

2-(((1H-1,2,4-triazol-1-yl) methyl) amino) nicotinic acid, 1

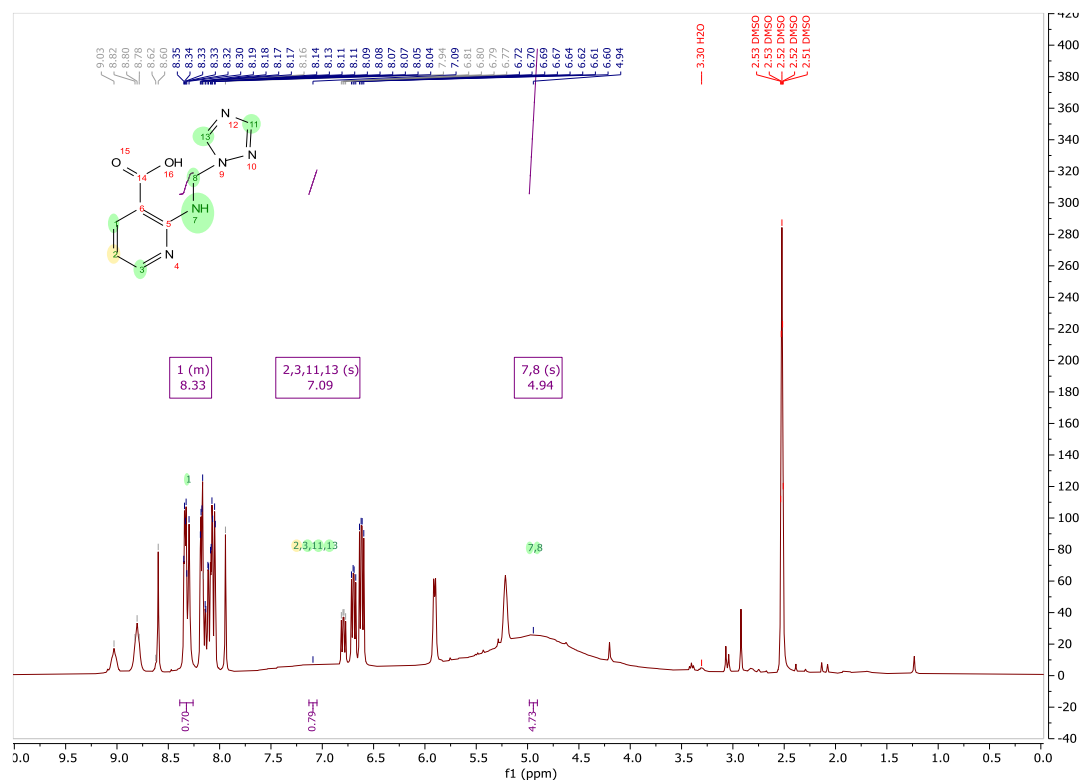


Figure 1. ¹H NMR spectrum of 2-(((1H-1,2,4-triazol-1-yl) methyl) amino) nicotinic acid, 1

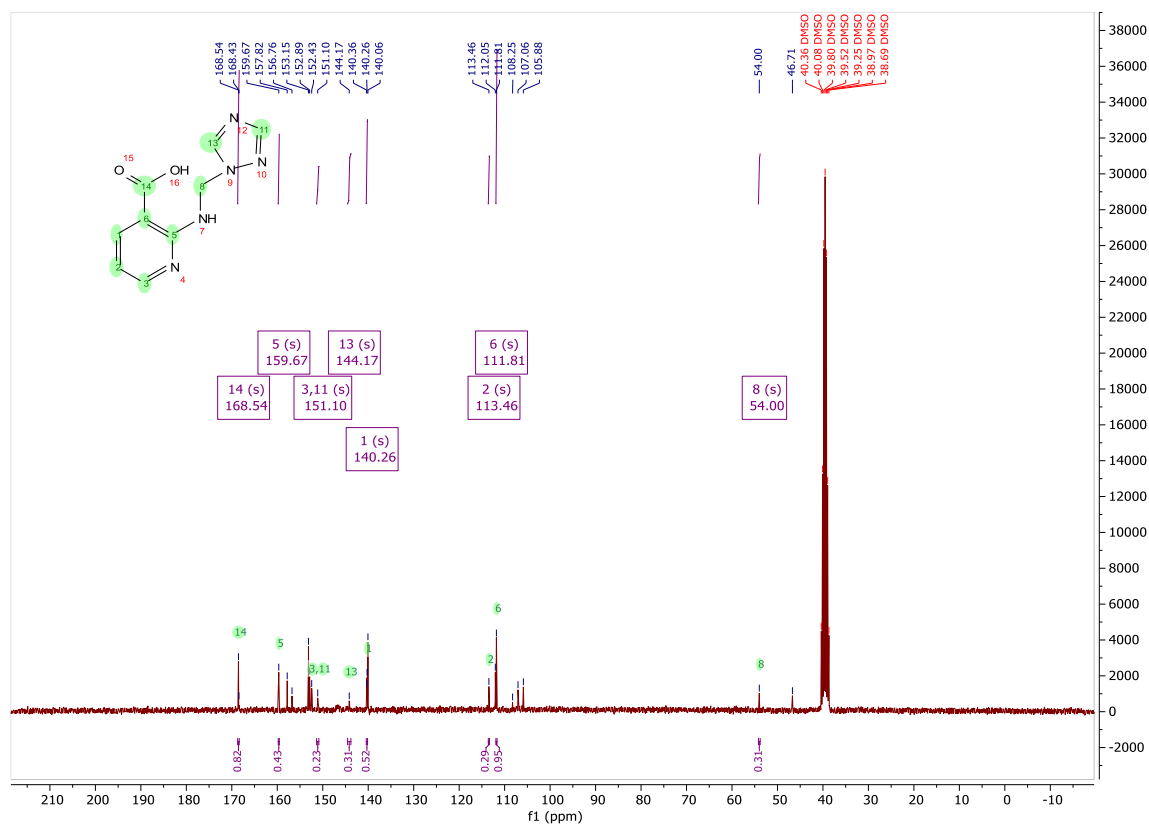


Figure 2. ¹³C NMR spectrum of 2-(((1H-1,2,4-triazol-1-yl) methyl) amino) nicotinic acid, 1

N-((3,5-dimethyl-1H-pyrazol-1-yl) methyl) pyridin-2-amine, 2

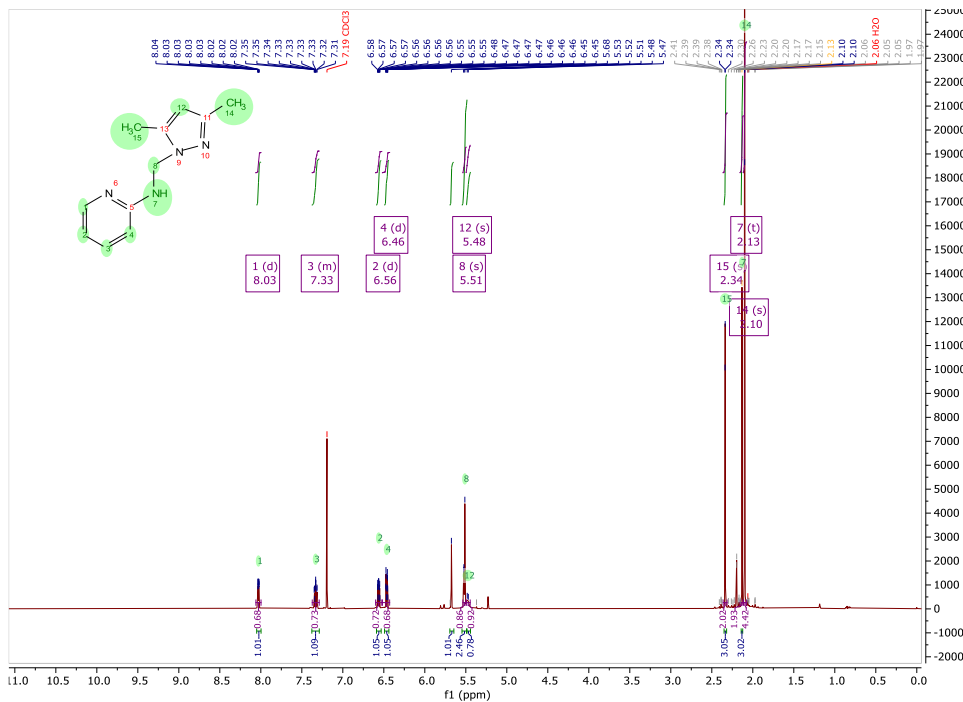


Figure 3. ^1H NMR spectrum of N-((3,5-dimethyl-1H-pyrazol-1-yl) methyl) pyridin-2-amine, 2

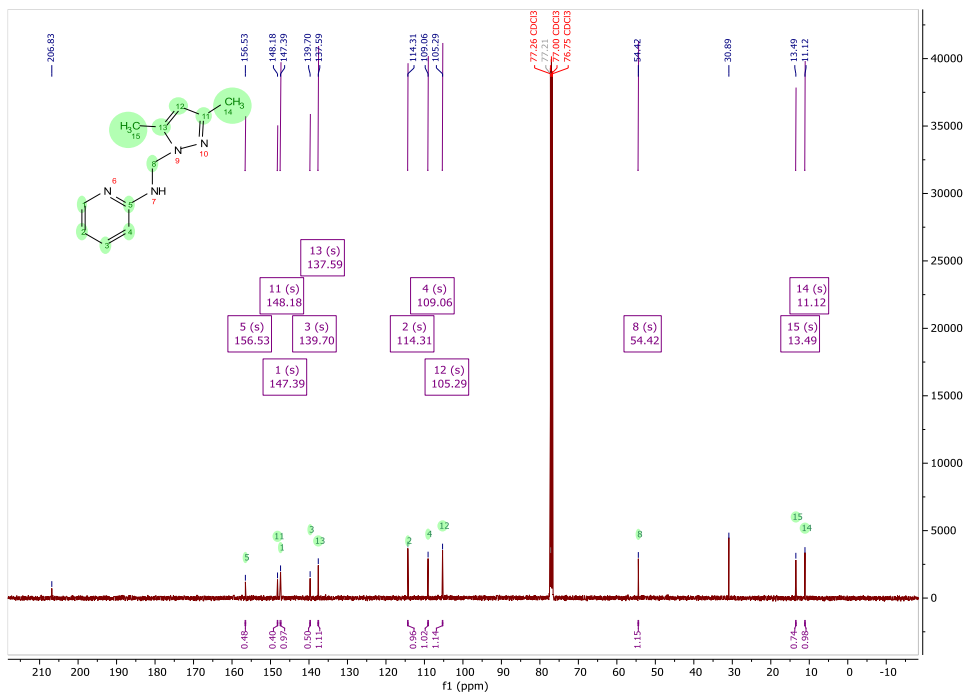


Figure 4. ^{13}C NMR spectrum of N-((3,5-dimethyl-1H-pyrazol-1-yl) methyl) pyridin-2-amine, 2

02 #29 RT: 3.59 AV: 1 AV: 5 SB: 12 22-27 31-36 NL: 3.66E4
T: + c EI Full ms [50.000-300.000]

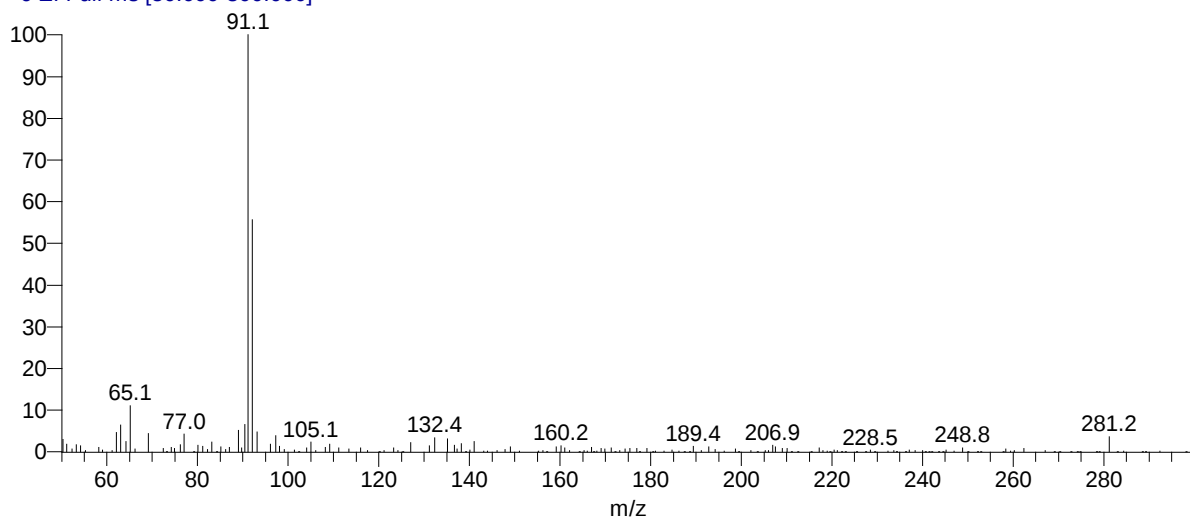


Figure 5. GC-MS spectrum of N-((3,5-dimethyl-1H-pyrazol-1-yl) methyl) pyridin-2-amine, 2

N-((3,5-dimethyl-1H-pyrazol-1-yl) methyl)-6-methylpyridin-2-amine, 3

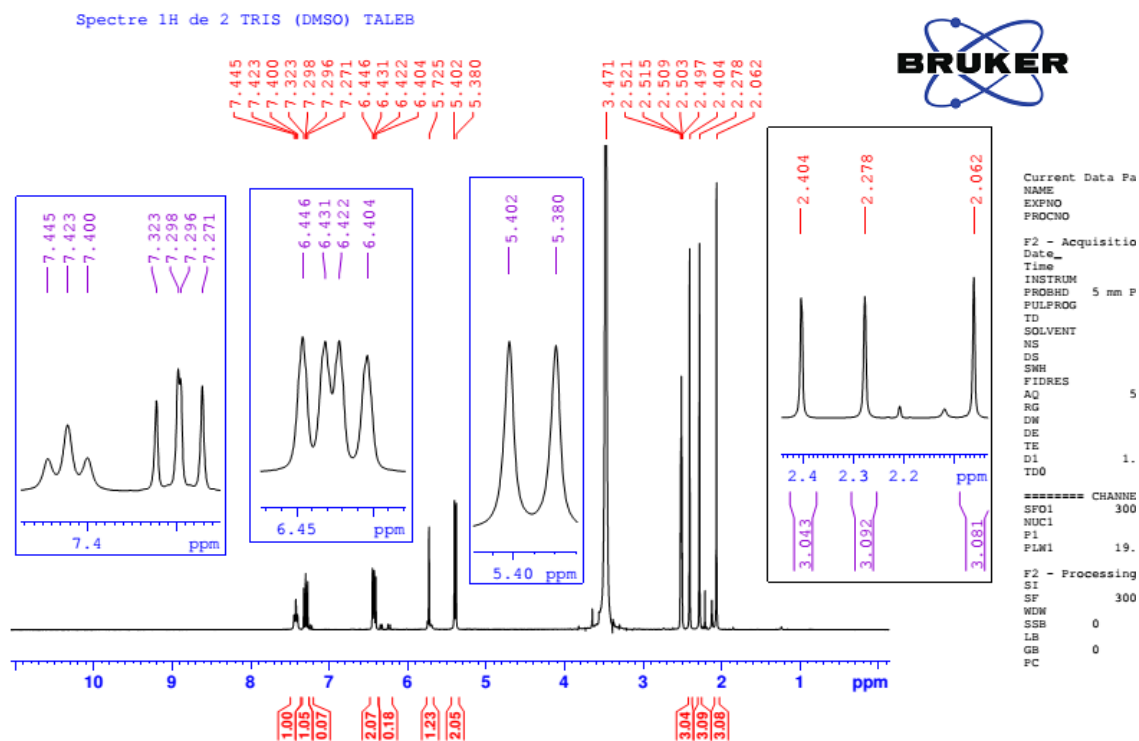


Figure 6. ^1H NMR spectrum of N-((3,5-dimethyl-1H-pyrazol-1-yl) methyl)-6-methylpyridin-2-amine, 3

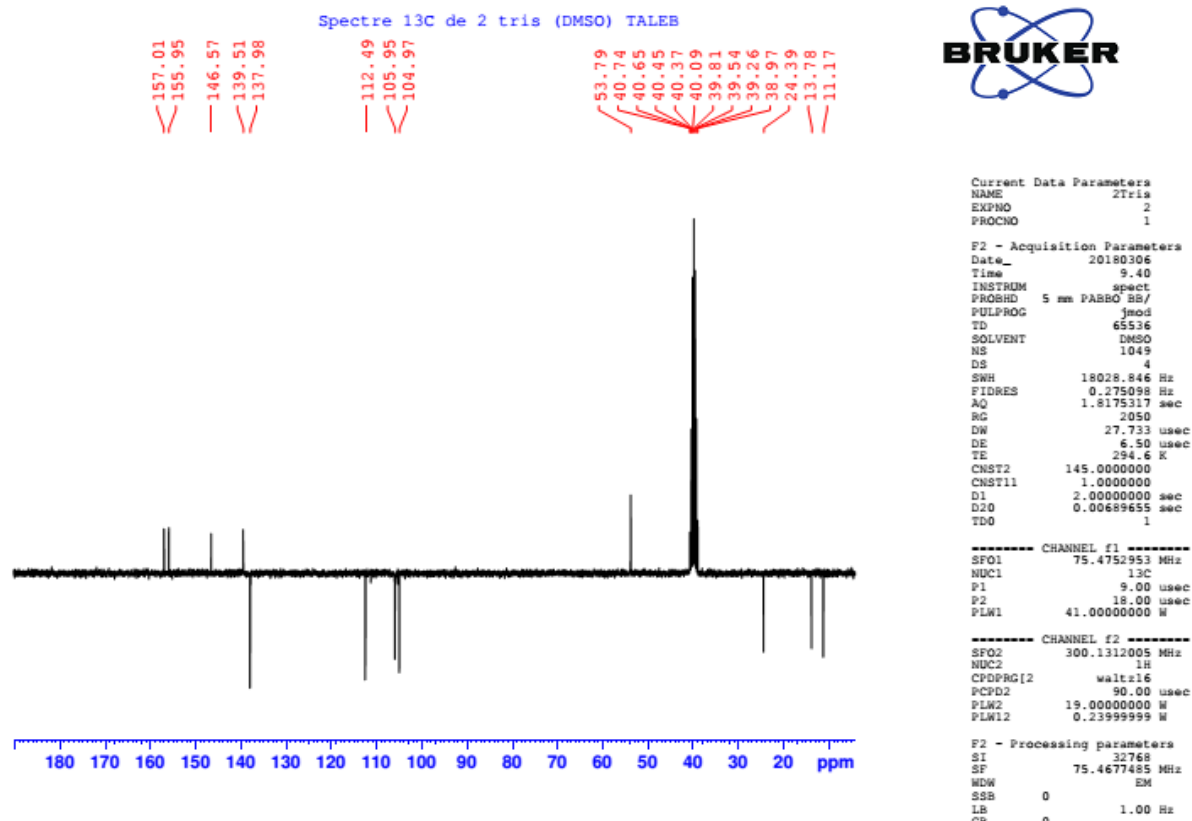


Figure 7. ^{13}C NMR spectrum of N-((3,5-dimethyl-1H-pyrazol-1-yl) methyl)-6-methylpyridin-2-amine, 3

09 #415 RT: 4.89 AV: 1 AV: 5 SB: 12 408-413 417-422 NL: 4.02E3
T: + c EI Full ms [50.000-300.000]

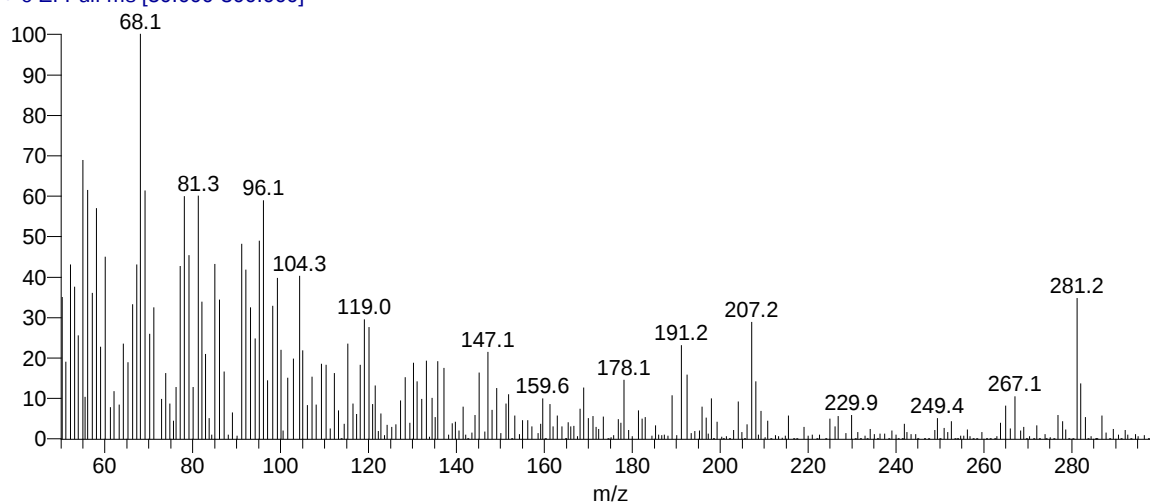


Figure 8. GC-MS spectrum of N-((3,5-dimethyl-1H-pyrazol-1-yl) methyl)-6-methylpyridin-2-amine, 3

N-((1H-1,2,4-triazol-1-yl) methyl)-5-bromopyridin-2-amine, 4

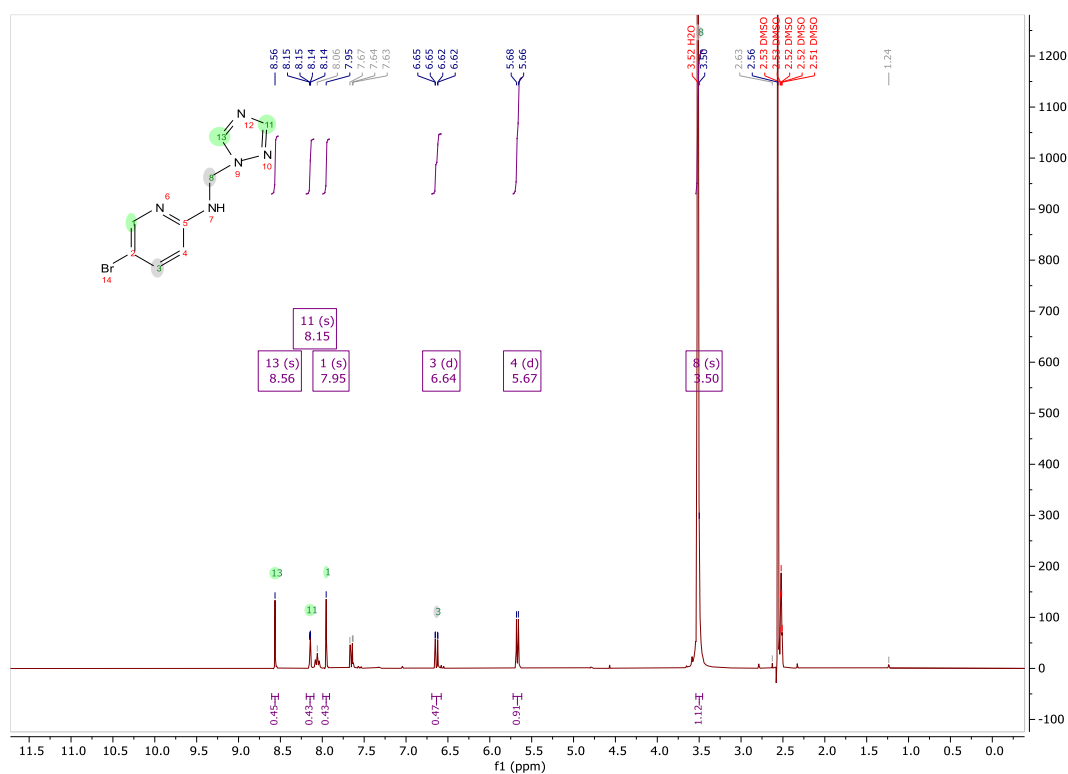


Figure 9. ¹H NMR spectrum of N-((1H-1,2,4-triazol-1-yl) methyl)-5-bromopyridin-2-amine, 4

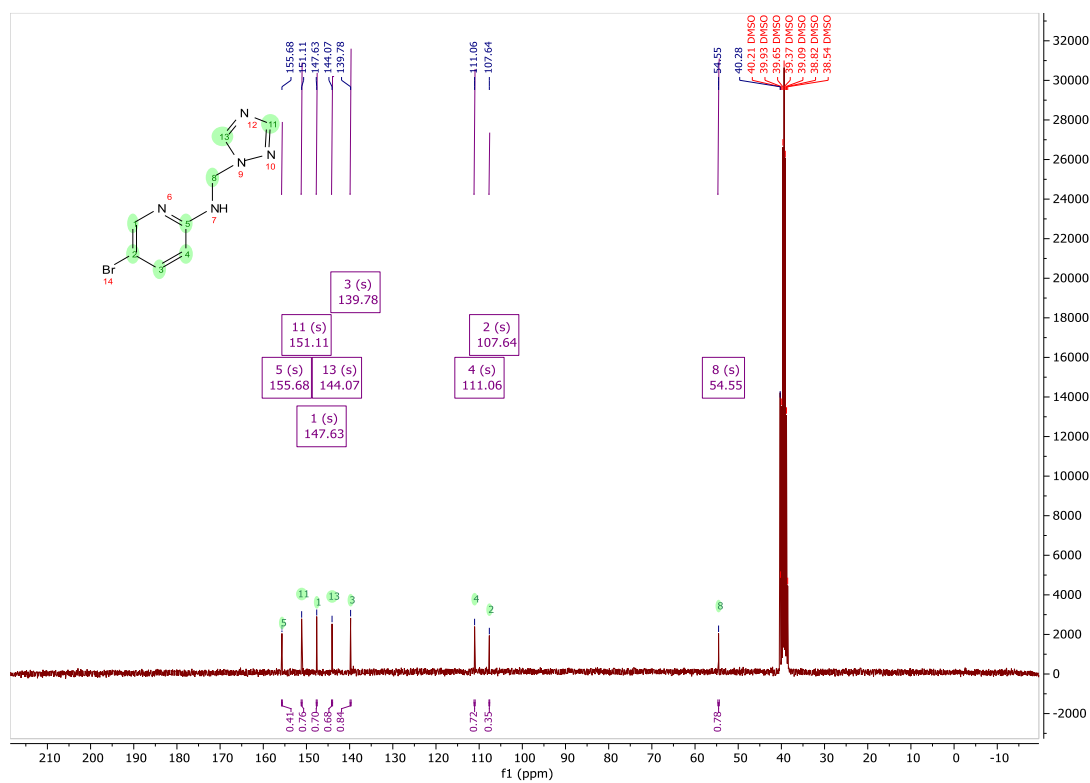
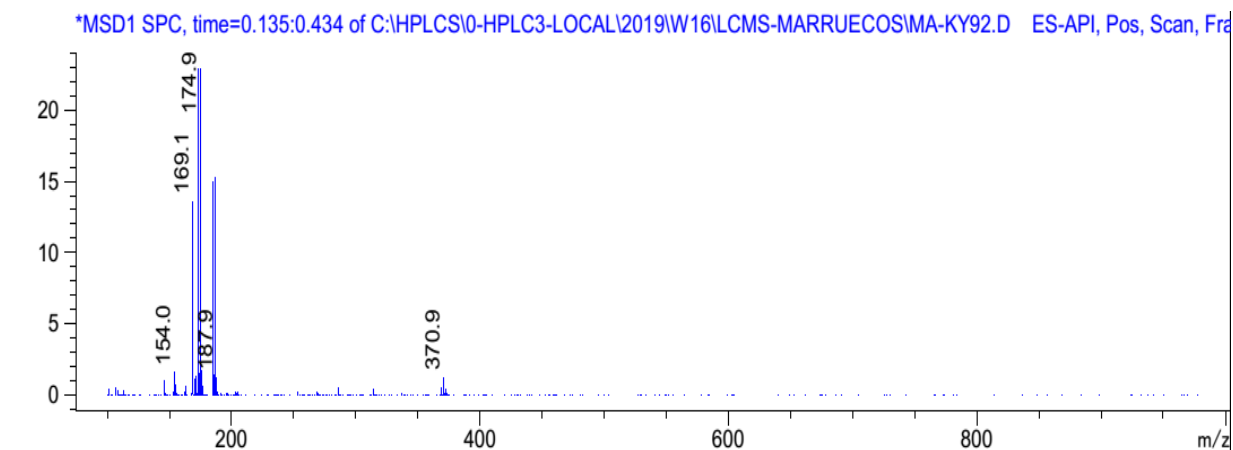
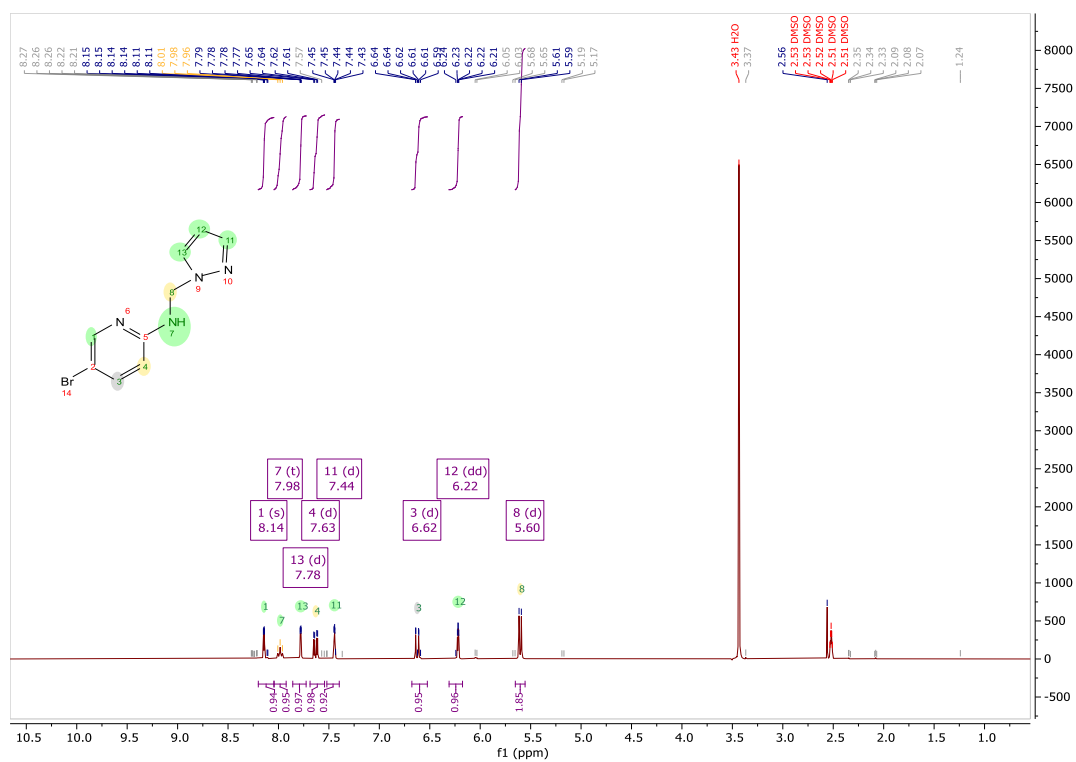


Figure 10. ¹³C NMR spectrum of N-((1H-1,2,4-triazol-1-yl) methyl)-5-bromopyridin-2-amine, 4



N-((1H-pyrazol-1-yl) methyl)-5-bromopyridin-2-amine, 5



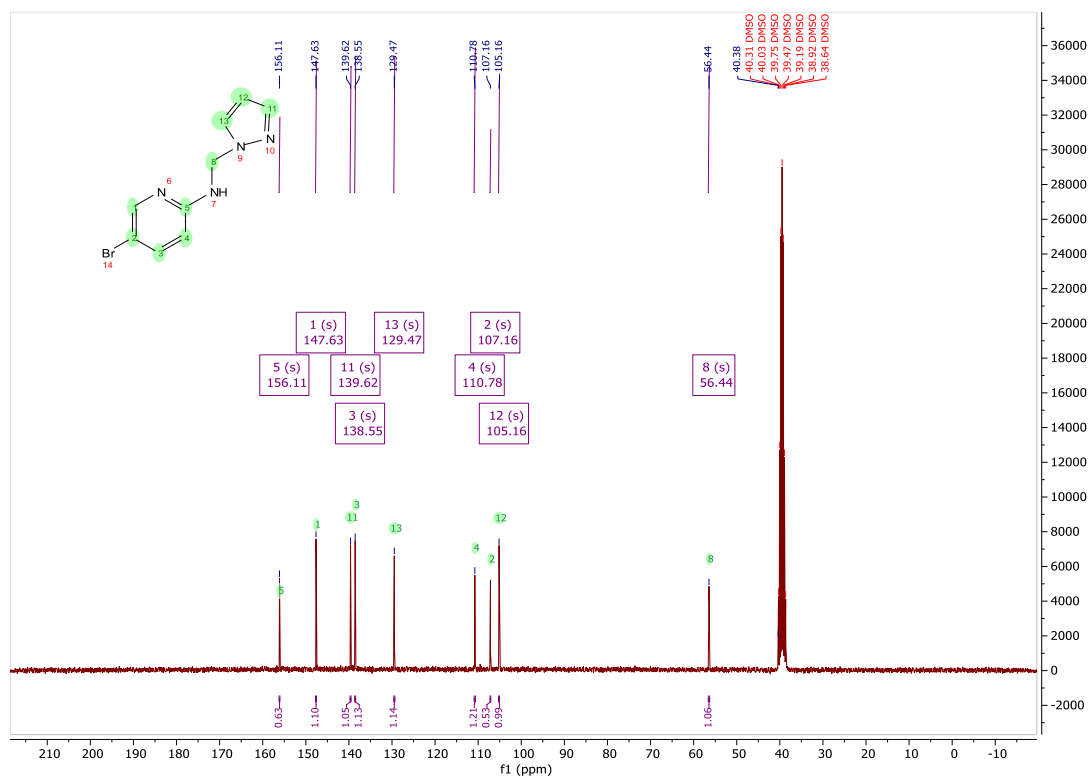


Figure 13. ¹³C NMR spectrum of N-((1H-pyrazol-1-yl) methyl)-5-bromopyridin-2-amine, 5

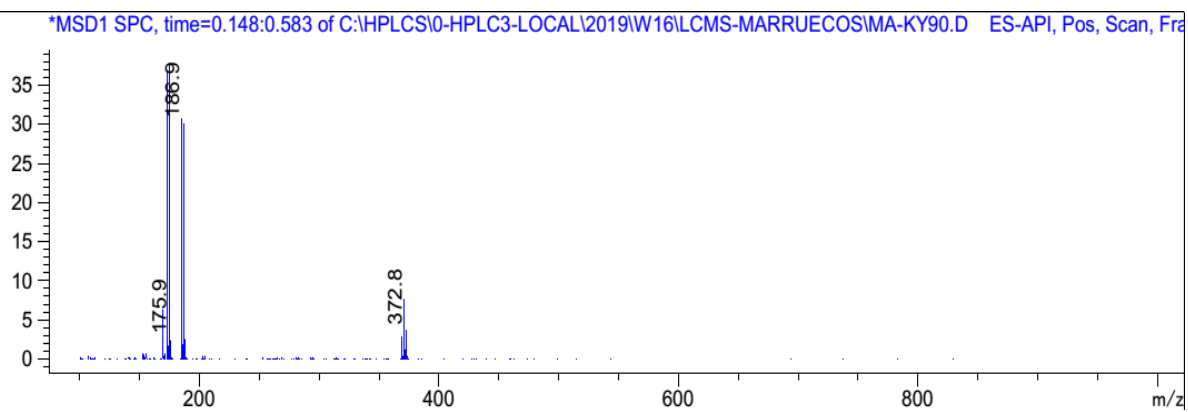


Figure 14. GC-MS spectrum of N-((1H-pyrazol-1-yl) methyl)-5-bromopyridin-2-amine, 5

5-bromo-N-((3,5-dimethyl-1H-pyrazol-1-yl) methyl) pyridin-2-amine, 6

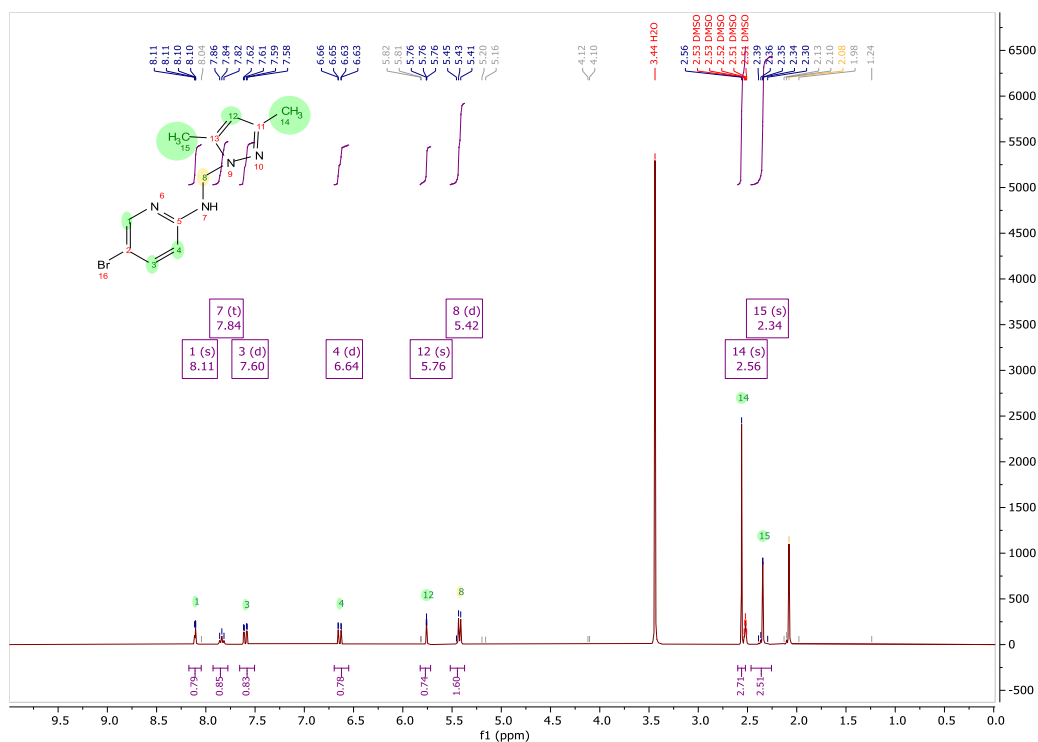


Figure 15. ¹H NMR spectrum of 5-bromo-N-((3,5-dimethyl-1H-pyrazol-1-yl) methyl) pyridin-2-amine, 6

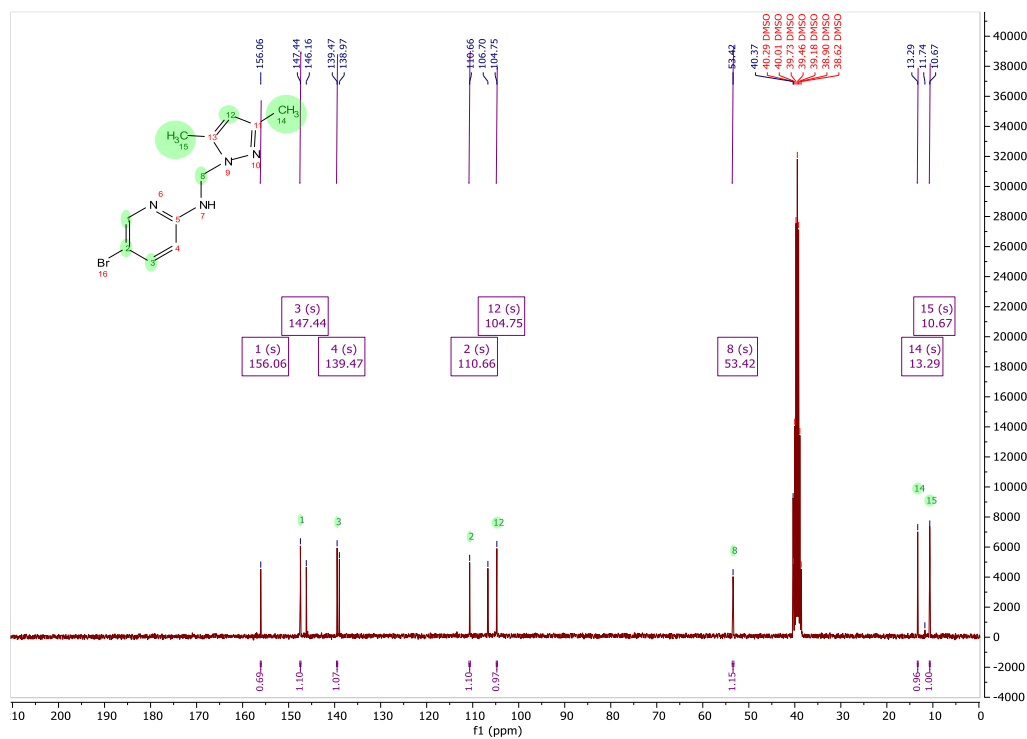
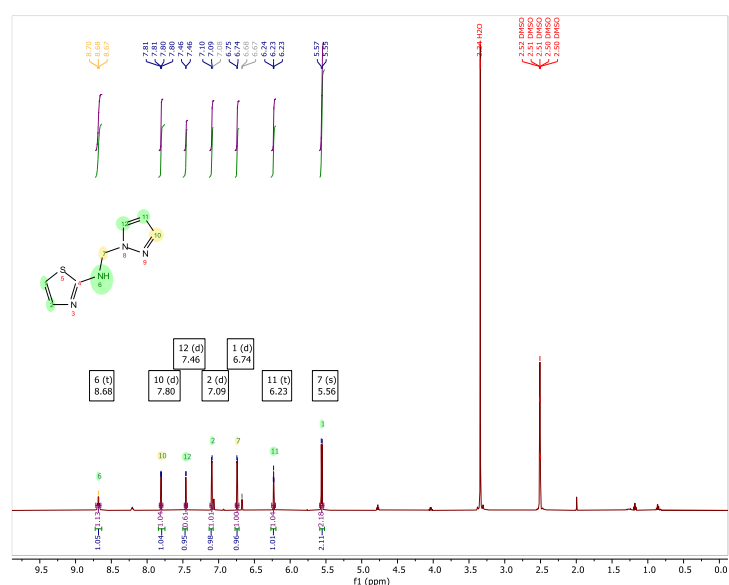


Figure 16. ¹³C NMR spectrum of 5-bromo-N-((3,5-dimethyl-1H-pyrazol-1-yl) methyl) pyridin-2-amine, 6

N-((1H-pyrazol-1-yl) methyl) thiazol-2-amine, 7



Chemical structure of compound 1 is shown in the top left corner. The structure is a 1,2,3,4-tetrahydropyridine derivative with a 1,2,3,4-tetrahydropyridine ring fused to a 1,2,3,4-tetrahydropyridine ring. The atoms are numbered 1 through 14. The 13C NMR spectrum is shown below the structure, with peaks labeled 1 through 14. The x-axis is labeled f1 (ppm) and ranges from 200 to 0. The y-axis is labeled intensity and ranges from -500,000 to 7,000,000. The spectrum shows peaks at 168.11, 139.33, 138.97, 138.47, 130.07, 108.52, 108.50, 108.48, 59.40, 53.78, 40.60, 40.18, 39.27, and 38.35 ppm. Integration values are shown below the peaks: 0.50, 0.96, 1.02, 1.03, 1.04, 0.98.

Figure 19. ^{13}C NMR spectrum of N-((1H-pyrazol-1-yl) methyl) thiazol-2-amine, 7

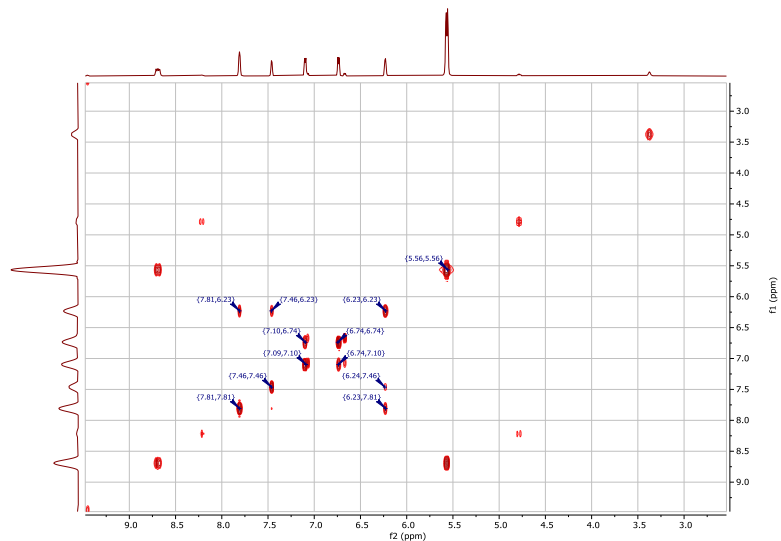


Figure 20. 2D NMR COSY spectrum of N-((1H-pyrazol-1-yl) methyl) thiazol-2-amine, 7

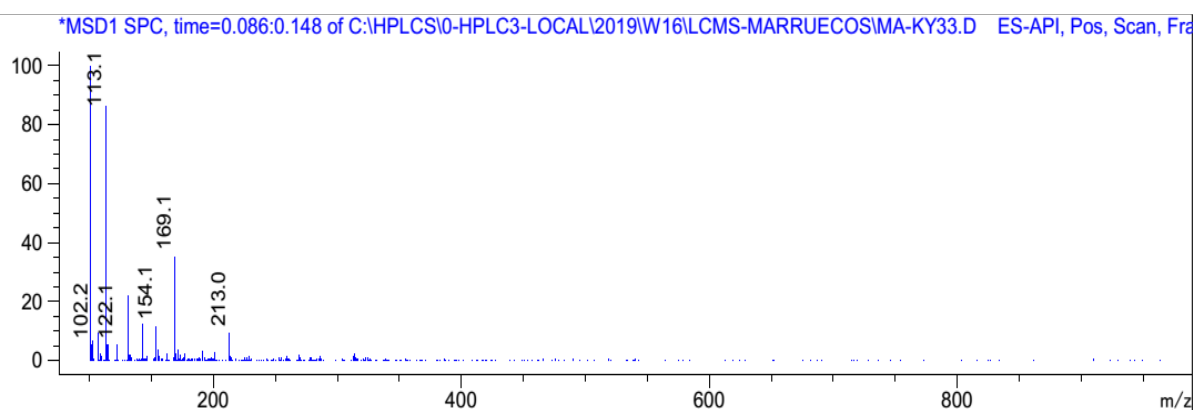


Figure 21. GC-MS spectrum of N-((1H-pyrazol-1-yl) methyl) thiazol-2-amine, 7

N-((3,5-dimethyl-1H-pyrazol-1-yl) methyl) thiazol-2-amine, 8

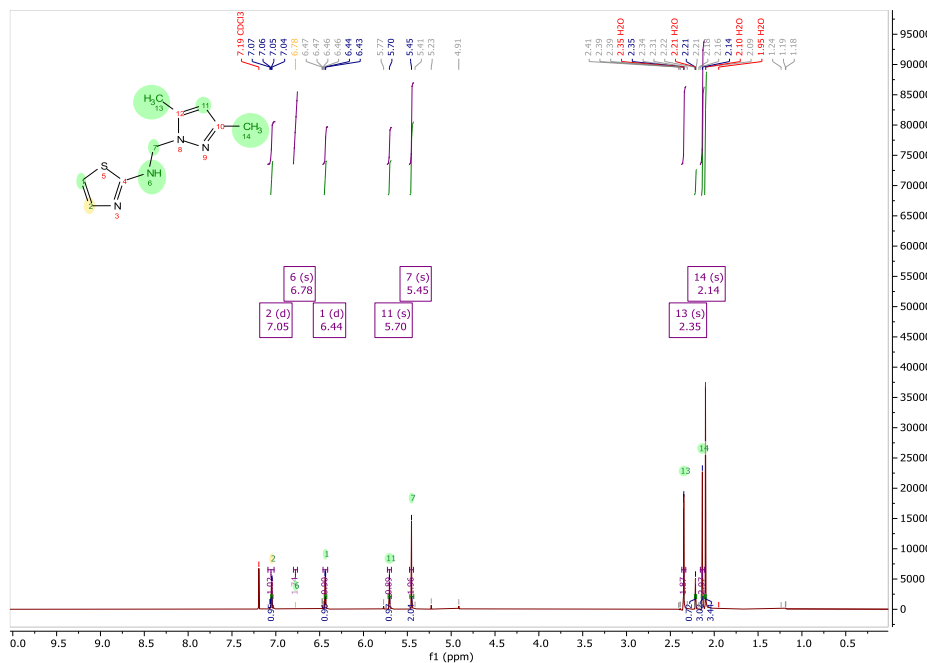


Figure 22. ^1H NMR spectrum of N-((3,5-dimethyl-1H-pyrazol-1-yl) methyl) thiazol-2-amine, 8

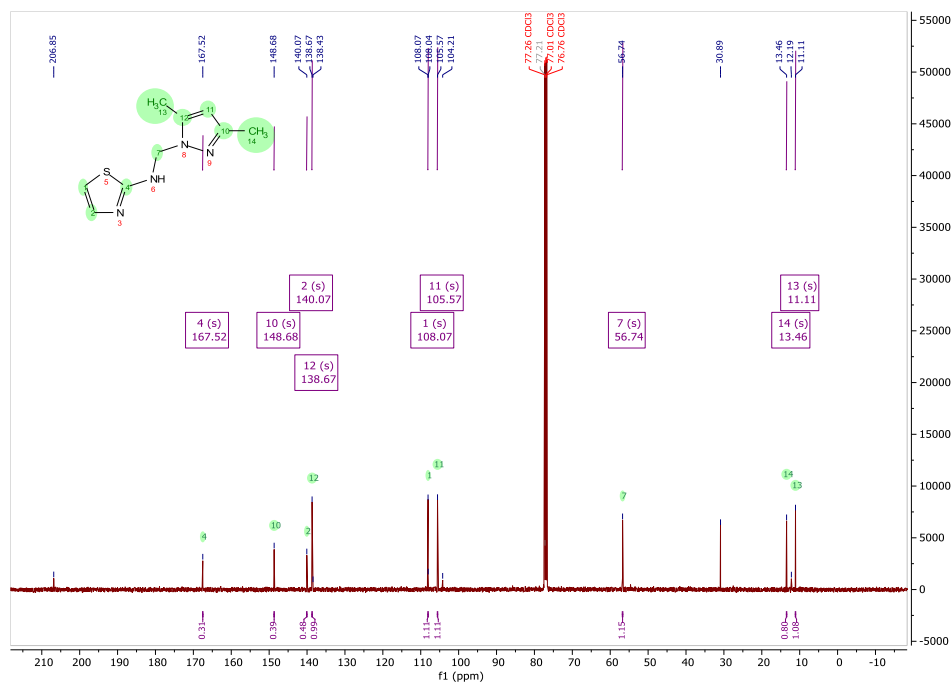


Figure 23. ^{13}C NMR spectrum of N-((3,5-dimethyl-1H-pyrazol-1-yl) methyl) thiazol-2-amine, 8

03 #446 RT: 4.99 AV: 1 AV: 5 SB: 12 439-444 448-453 NL: 1.12E4
T: + c EI Full ms [50.000-300.000]

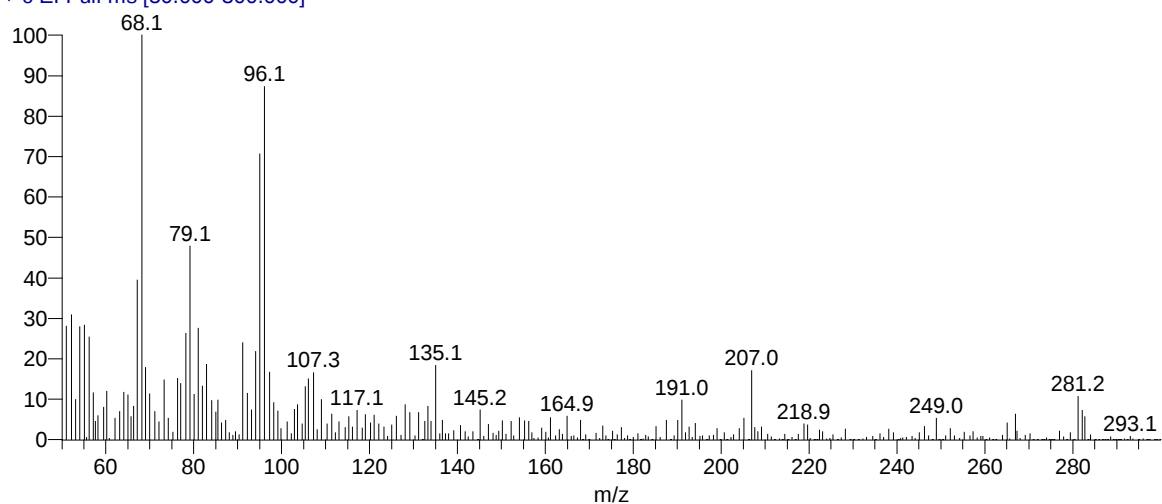


Figure 24. GC-MS spectrum of N-((3,5-dimethyl-1H-pyrazol-1-yl) methyl) thiazol-2-amine, 8

N-((3,5-dimethyl-1H-pyrazol-1-yl) methyl) pyridin-4-amine, 9

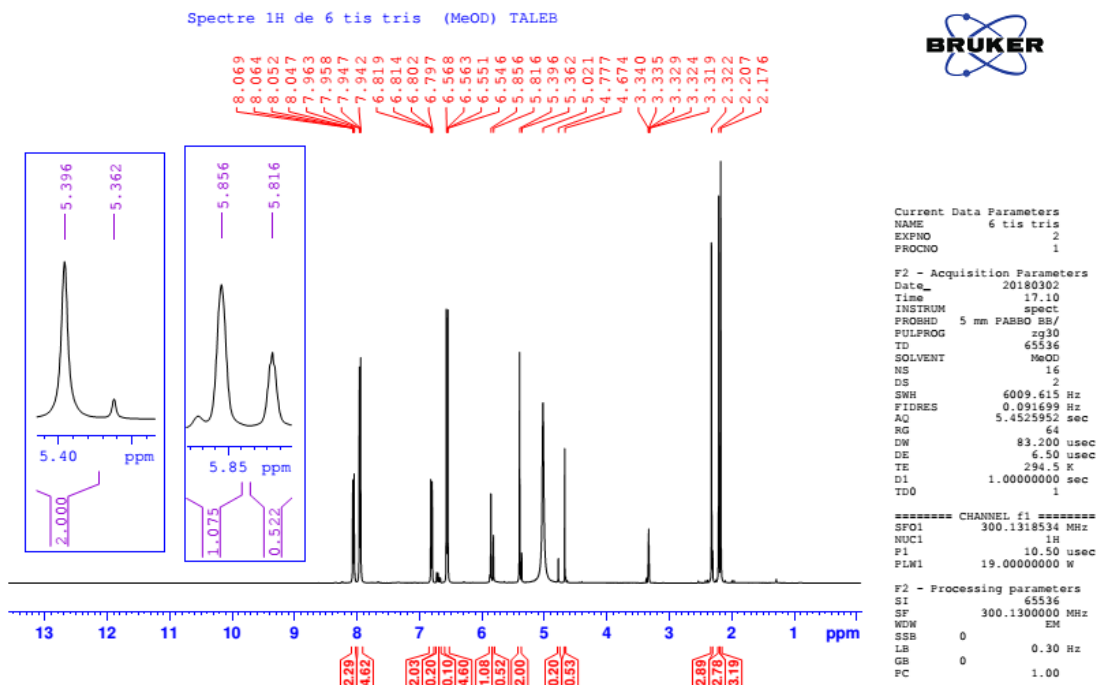


Figure 25. ¹H NMR spectrum of N-((3,5-dimethyl-1H-pyrazol-1-yl) methyl) pyridin-4-amine, 9

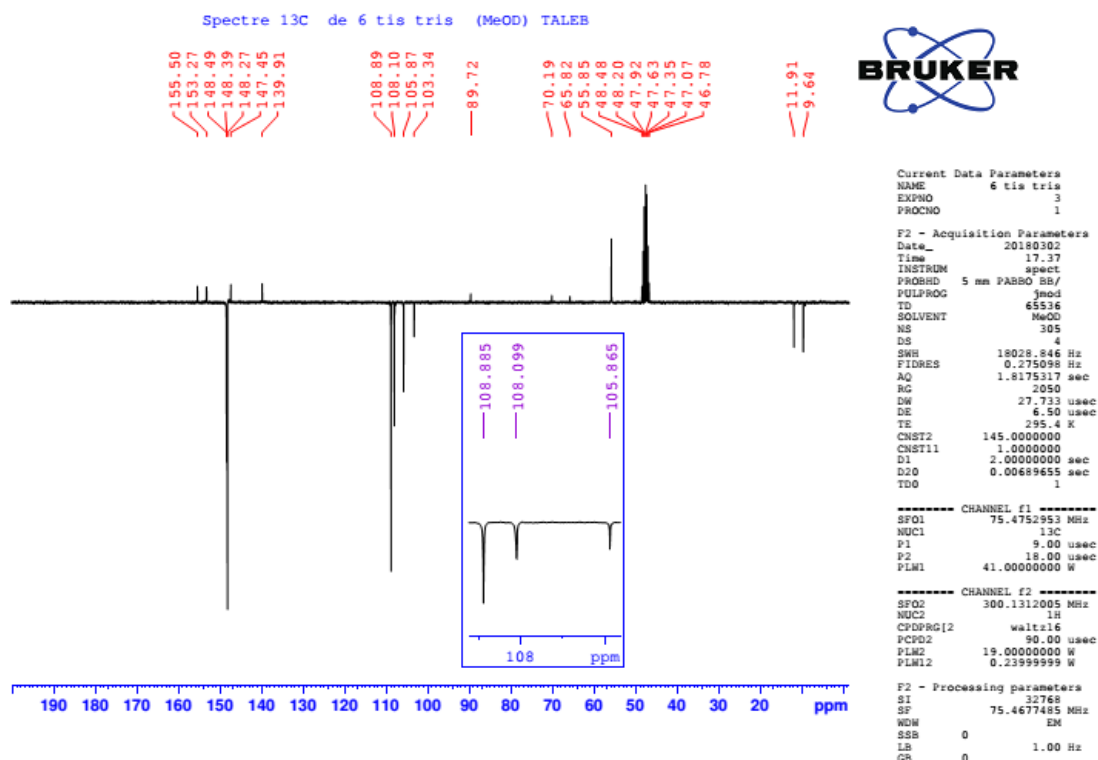


Figure 26. ¹³C NMR spectrum of N-((3,5-dimethyl-1H-pyrazol-1-yl) methyl) pyridin-4-amine, 9

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T: + c EI Full ms [50.000-300.000]

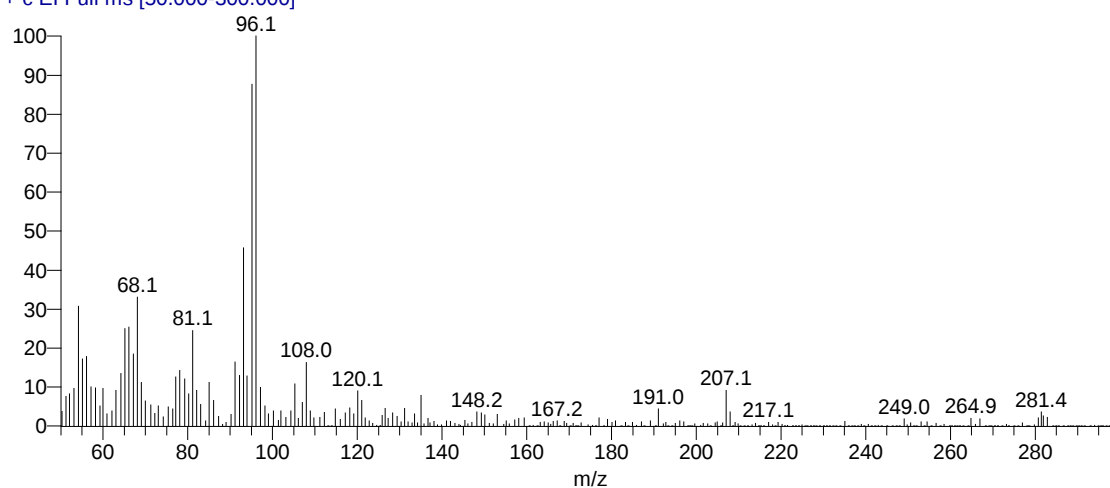


Figure 27. N-((3,5-dimethyl-1H-pyrazol-1-yl) methyl) pyridin-4-amine, 9

Ethyl 1-((1H-imidazol-1-yl) methyl)-5-methyl-1H-pyrazole-3-carboxylate, 10

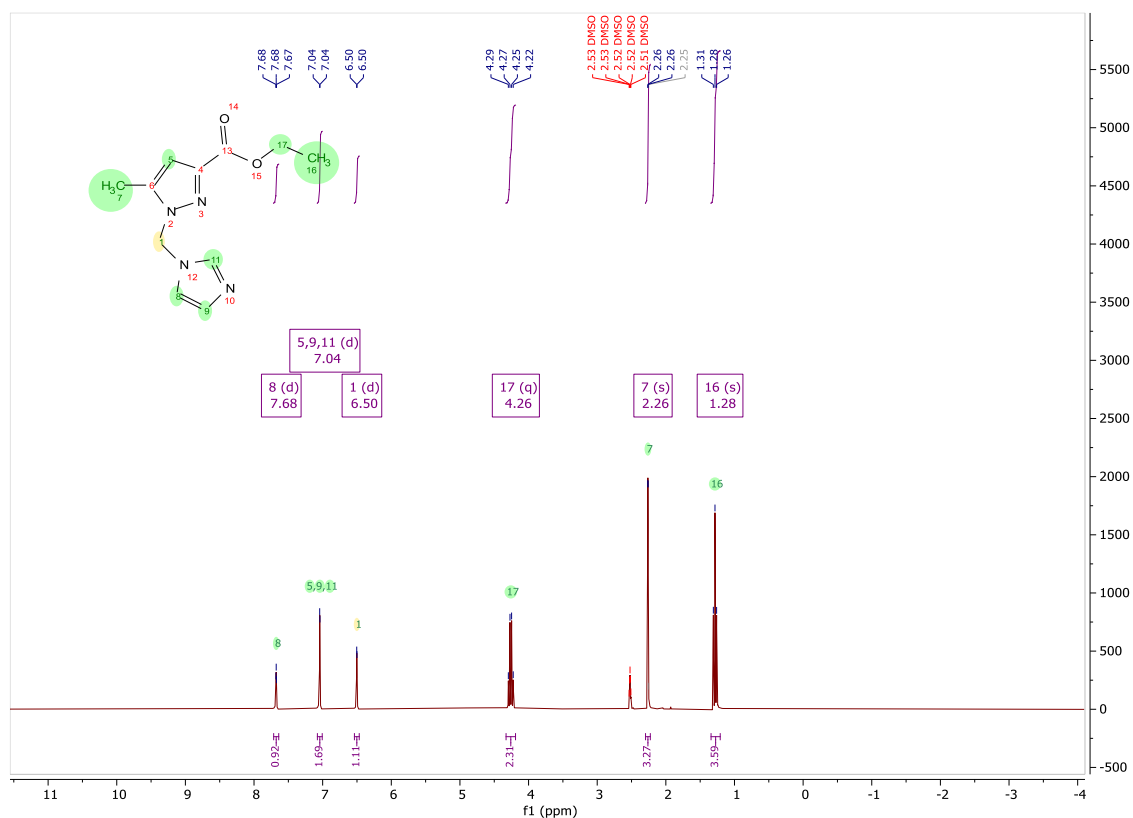


Figure 28. ^1H NMR spectrum of Ethyl 1-((1H-imidazol-1-yl) methyl)-5-methyl-1H-pyrazole-3-carboxylate, 10

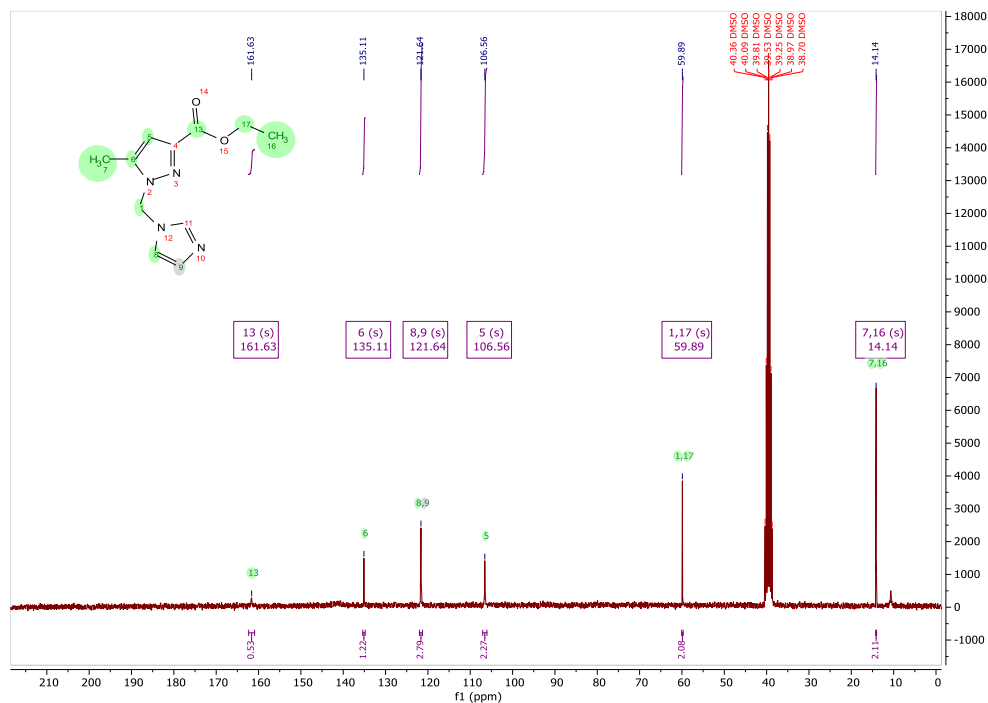


Figure 29. ^{13}C NMR spectrum of Ethyl 1-((1H-imidazol-1-yl) methyl)-5-methyl-1H-pyrazole-3-carboxylate, 10

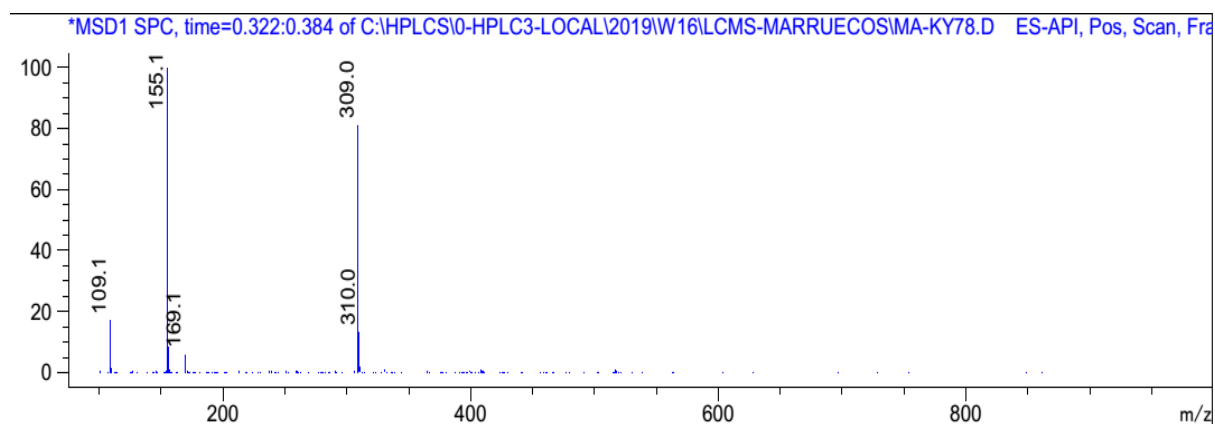


Figure 30. GC-MS spectrum of Ethyl 1-((1H-imidazol-1-yl) methyl)-5-methyl-1H-pyrazole-3-carboxylate, 10

2-(((1H-pyrazol-1-yl) methyl) amino)-6-methylpyridin-4-ol, 11

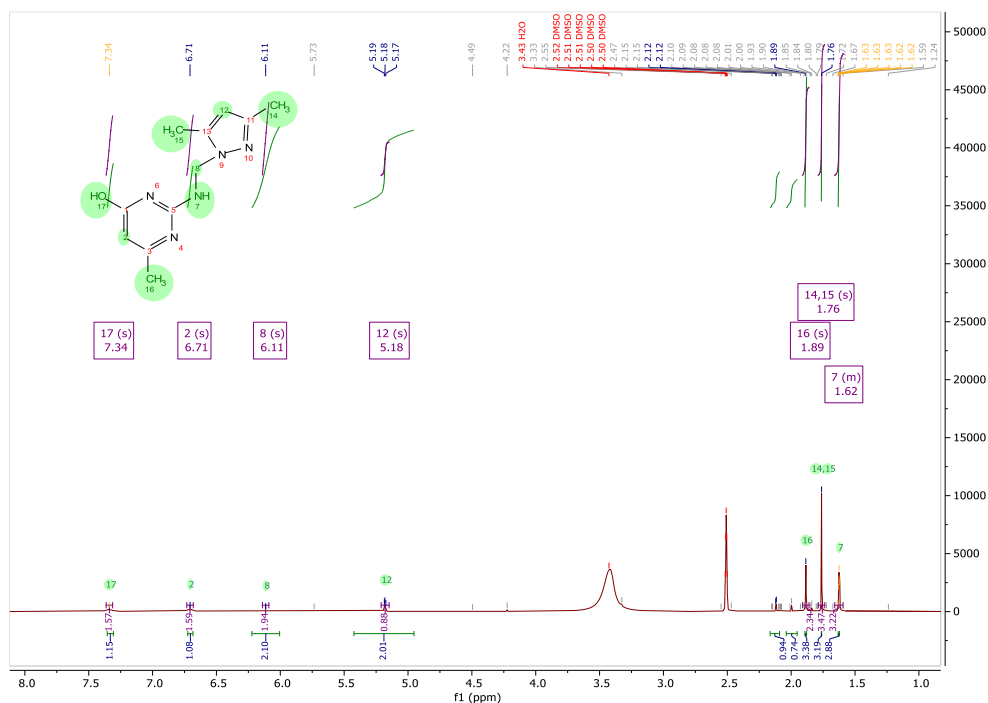


Figure 31. ^1H NMR spectrum of 2-(((1H-pyrazol-1-yl) methyl) amino)-6-methylpyridin-4-ol, 11

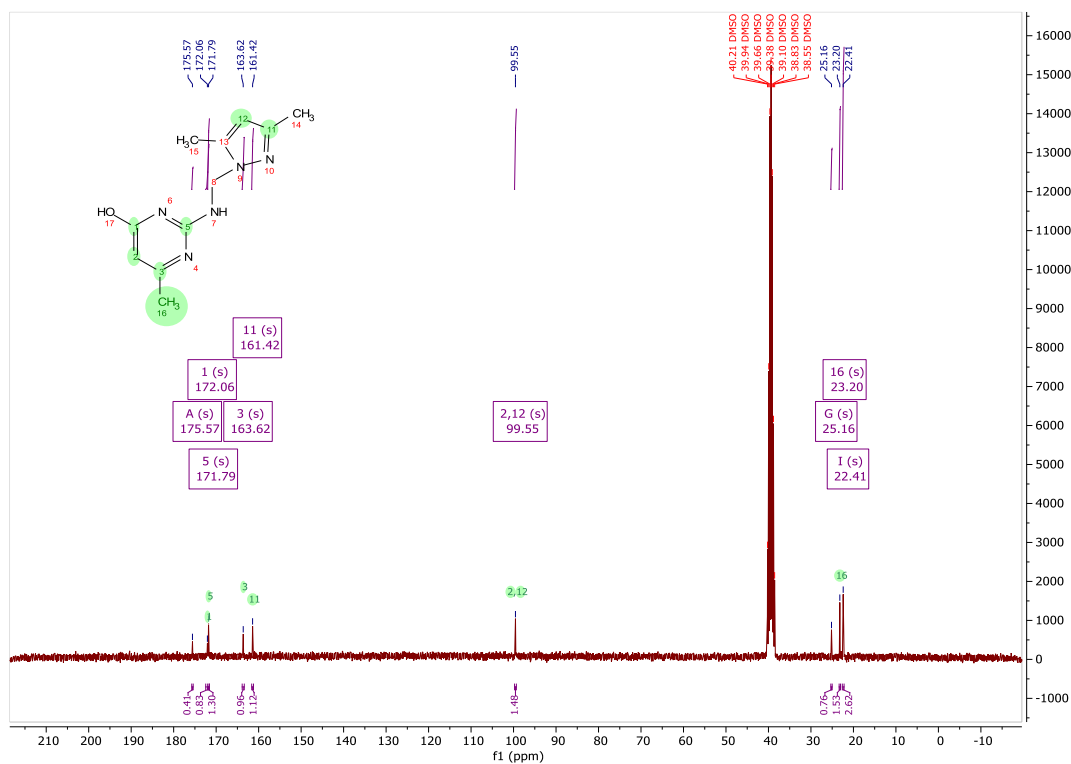


Figure 32. ^{13}C NMR spectrum of 2-(((1H-pyrazol-1-yl) methyl) amino)-6-methylpyridin-4-ol, 11

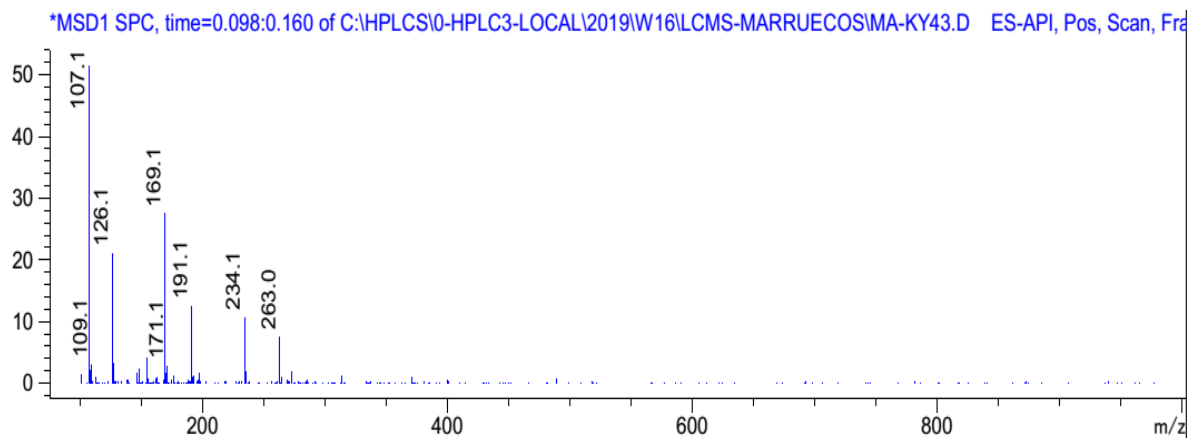


Figure 33. GC-MS spectrum of 2-(((1H-pyrazol-1-yl) methyl) amino)-6-methylpyridin-4-ol, 11

2-(((3,5-dimethyl-1H-pyrazol-1-yl) methyl) amino)-6-methylpyridin-4-ol, 12

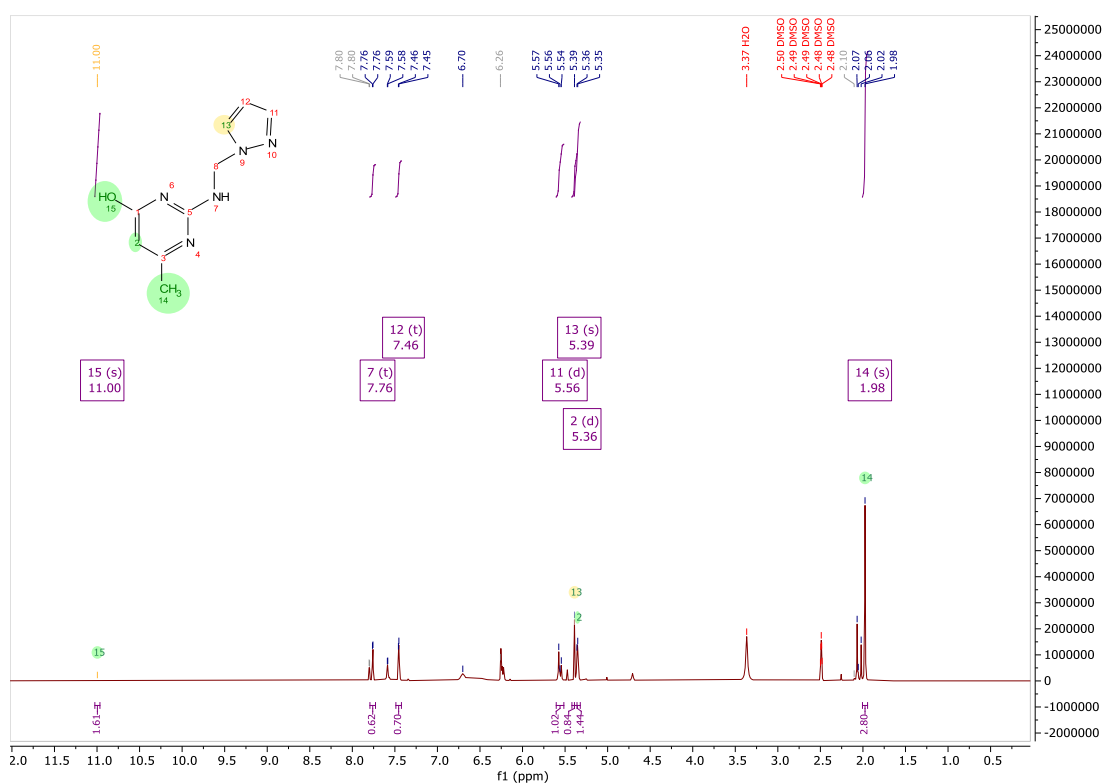


Figure 34. ^1H NMR spectrum of 2-(((3,5-dimethyl-1H-pyrazol-1-yl) methyl) amino)-6-methylpyridin-4-ol, 12

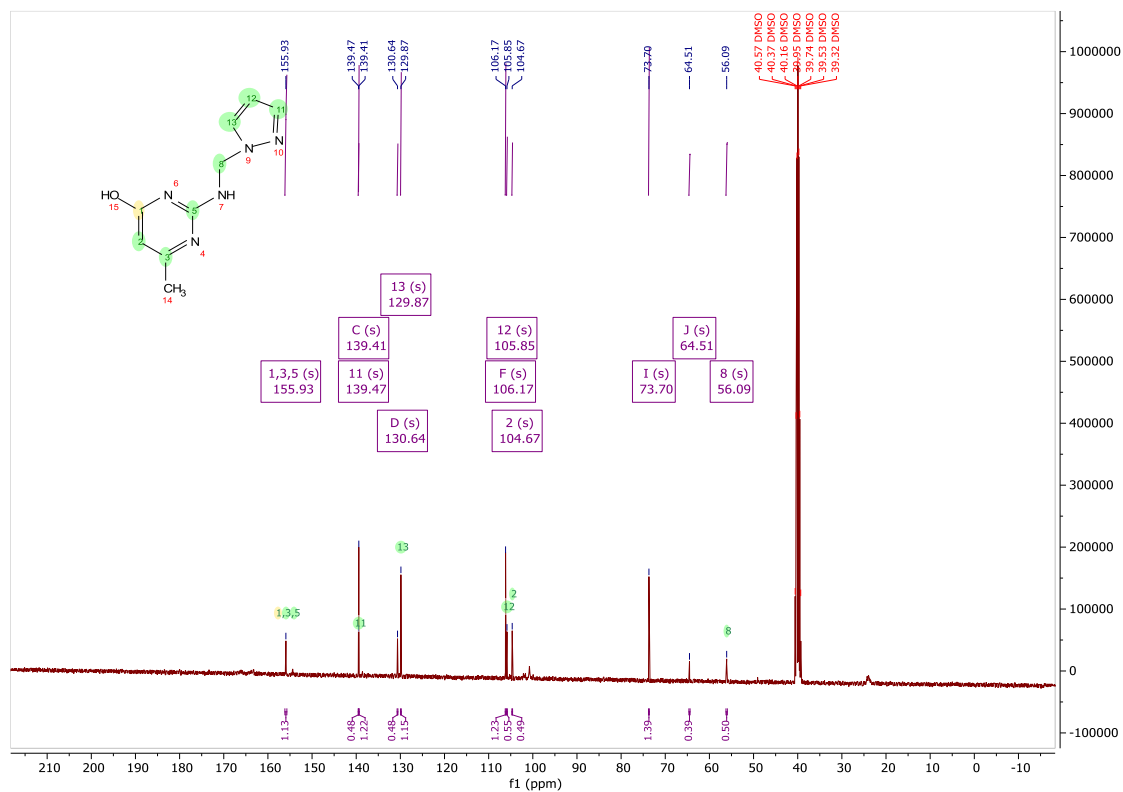


Figure 35. ¹³C NMR spectrum of 2-(((3,5-dimethyl-1H-pyrazol-1-yl) methyl) amino)-6-methylpyridin-4-ol, 12

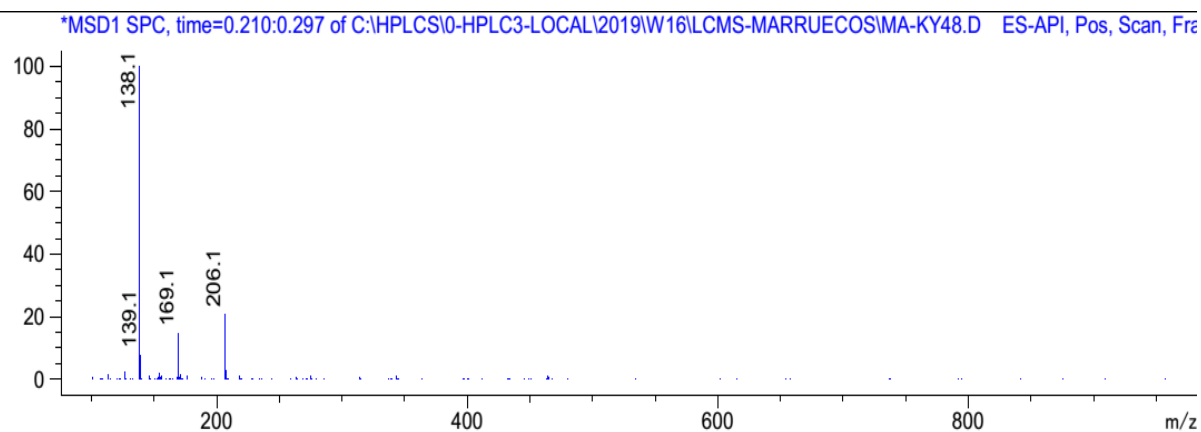


Figure 36. GC-MS spectrum of 2-(((3,5-dimethyl-1H-pyrazol-1-yl) methyl) amino)-6-methylpyridin-4-ol, 12