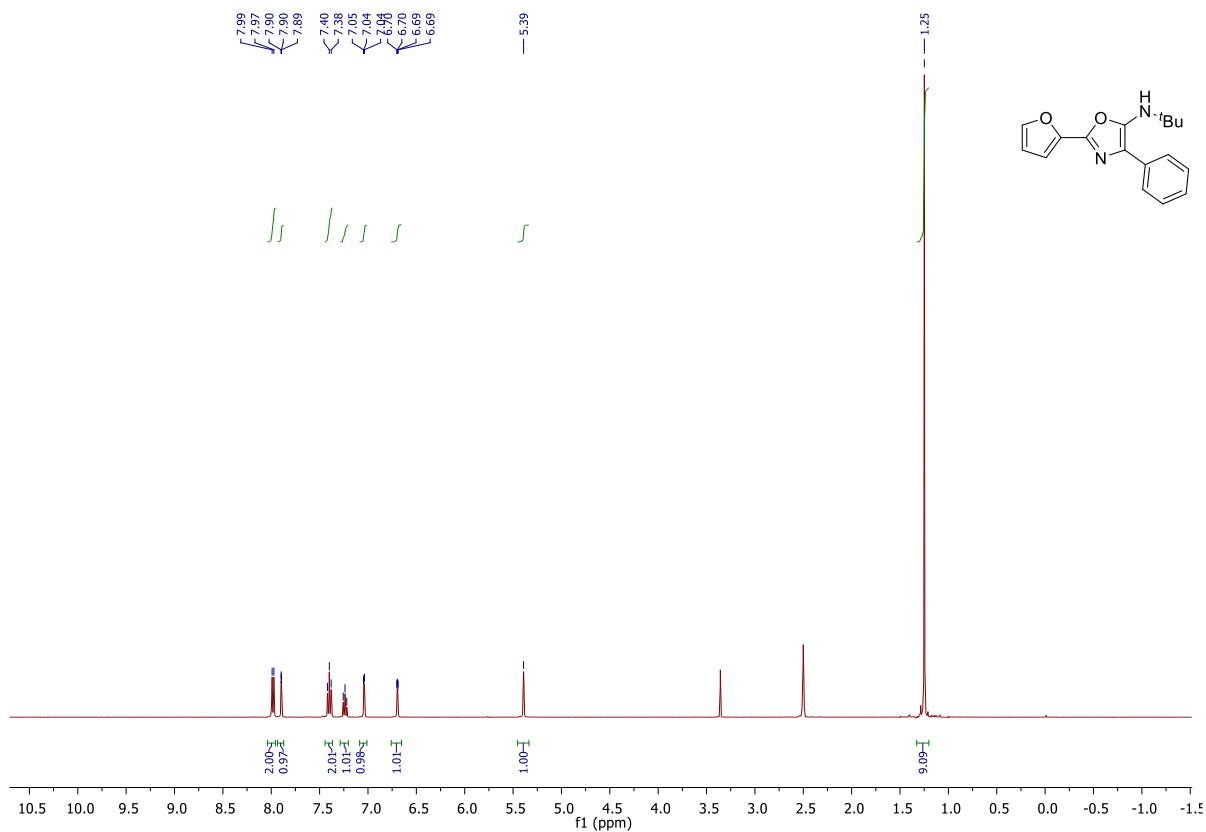


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

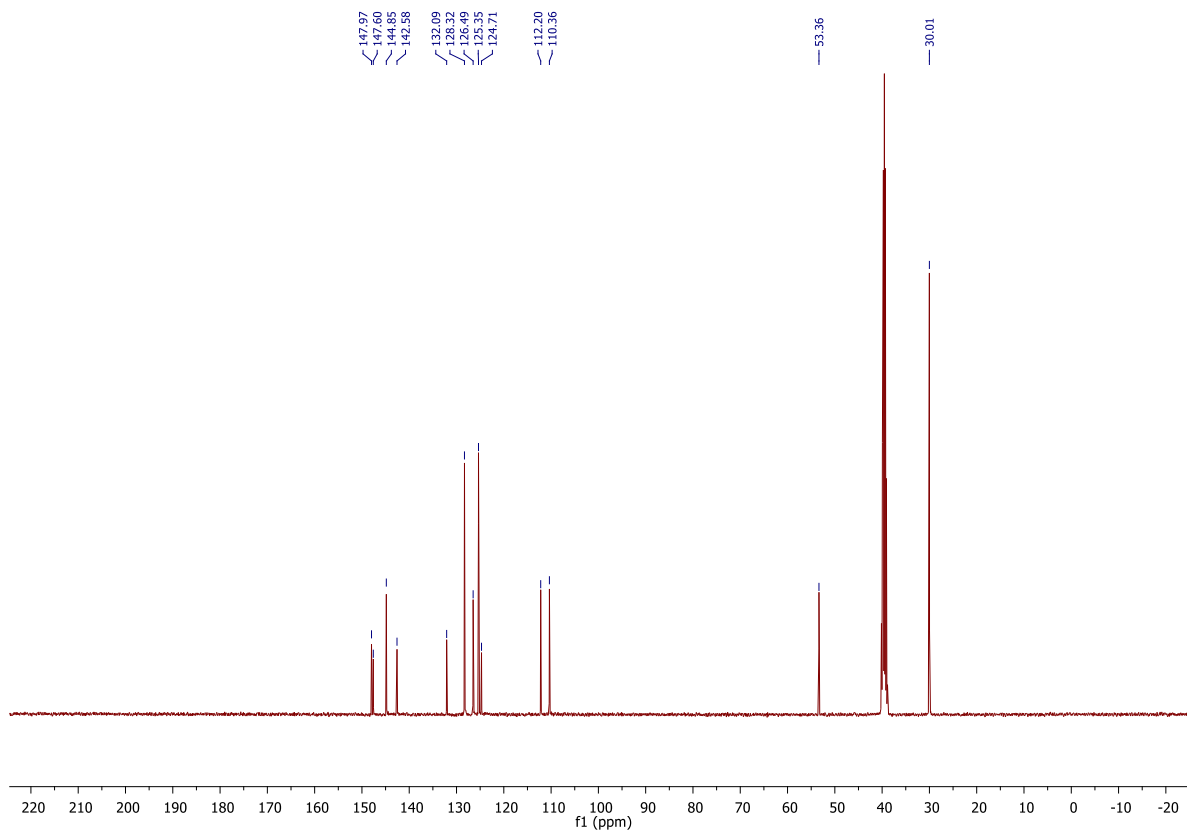


1.42. *N*-tert-butyl-2-(furan-2-yl)-4-phenyl-1,3-oxazol-5-amine (415g)

^1H NMR (400 MHz, DMSO- d_6)

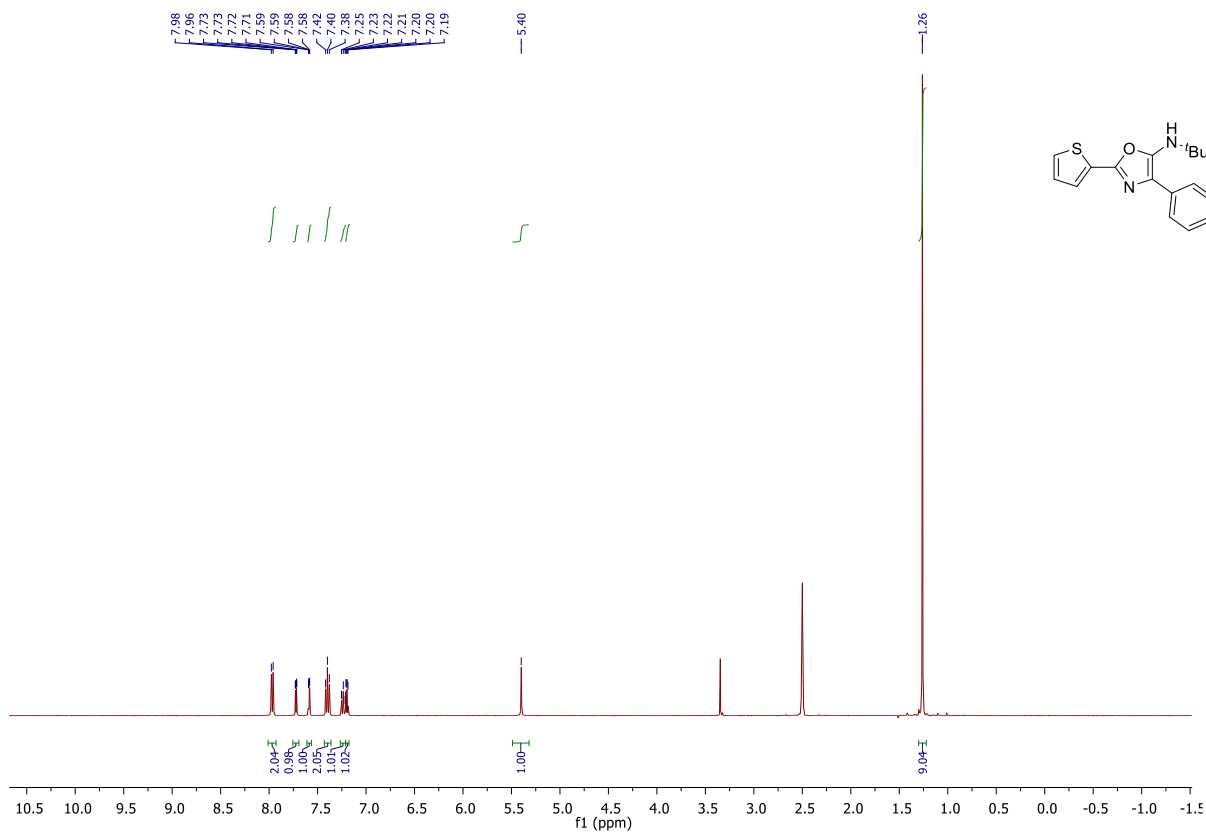


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

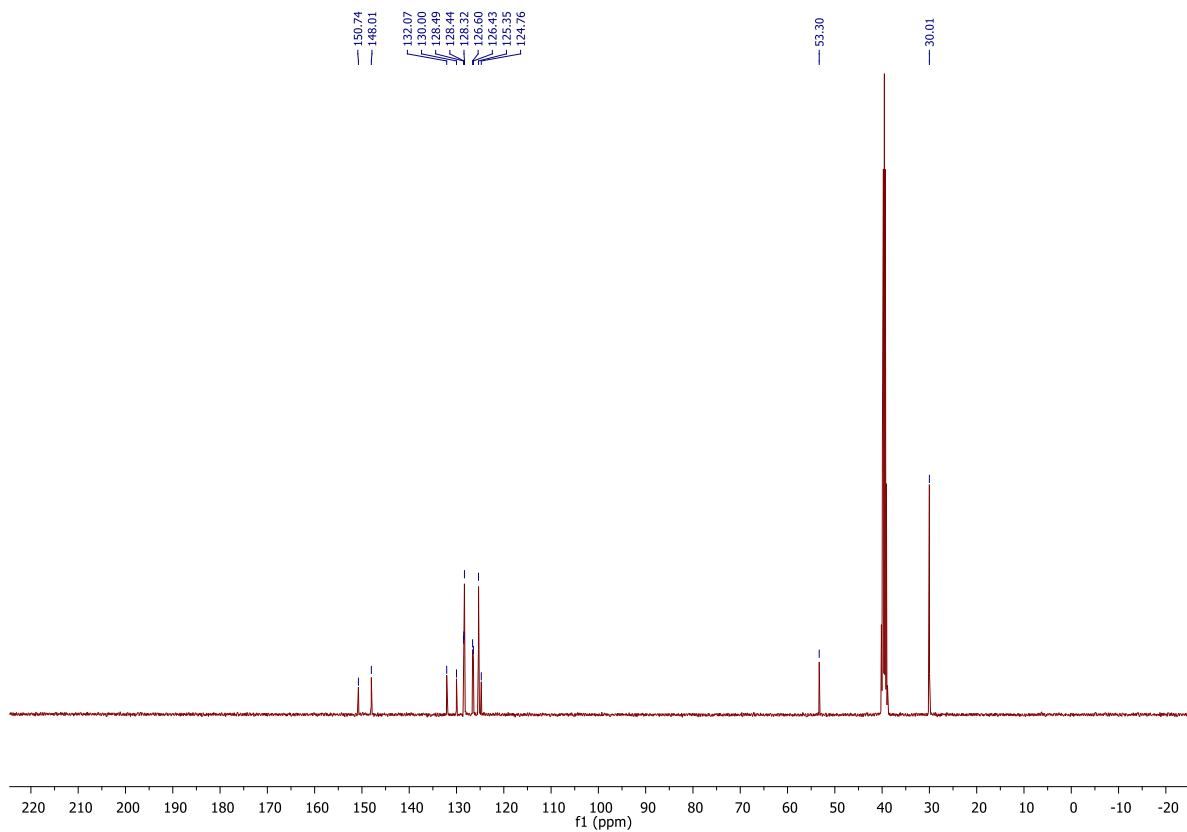


1.43. *N-tert-butyl-4-phenyl-2-(thiophen-2-yl)-1,3-oxazol-5-amine* (415h)

^1H NMR (400 MHz, DMSO- d_6)

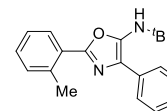
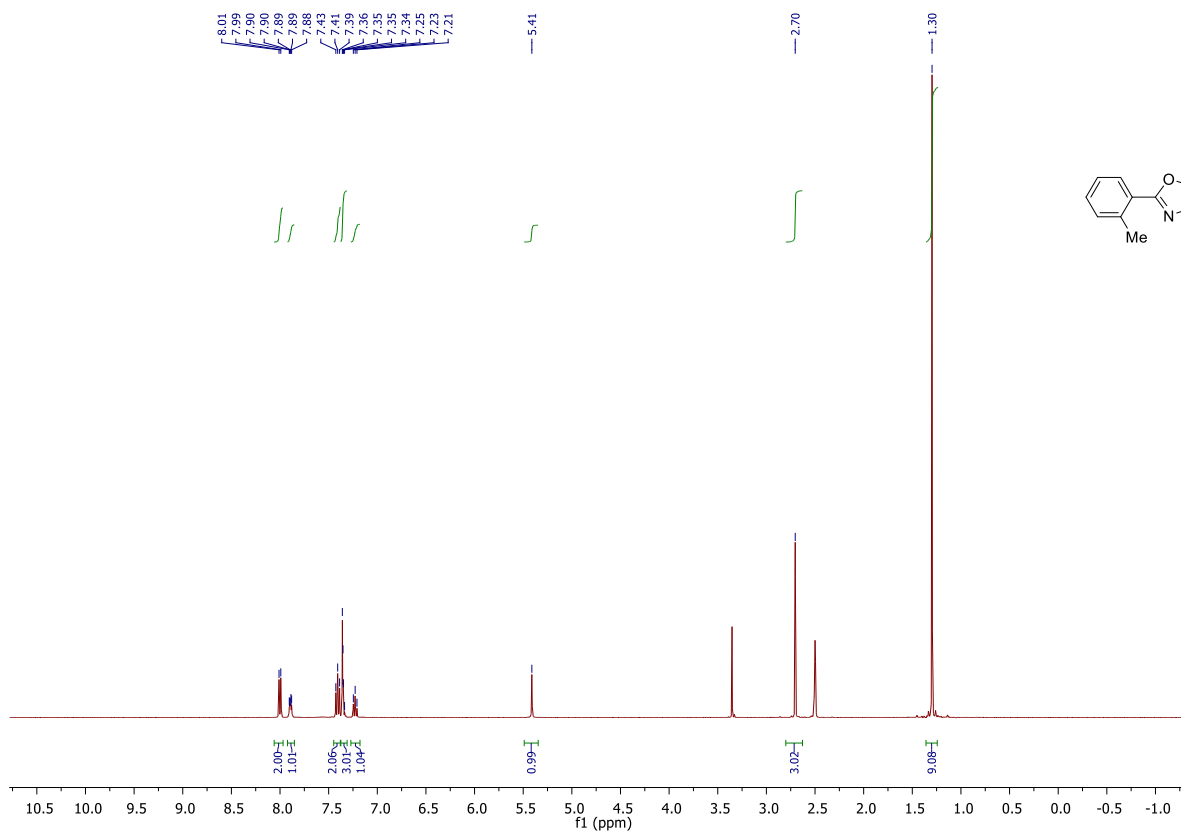


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

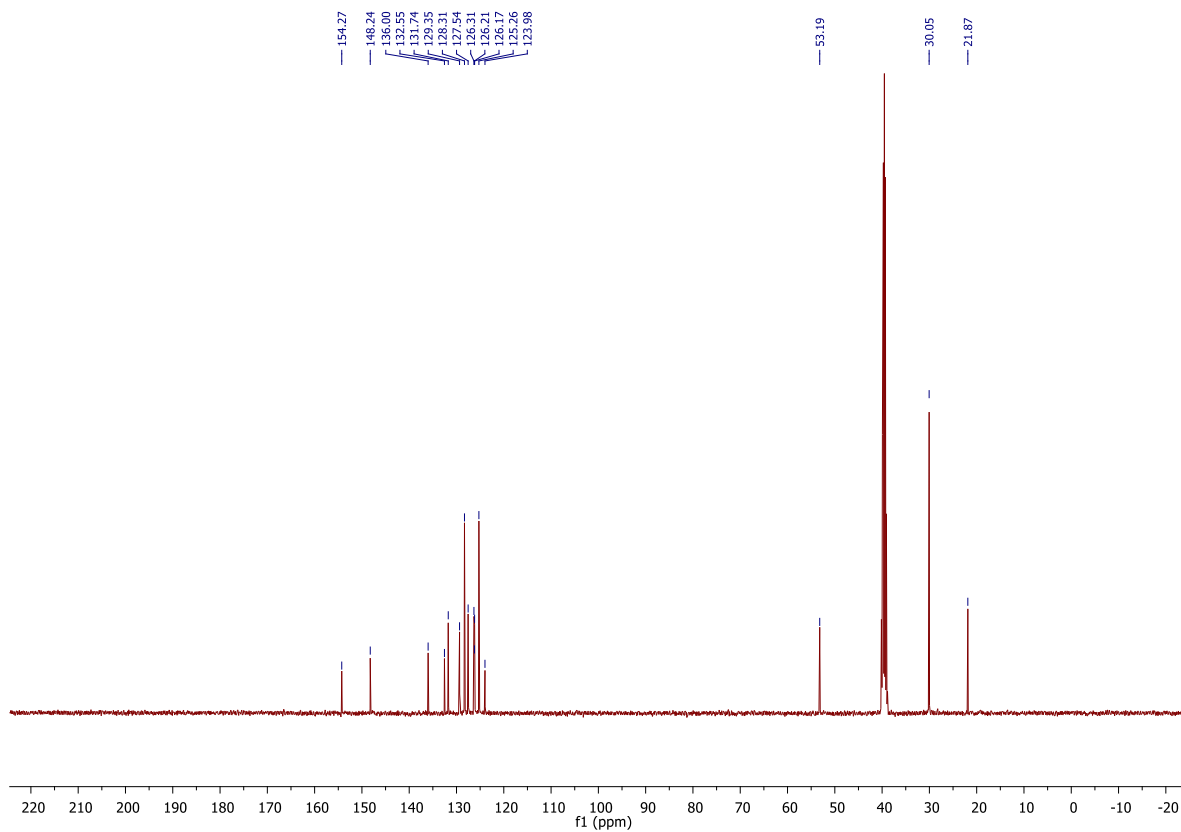


1.44. *N*-tert-butyl-2-(2-methylphenyl)-4-phenyl-1,3-oxazol-5-amine (415i)

¹H NMR (400 MHz, DMSO-d₆)

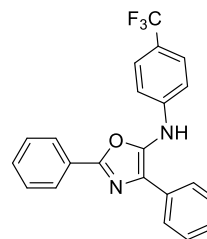
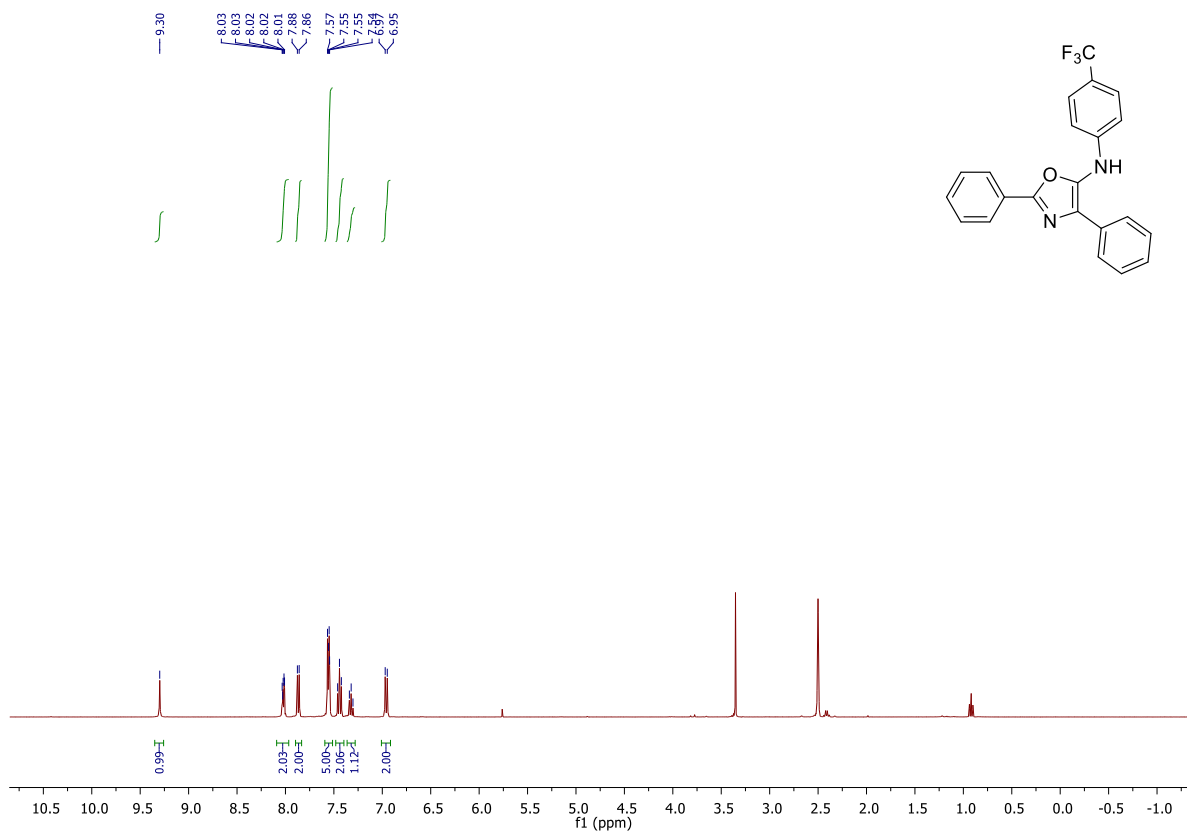


¹³C{¹H} NMR (101 MHz, DMSO-d₆)

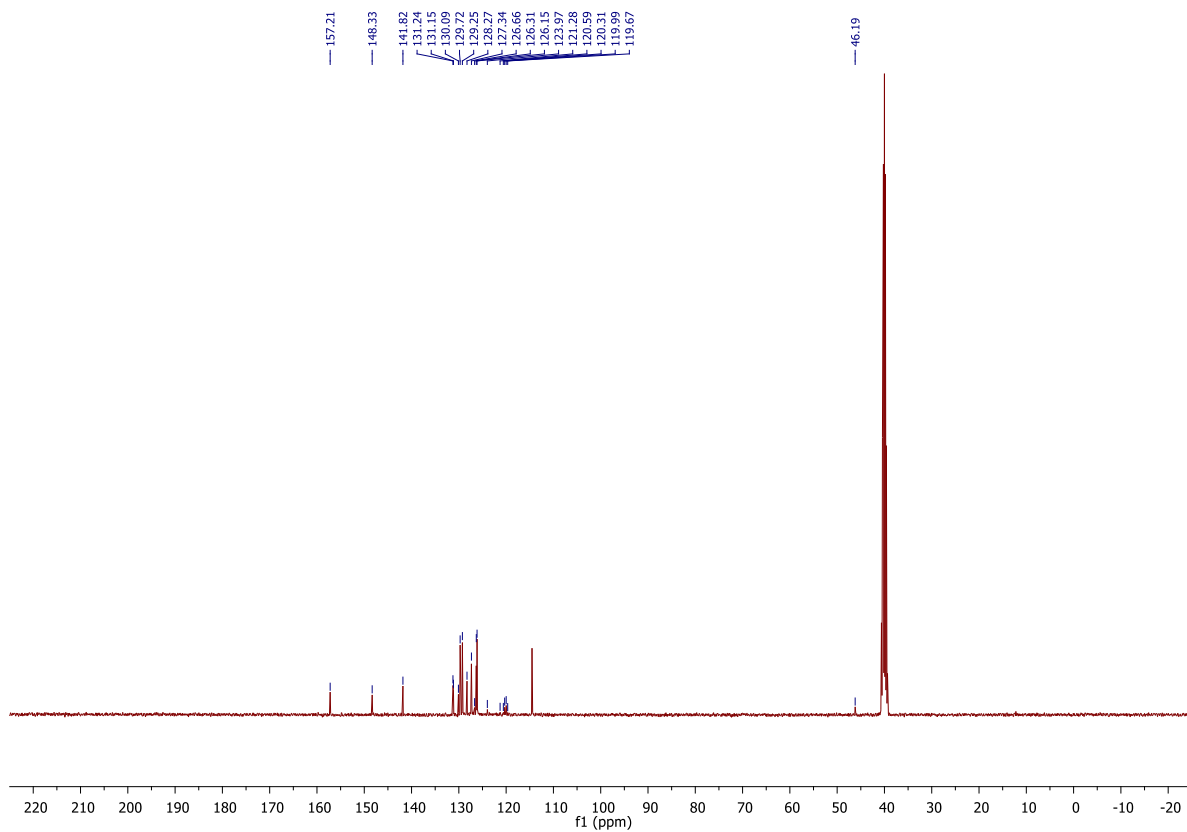


1.45. 2,4-diphenyl-*N*-[4-(trifluoromethyl)phenyl]-1,3-oxazol-5-amine (418a)

^1H NMR (400 MHz, DMSO- d_6)

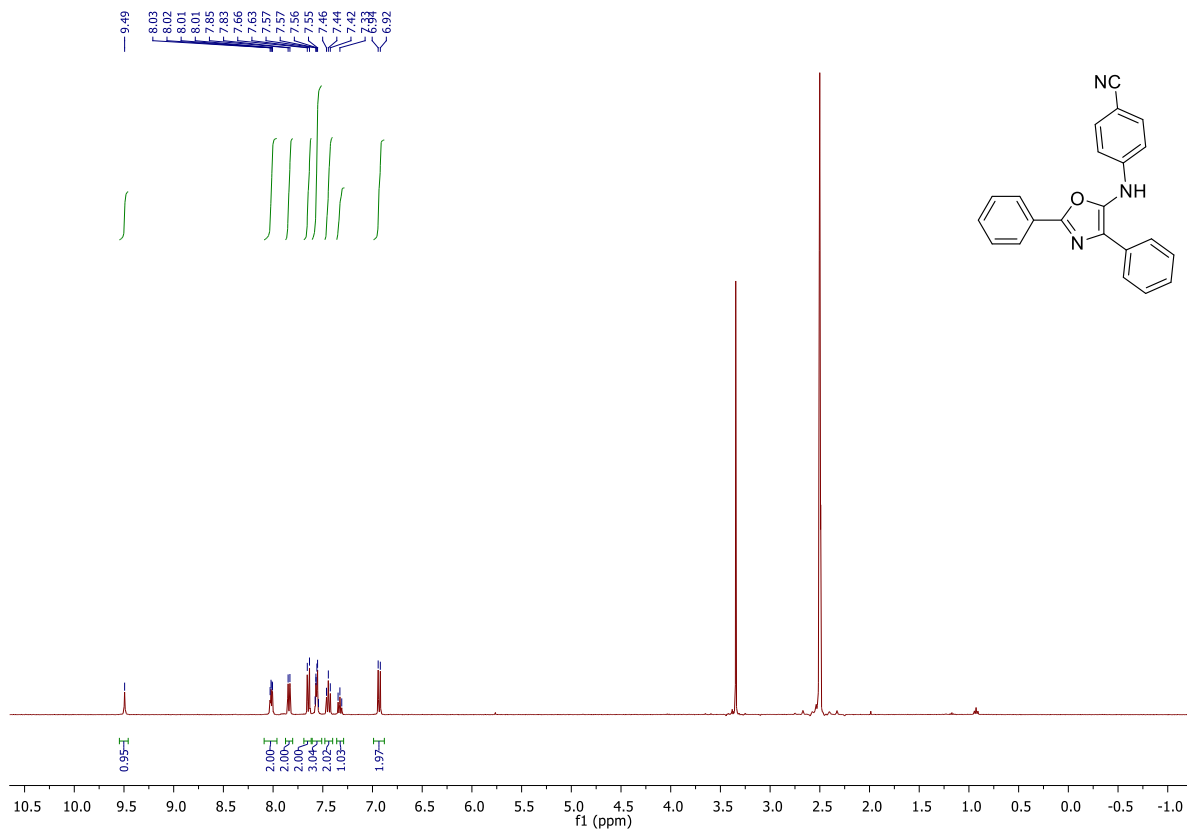


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

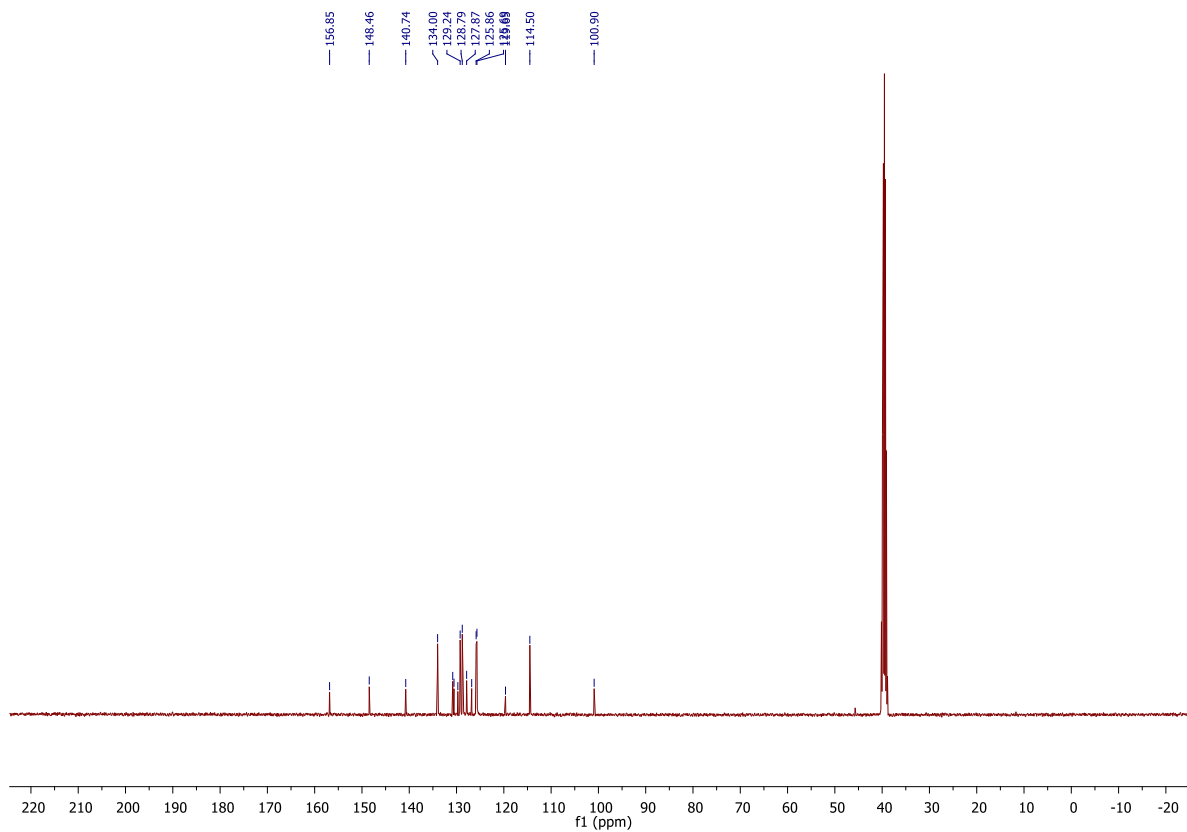


1.46. 4-[(2,4-diphenyl-1,3-oxazol-5-yl)amino]benzonitrile (418b)

^1H NMR (400 MHz, DMSO- d_6)

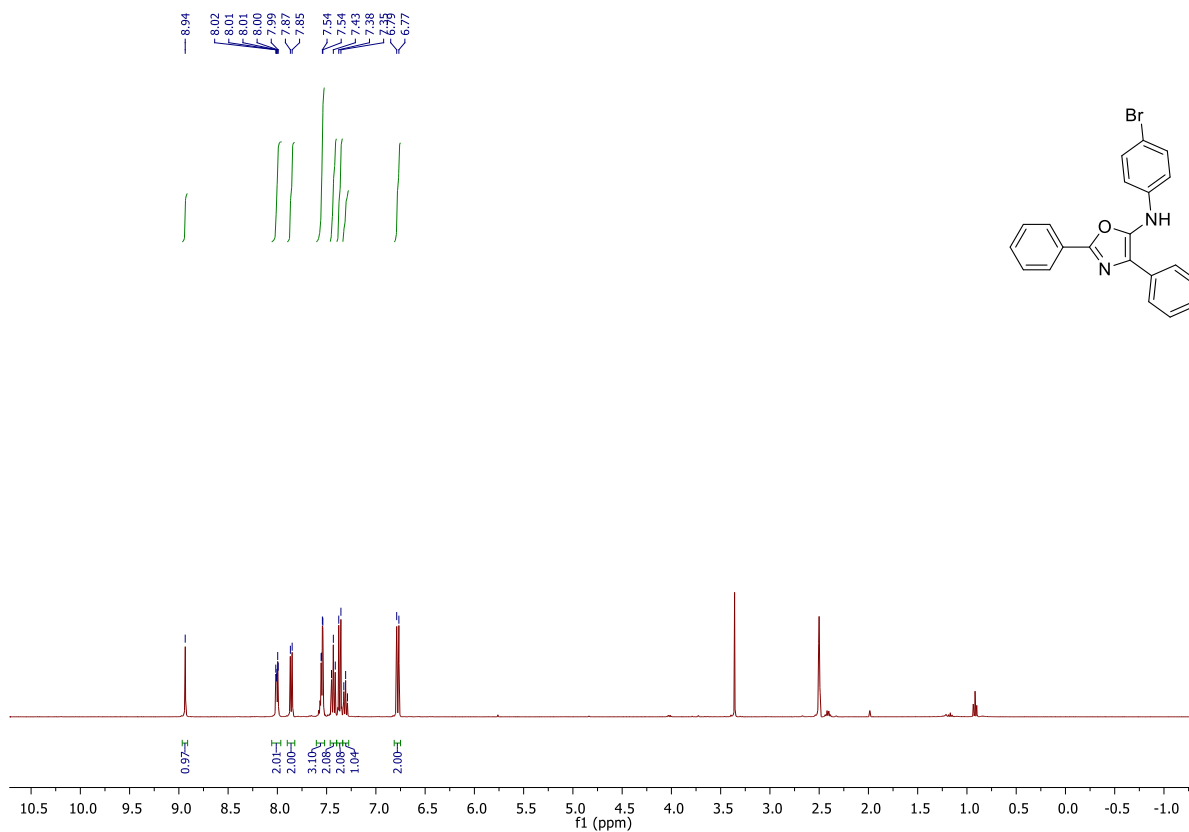


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

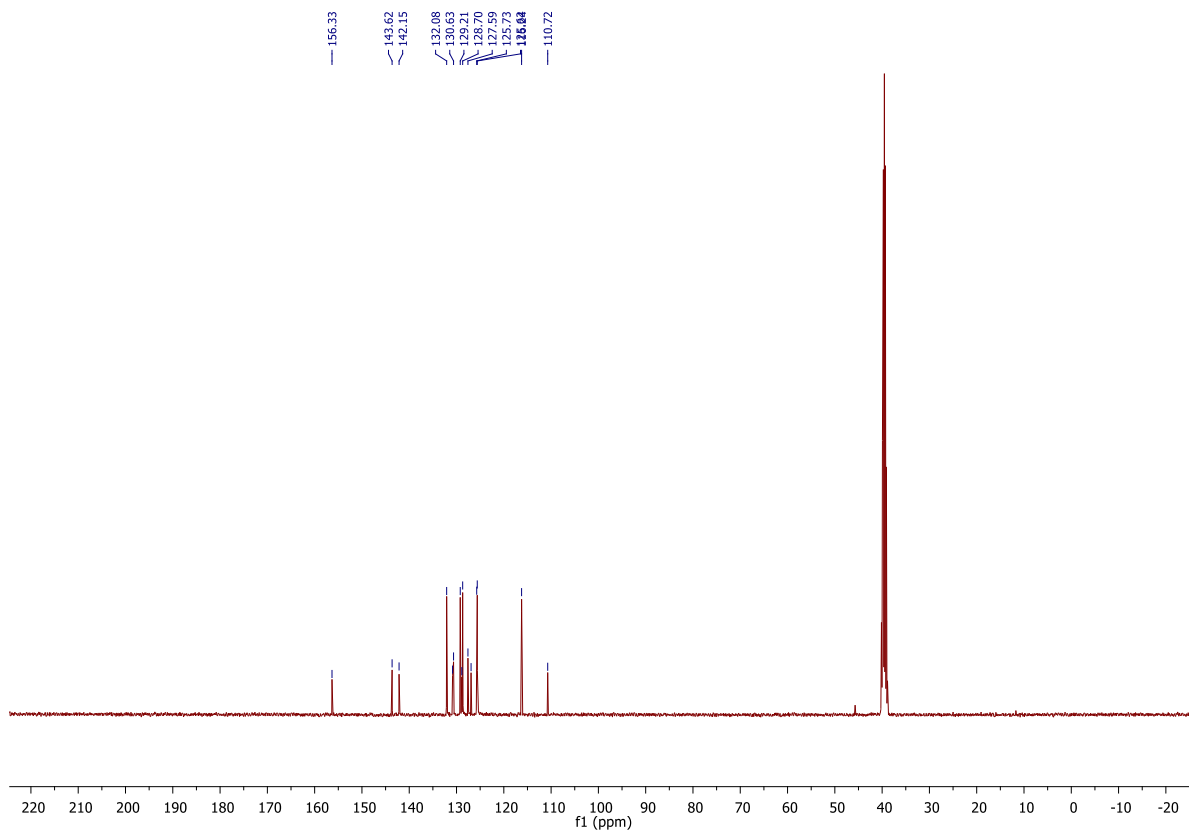


1.47. *N*-(4-bromophenyl)-2,4-diphenyl-1,3-oxazol-5-amine (418c)

^1H NMR (400 MHz, DMSO- d_6)

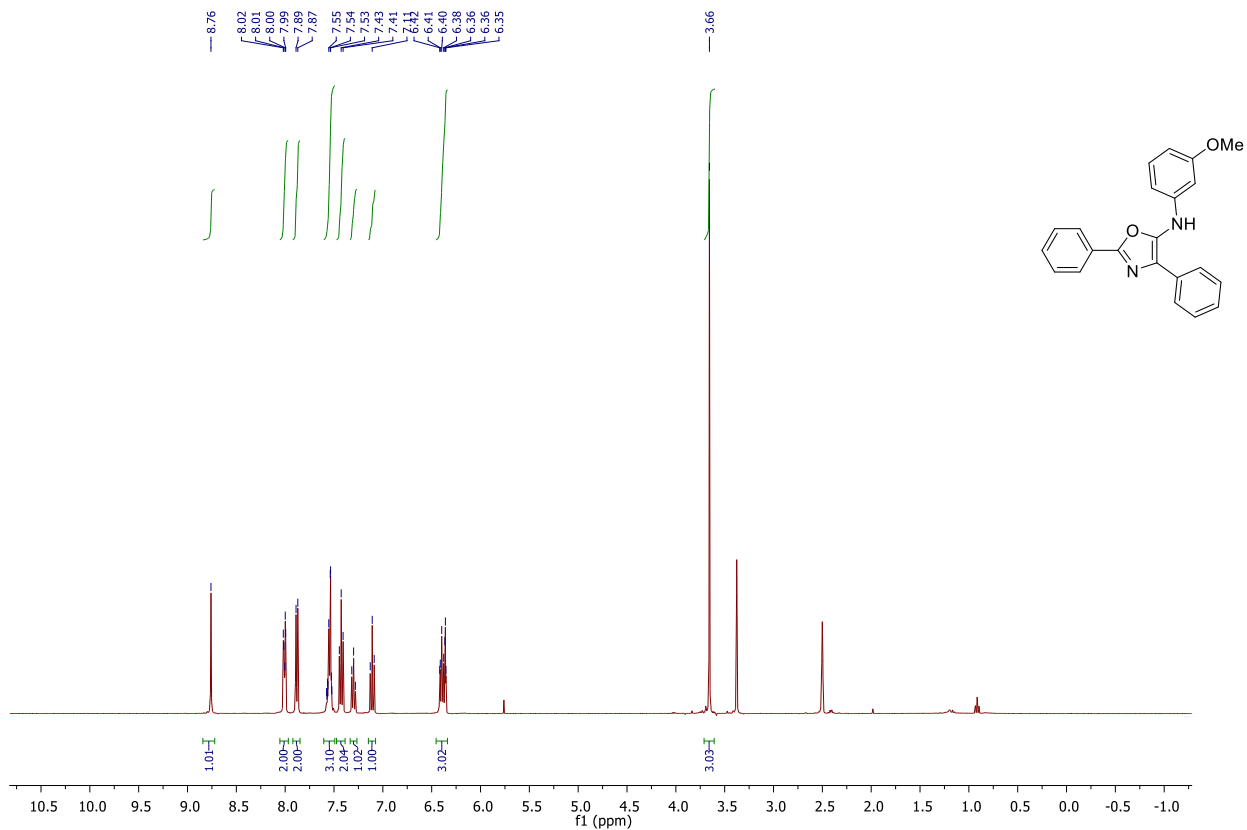


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

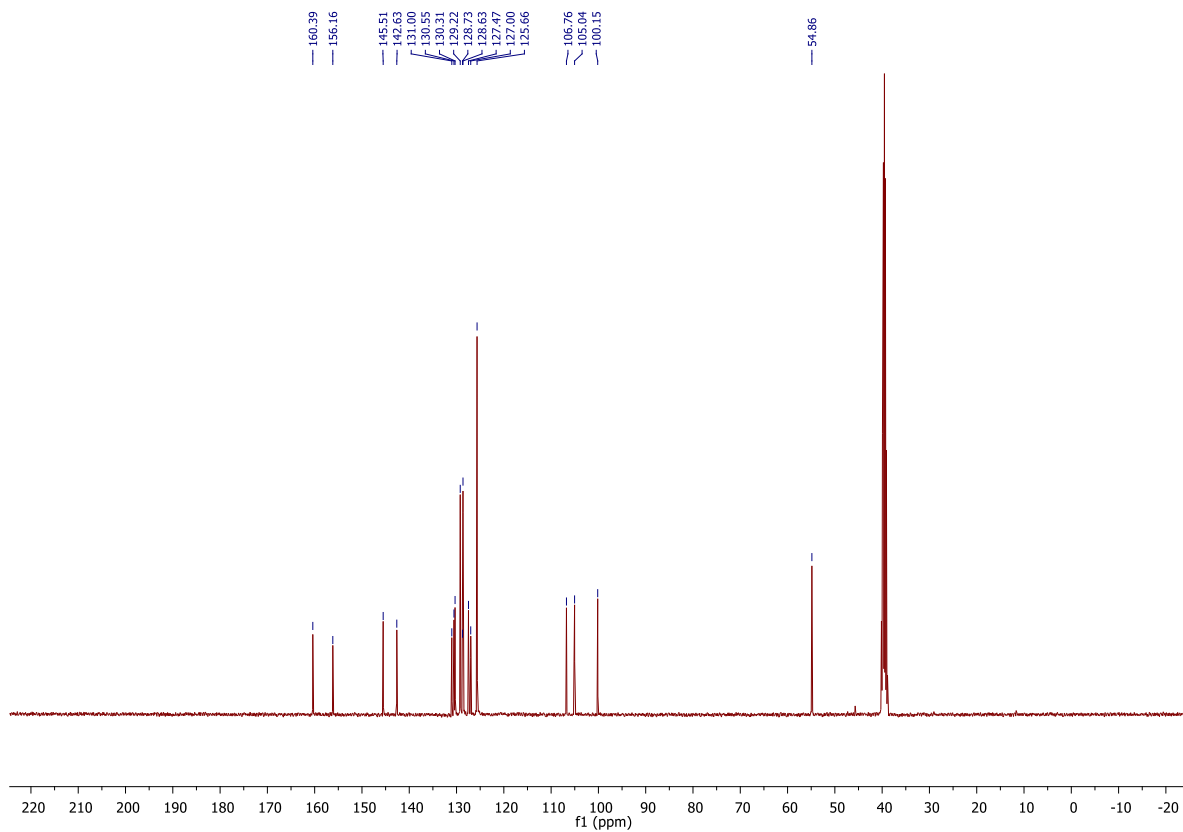


1.48. *N*-(3-methoxyphenyl)-2,4-diphenyl-1,3-oxazol-5-amine (418d)

^1H NMR (400 MHz, DMSO-d_6)

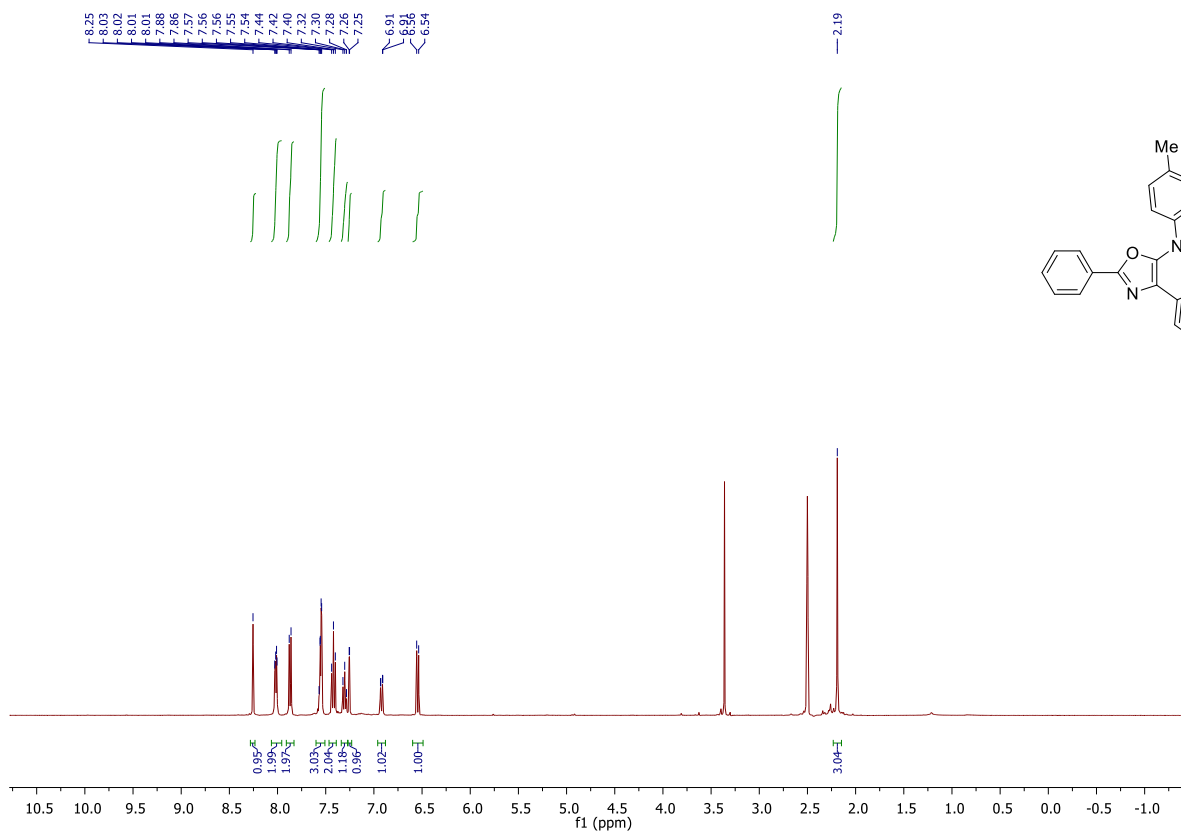


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO-d_6)

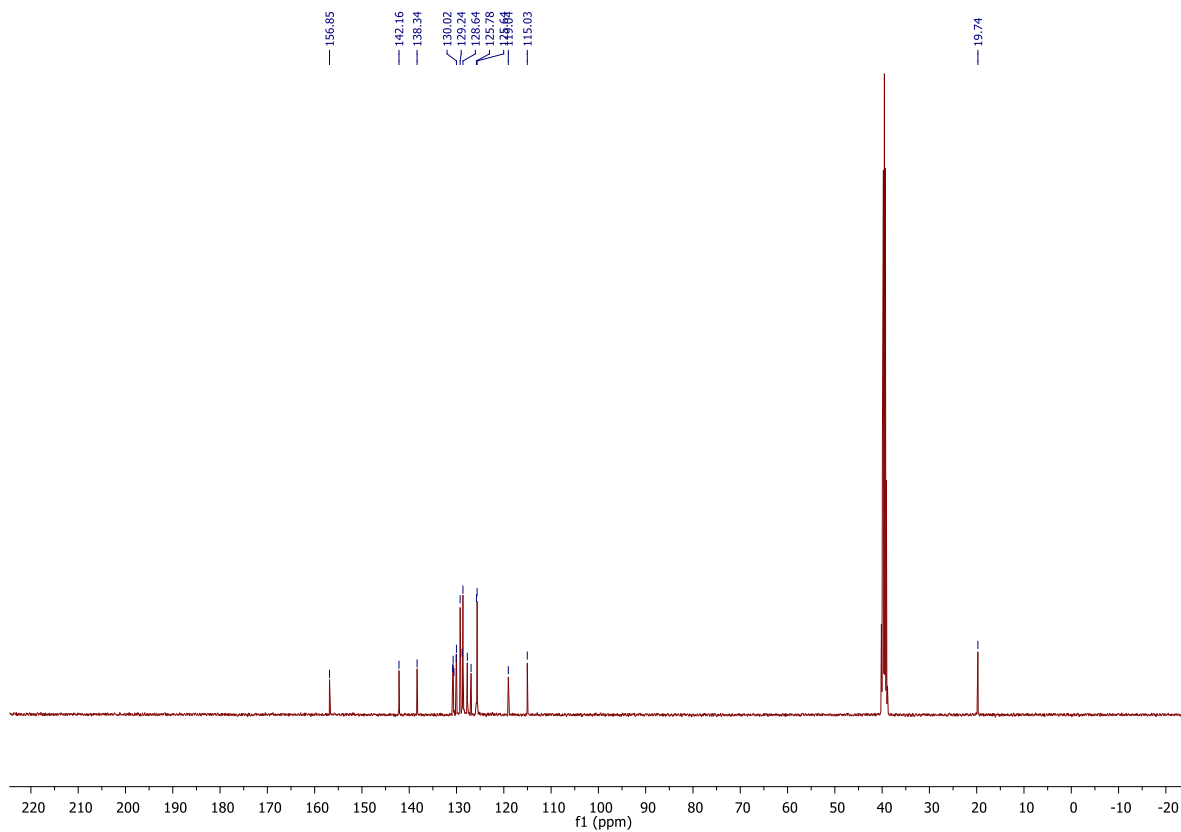


1.49. N-(2-chloro-4-methylphenyl)-2,4-diphenyl-1,3-oxazol-5-amine (418e)

^1H NMR (400 MHz, DMSO- d_6)

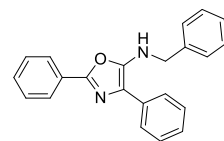
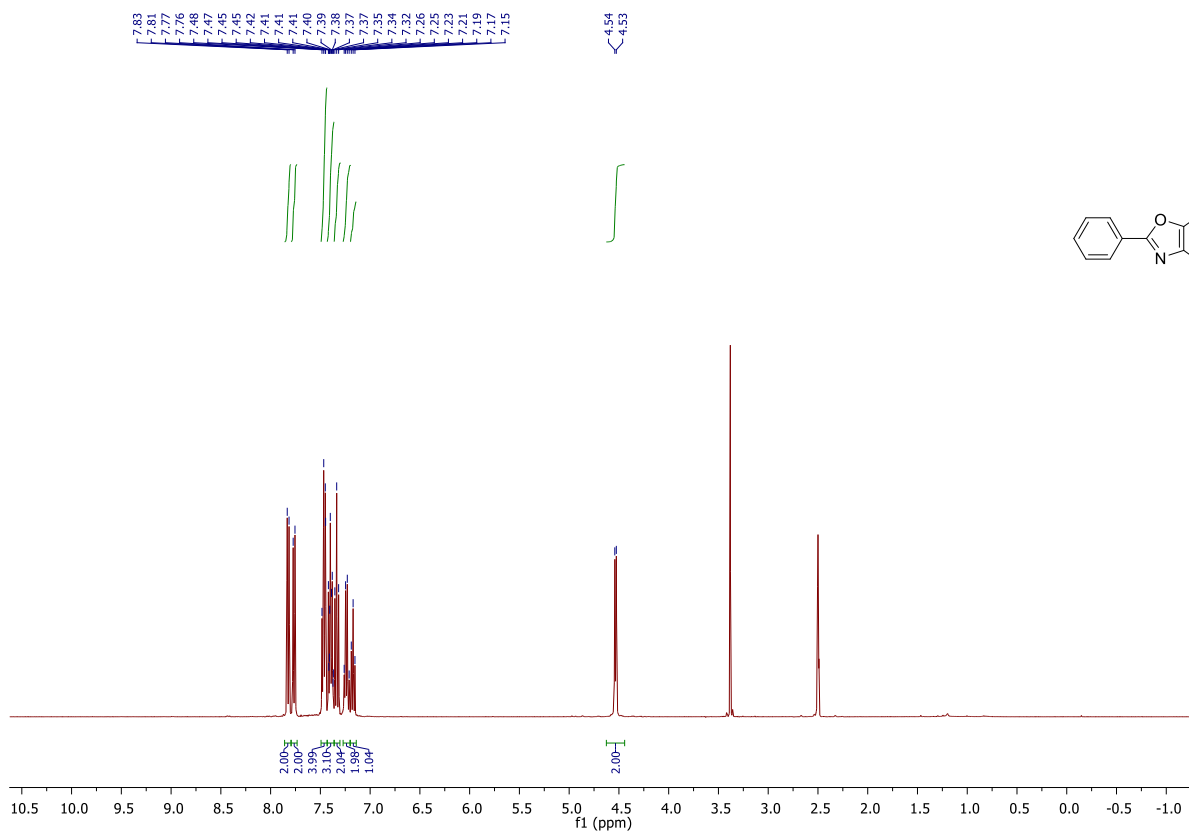


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

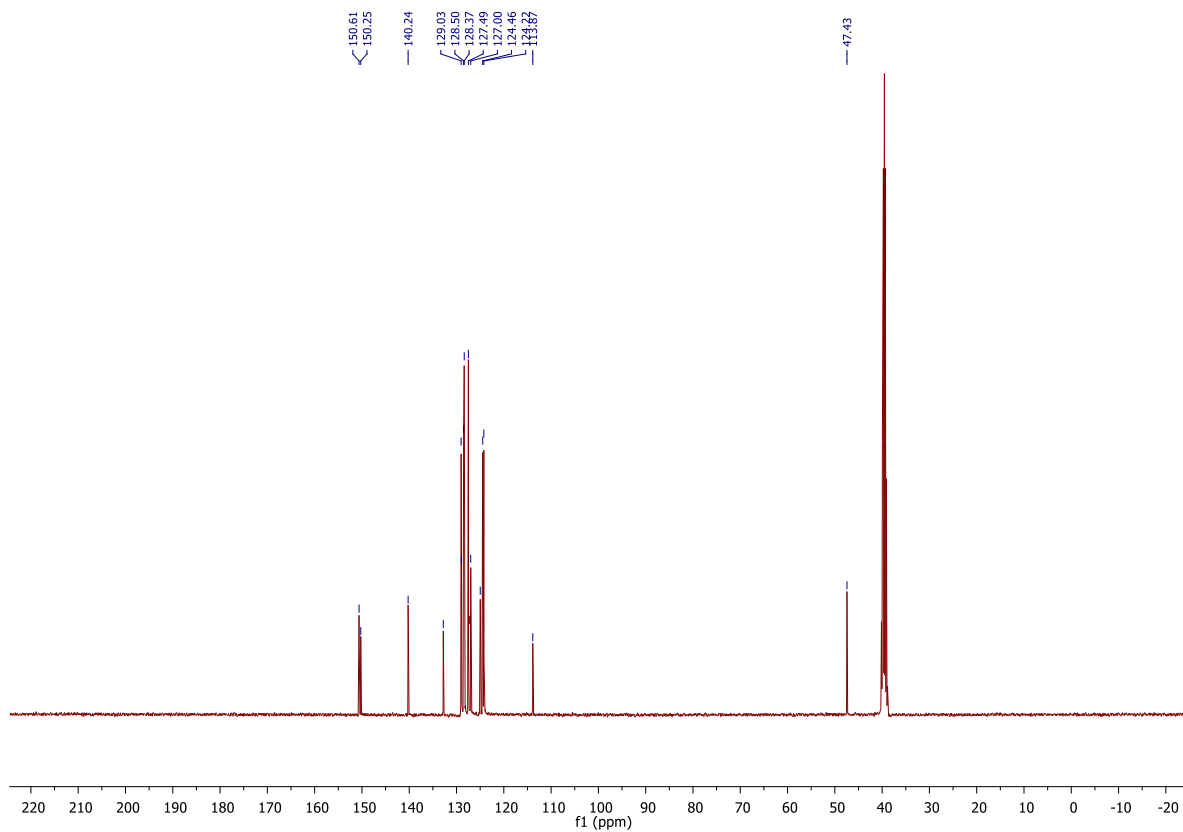


1.50. N-benzyl-2,4-diphenyl-1,3-oxazol-5-amine (418f)

¹H NMR (400 MHz, DMSO-d₆)

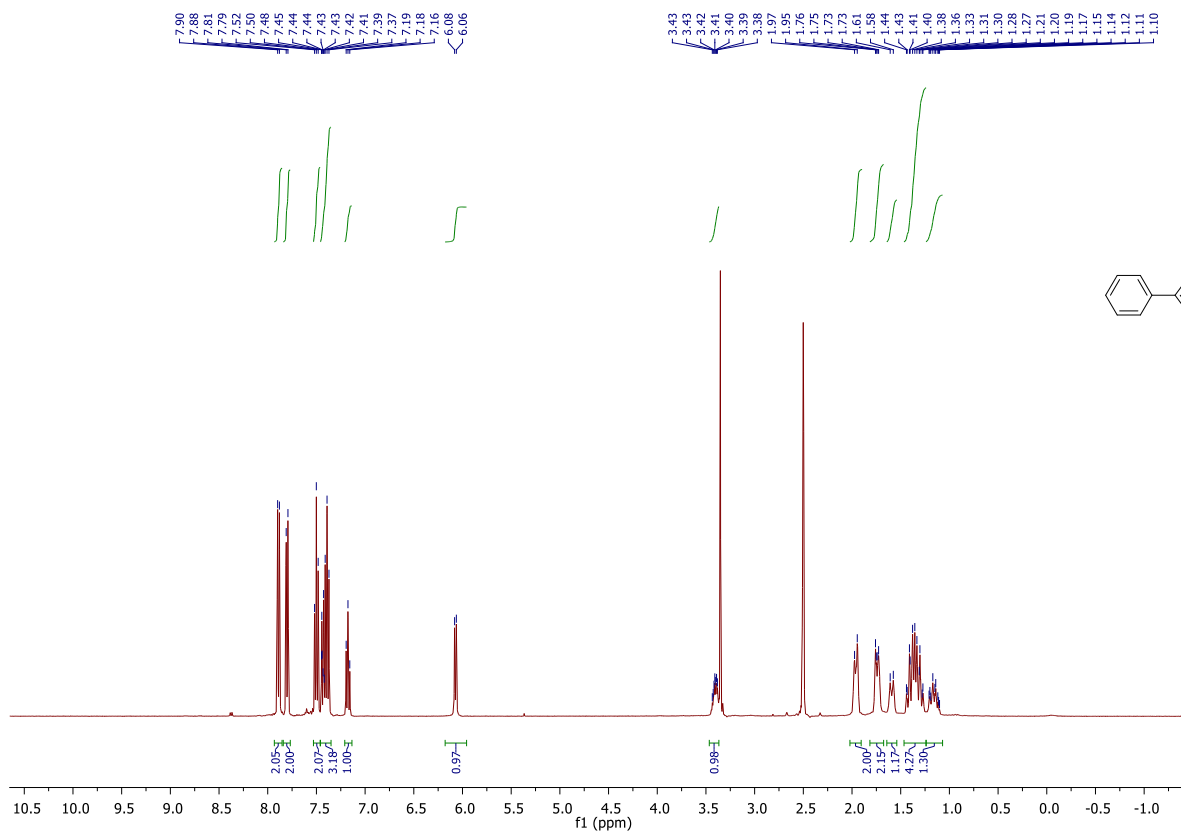


¹³C{¹H} NMR (101 MHz, DMSO-d₆)

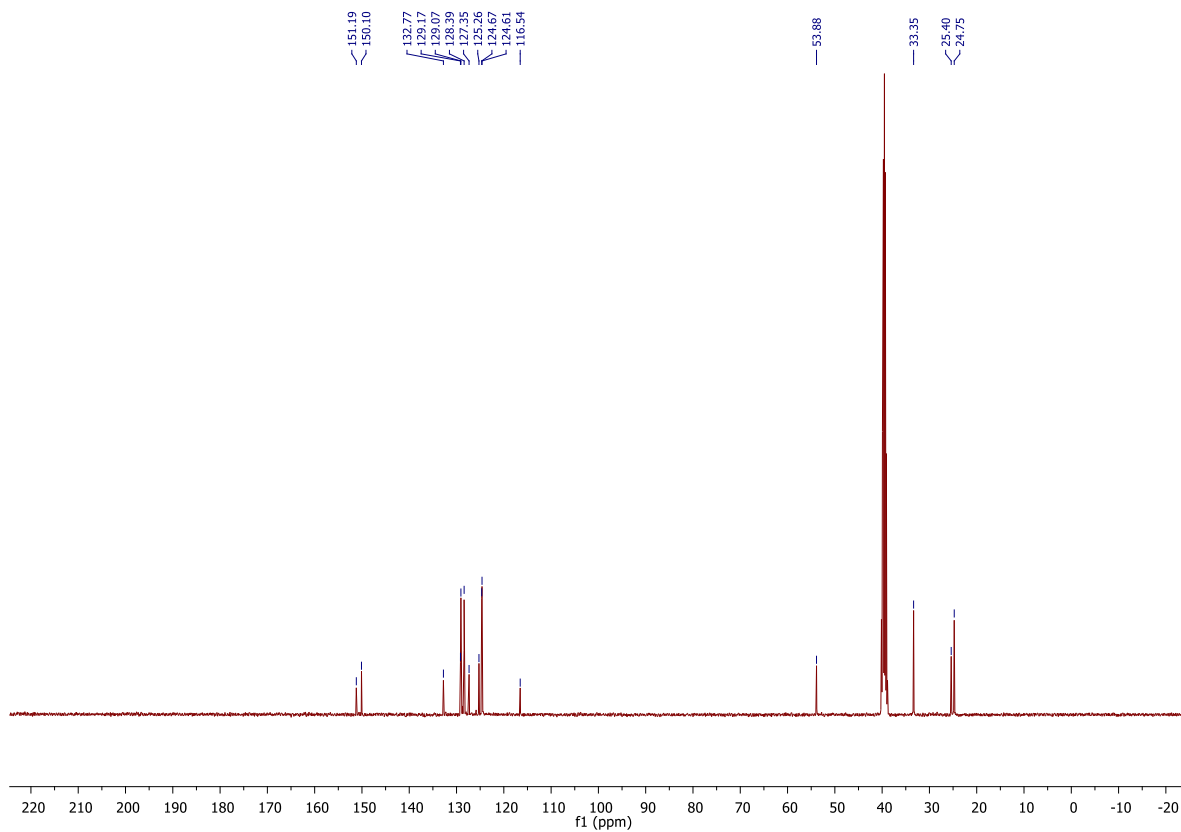


1.51. N-cyclohexyl-2,4-diphenyl-1,3-oxazol-5-amine (418g)

¹H NMR (400 MHz, DMSO-d₆)

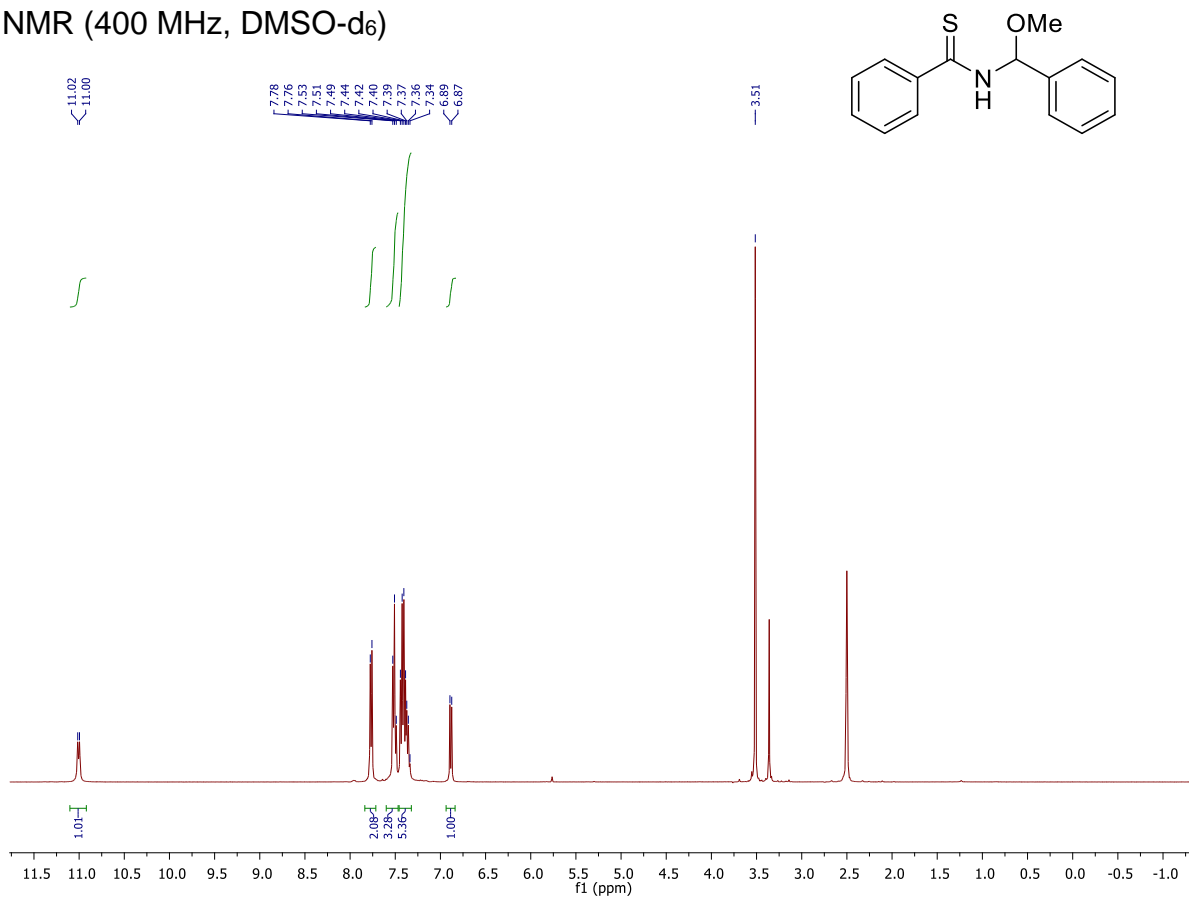


¹³C{¹H} NMR (101 MHz, DMSO-d₆)

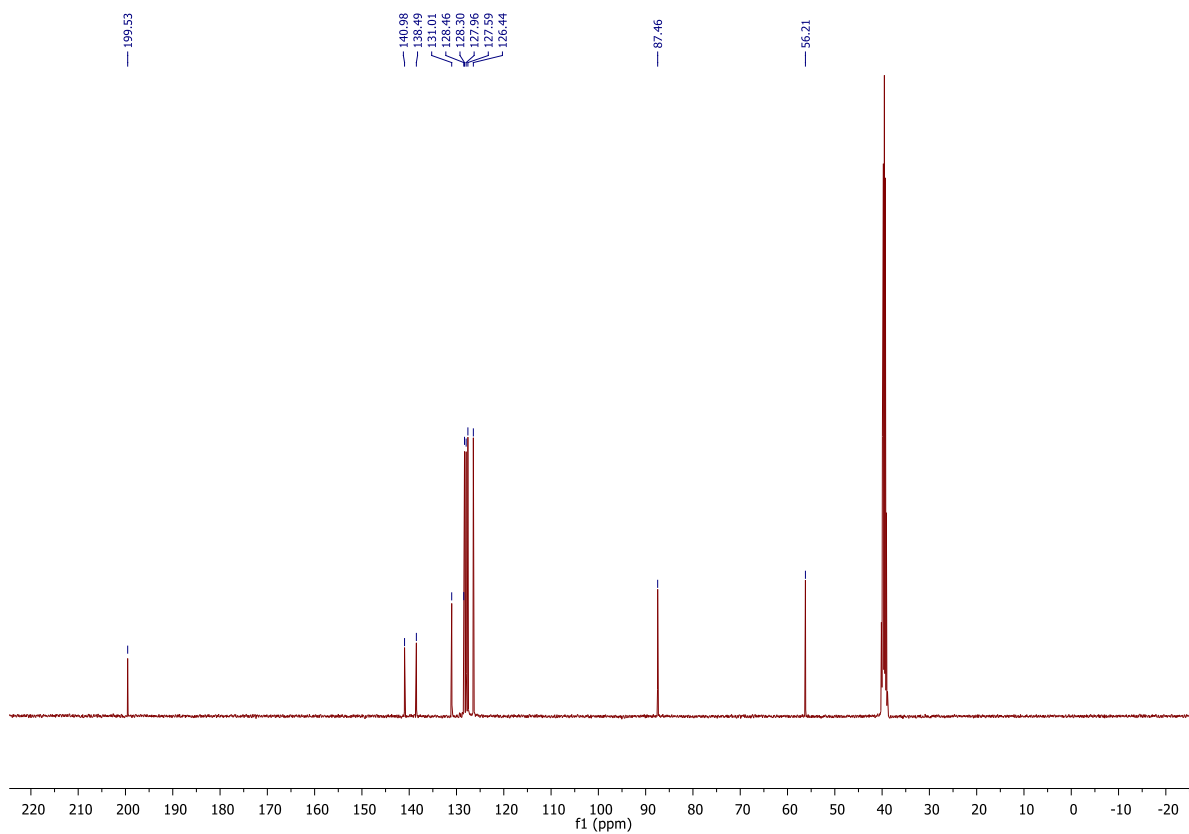


1.52. *N*-[methoxy(phenyl)methyl]benzenecarbothioamide (427a)

¹H NMR (400 MHz, DMSO-d₆)

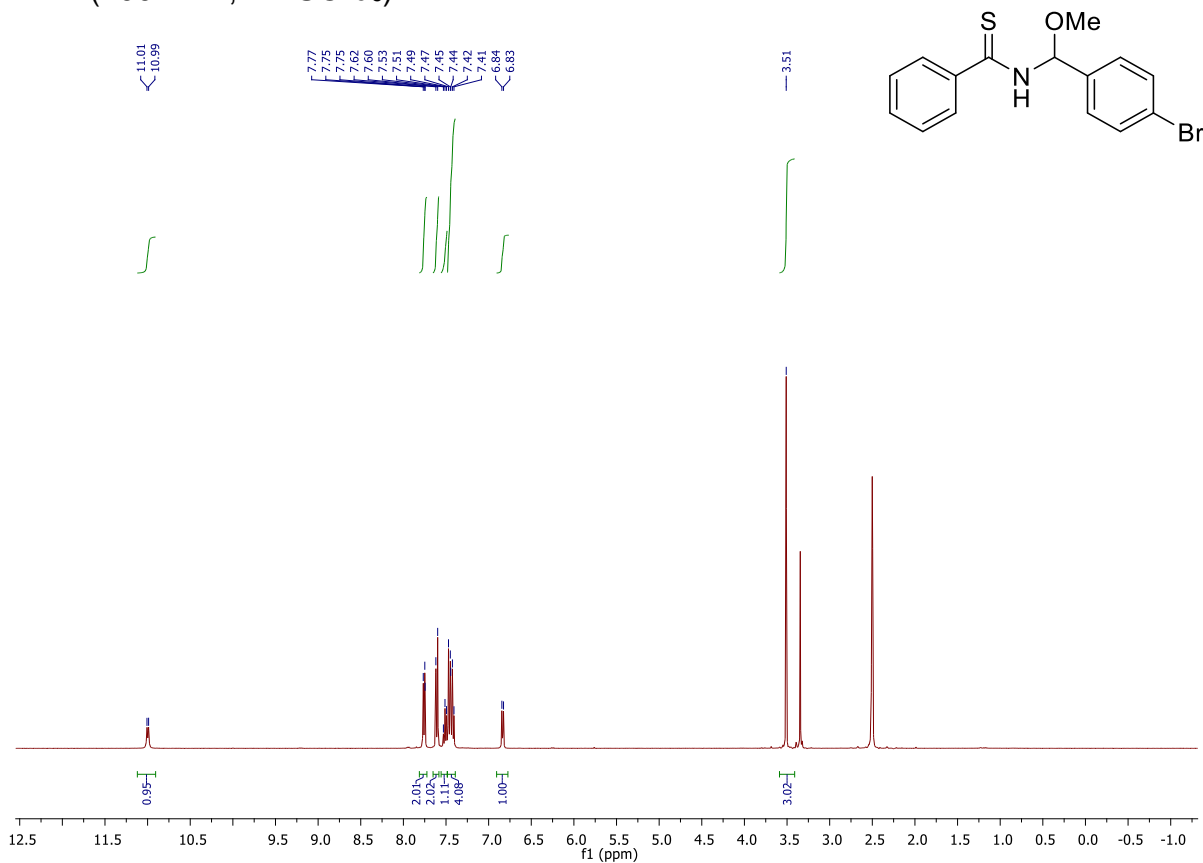


¹³C{¹H} NMR (101 MHz, DMSO-d₆)

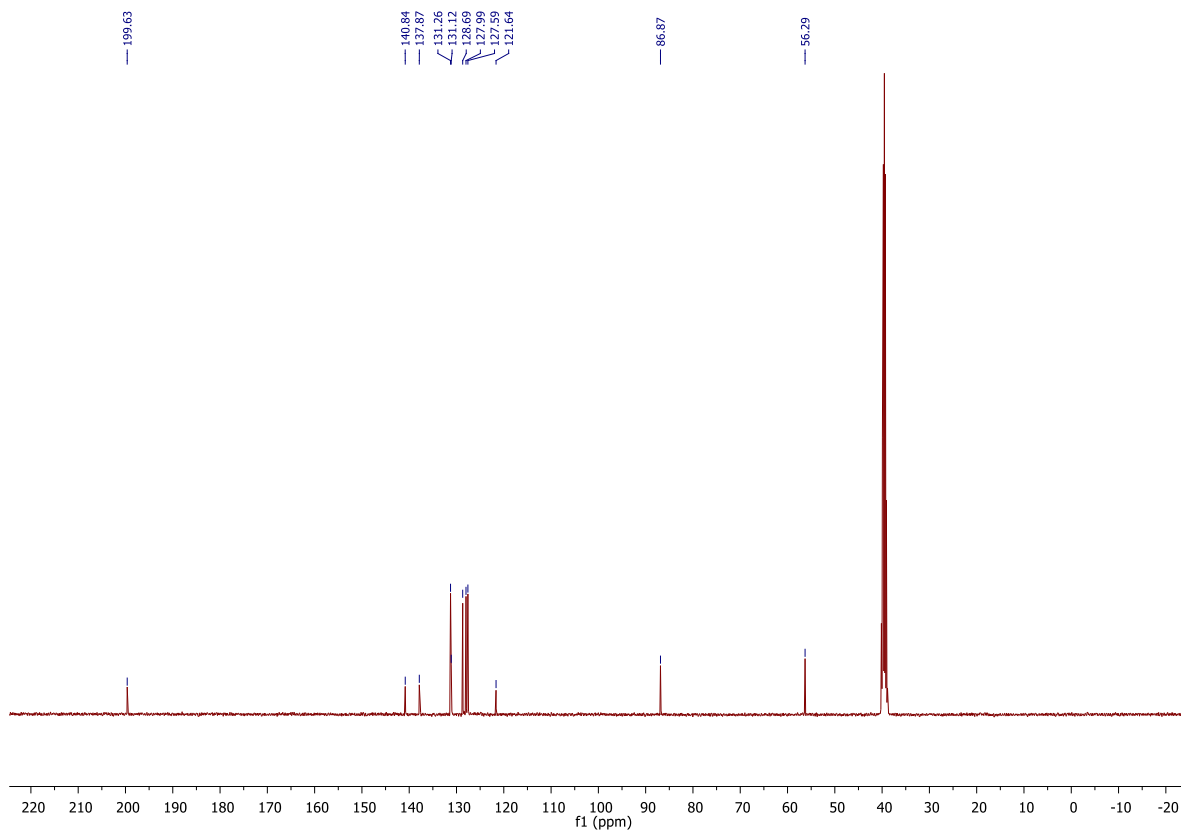


1.54. *N*-[(4-bromophenyl)(methoxy)methyl]benzenecarbothioamide (427c)

¹H NMR (400 MHz, DMSO-d₆)

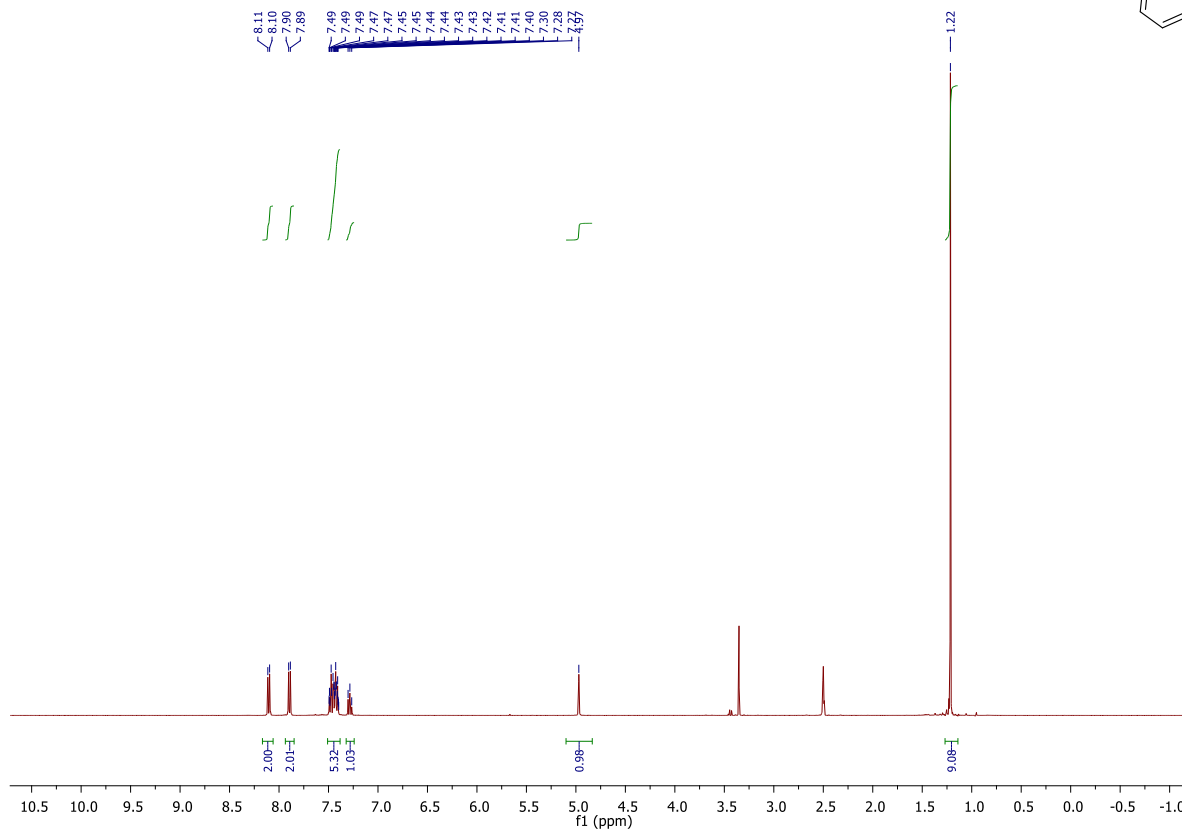
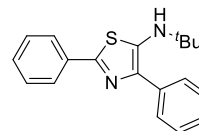


¹³C{¹H} NMR (101 MHz, DMSO-d₆)

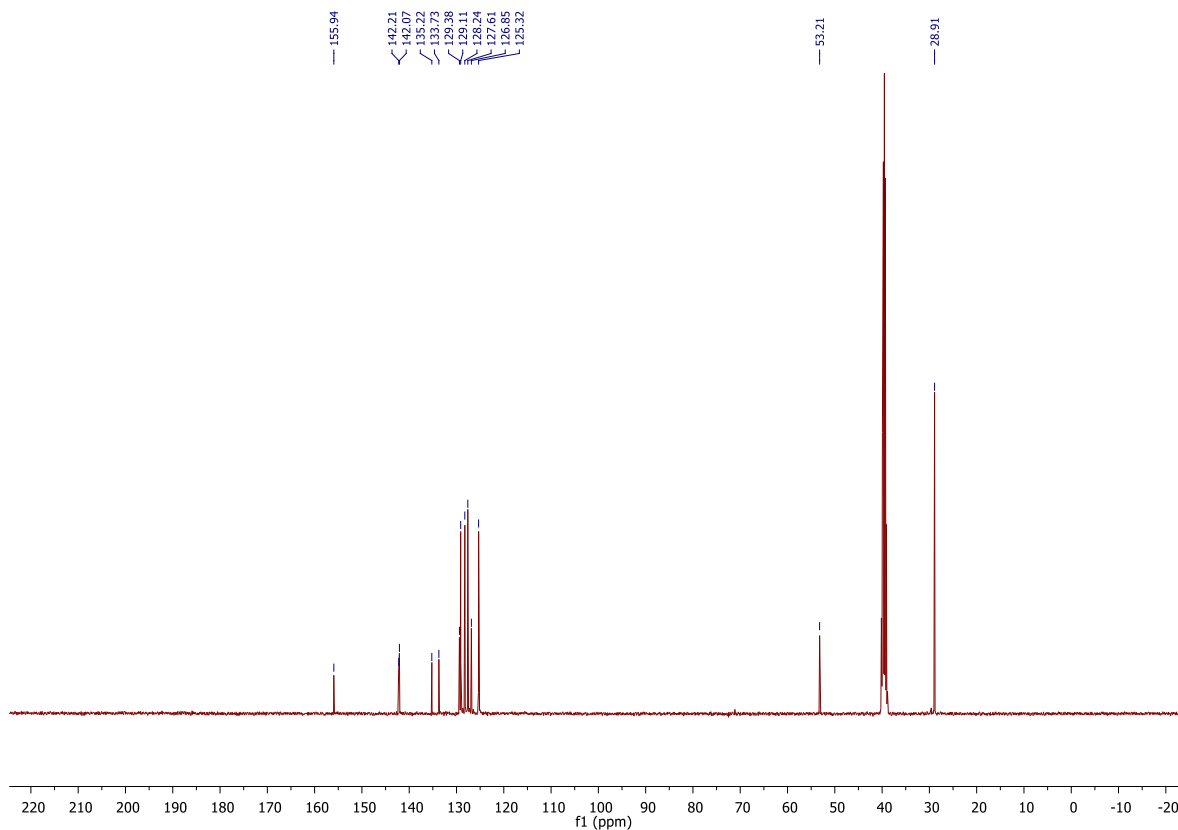


1.55. *N*-tert-butyl-2,4-diphenyl-1,3-thiazol-5-amine (436a)

¹H NMR (400 MHz, DMSO-d₆)

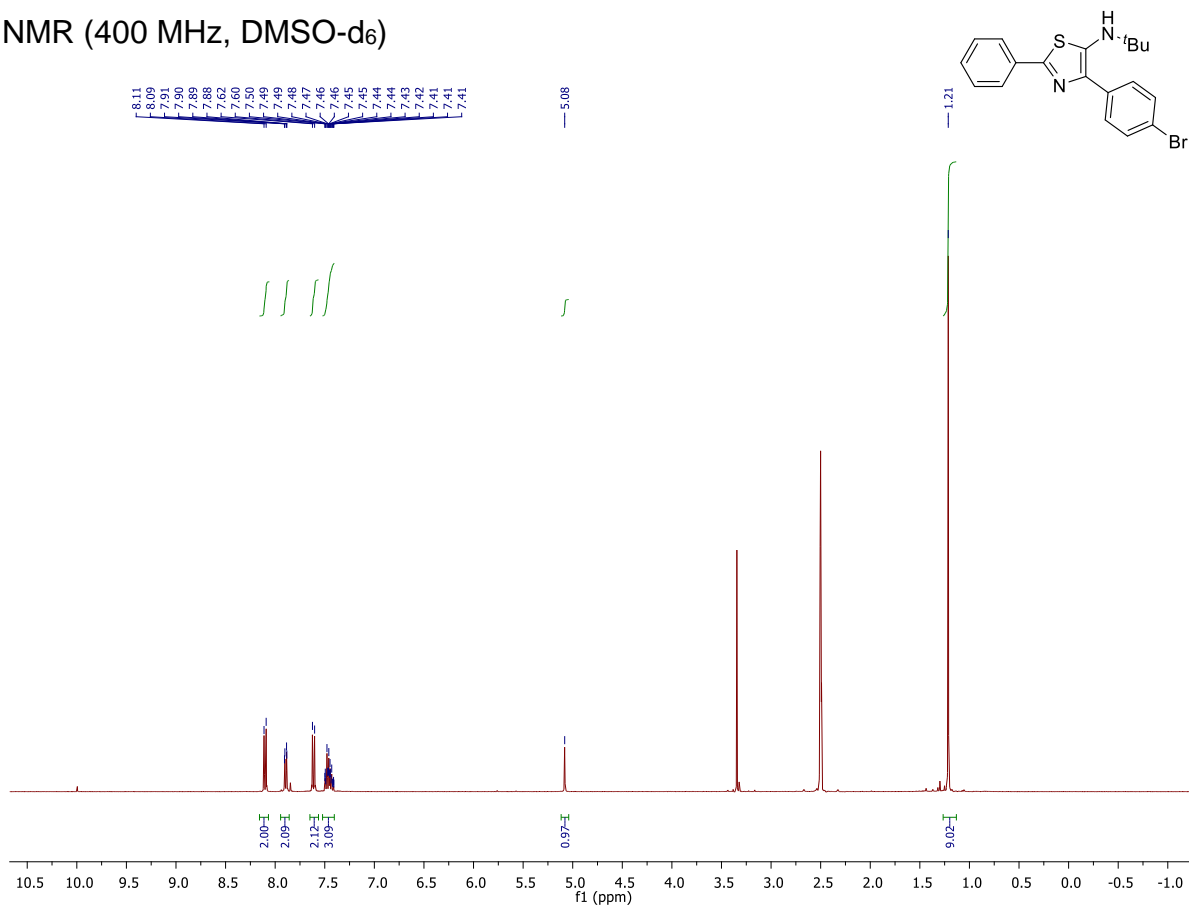


¹³C{¹H} NMR (101 MHz, DMSO-d₆)

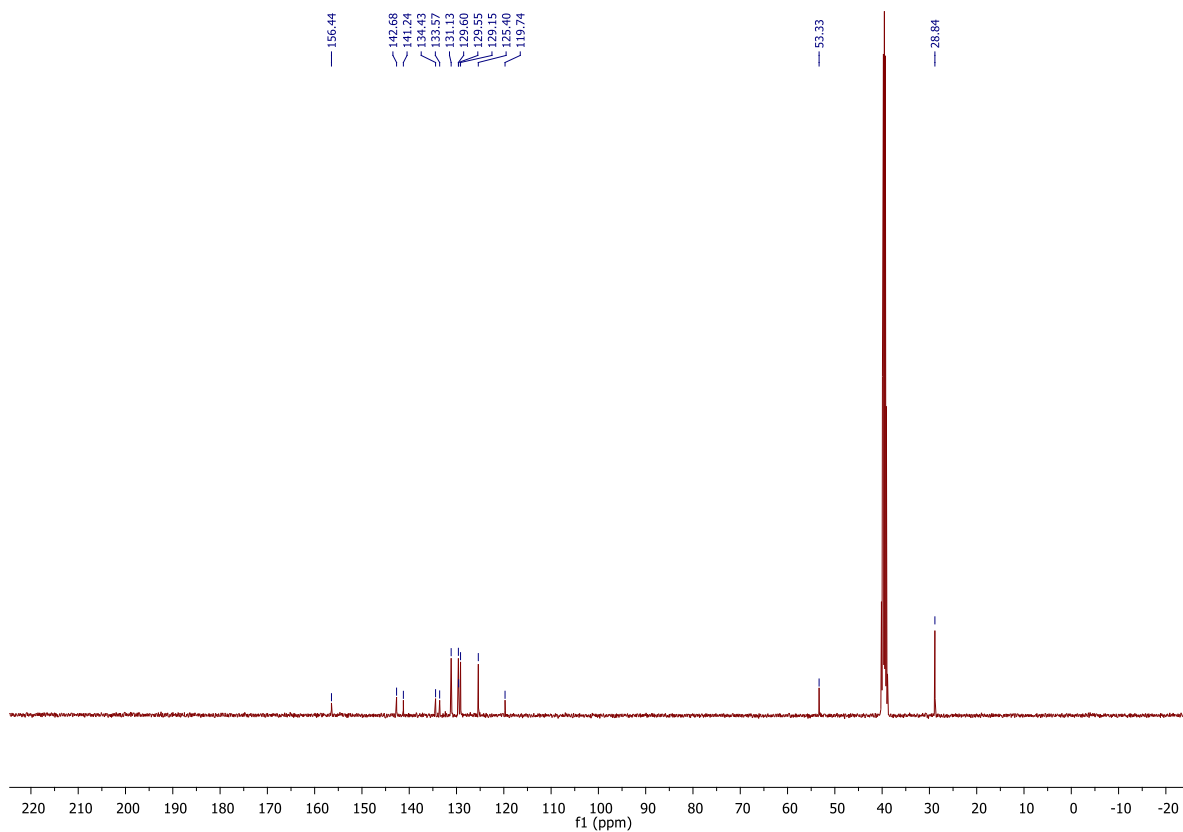


1.56. 4-(4-bromophenyl)-*N*-*tert*-butyl-2-phenyl-1,3-thiazol-5-amine (436b)

^1H NMR (400 MHz, DMSO- d_6)

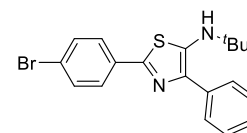
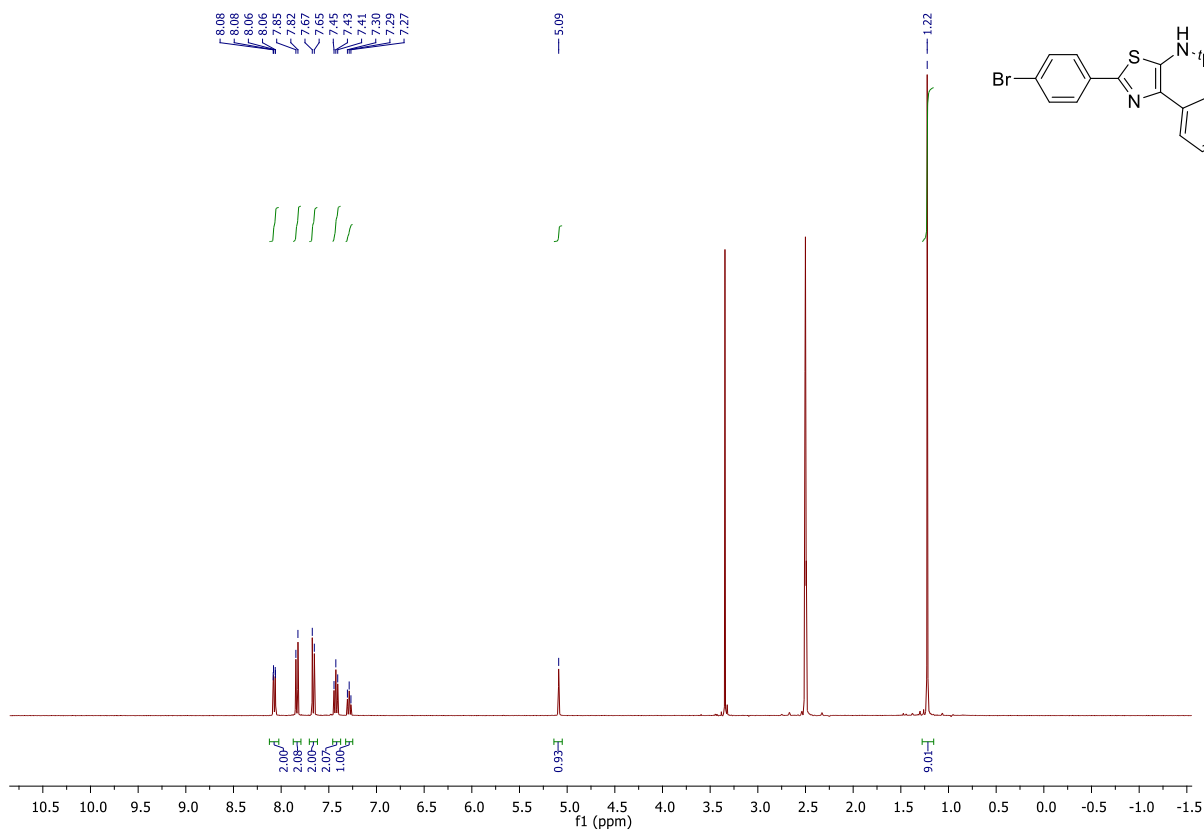


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

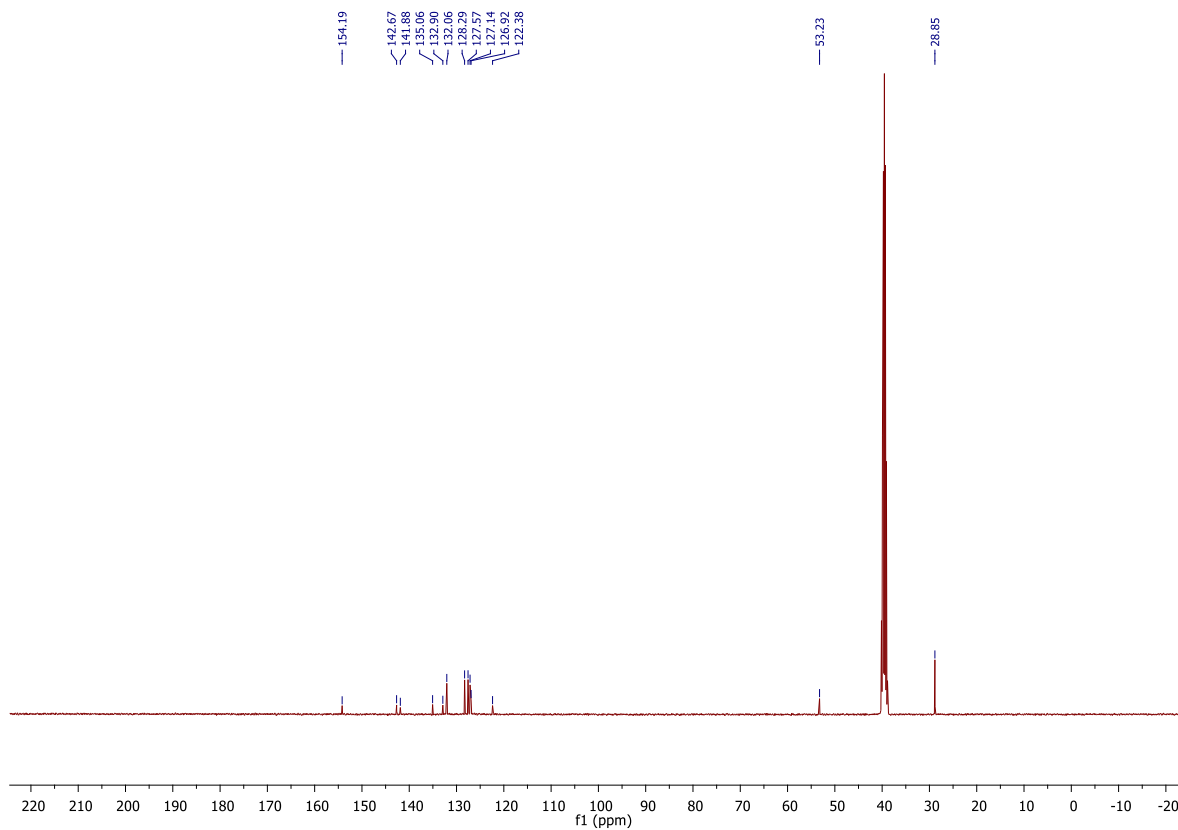


1.57. 2-(4-bromophenyl)-*N*-*tert*-butyl-4-phenyl-1,3-thiazol-5-amine (436c)

^1H NMR (400 MHz, DMSO-d_6)

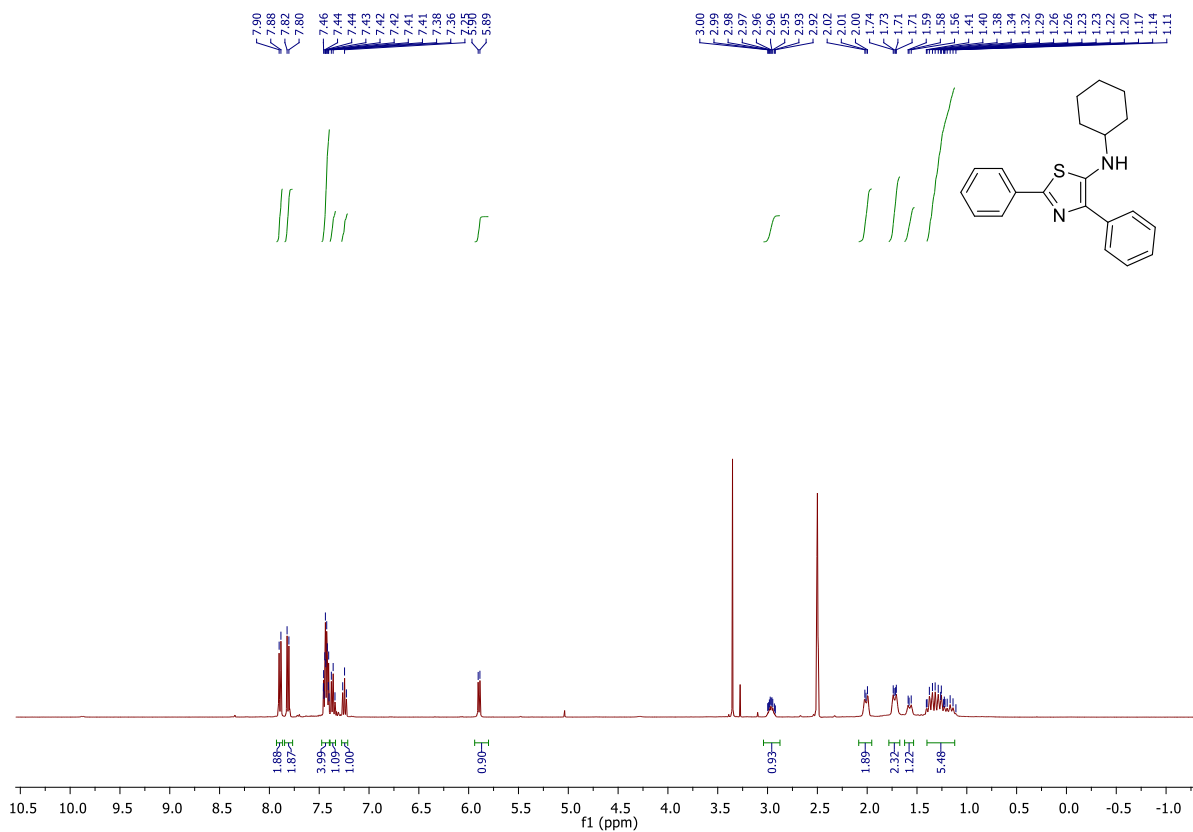


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO-d_6)

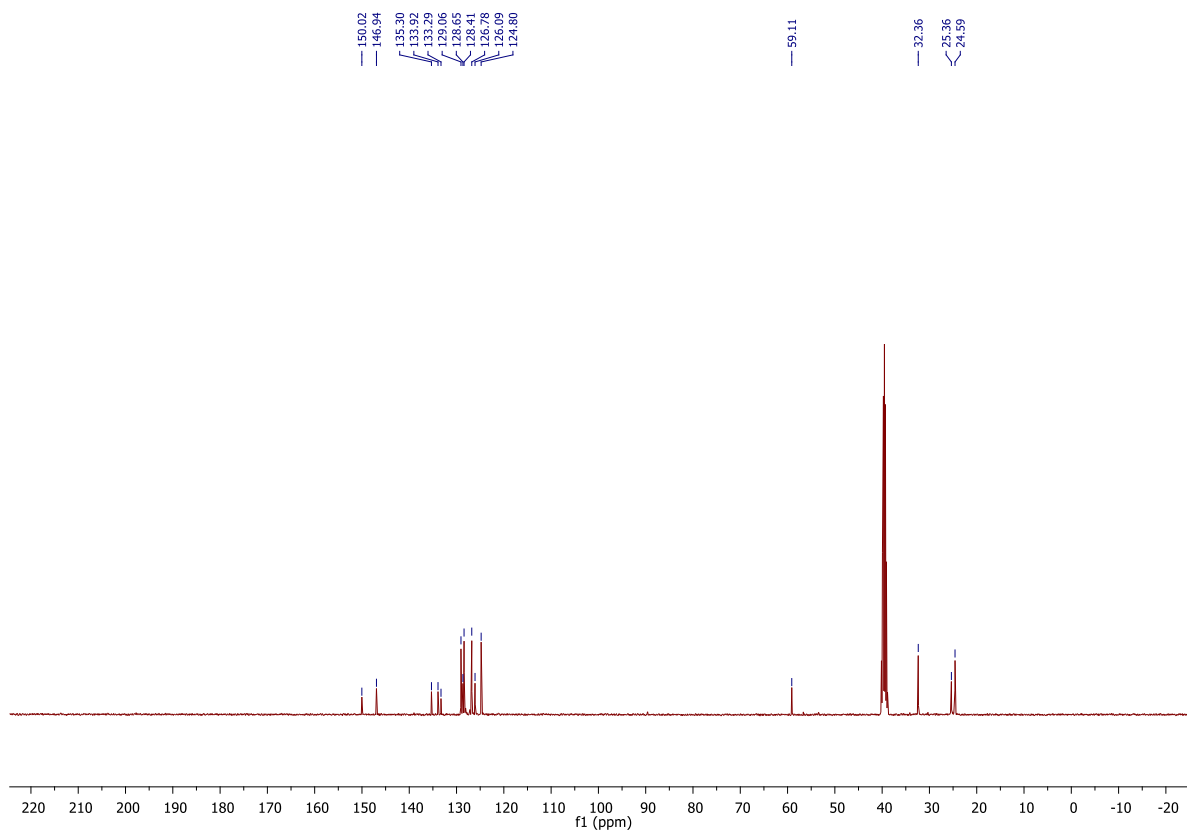


1.58. N-cyclohexyl-2,4-diphenyl-1,3-thiazol-5-amine (436d)

¹H NMR (400 MHz, DMSO-d₆)

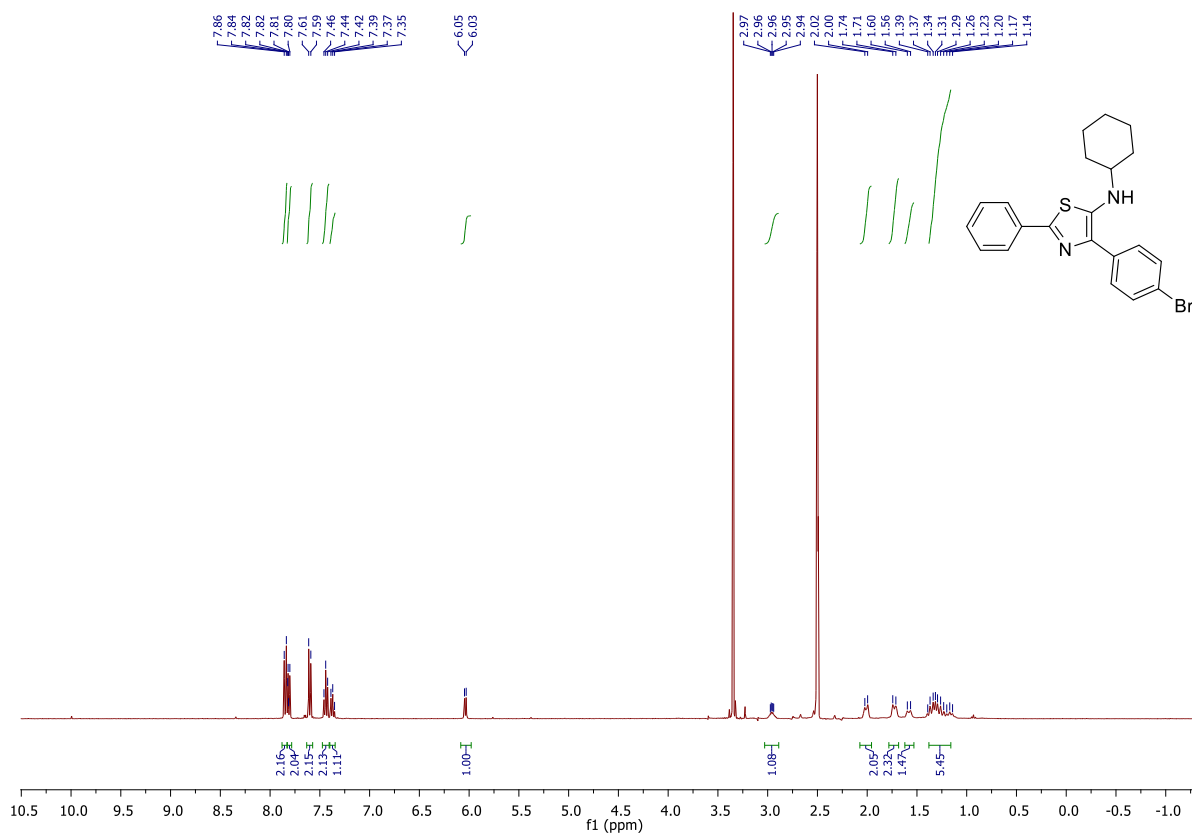


¹³C{¹H} NMR (101 MHz, DMSO-d₆)

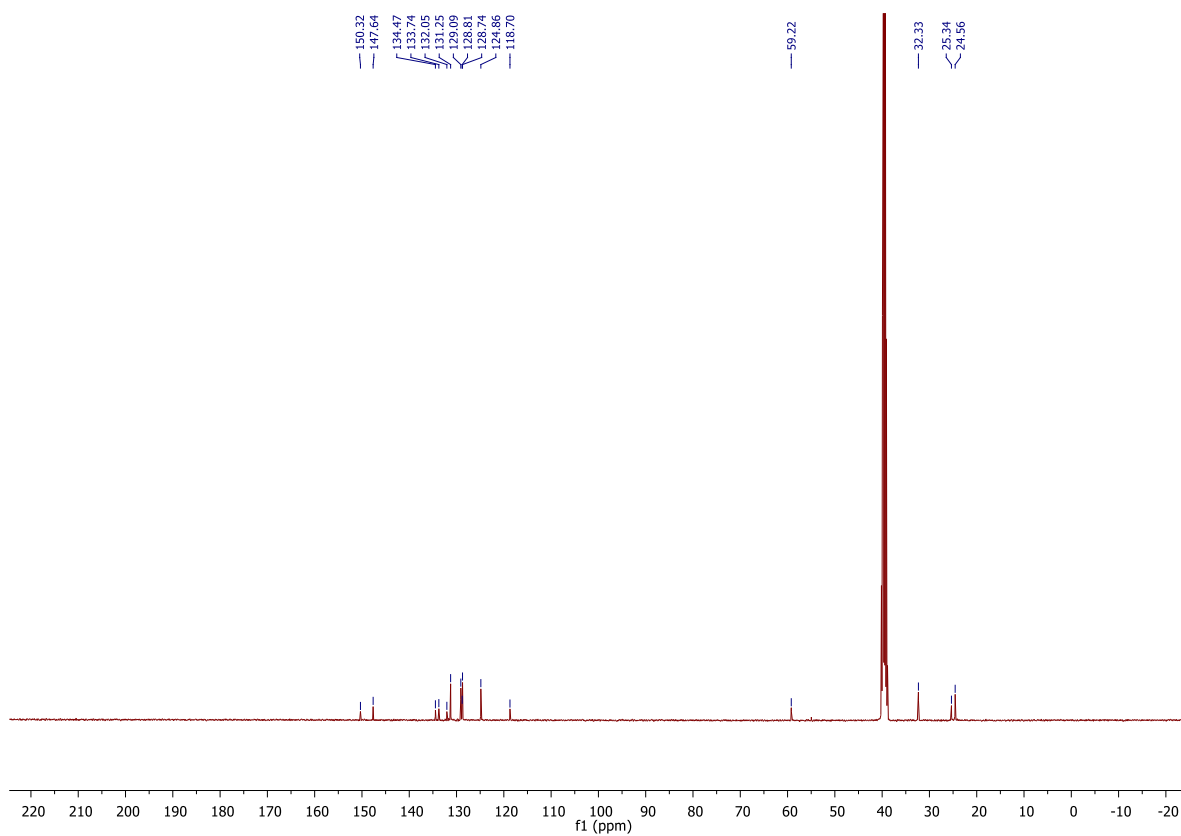


1.59. 4-(4-bromophenyl)-*N*-cyclohexyl-2-phenyl-1,3-thiazol-5-amine (436e)

^1H NMR (400 MHz, DMSO- d_6)

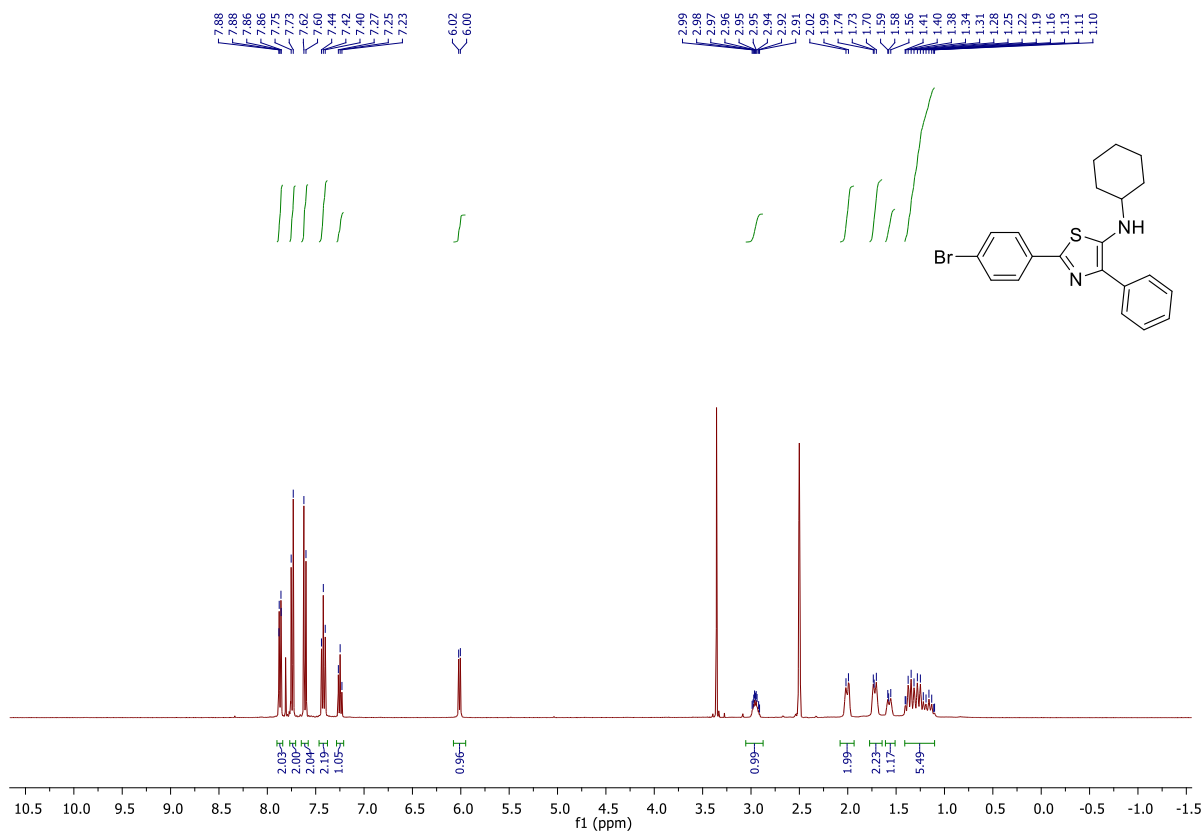


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

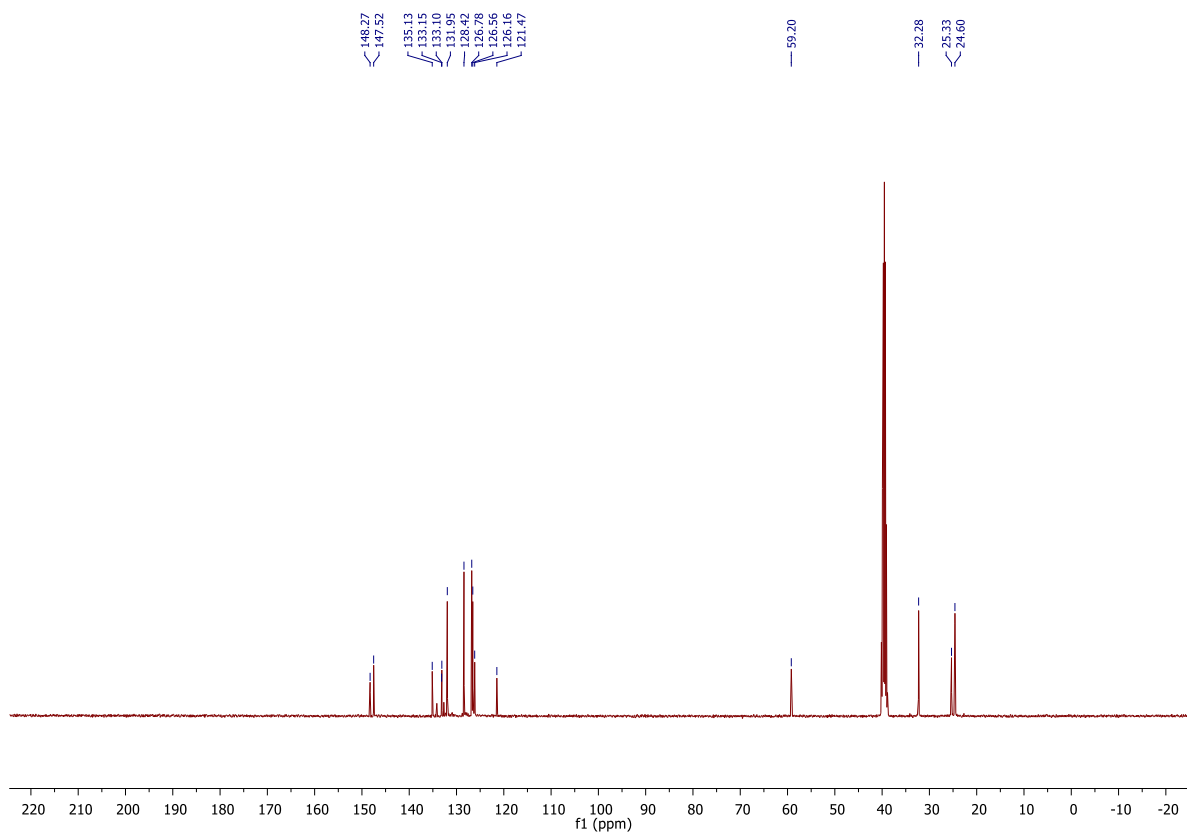


1.60. 2-(4-bromophenyl)-N-cyclohexyl-4-phenyl-1,3-thiazol-5-amine (436f)

¹H NMR (400 MHz, DMSO-d₆)

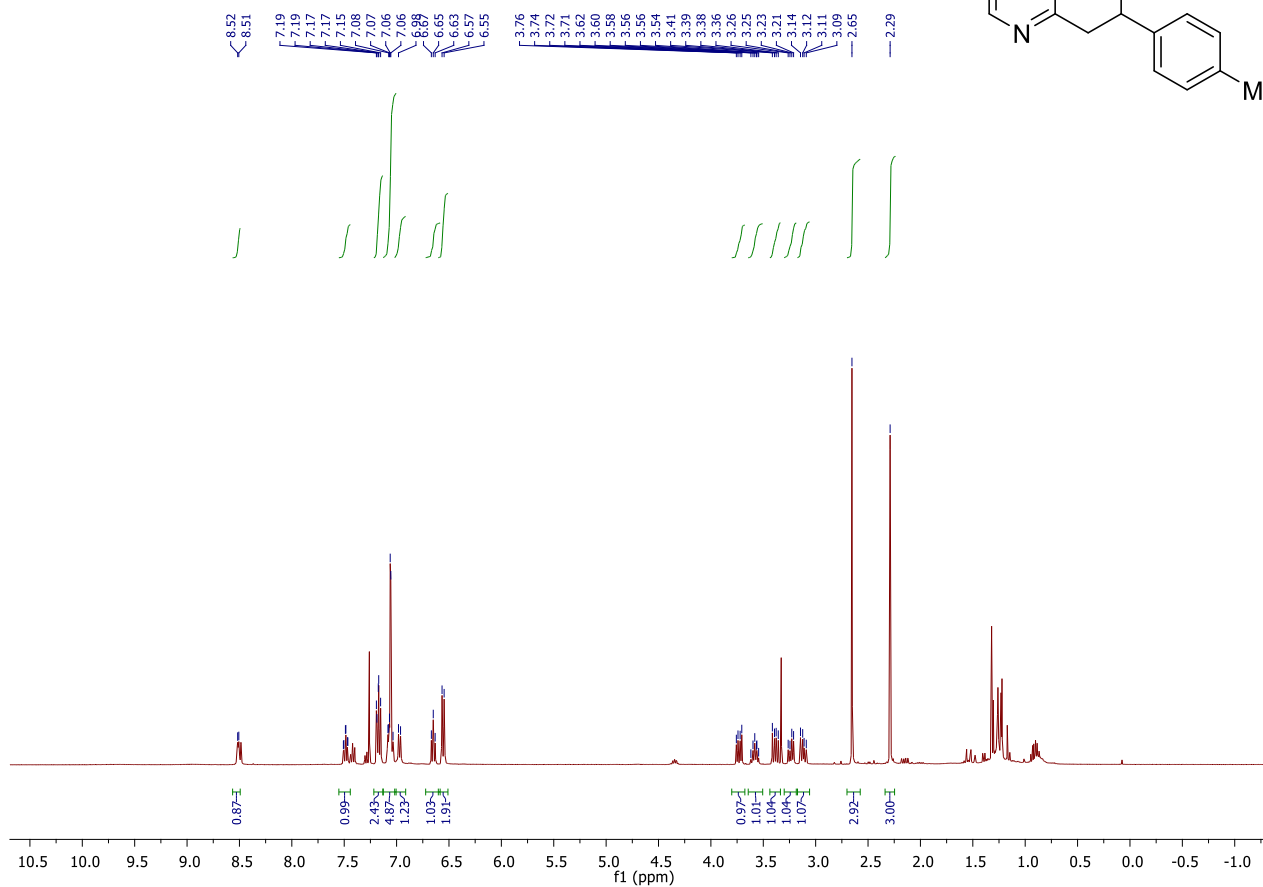
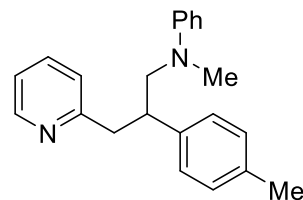


¹³C{¹H} NMR (101 MHz, DMSO-d₆)

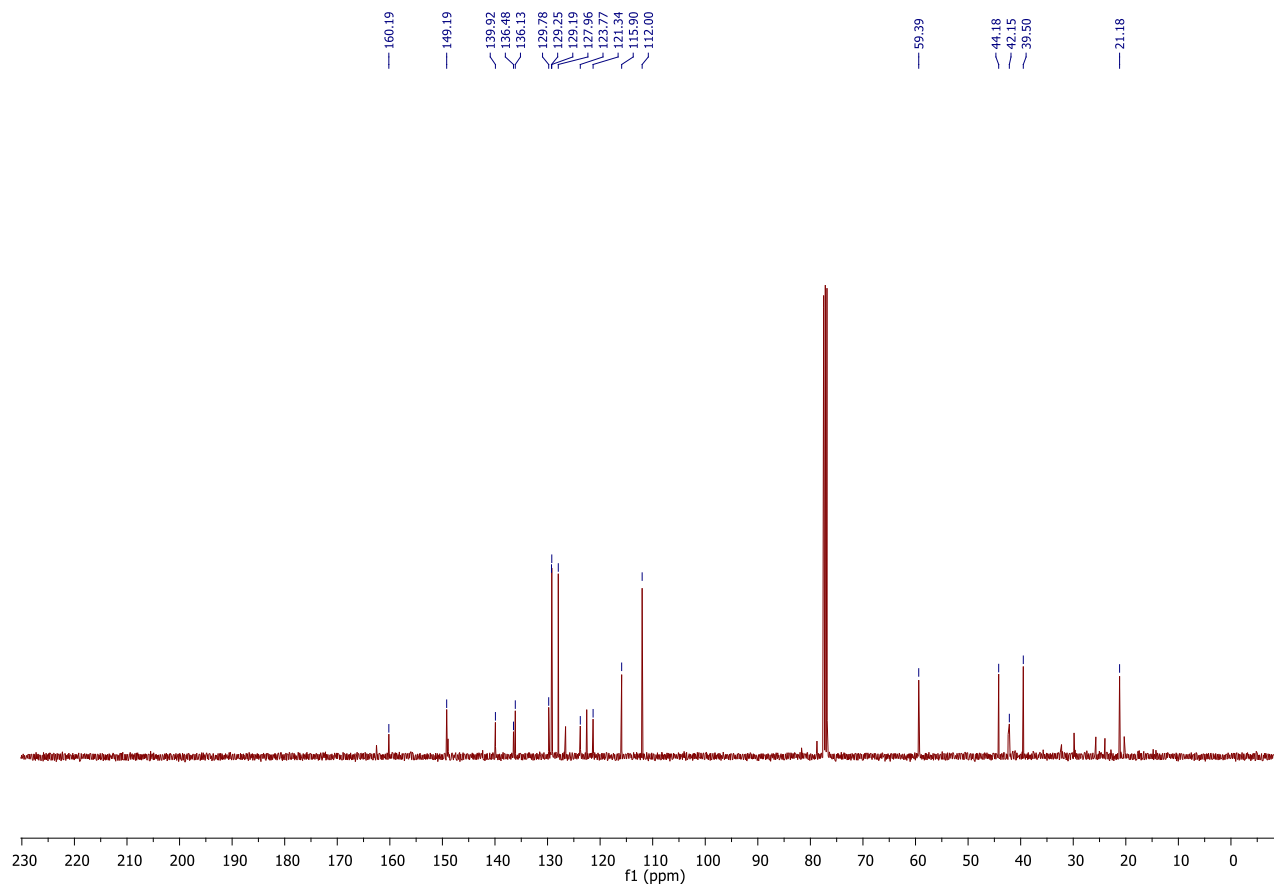


1.61. N-Methyl-N-(3-(pyridin-2-yl)-2-(p-tolyl)propyl)aniline (539)

^1H NMR (400 MHz, CDCl_3)

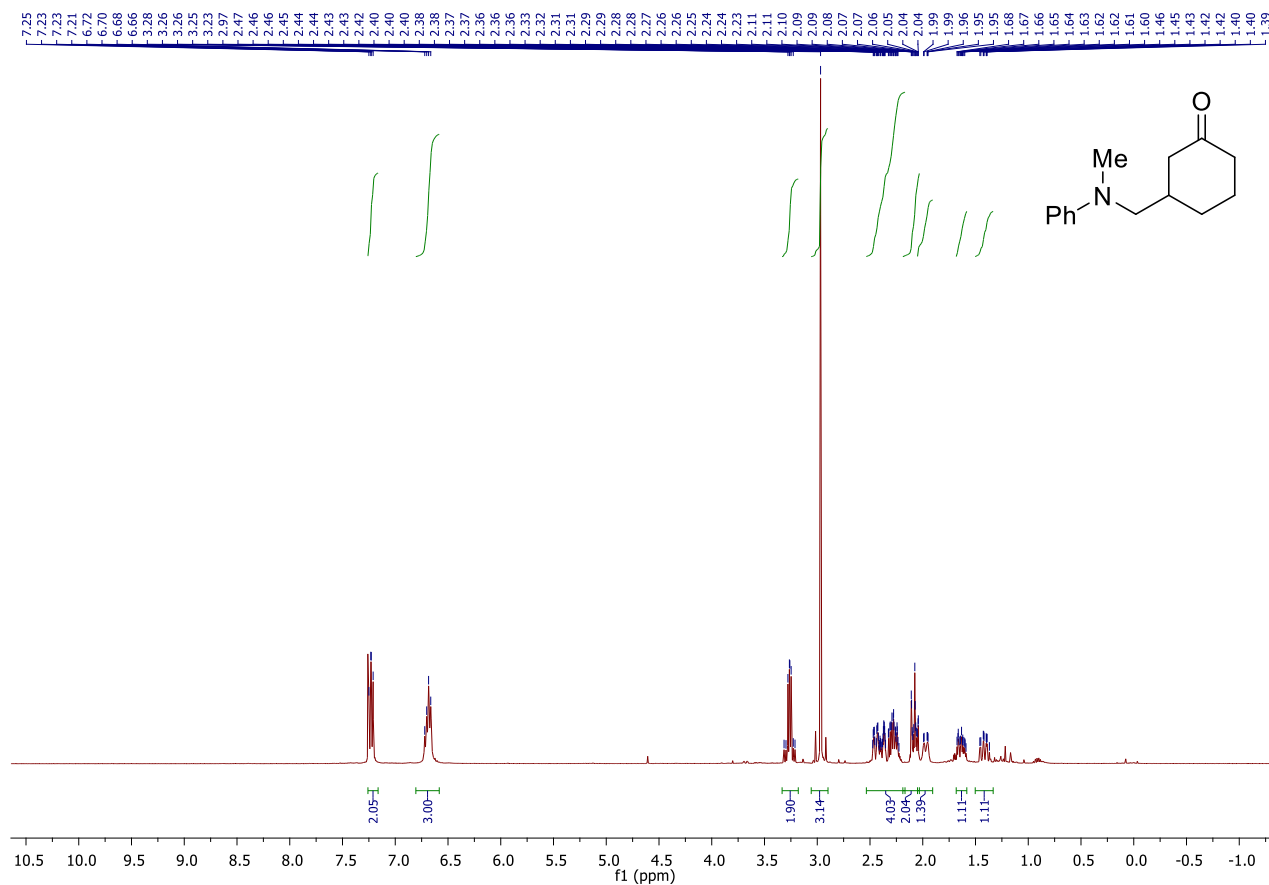


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

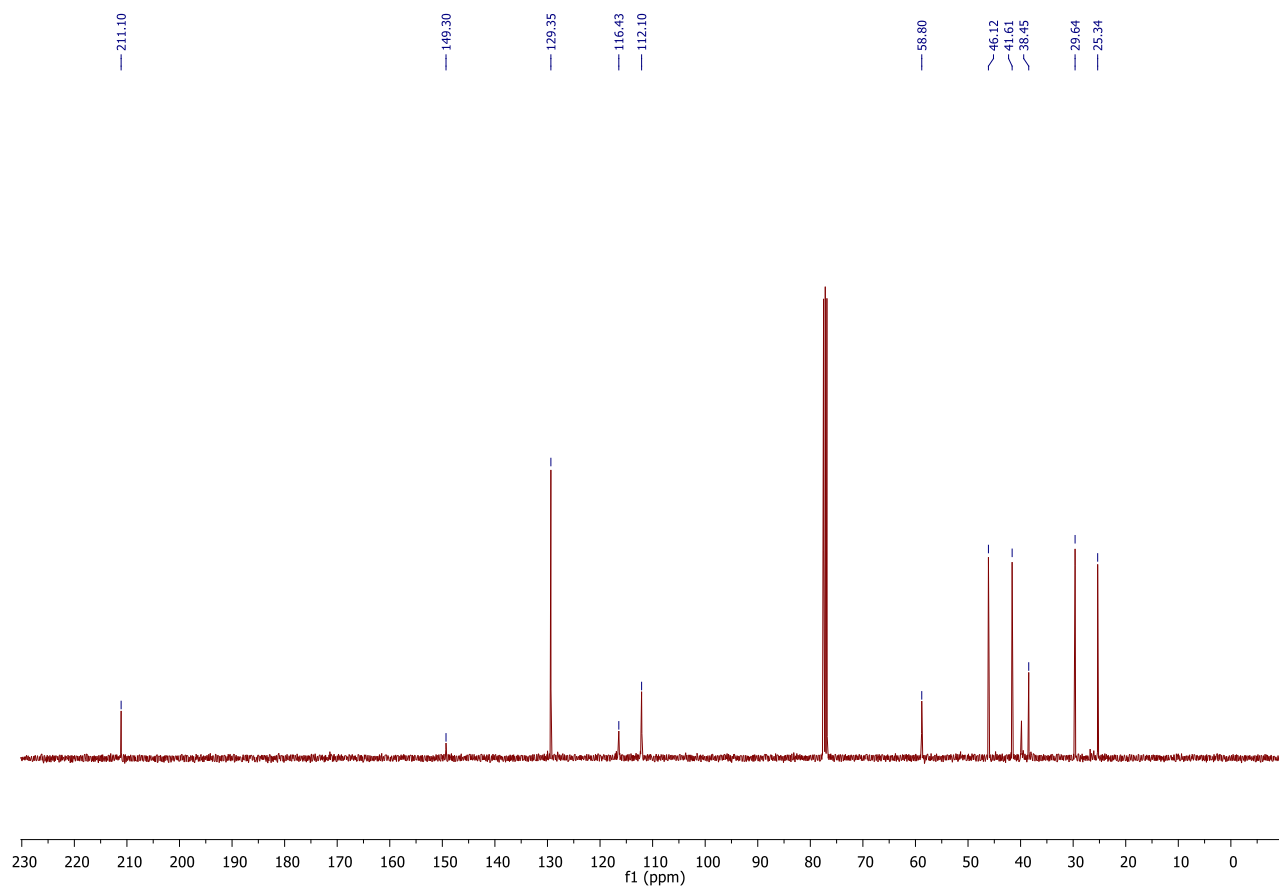


1.62. 3-[(N-methylanilino)methyl]cyclohexanone (548)

^1H NMR (400 MHz, CDCl_3)

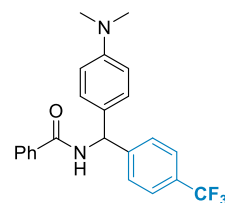
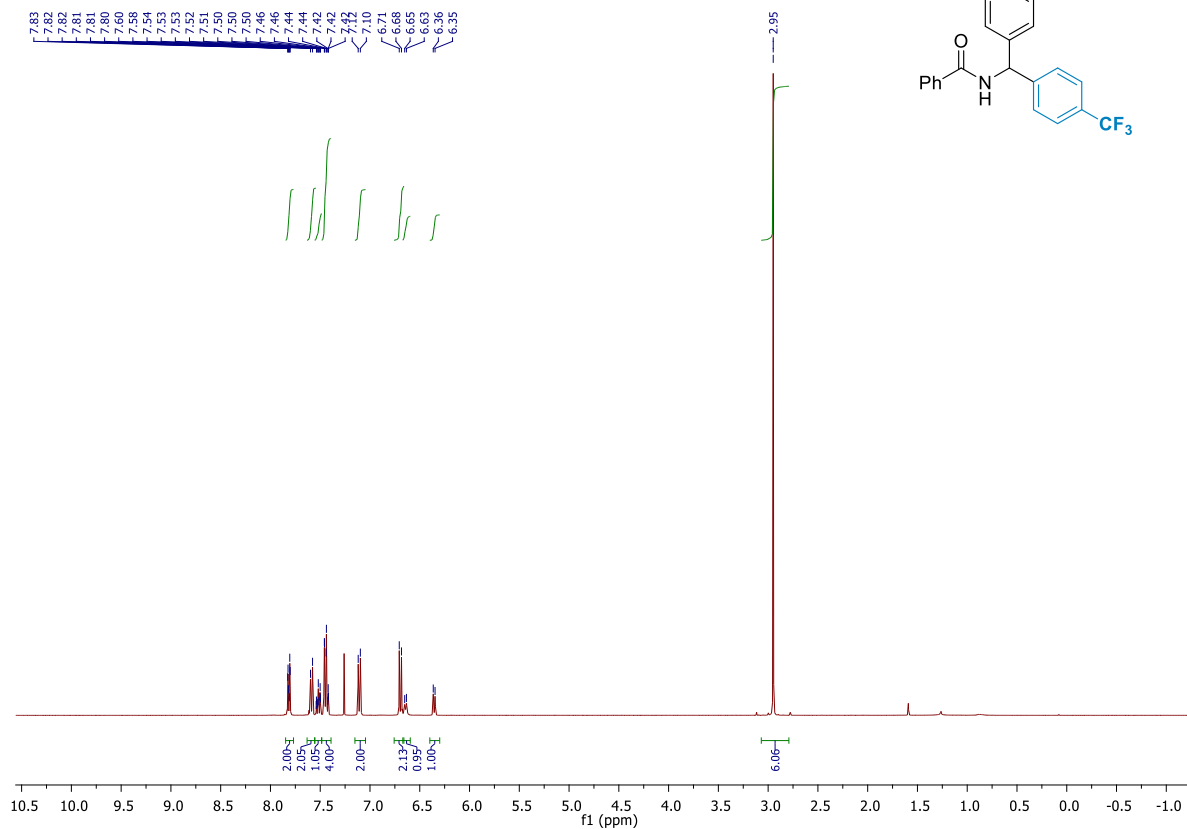


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

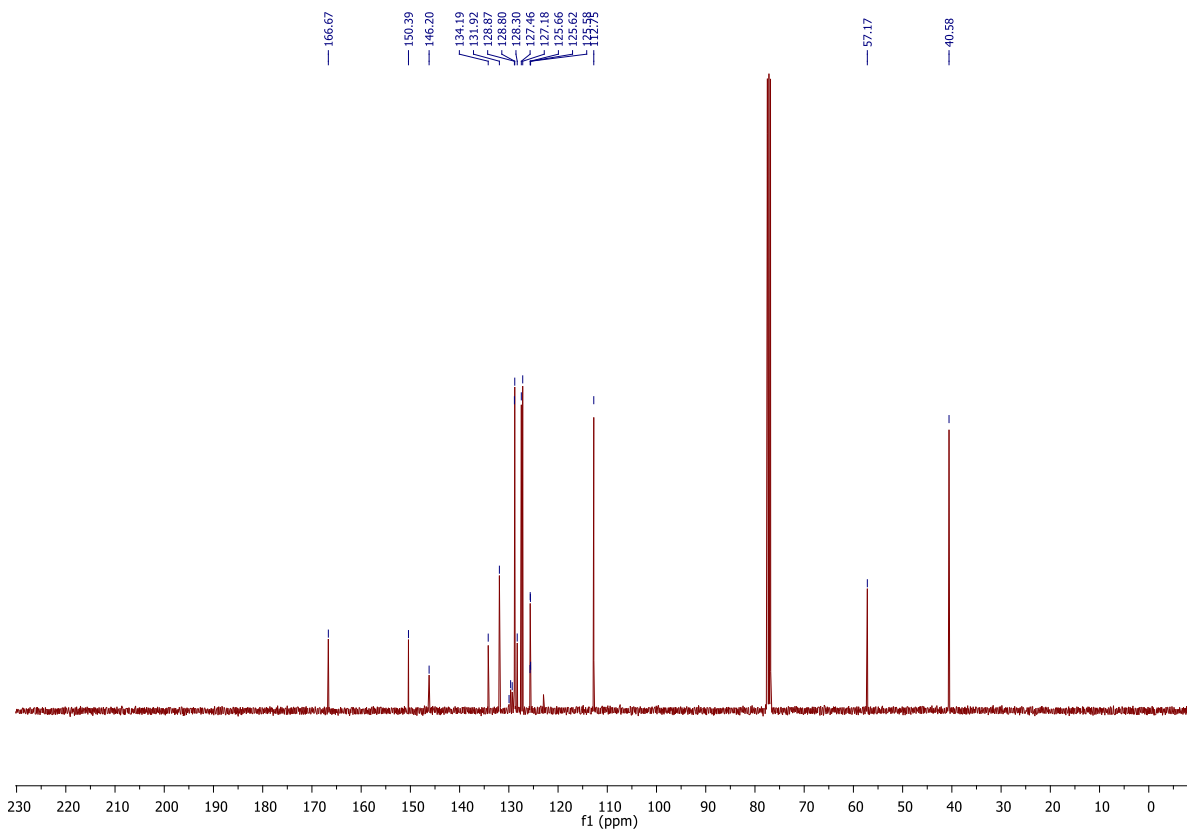


1.63. N-[[4-(dimethylamino)phenyl]-[4-(trifluoromethyl)phenyl]methyl]benzamide (594a)

^1H NMR (400 MHz, CDCl_3)

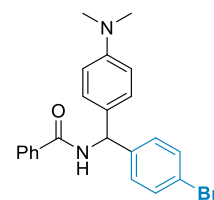
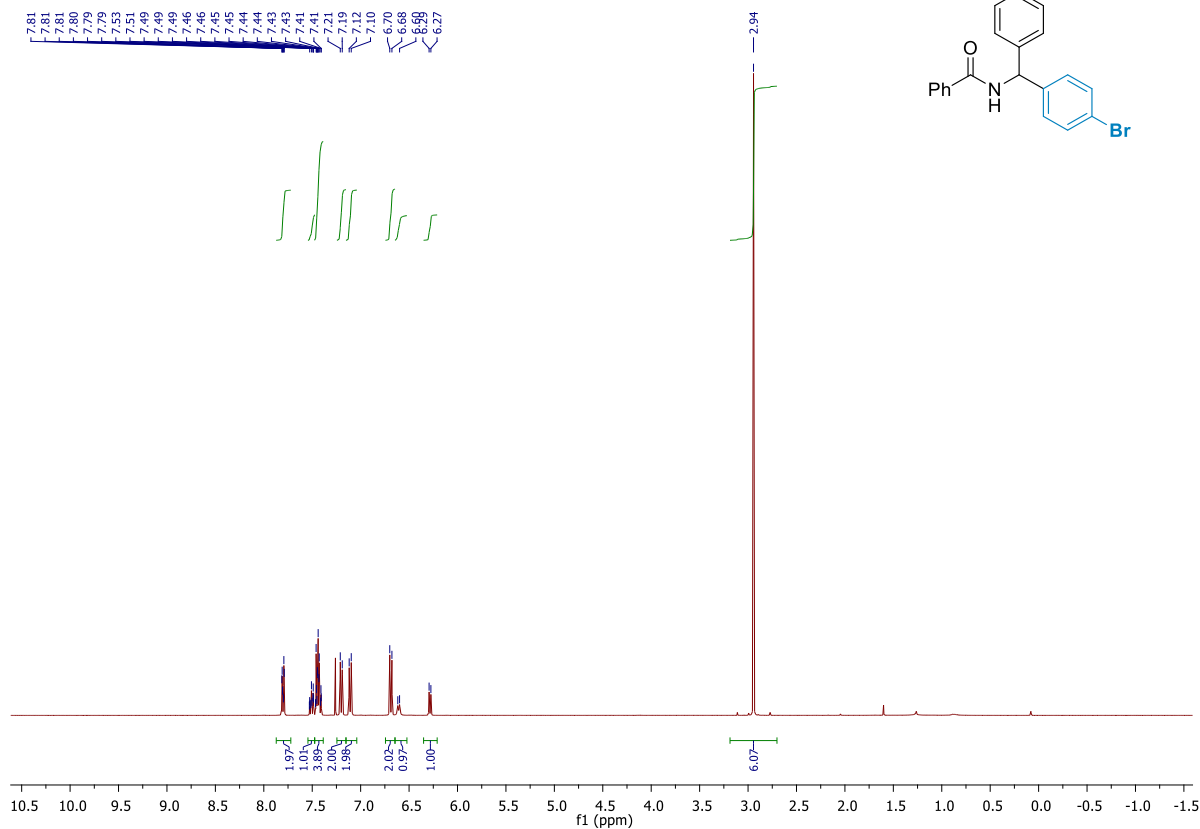


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

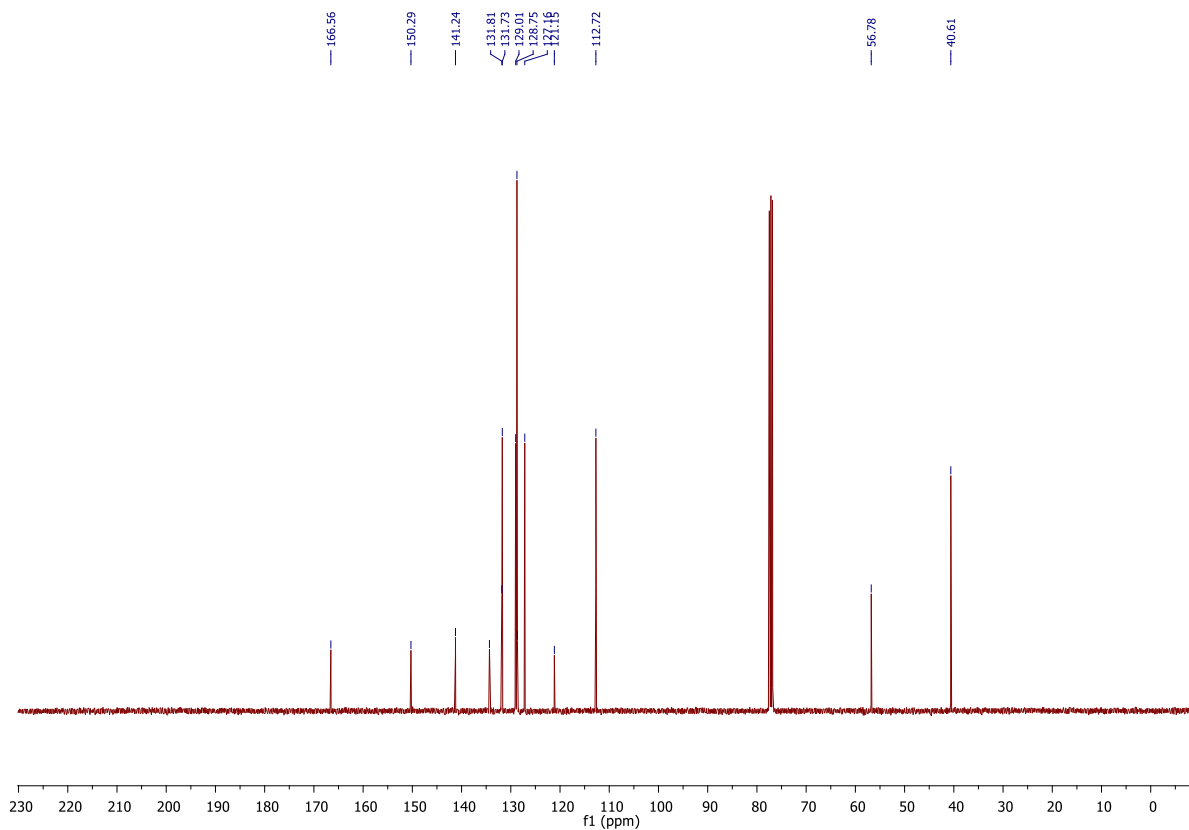


1.64. N-[(4-bromophenyl)-[4-(dimethylamino)phenyl]methyl]benzamide (594b)

^1H NMR (400 MHz, CDCl_3)

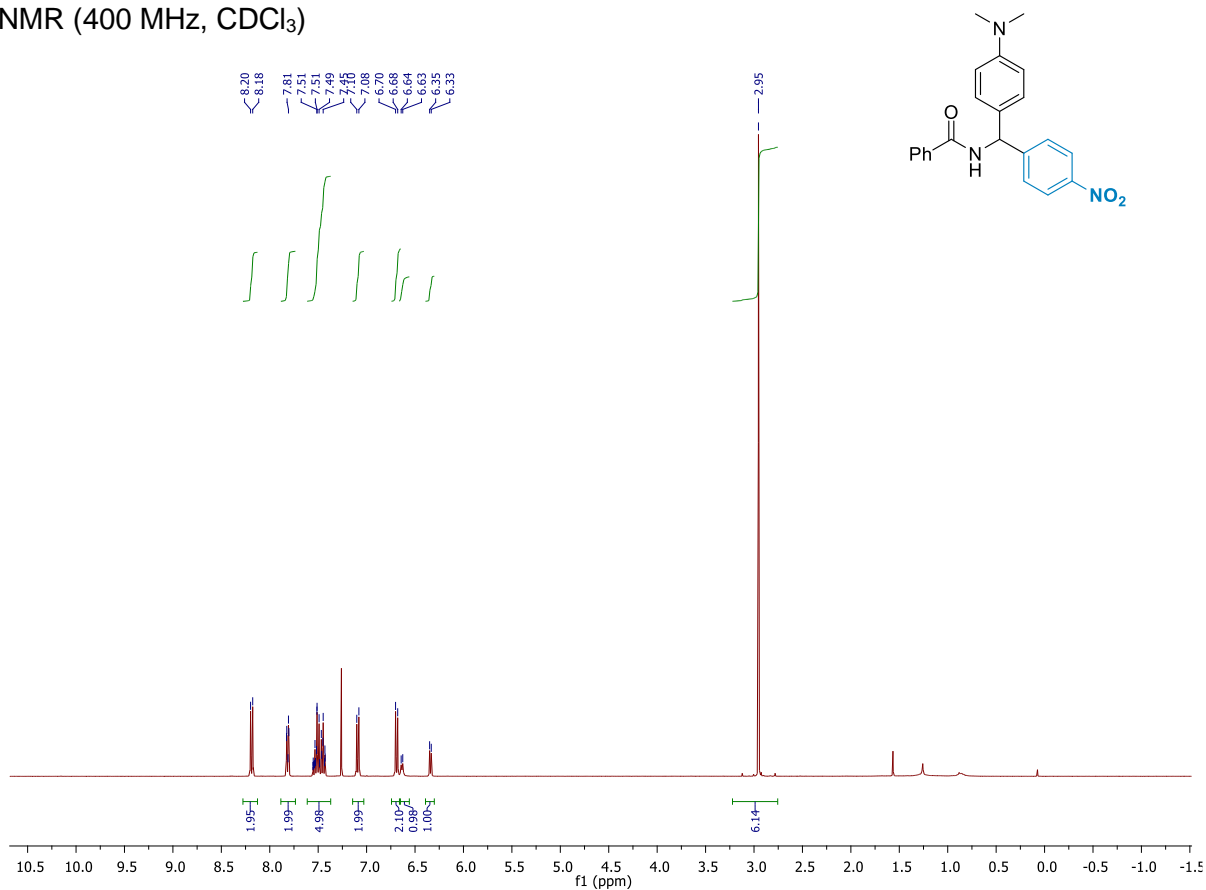


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

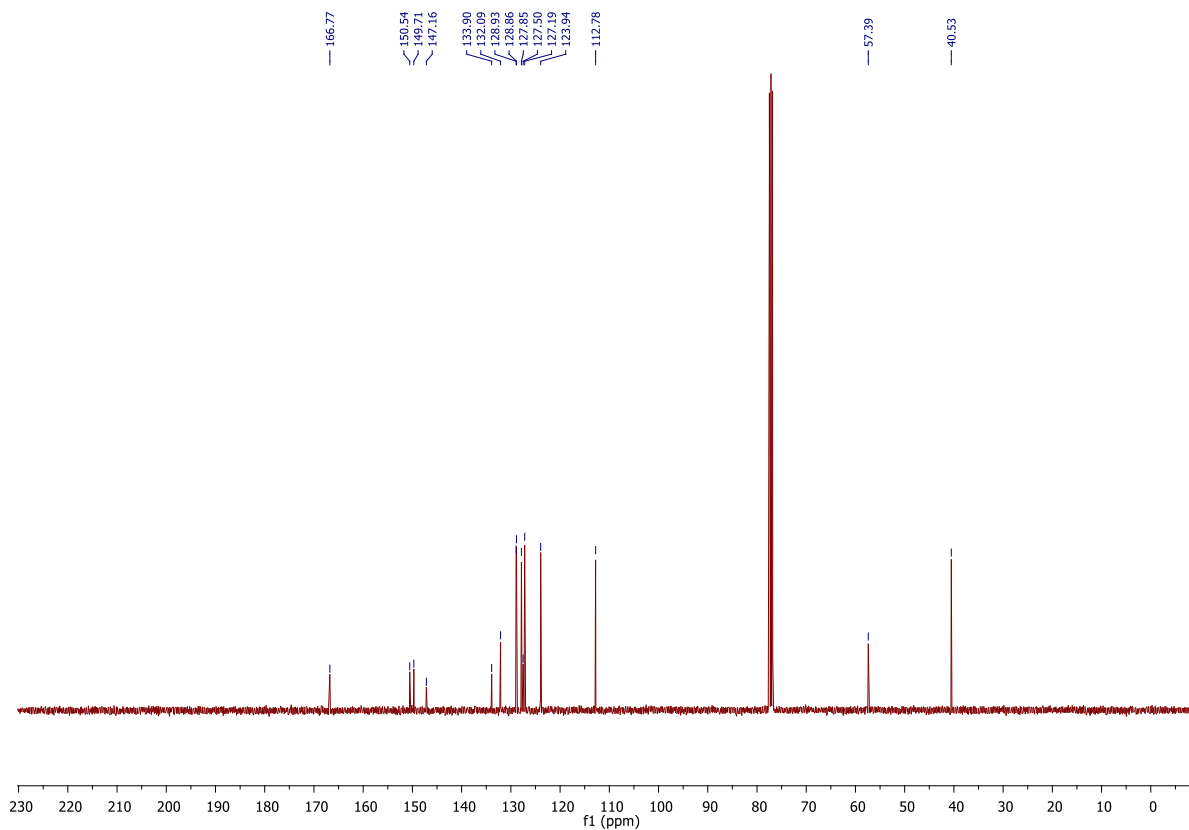


1.65. N-[[4-(dimethylamino)phenyl]-[4-nitrophenyl]methyl]benzamide (594c)

^1H NMR (400 MHz, CDCl_3)

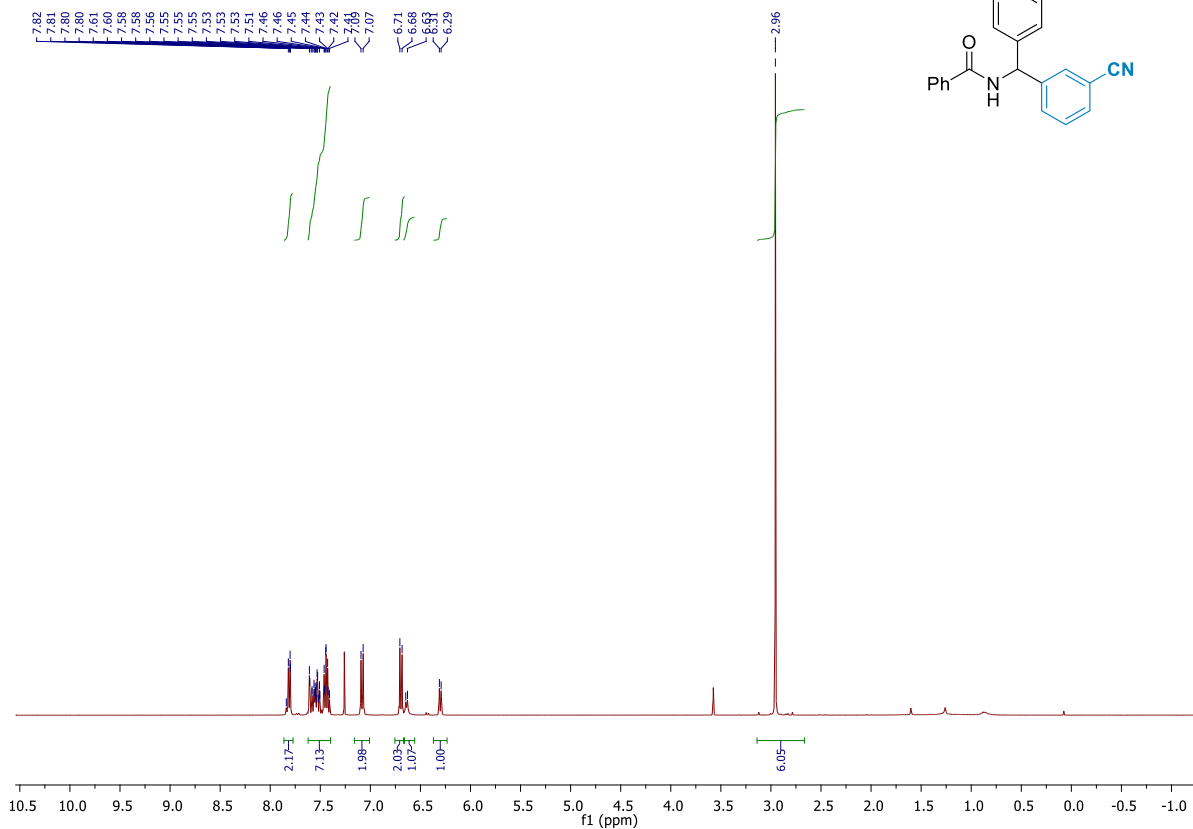


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

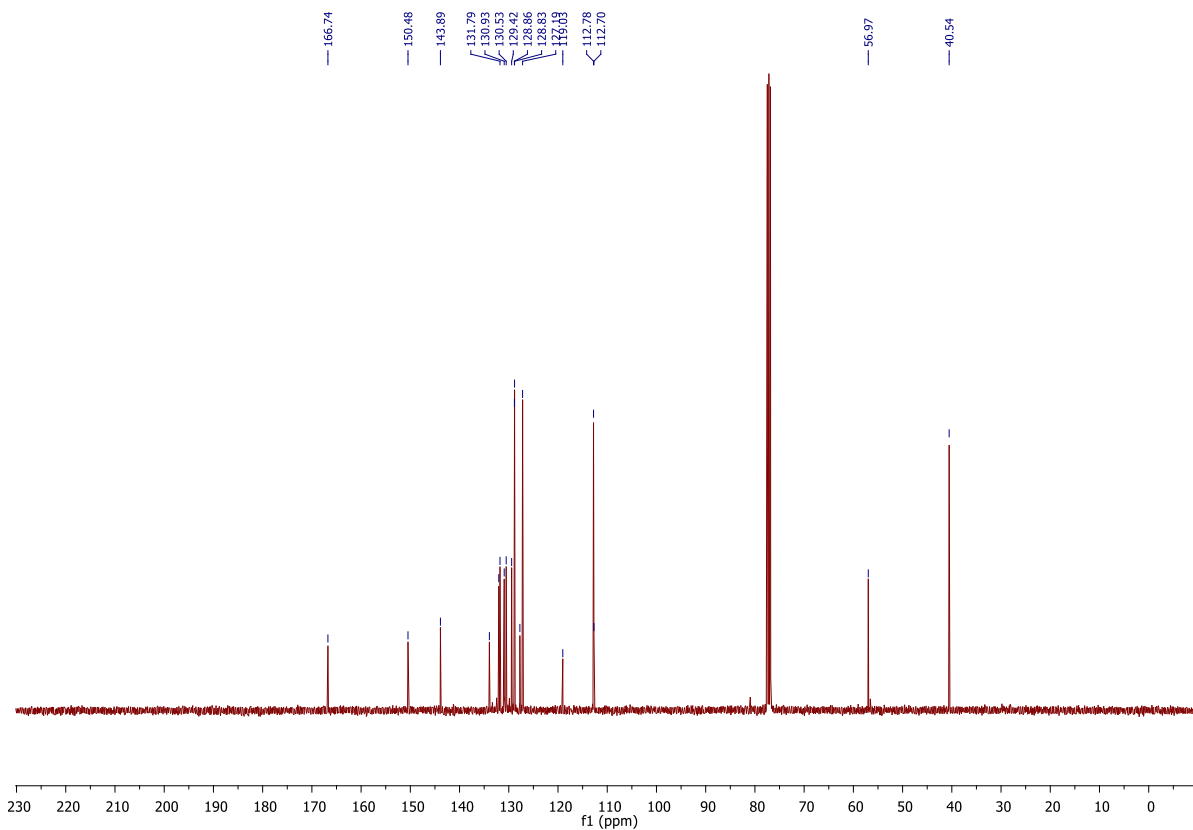


1.67. N-[(3-cyanophenyl)-[4-(dimethylamino)phenyl]methyl]benzamide (594e)

^1H NMR (400 MHz, CDCl_3)

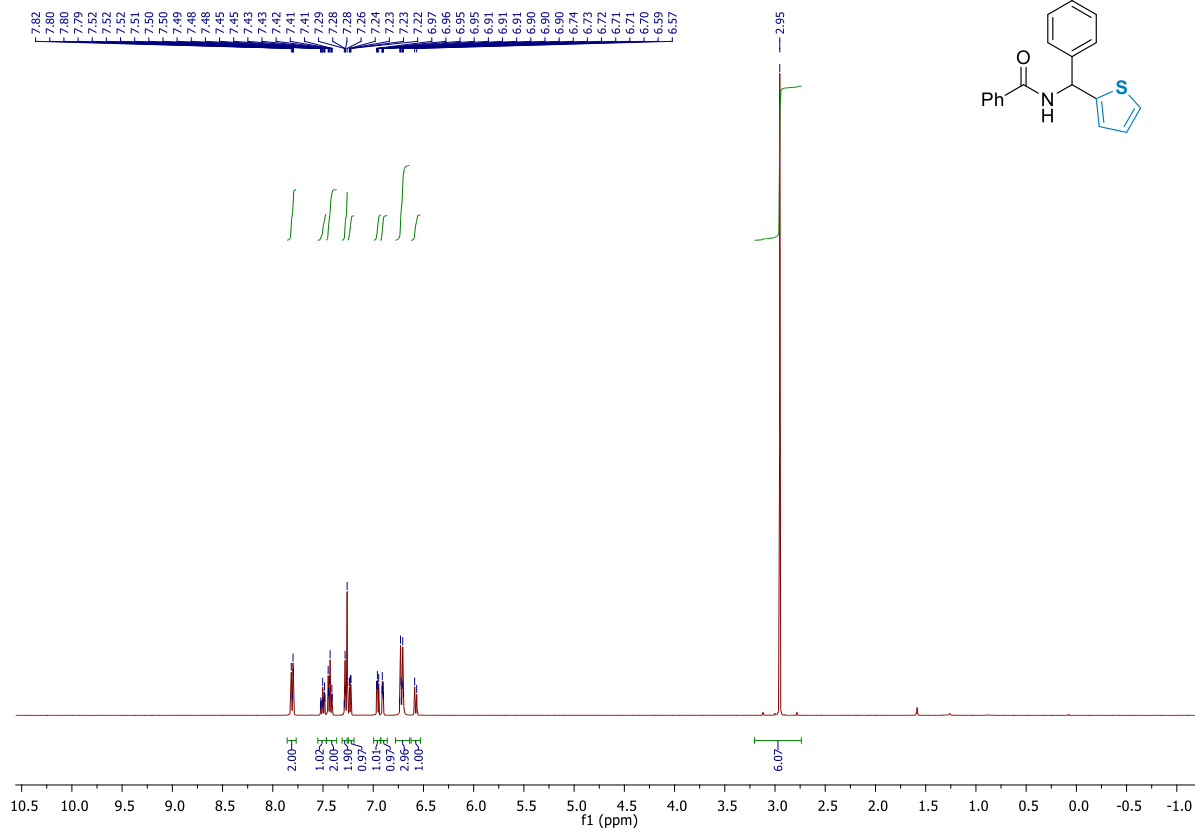


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

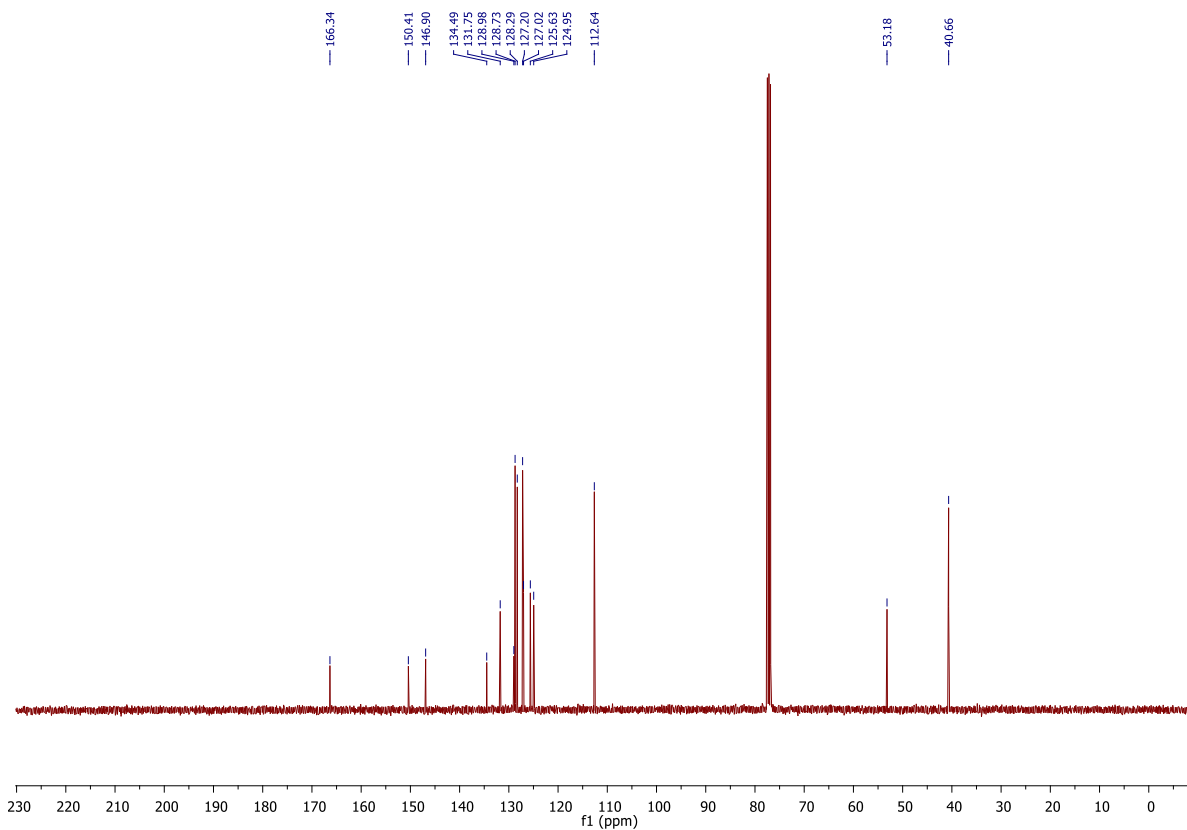


1.68. N-[[4-(dimethylamino)phenyl]-(2-thienyl)methyl]benzamide (594f)

¹H NMR (400 MHz, CDCl₃)

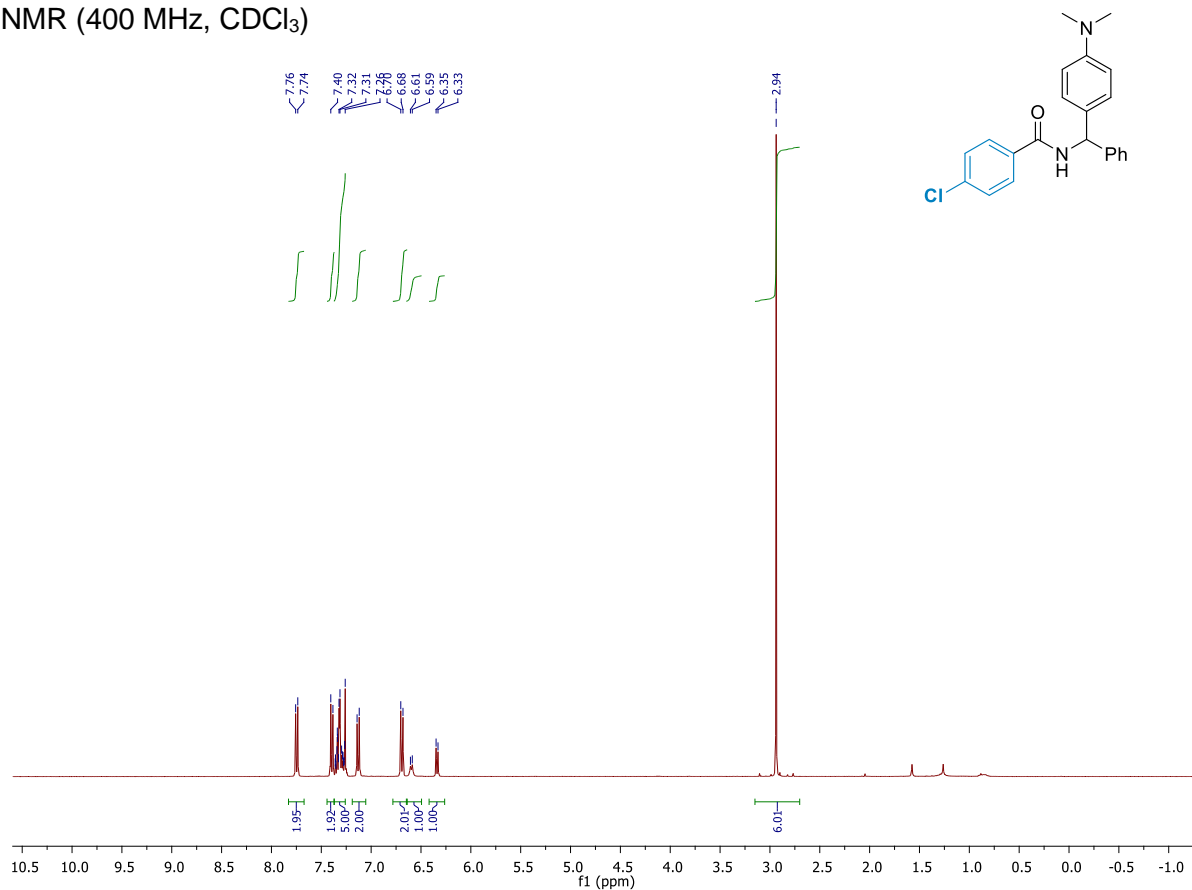


¹³C NMR (101 MHz, CDCl₃)

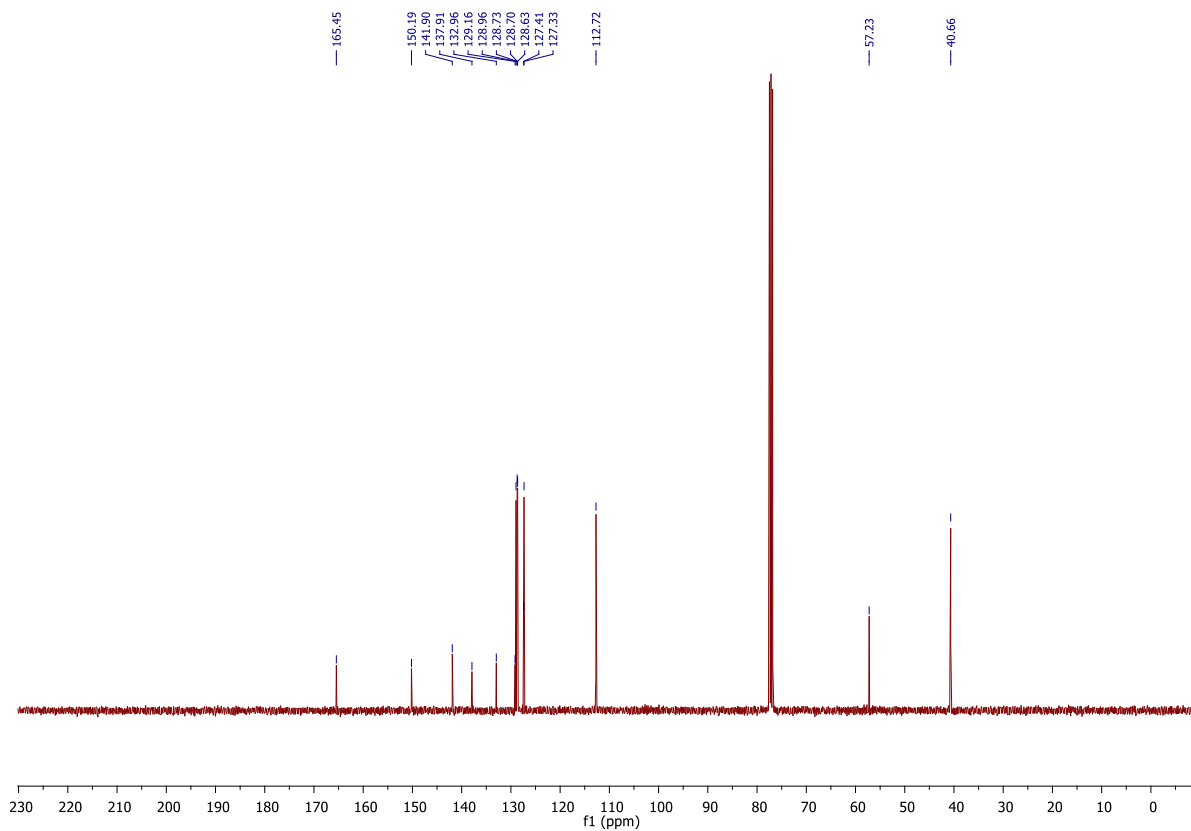


1.69. 4-chloro-N-[[4-(dimethylamino)phenyl]-phenyl-methyl]benzamide (595a)

^1H NMR (400 MHz, CDCl_3)

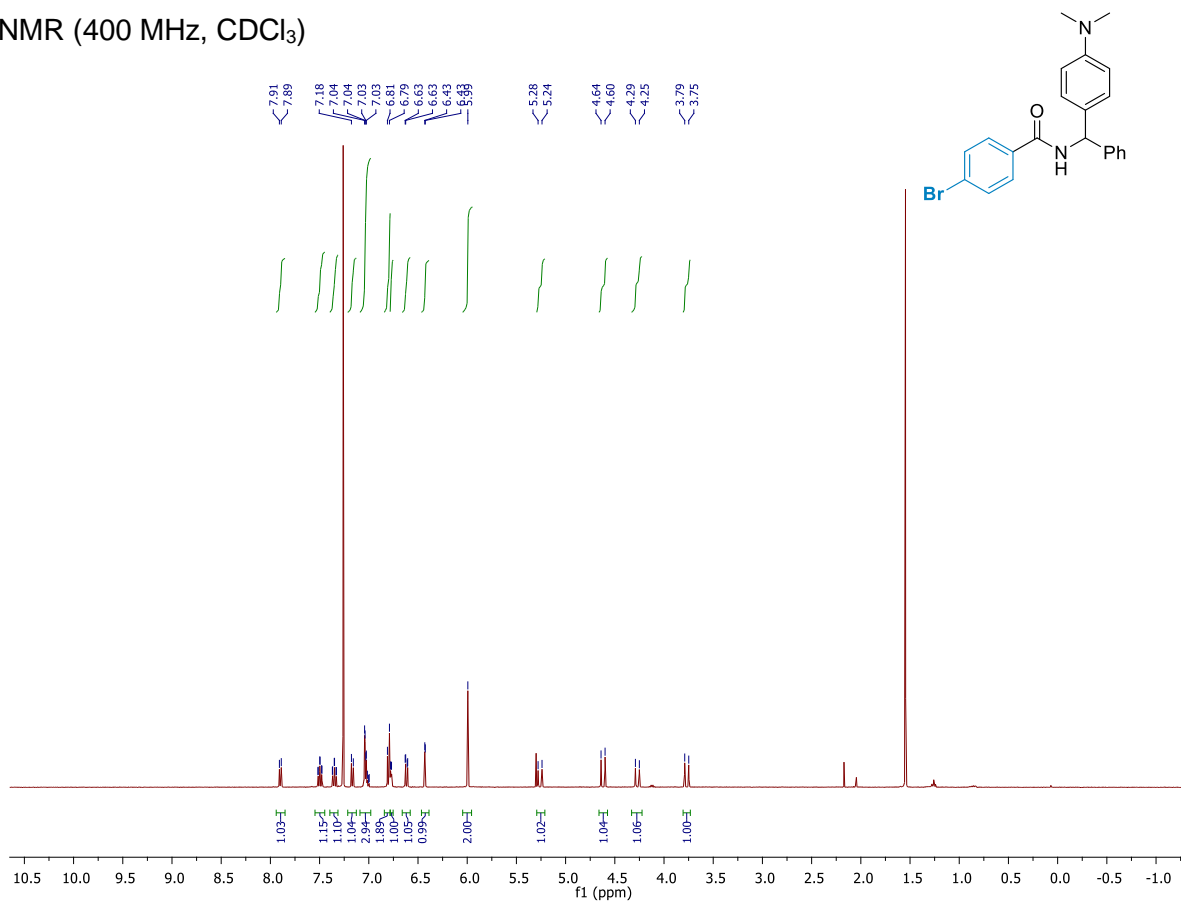


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

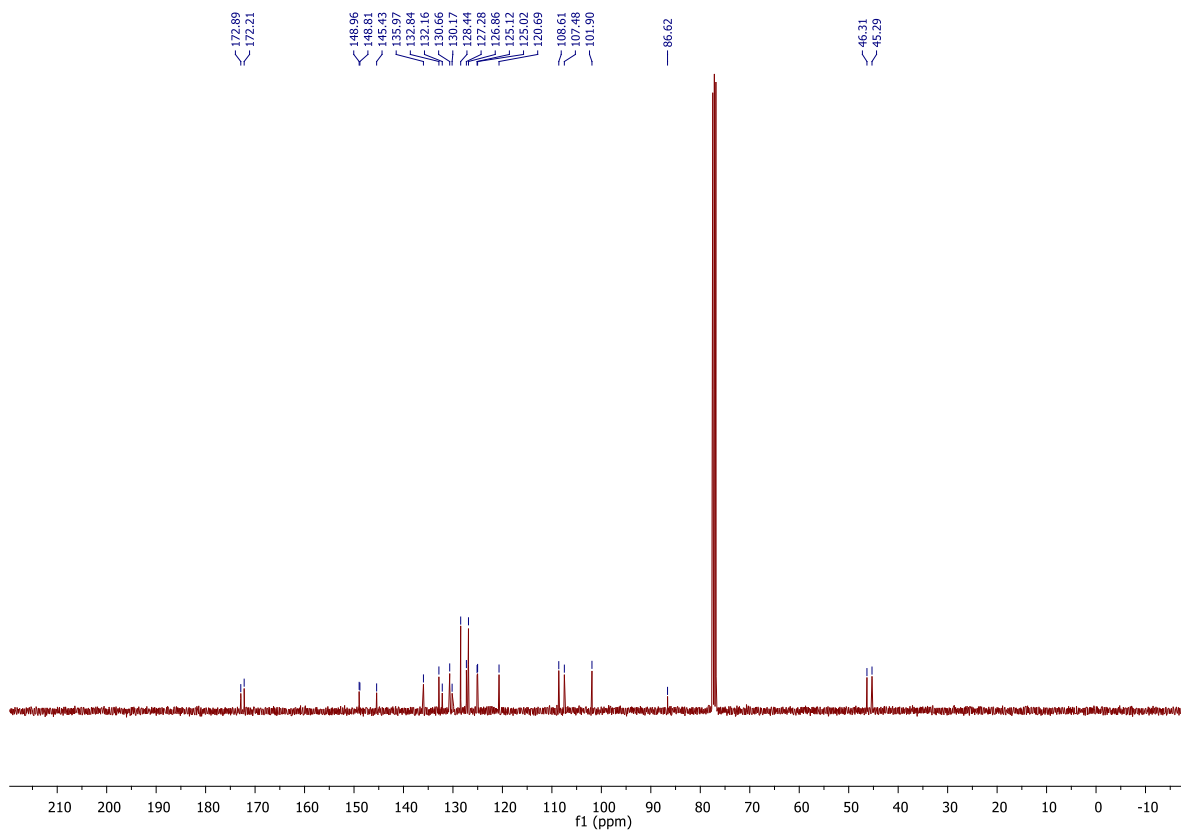


1.70. 4-bromo-N-[[4-(dimethylamino)phenyl]-phenyl-methyl]benzamide (595b)

^1H NMR (400 MHz, CDCl_3)

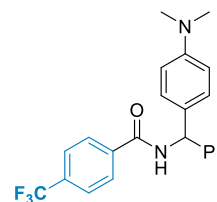
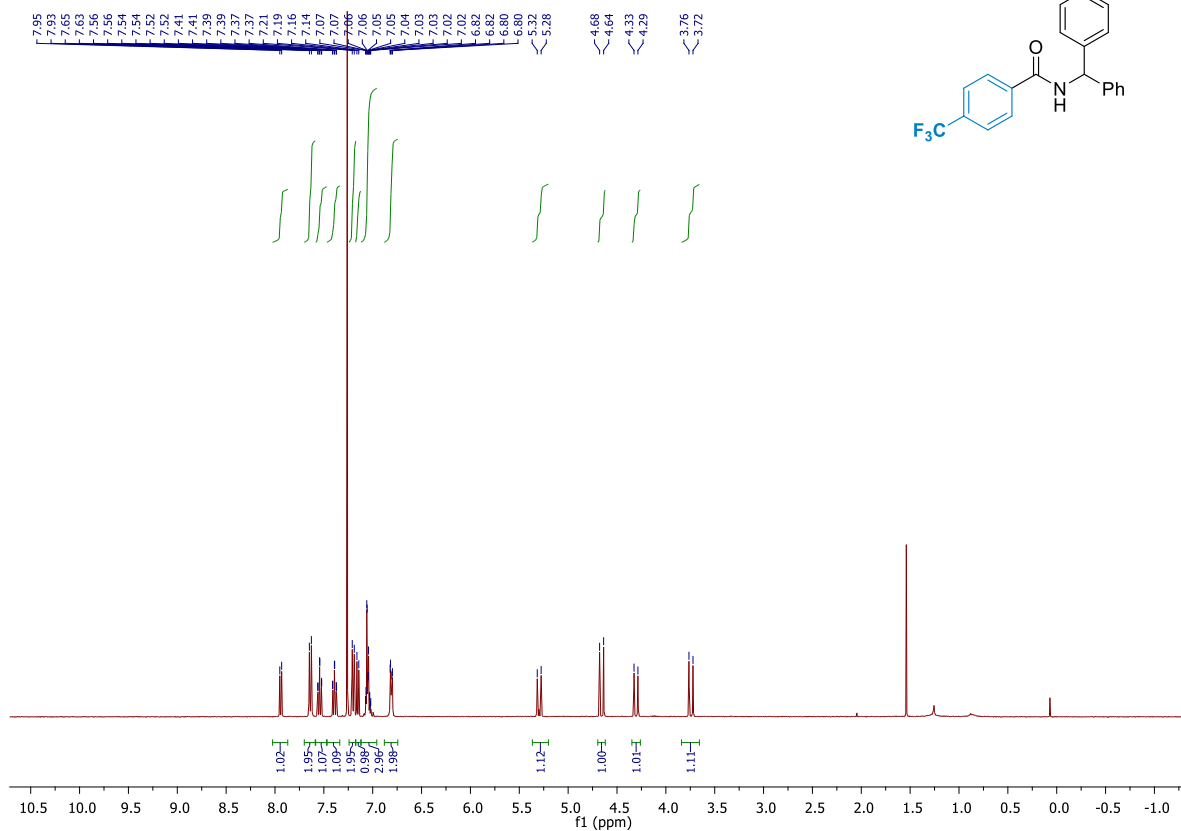


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

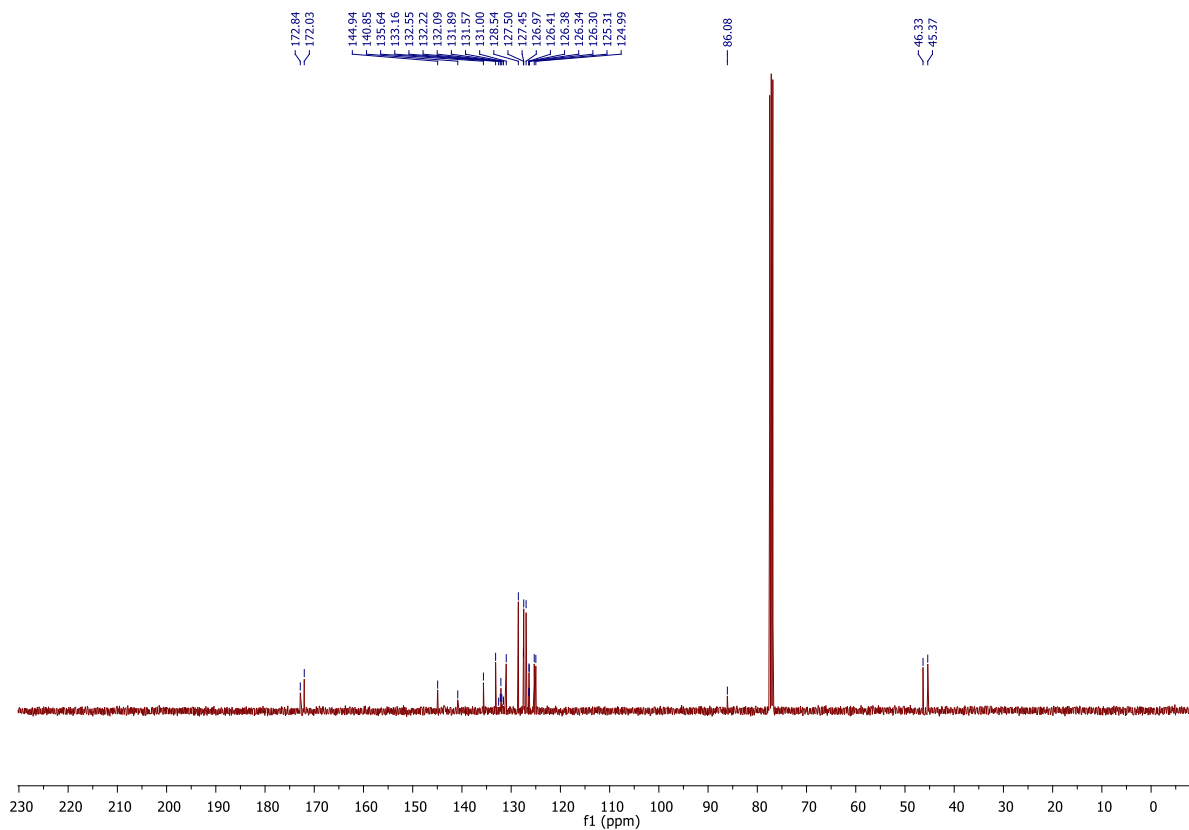


1.71. N-[[4-(dimethylamino)phenyl]-phenyl-methyl]-4-(trifluoromethyl)benzamide (595c)

^1H NMR (400 MHz, CDCl_3)

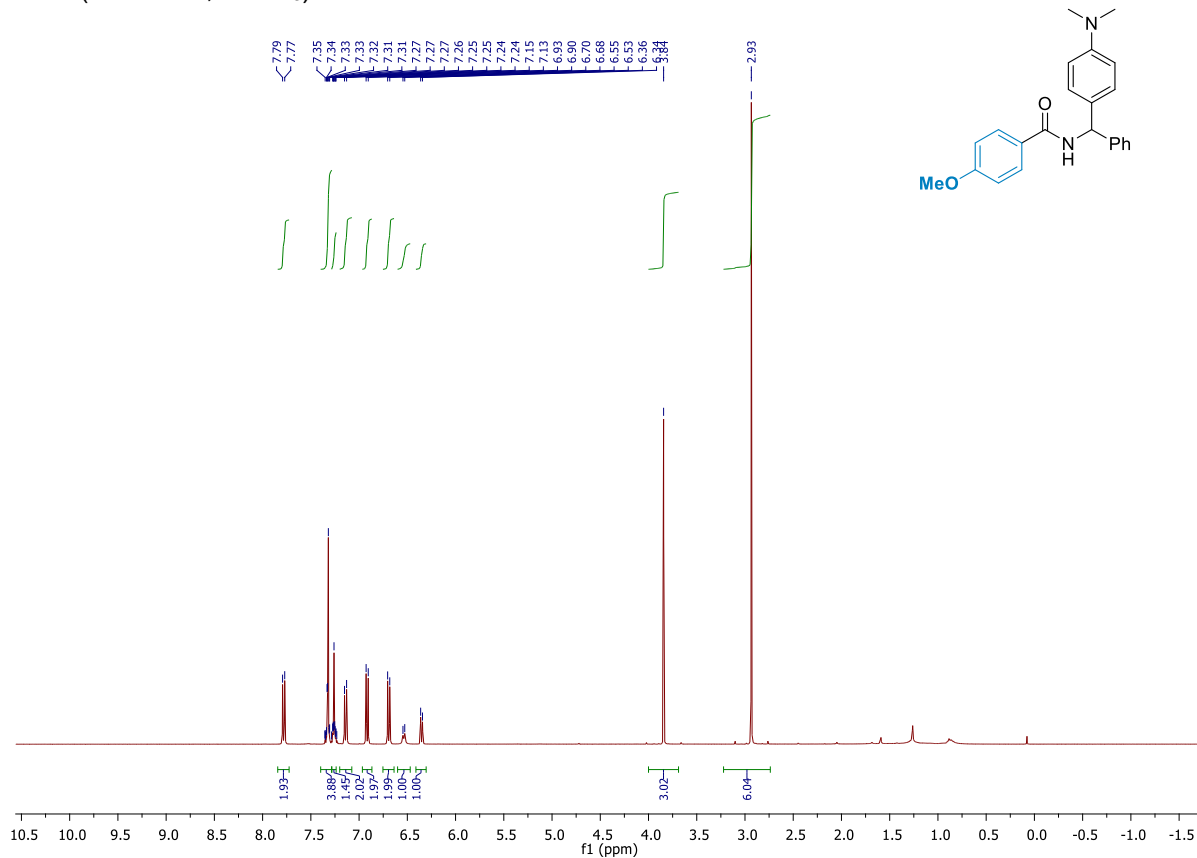


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

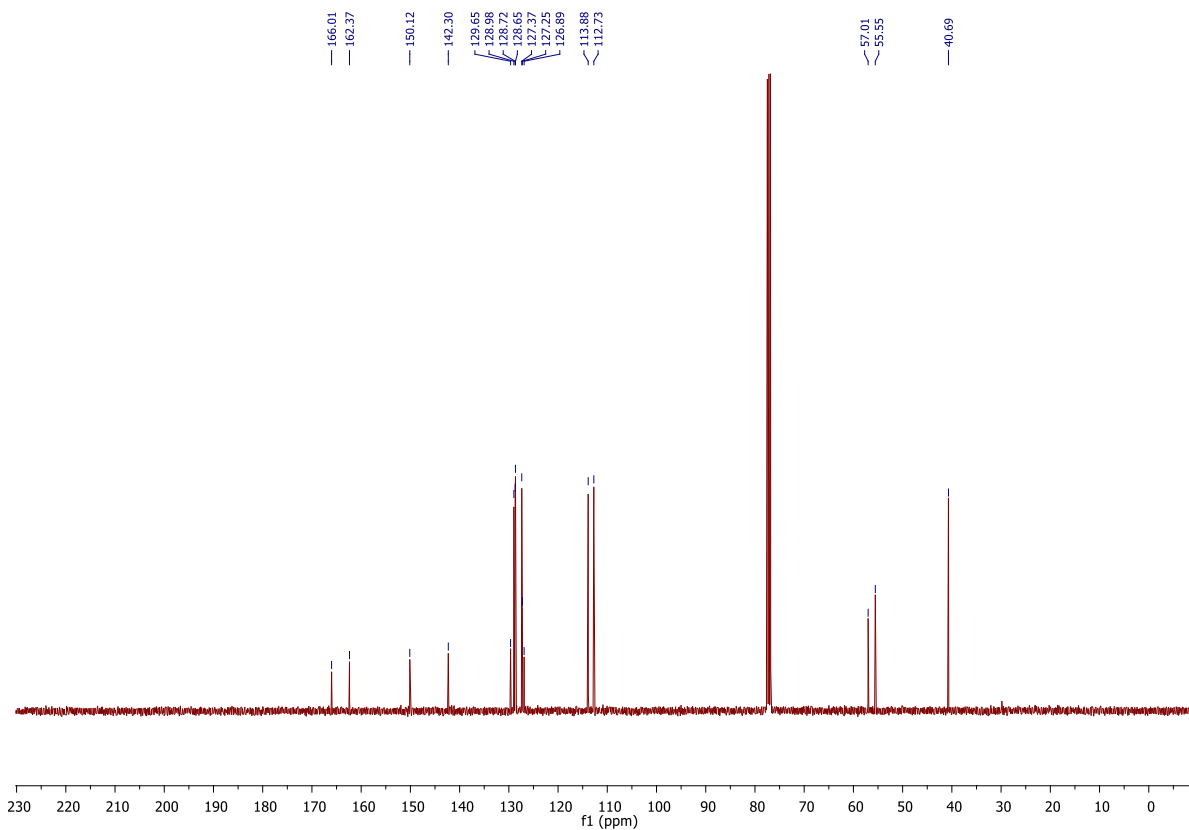


1.72. N-[[4-(dimethylamino)phenyl]-phenyl-methyl]-4-methoxy-benzamide (595d)

^1H NMR (400 MHz, CDCl_3)

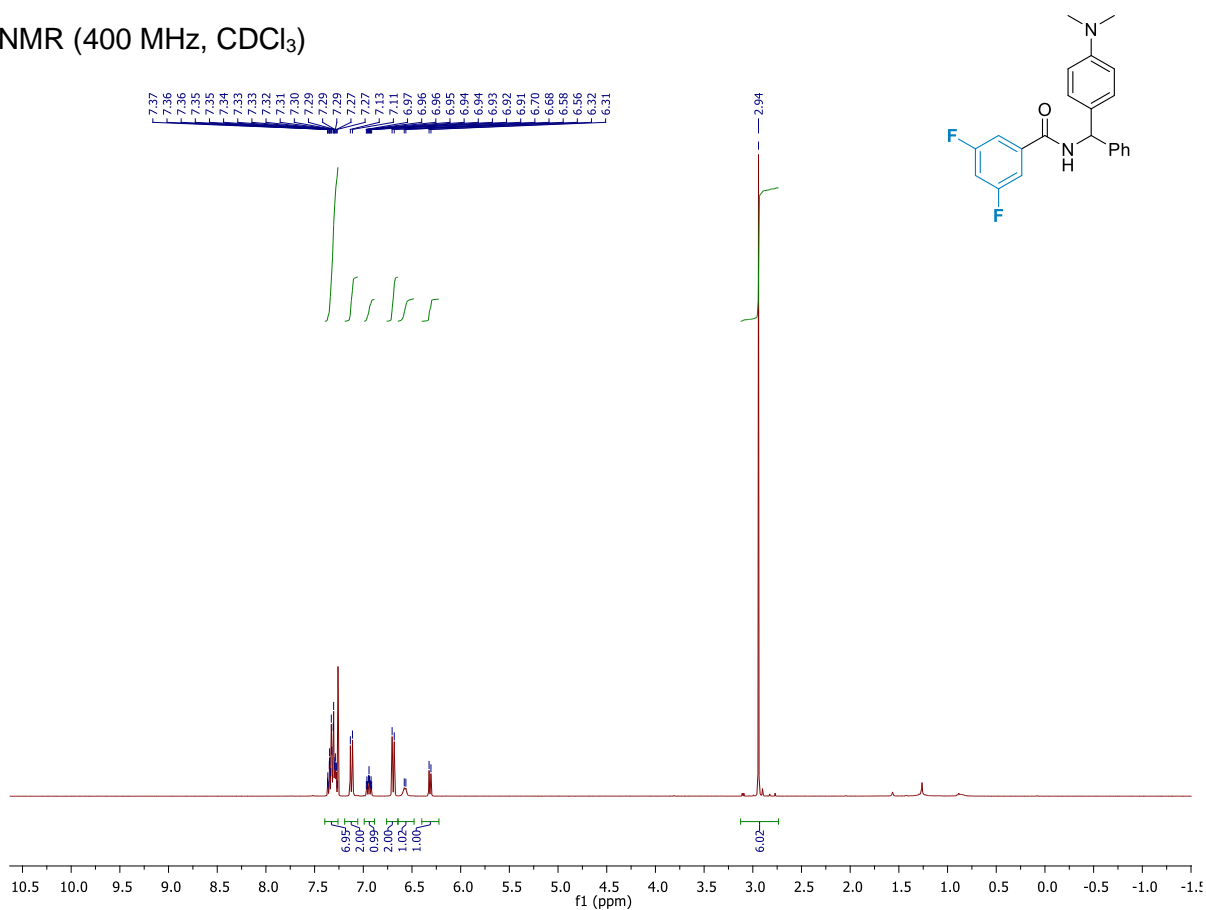


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

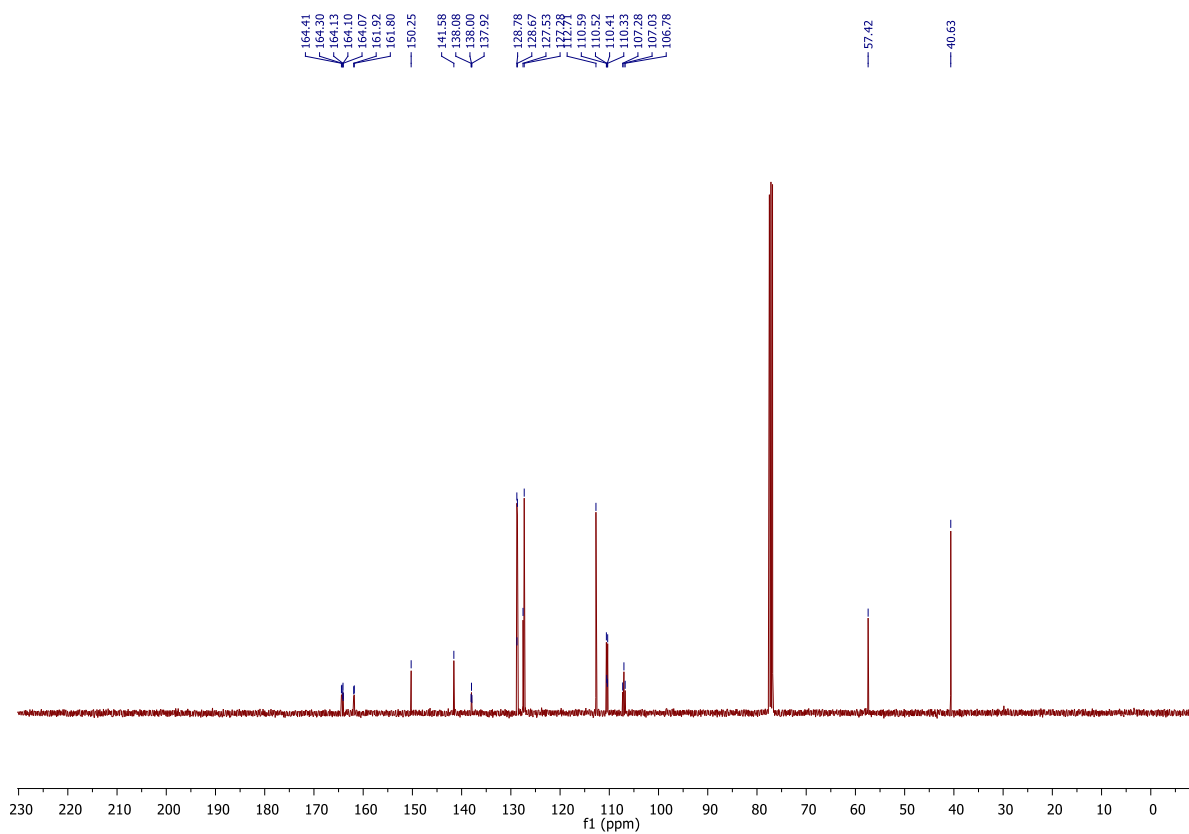


1.73. N-[[4-(dimethylamino)phenyl]-phenyl-methyl]-3,5-difluoro-benzamide (595e)

^1H NMR (400 MHz, CDCl_3)

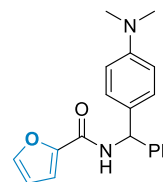
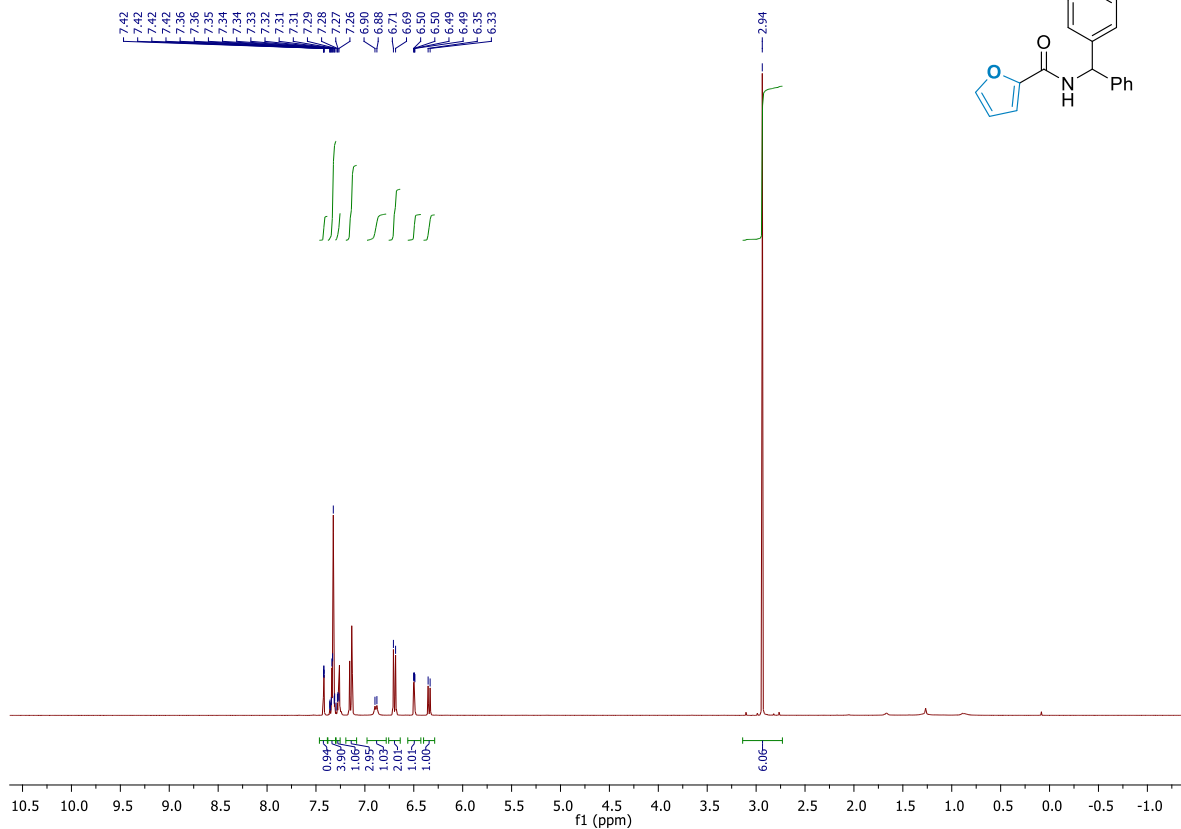


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

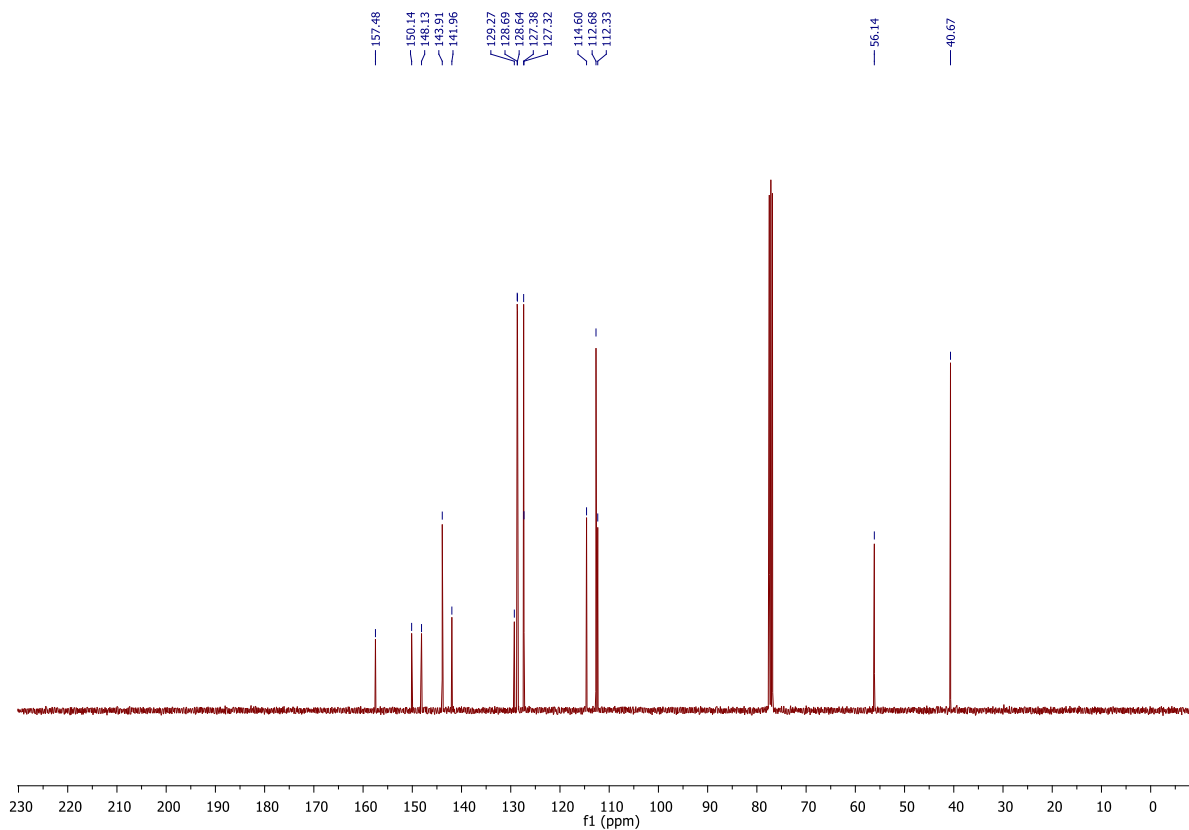


1.74. N-[[4-(dimethylamino)phenyl]-phenyl-methyl]furan-2-carboxamide (595f)

^1H NMR (400 MHz, CDCl_3)

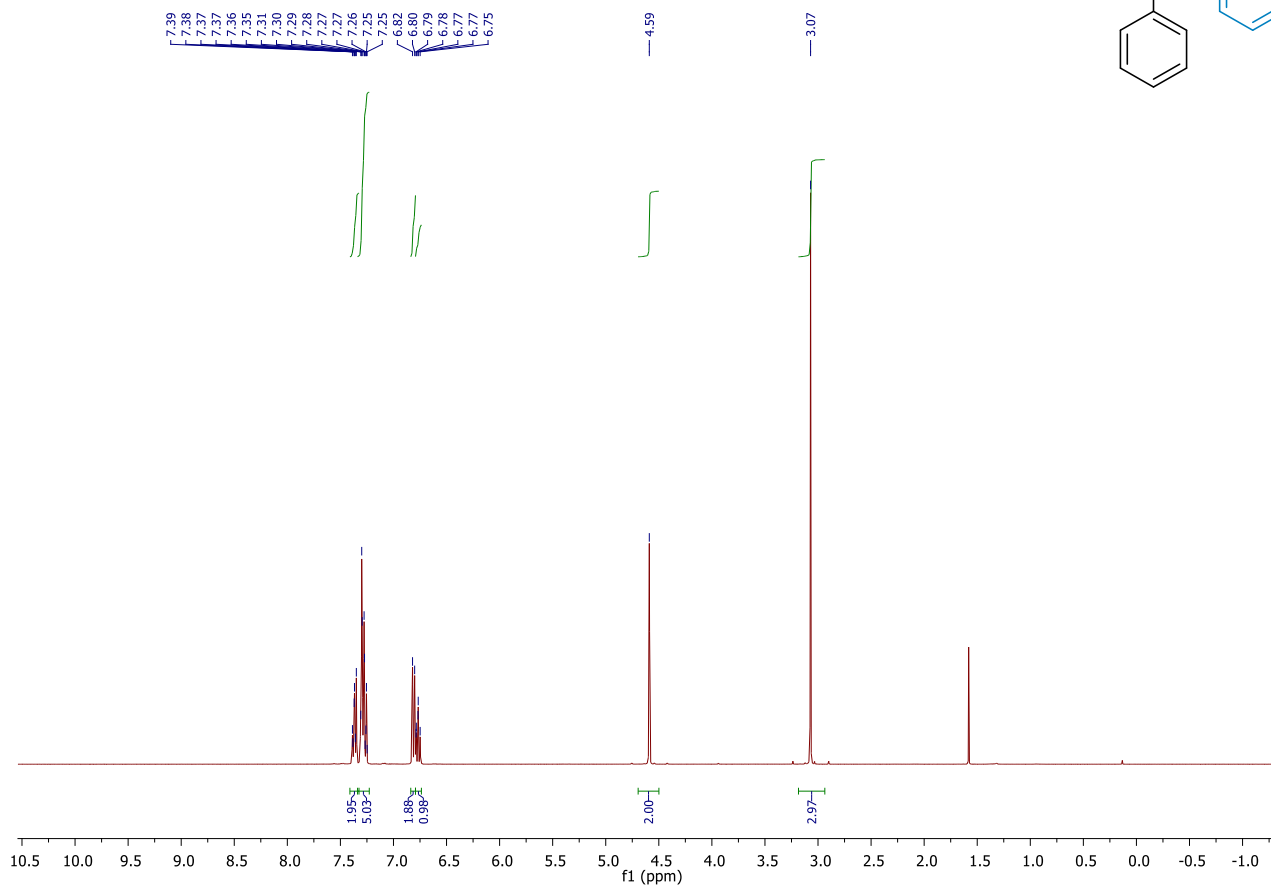
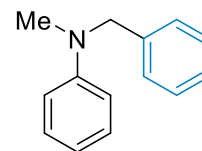


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

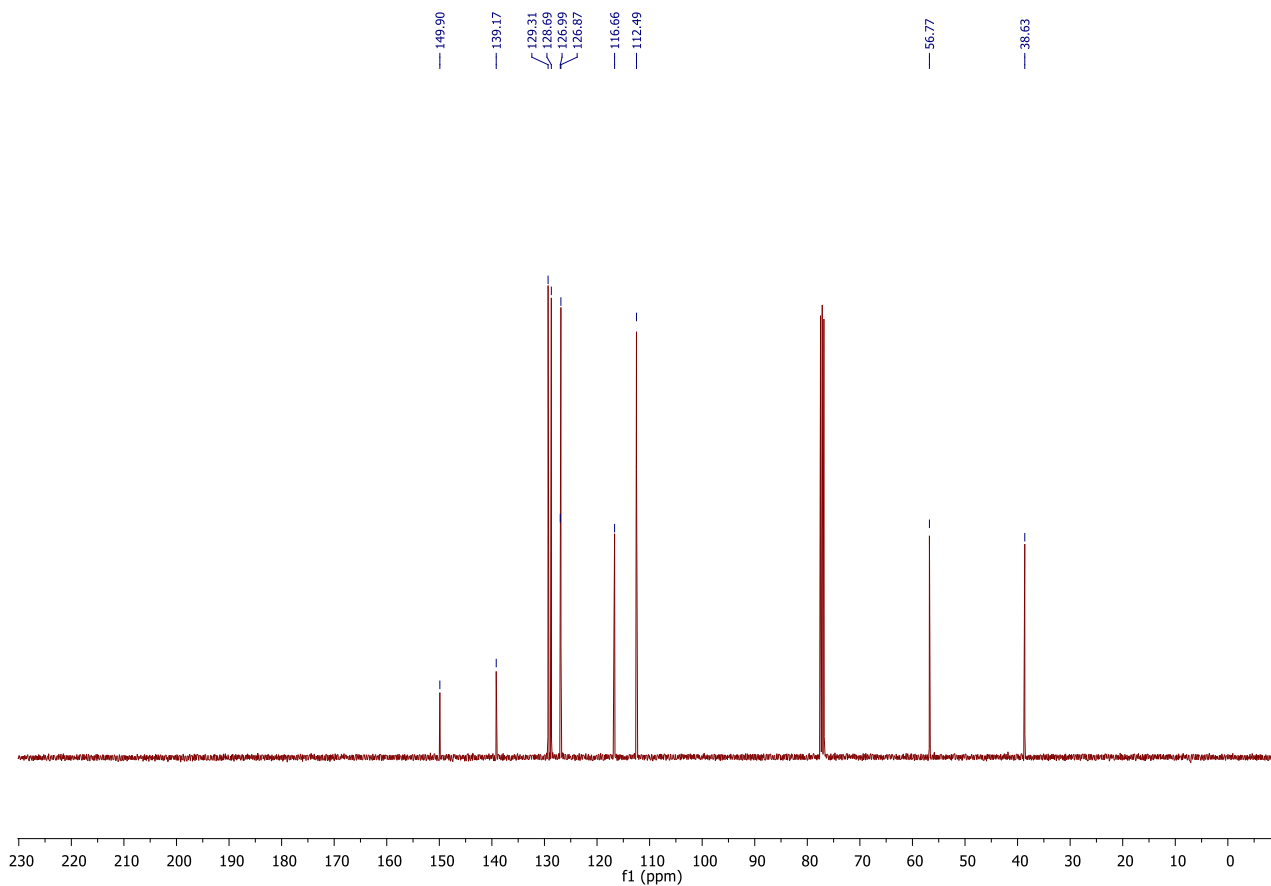


1.75. N-benzyl-N-methyl-aniline (598a)

^1H NMR (400 MHz, CDCl_3)

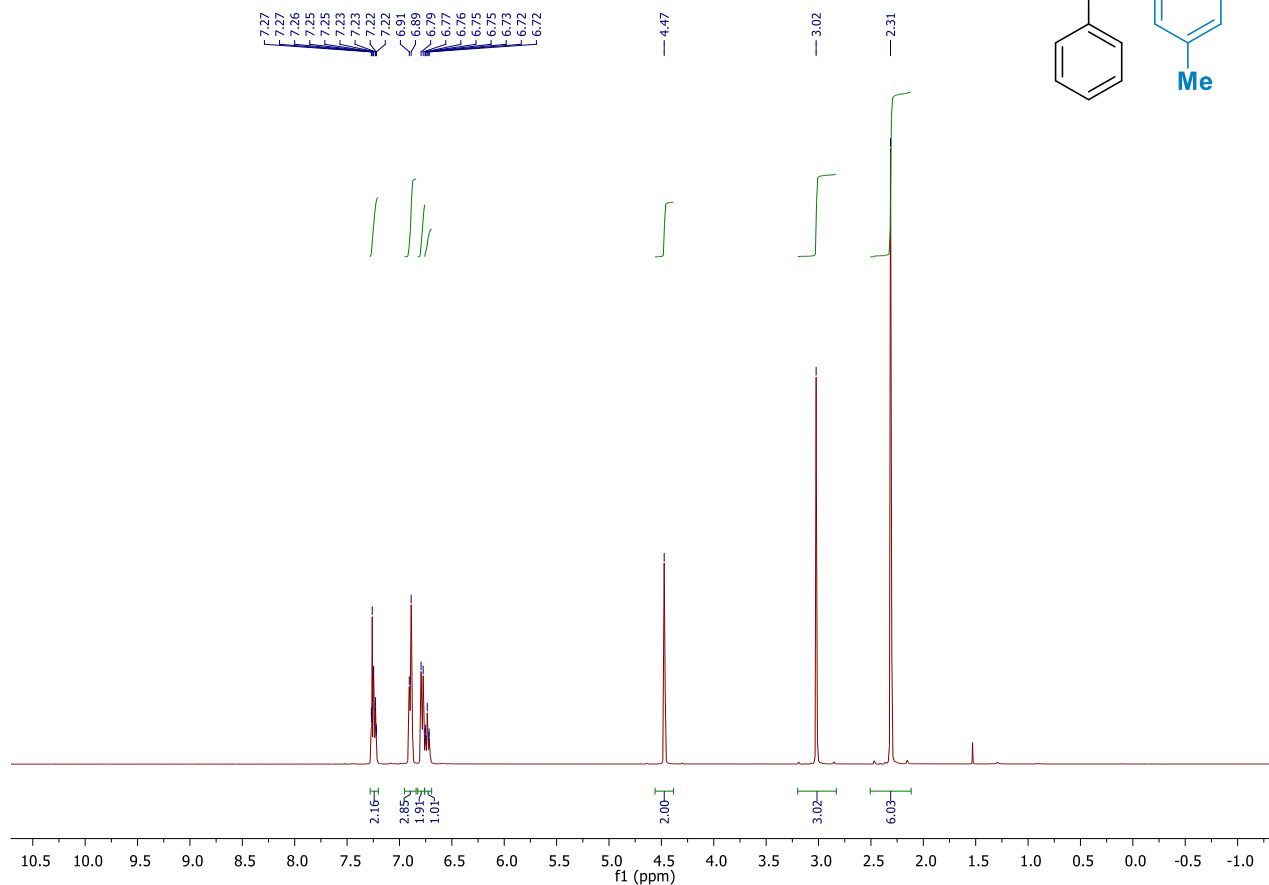


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

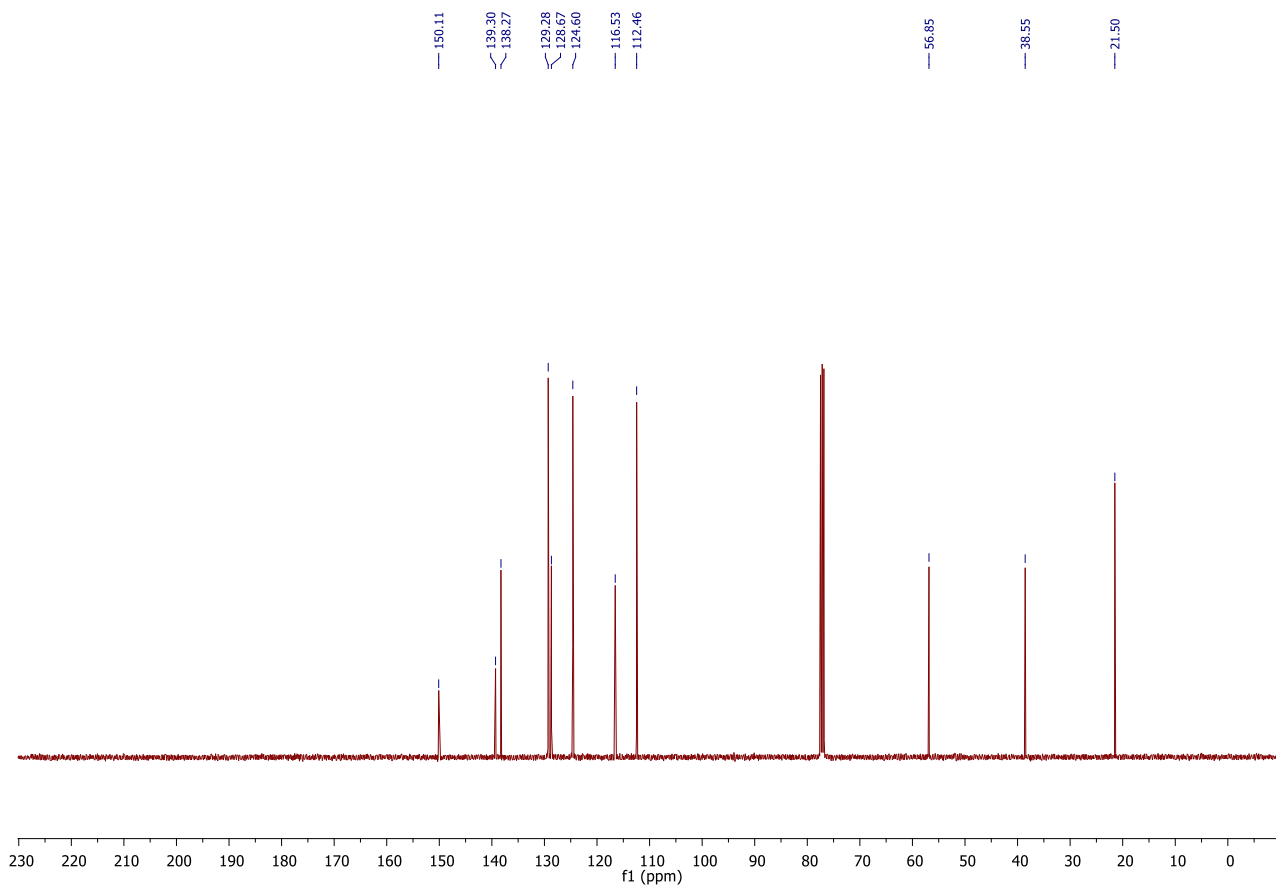


1.76. N-[(3,5-dimethylphenyl)methyl]-N-methyl-aniline (598b)

^1H NMR (400 MHz, CDCl_3)

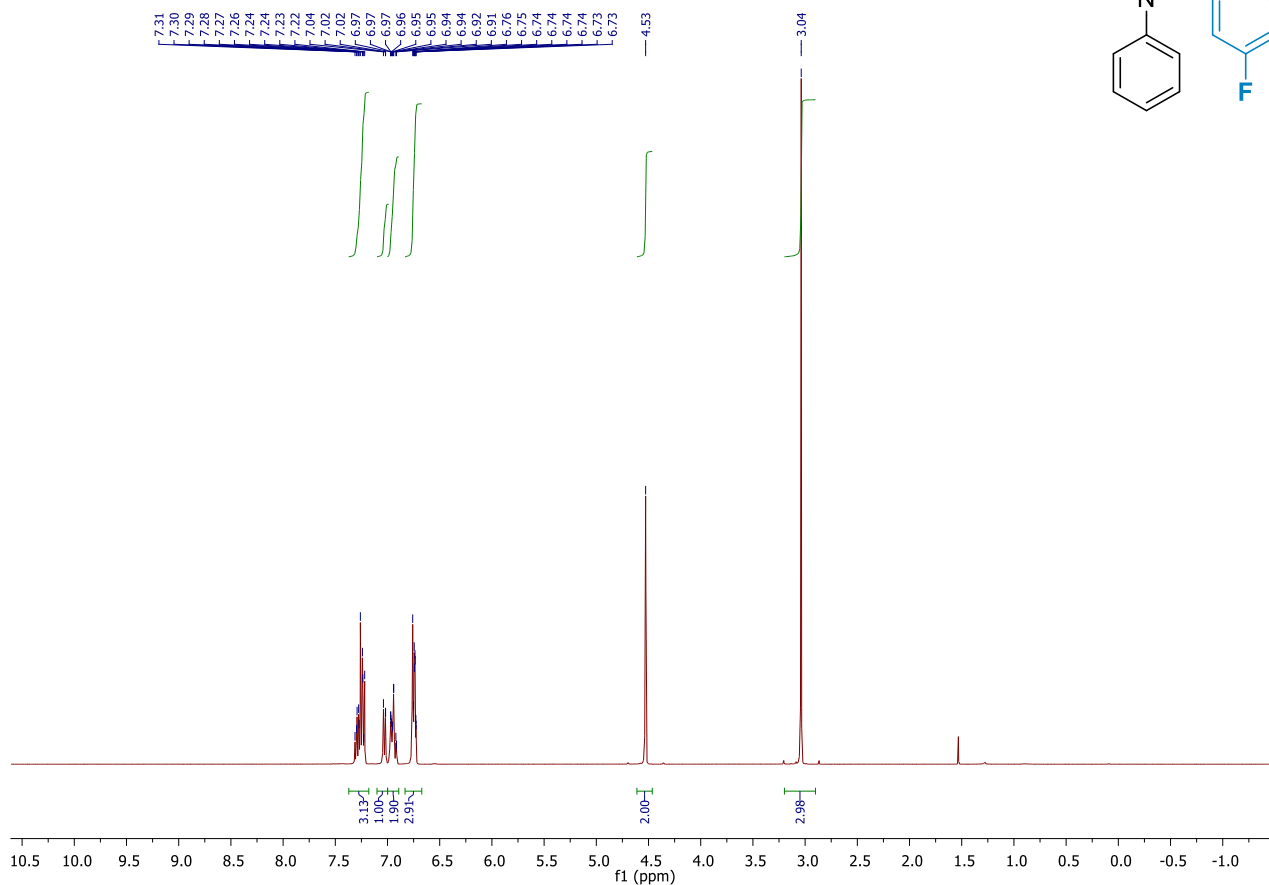


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

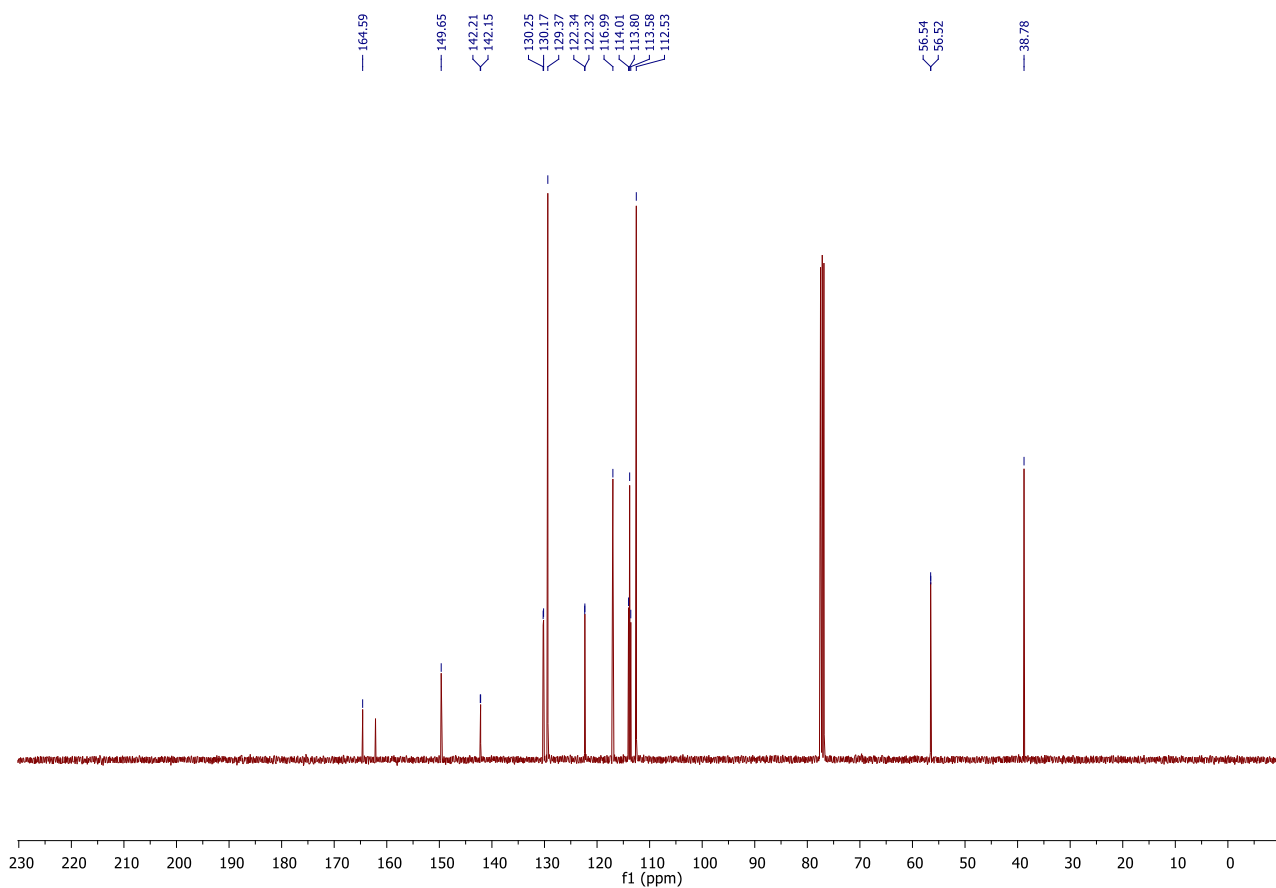


1.77. N-[(3-fluorophenyl)methyl]-N-methyl-aniline (598c)

^1H NMR (400 MHz, CDCl_3)

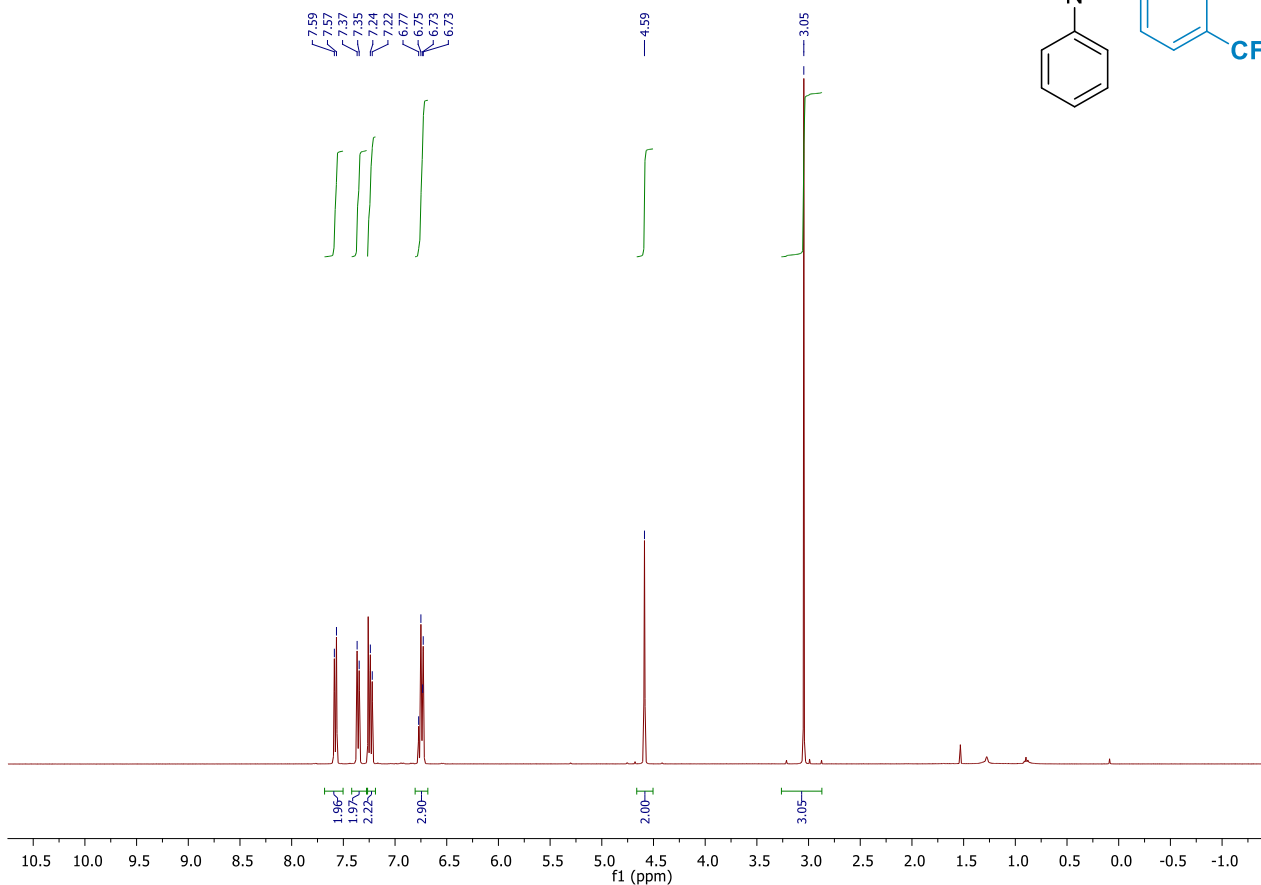
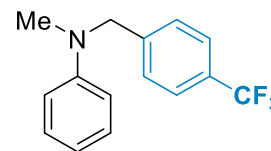


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

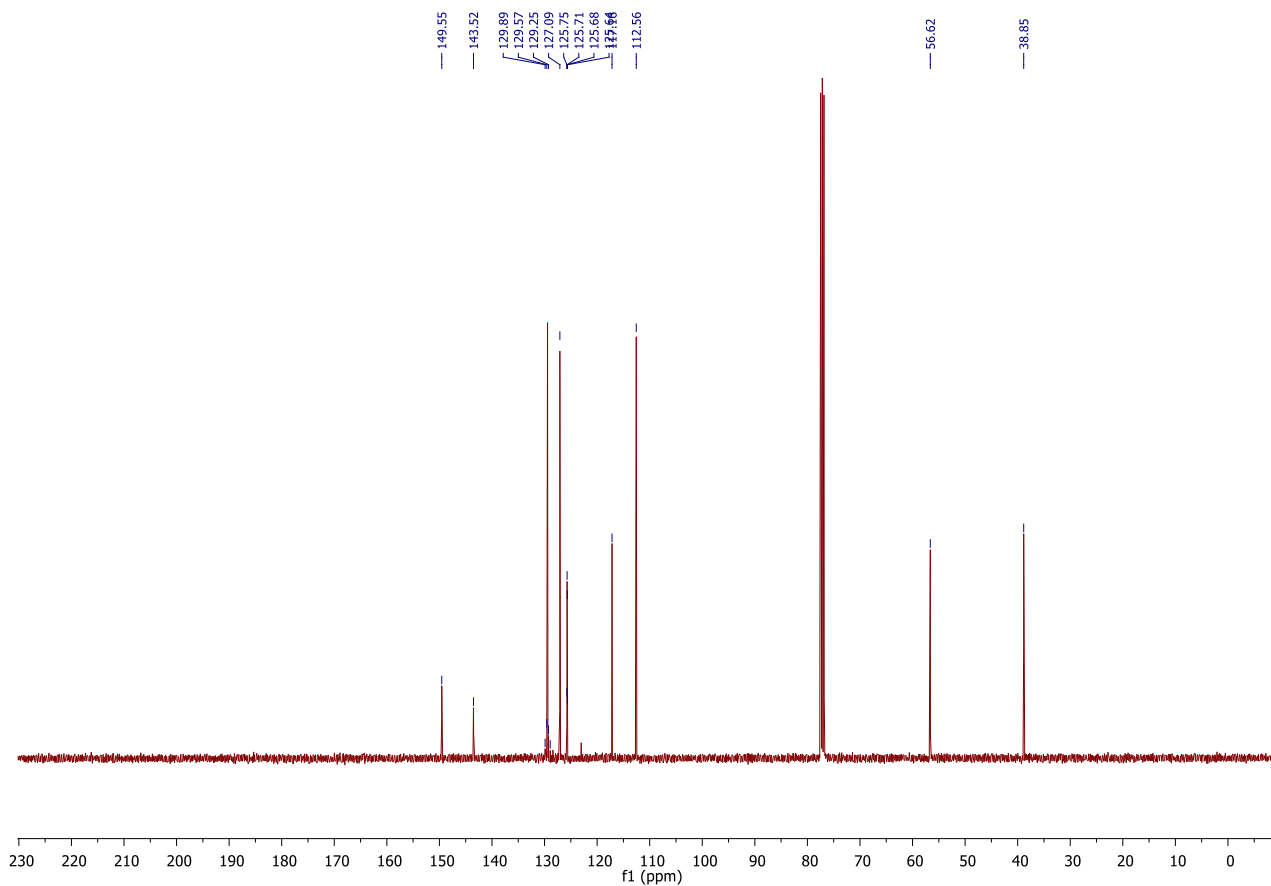


1.78. N-methyl-N-[[4-(trifluoromethyl)phenyl]methyl]aniline (598d)

^1H NMR (400 MHz, CDCl_3)

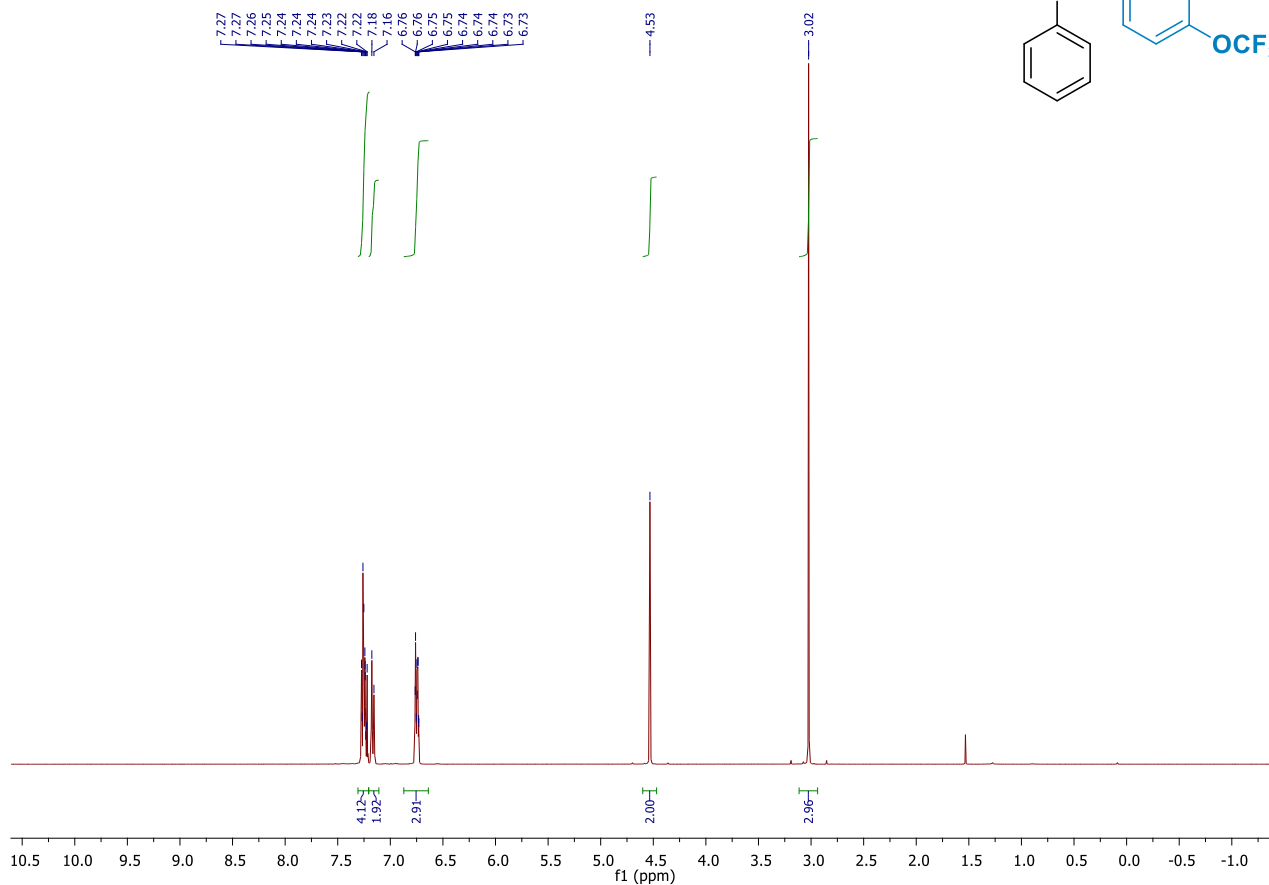


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

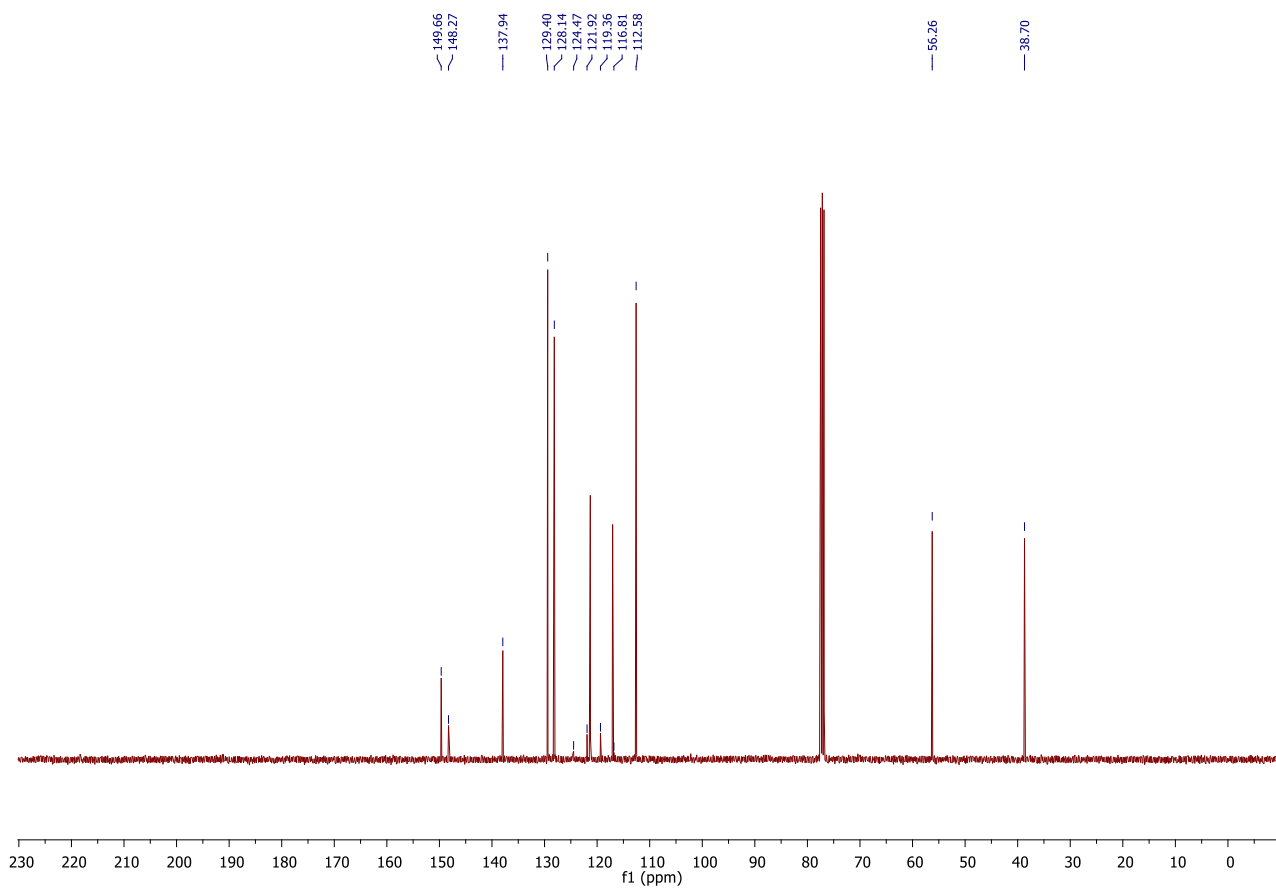


1.79. N-methyl-N-[[4-(trifluoromethoxy)phenyl]methyl]aniline (598e)

^1H NMR (400 MHz, CDCl_3)

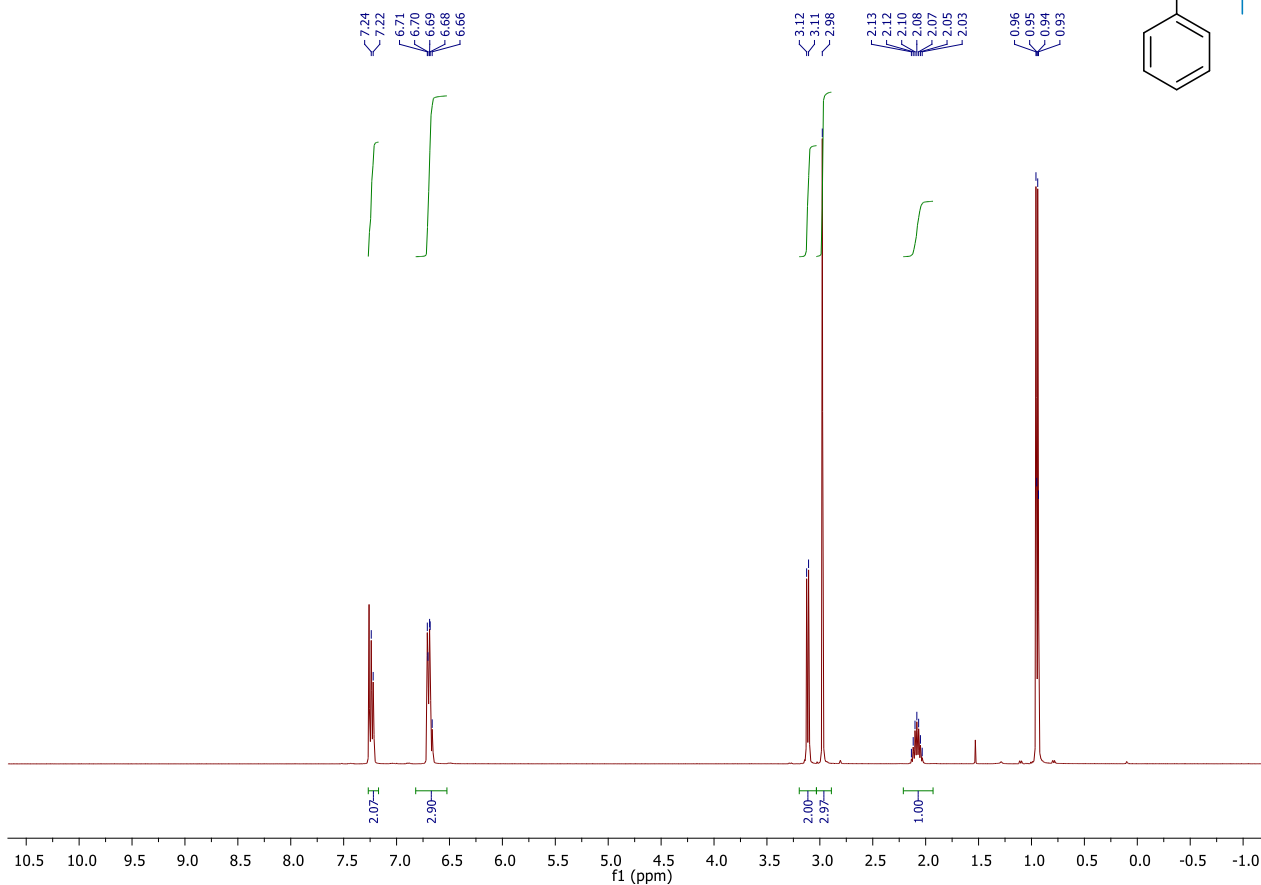
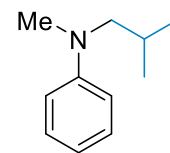


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

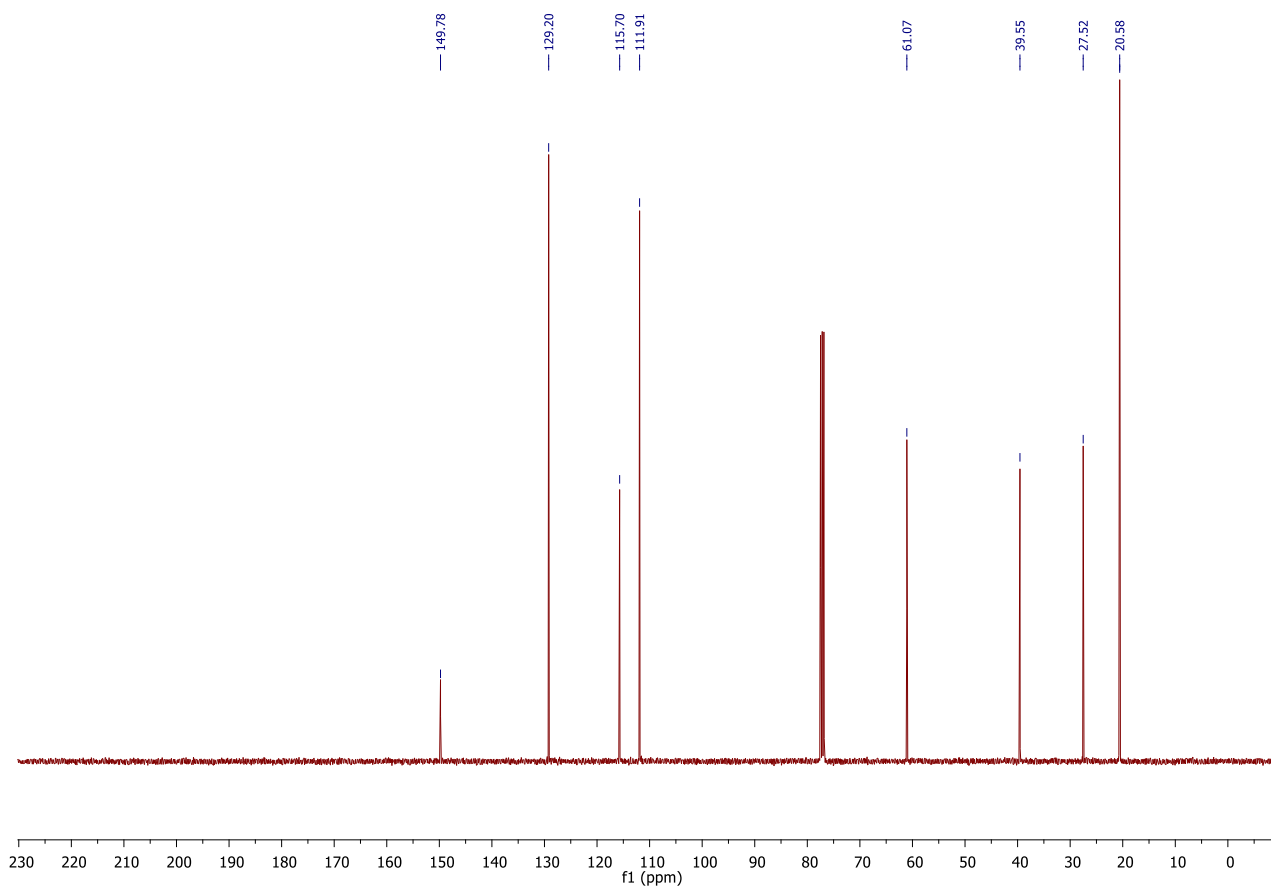


1.80. N-isobutyl-N-methyl-aniline (598f)

^1H NMR (400 MHz, CDCl_3)

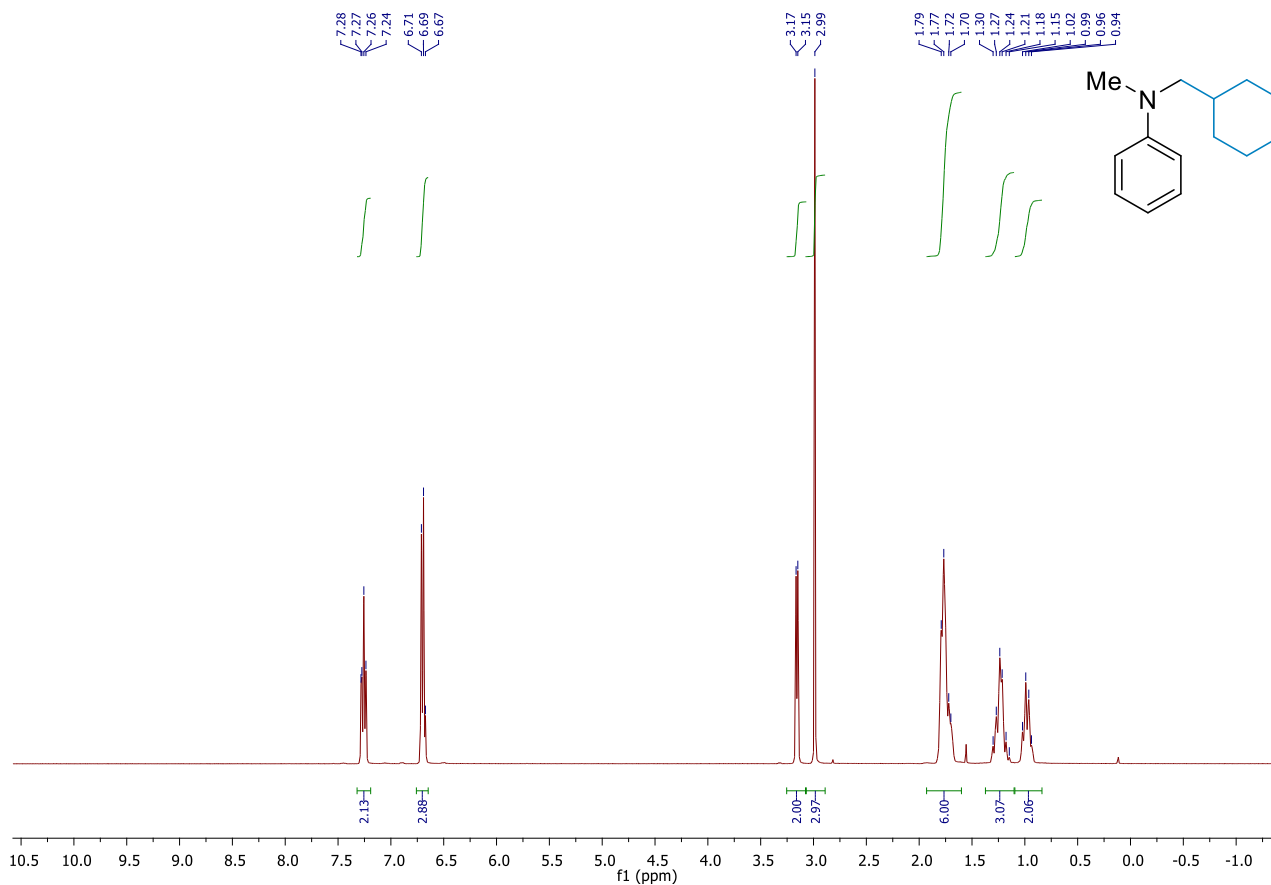


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

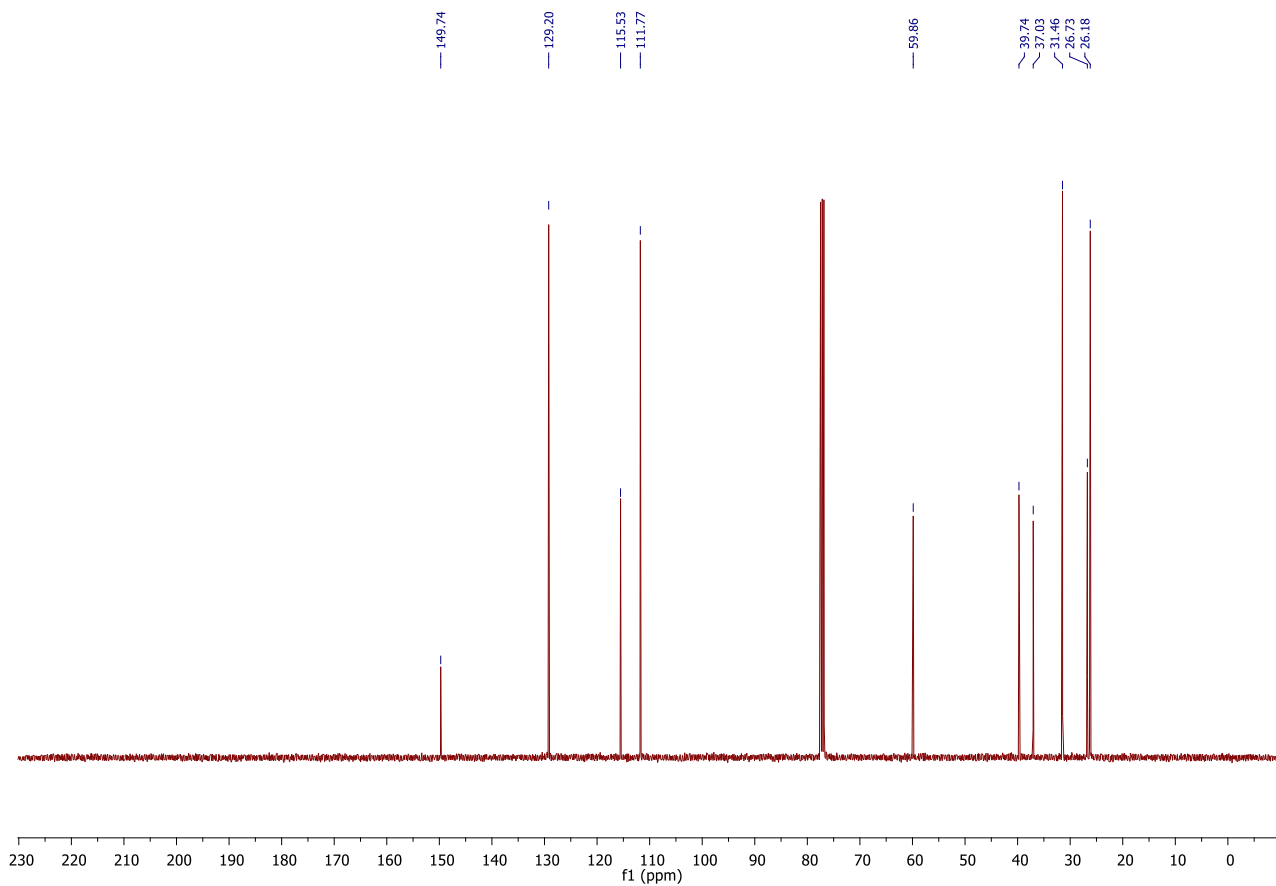


1.81. N-(cyclohexylmethyl)-N-methyl-aniline (598g)

^1H NMR (400 MHz, CDCl_3)

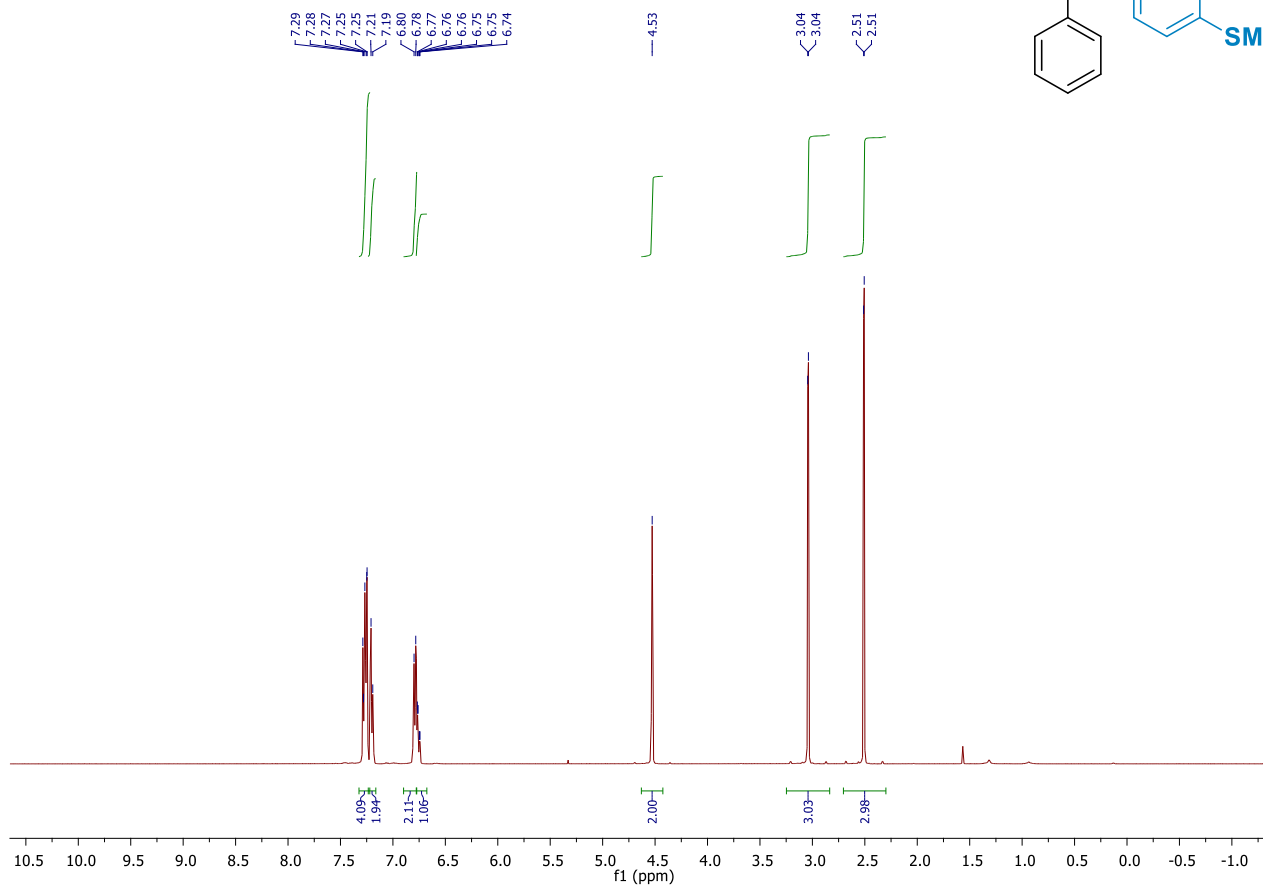
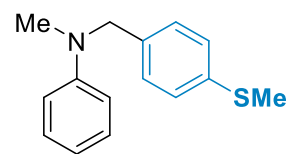


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

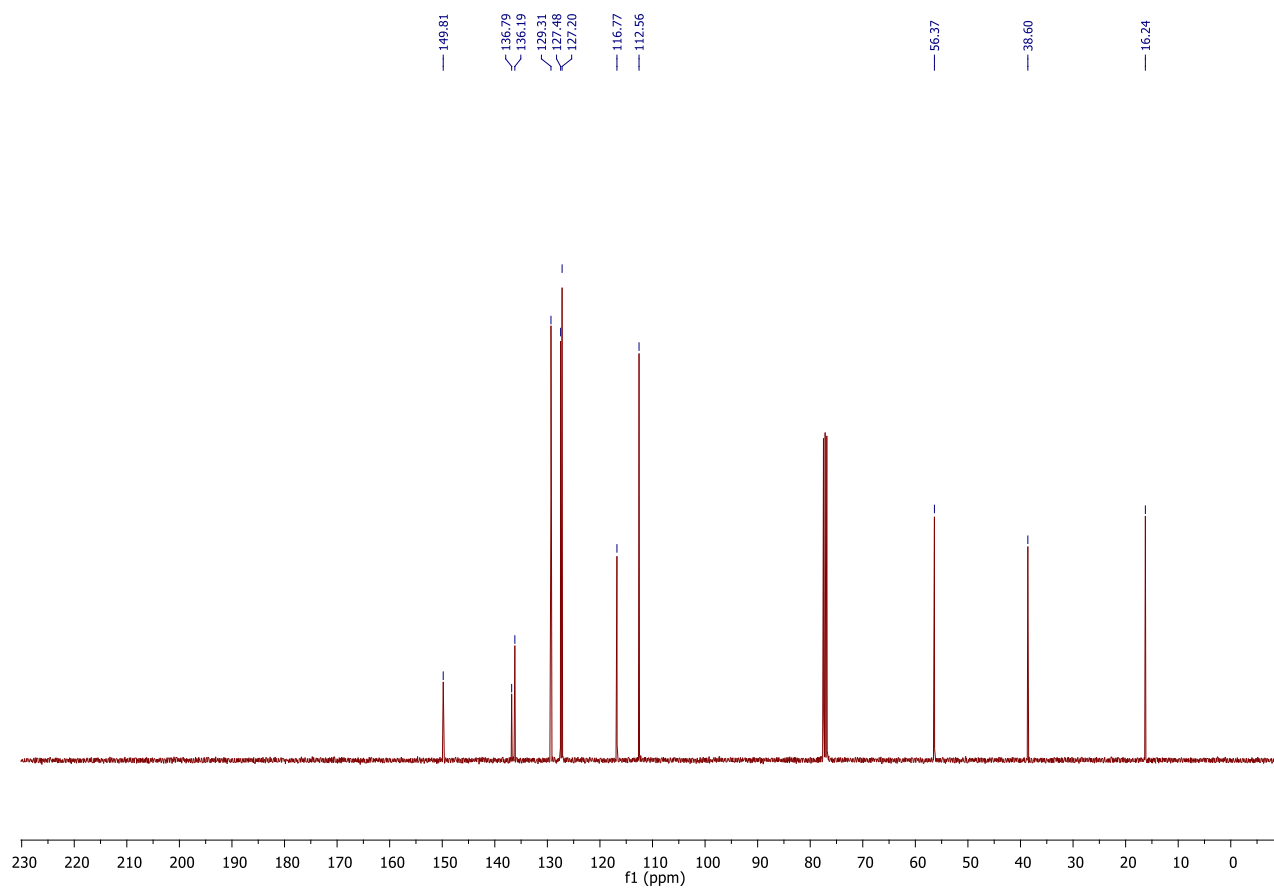


1.82. N-methyl-N-[(4-methylsulfonylphenyl)methyl]aniline (598h)

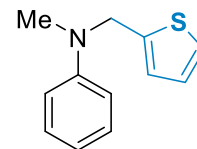
^1H NMR (400 MHz, CDCl_3)



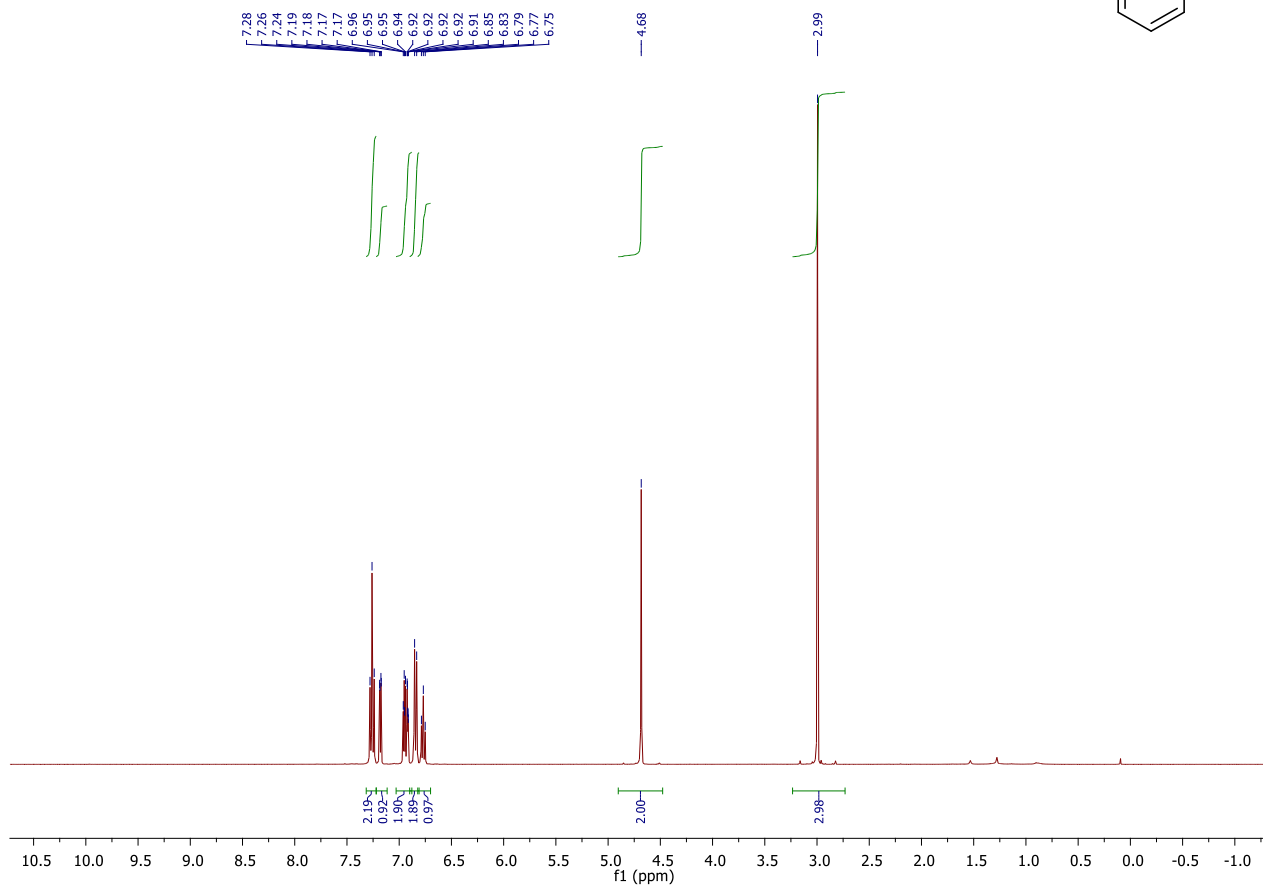
$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)



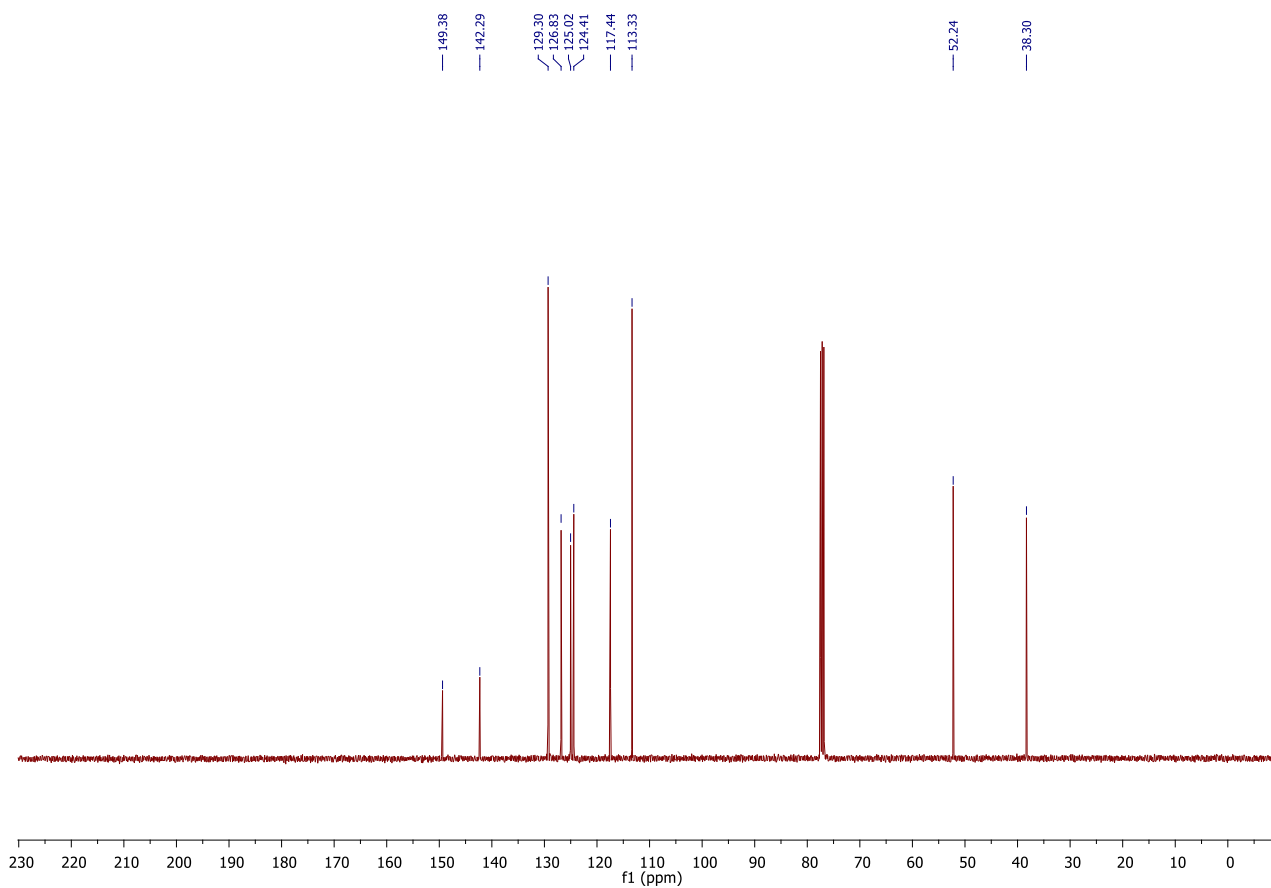
1.83. N-methyl-N-(2-thienylmethyl)aniline (598i)



^1H NMR (400 MHz, CDCl_3)

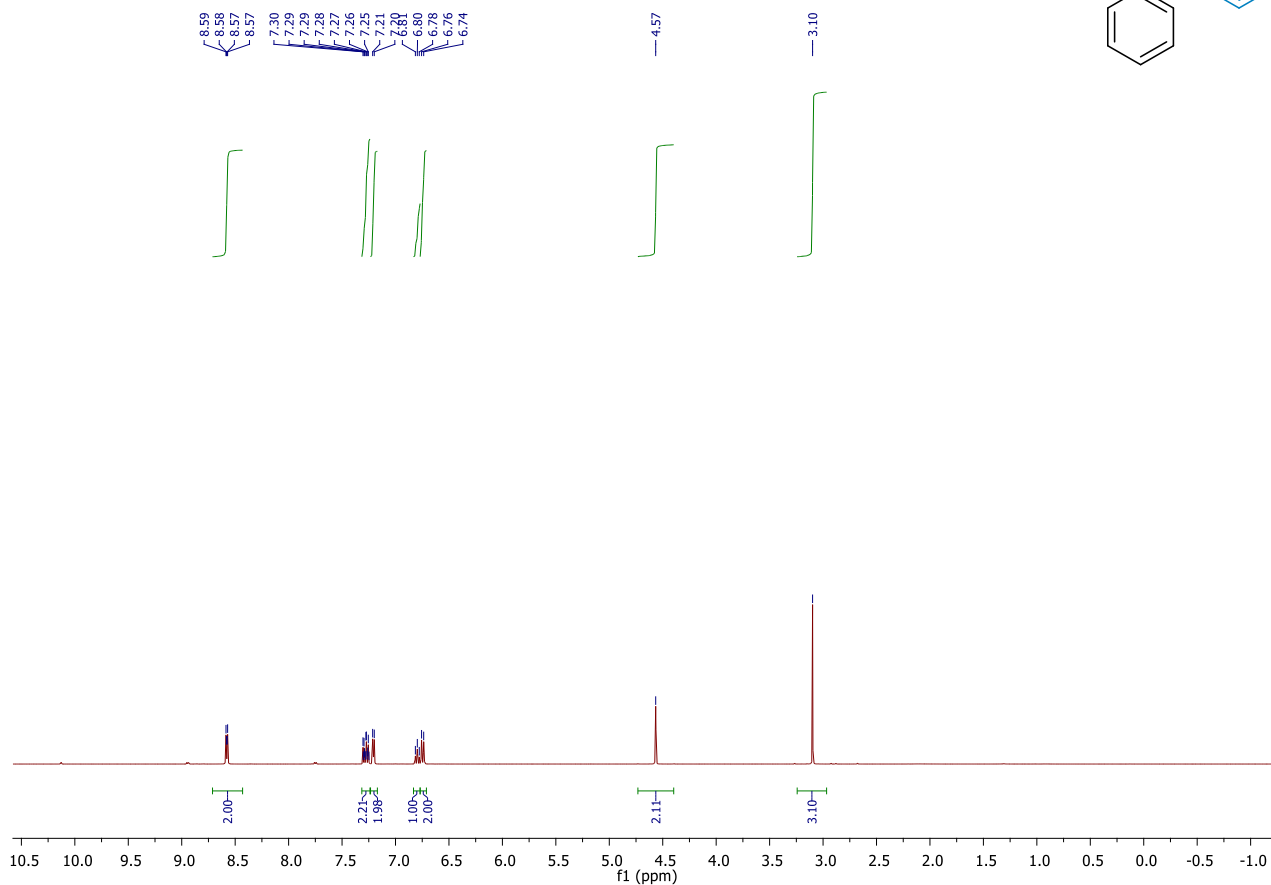
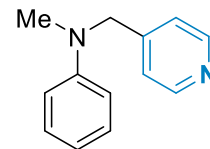


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

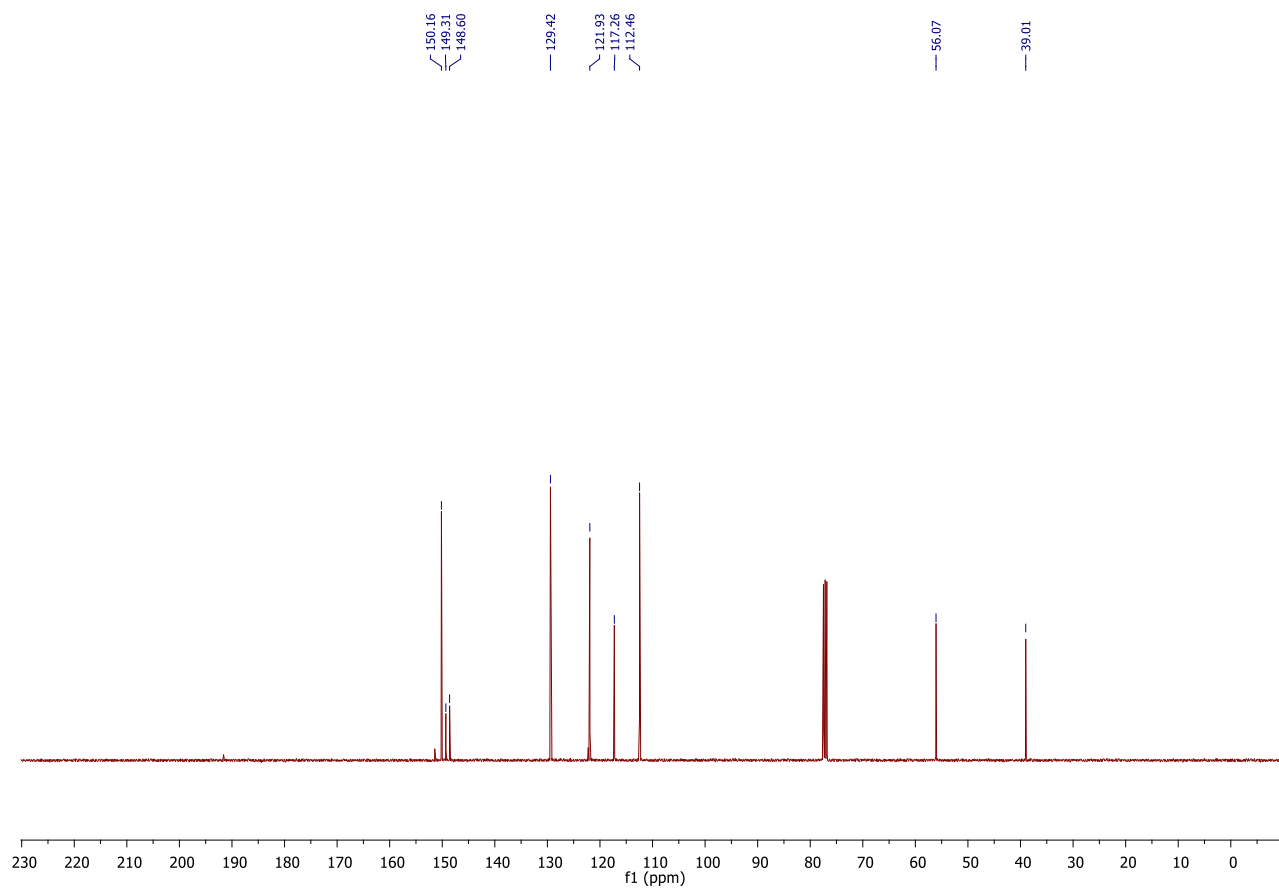


1.84. N-methyl-N-(4-pyridylmethyl)aniline (598j)

^1H NMR (400 MHz, CDCl_3)

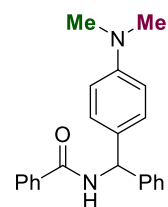
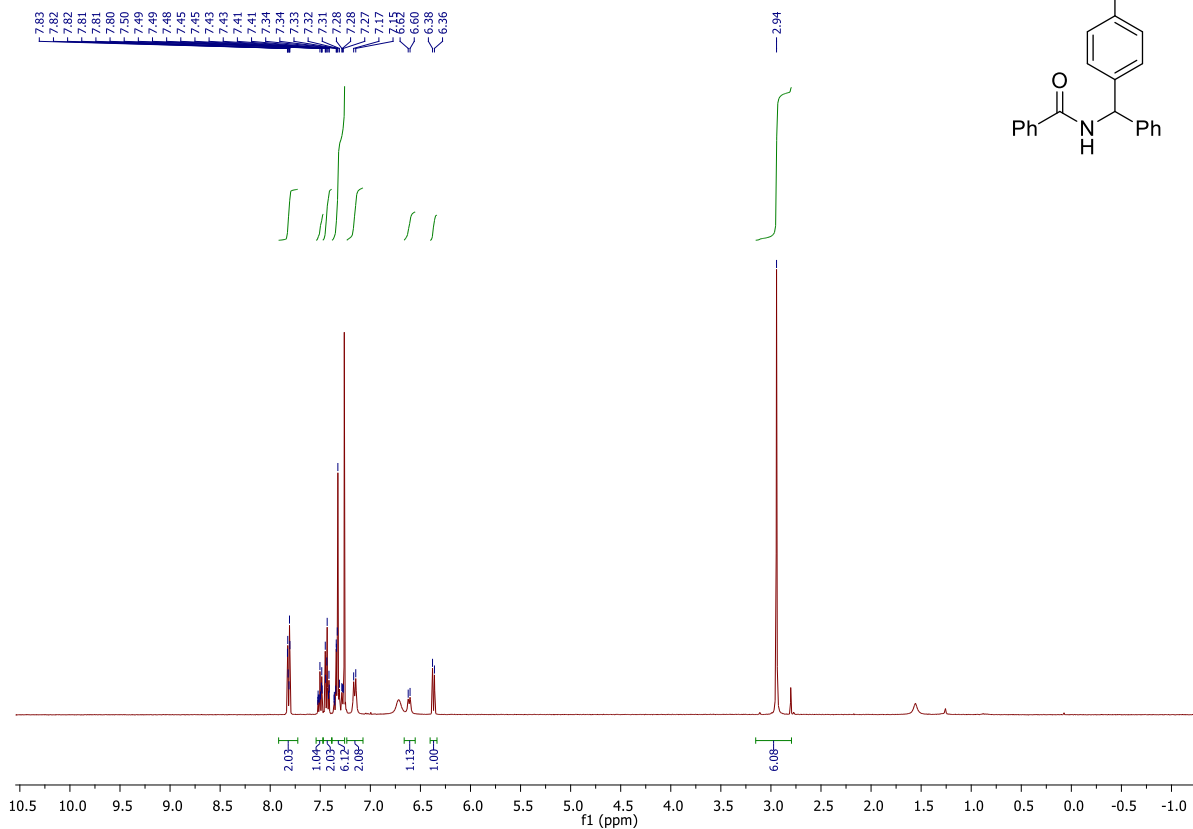


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

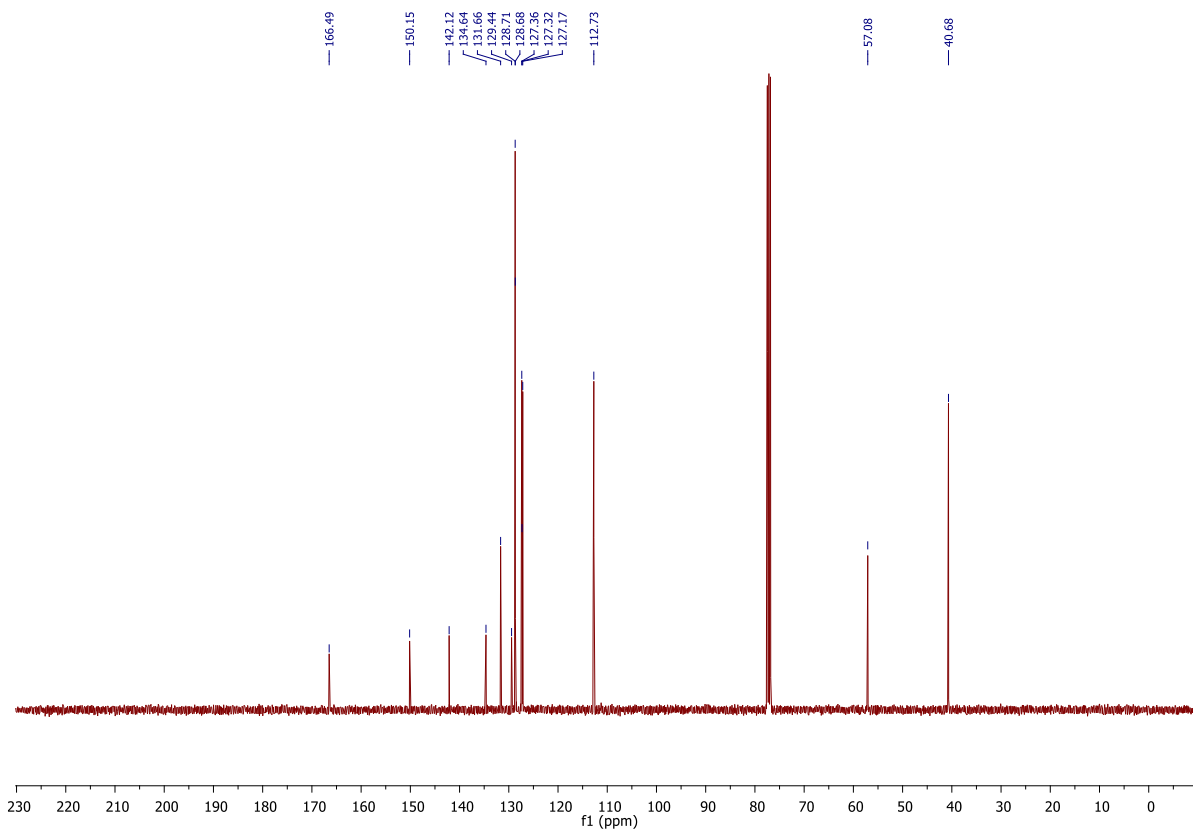


1.85. N-[[4-(dimethylamino)phenyl]-phenyl-methyl]benzamide (601a)

^1H NMR (400 MHz, CDCl_3)

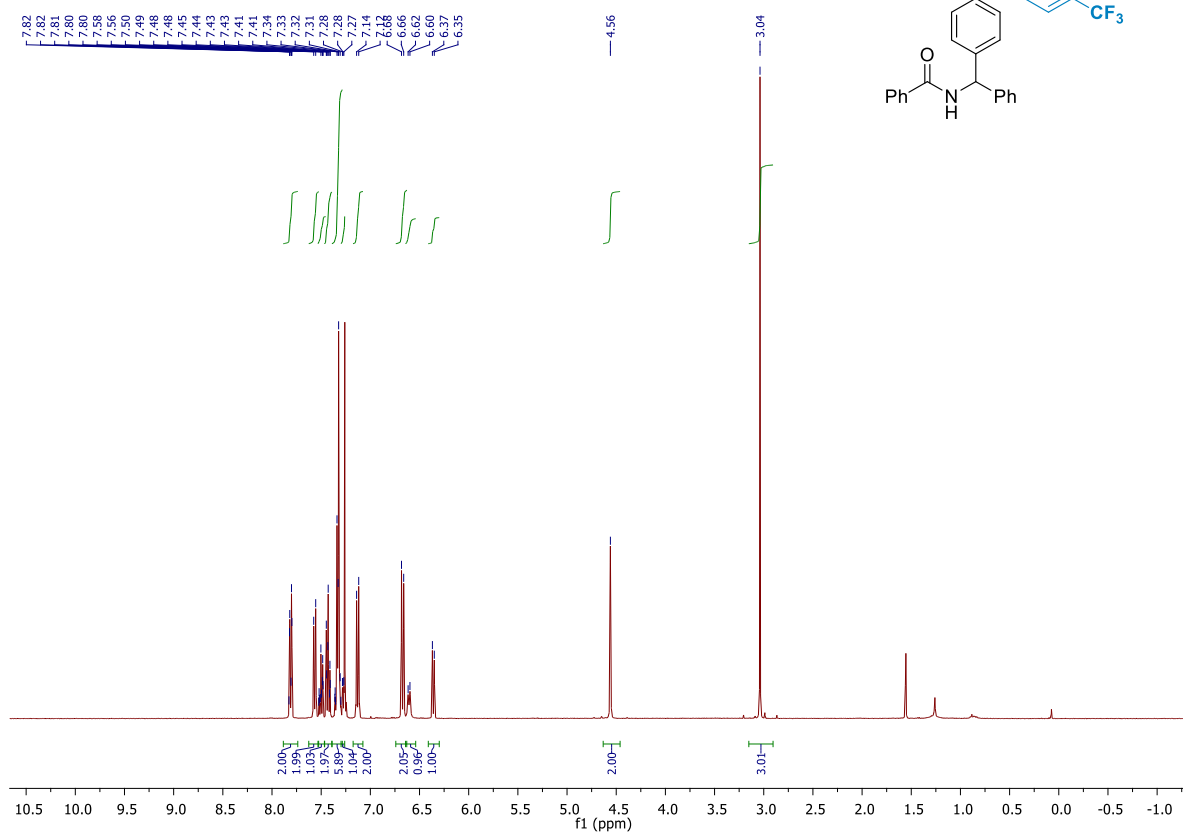


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

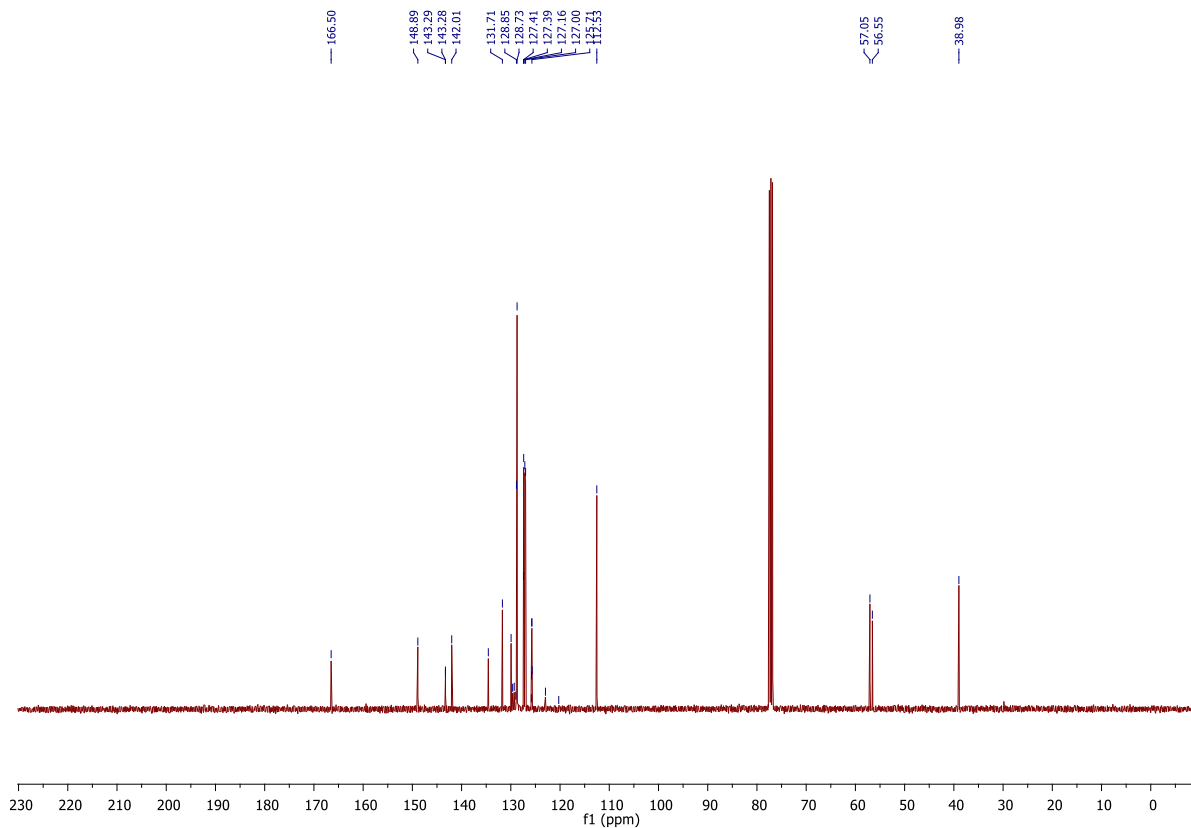


1.87. N-[[4-[methyl-[[4-(trifluoromethyl)phenyl]methyl]amino]phenyl]-phenyl-methyl]benzamide (601c)

^1H NMR (400 MHz, CDCl_3)

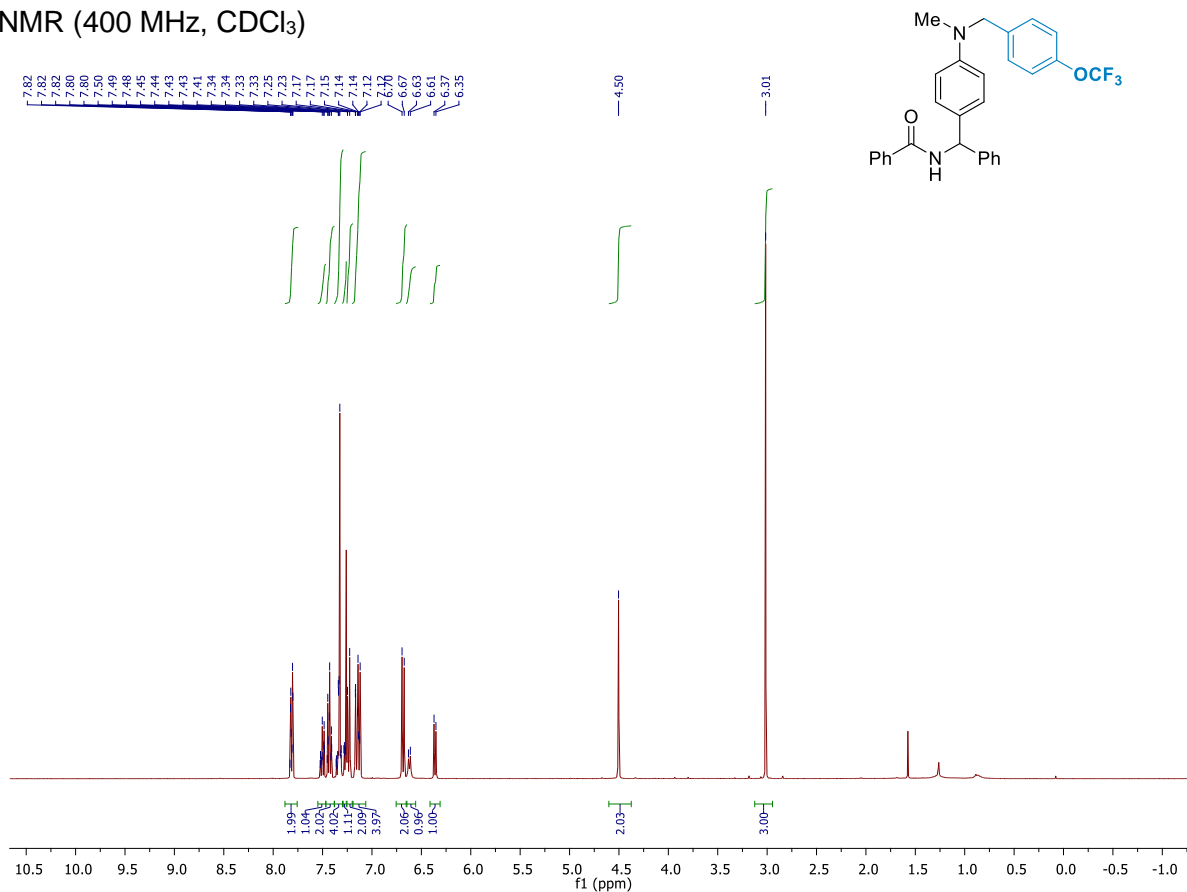


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

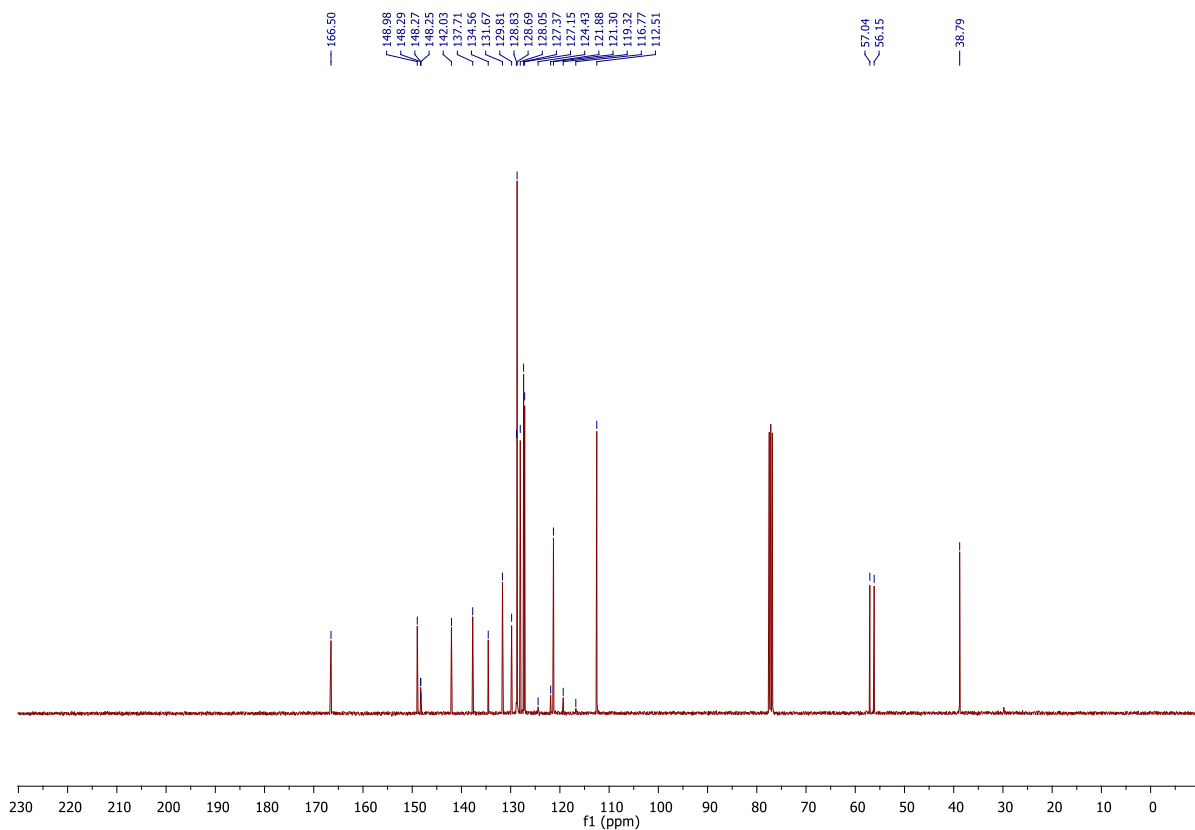


1.88. N-[[4-[methyl-[[4-(trifluoromethoxy)phenyl]methyl]amino]phenyl]-phenyl-methyl]benzamide (601d)

^1H NMR (400 MHz, CDCl_3)

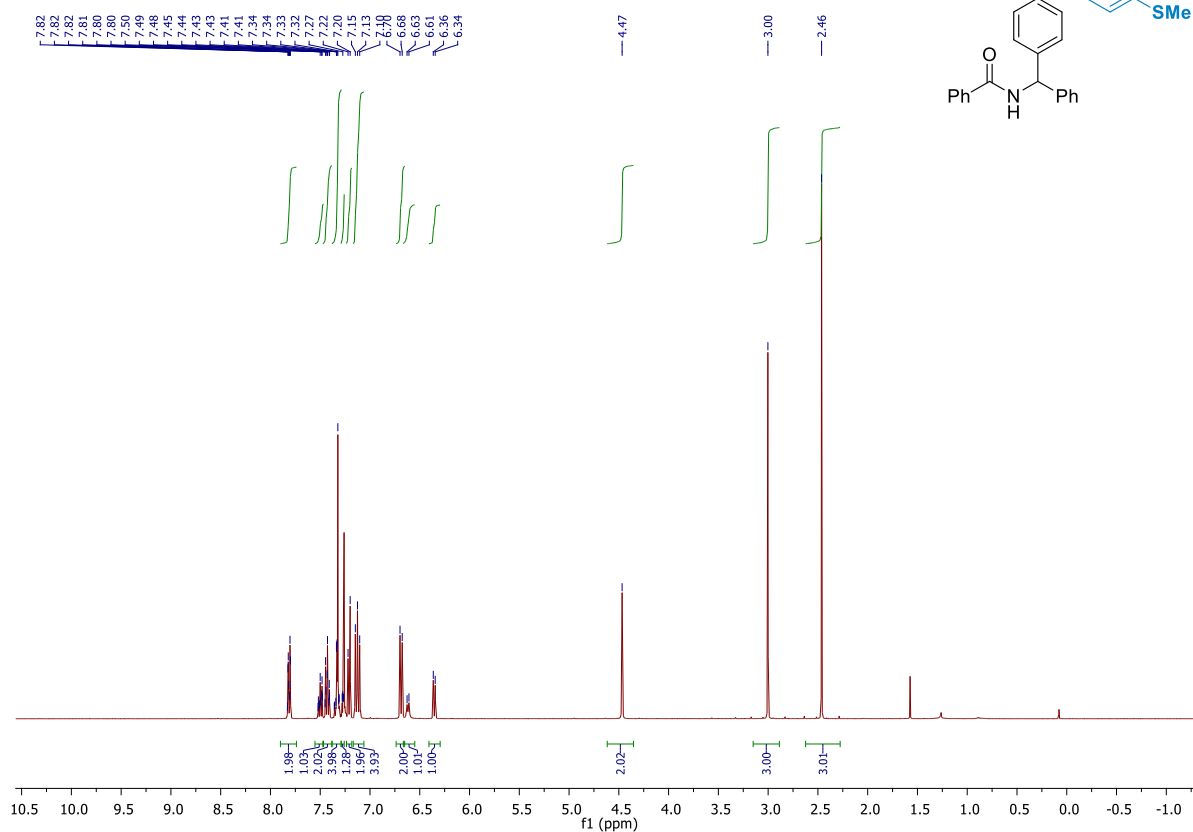


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

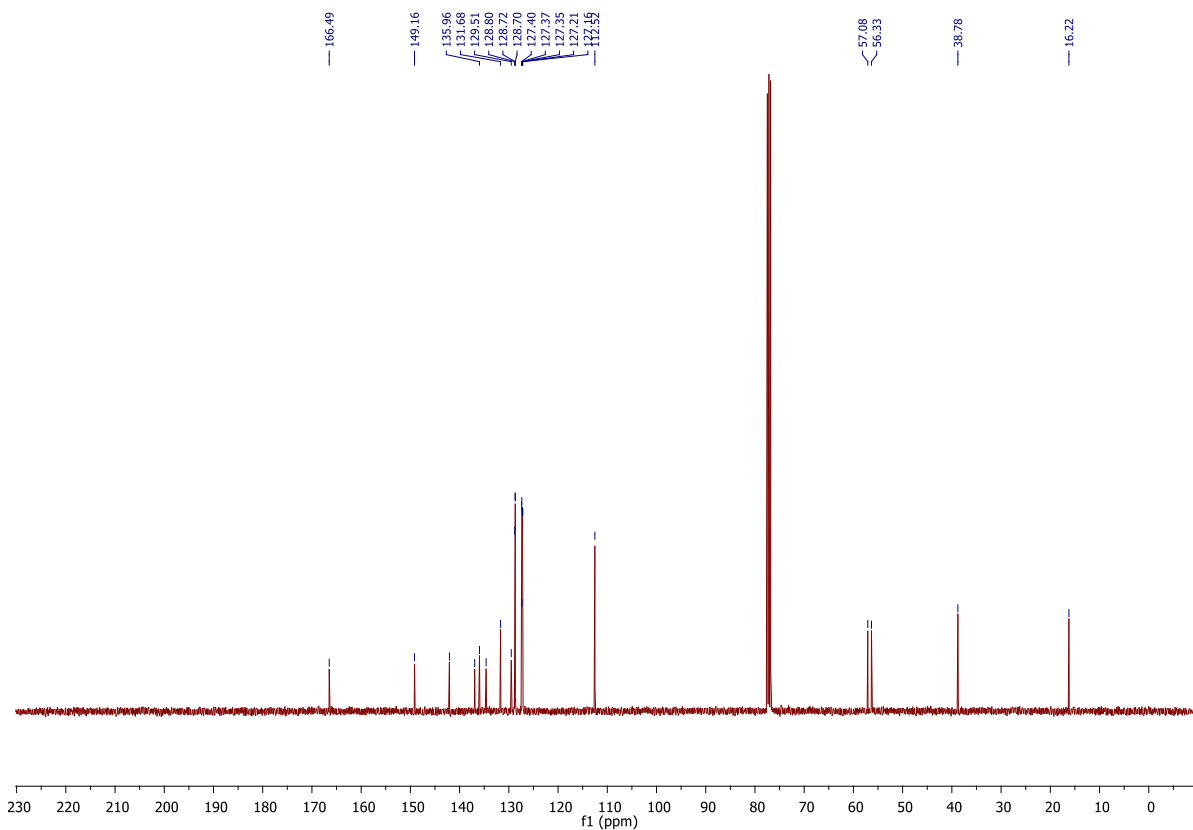


1.89. N-[[4-[methyl-[(4-methylsulfanylphenyl)methyl]amino]phenyl]-phenyl]-methyl]benzamide (601e)

^1H NMR (400 MHz, CDCl_3)

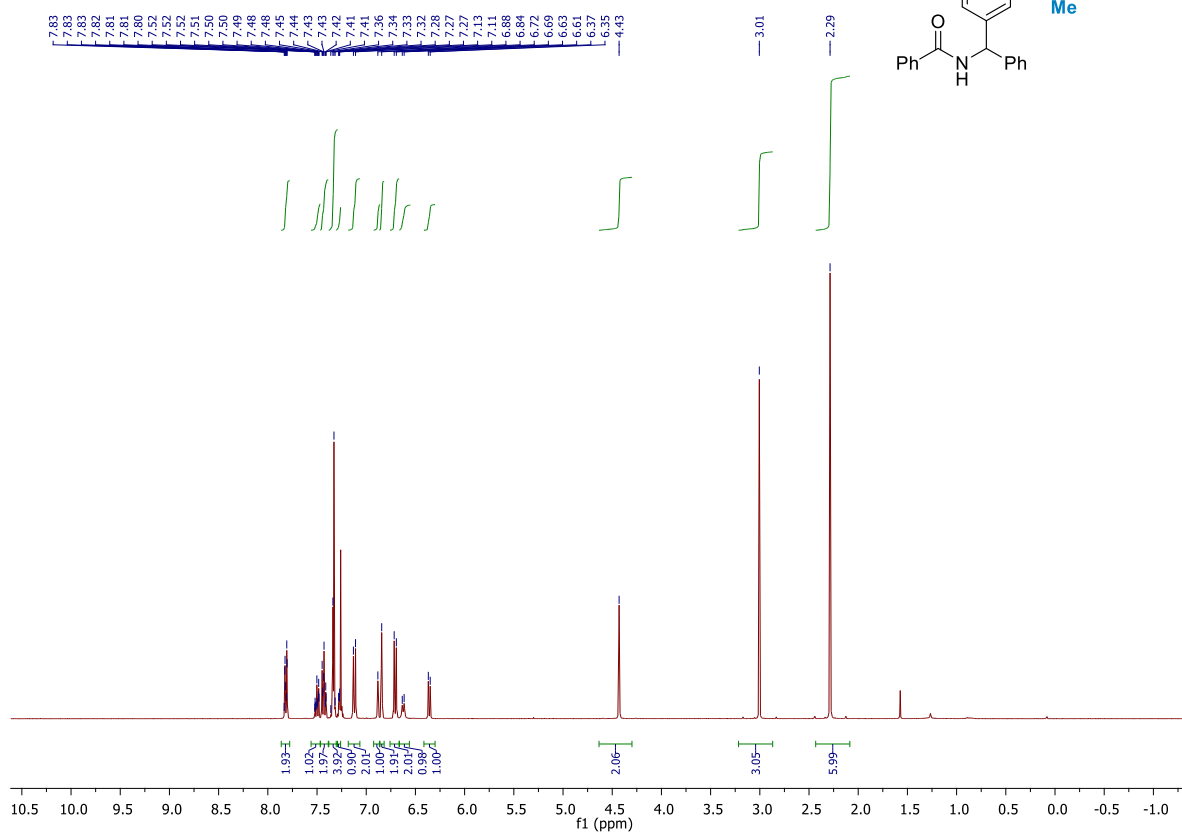


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

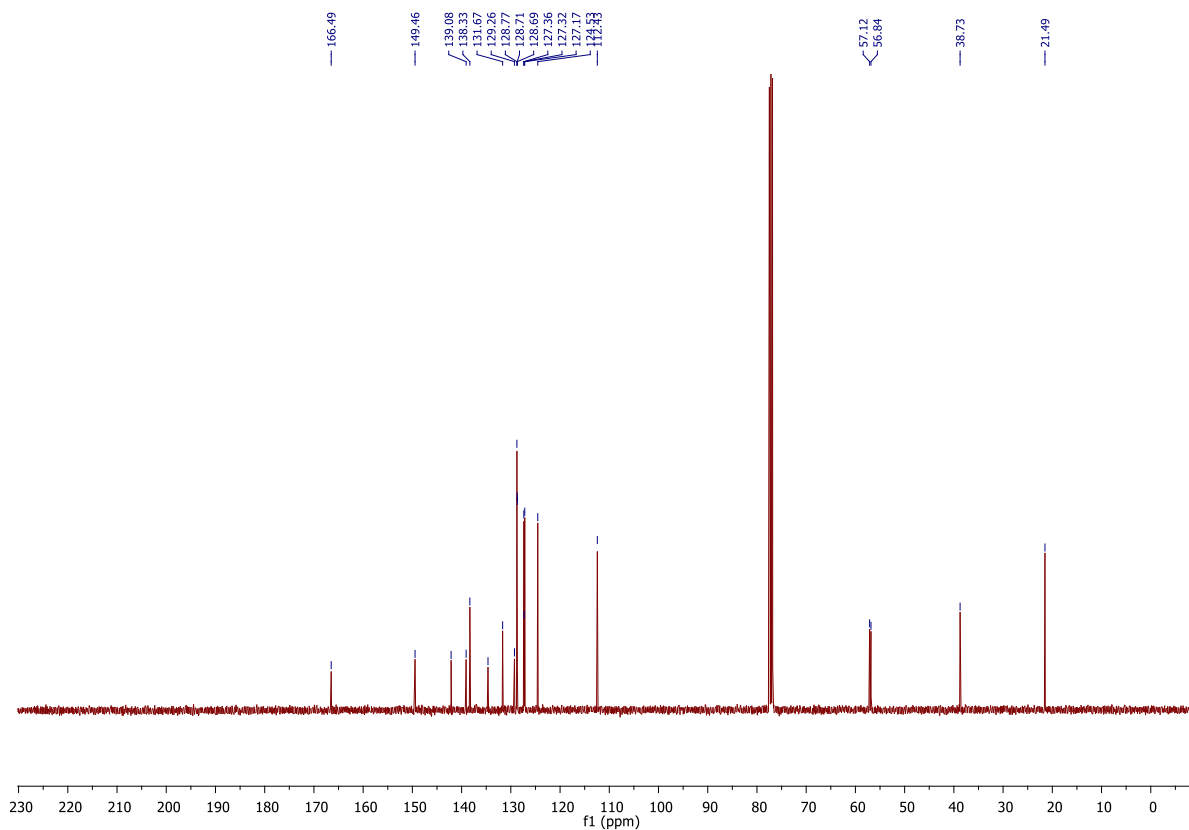


1.90. N-[[4-[(3,5-dimethylphenyl)methyl-methyl-amino]phenyl]-phenyl-methyl]benzamide (601f)

^1H NMR (400 MHz, CDCl_3)

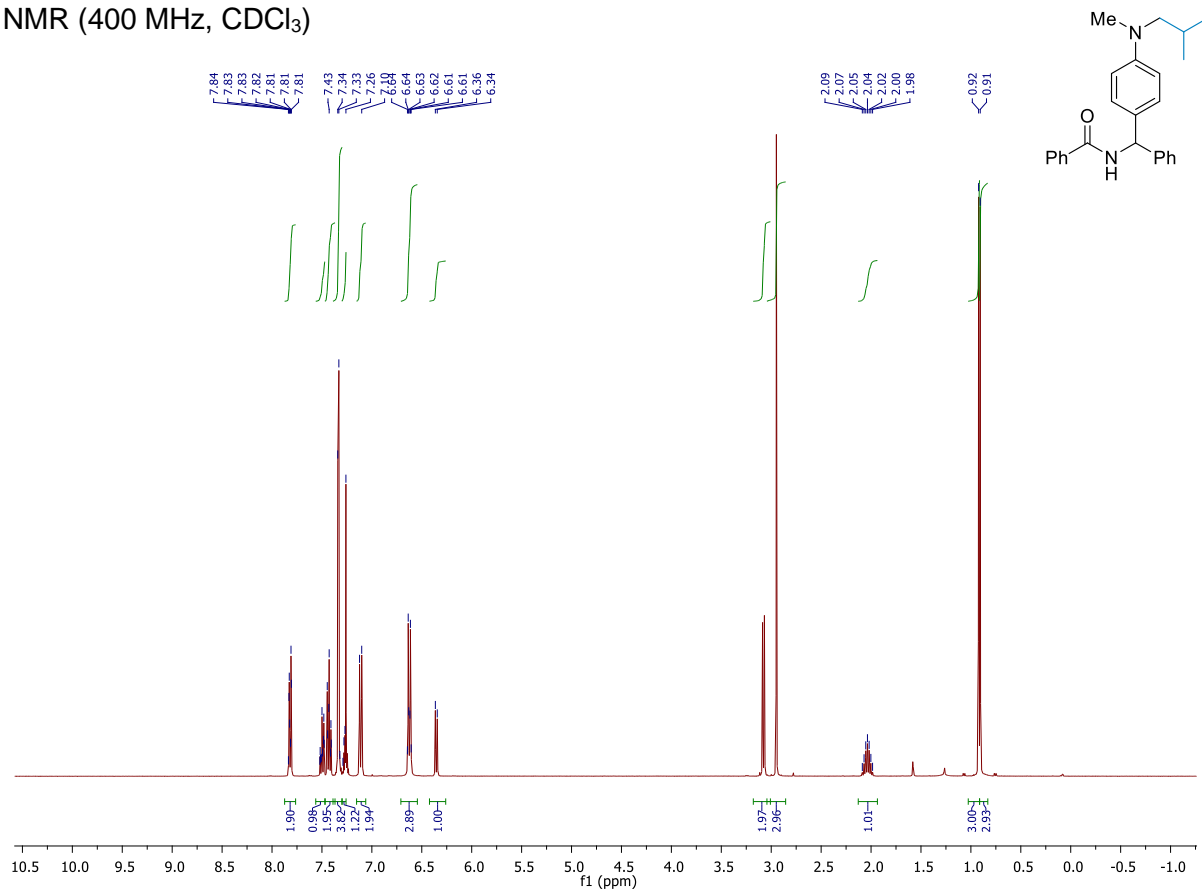


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

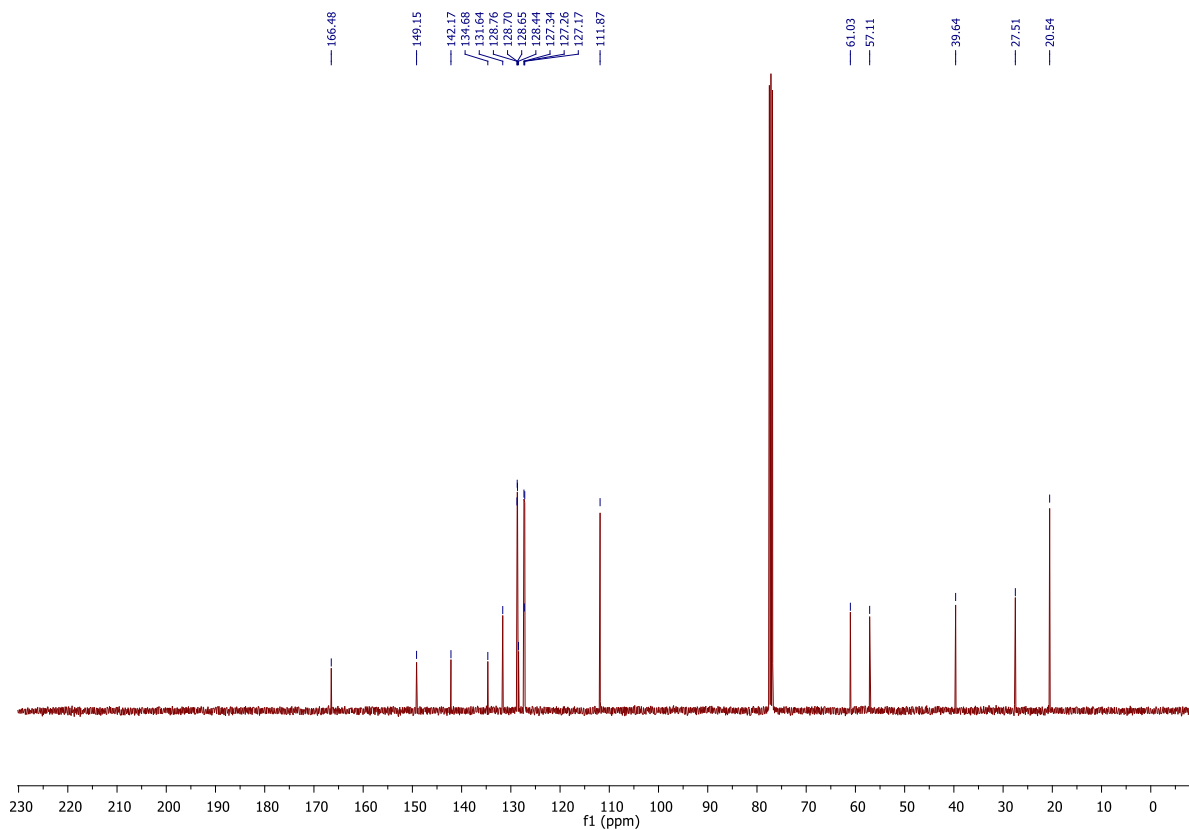


1.91. N-[[4-[isobutyl(methyl)amino]phenyl]-phenyl-methyl]benzamide (601g)

^1H NMR (400 MHz, CDCl_3)

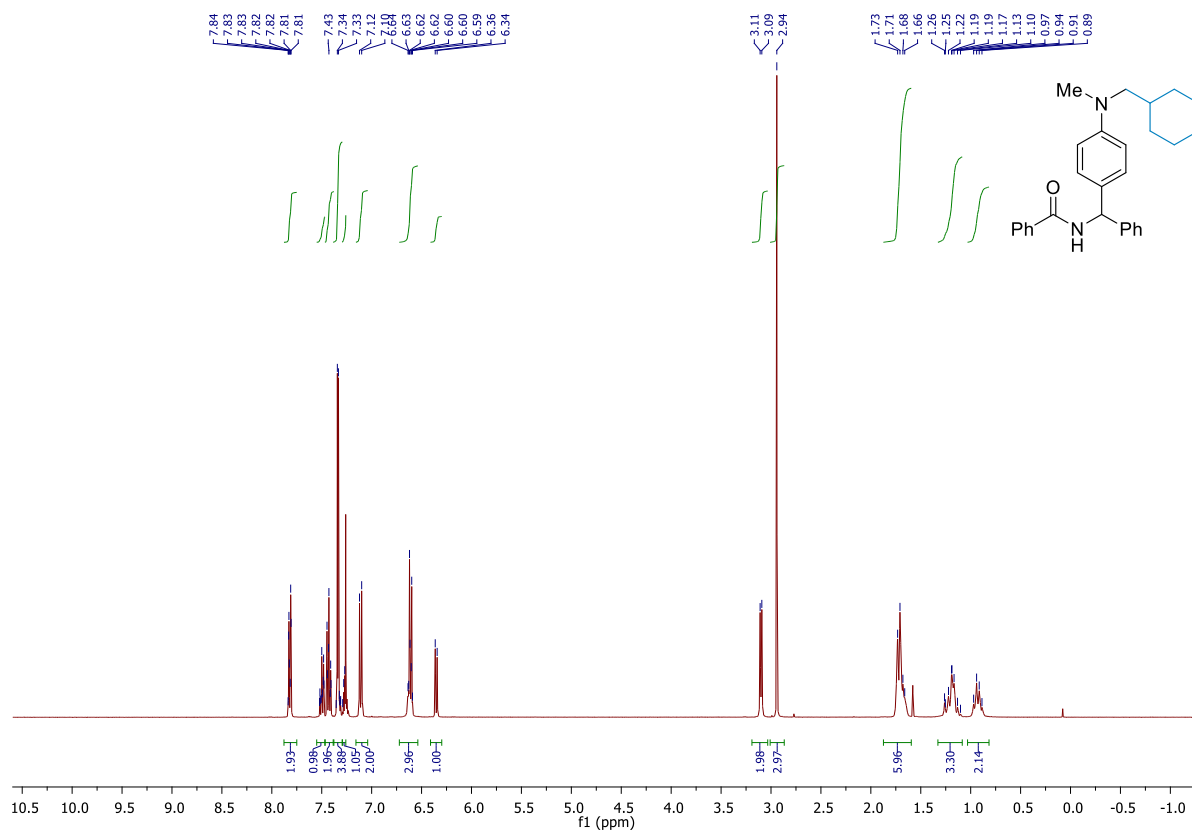


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

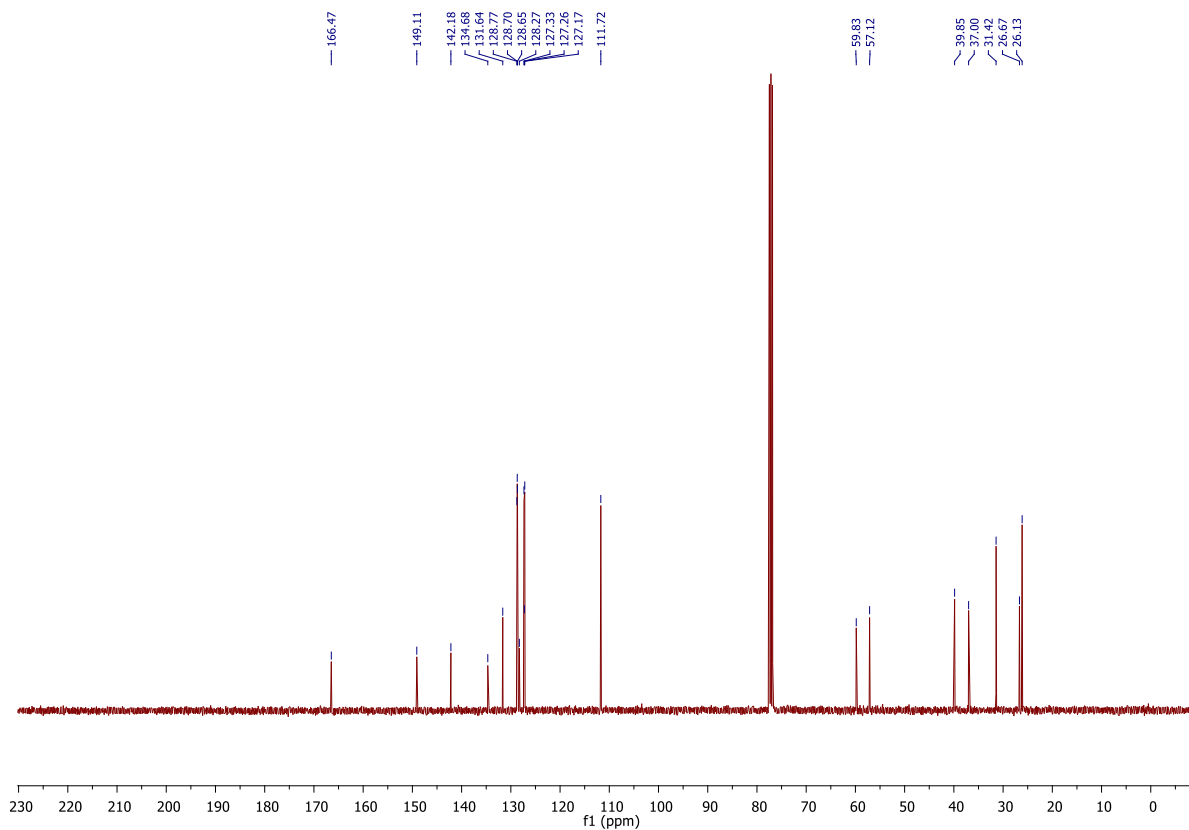


1.92. N-[[4-[cyclohexylmethyl(methyl)amino]phenyl]-phenyl-methyl]benzamide (601h)

^1H NMR (400 MHz, CDCl_3)

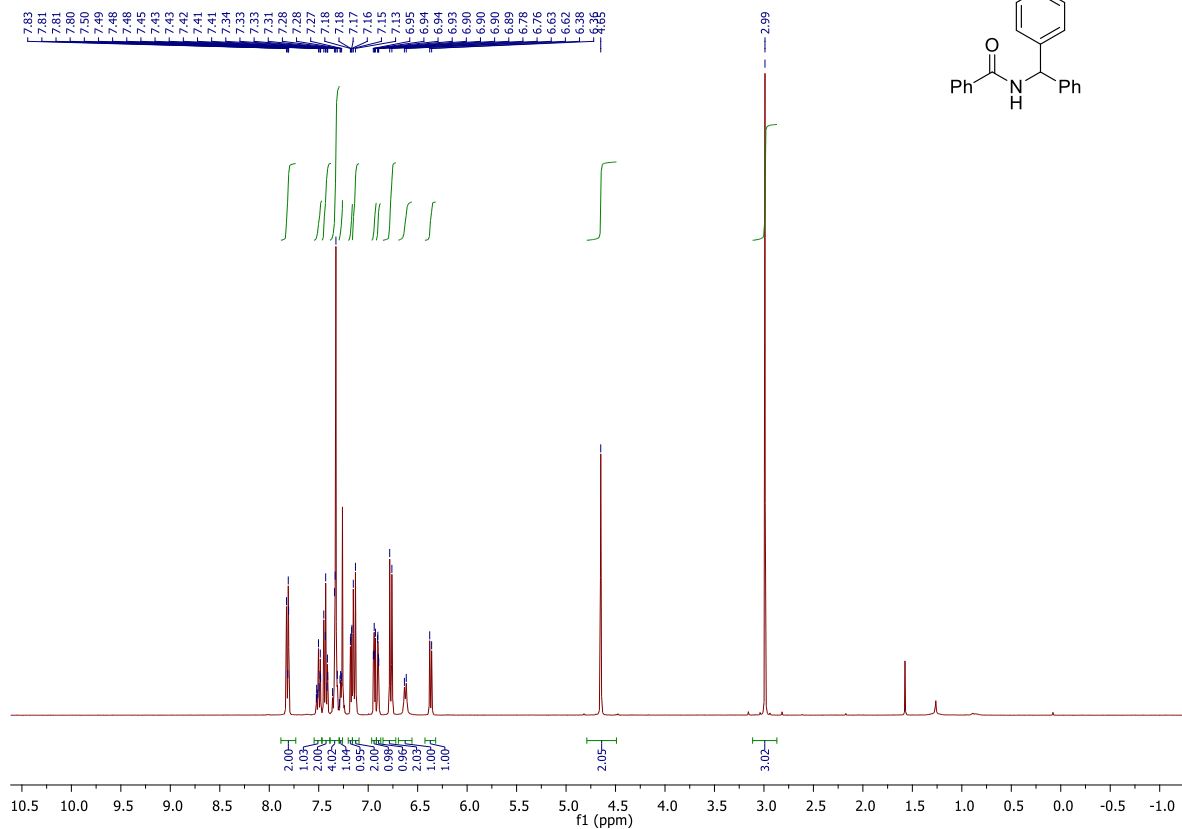


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

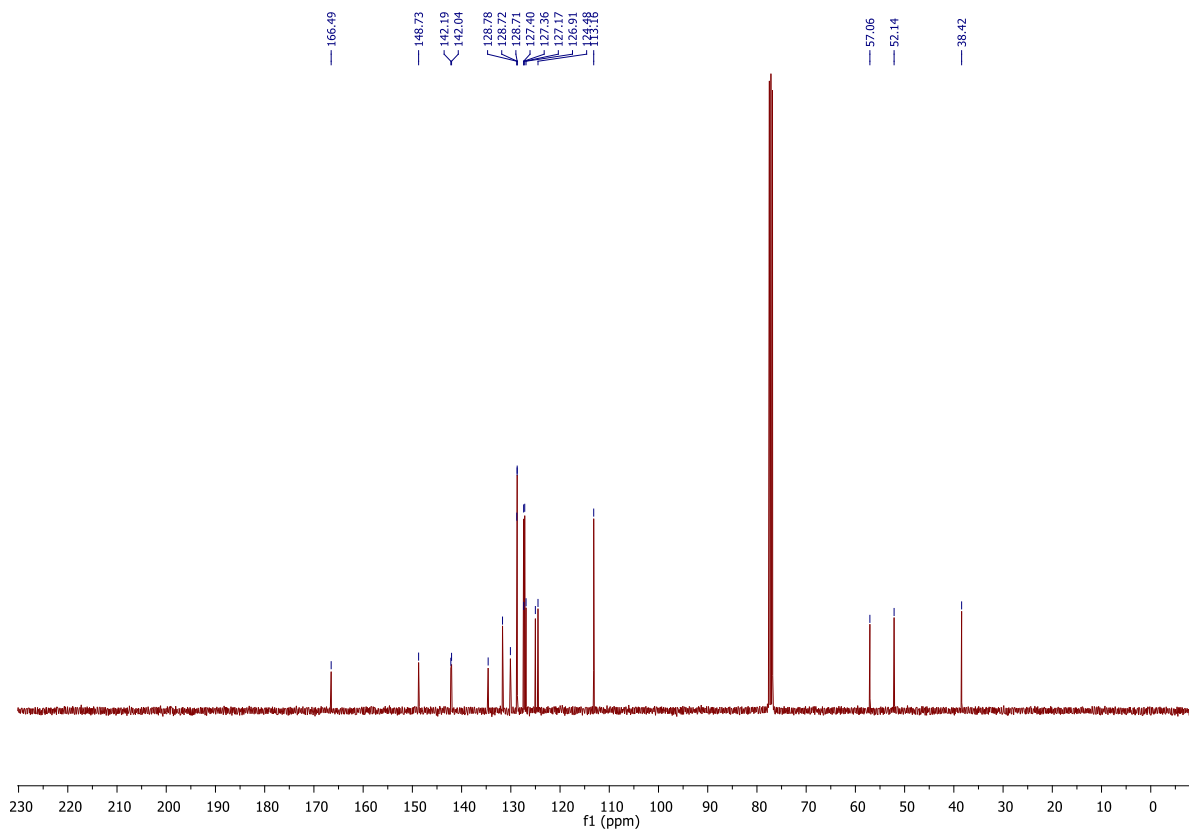


1.93. N-[[4-[methyl(2-thienylmethyl)amino]phenyl]-phenyl-methyl]benzamide (601i)

^1H NMR (400 MHz, CDCl_3)

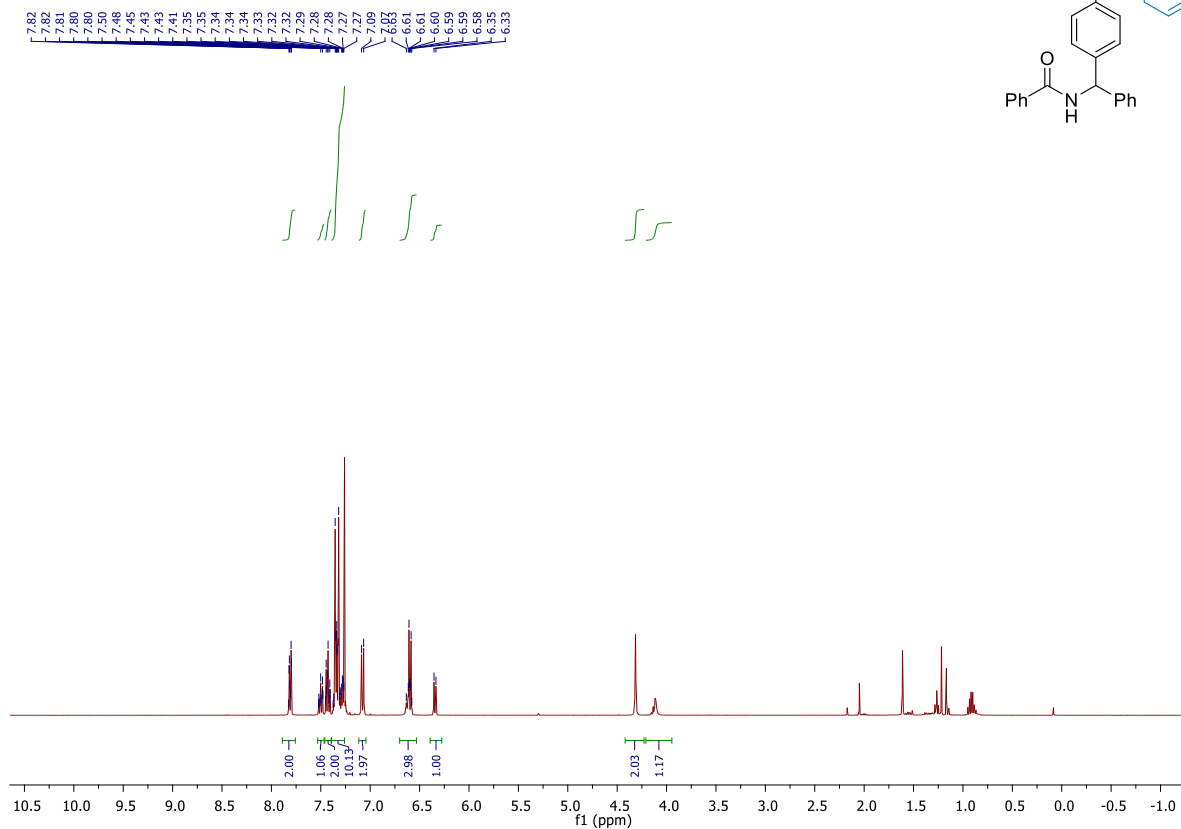


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

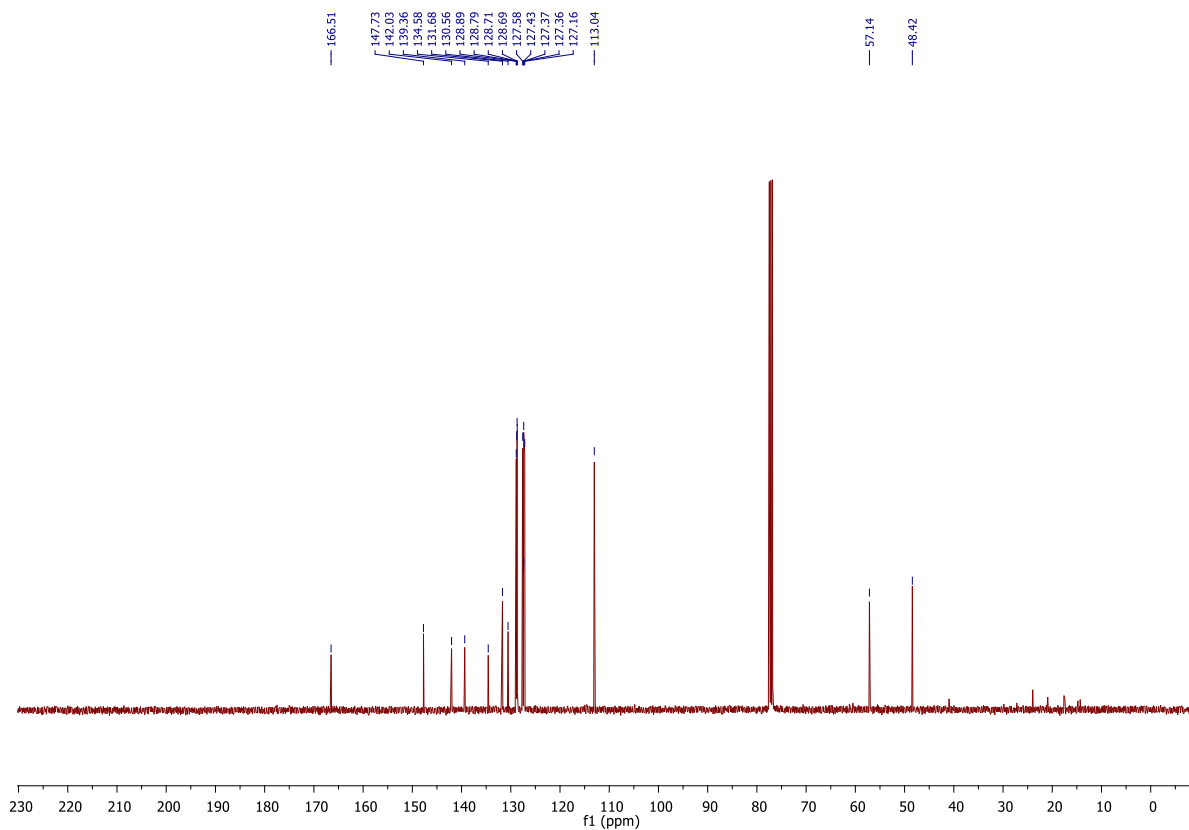


1.94. N-[[4-(benzylamino)phenyl]-phenyl-methyl]benzamide (604a)

^1H NMR (400 MHz, CDCl_3)

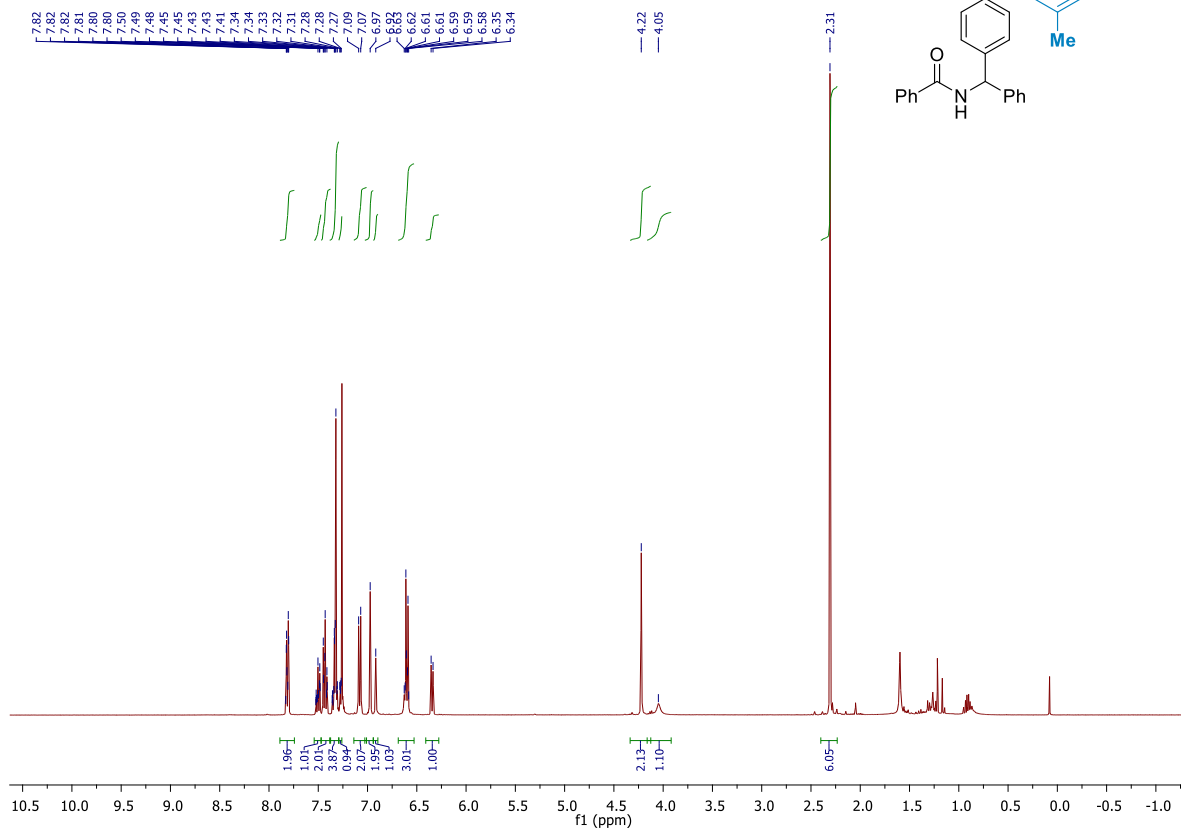


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

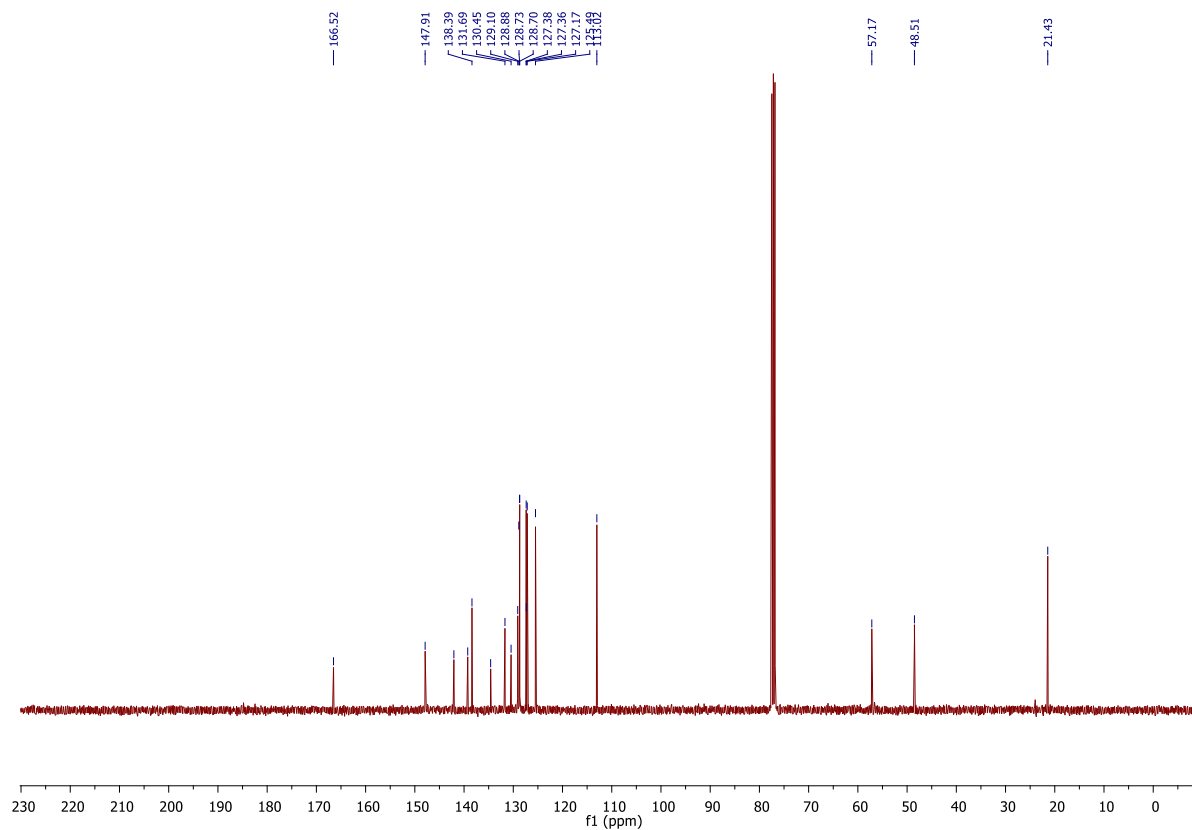


1.95. N-[[4-[(3,5-dimethylphenyl)methylamino]phenyl]-phenyl-methyl]benzamide (604b)

^1H NMR (400 MHz, CDCl_3)

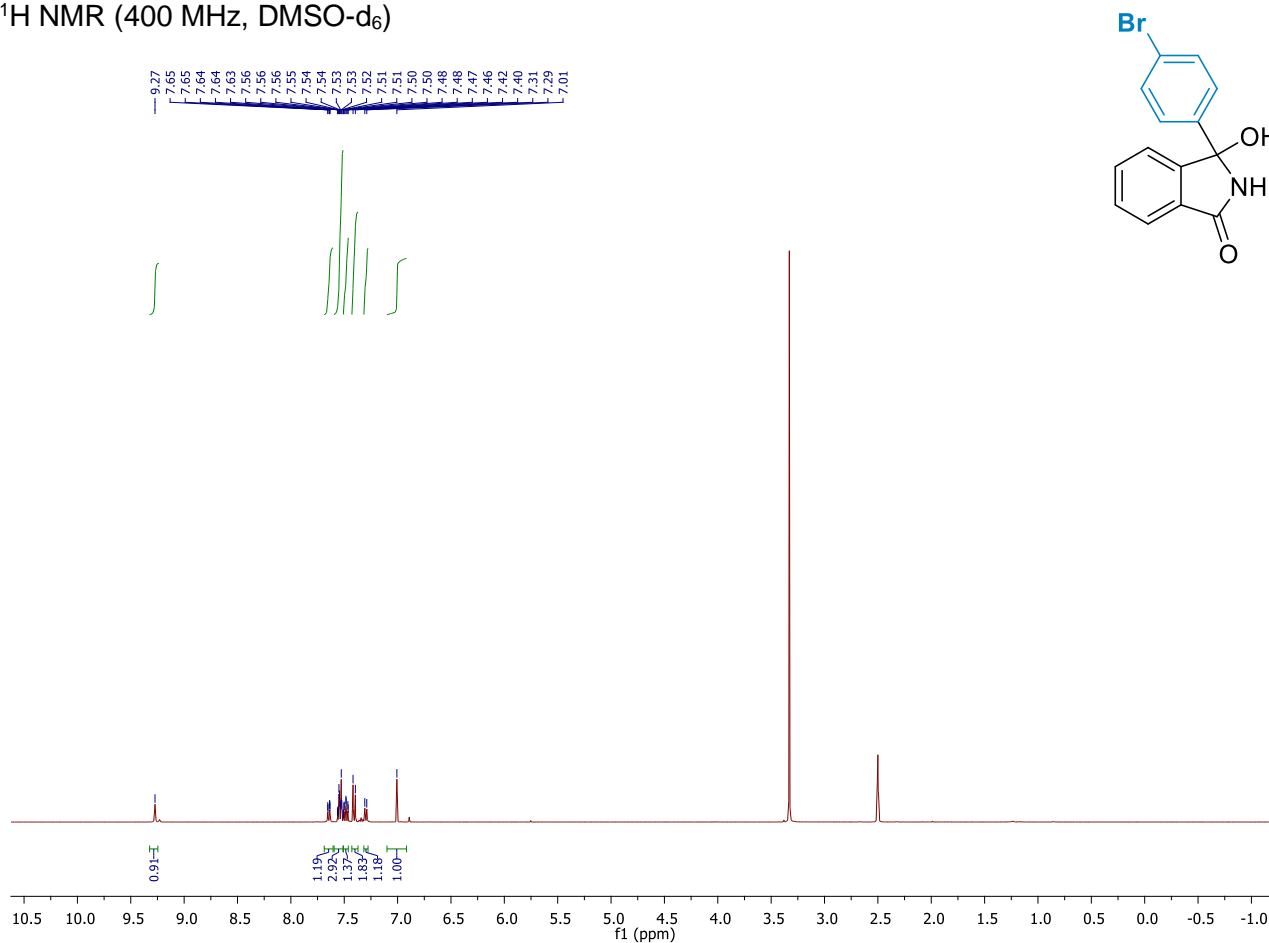


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

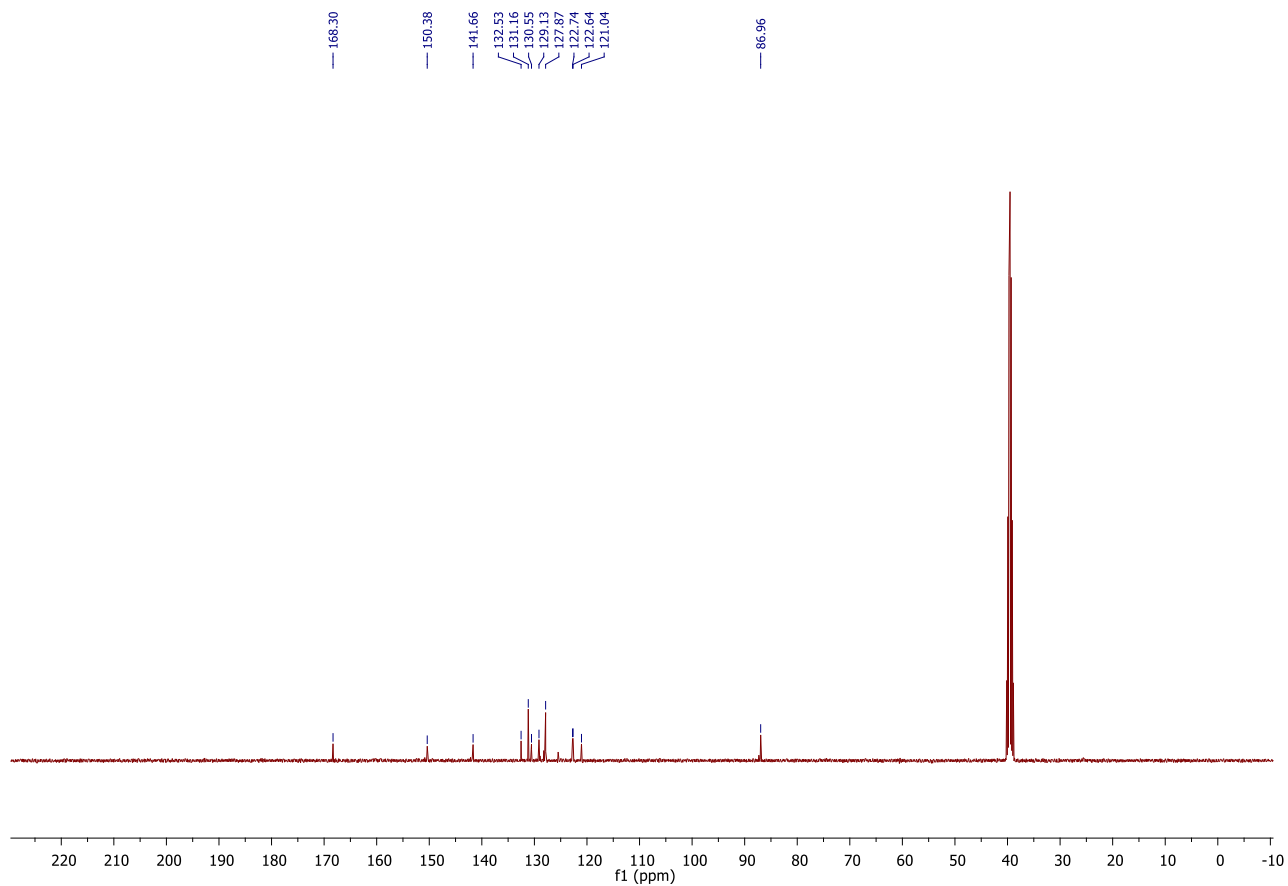


1.96. 3-(4-bromophenyl)-3-hydroxy-isoindolin-1-one (198n)

^1H NMR (400 MHz, DMSO- d_6)

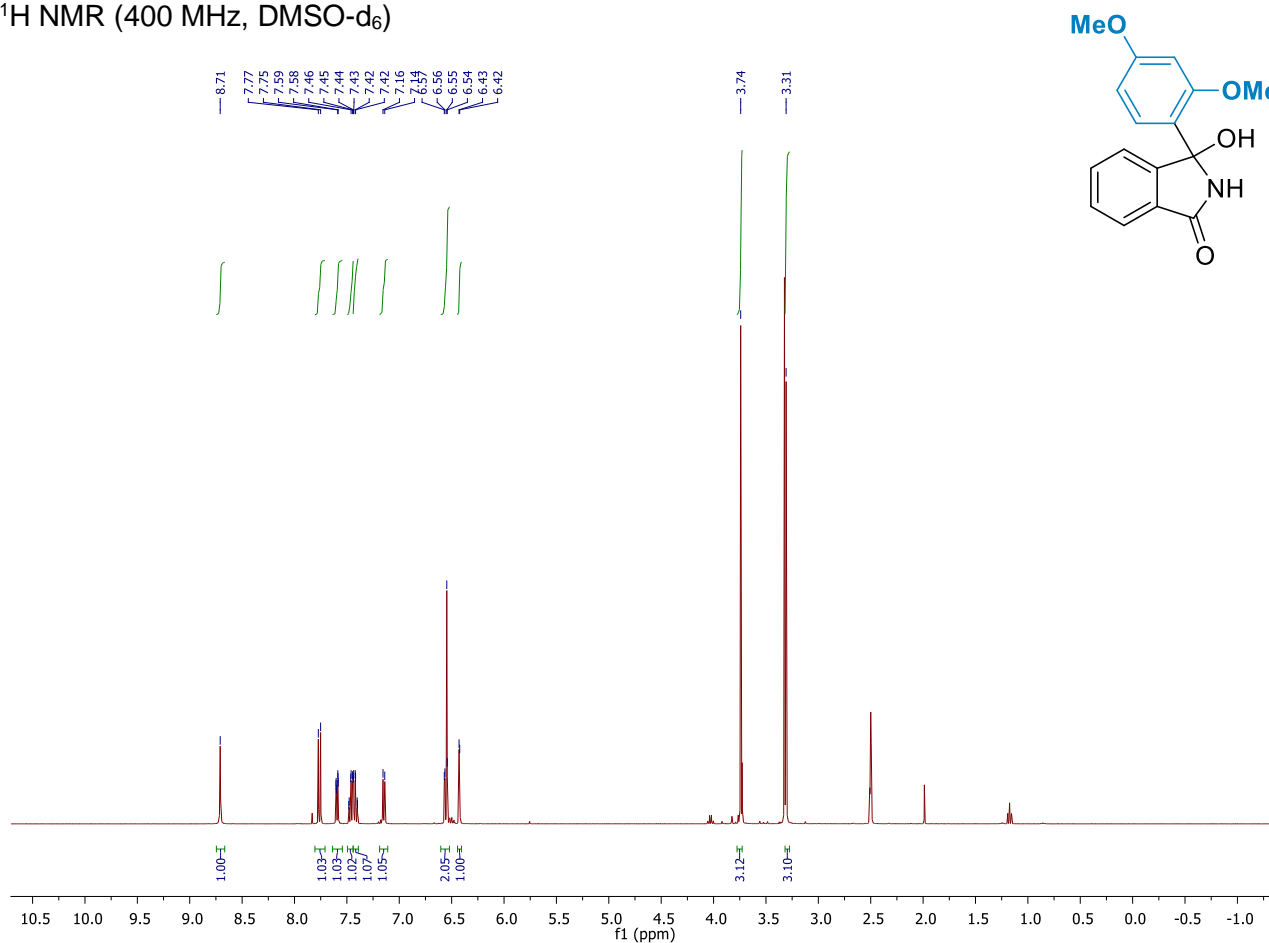


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)

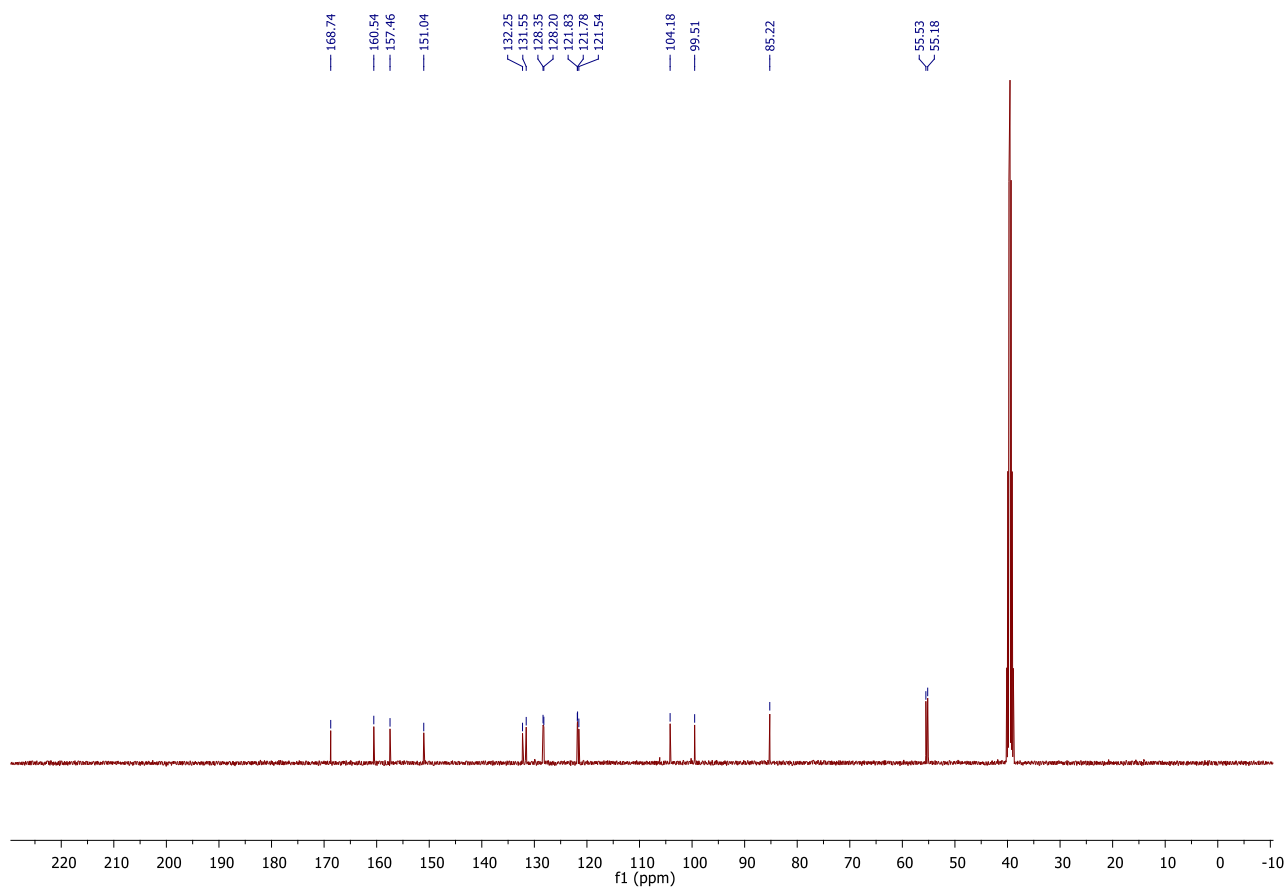


1.97. 3-(2,4-dimethoxyphenyl)-3-hydroxy-isoindolin-1-one (198o)

^1H NMR (400 MHz, DMSO-d_6)

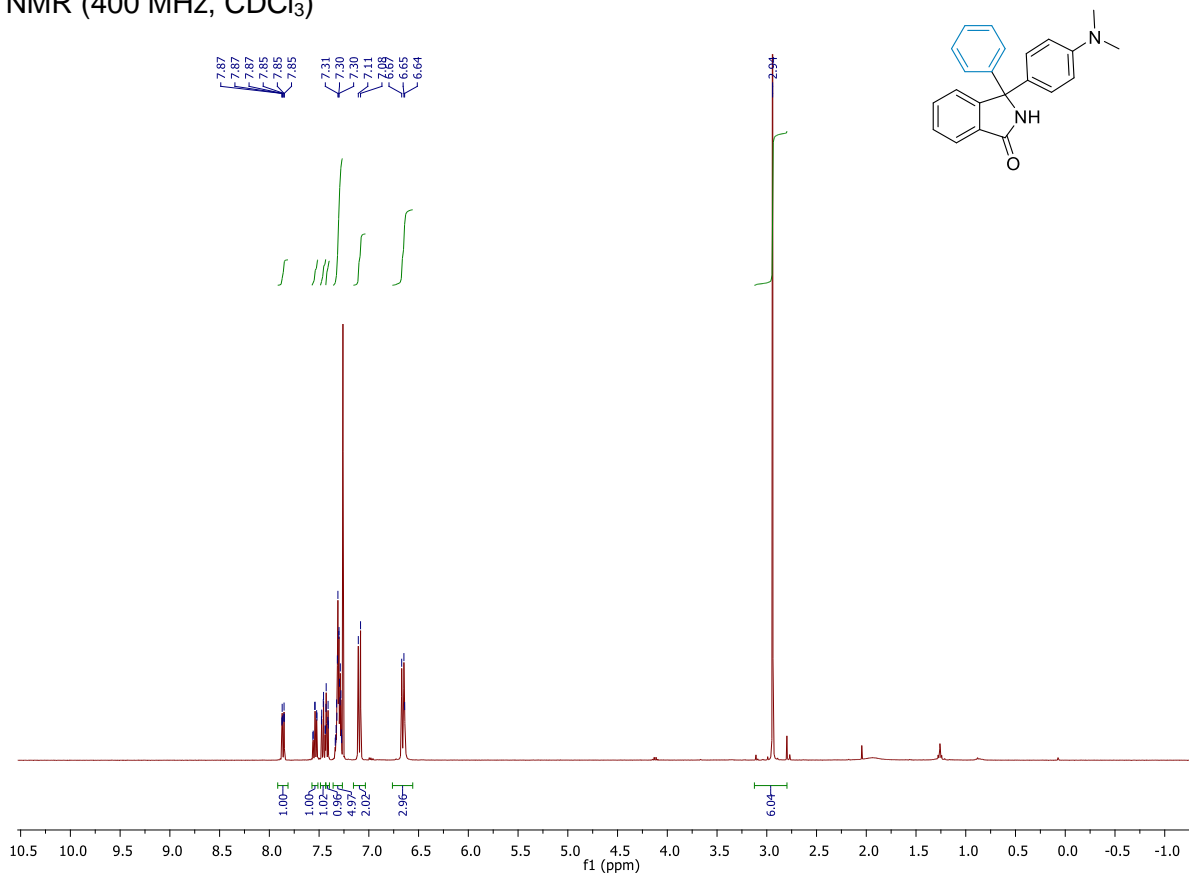


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO-d_6)

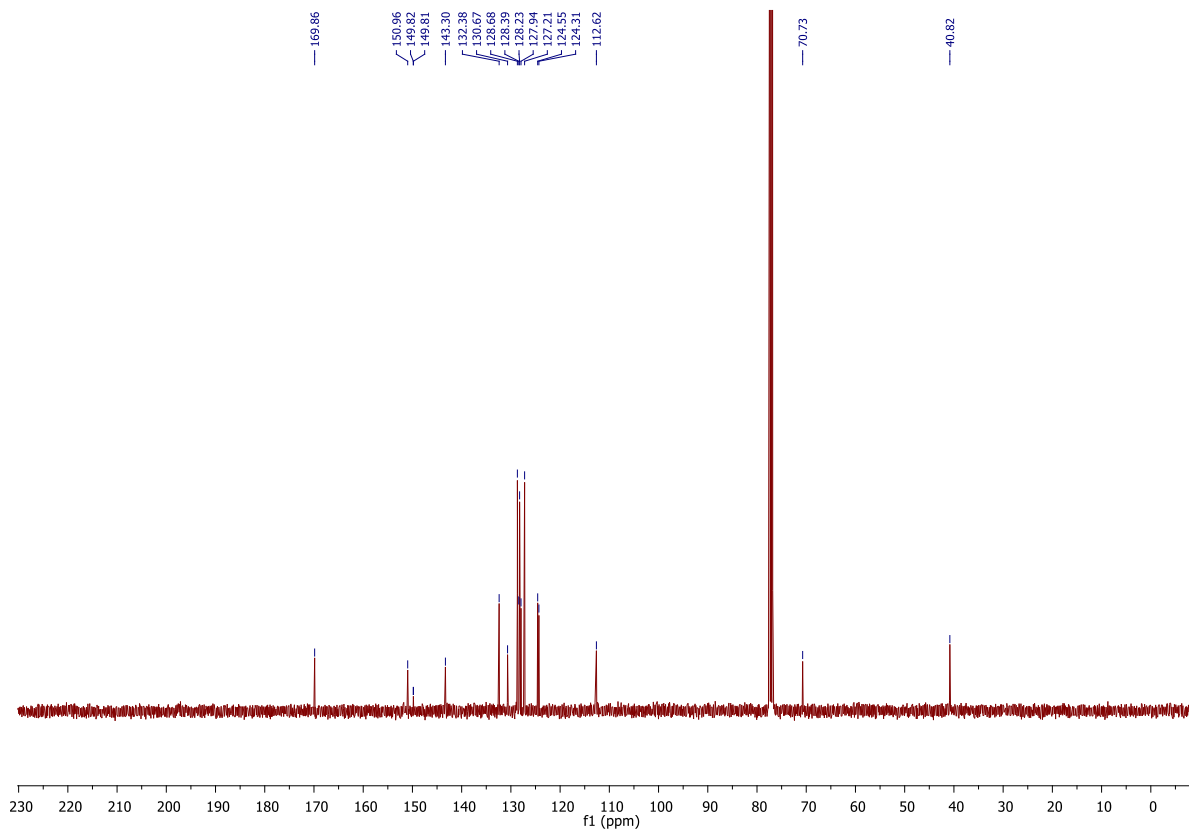


1.98. 3-[4-(dimethylamino)phenyl]-3-phenyl-isoindolin-1-one (609a)

^1H NMR (400 MHz, CDCl_3)

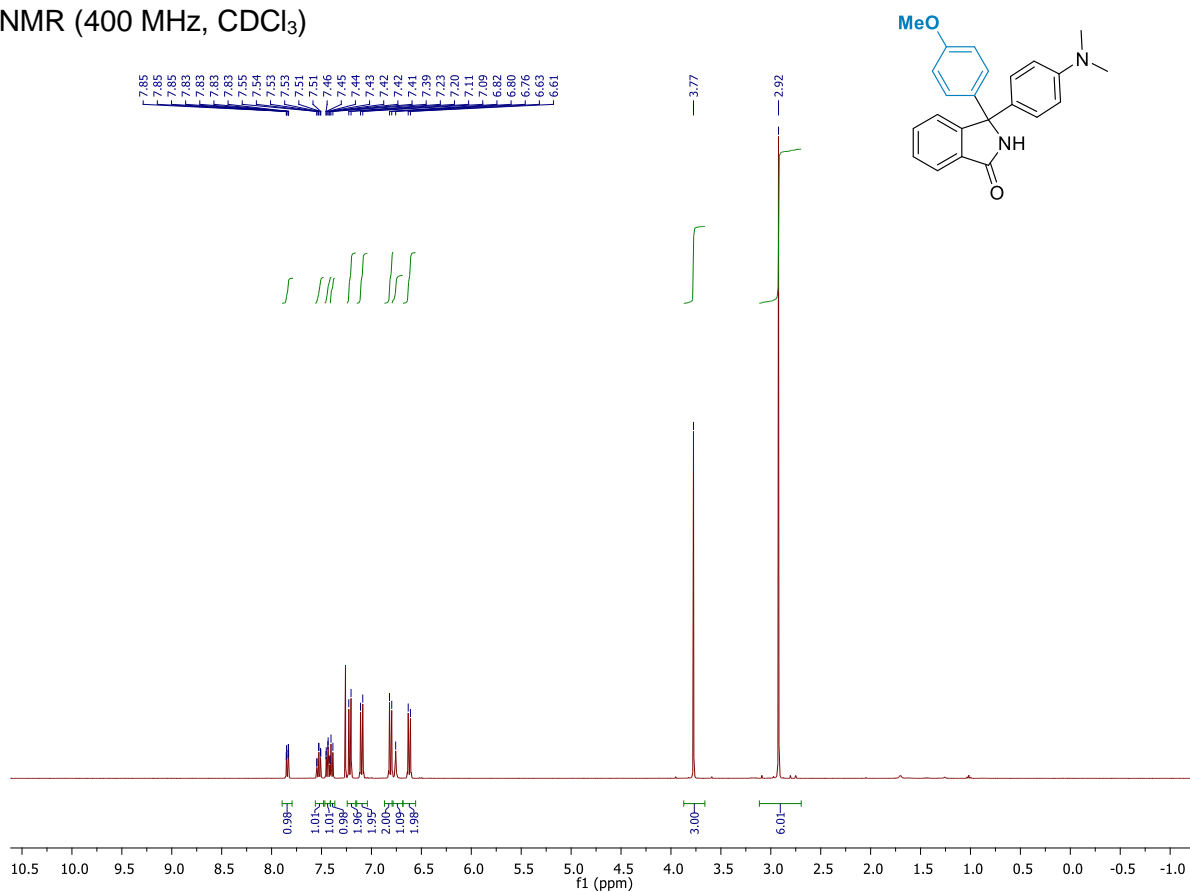


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

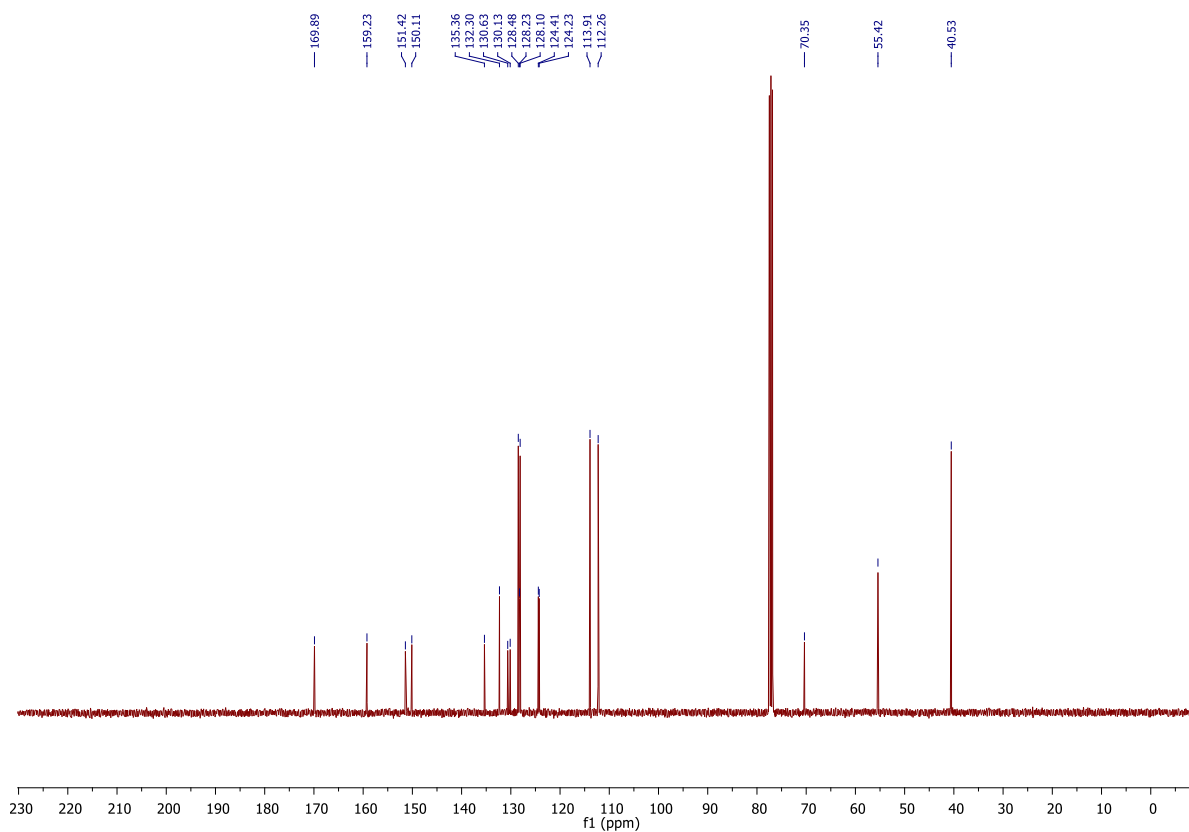


1.99. 3-[4-(dimethylamino)phenyl]-3-(4-methoxyphenyl)isoindolin-1-one (609b)

^1H NMR (400 MHz, CDCl_3)

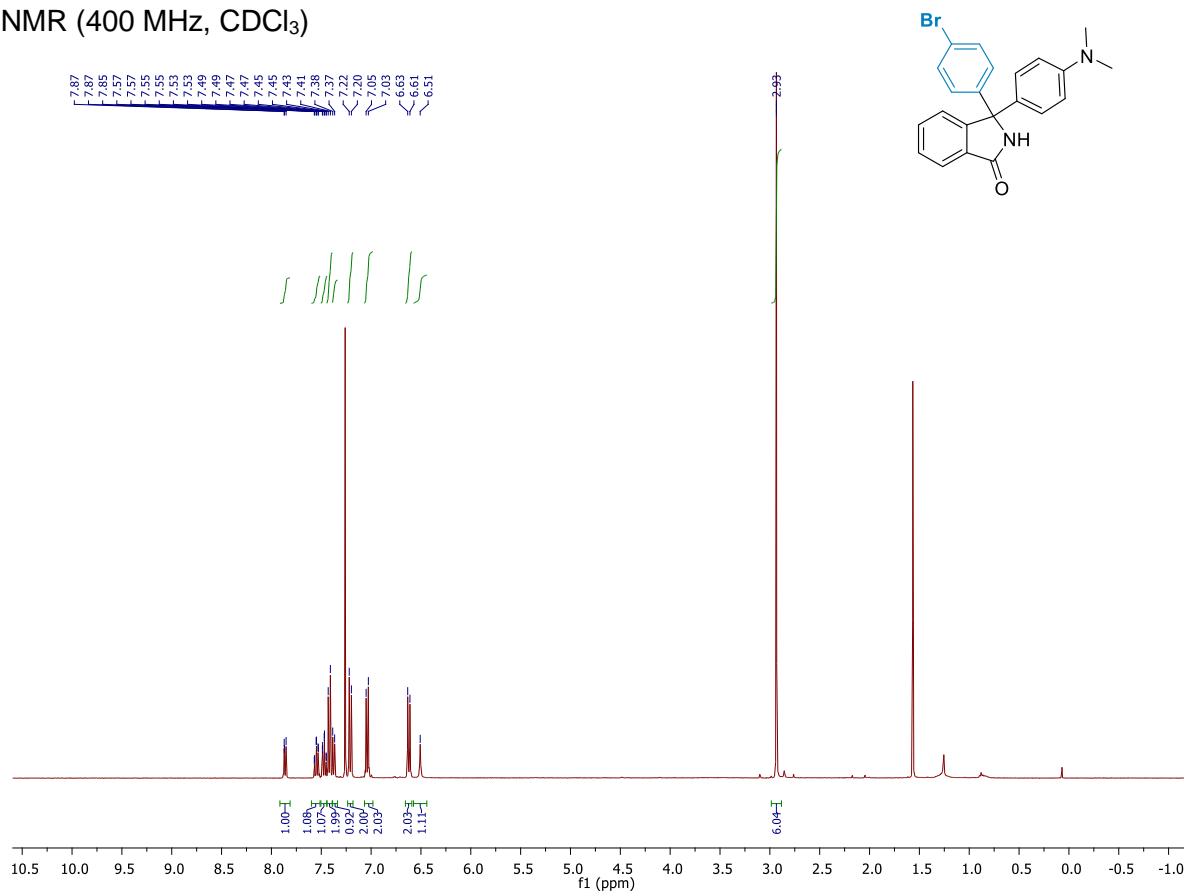


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

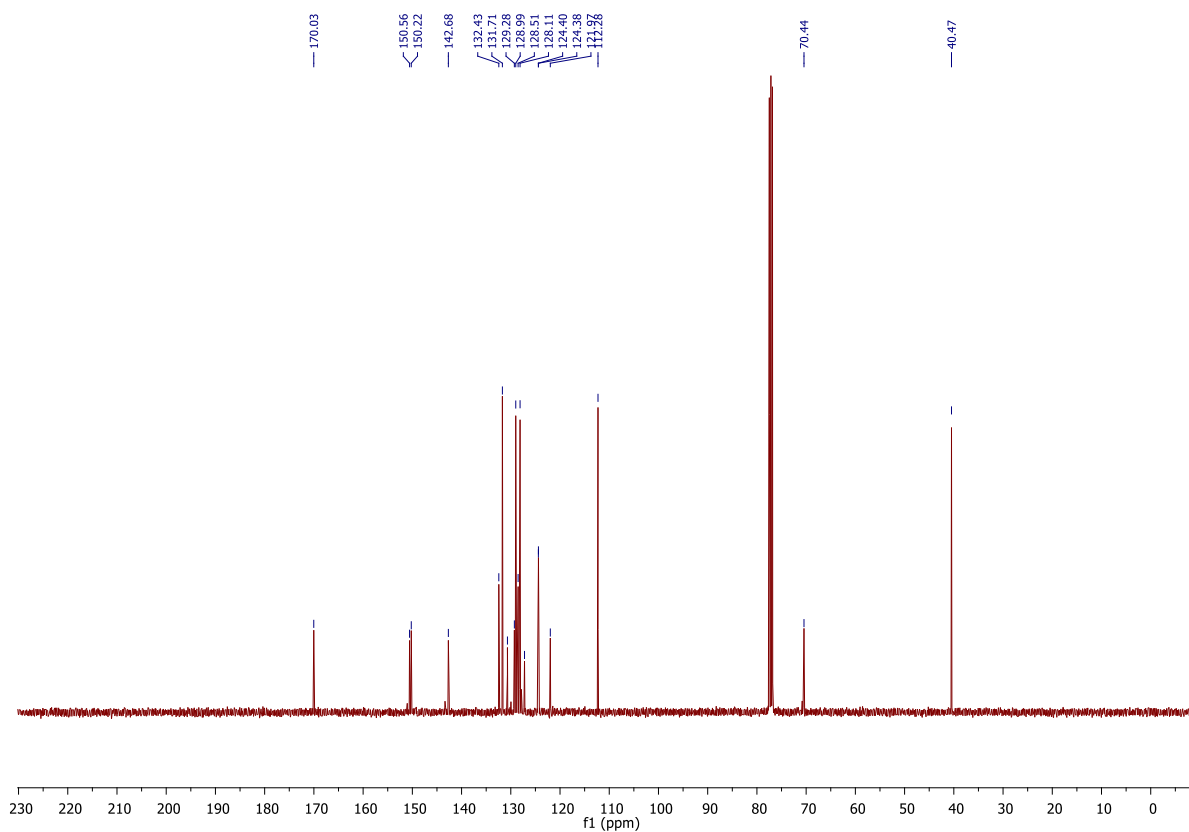


1.100. 3-(4-bromophenyl)-3-[4-(dimethylamino)phenyl]isoindolin-1-one (609c)

^1H NMR (400 MHz, CDCl_3)

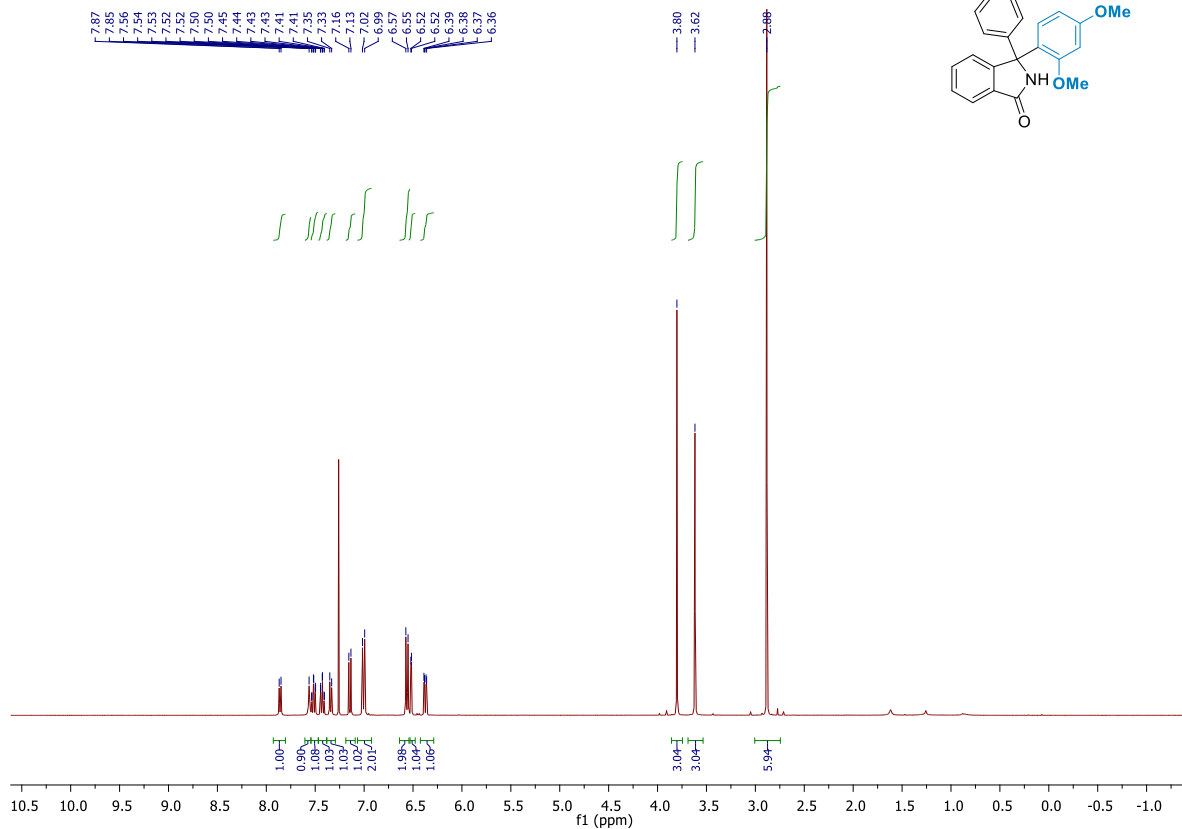


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

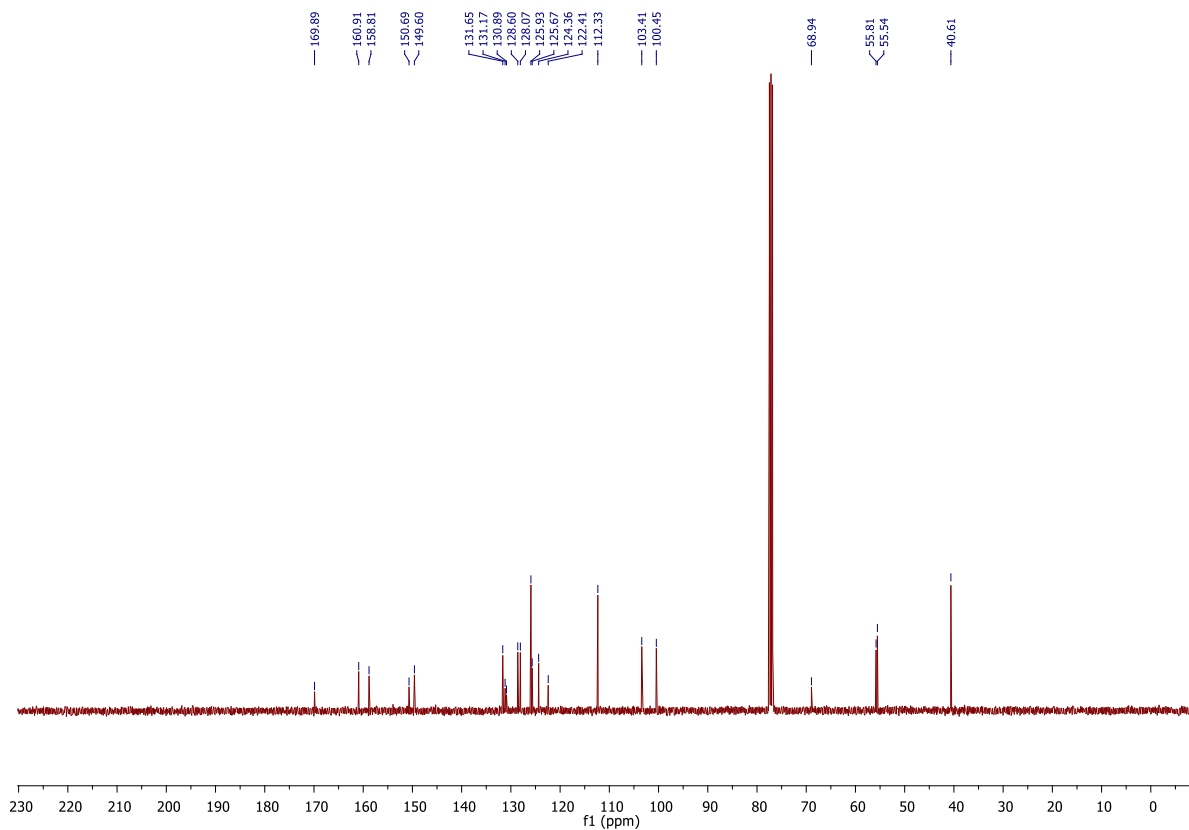


1.101. 3-(2,4-dimethoxyphenyl)-3-[4-(dimethylamino)phenyl]isoindolin-1-one (609d)

^1H NMR (400 MHz, CDCl_3)

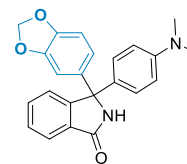
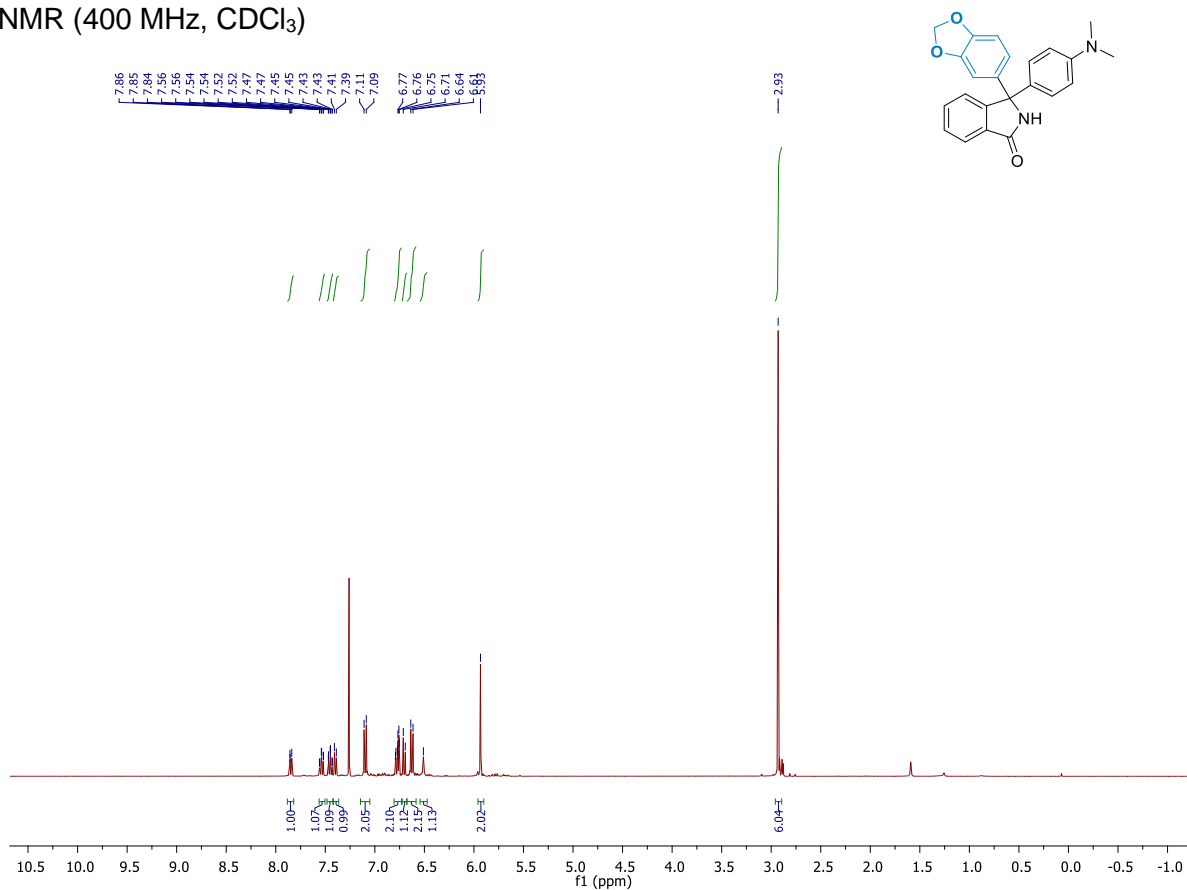


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

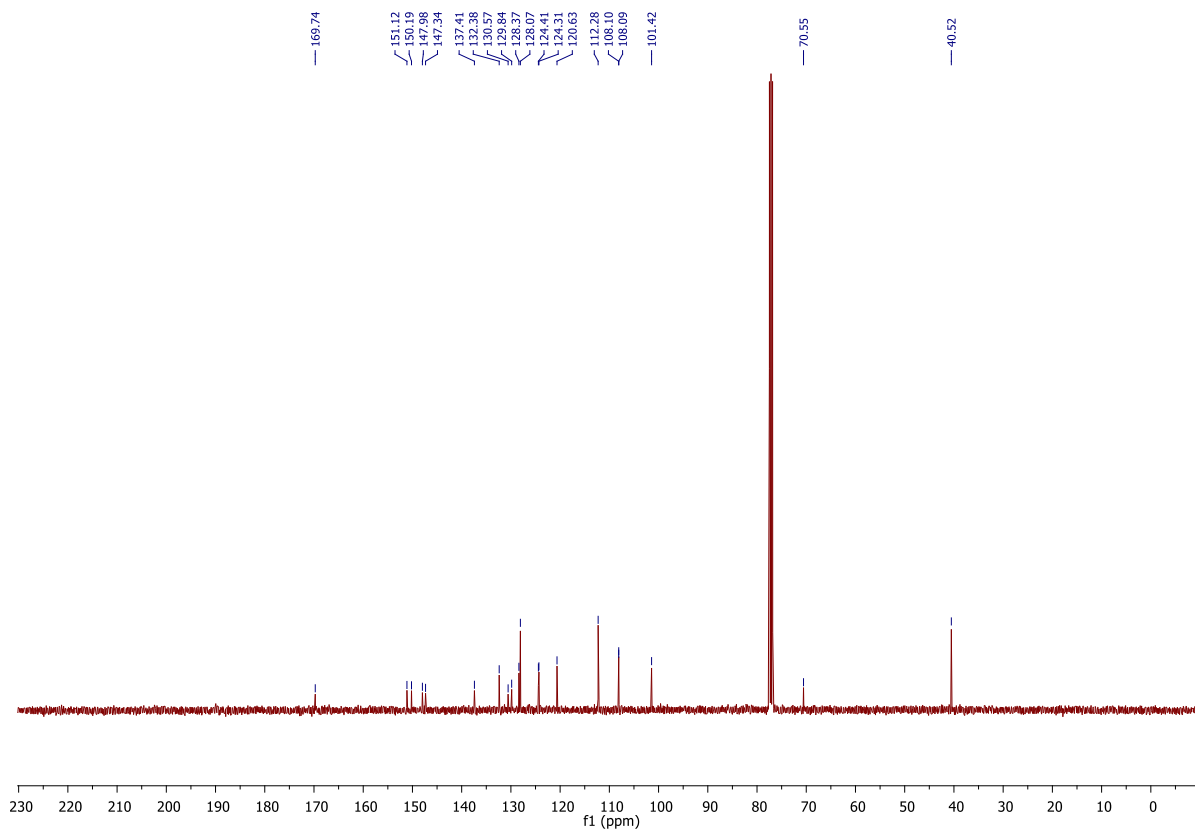


1.102. 3-(1,3-benzodioxol-5-yl)-3-[4-(dimethylamino)phenyl]isoindolin-1-one (609e)

^1H NMR (400 MHz, CDCl_3)

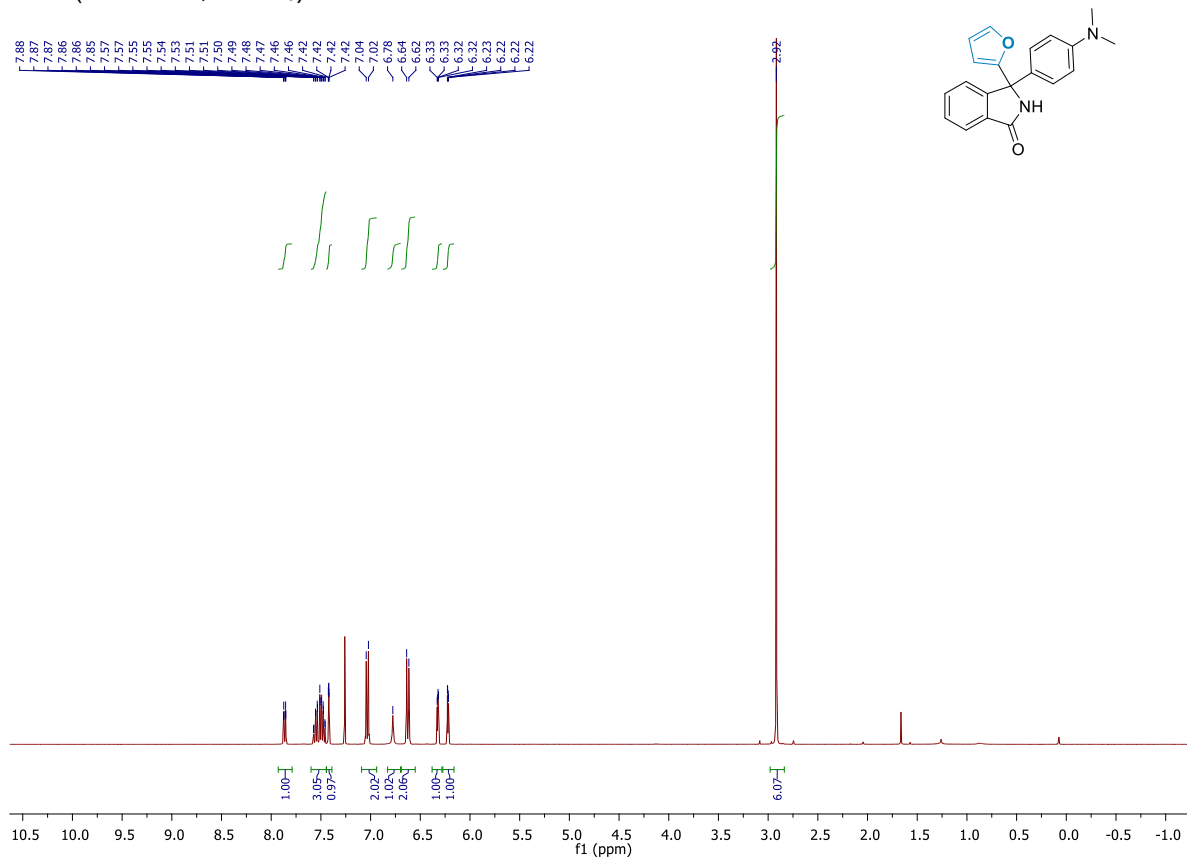


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

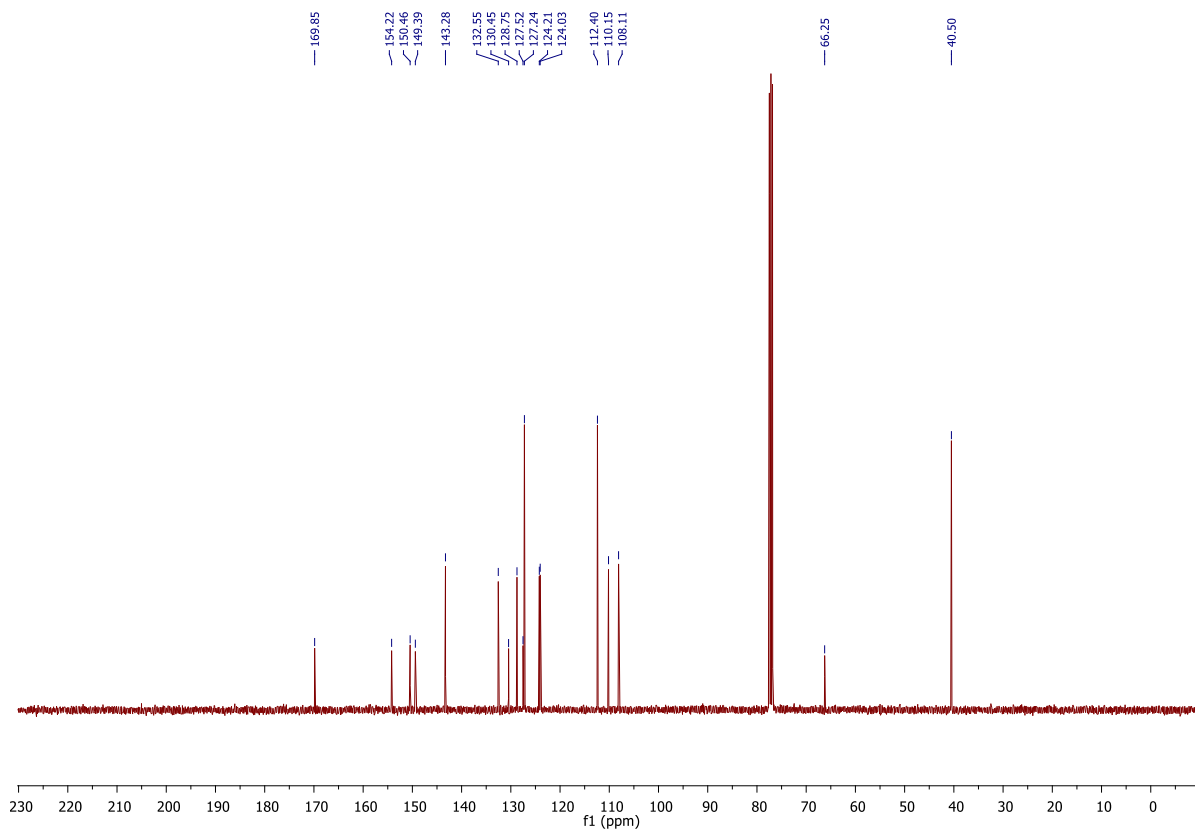


1.103. 3-[4-(dimethylamino)phenyl]-3-(2-furyl)isoindolin-1-one (609f)

^1H NMR (400 MHz, CDCl_3)

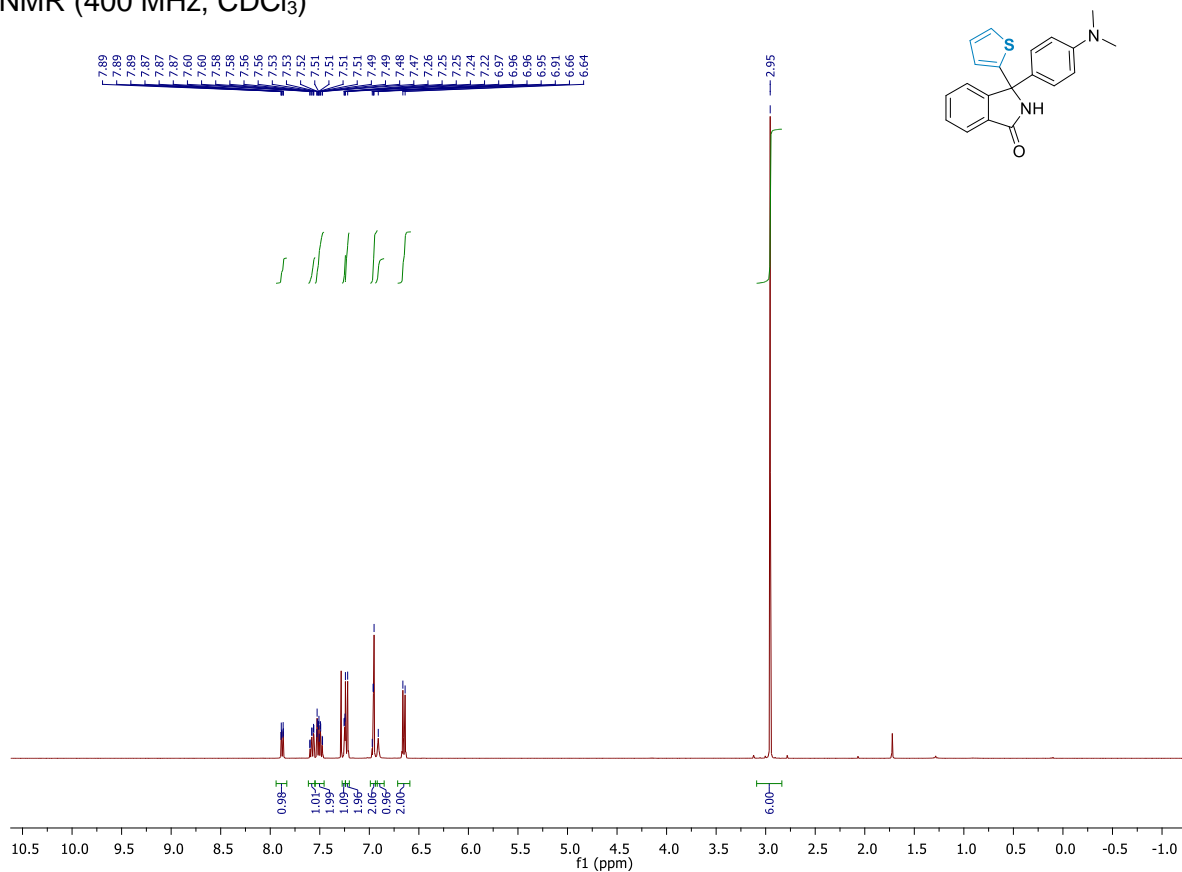


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

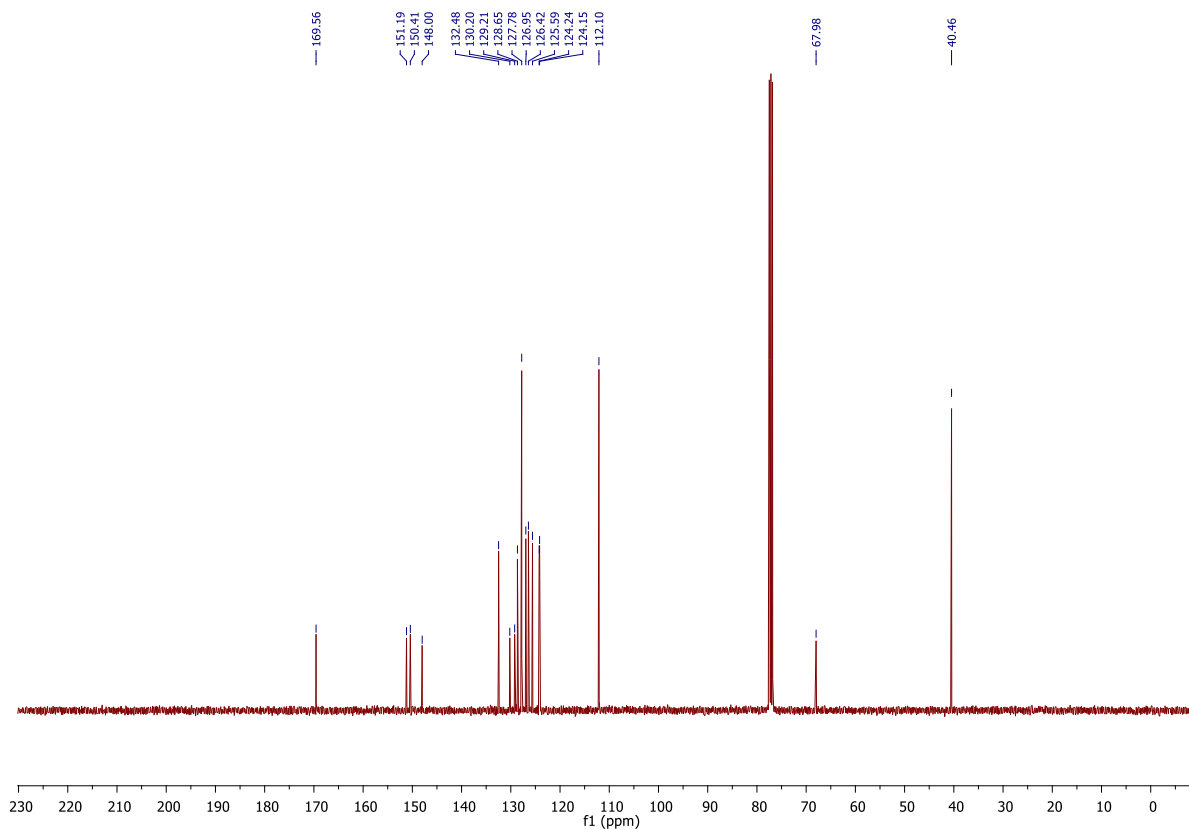


1.104. 3-[4-(dimethylamino)phenyl]-3-(2-thienyl)isoindolin-1-one (609g)

^1H NMR (400 MHz, CDCl_3)

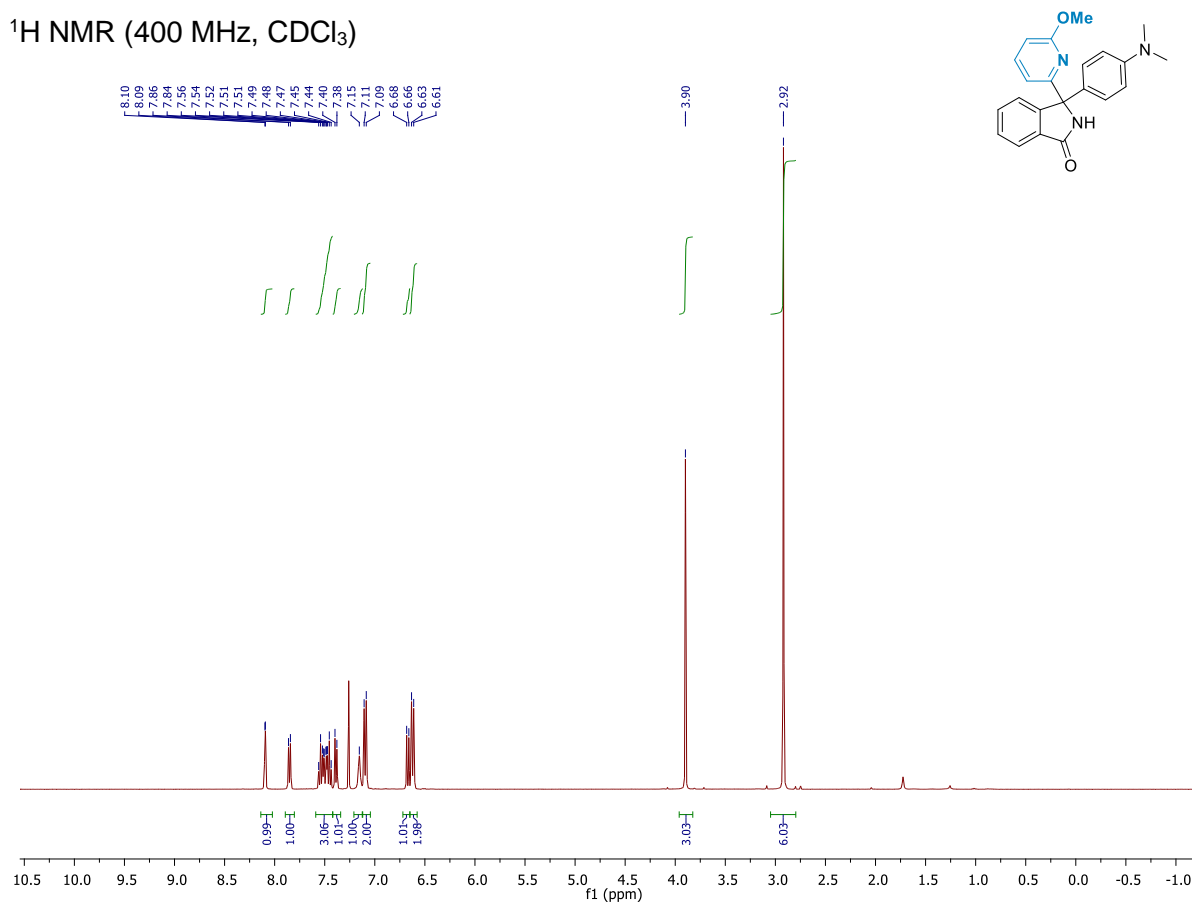


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

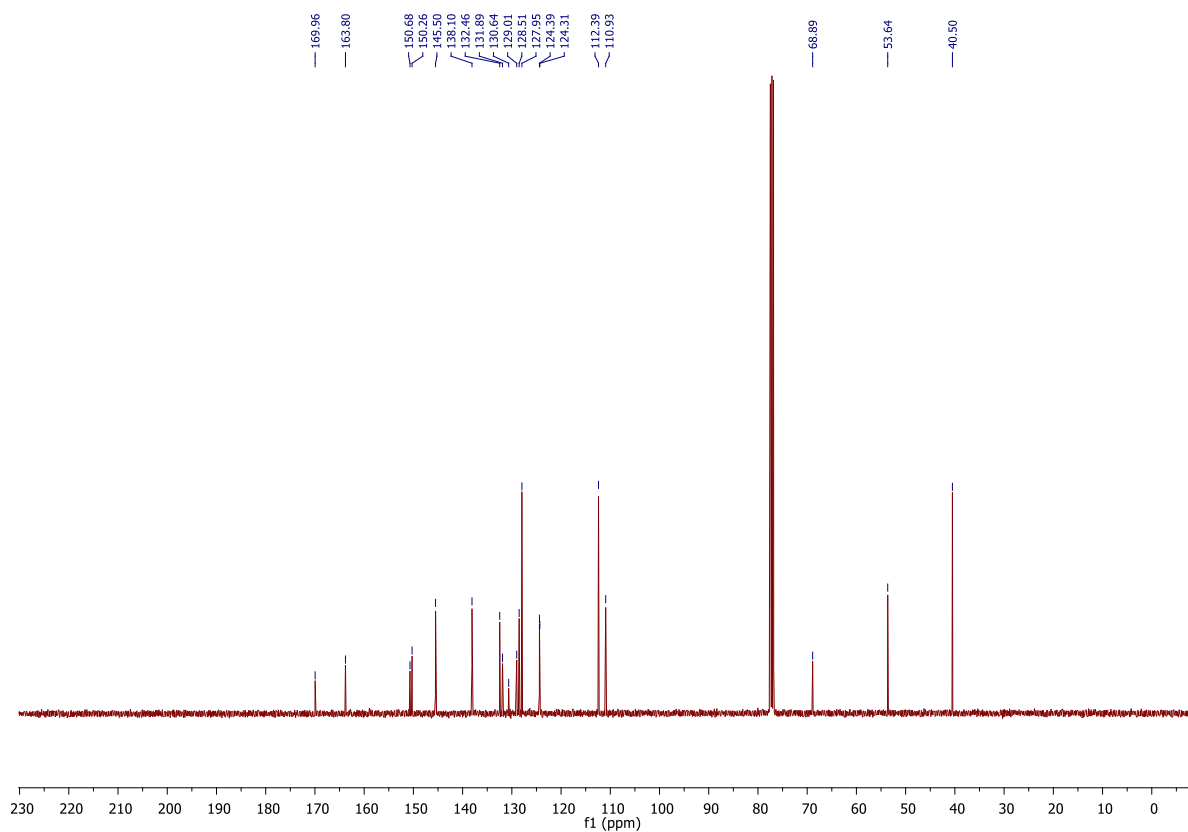


1.105. 3-[4-(dimethylamino)phenyl]-3-(6-methoxy-2-pyridyl)isoindolin-1-one; methane (609h)

^1H NMR (400 MHz, CDCl_3)

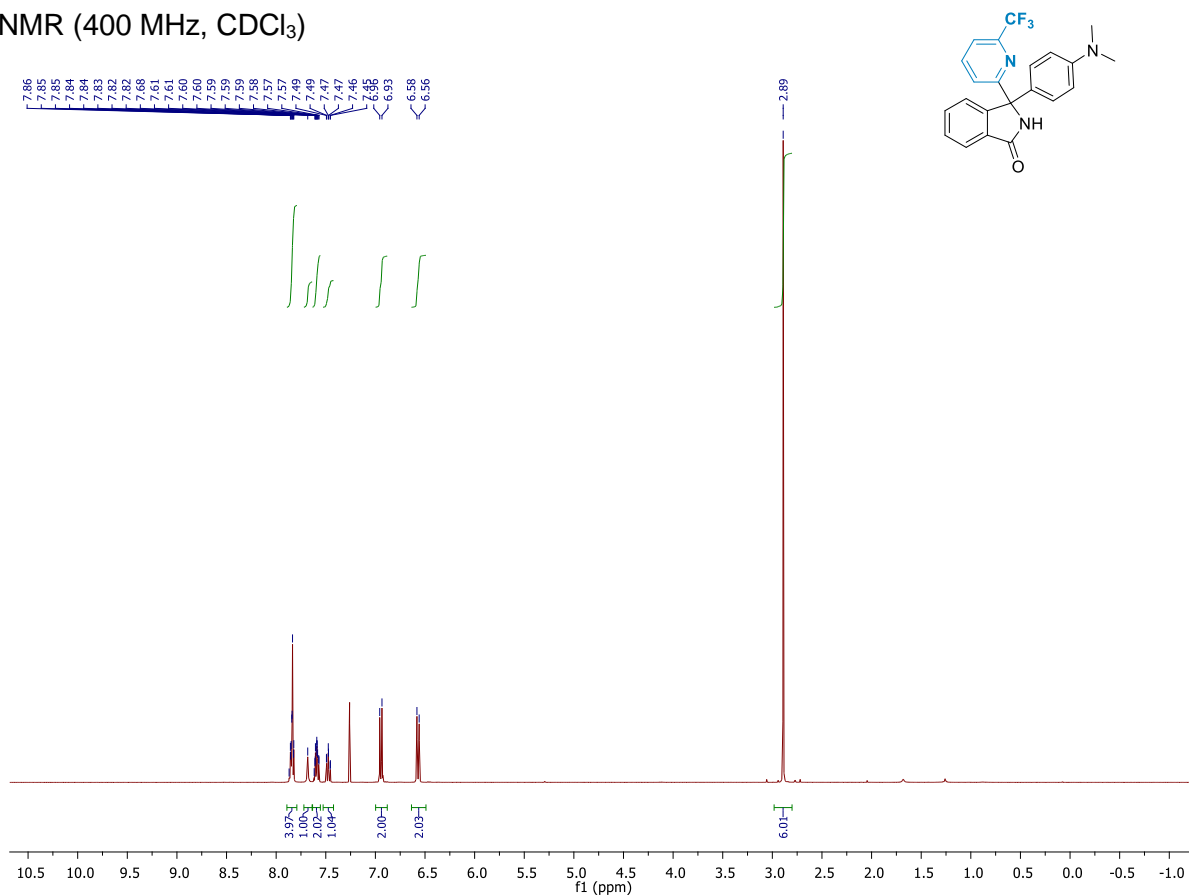


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

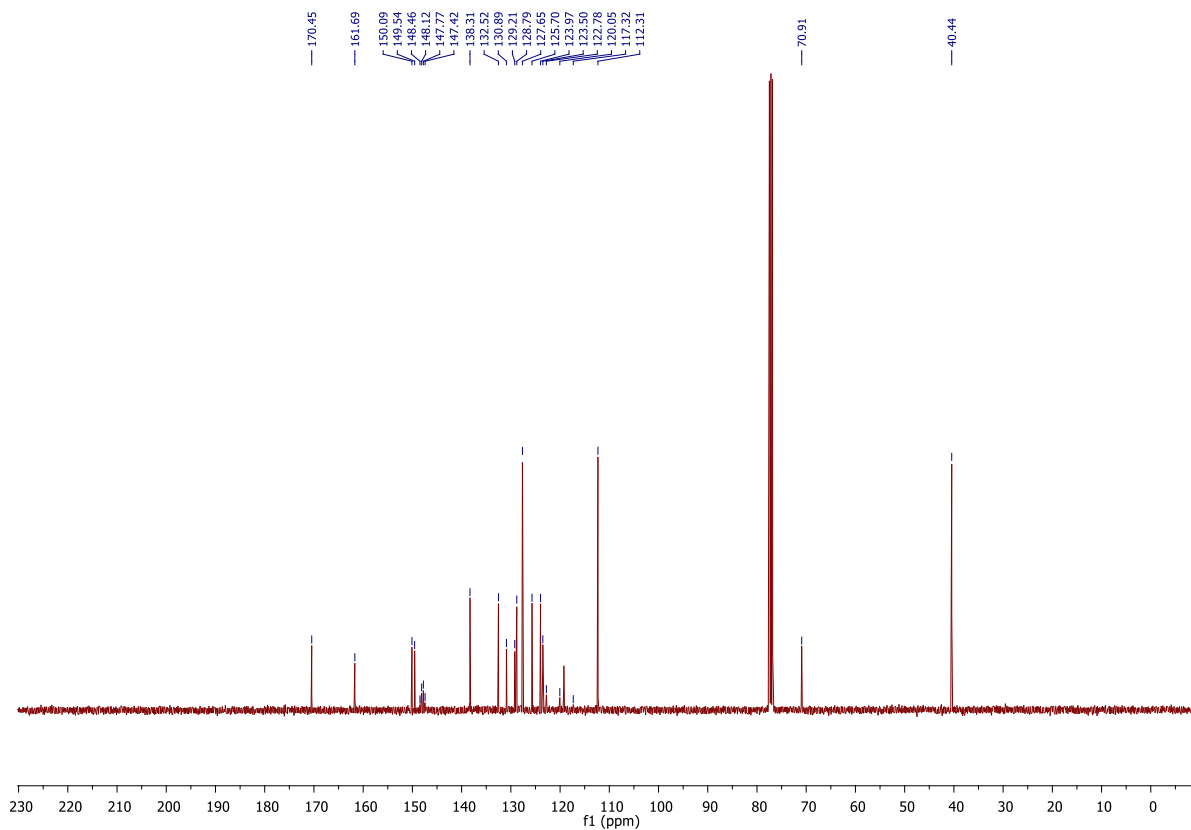


1.106. 3-[4-(dimethylamino)phenyl]-3-[6-(trifluoromethyl)-2-pyridyl]isoindolin-1-one (609i)

^1H NMR (400 MHz, CDCl_3)

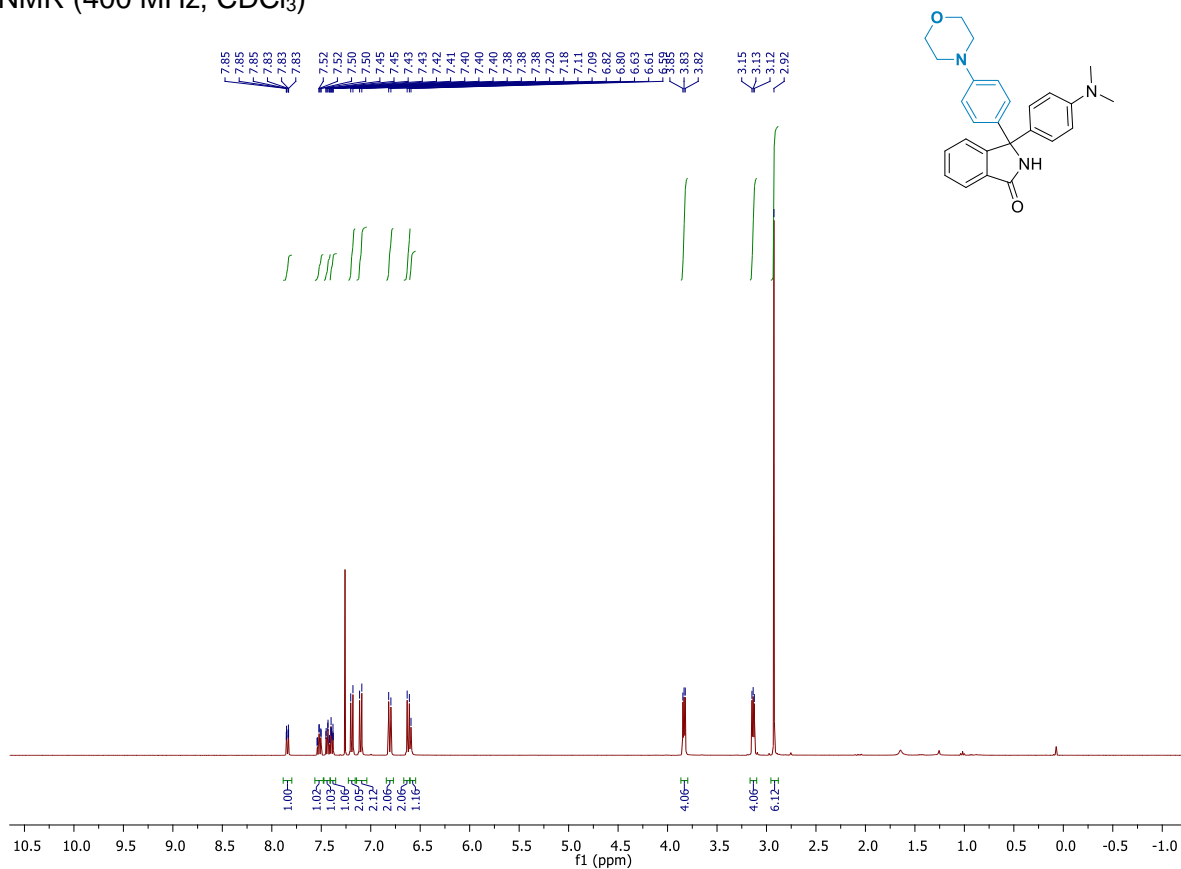


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

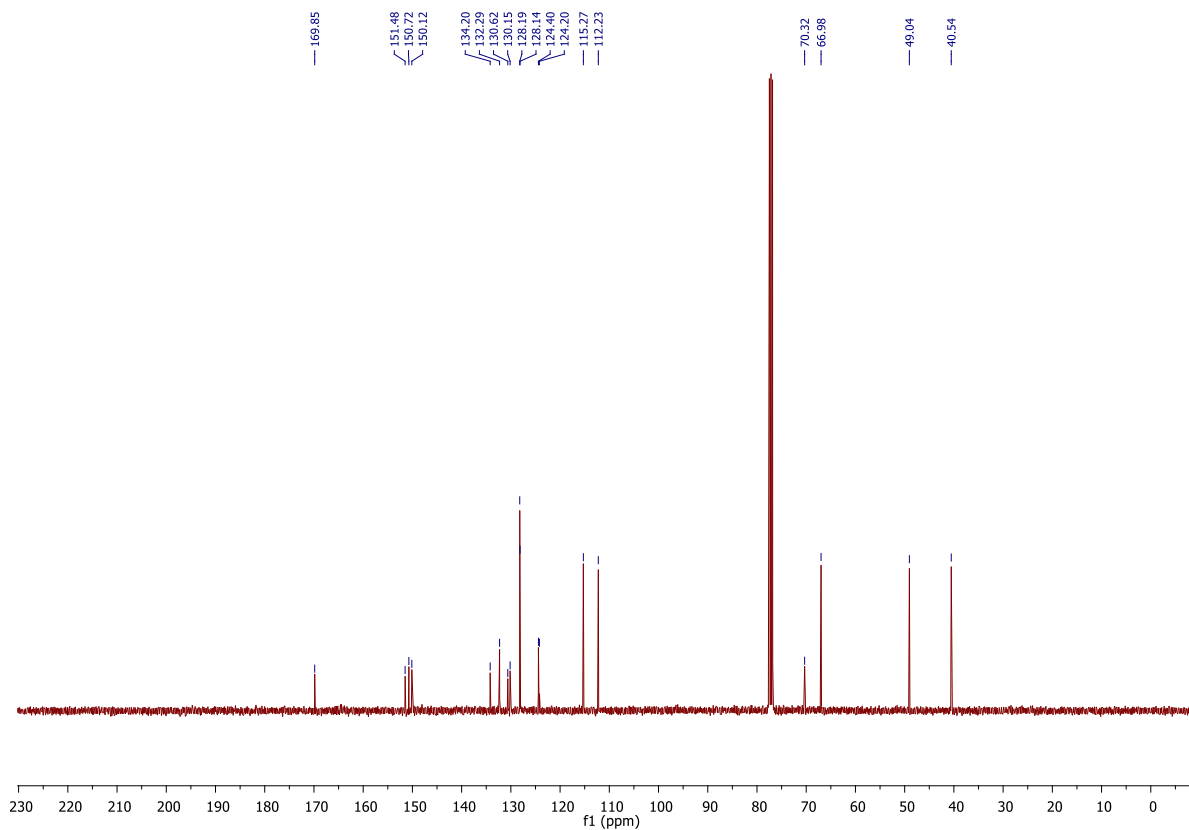


1.107. 3-[4-(dimethylamino)phenyl]-3-(4-morpholinophenyl)isoindolin-1-one (609j)

^1H NMR (400 MHz, CDCl_3)

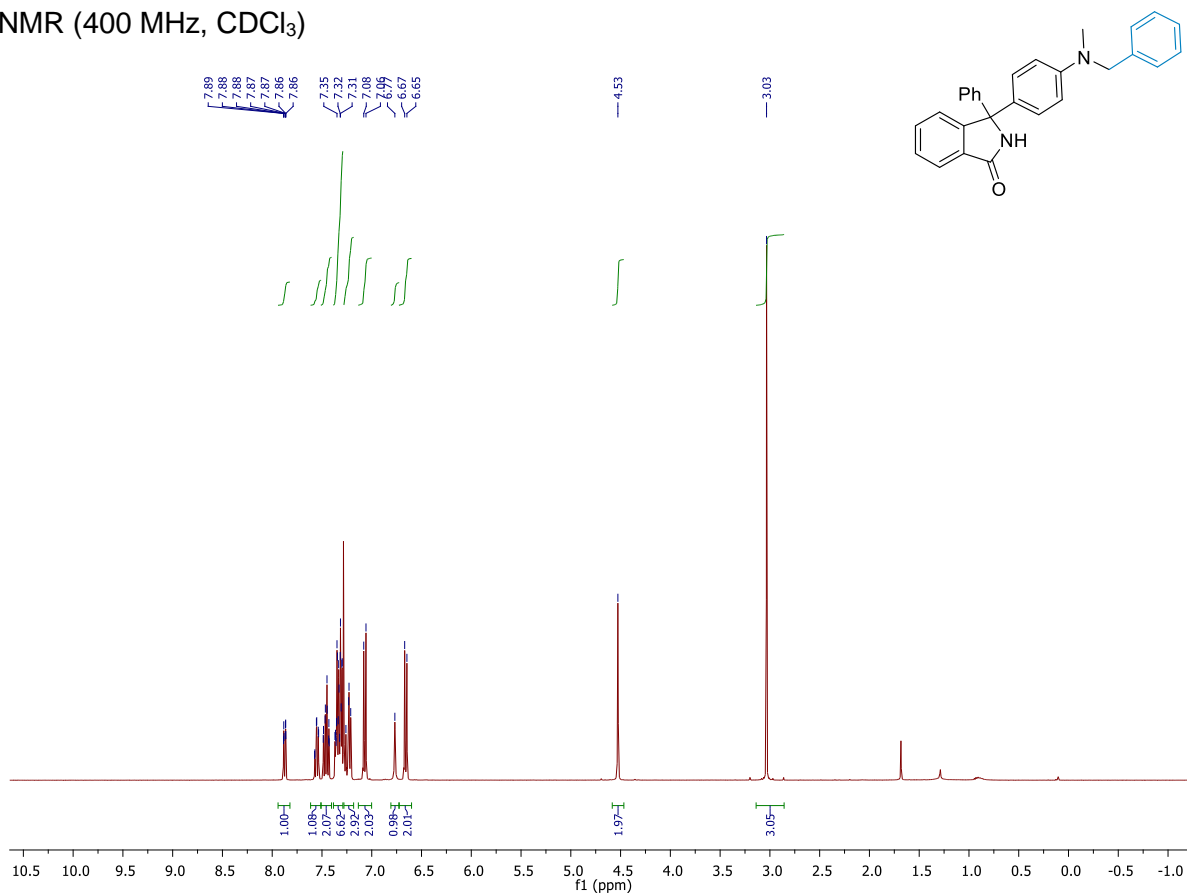


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

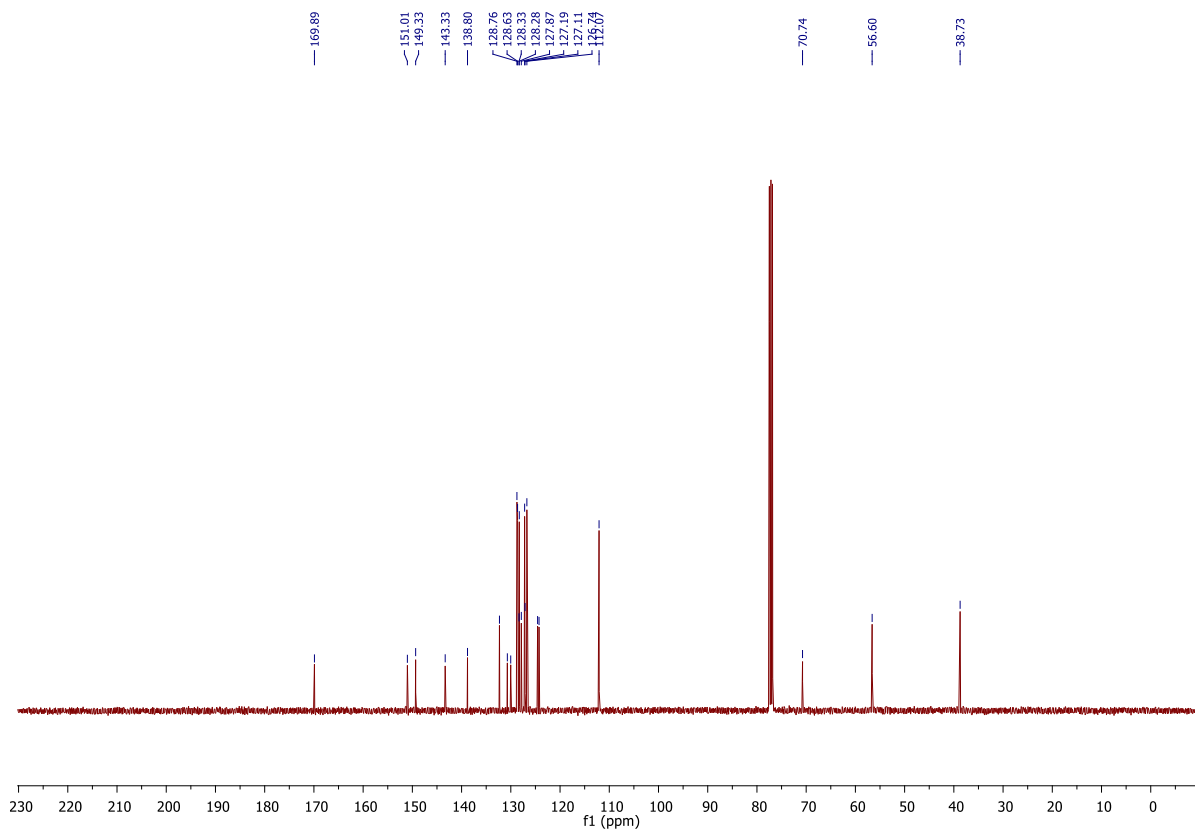


1.108. 3-[4-[benzyl(methyl)amino]phenyl]-3-phenyl-isindolin-1-one (610a)

^1H NMR (400 MHz, CDCl_3)

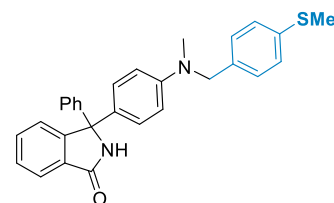
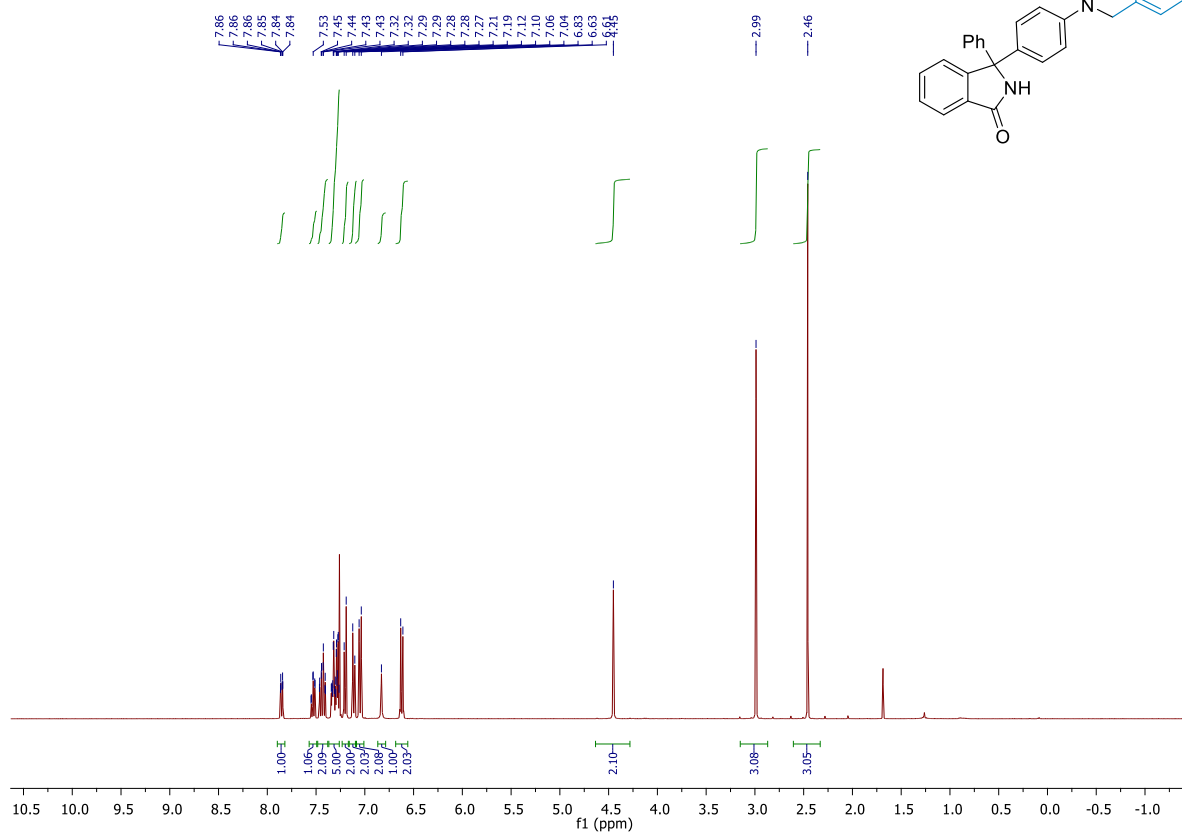


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

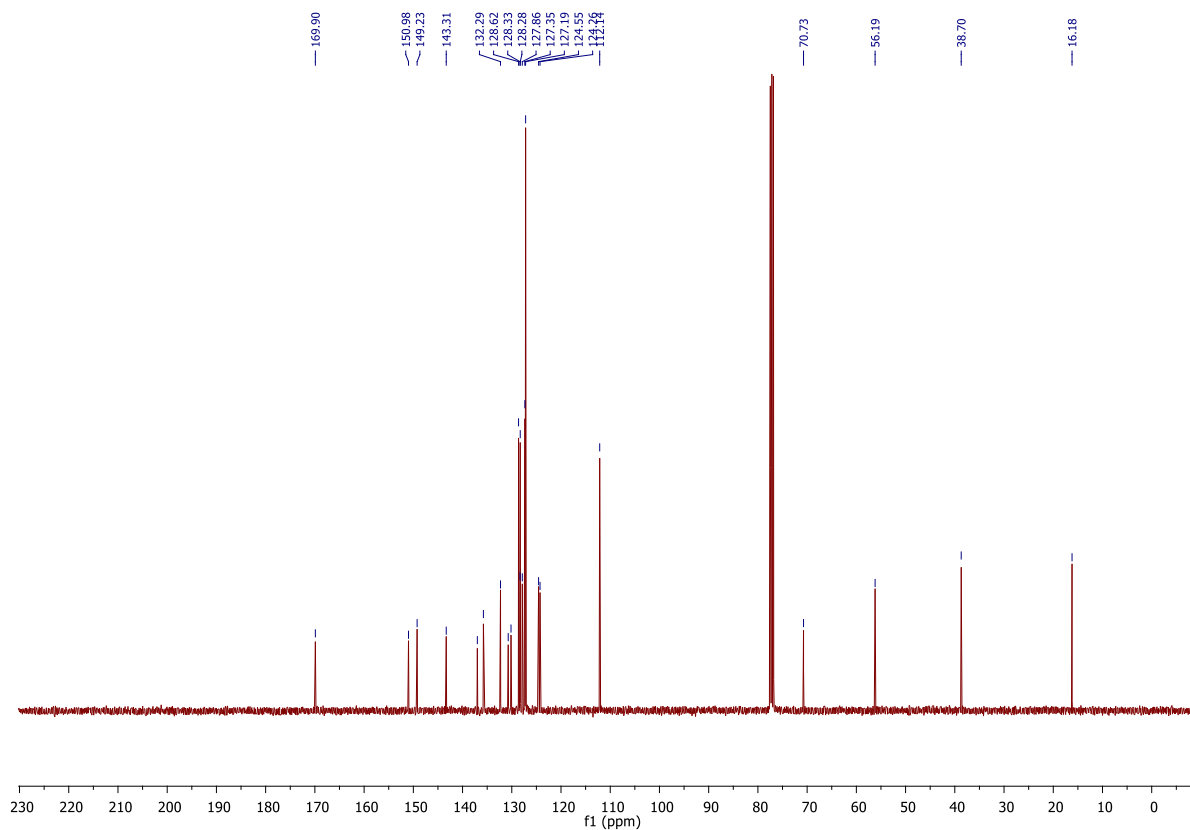


1.109. 3-[4-[methyl-[(4-methylsulfonylphenyl)methyl]amino]phenyl]-3-phenyl-isoindolin-1-one (610b)

^1H NMR (400 MHz, CDCl_3)

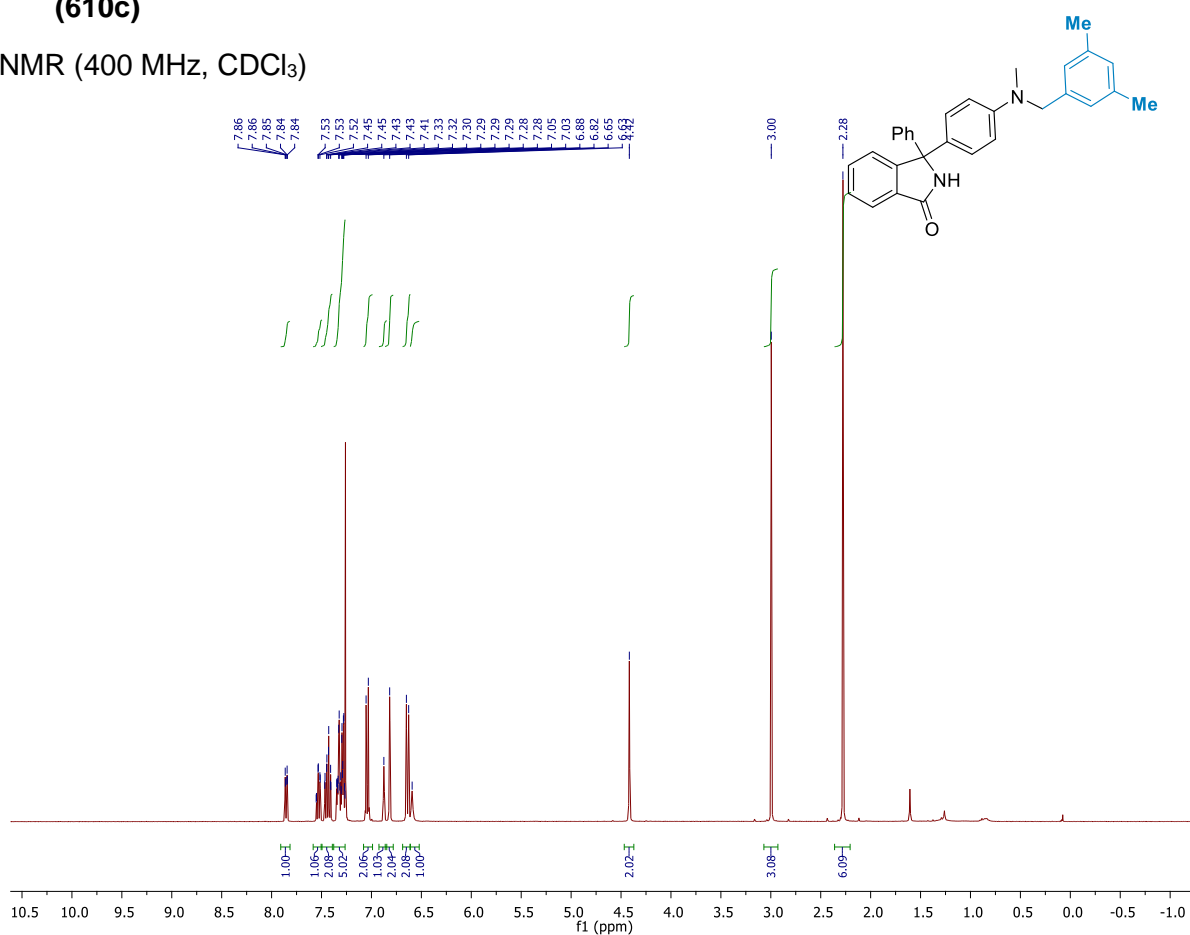


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

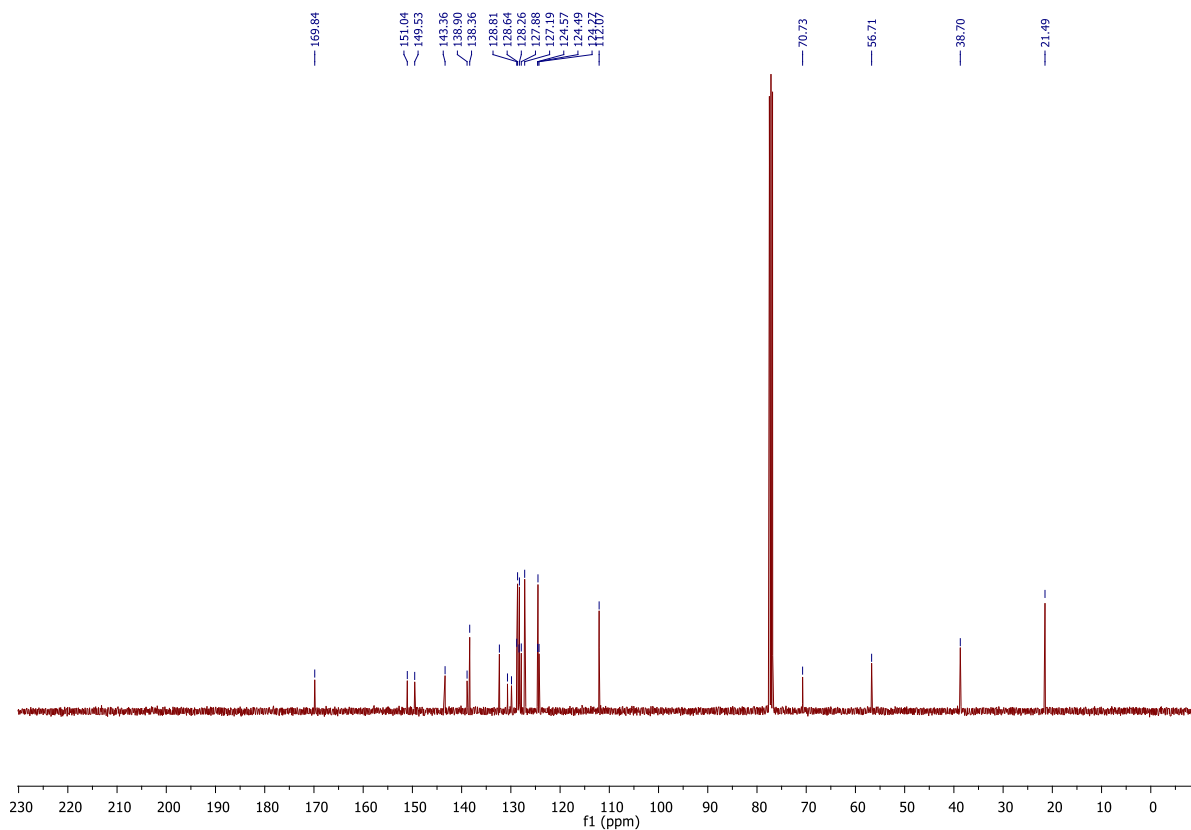


1.110. 3-[4-[(3,5-dimethylphenyl)methyl-methyl-amino]phenyl]-3-phenyl-isoindolin-1-one
(610c)

^1H NMR (400 MHz, CDCl_3)

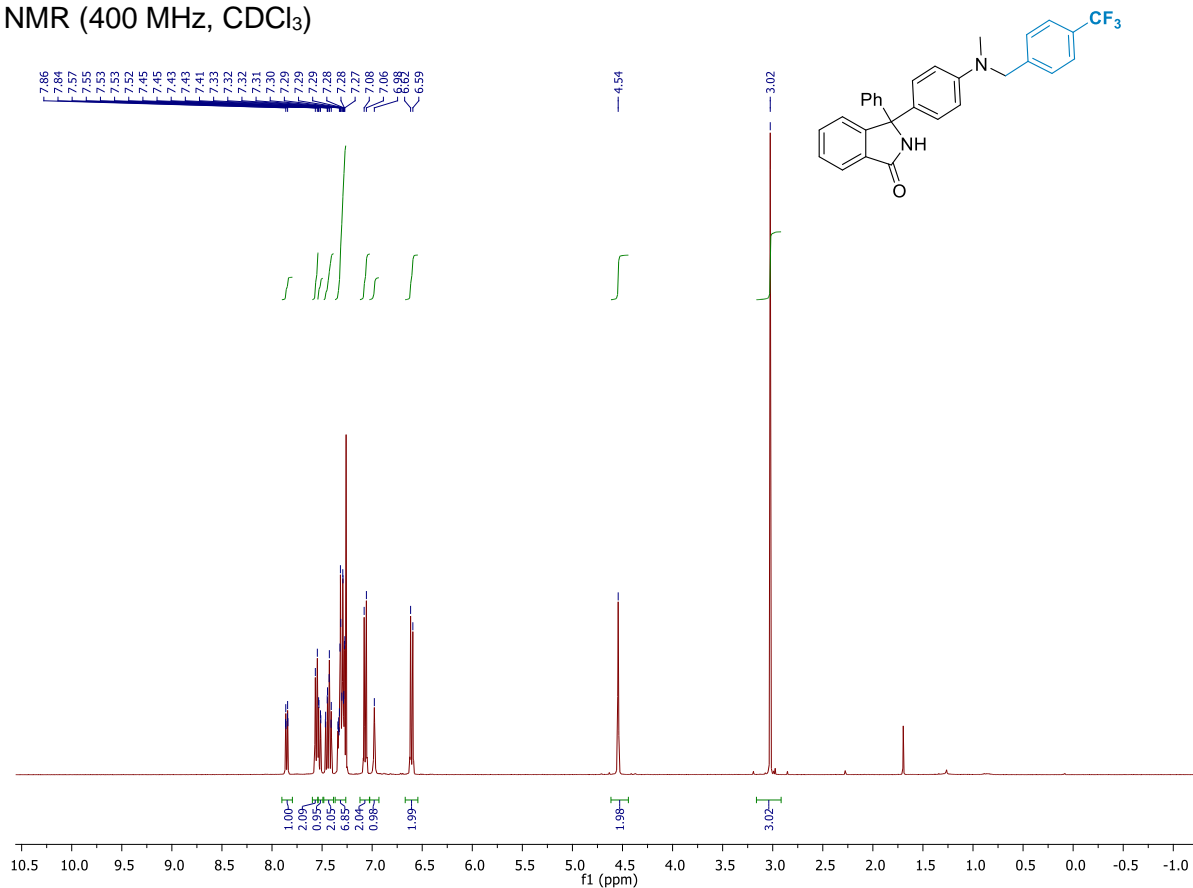


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

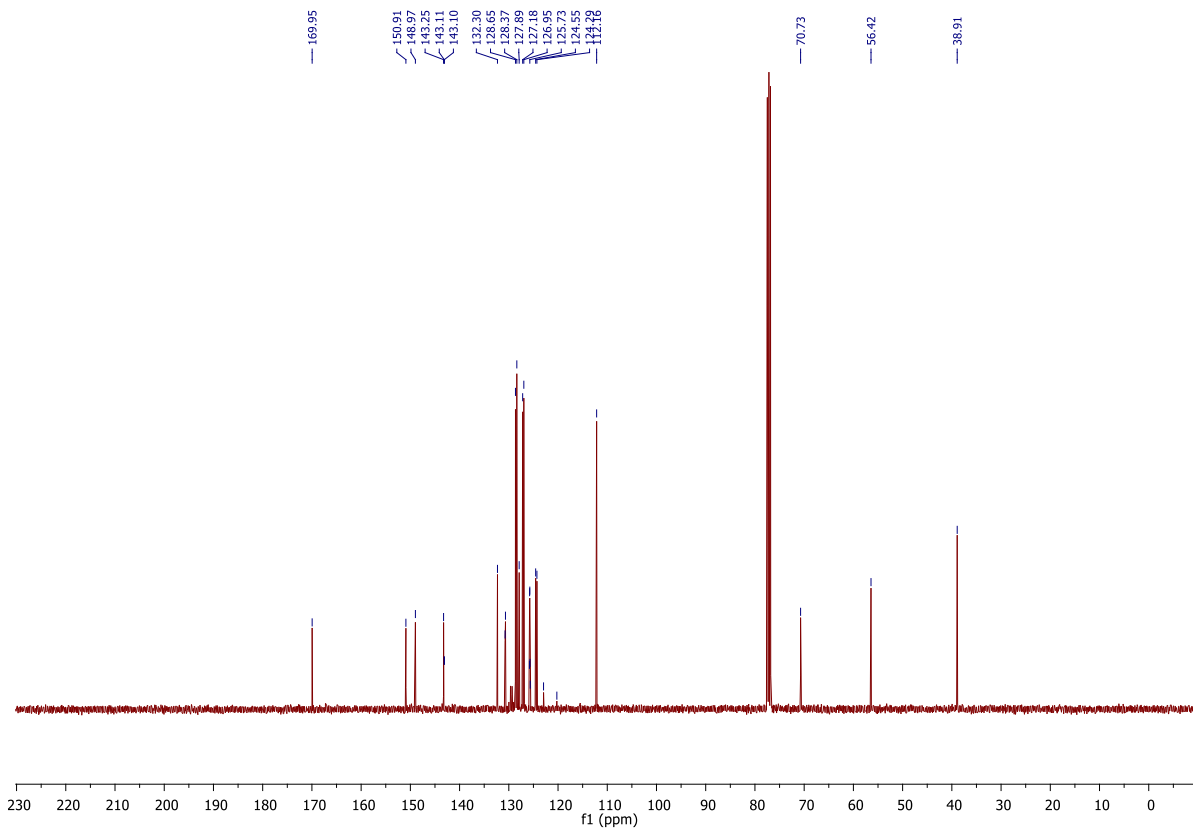


1.111. 3-[4-[methyl-[[4-(trifluoromethyl)phenyl]methyl]amino]phenyl]-3-phenyl-isindolin-1-one (610d)

^1H NMR (400 MHz, CDCl_3)

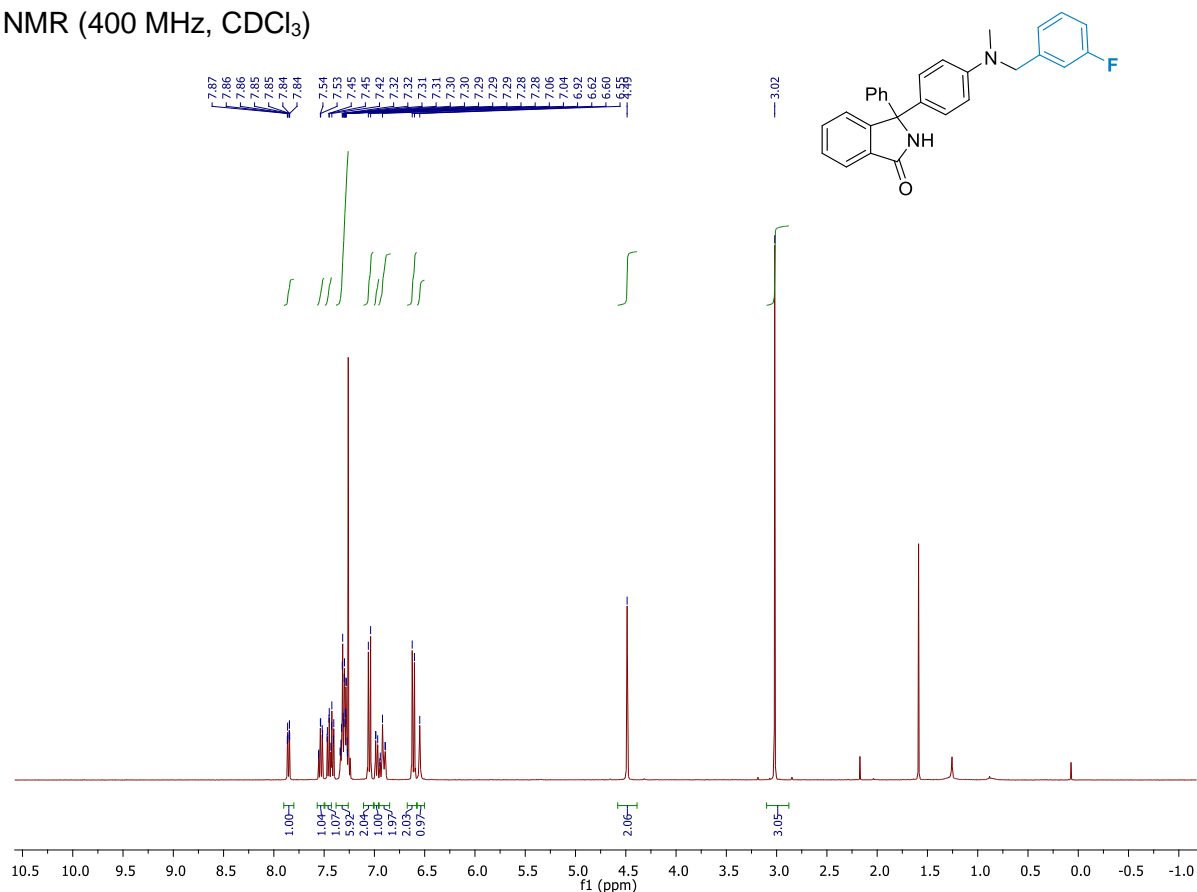


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

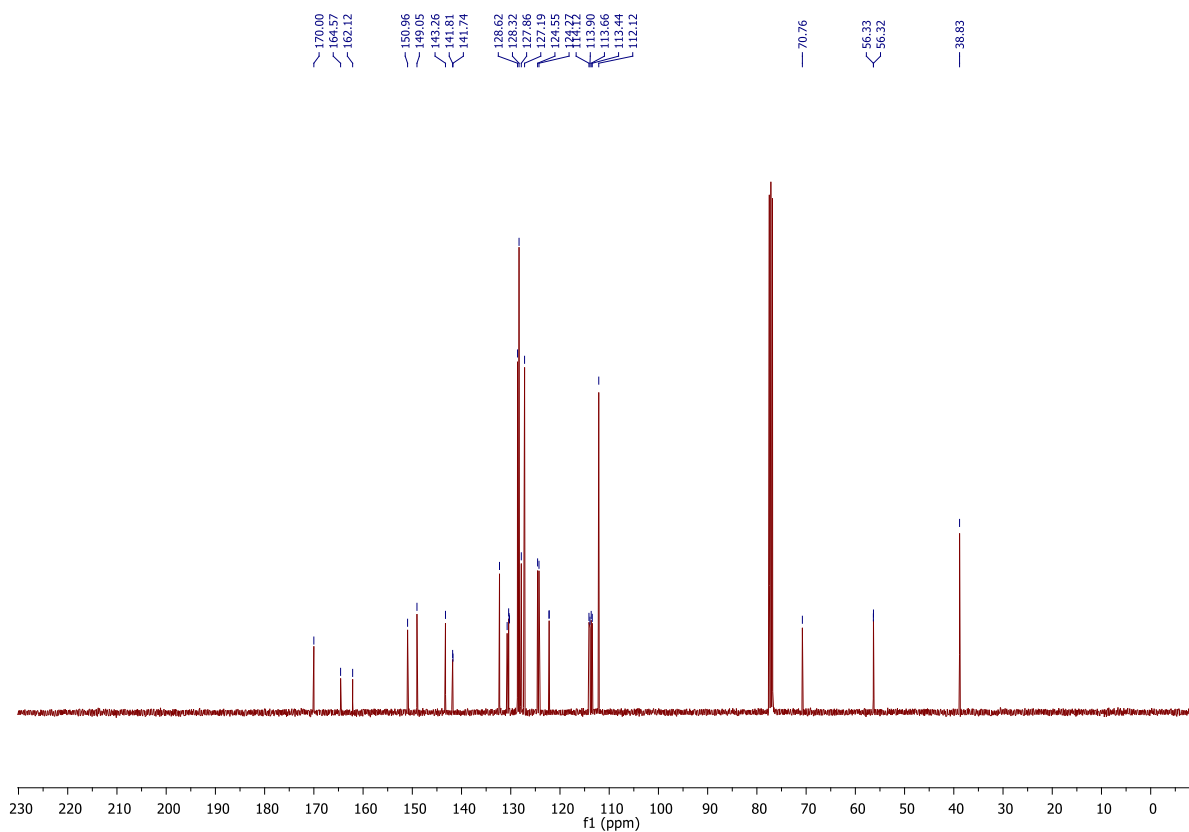


1.112. 3-[4-[(3-fluorophenyl)methyl-methyl-amino]phenyl]-3-phenyl-isoindolin-1-one (610e)

^1H NMR (400 MHz, CDCl_3)

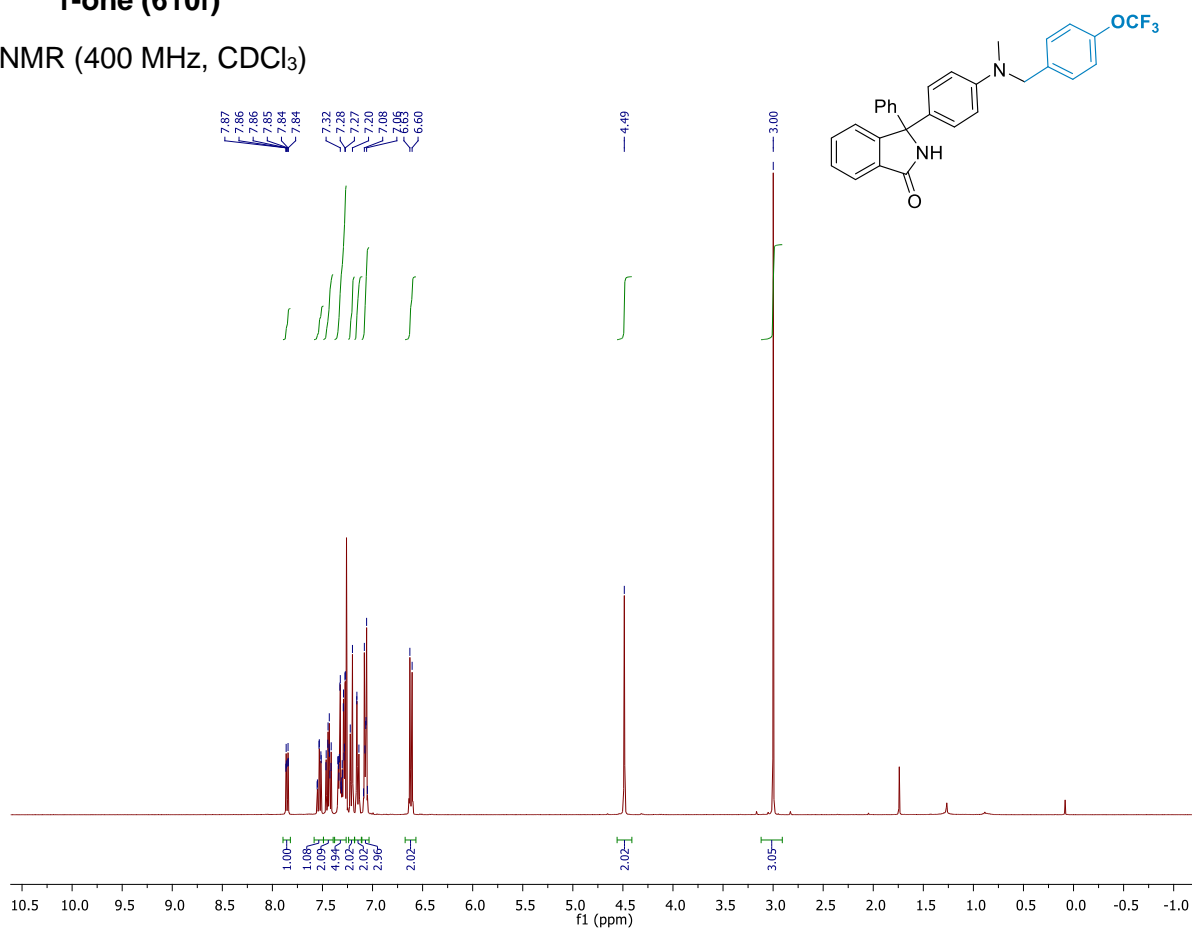


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

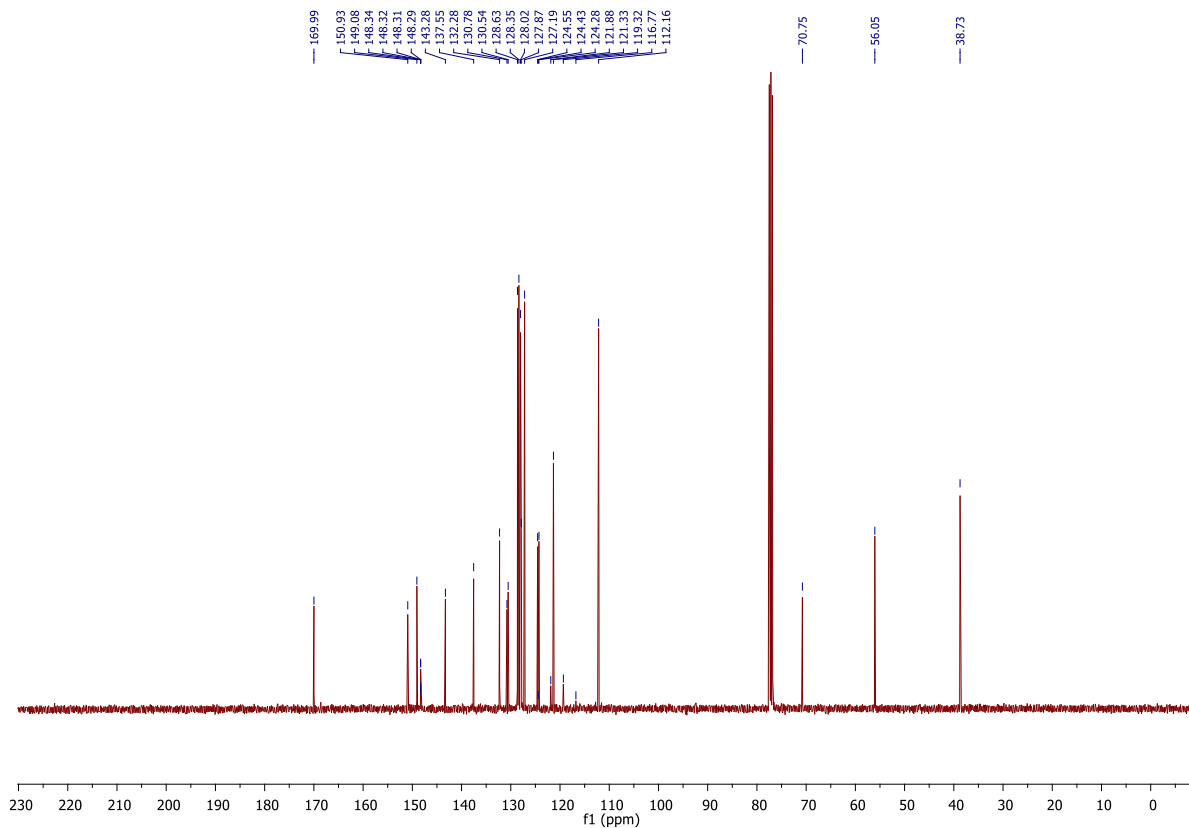


1.113. 3-[4-[methyl-[[4-(trifluoromethoxy)phenyl]methyl]amino]phenyl]-3-phenyl-isindolin-1-one (610f)

^1H NMR (400 MHz, CDCl_3)

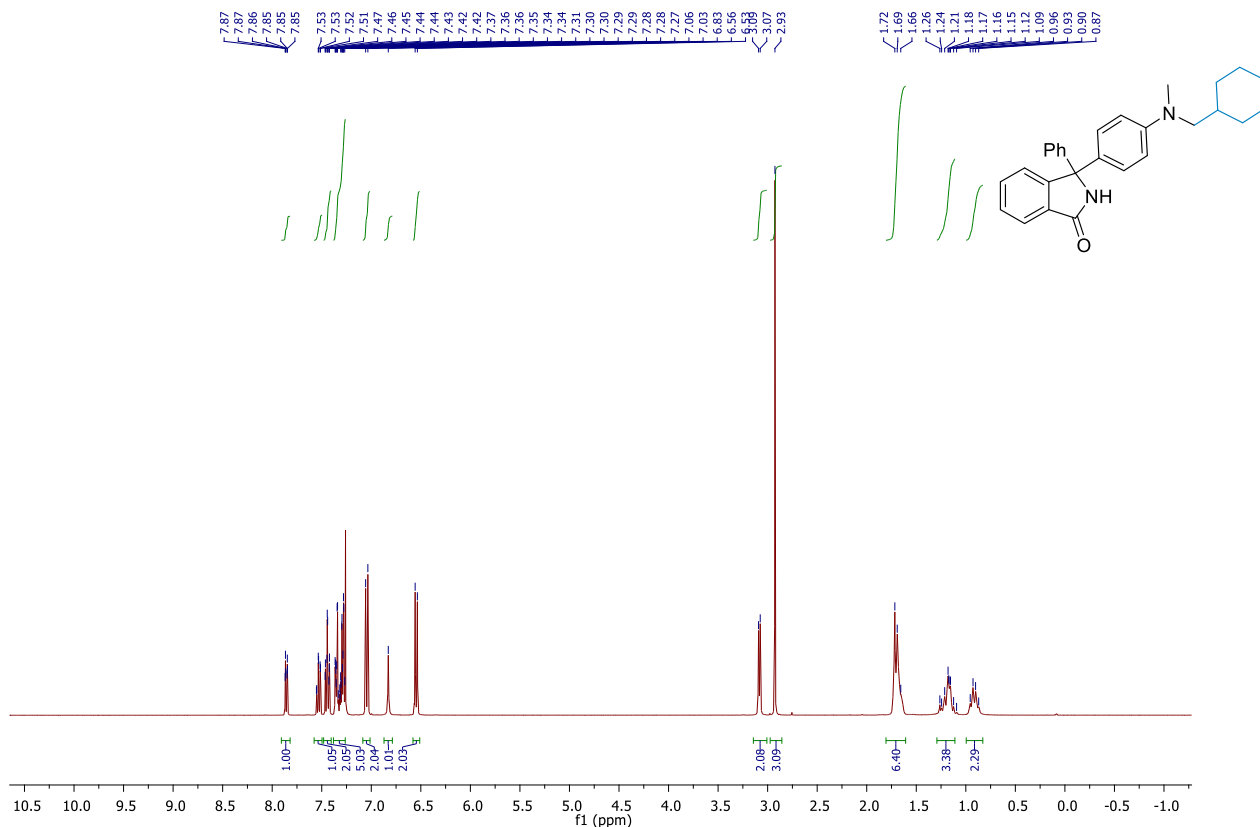


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

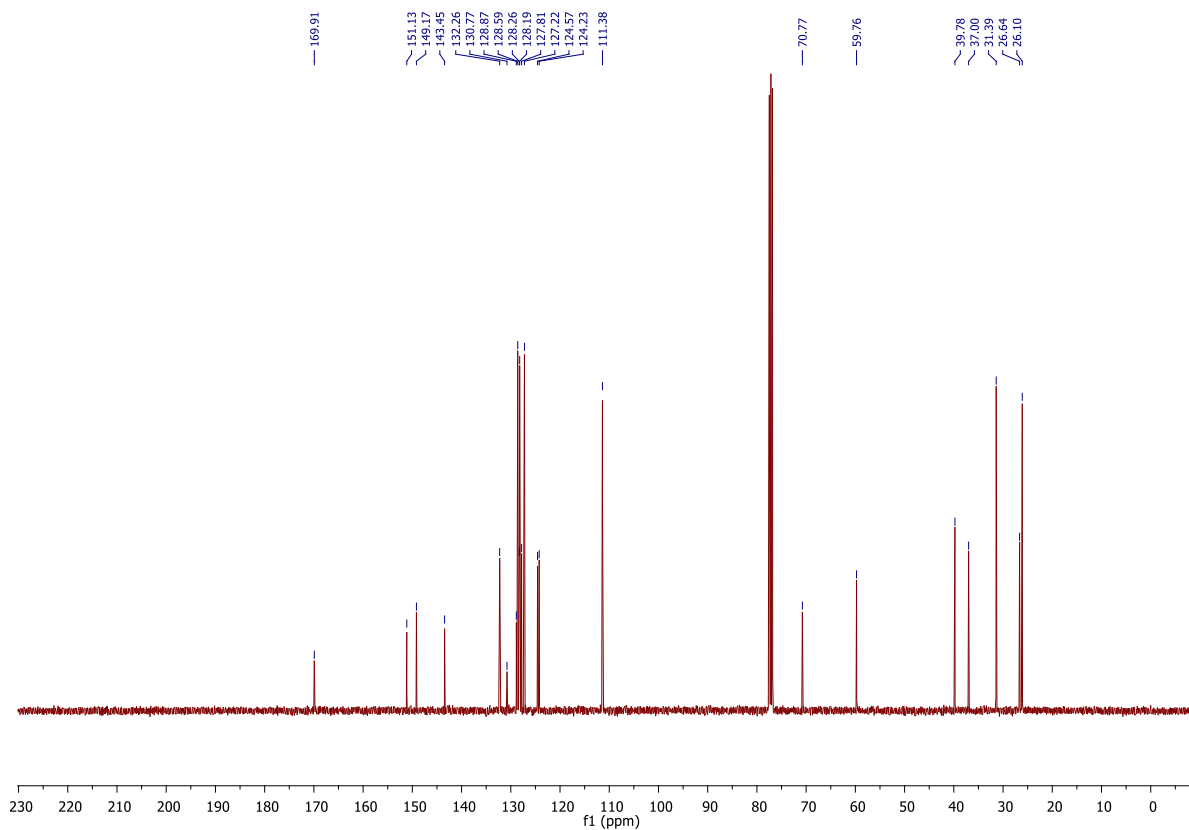


1.114. 3-[4-[cyclohexylmethyl(methyl)amino]phenyl]-3-phenyl-isoindolin-1-one (610g)

^1H NMR (400 MHz, CDCl_3)

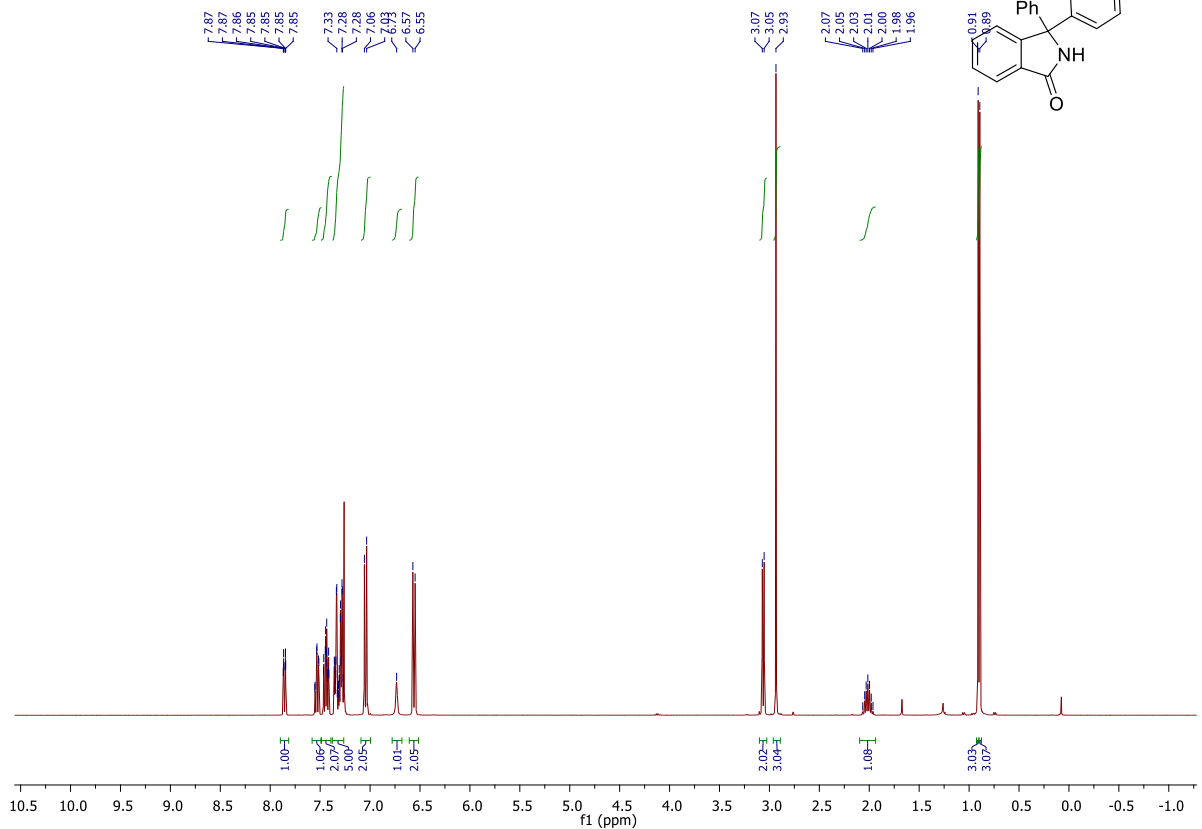


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

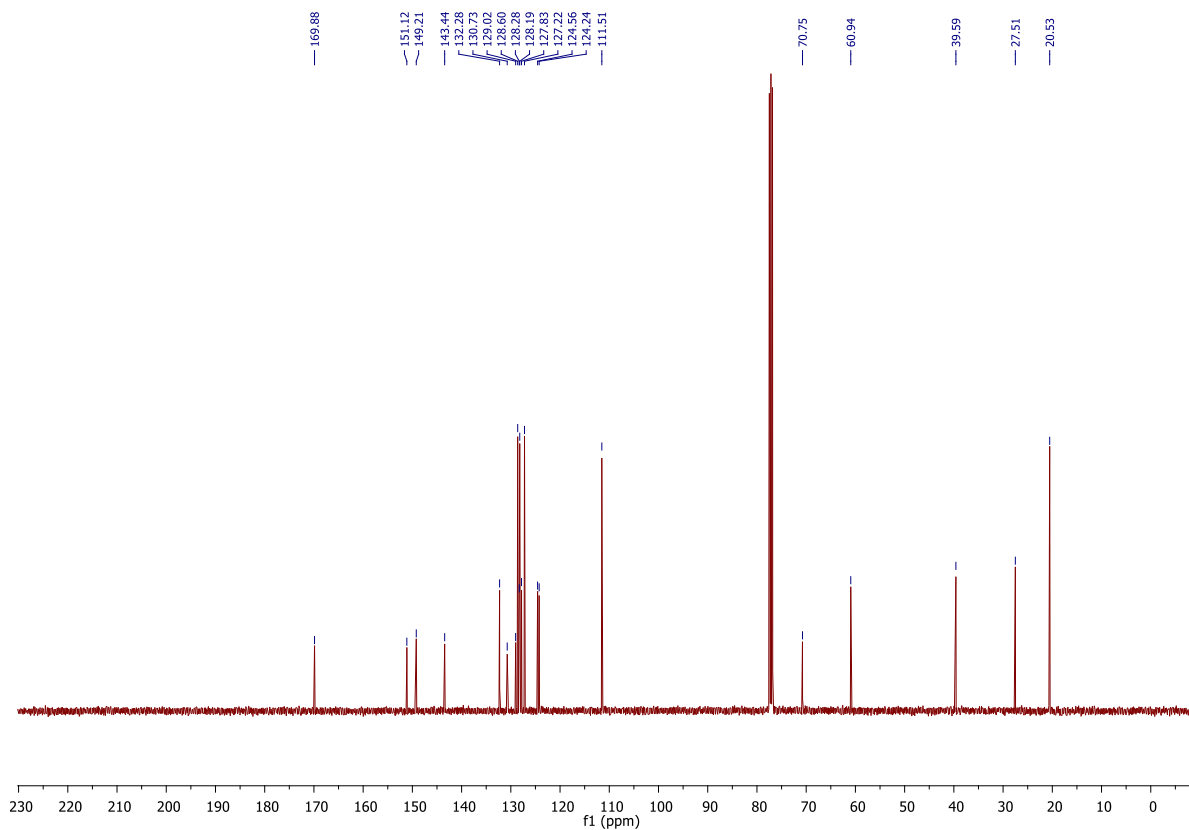


1.115. 3-[4-[isobutyl(methyl)amino]phenyl]-3-phenyl-isoindolin-1-one (610h)

^1H NMR (400 MHz, CDCl_3)

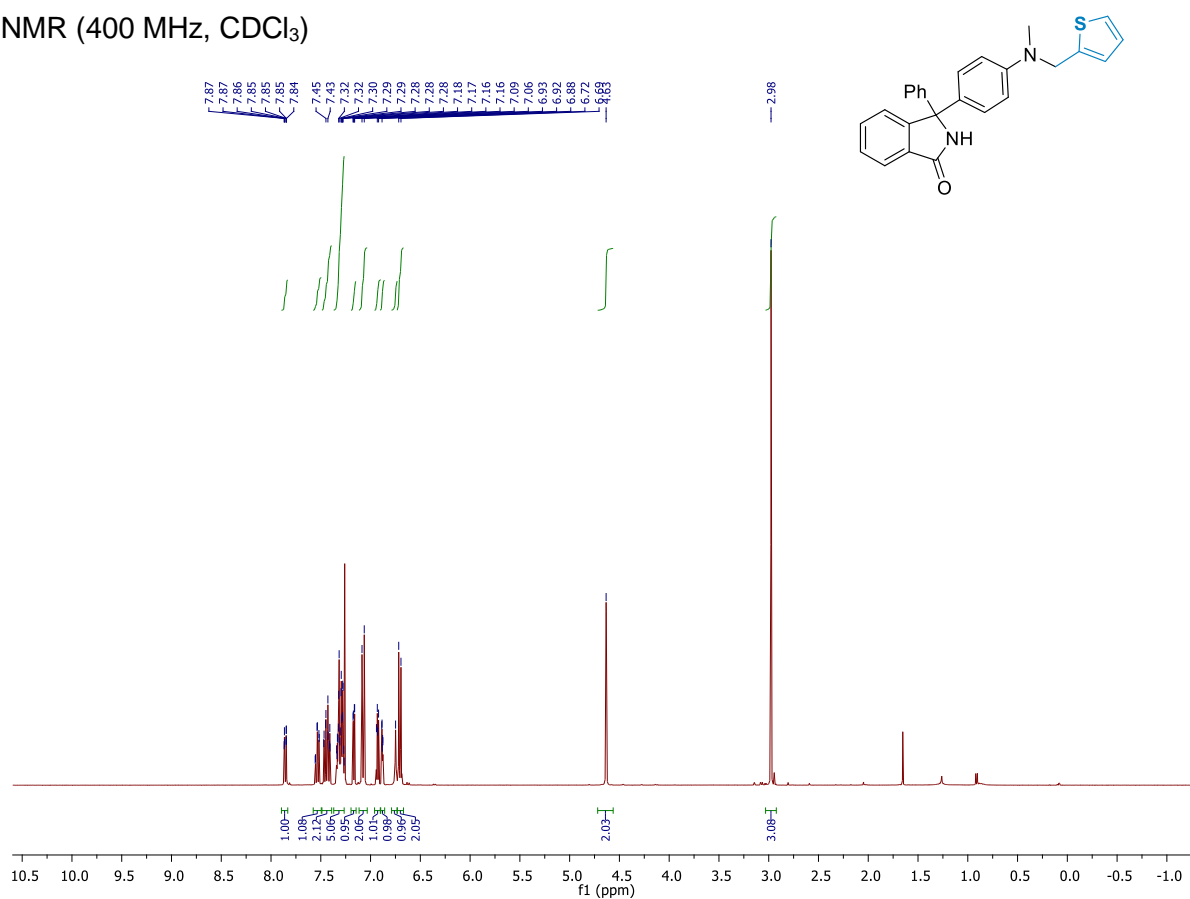


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

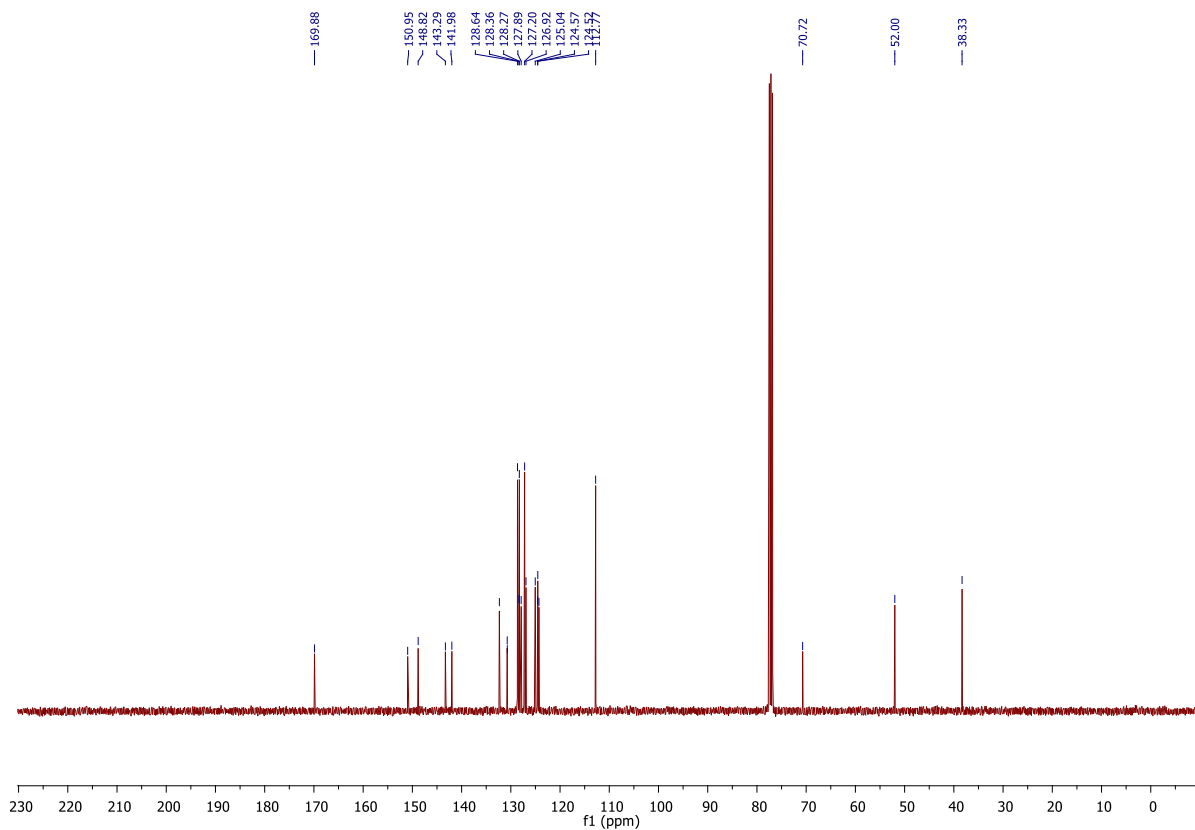


1.116. 3-[4-[methyl(2-thienylmethyl)amino]phenyl]-3-phenyl-isoindolin-1-one (610i)

^1H NMR (400 MHz, CDCl_3)

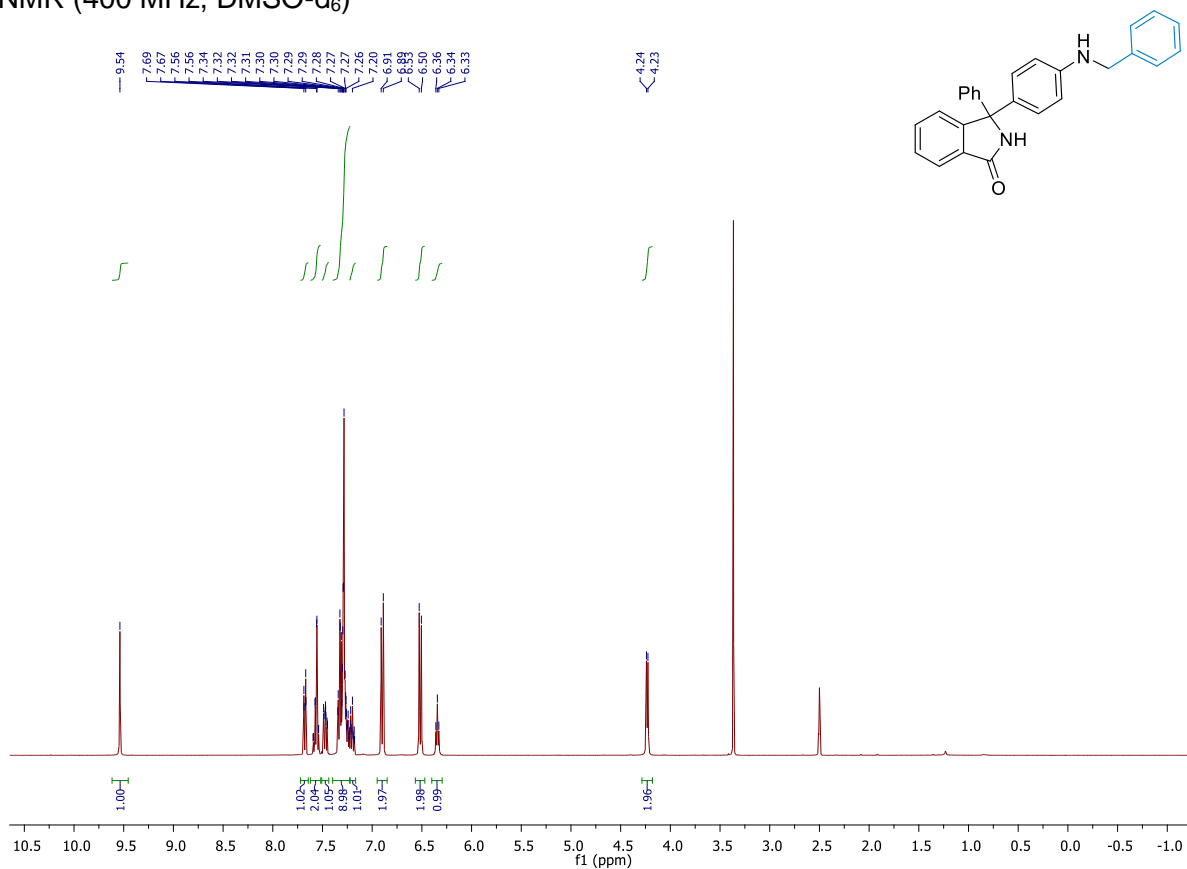


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

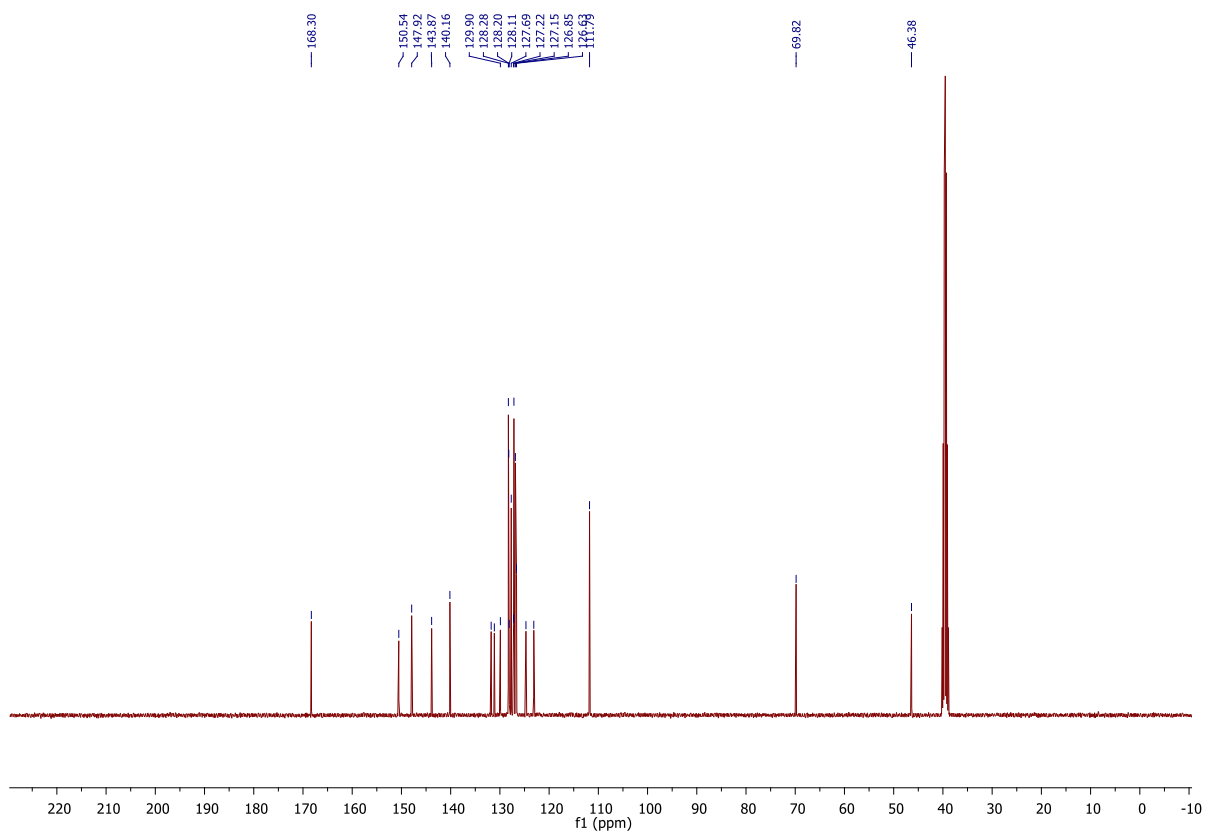


1.117. 3-[4-(benzylamino)phenyl]-3-phenyl-isoindolin-1-one (611a)

^1H NMR (400 MHz, DMSO-d_6)

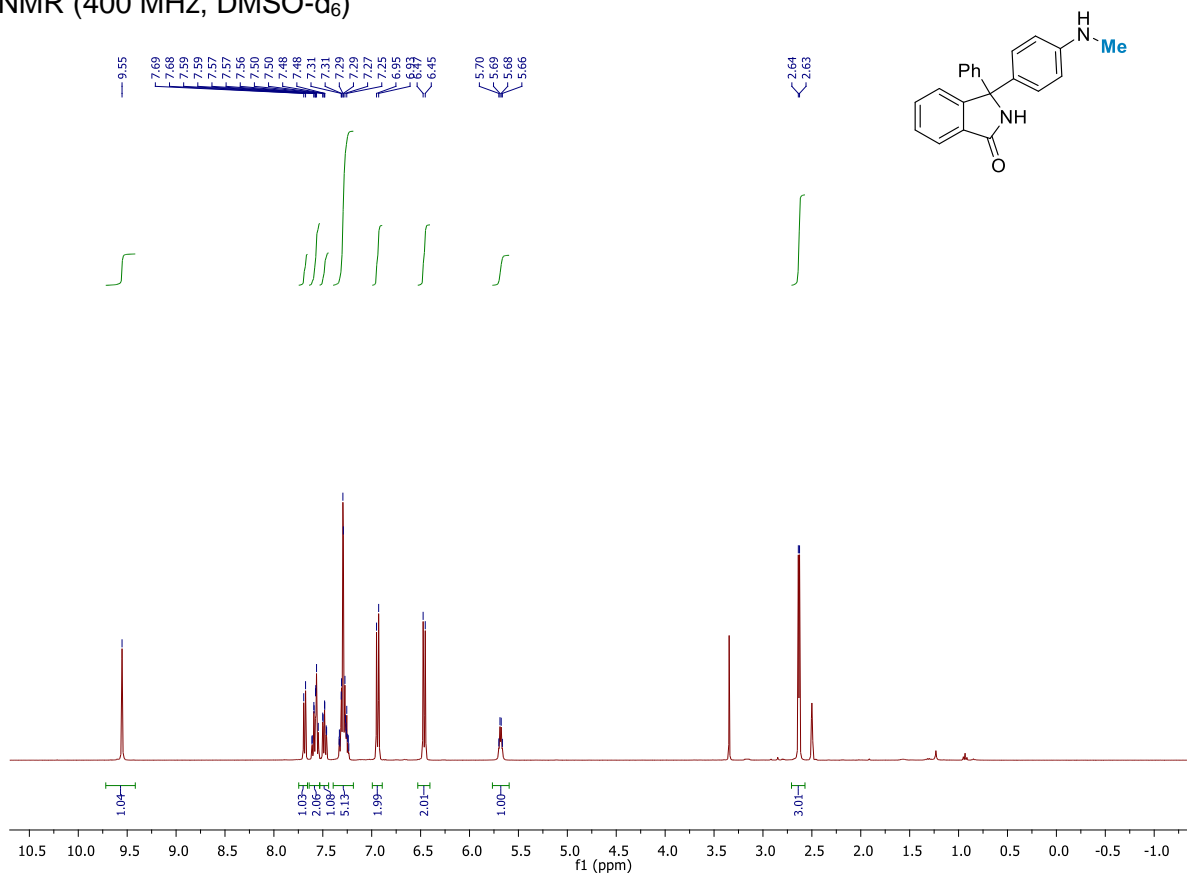


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO-d_6)

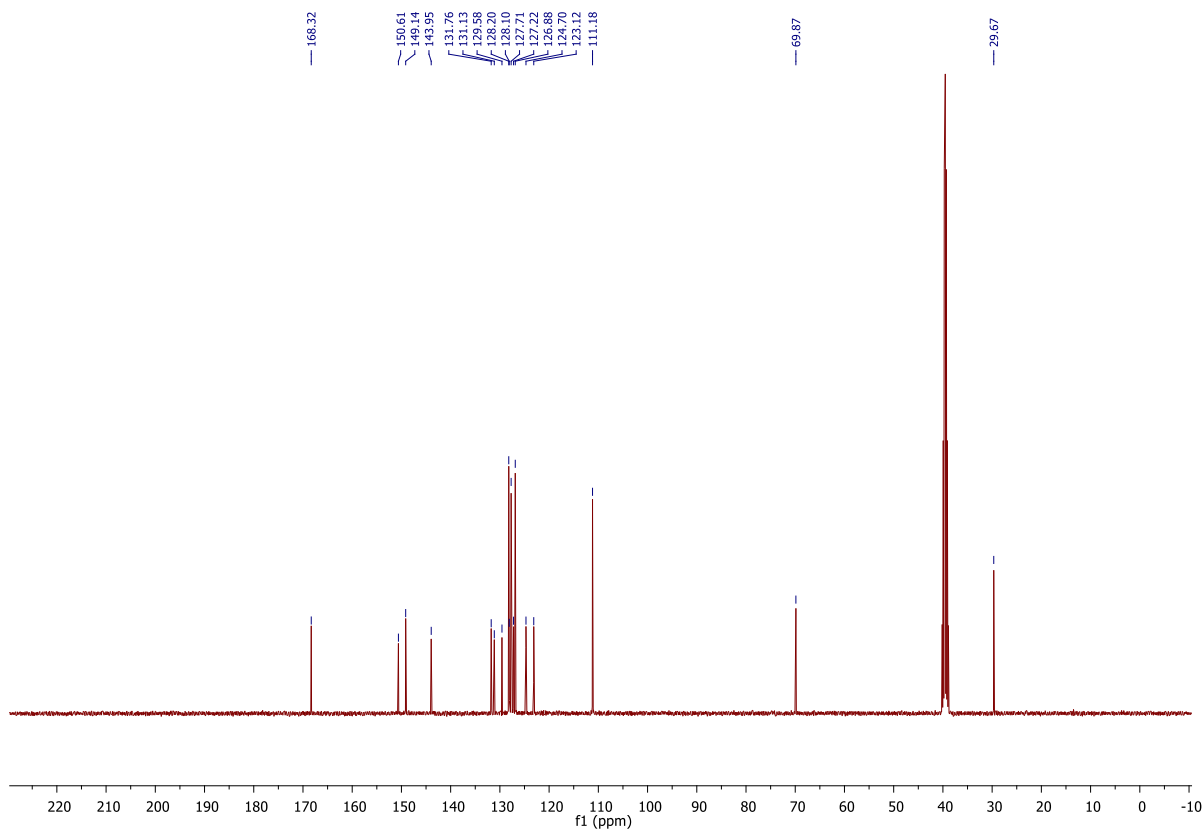


1.118. 3-[4-(methylamino)phenyl]-3-phenyl-isoindolin-1-one (611b)

^1H NMR (400 MHz, DMSO-d_6)

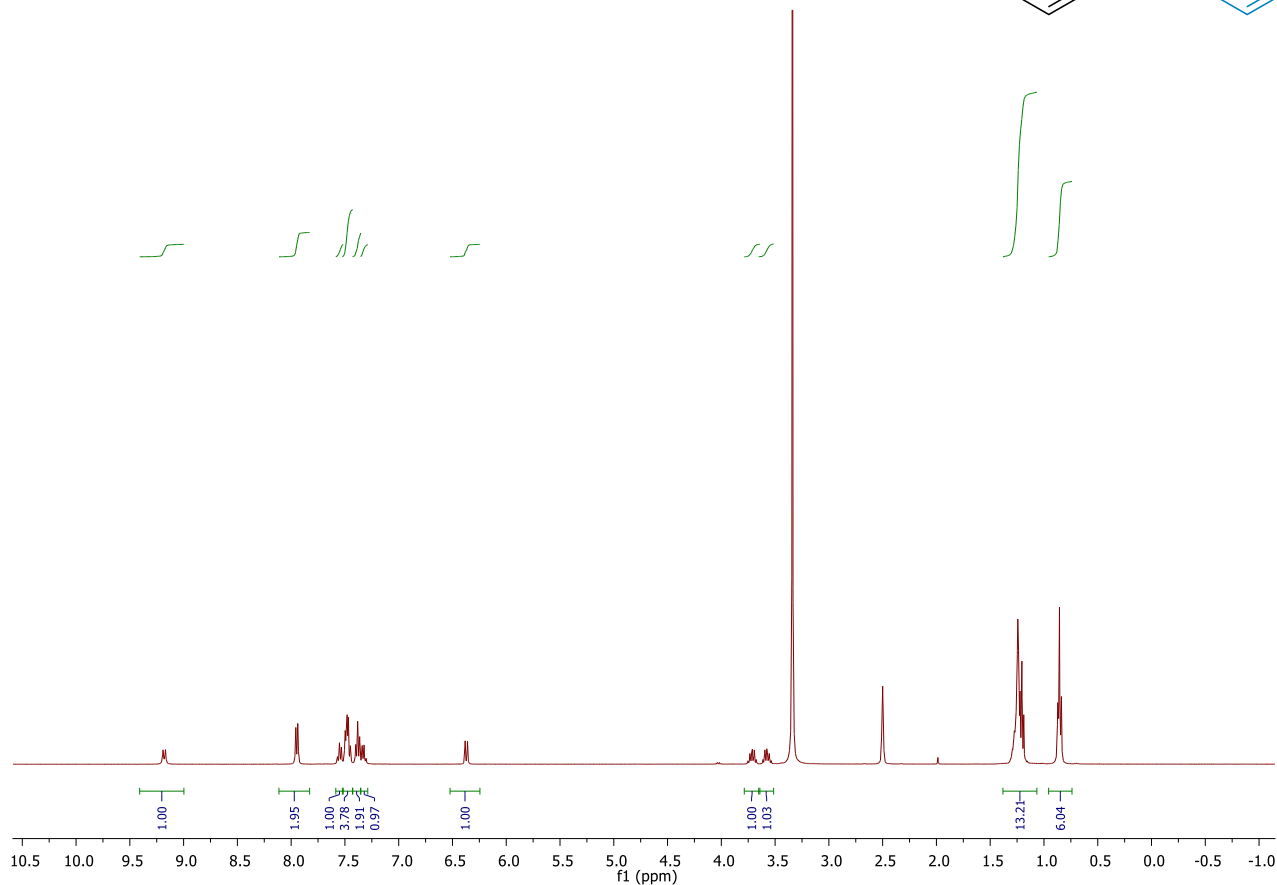
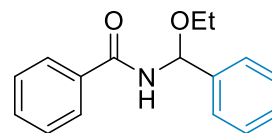


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO-d_6)

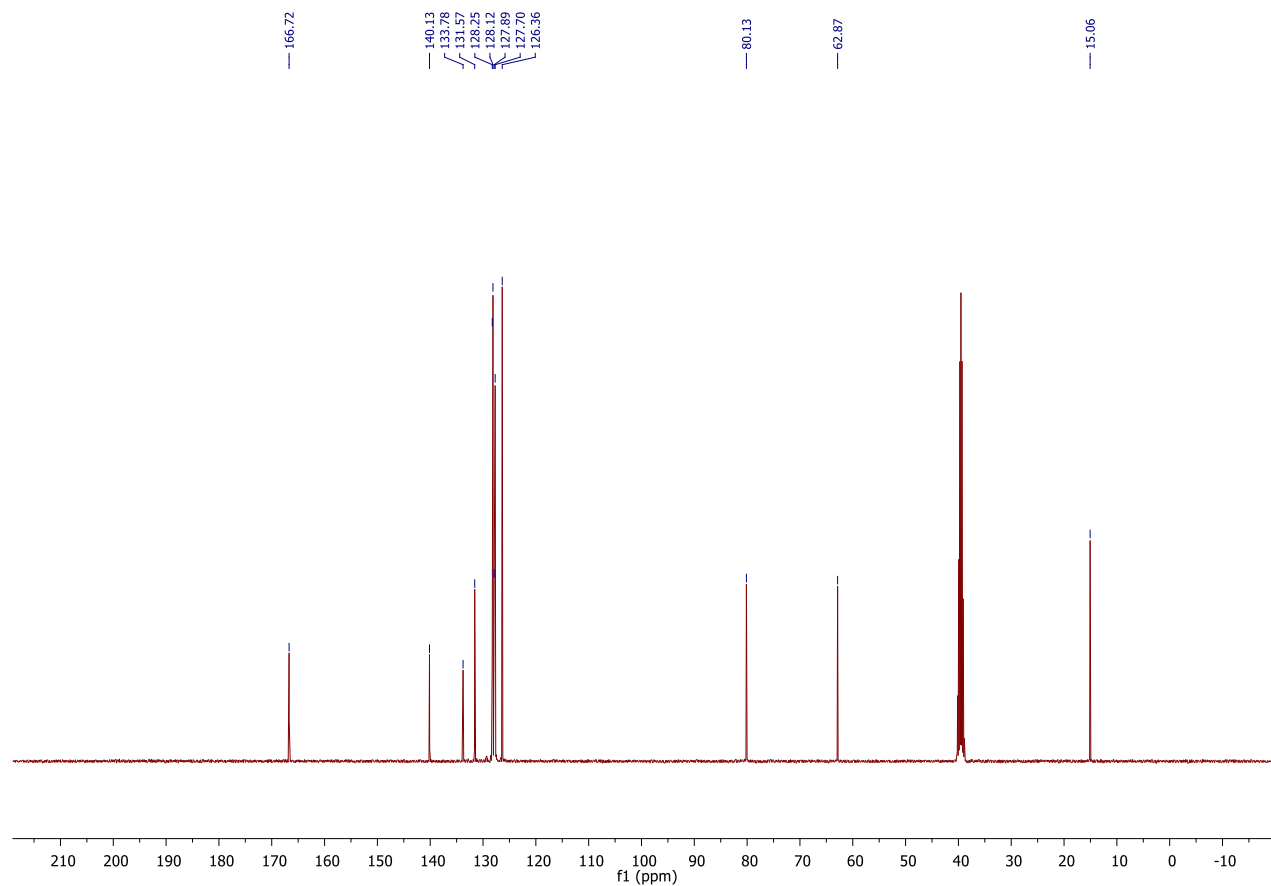


1.119. N-[ethoxy(phenyl)methyl]benzamide (644a)

^1H NMR (400 MHz, DMSO-d_6)

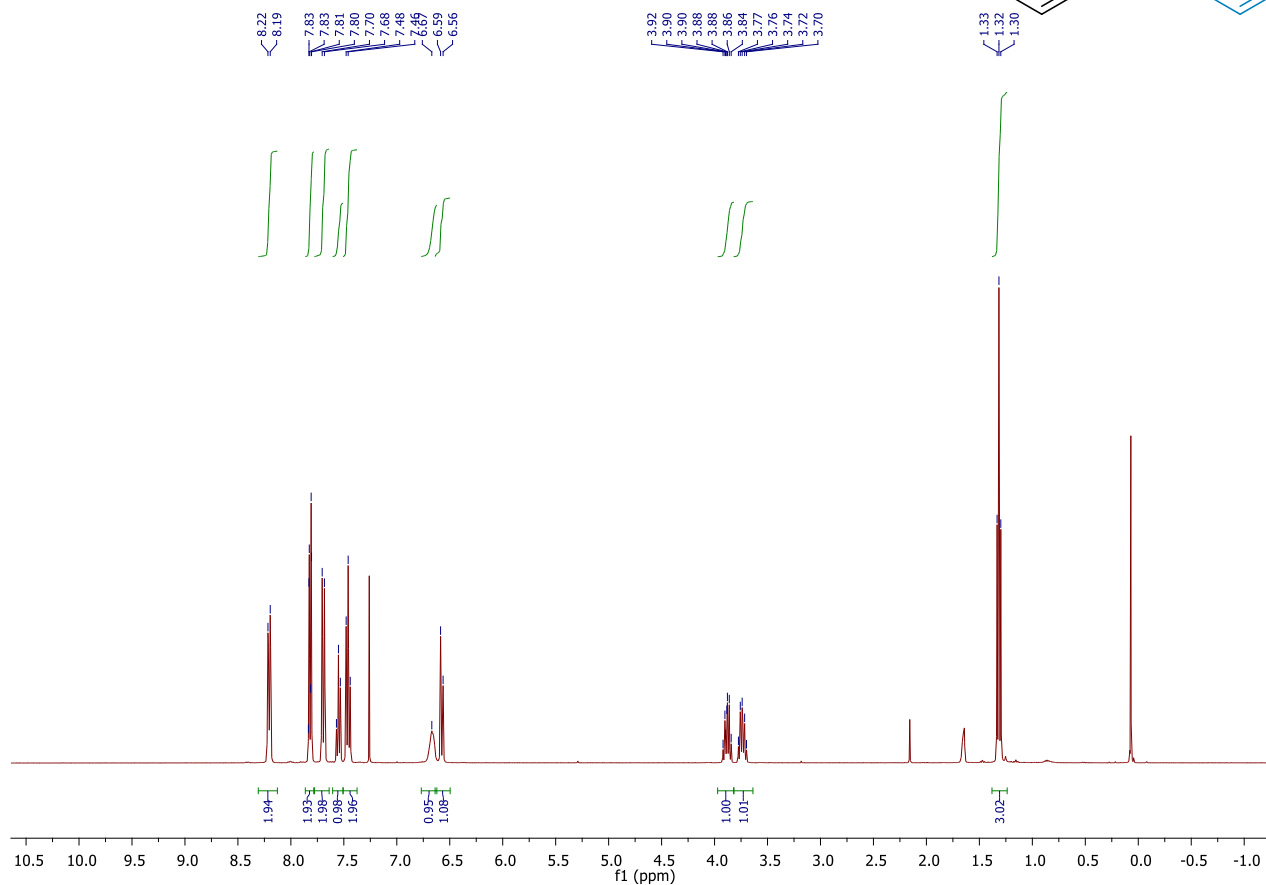
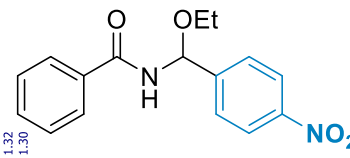


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO-d_6)

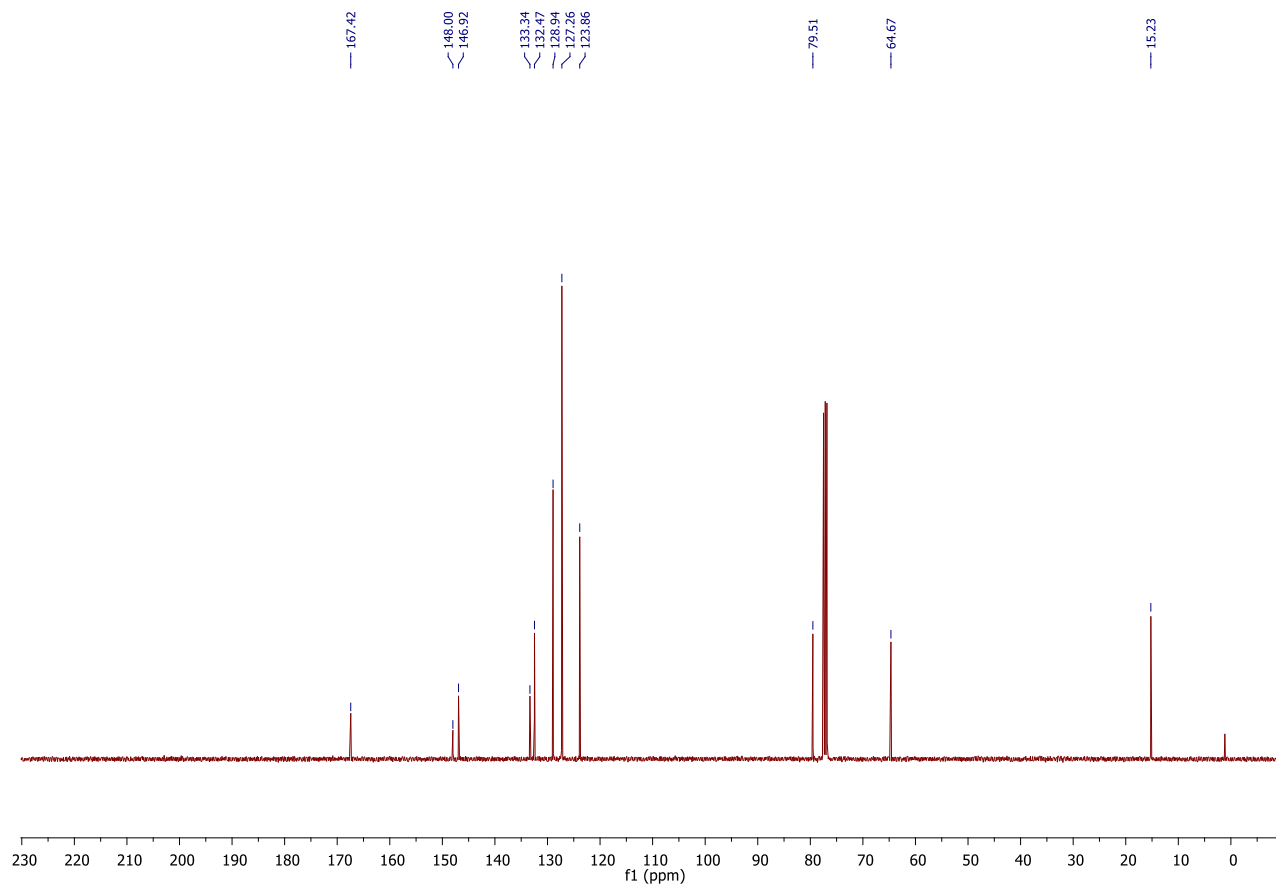


1.120. N-[ethoxy-(4-nitrophenyl)methyl]benzamide (644b)

^1H NMR (400 MHz, CDCl_3)

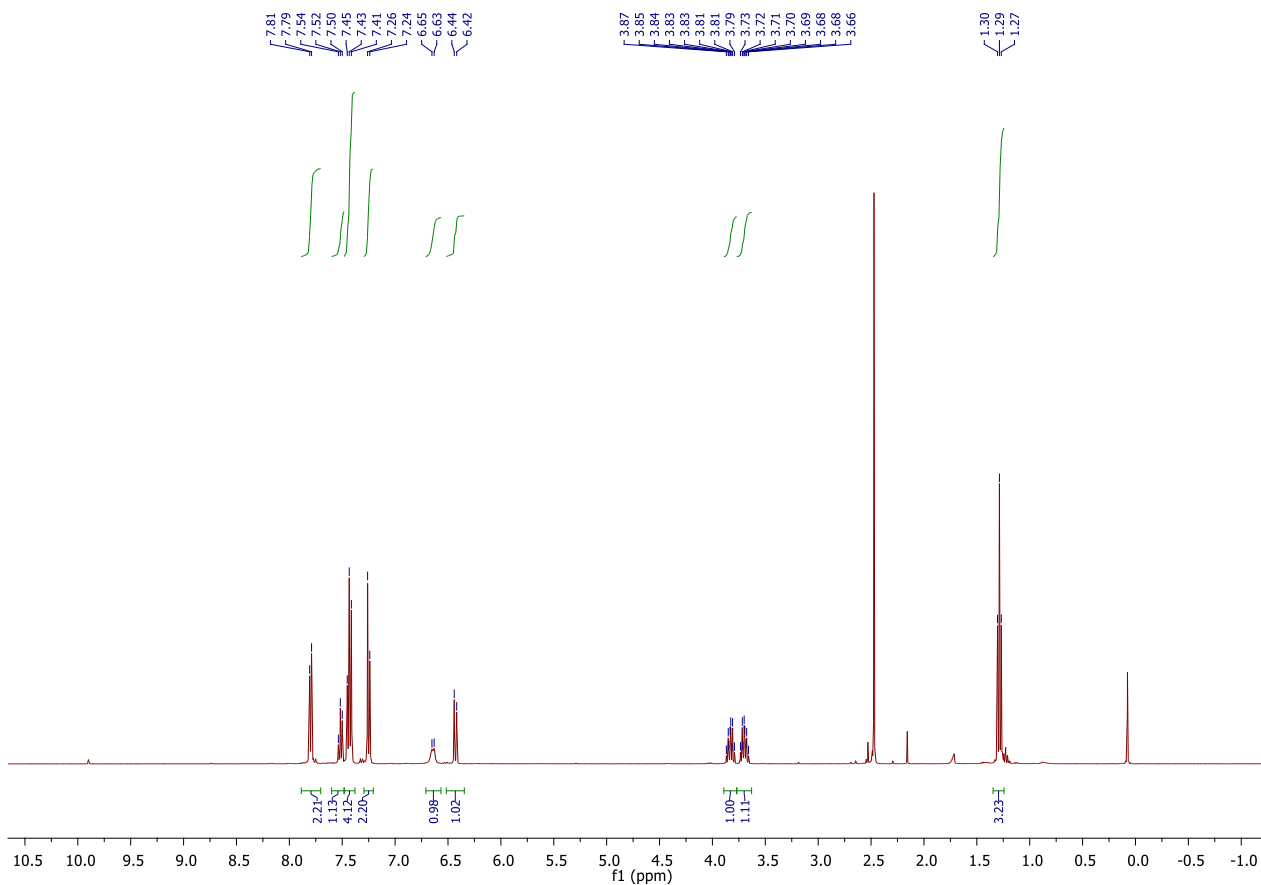
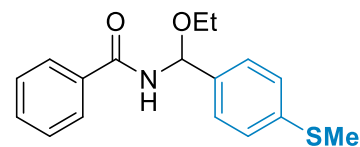


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

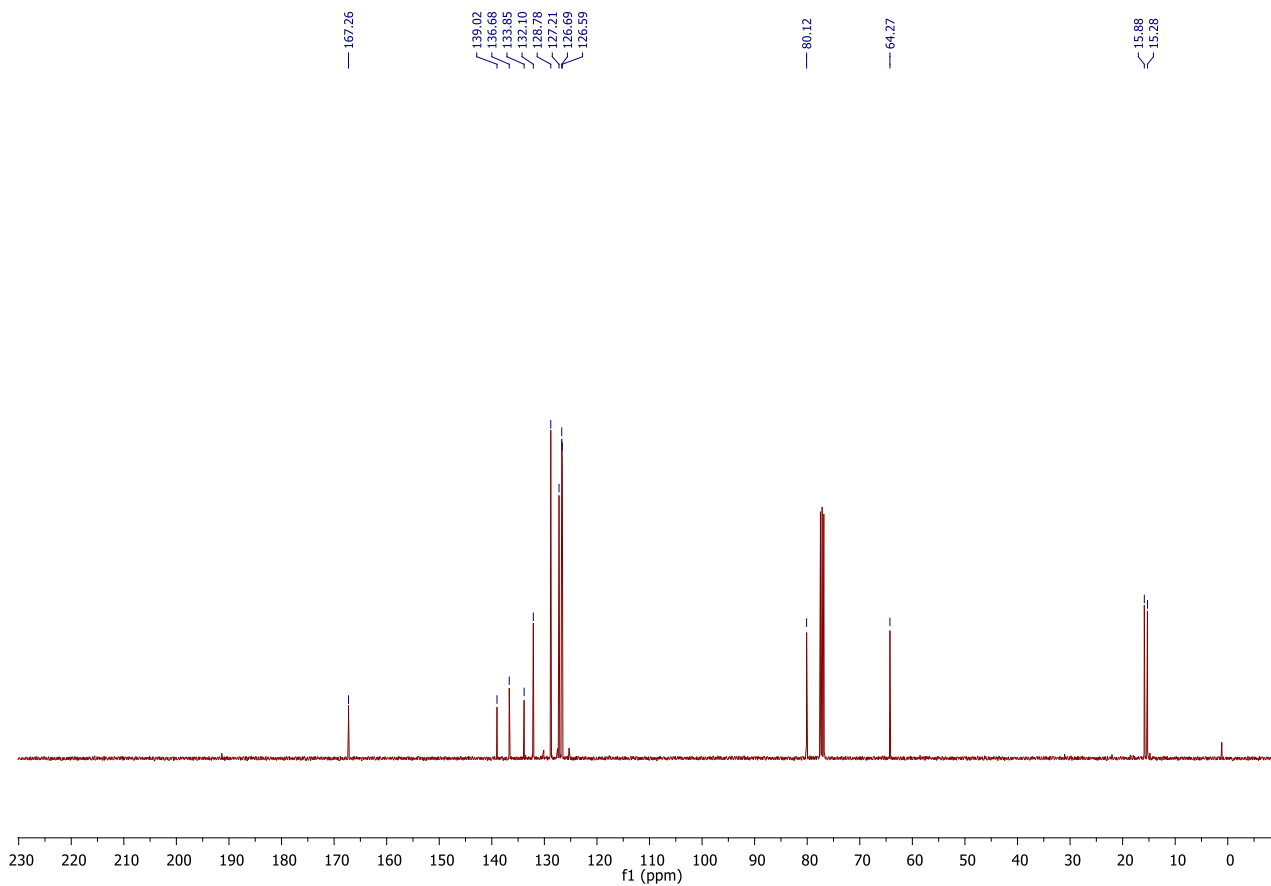


1.121. N-[ethoxy-(4-methylsulfanylphenyl)methyl]benzamide (644c)

¹H NMR (400 MHz, CDCl₃)

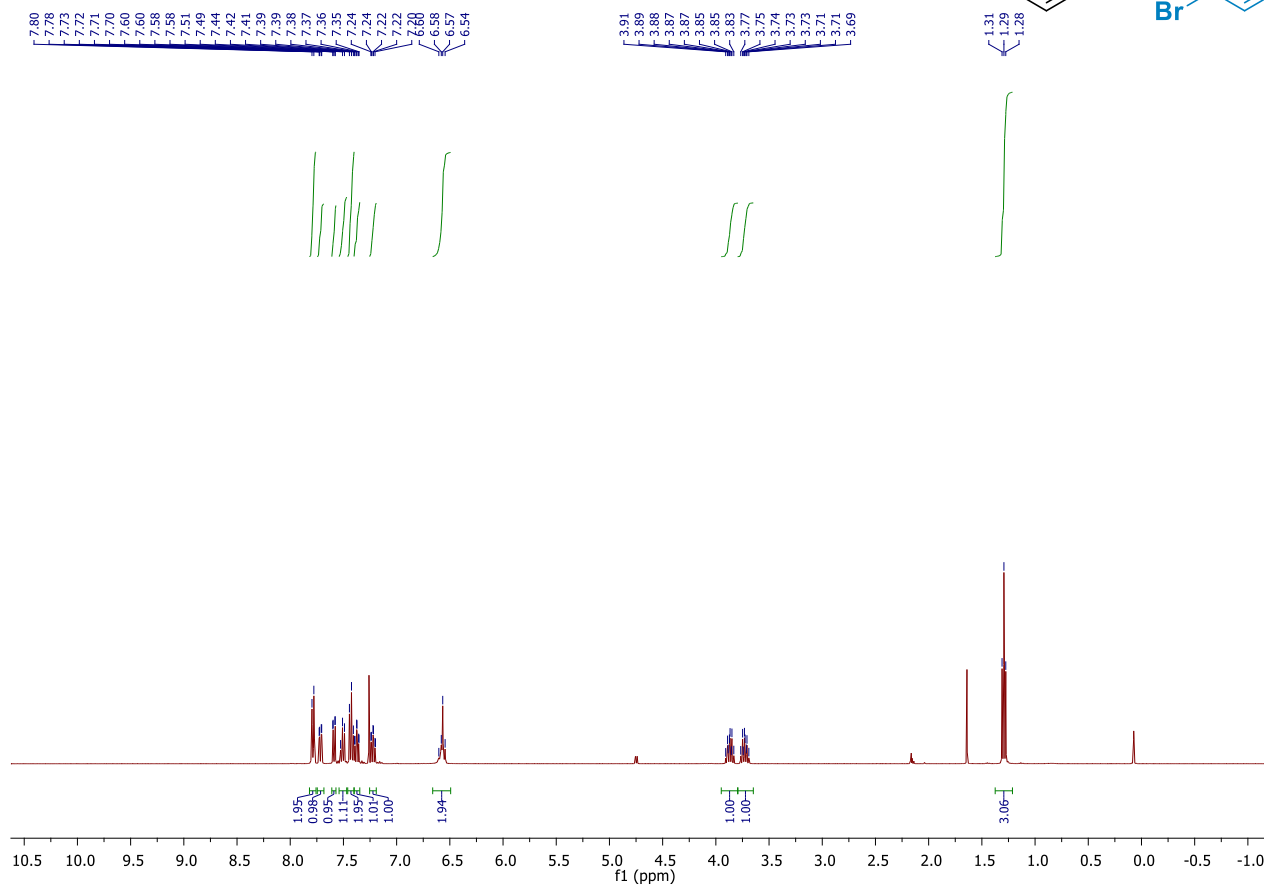
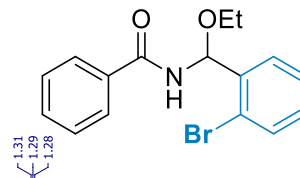


¹³C{¹H} NMR (101 MHz, CDCl₃)

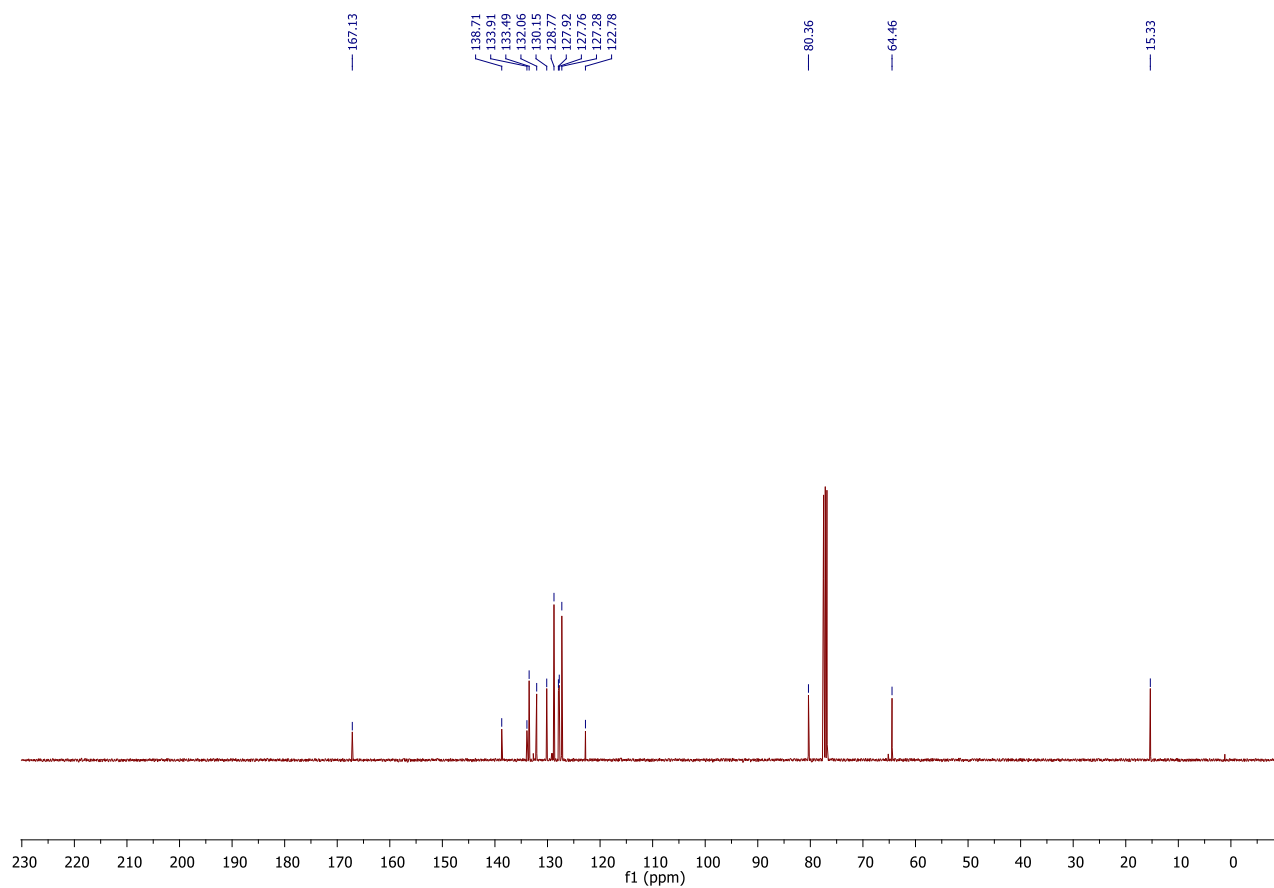


1.122. N-[(2-bromophenyl)-ethoxy-methyl]benzamide (644d)

^1H NMR (400 MHz, CDCl_3)

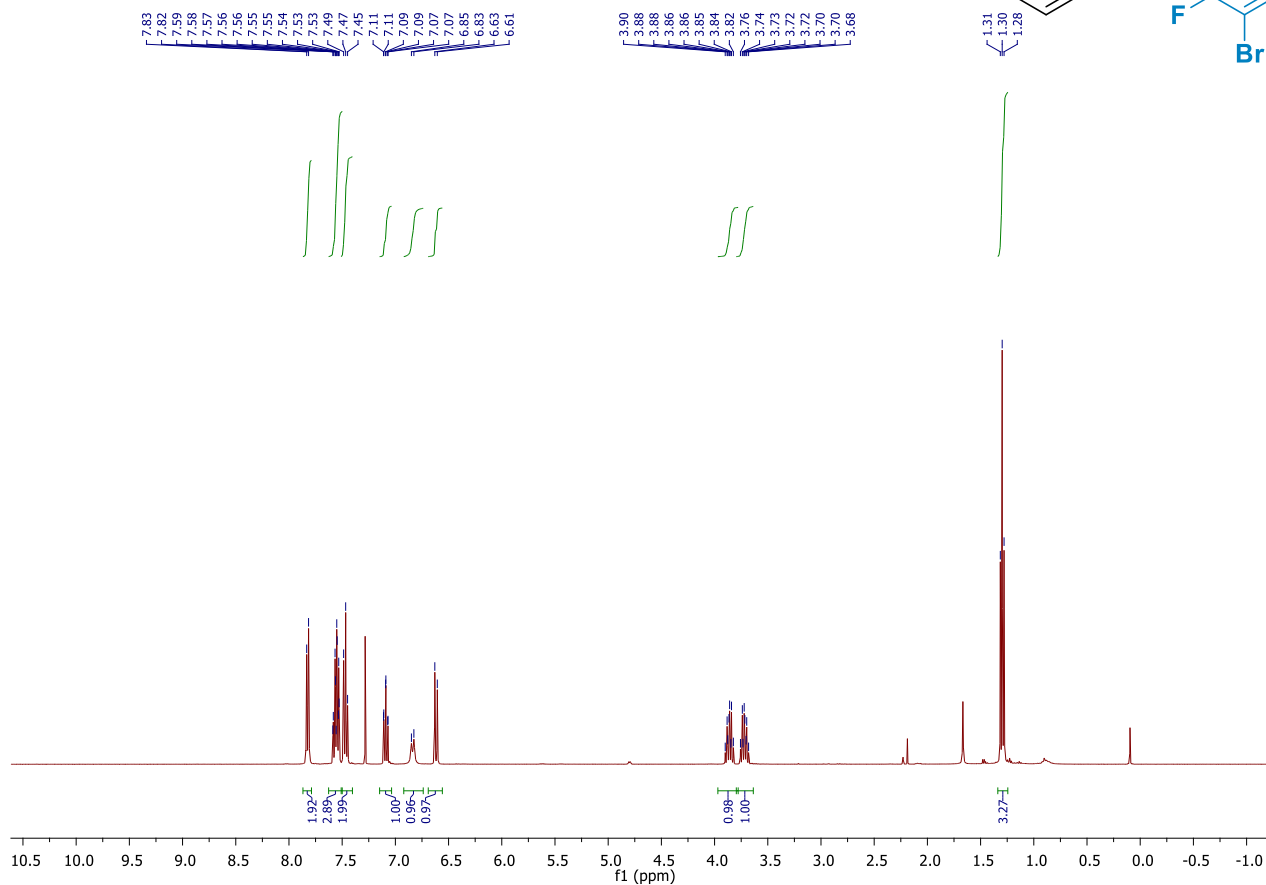
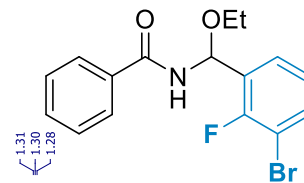


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

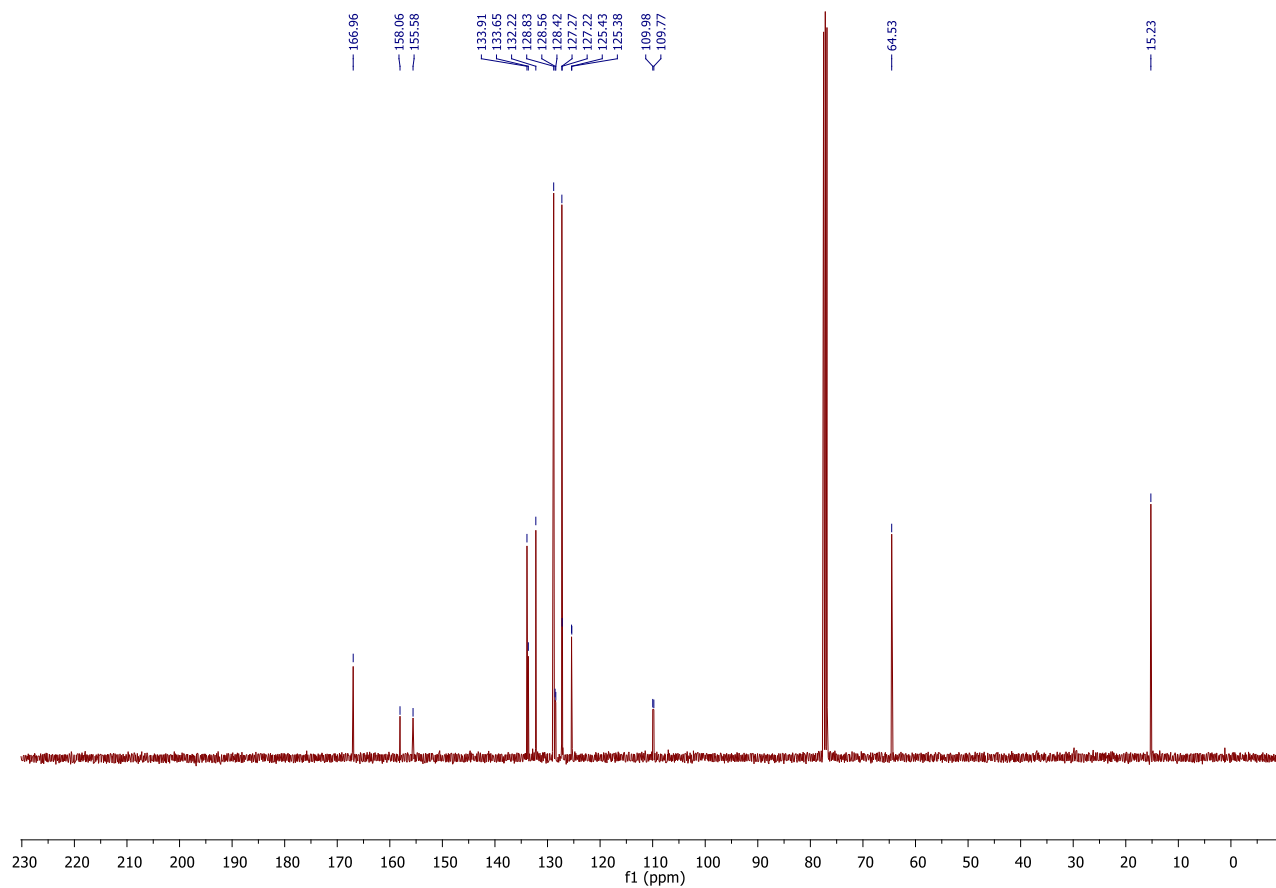


1.123. N-[(3-bromo-2-fluoro-phenyl)-ethoxy-methyl]benzamide (644e)

¹H NMR (400 MHz, CDCl₃)

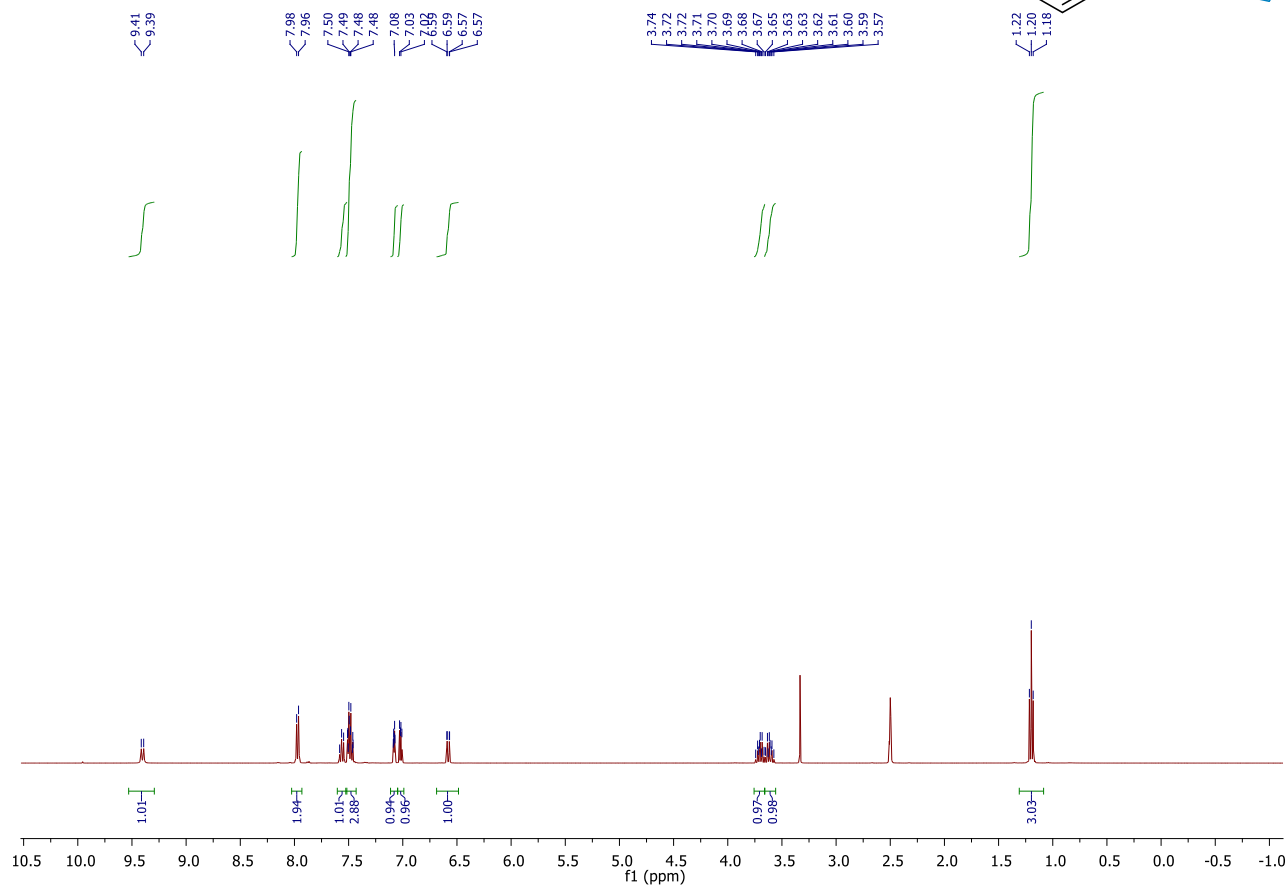
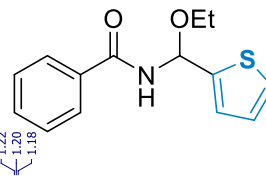


¹³C{¹H} NMR (101 MHz, CDCl₃)

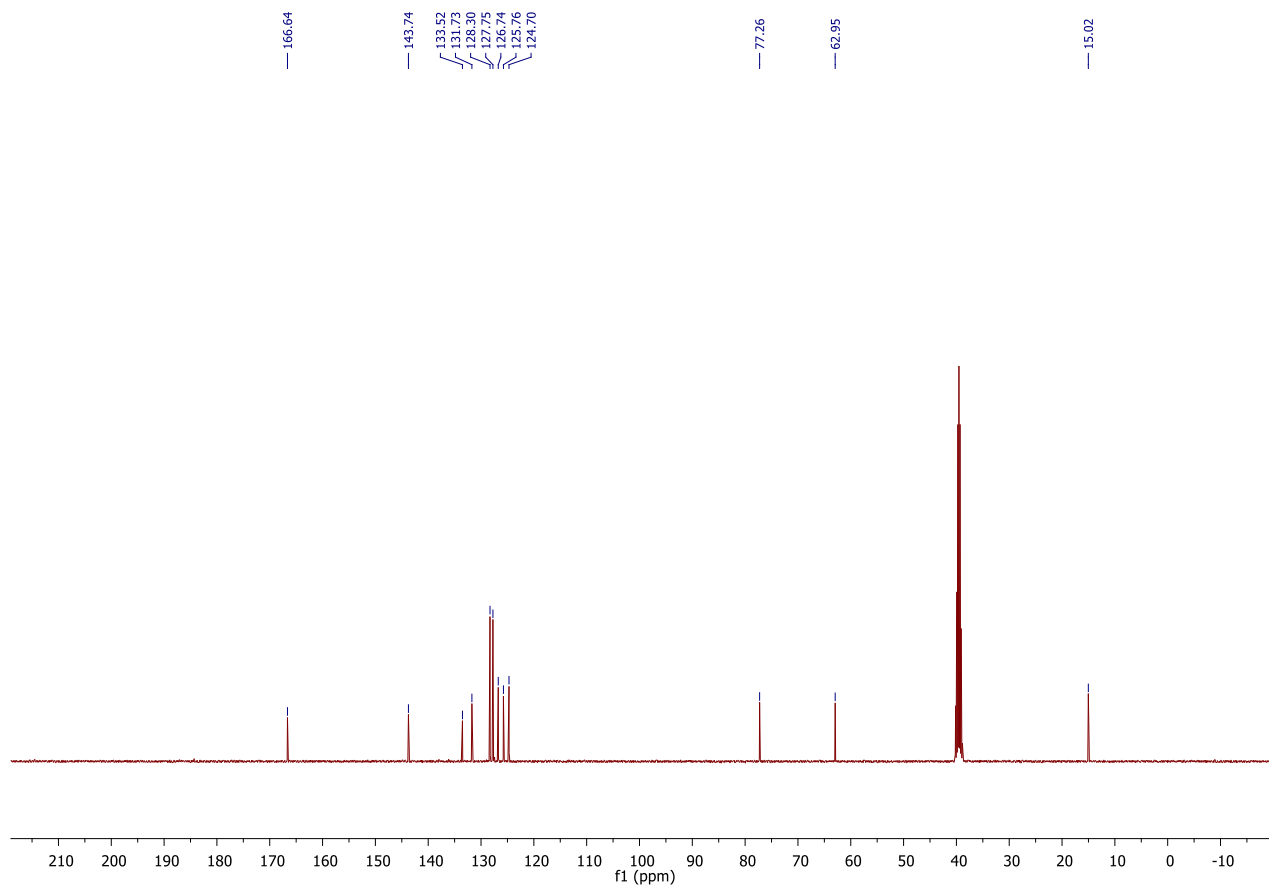


1.124. N-[ethoxy(2-thienyl)methyl]benzamide (644f)

^1H NMR (400 MHz, DMSO-d_6)

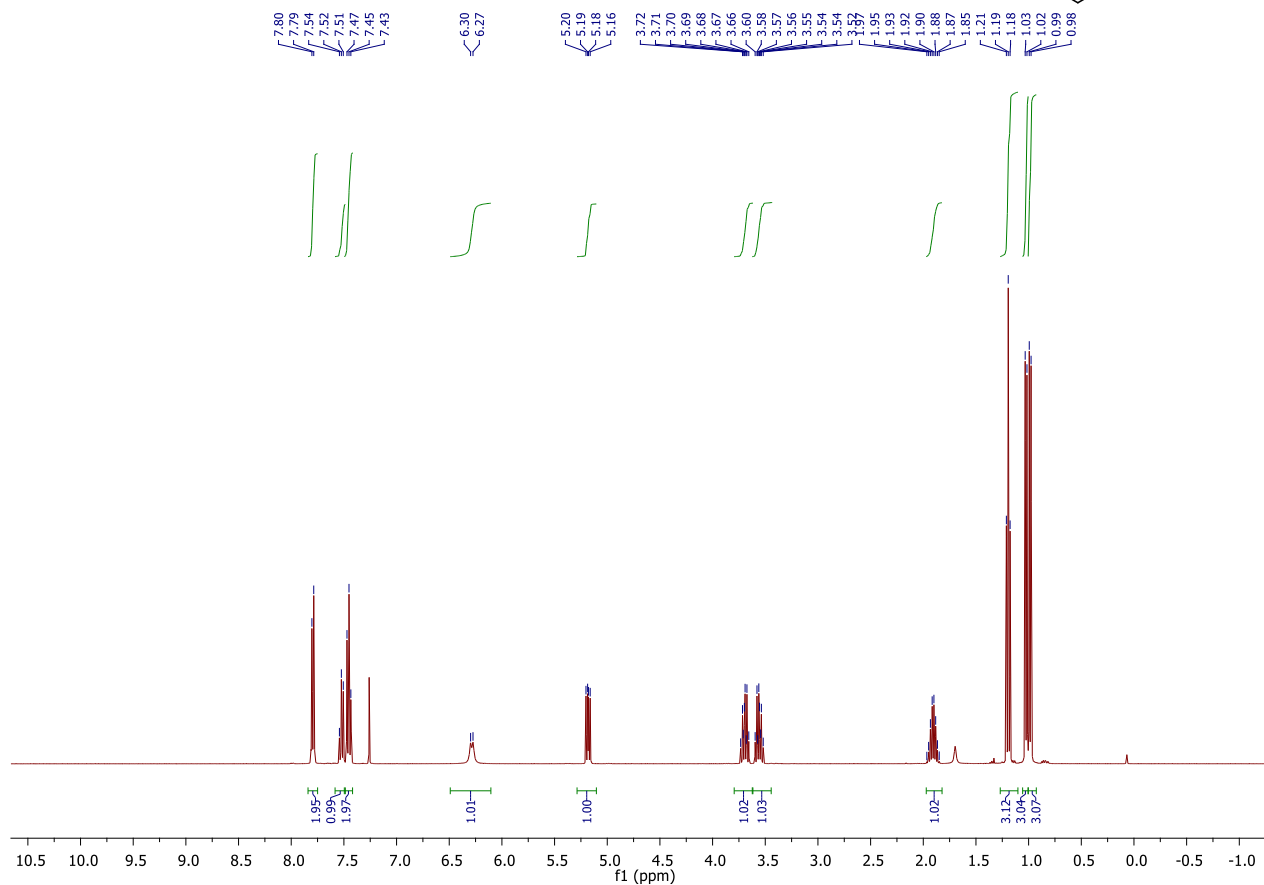
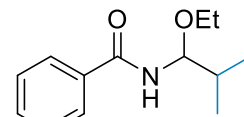


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO-d_6)

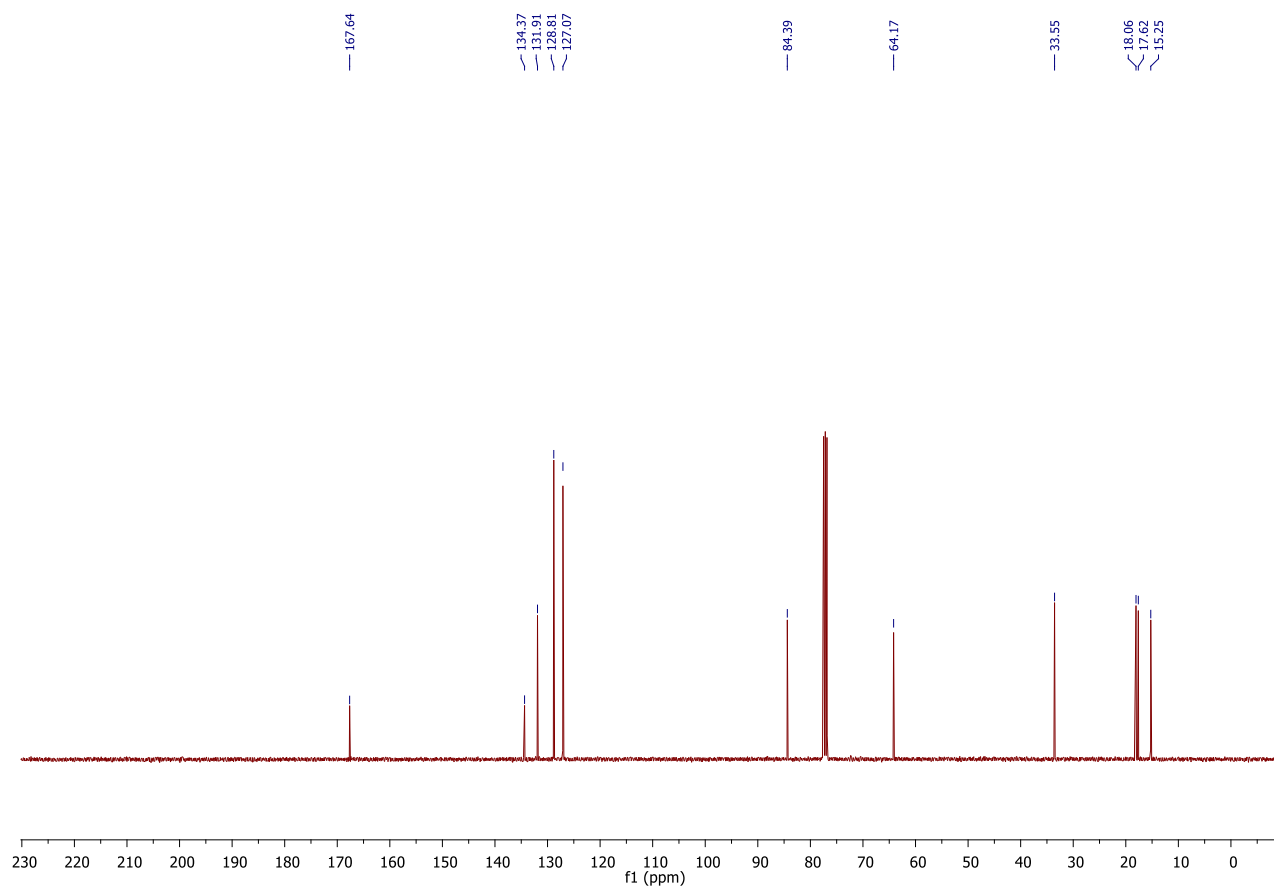


1.125. N-(1-ethoxy-2-methyl-propyl)benzamide (644g)

^1H NMR (400 MHz, CDCl_3)

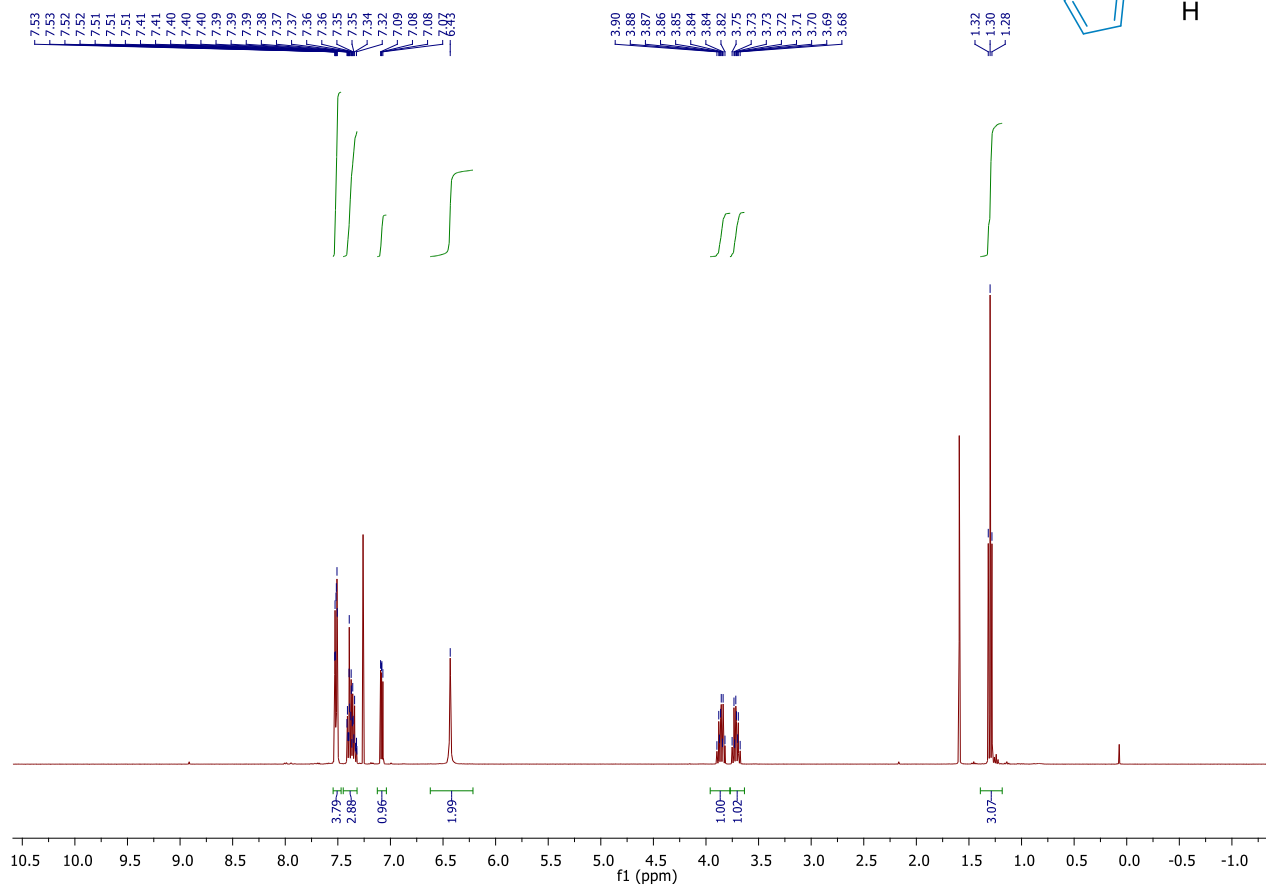
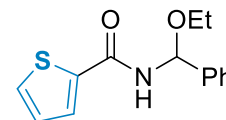


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

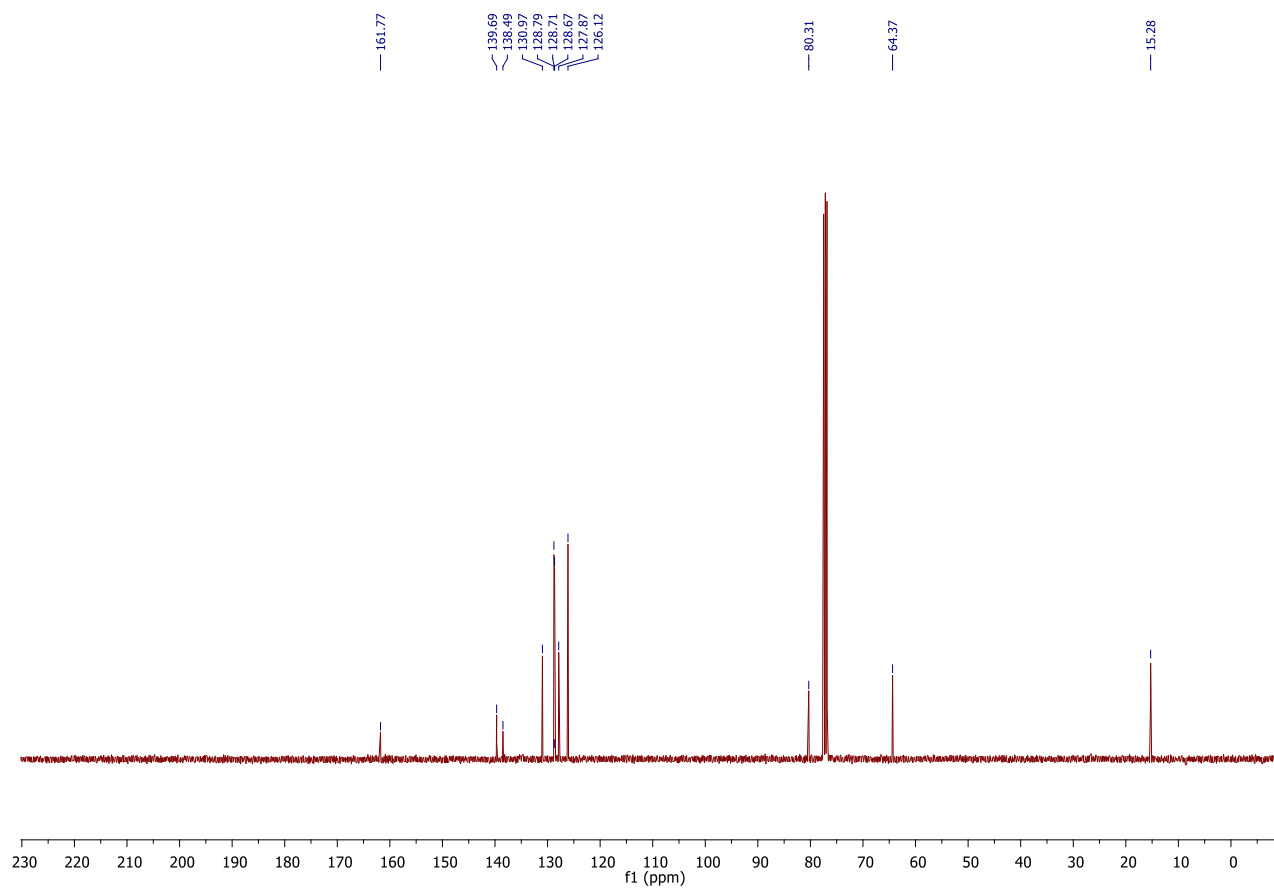


1.126. N-[ethoxy(phenyl)methyl]thiophene-2-carboxamide (654)

^1H NMR (400 MHz, CDCl_3)

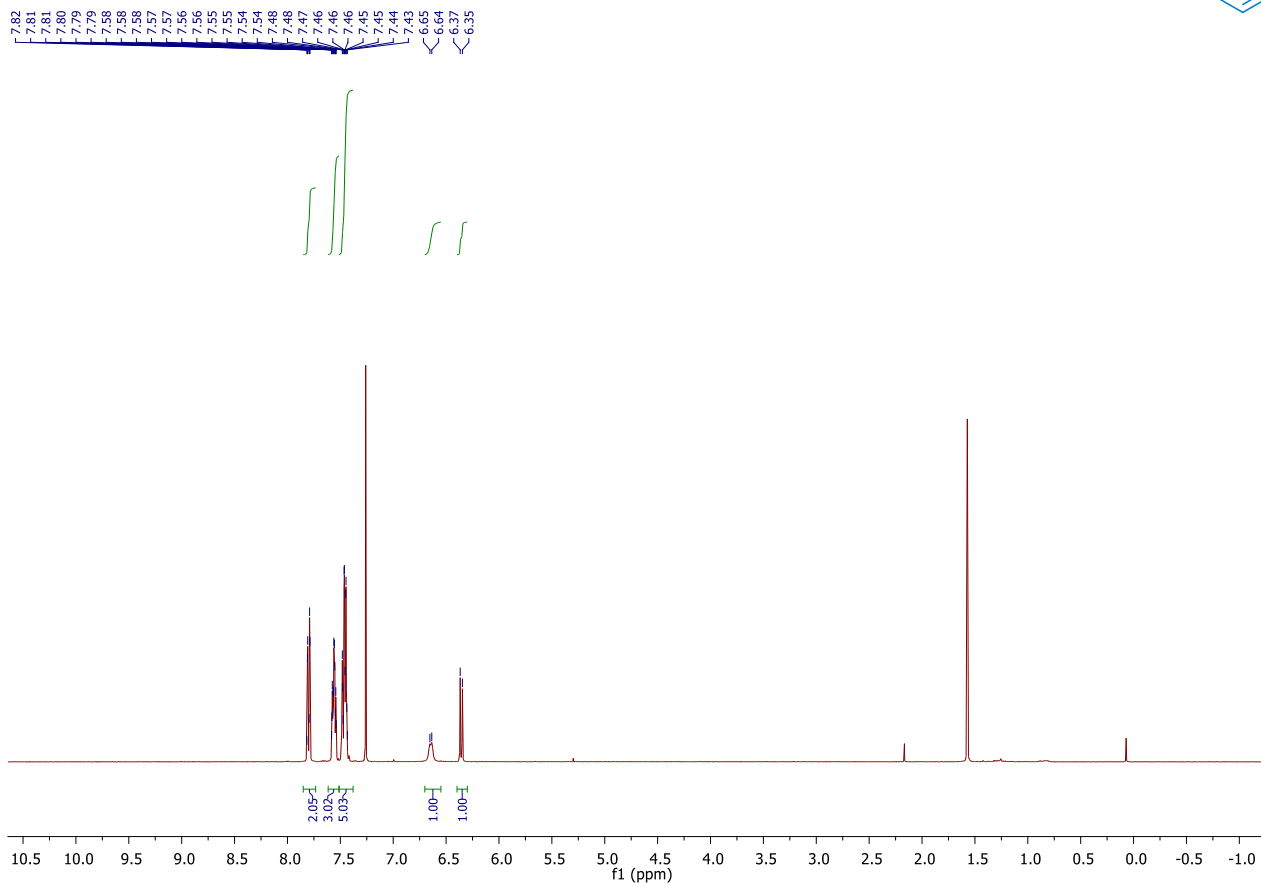
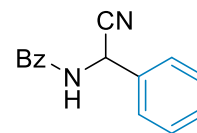


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

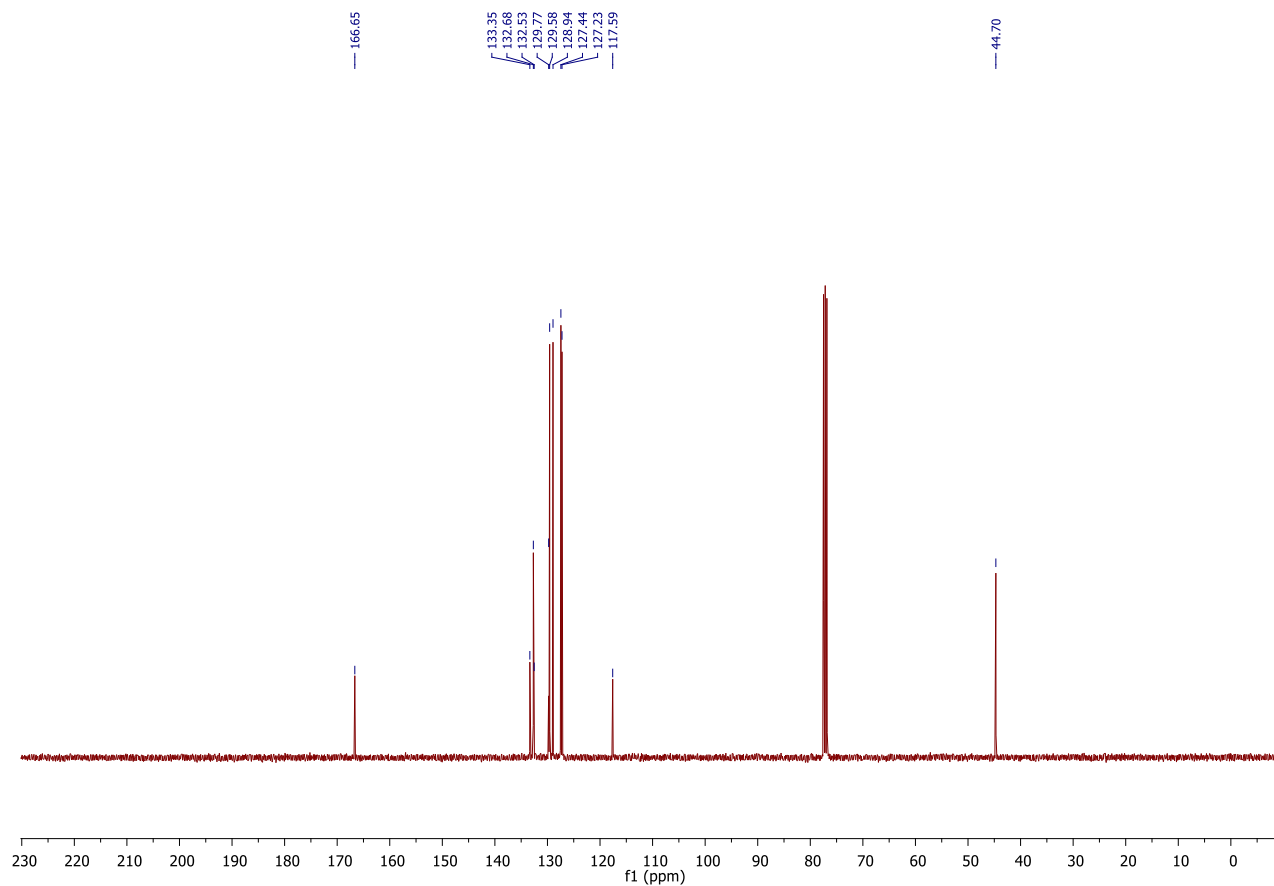


1.127. N-[cyano(phenyl)methyl]benzamide (645a)

^1H NMR (400 MHz, CDCl_3)

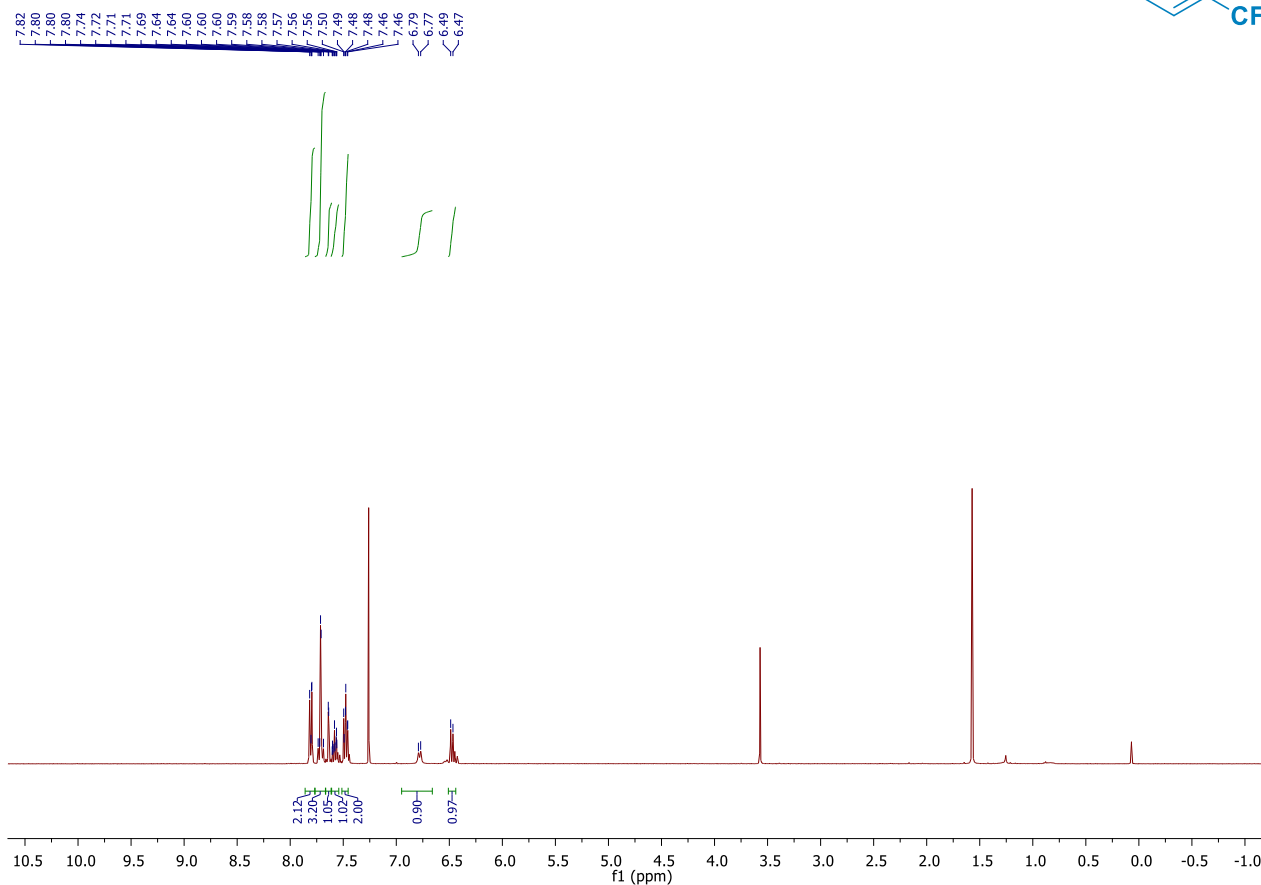
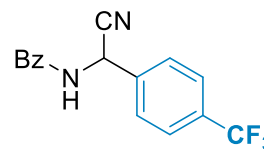


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

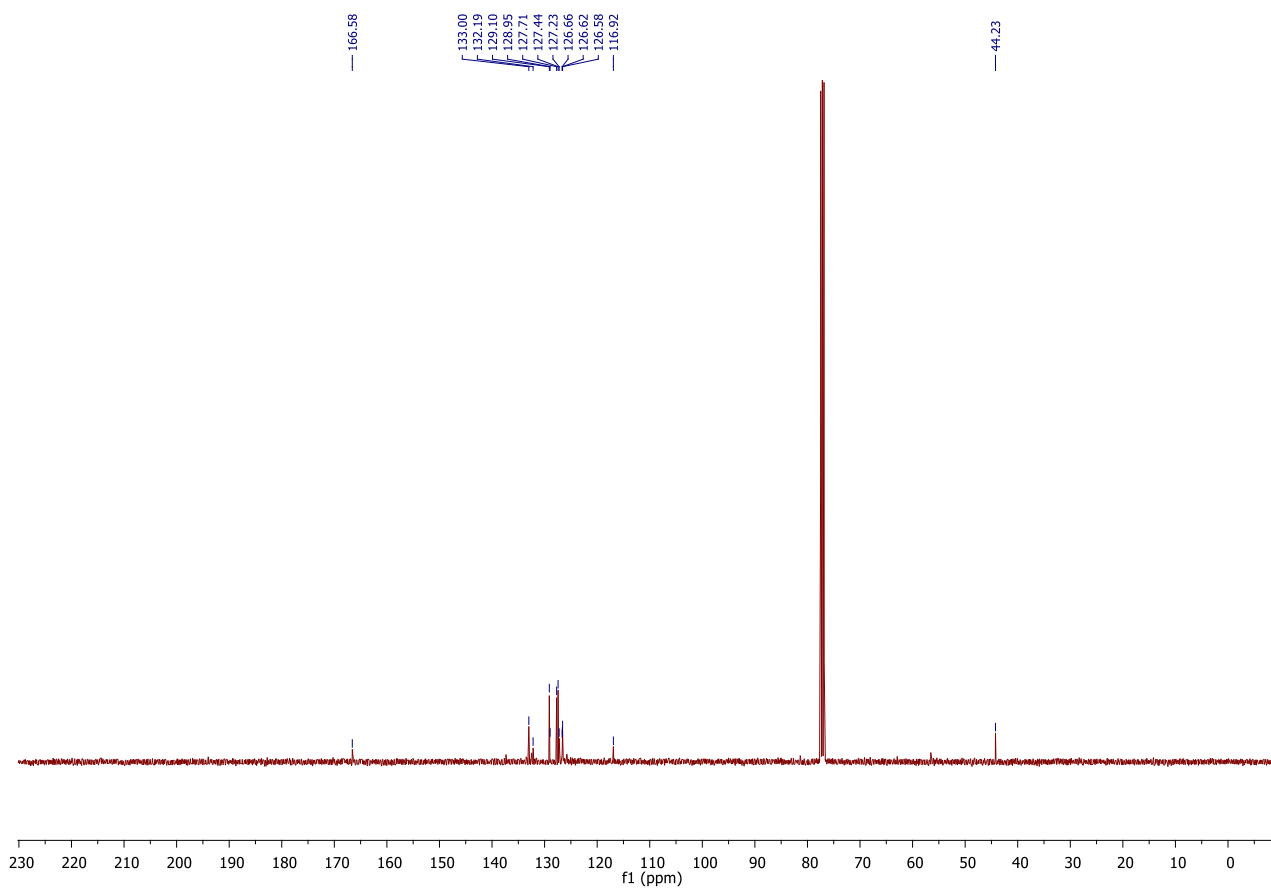


1.128. N-[cyano-[4-(trifluoromethyl)phenyl]methyl]benzamide (645b)

^1H NMR (400 MHz, CDCl_3)

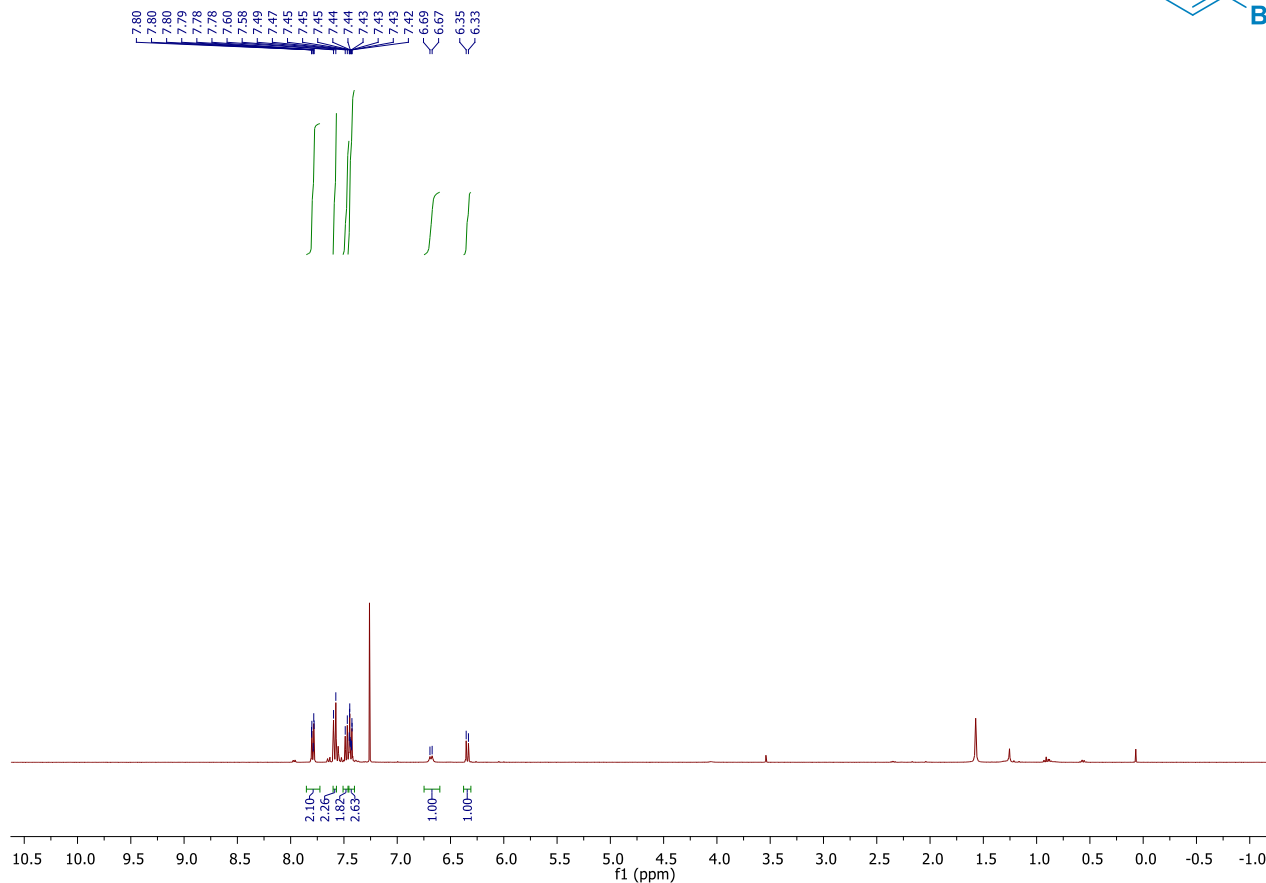
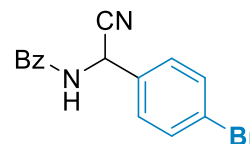


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

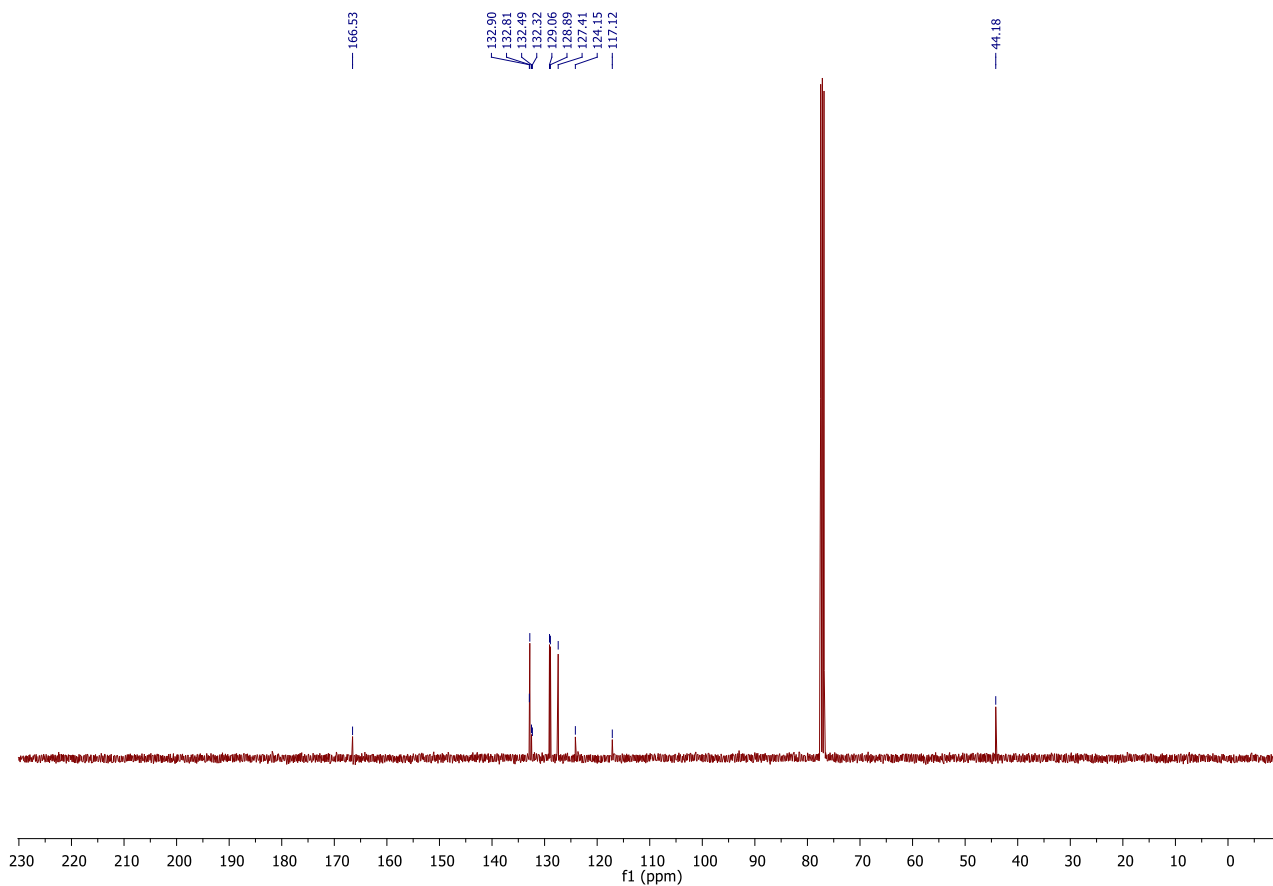


1.129. N-[(4-bromophenyl)-cyano-methyl]benzamide (645c)

¹H NMR (400 MHz, CDCl₃)

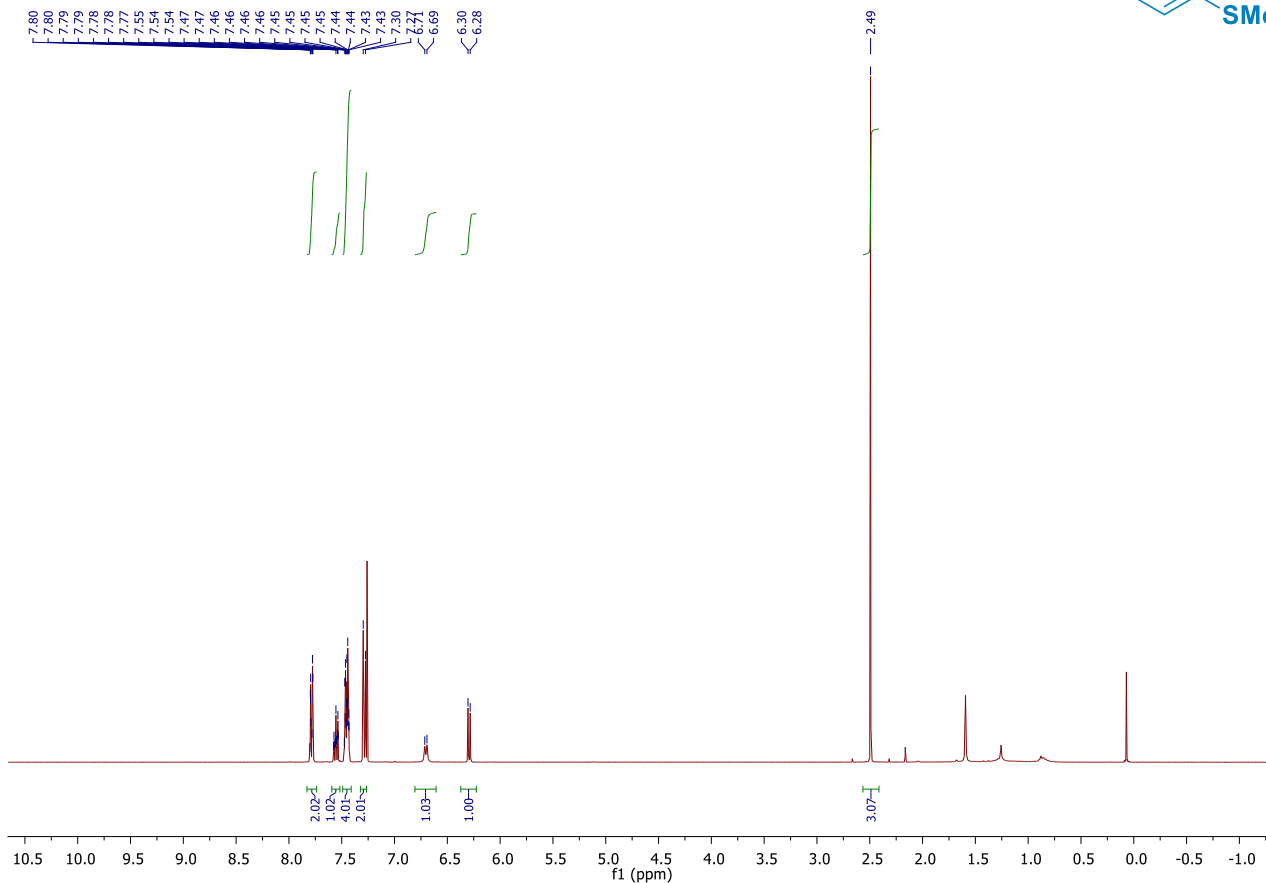
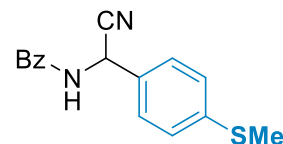


¹³C{¹H} NMR (101 MHz, CDCl₃)

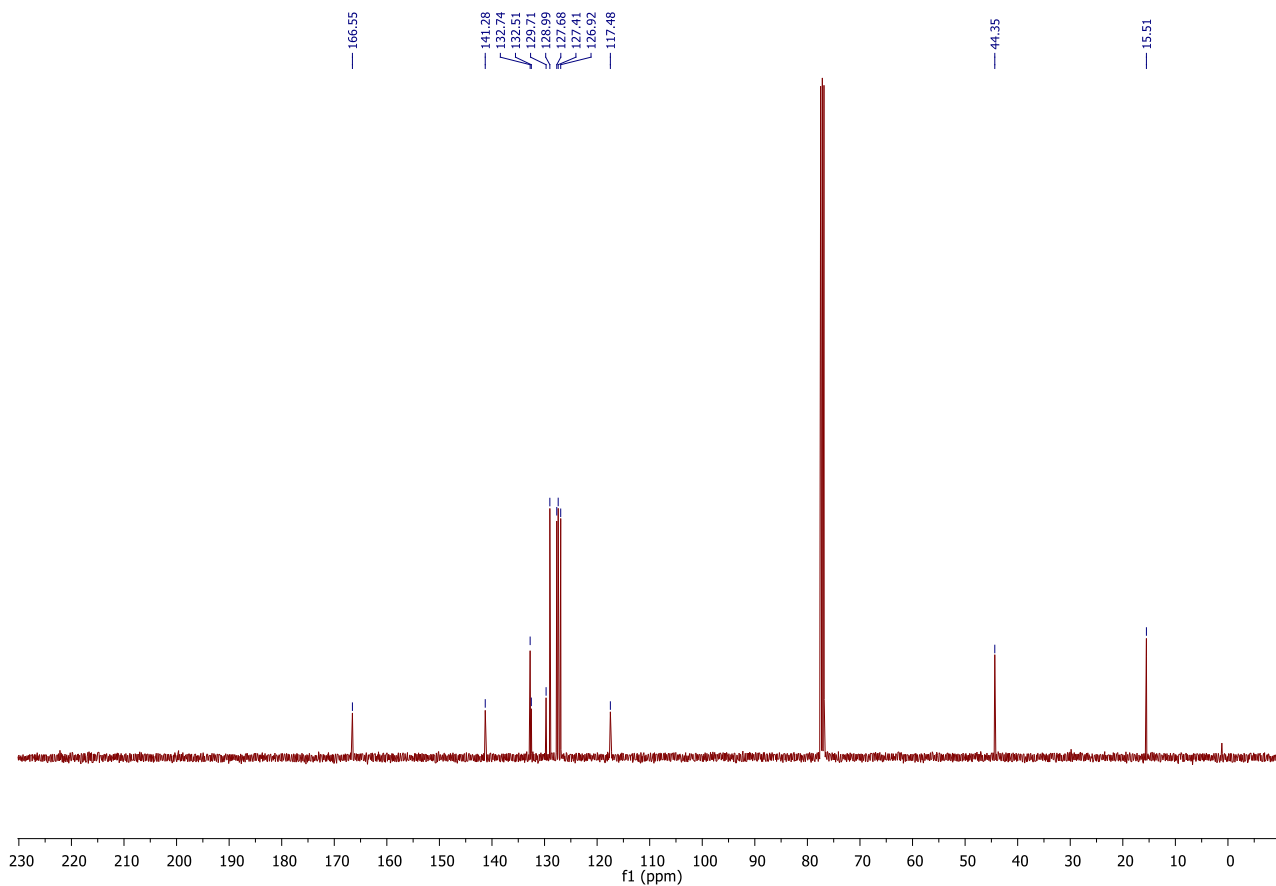


1.130. N-[cyano-(4-methylsulfonylphenyl)methyl]benzamide (645d)

^1H NMR (400 MHz, CDCl_3)

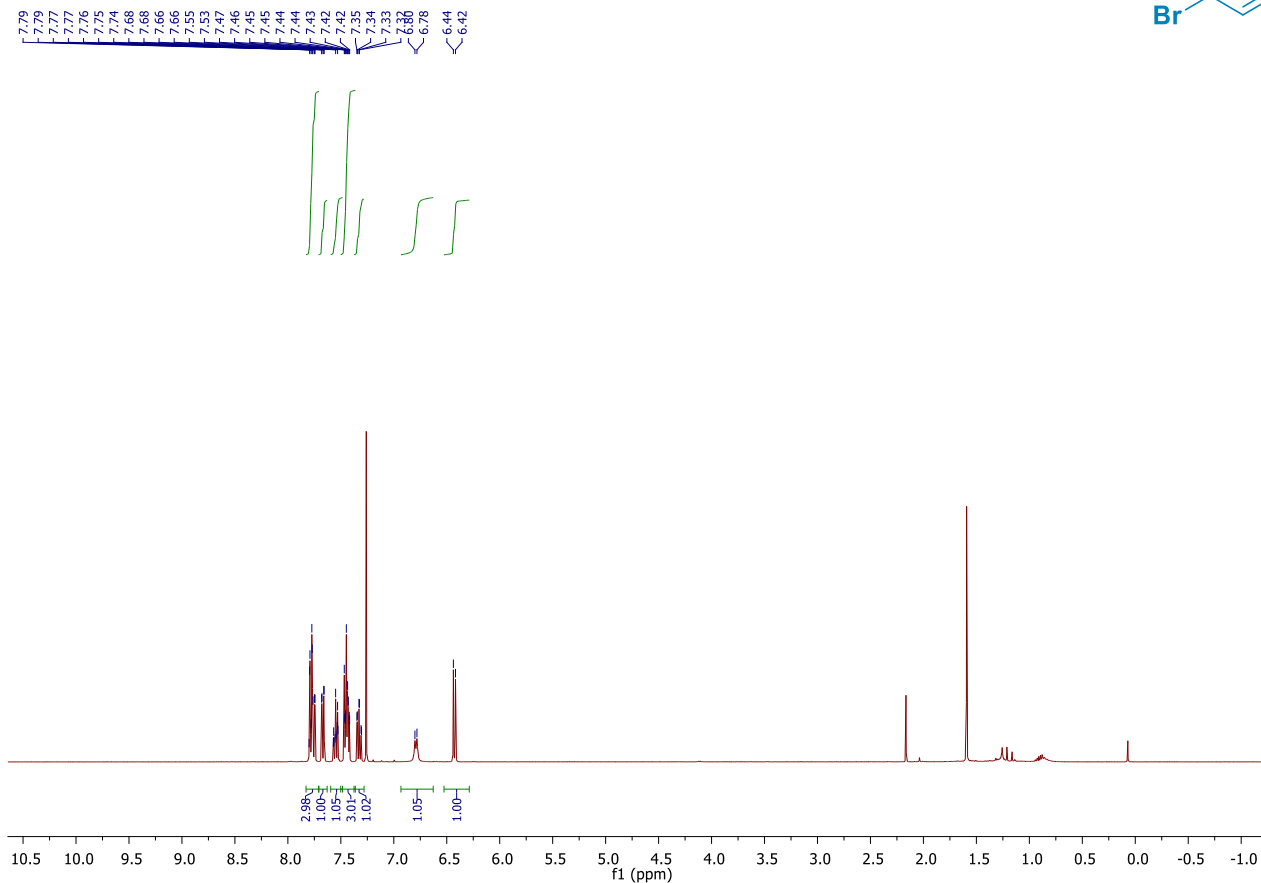
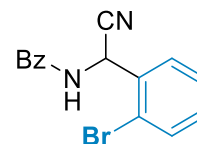


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

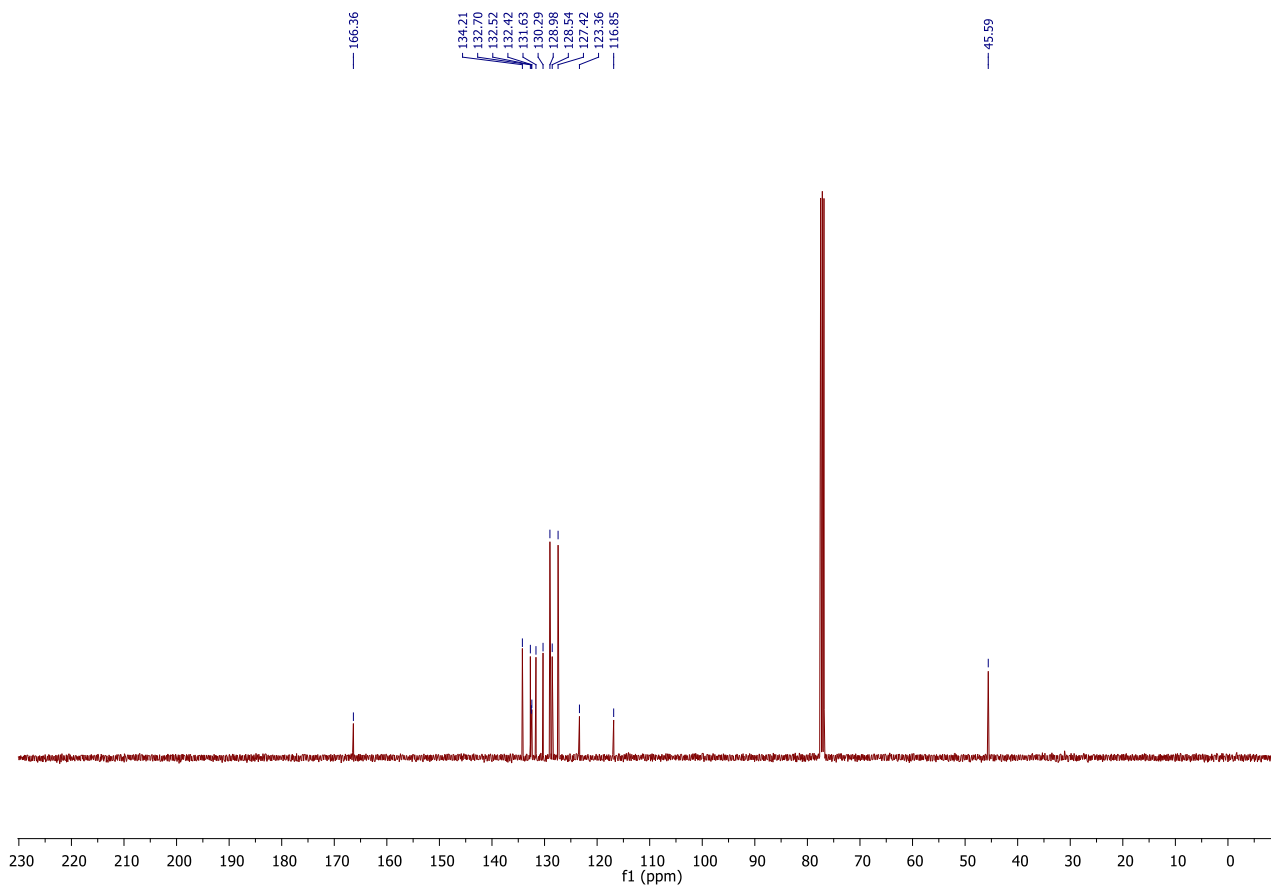


1.131. N-[(2-bromophenyl)-cyano-methyl]benzamide (645e)

^1H NMR (400 MHz, CDCl_3)

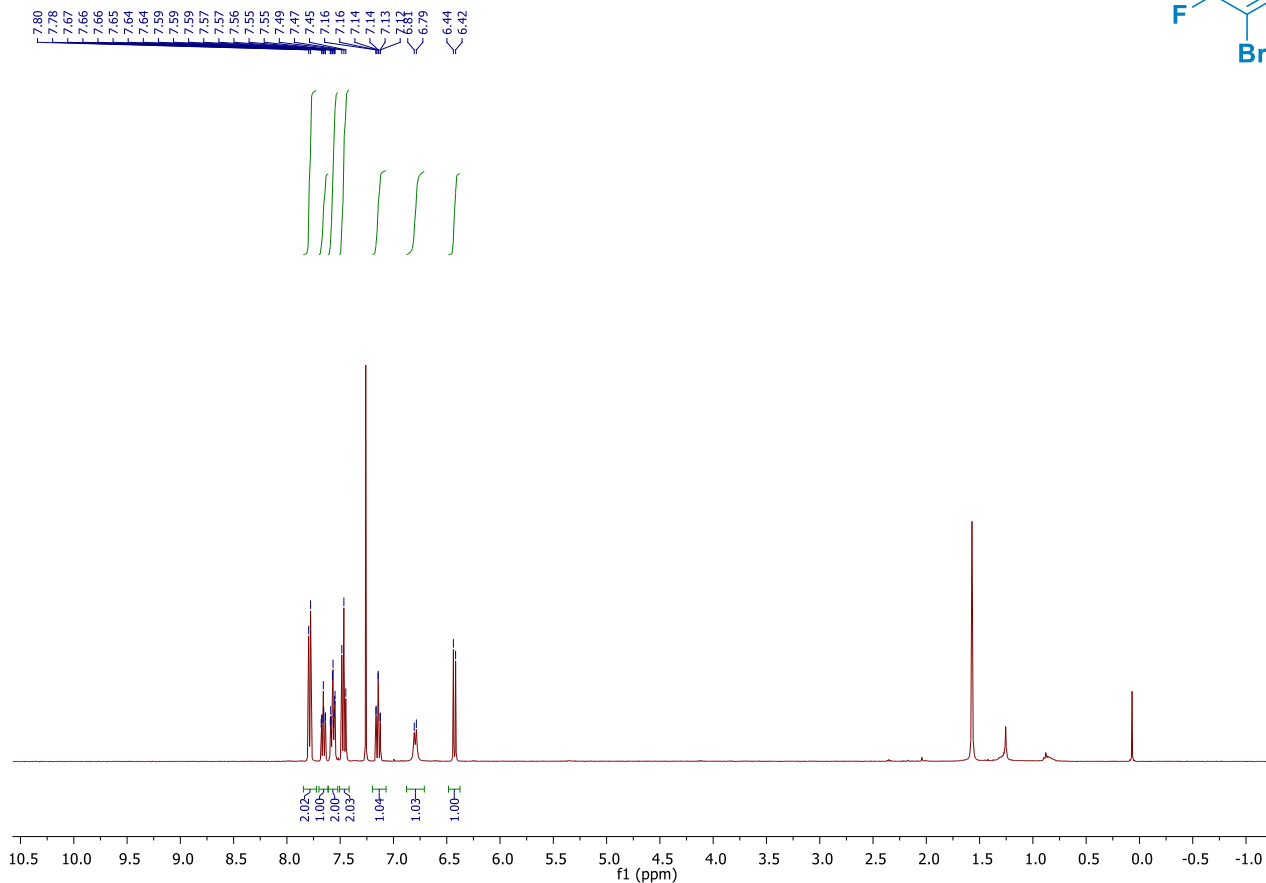
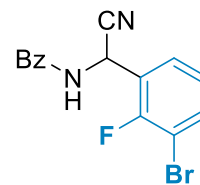


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

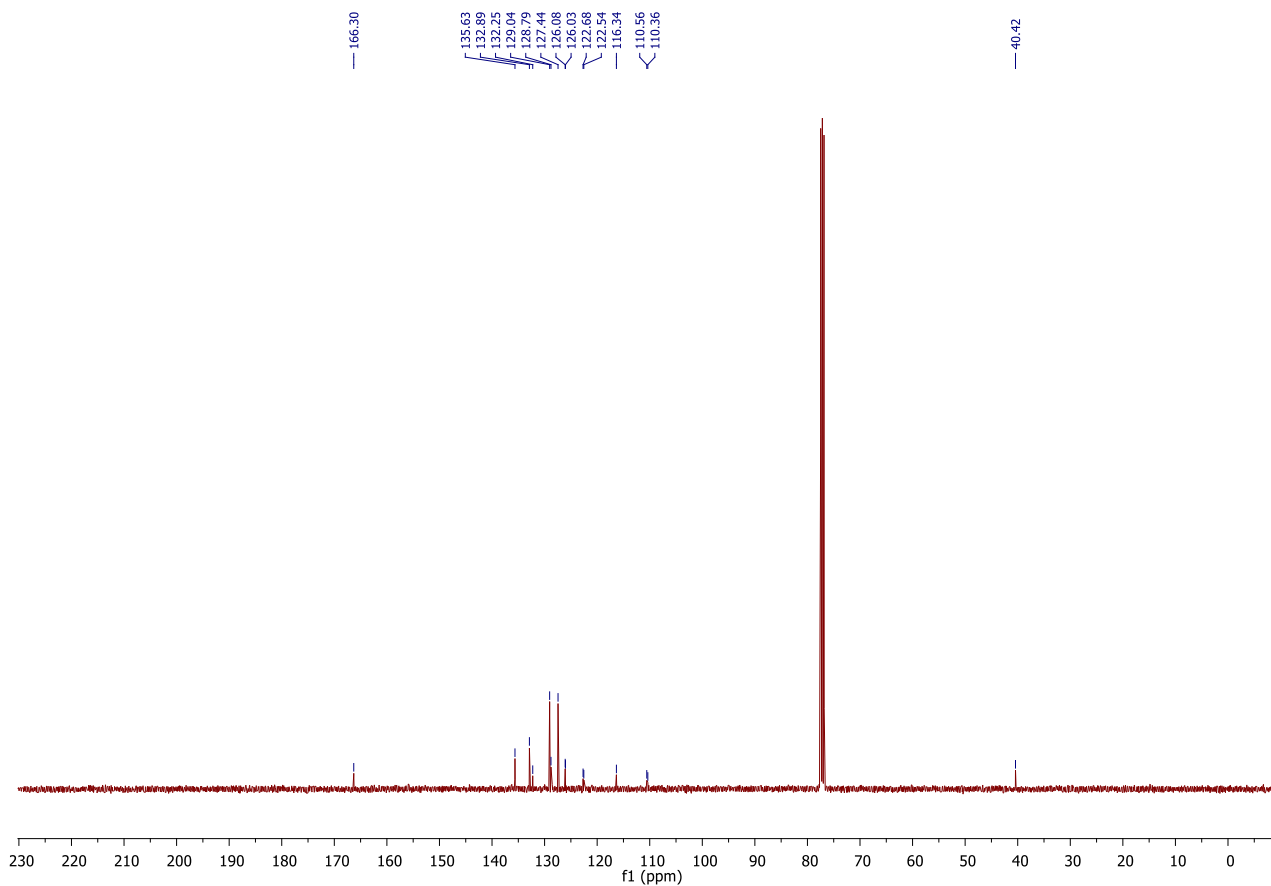


1.132. N-[(3-bromo-2-fluoro-phenyl)-cyano-methyl]benzamide (645f)

^1H NMR (400 MHz, CDCl_3)

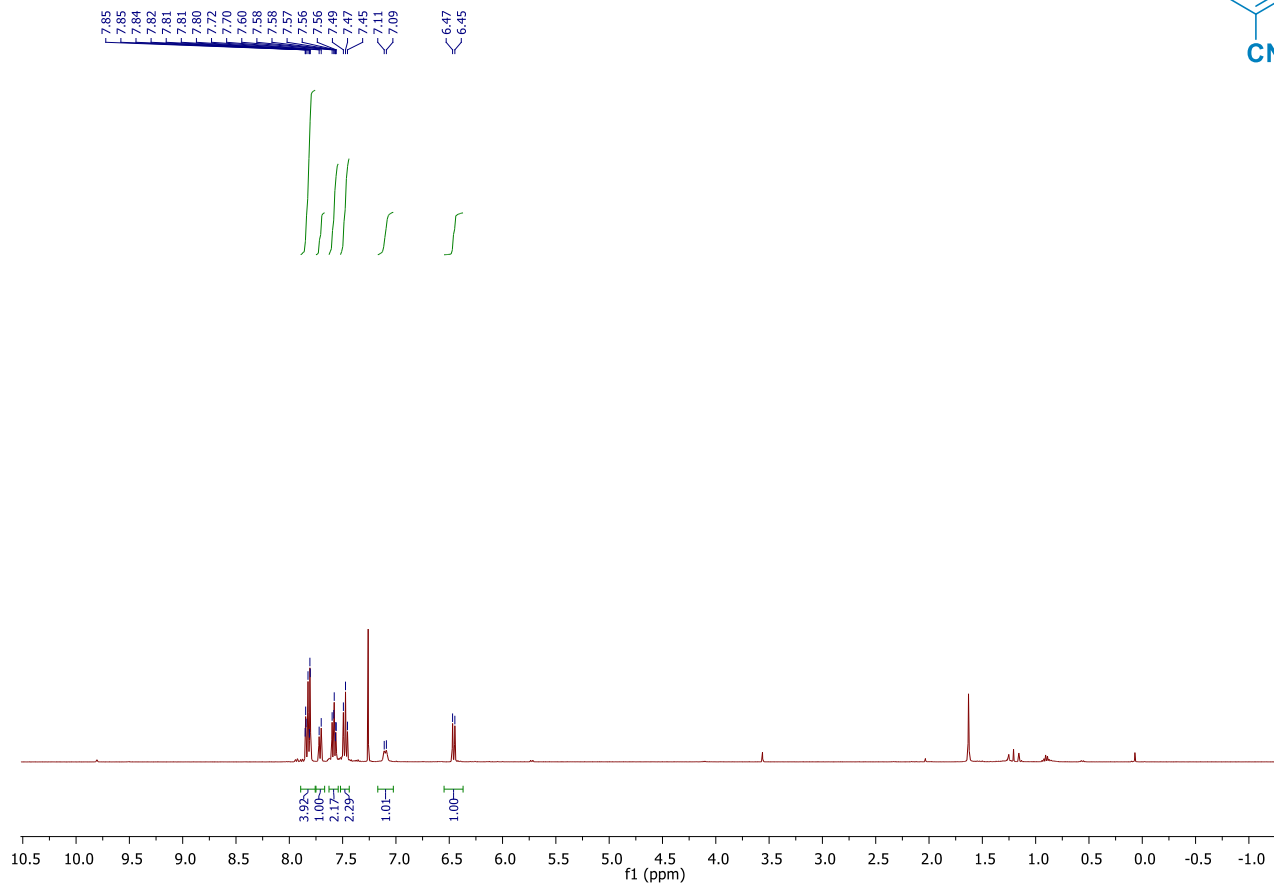
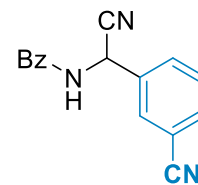


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

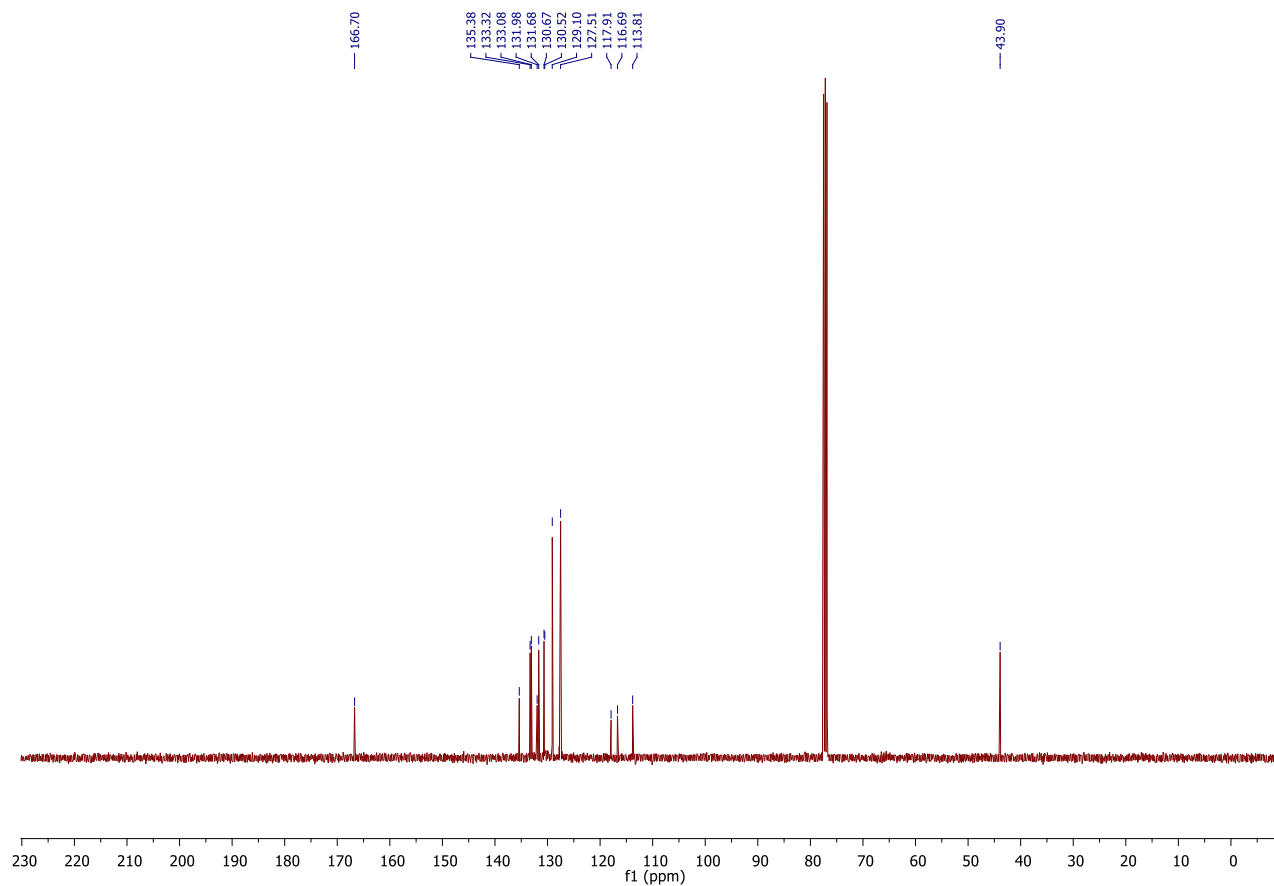


1.133. N-[cyano-(3-cyanophenyl)methyl]benzamide (645g)

^1H NMR (400 MHz, CDCl_3)

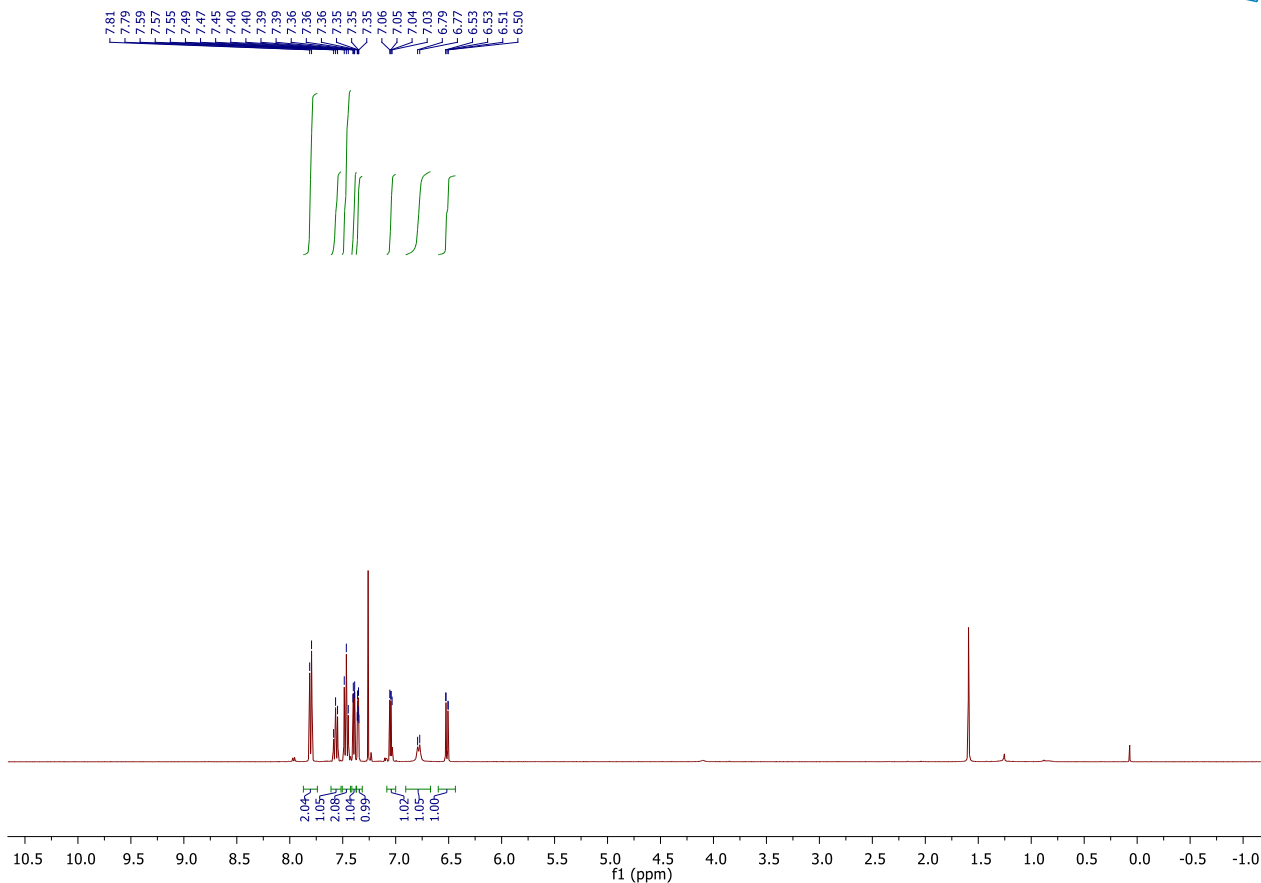
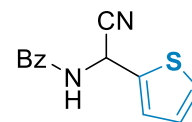


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

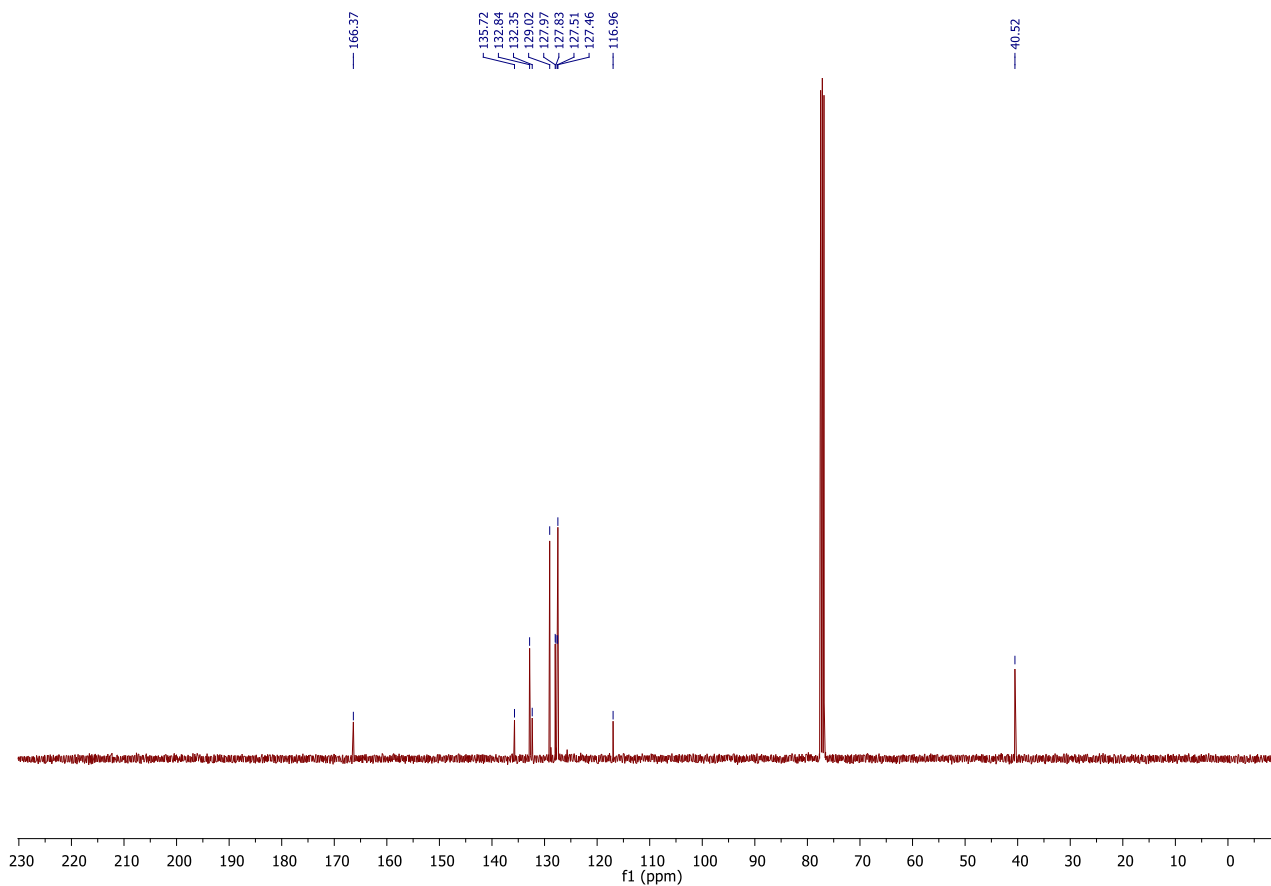


1.134. N-[cyano(2-thienyl)methyl]benzamide (645h)

^1H NMR (400 MHz, CDCl_3)

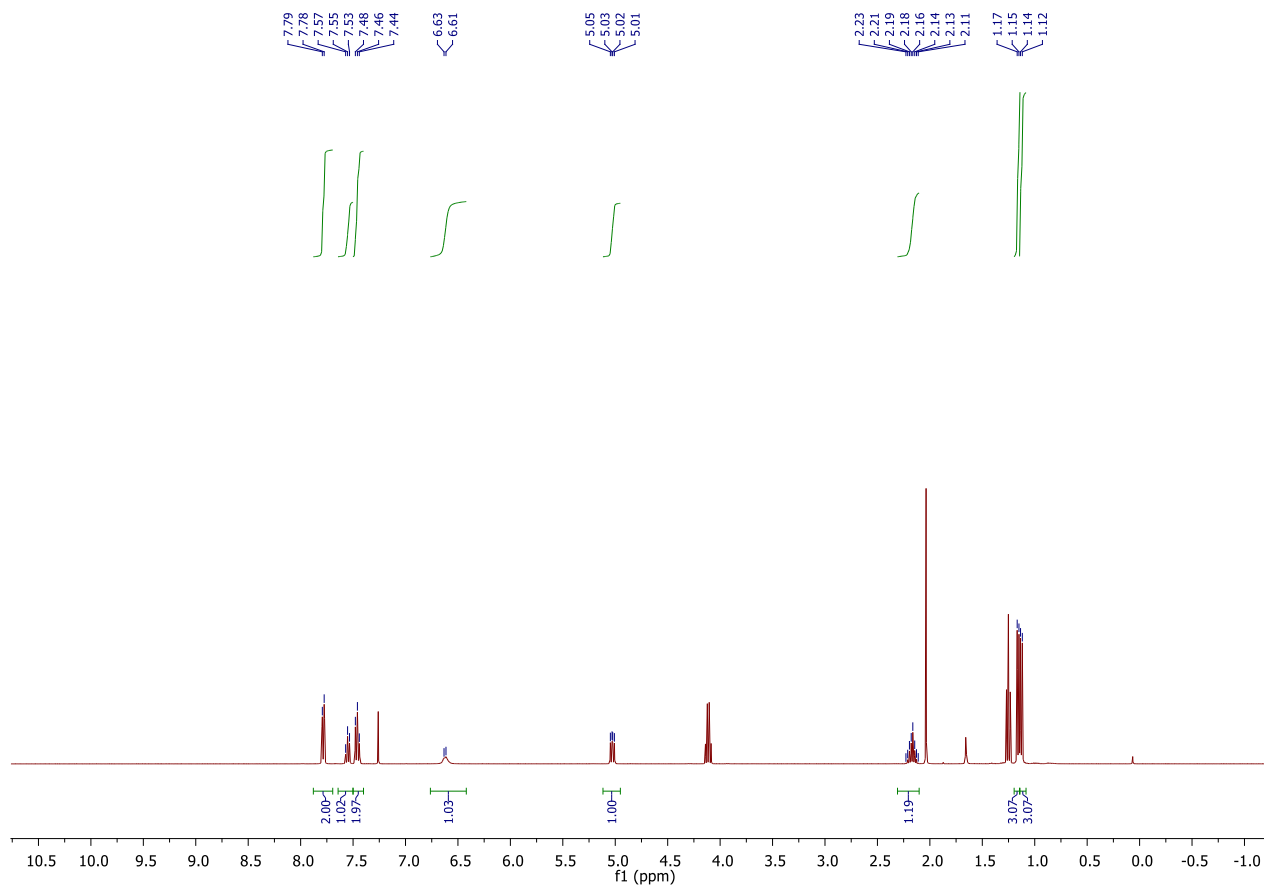
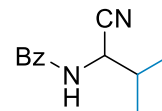


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

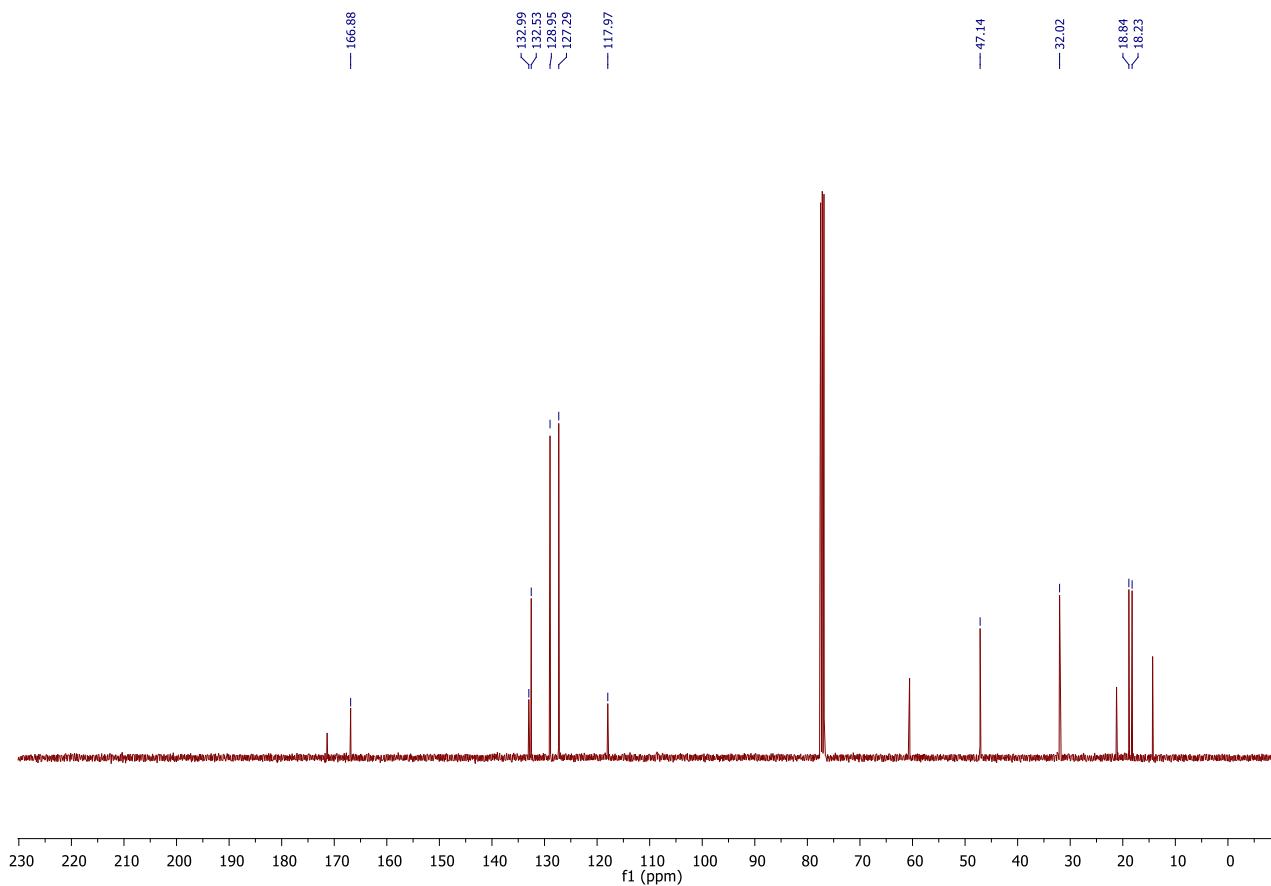


1.135. N-(1-cyano-2-methyl-propyl)benzamide (645i)

^1H NMR (400 MHz, CDCl_3)

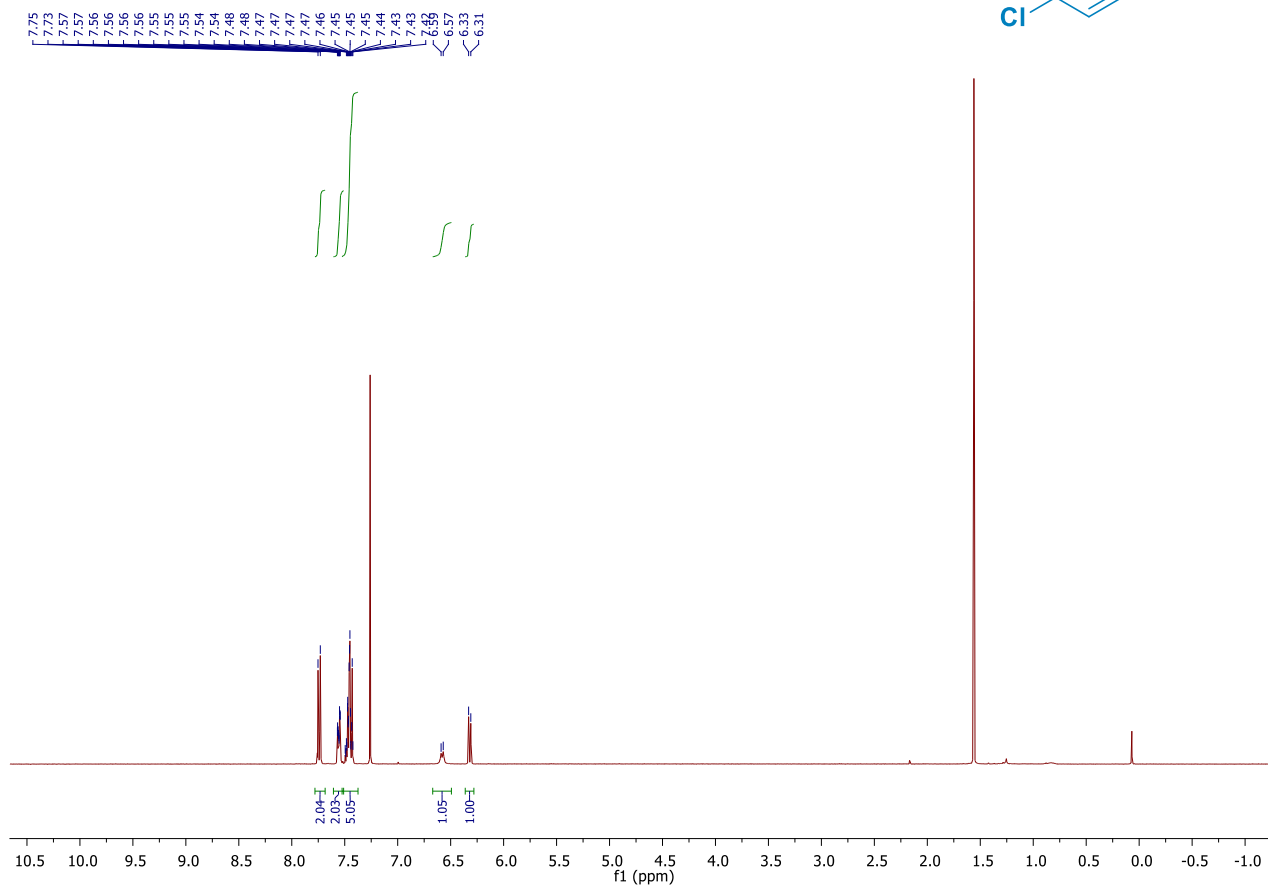
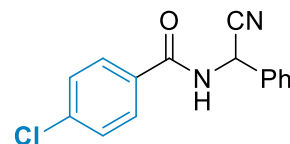


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

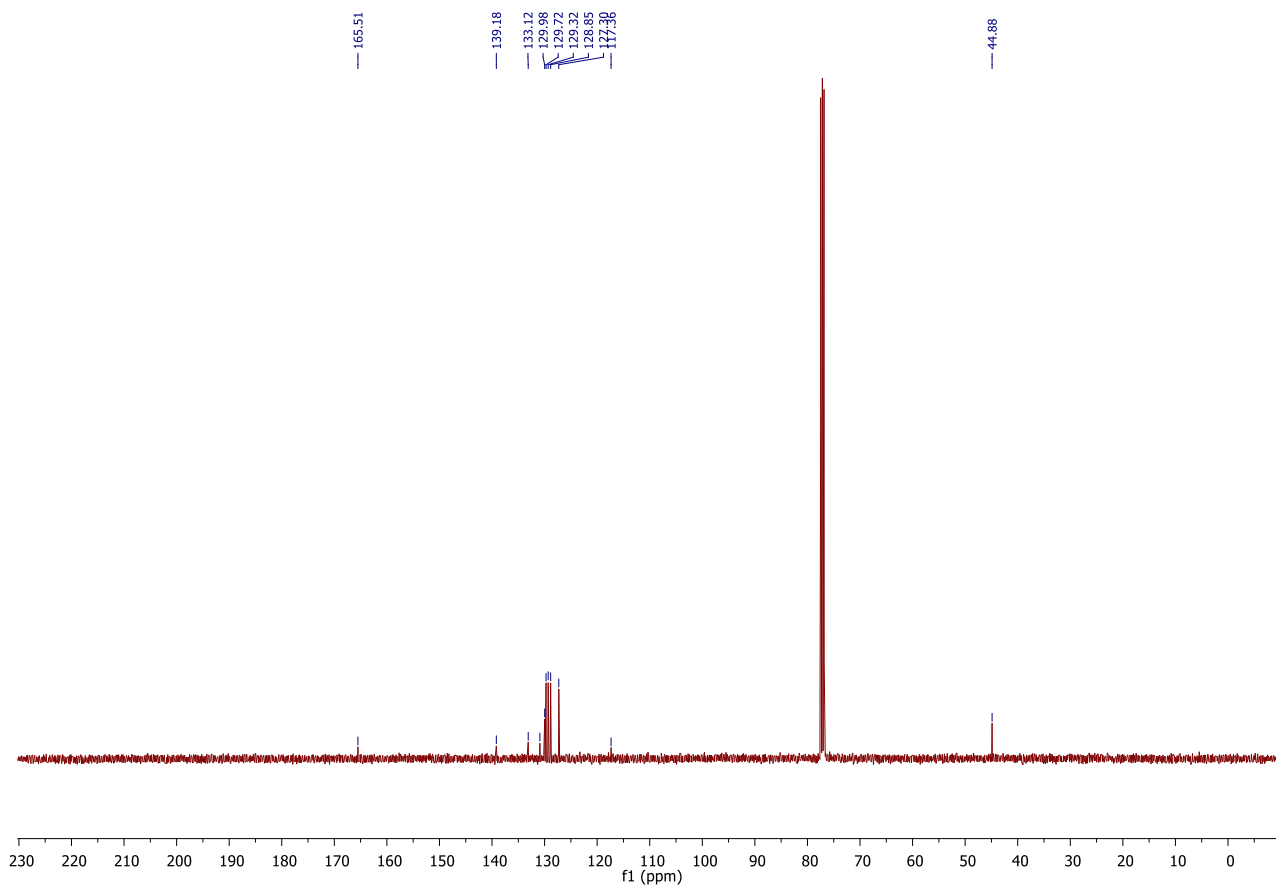


1.136. 4-chloro-N-[cyano(phenyl)methyl]benzamide (657a)

^1H NMR (400 MHz, CDCl_3)

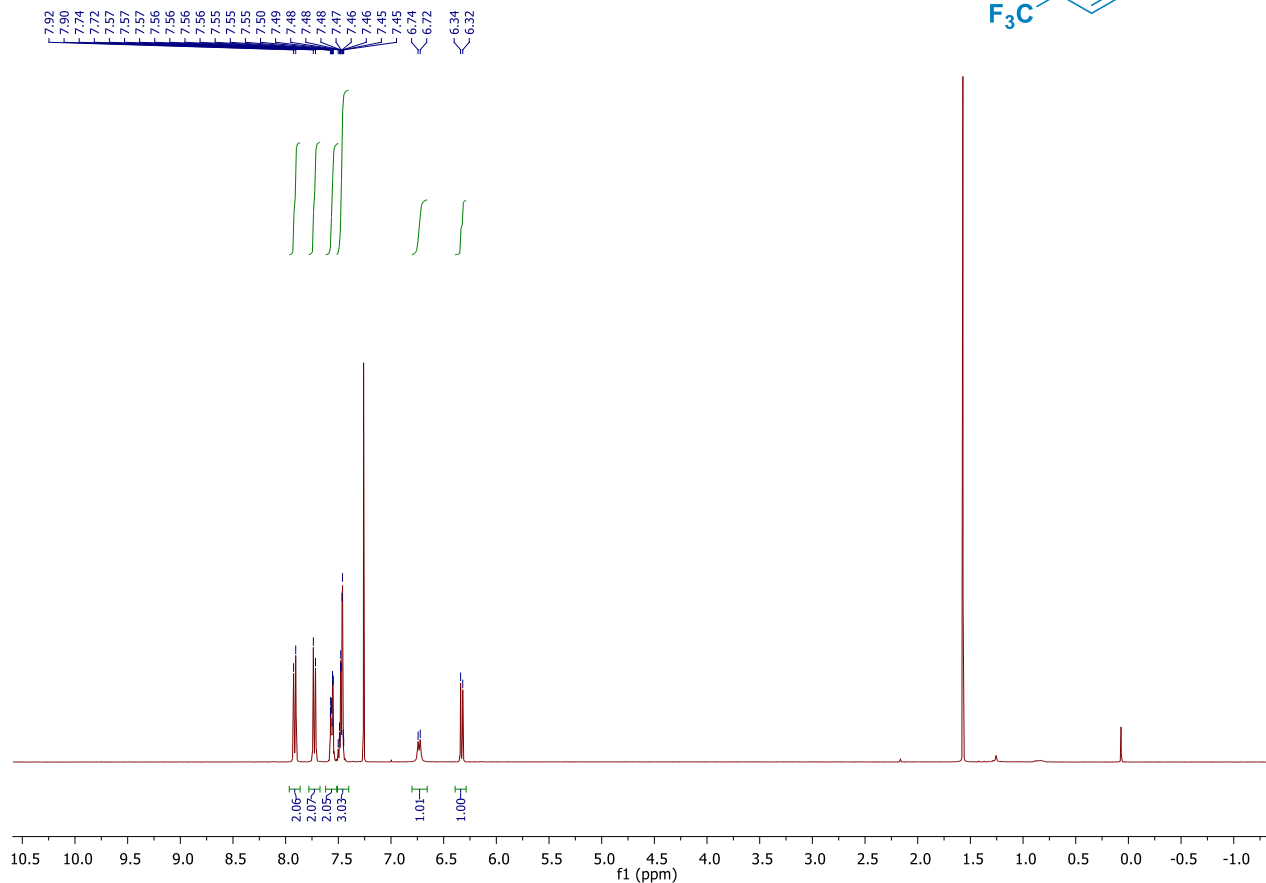
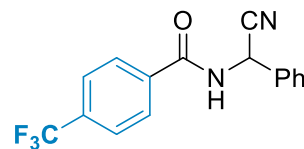


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

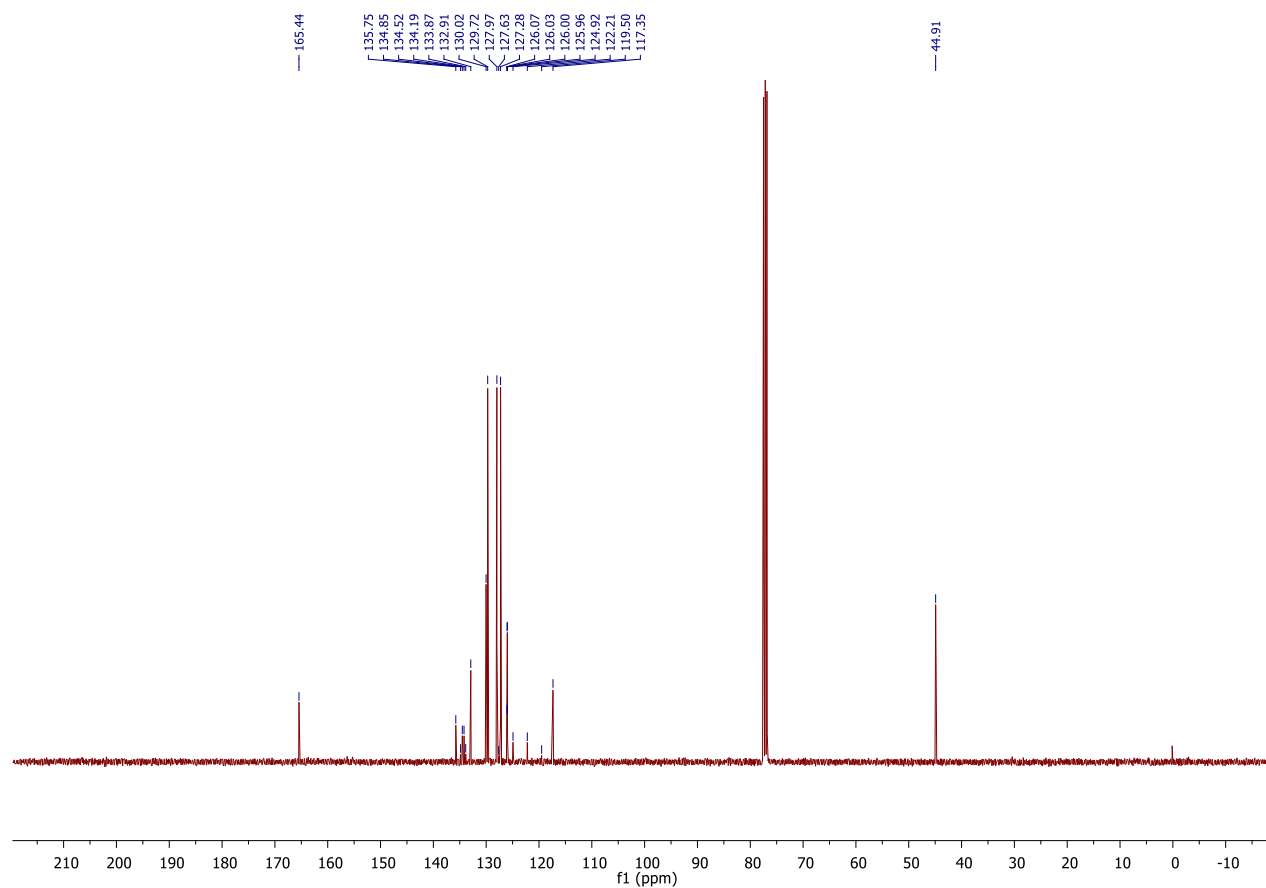


1.137. N-[cyano(phenyl)methyl]-4-(trifluoromethyl)benzamide (657b)

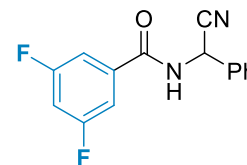
^1H NMR (400 MHz, CDCl_3)



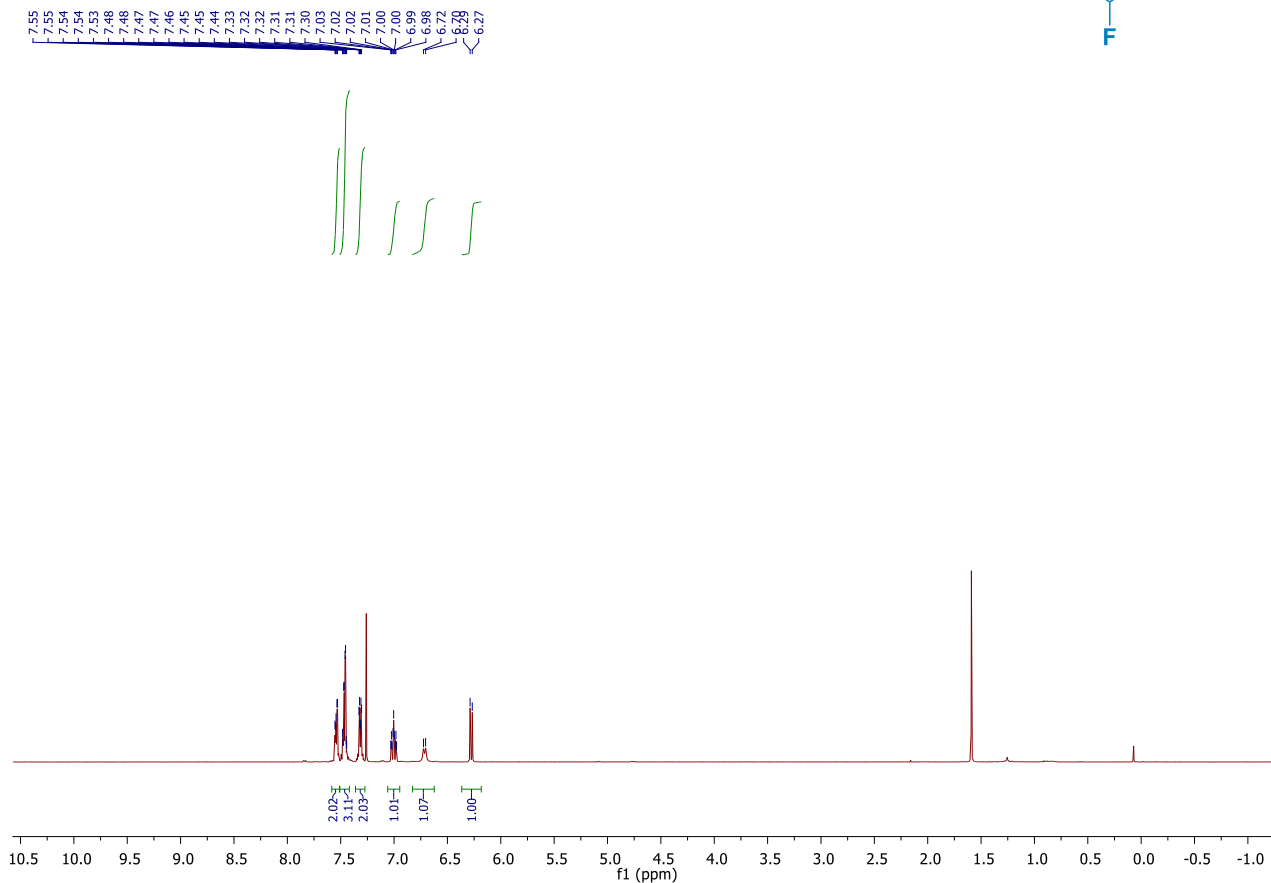
$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)



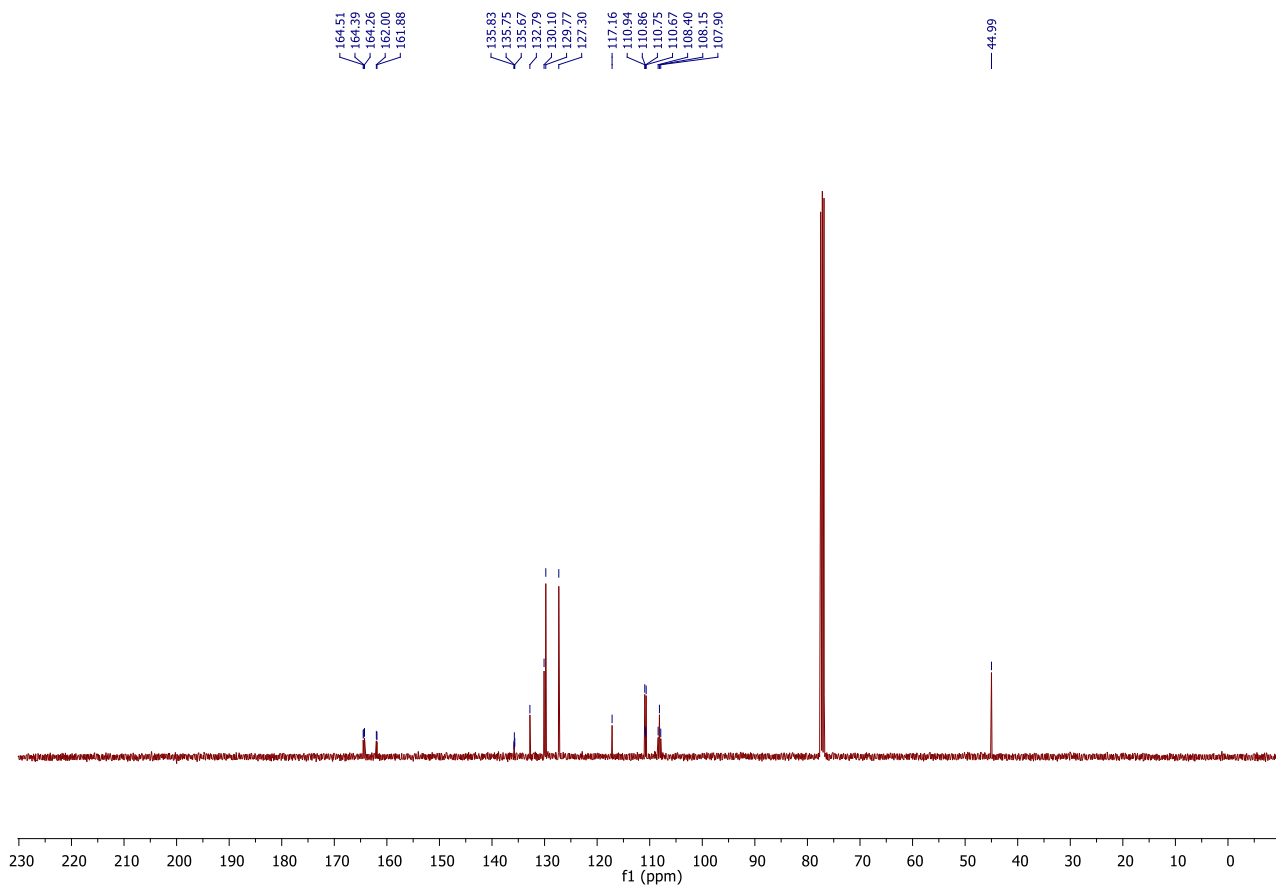
1.138. N-[cyano(phenyl)methyl]-3,5-difluoro-benzamide (657c)



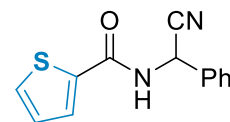
^1H NMR (400 MHz, CDCl_3)



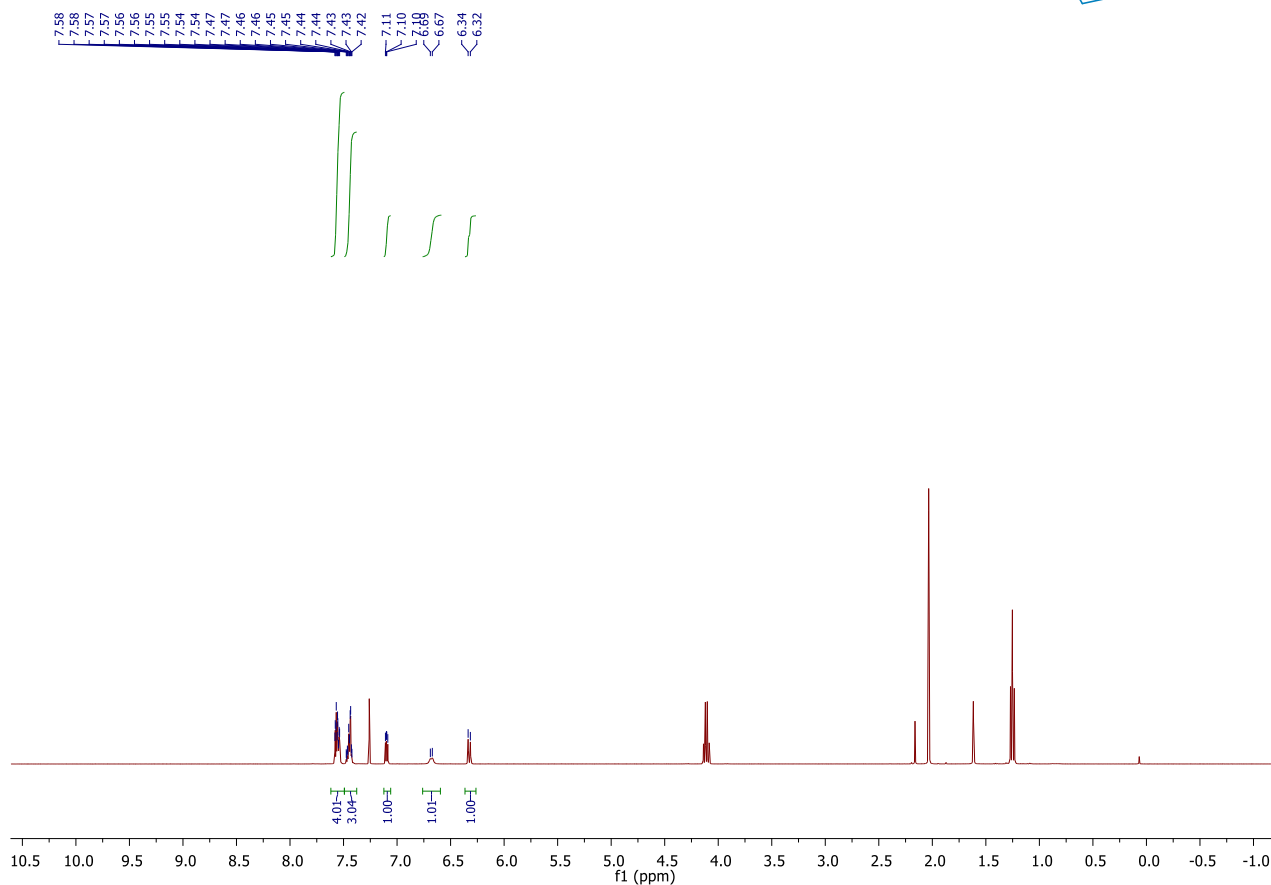
$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)



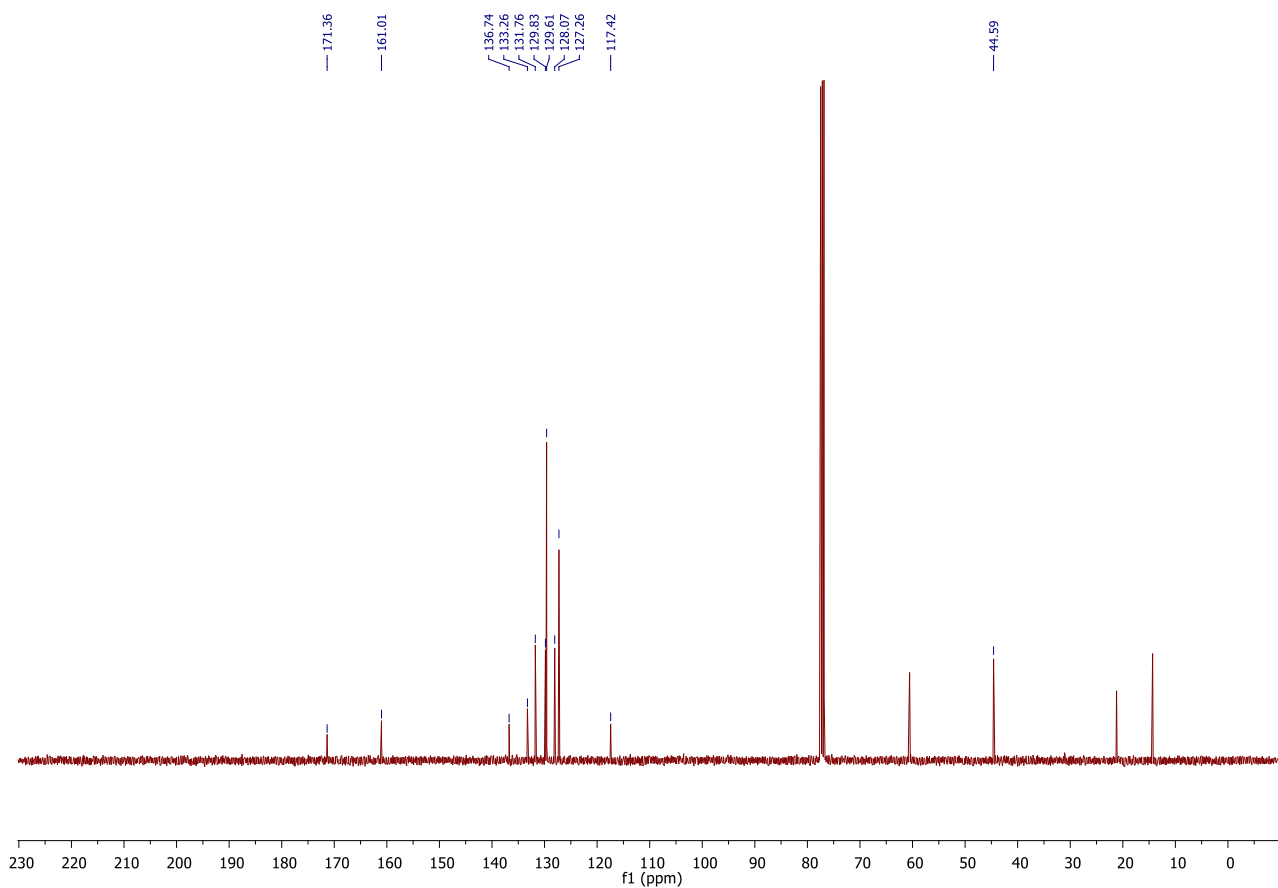
1.139. N-[cyano(phenyl)methyl]thiophene-2-carboxamide (657d)



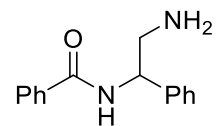
^1H NMR (400 MHz, CDCl_3)



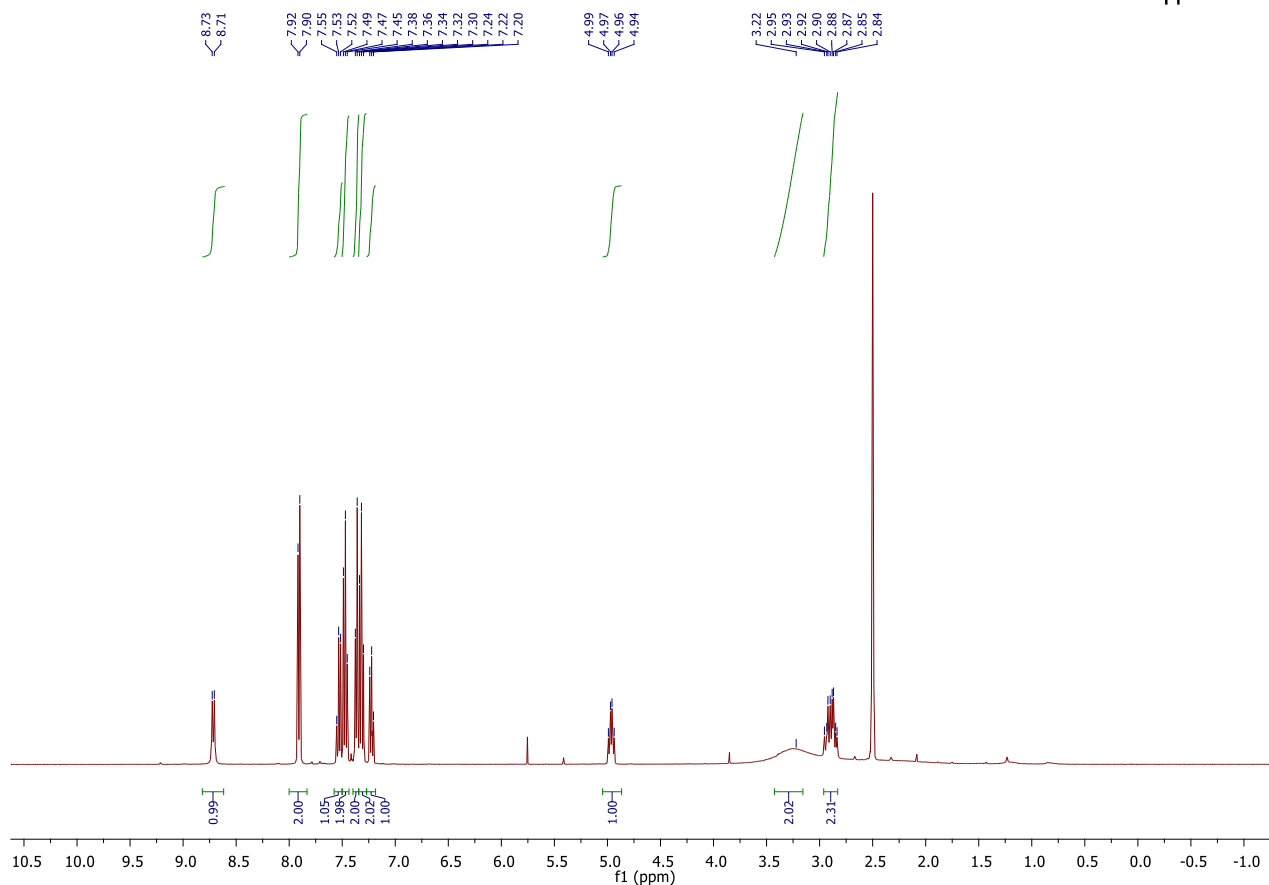
$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)



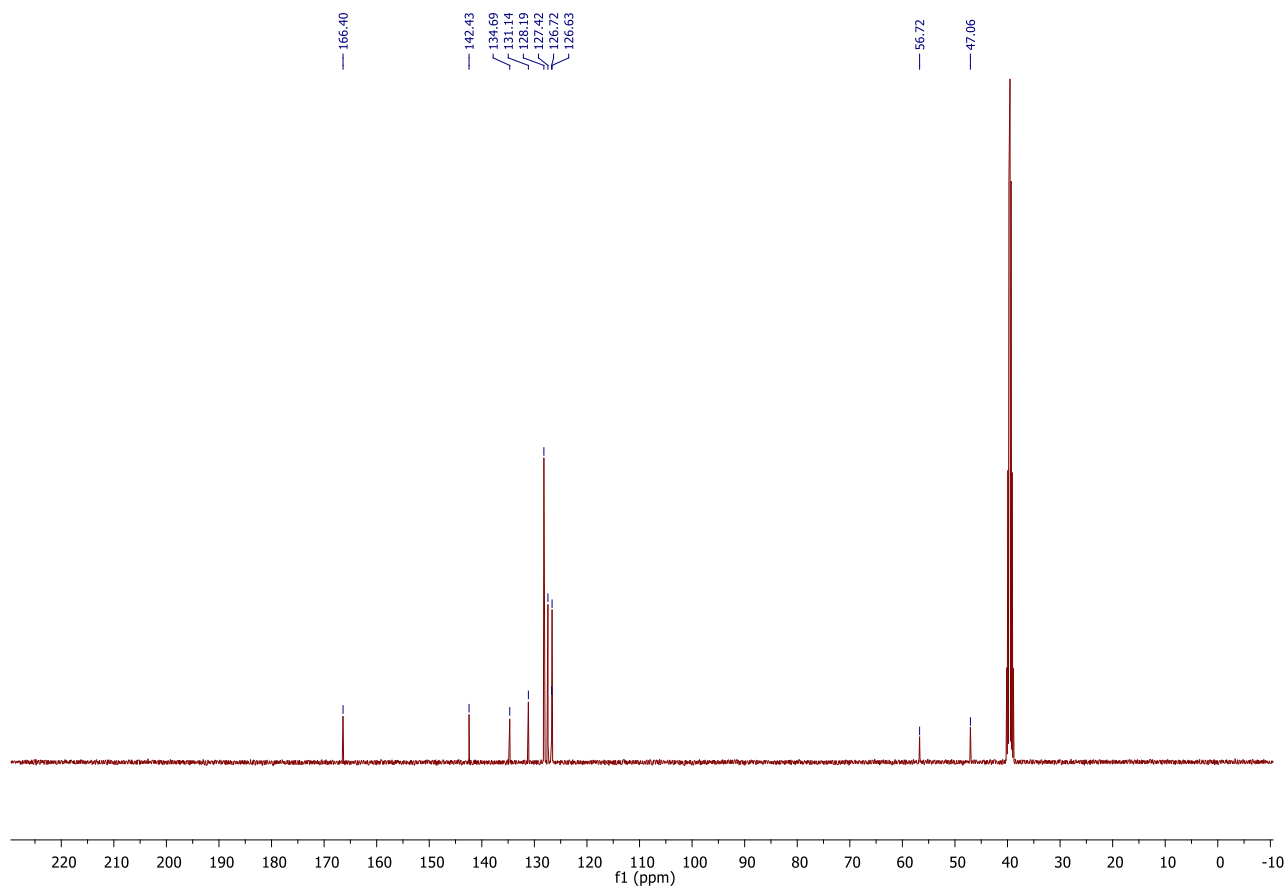
1.140. N-(2-amino-1-phenyl-ethyl)benzamide (658)



^1H NMR (400 MHz, DMSO- d_6)

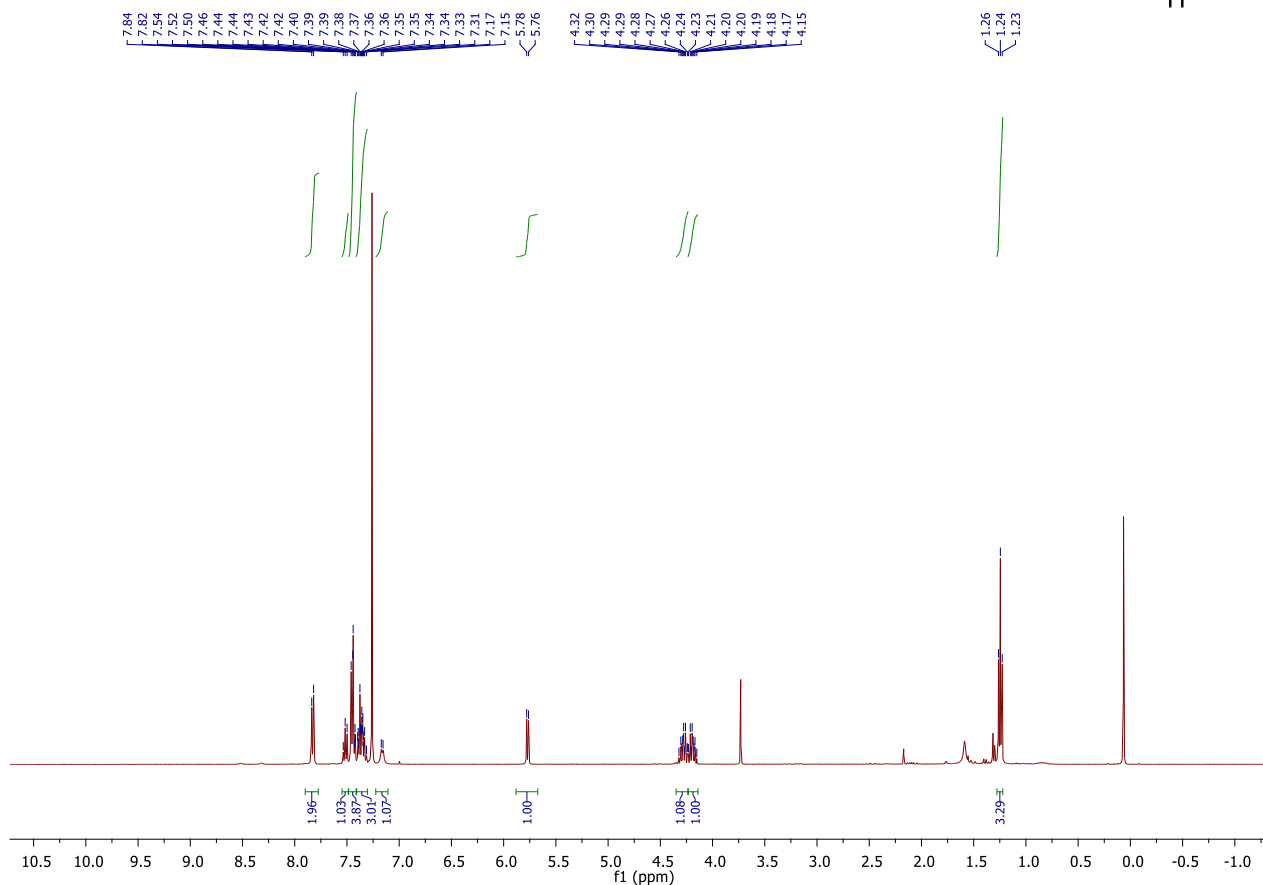
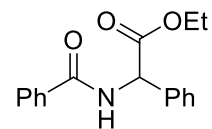


$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, DMSO- d_6)



1.141. ethyl 2-benzamido-2-phenyl-acetate (659)

^1H NMR (400 MHz, CDCl_3)



$^{13}\text{C}\{^1\text{H}\}$ NMR (101 MHz, CDCl_3)

