

## Selective C-H Dithiocarbamation of Drug Skeletons and Their Antifungal Activity

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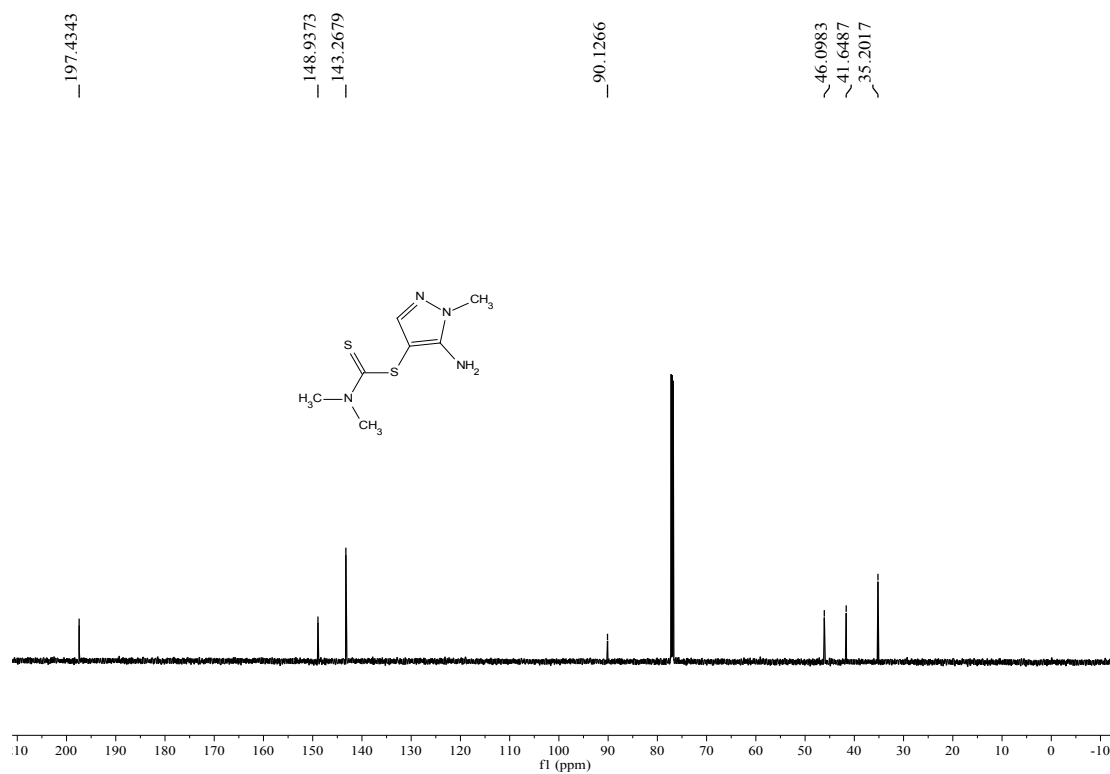
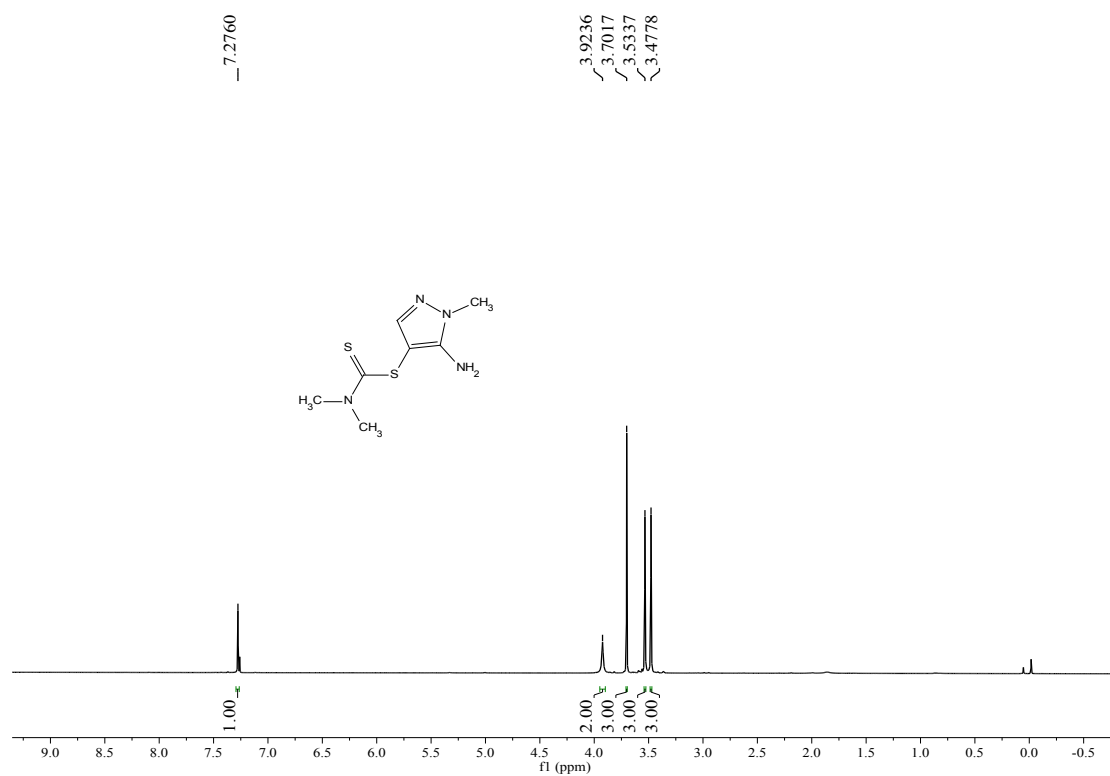
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<sup>c</sup> Lingnan Guangdong Laboratory of Modern Agriculture, Guangzhou, 510642, China.

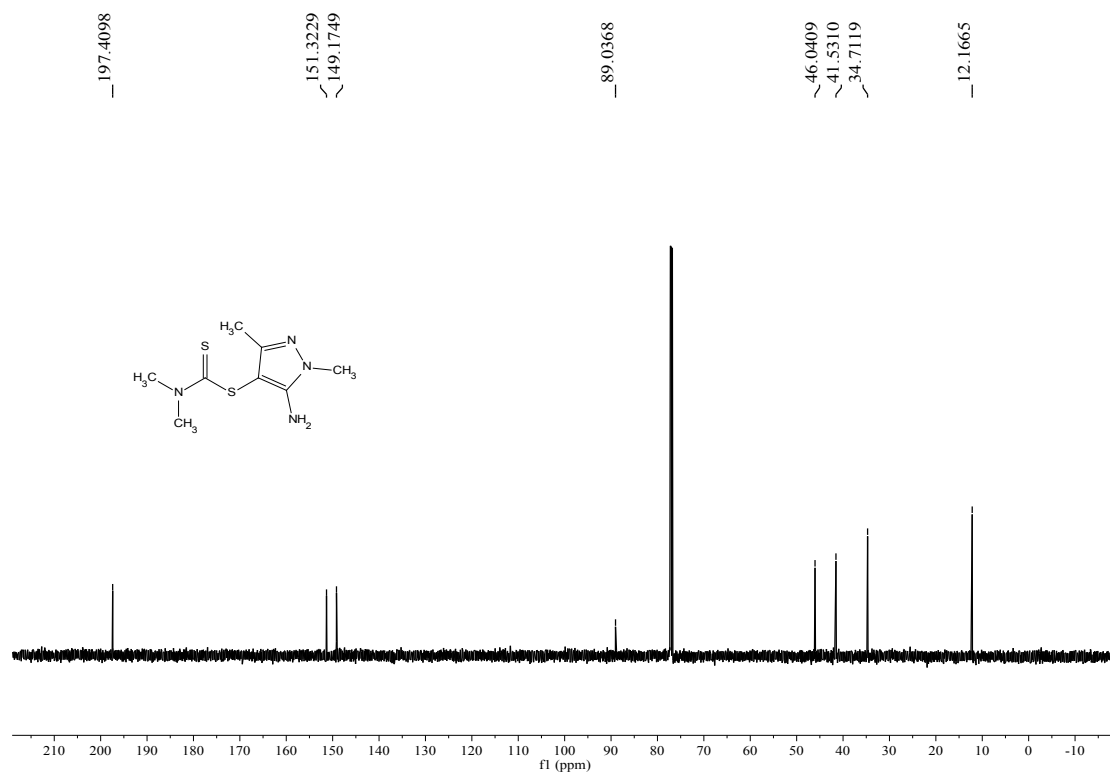
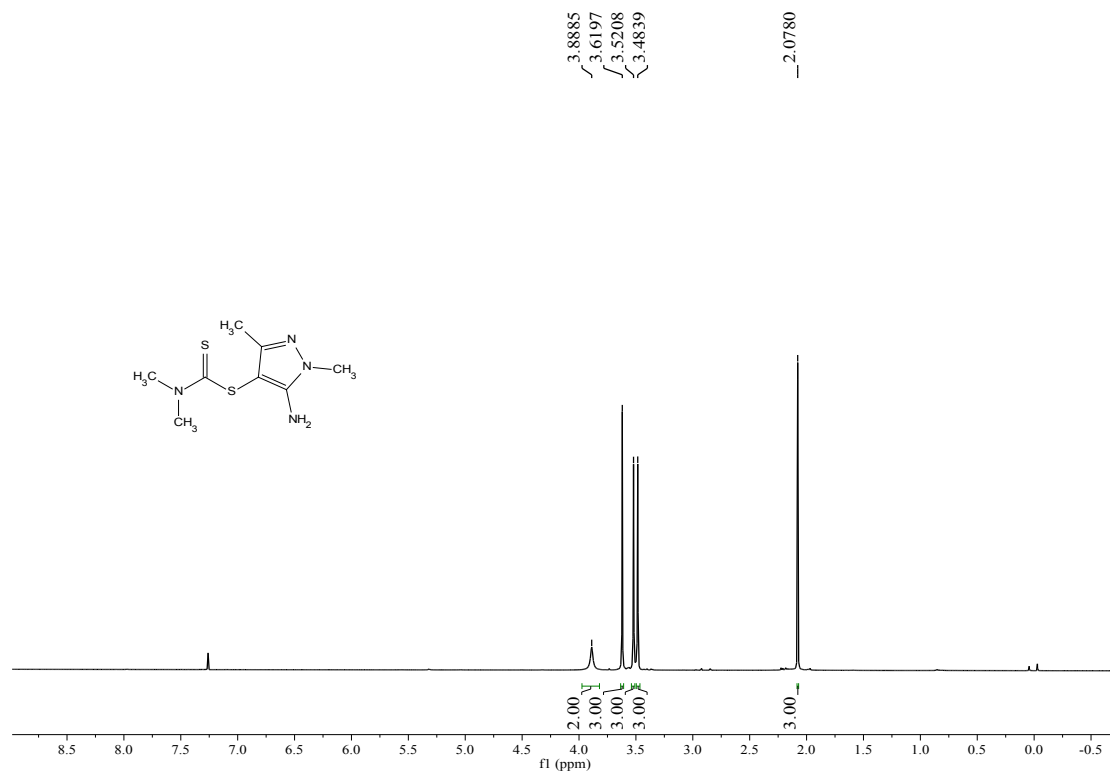
E-mail: [rytang@scau.edu.cn](mailto:rytang@scau.edu.cn), [zhangxiaoyong@scau.edu.cn](mailto:zhangxiaoyong@scau.edu.cn)

### NMR Spectra for products

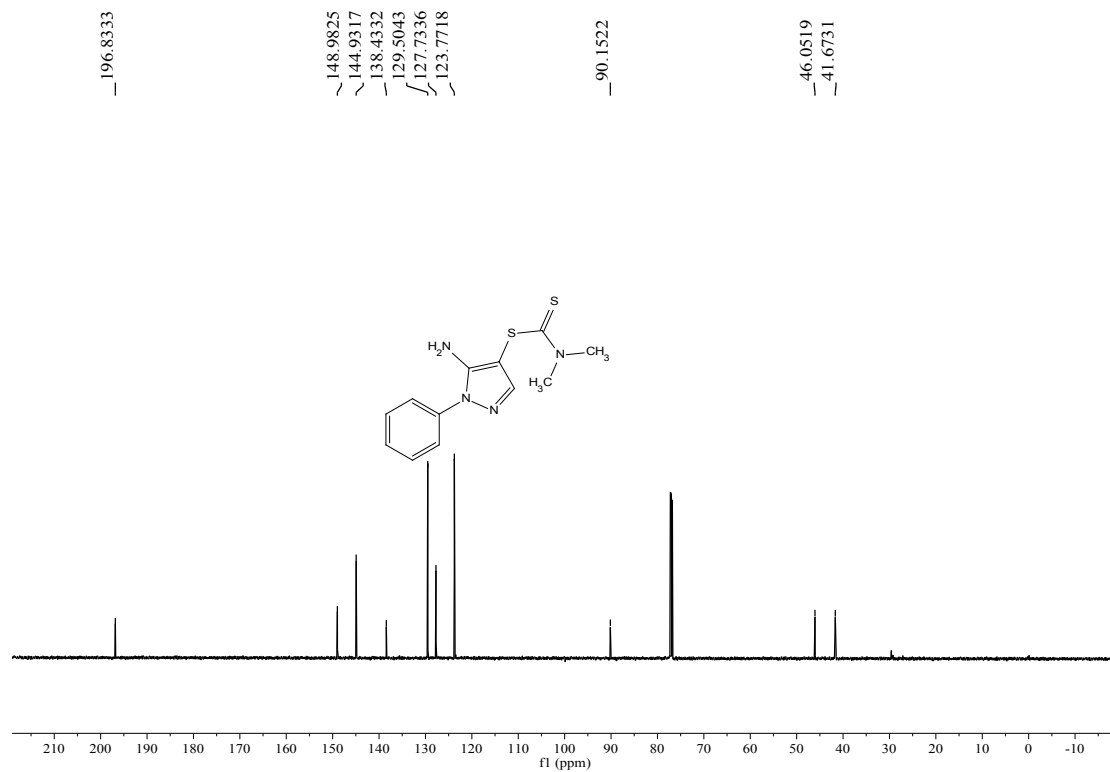
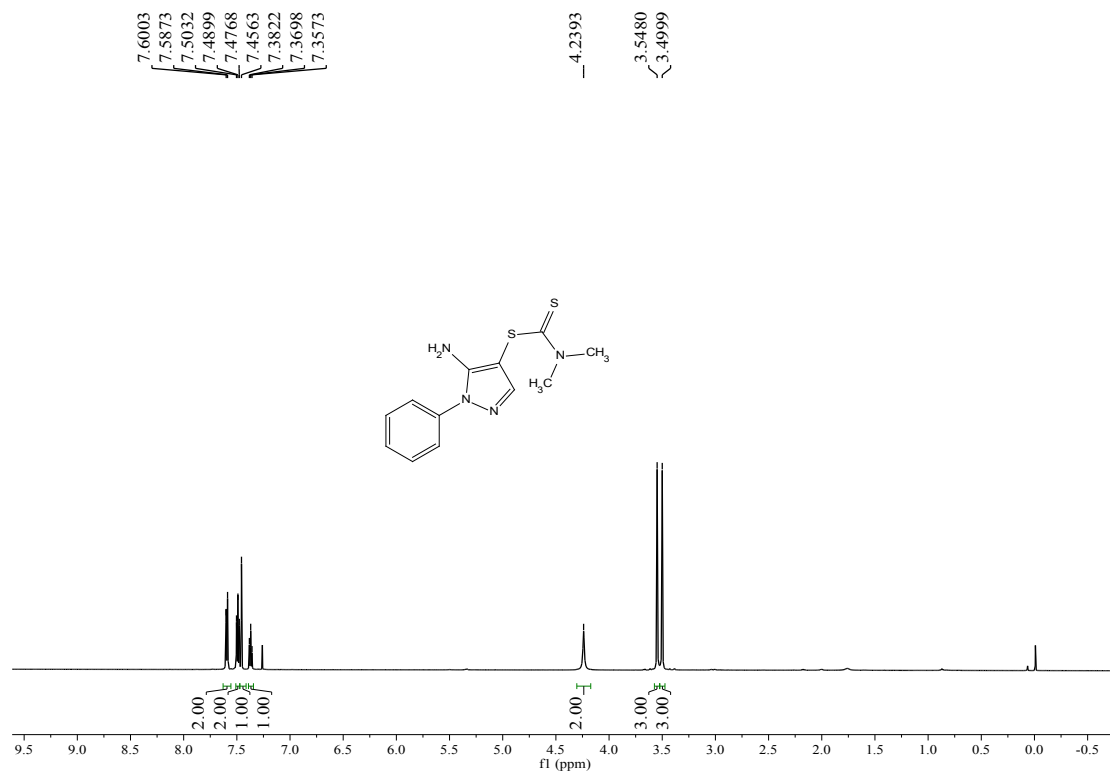
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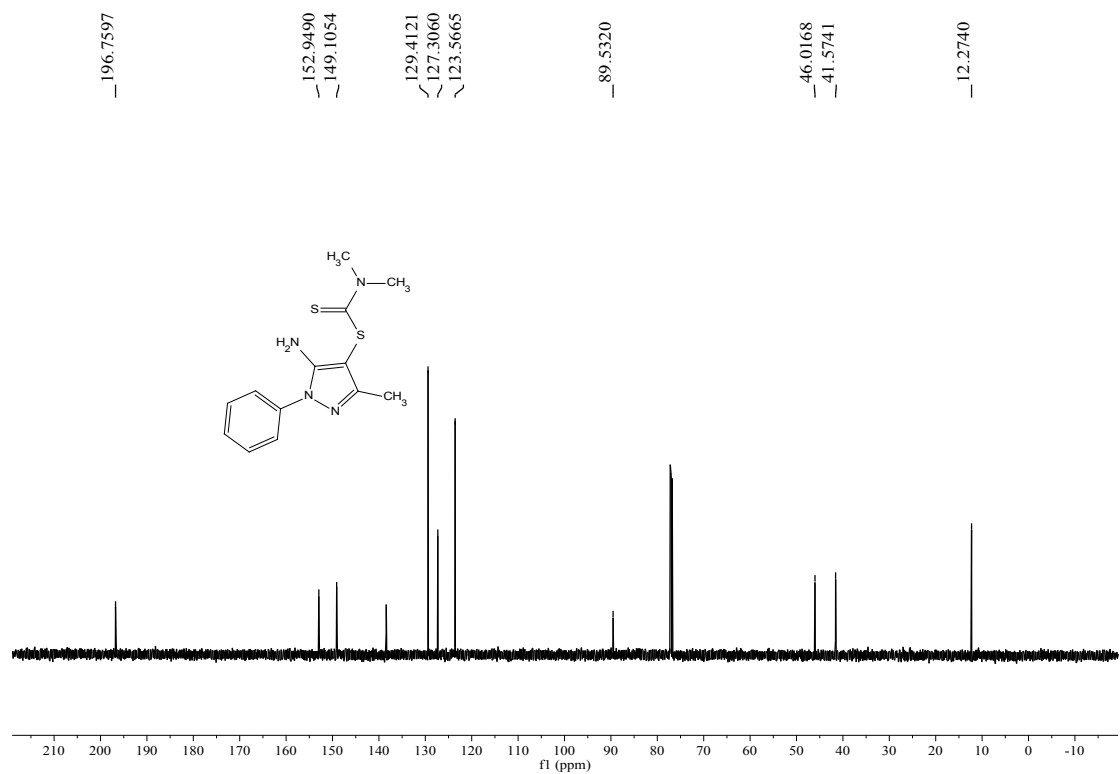
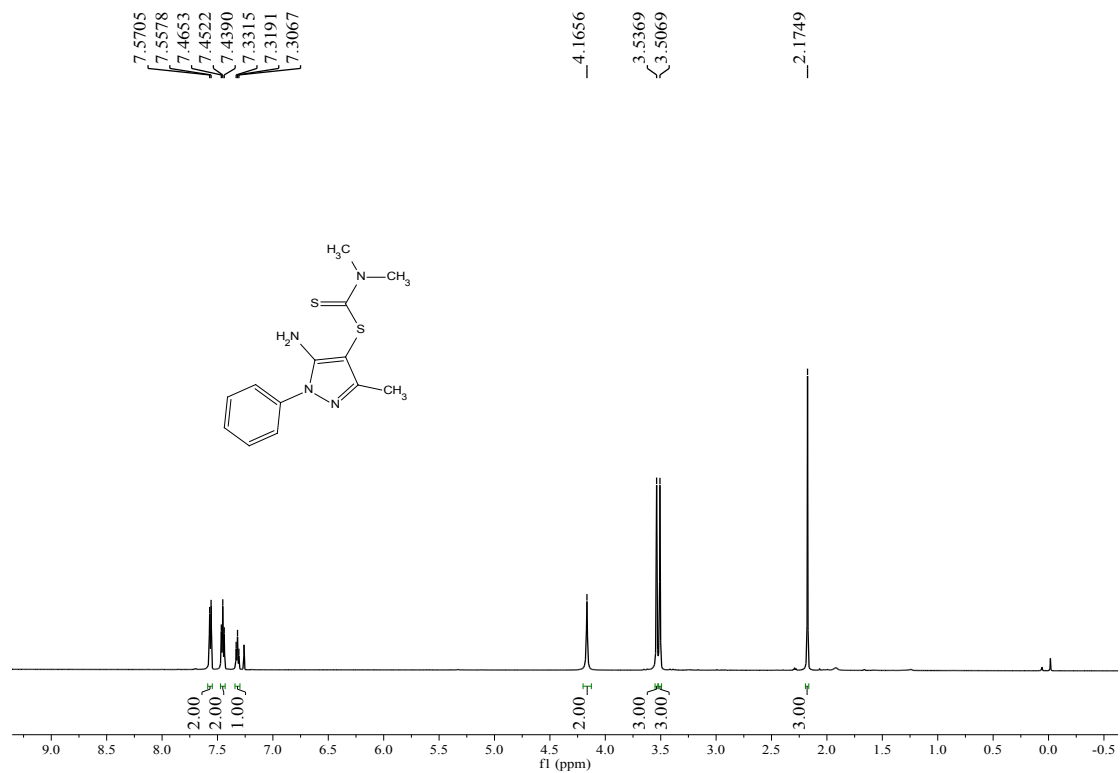
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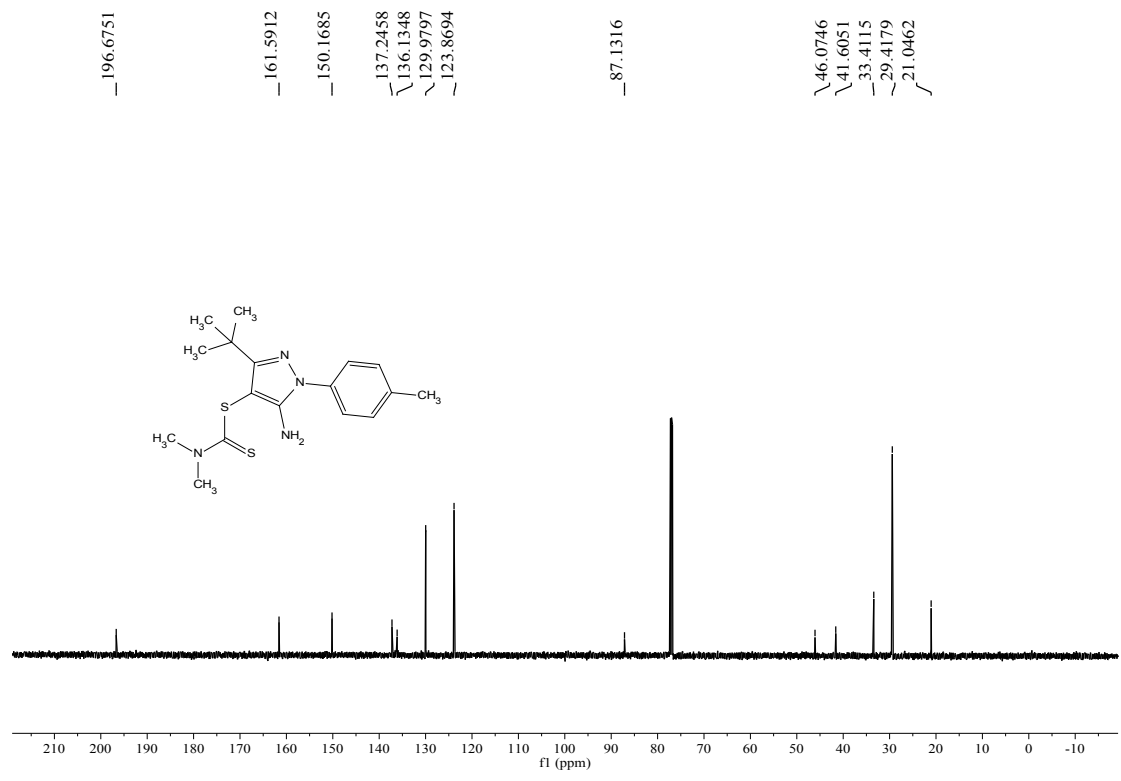
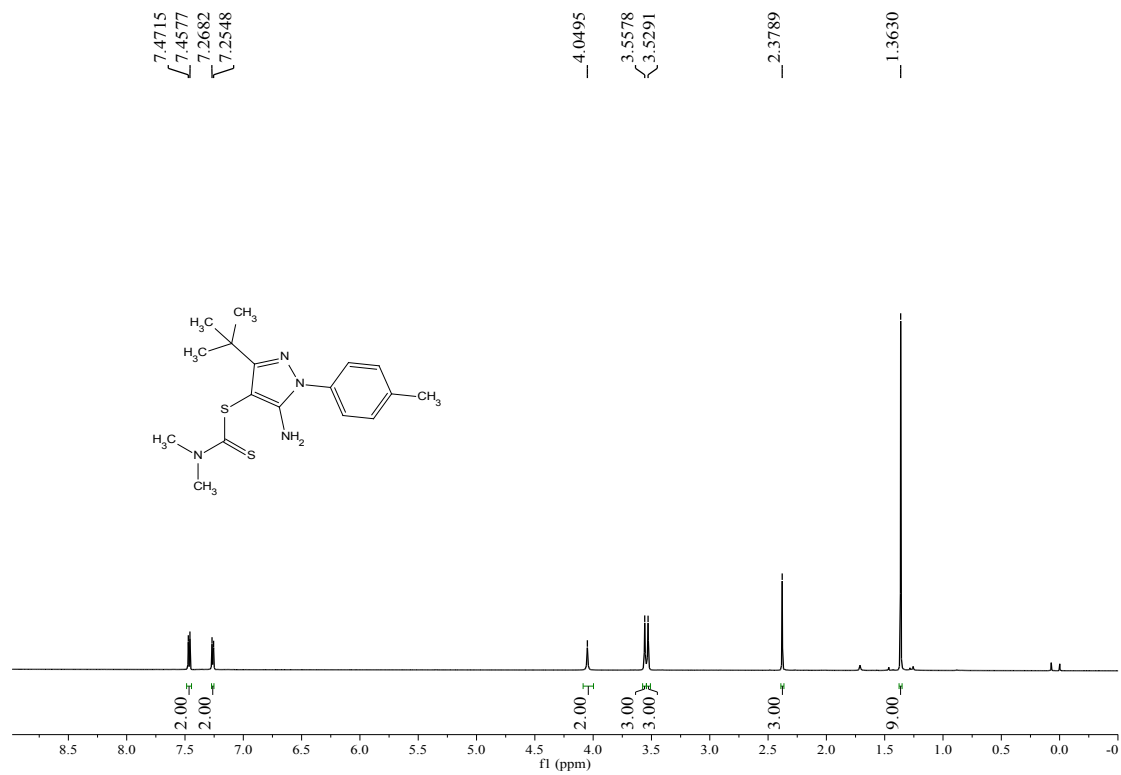
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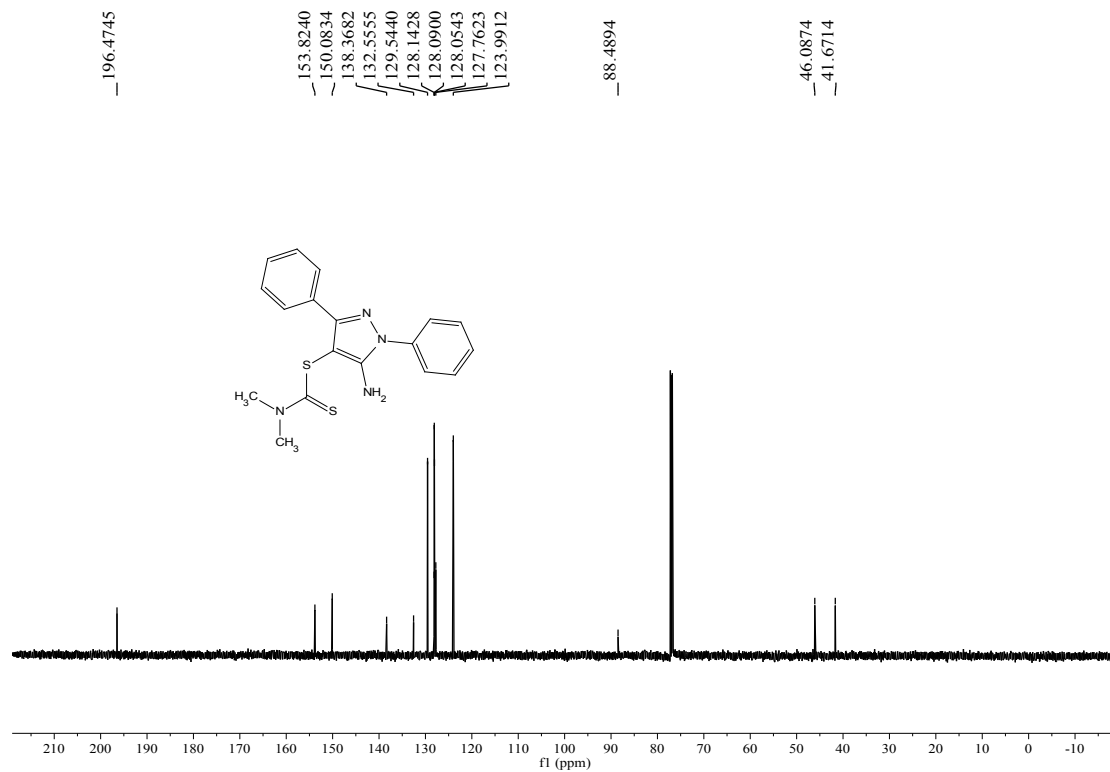
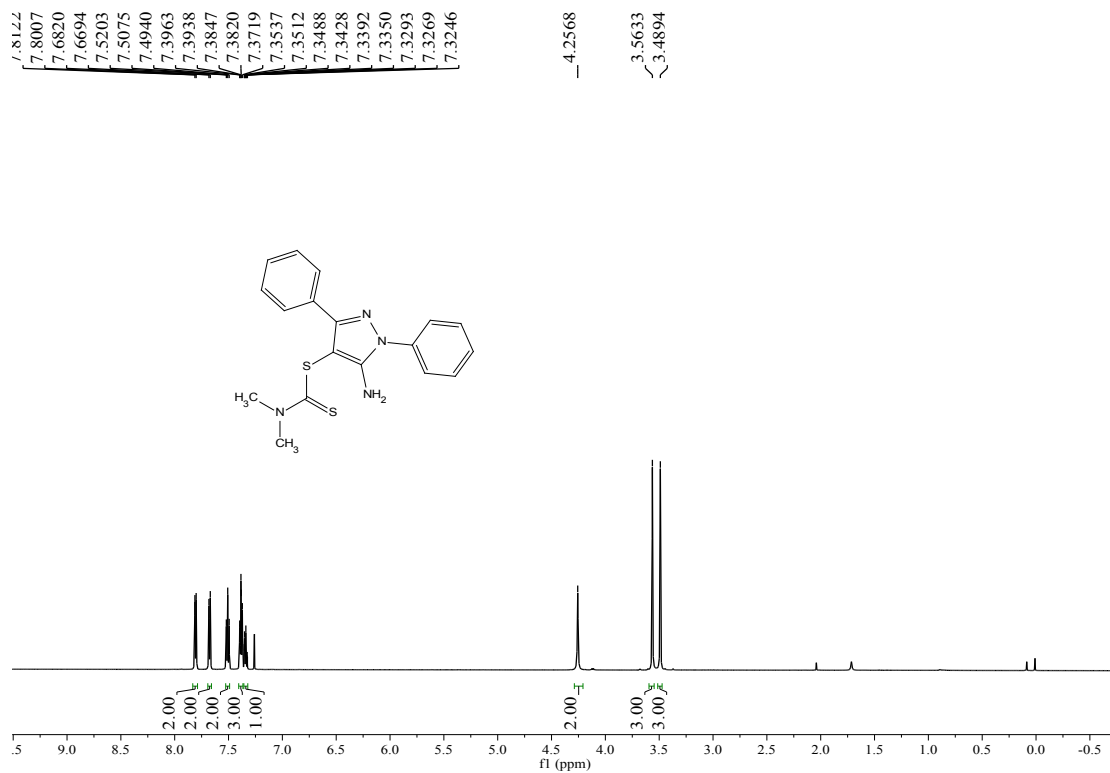
**5-amino-3-methyl-1-phenyl-1H-pyrazol-4-yl dimethylcarbamodithioate(6)**



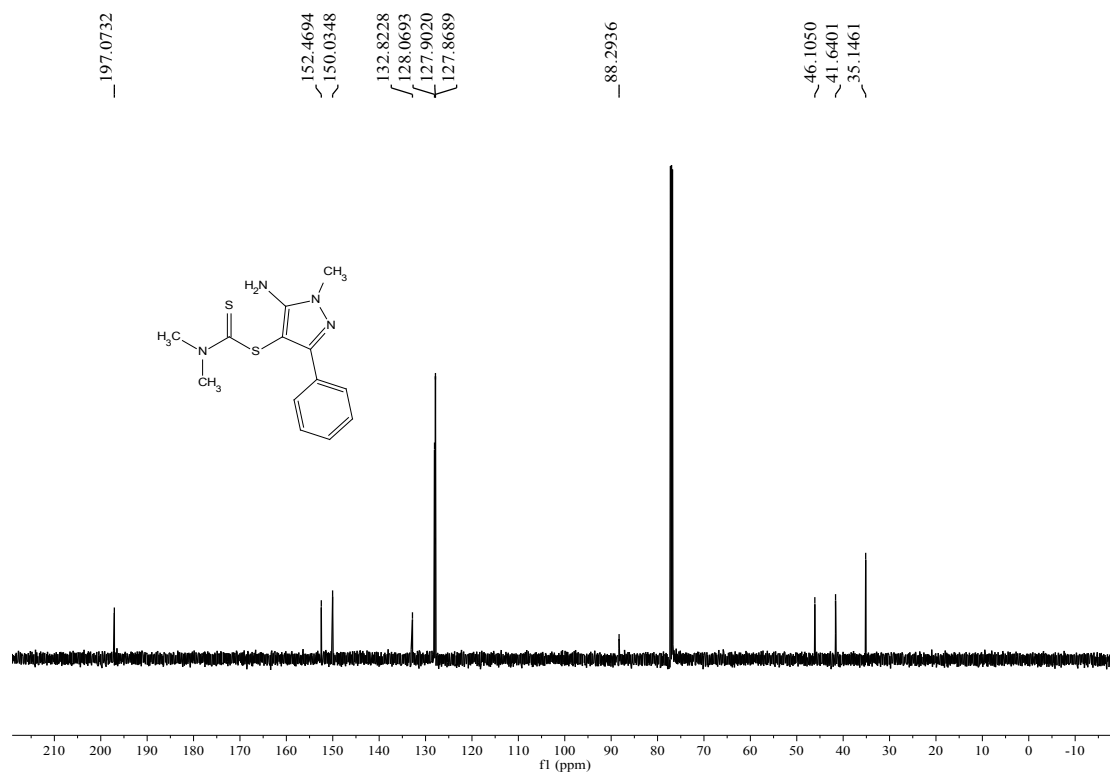
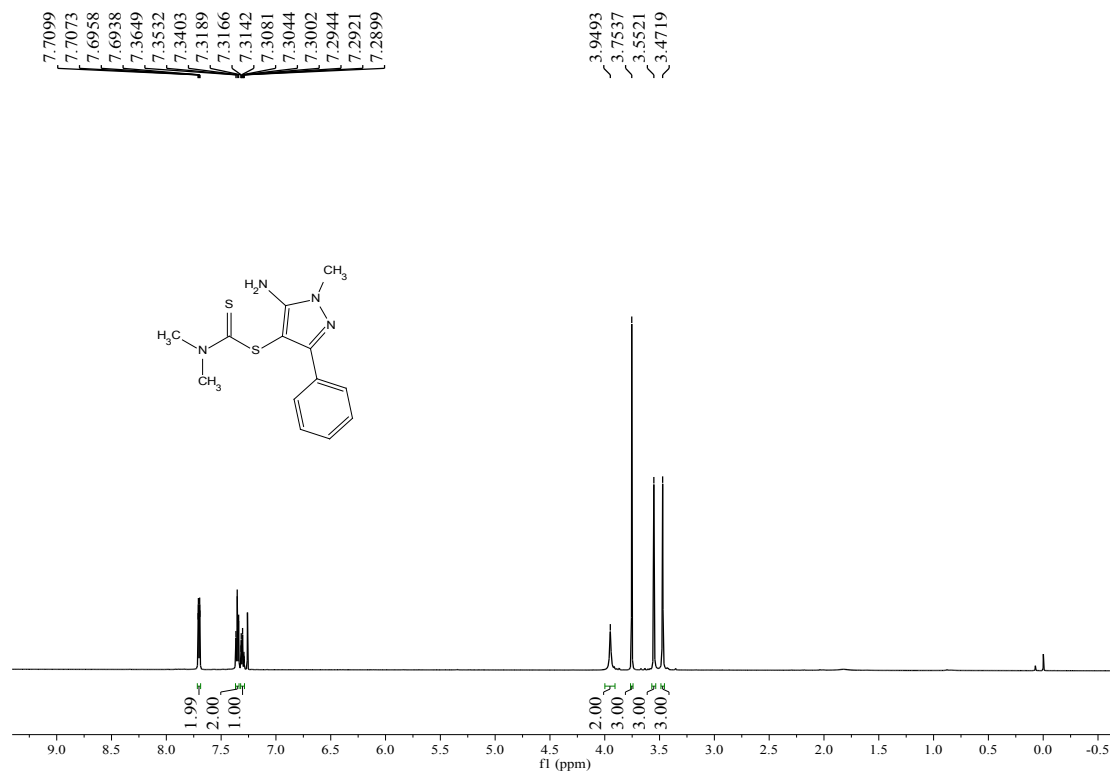
5-amino-3-tert-butyl-1-p-tolyl-1H-pyrazol-4-yl dimethylcarbamodithioate(7)



5-amino-1,3-diphenyl-1H-pyrazol-4-yl dimethylcarbamodithioate(8)

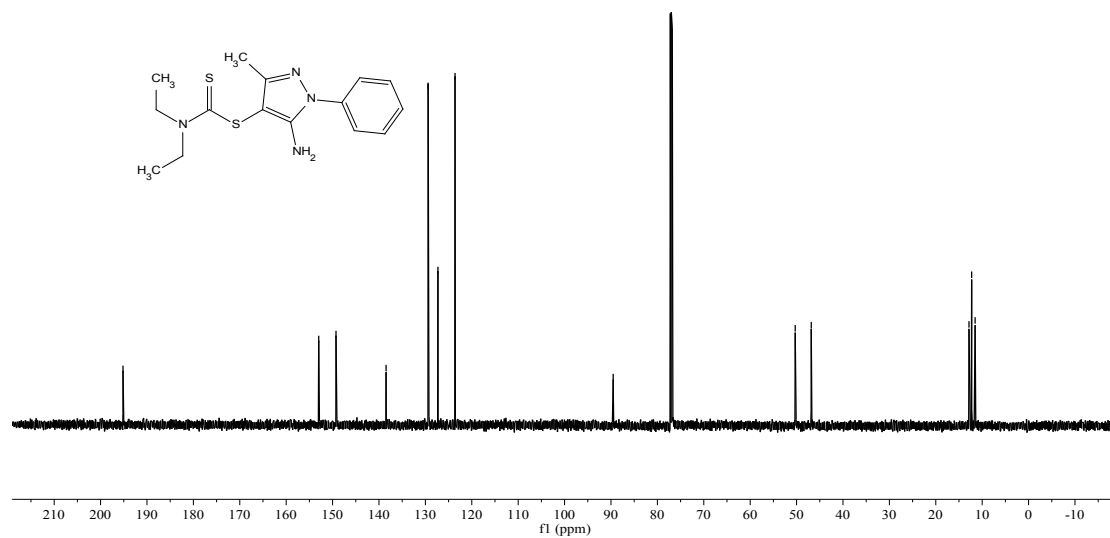
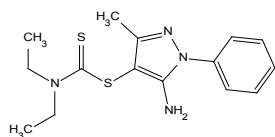
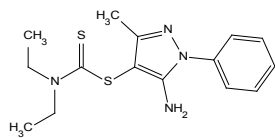
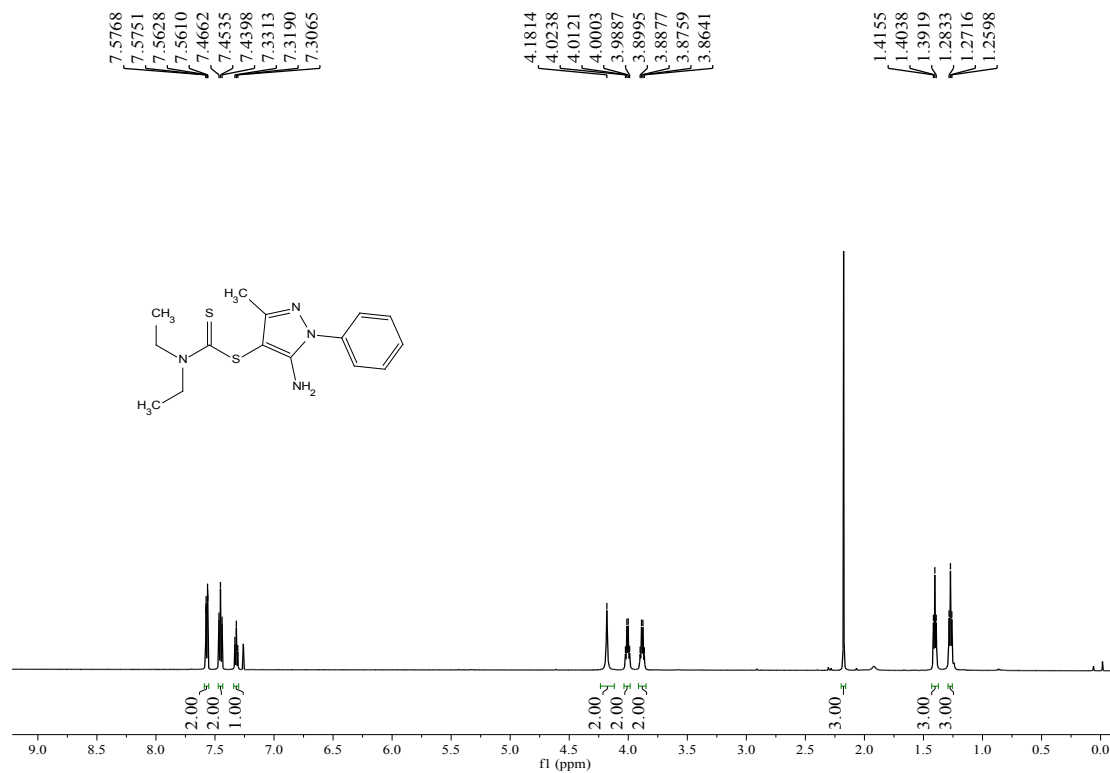


5-amino-1-methyl-3-phenyl-1H-pyrazol-4-yl dimethylcarbamodithioate(9)

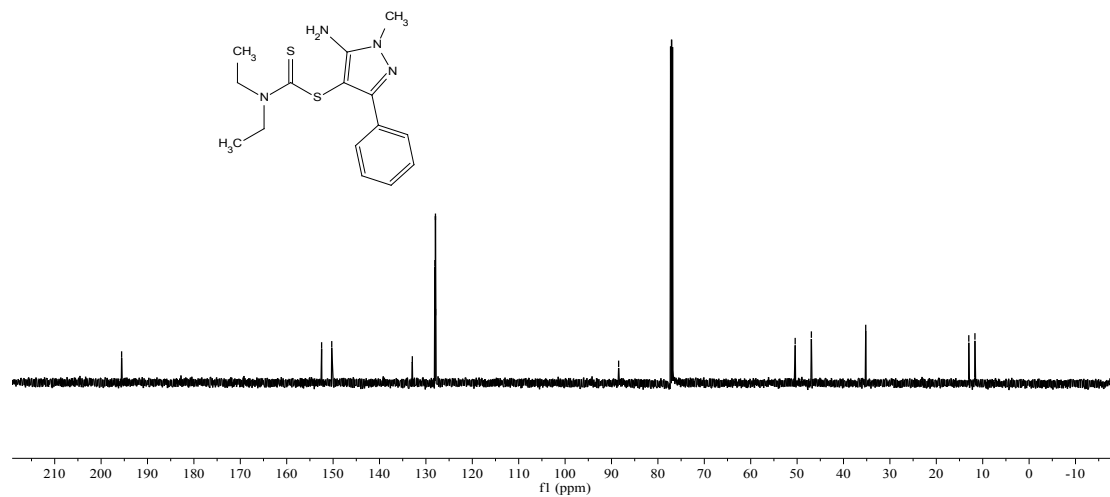
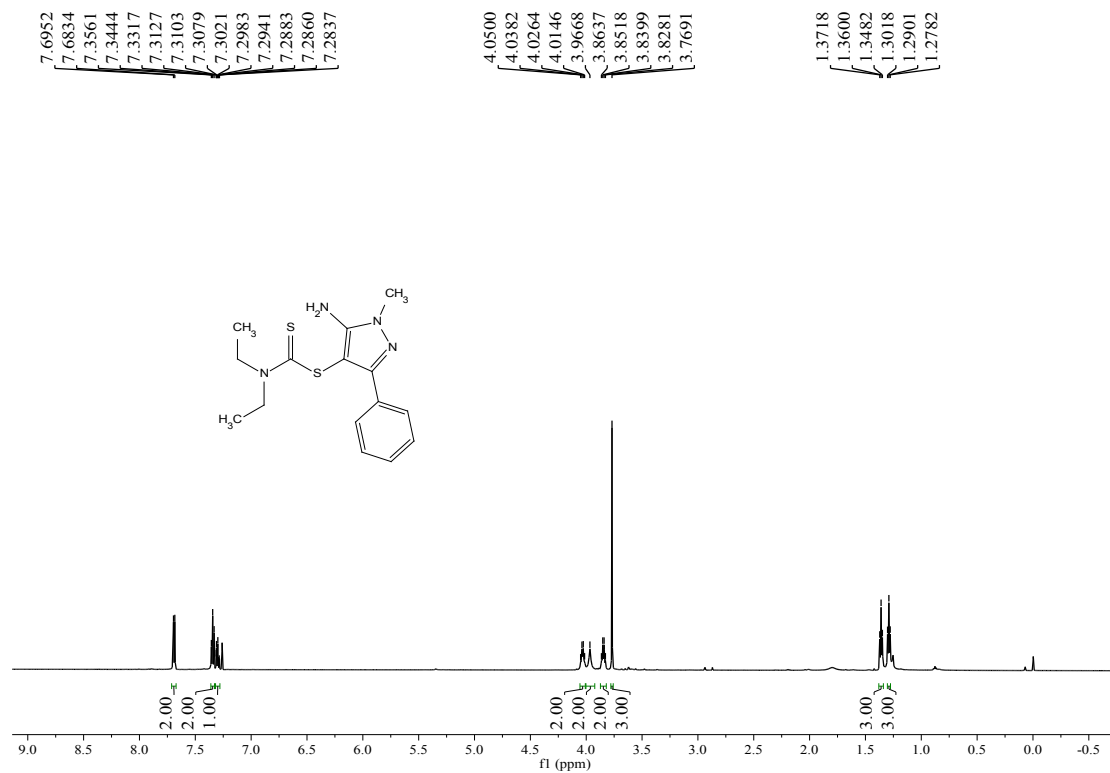




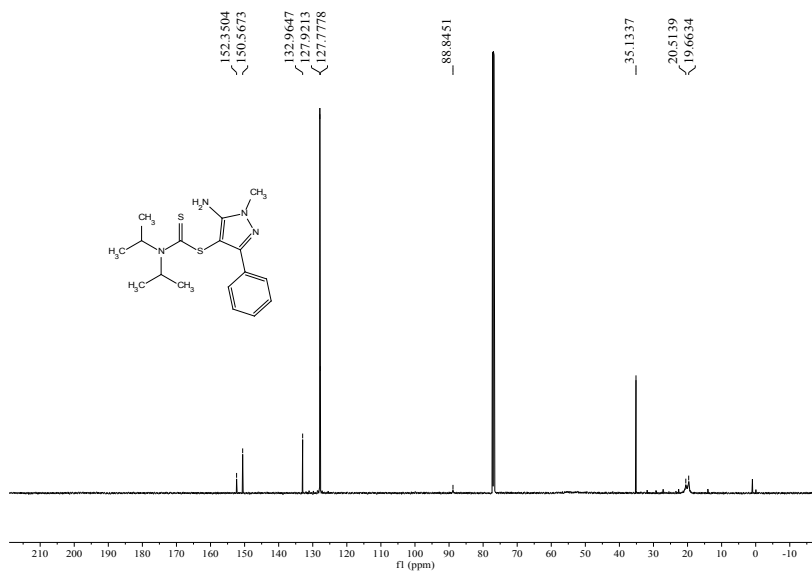
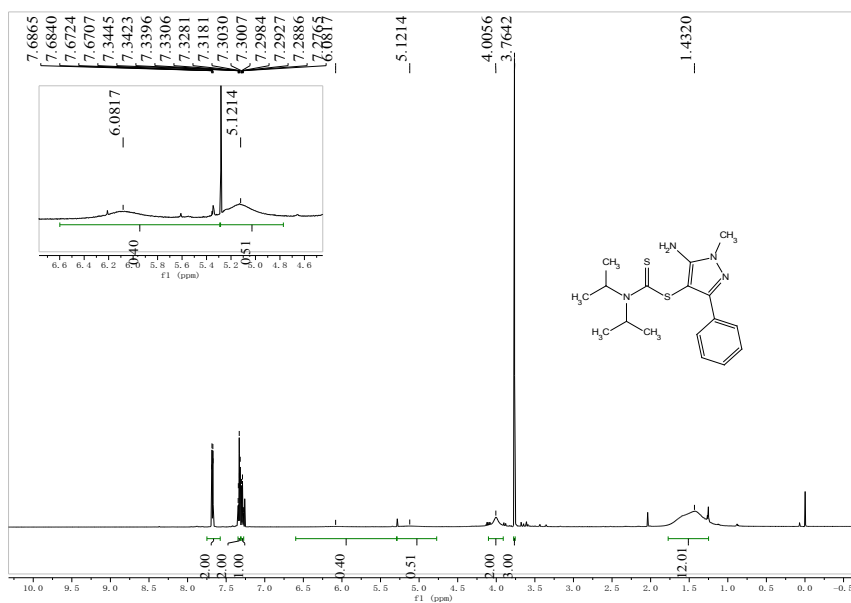
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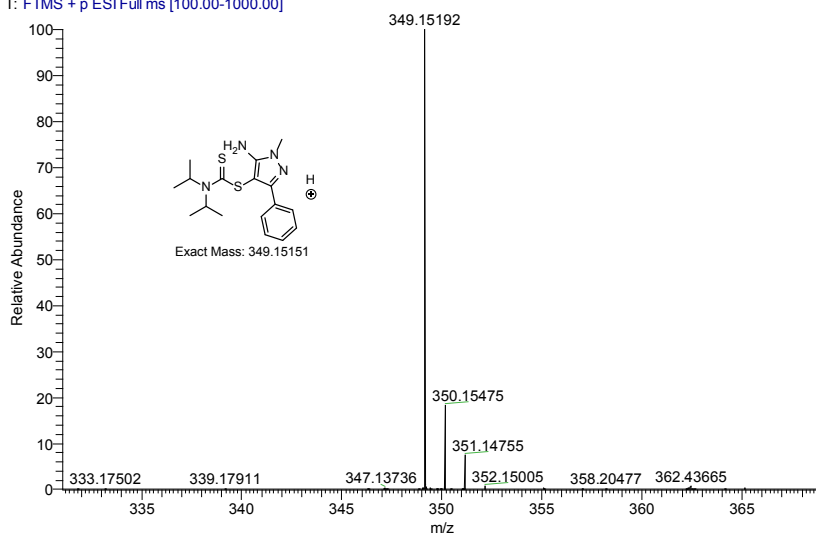
5-amino-1-methyl-3-phenyl-1H-pyrazol-4-yl diethylcarbamodithioate(11)



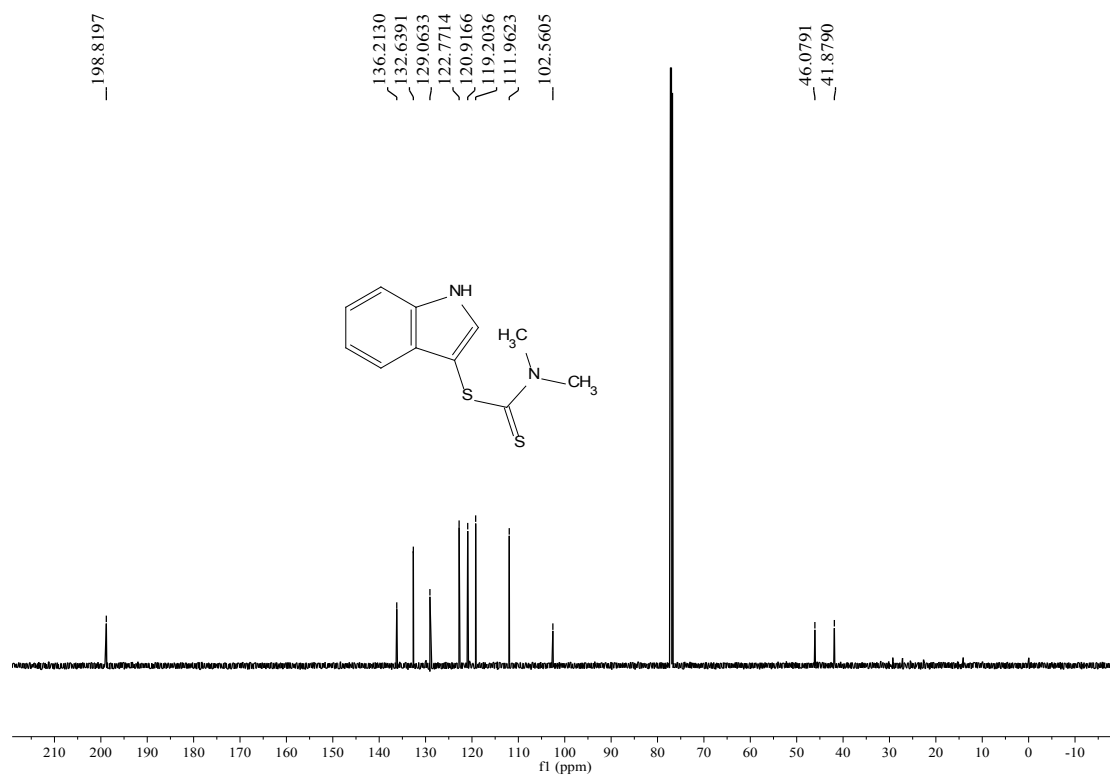
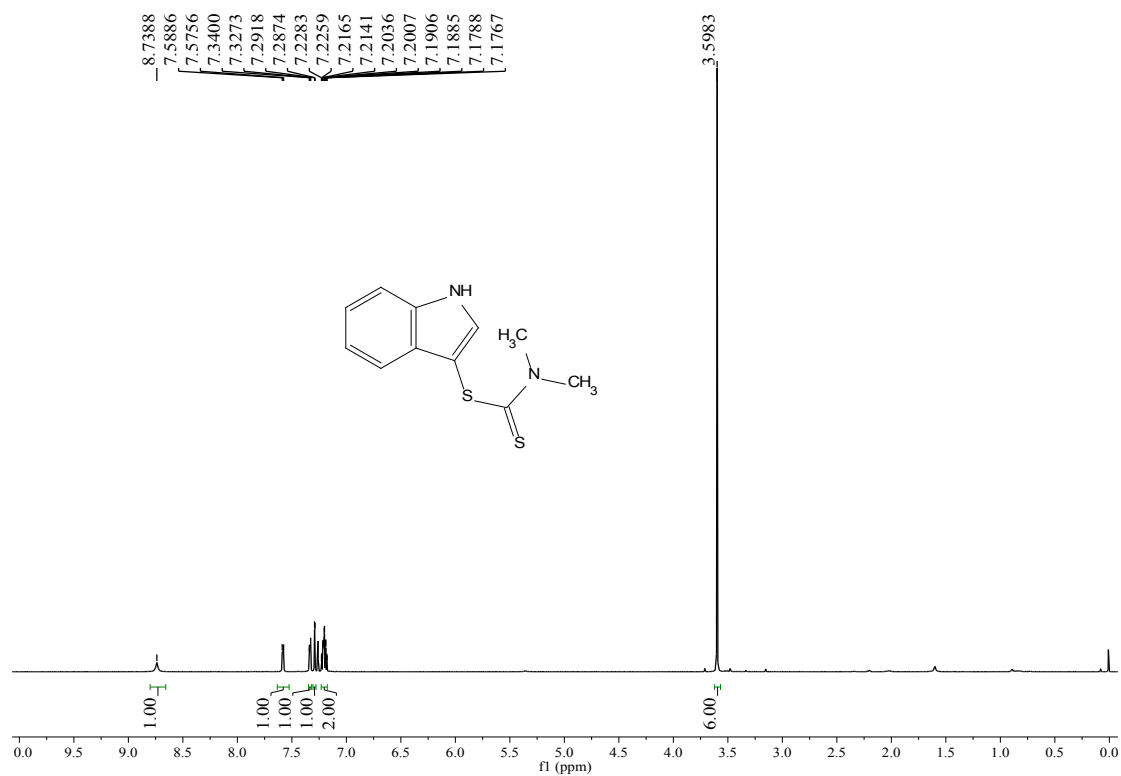
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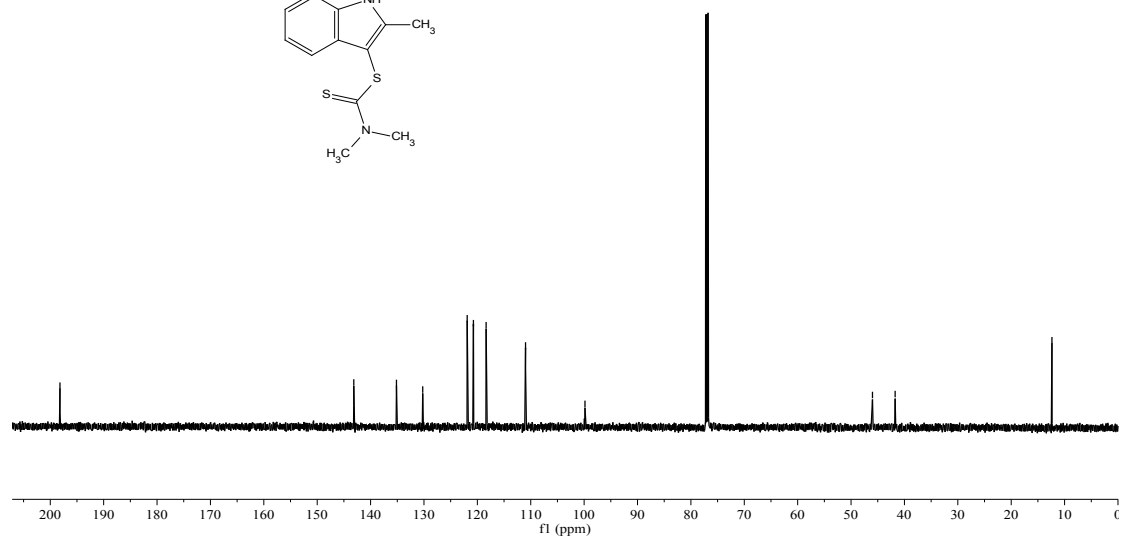
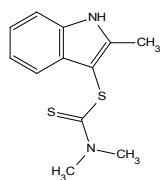
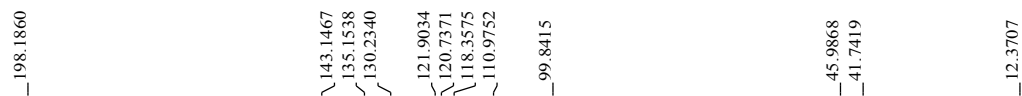
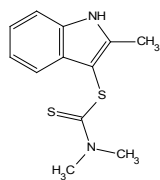
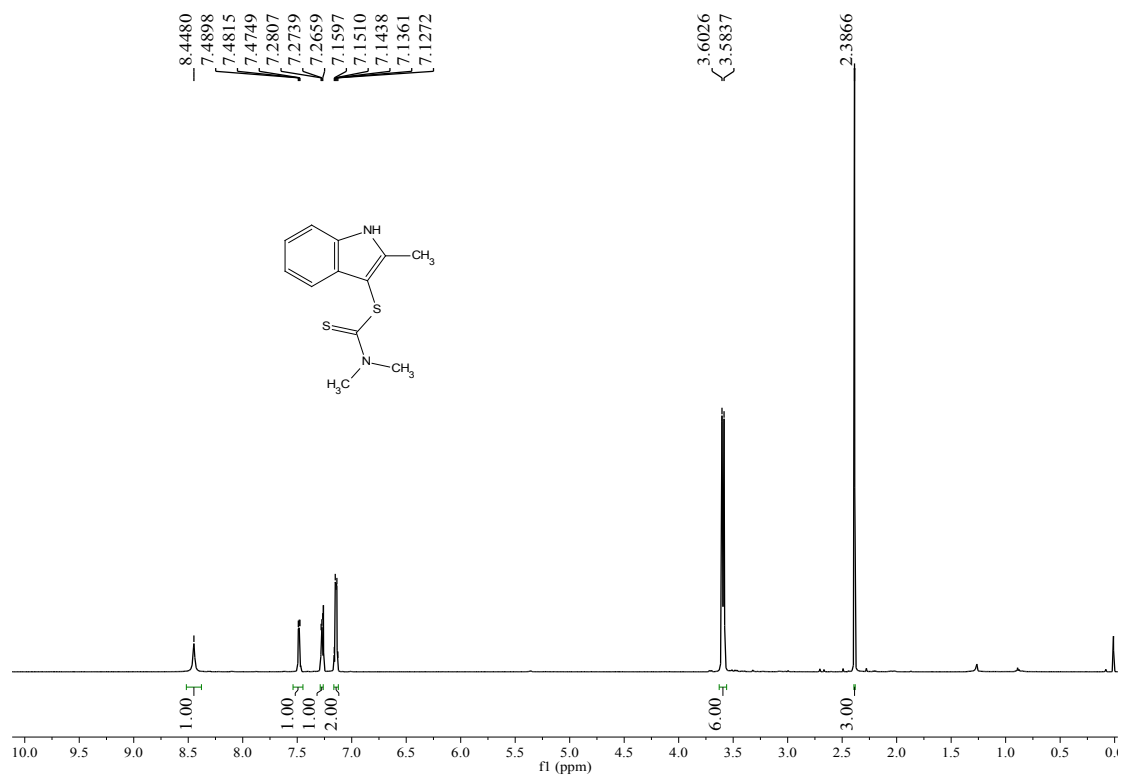
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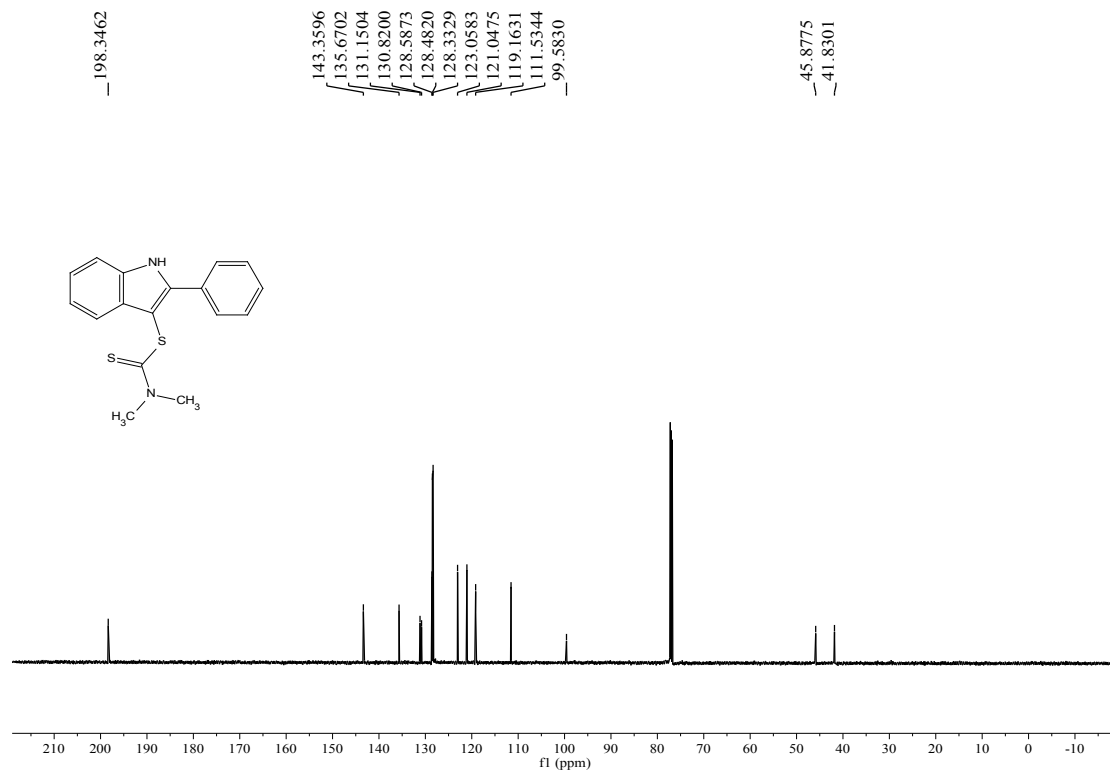
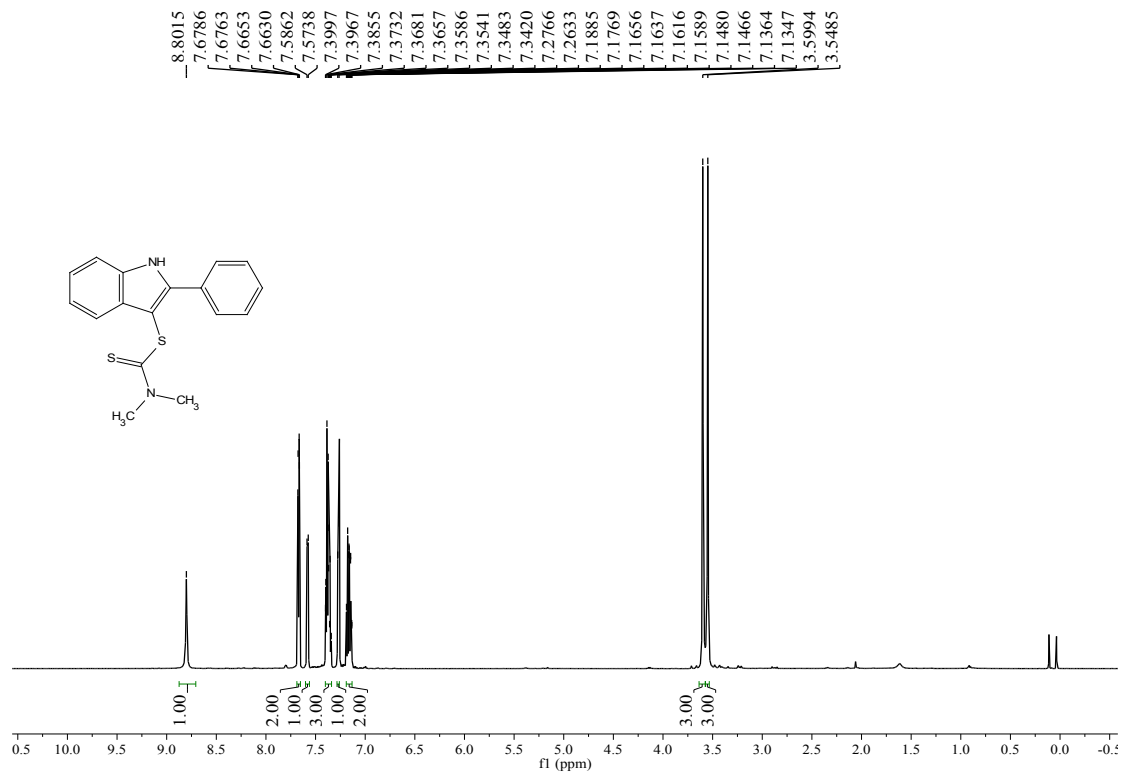
# 1H-indol-3-yl dimethylcarbamodithioate(13)



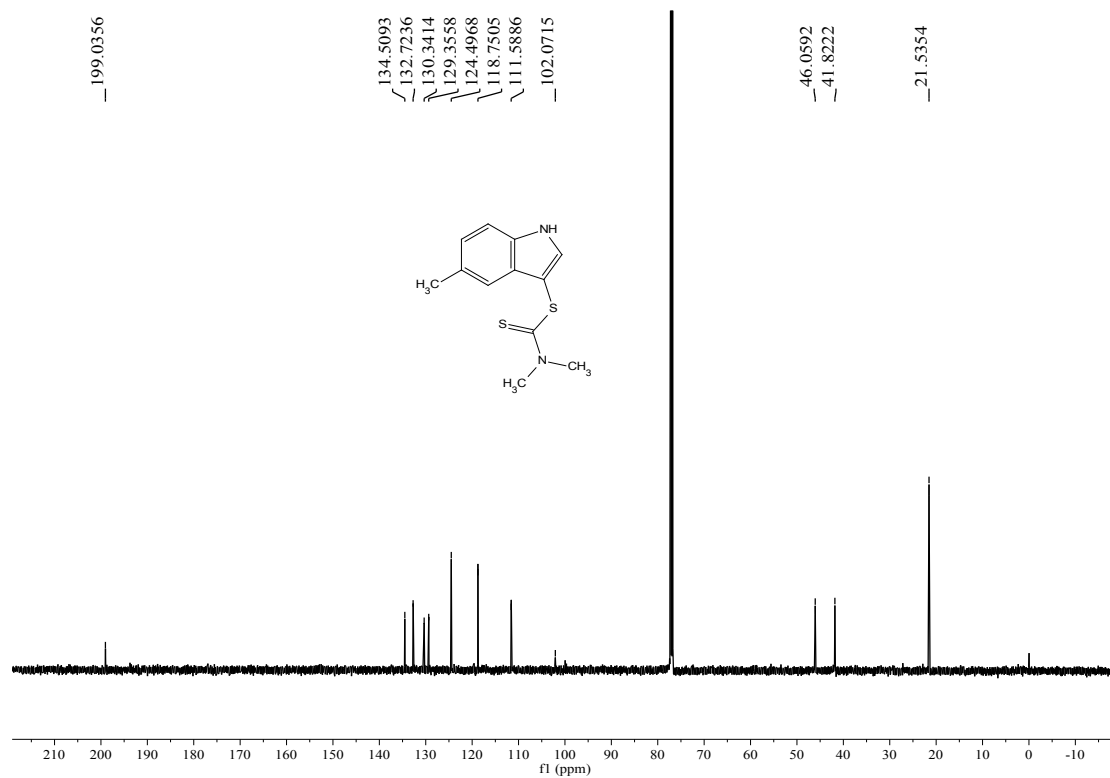
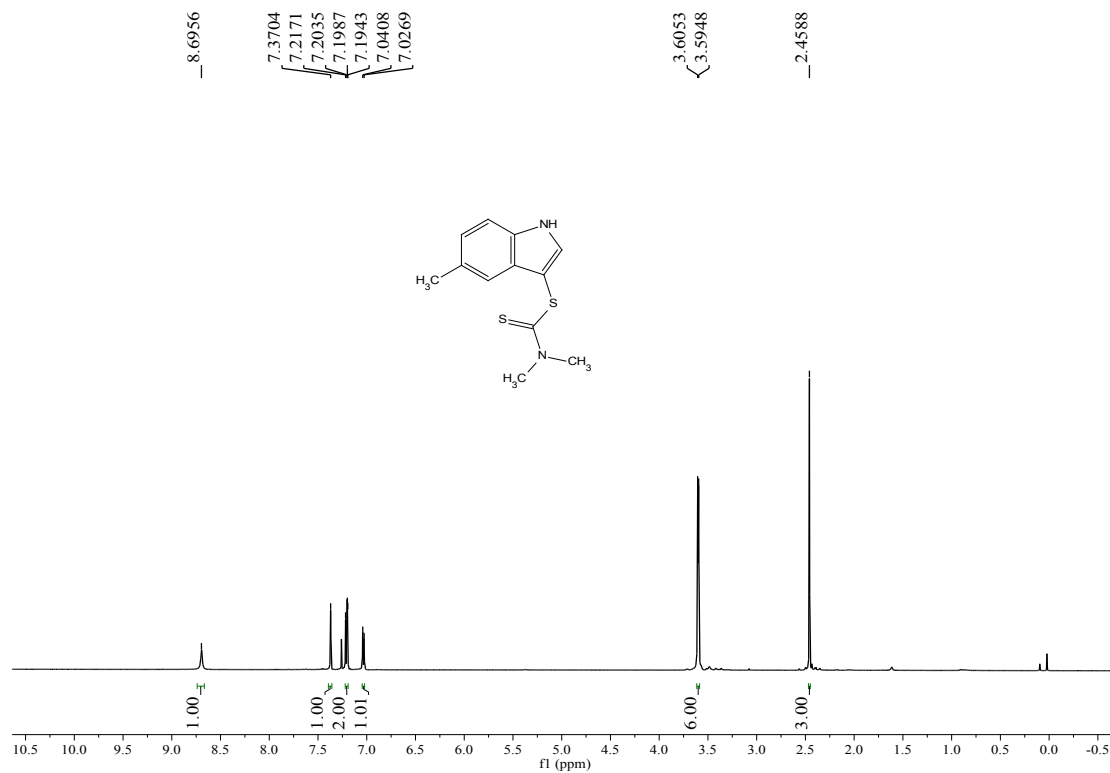
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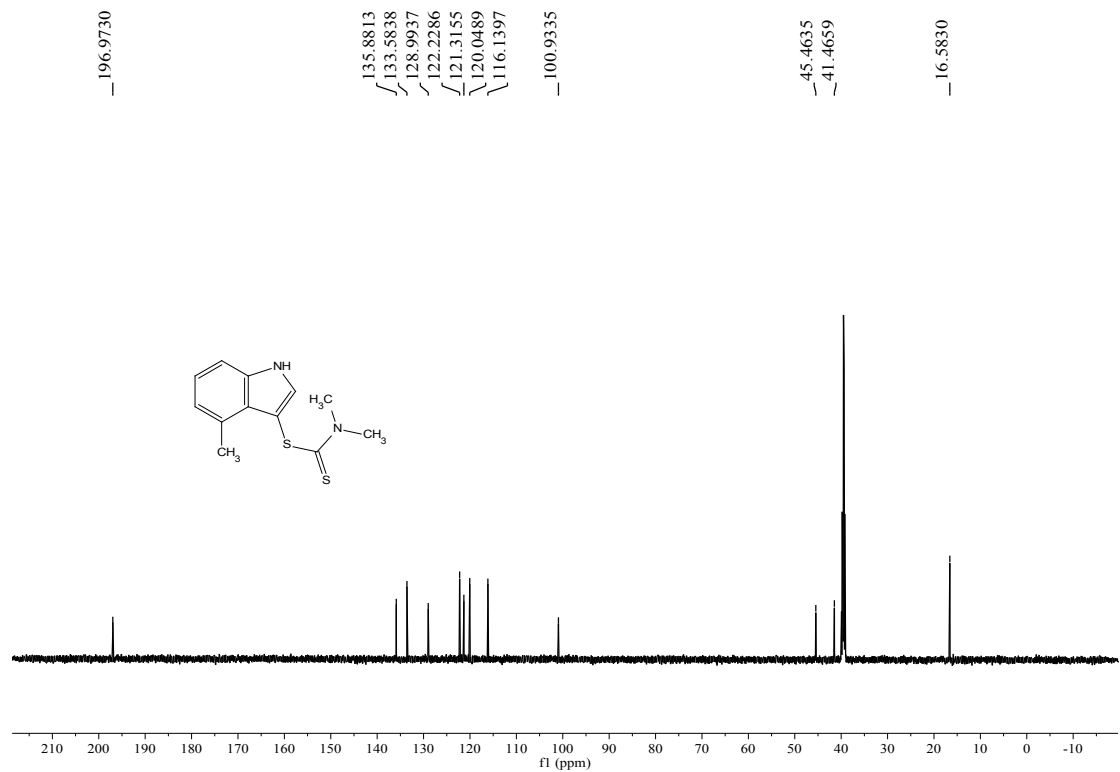
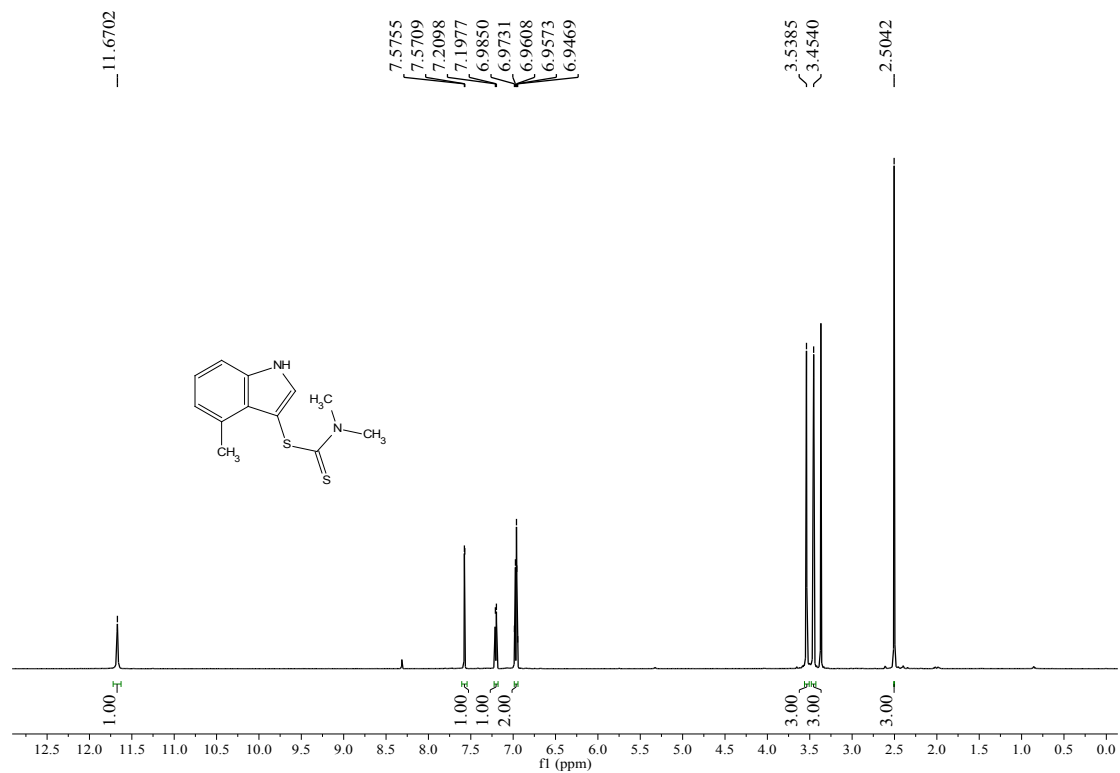
### 2-phenyl-1H-indol-3-yl dimethylcarbamodithioate(15)



# 5-methyl-1H-indol-3-yl dimethylcarbamodithioate(16)

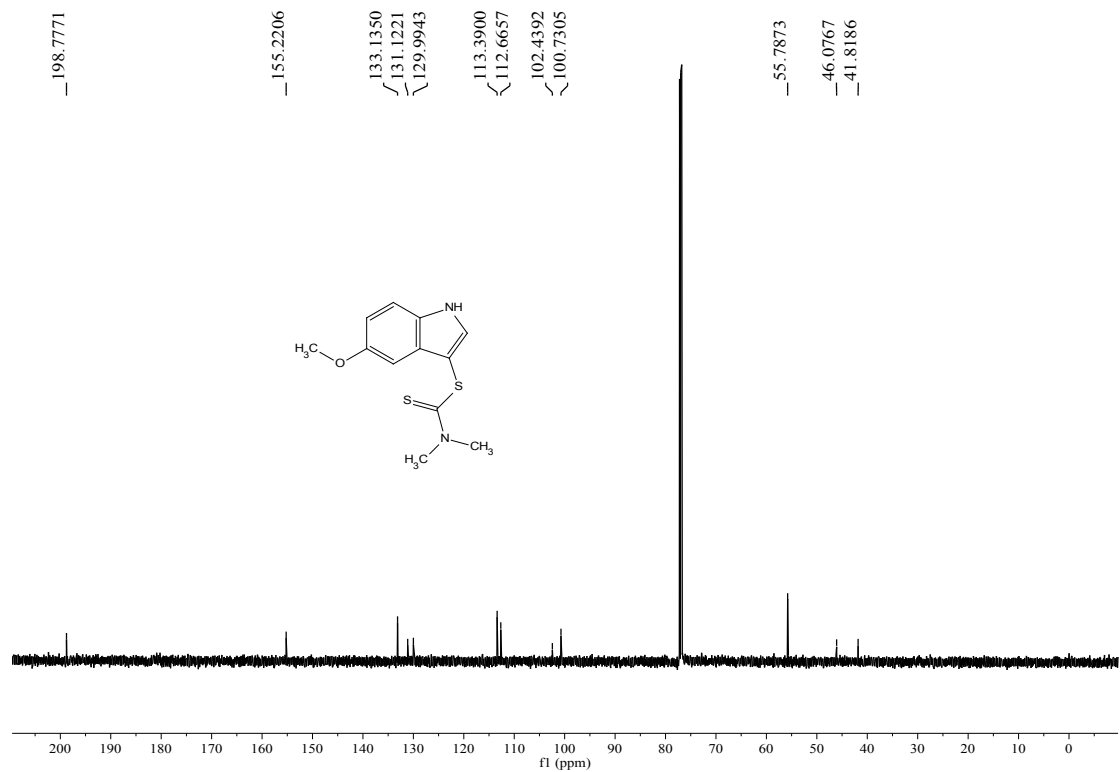
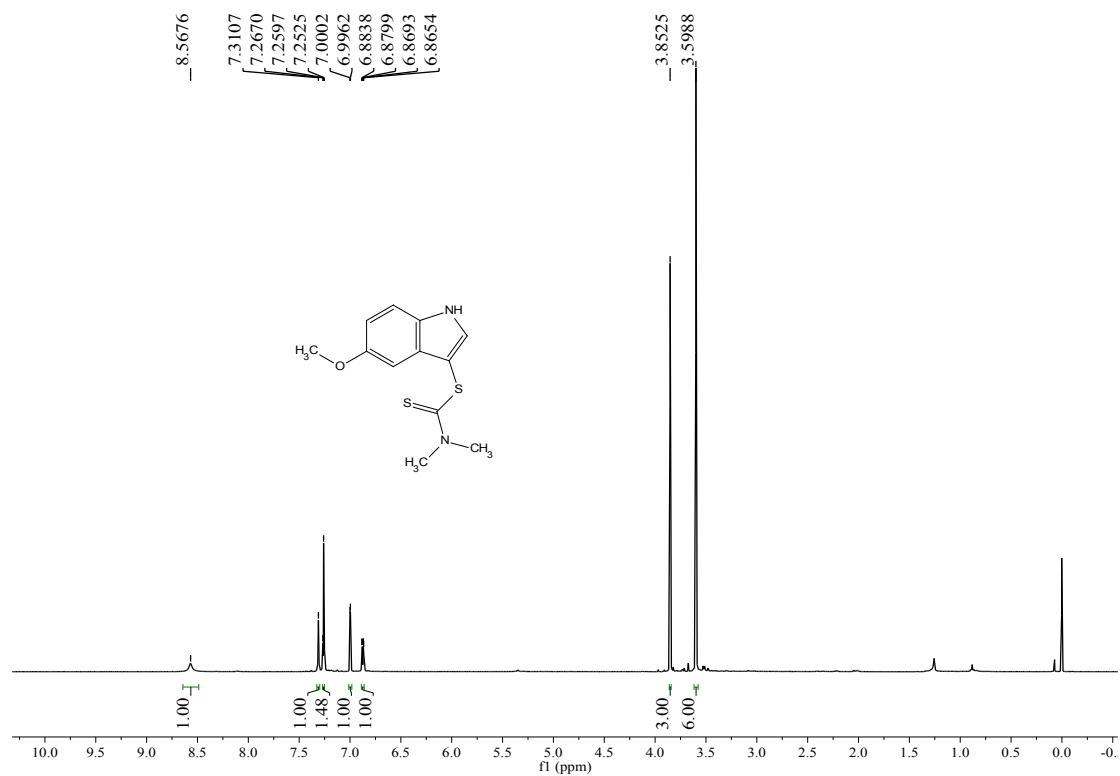


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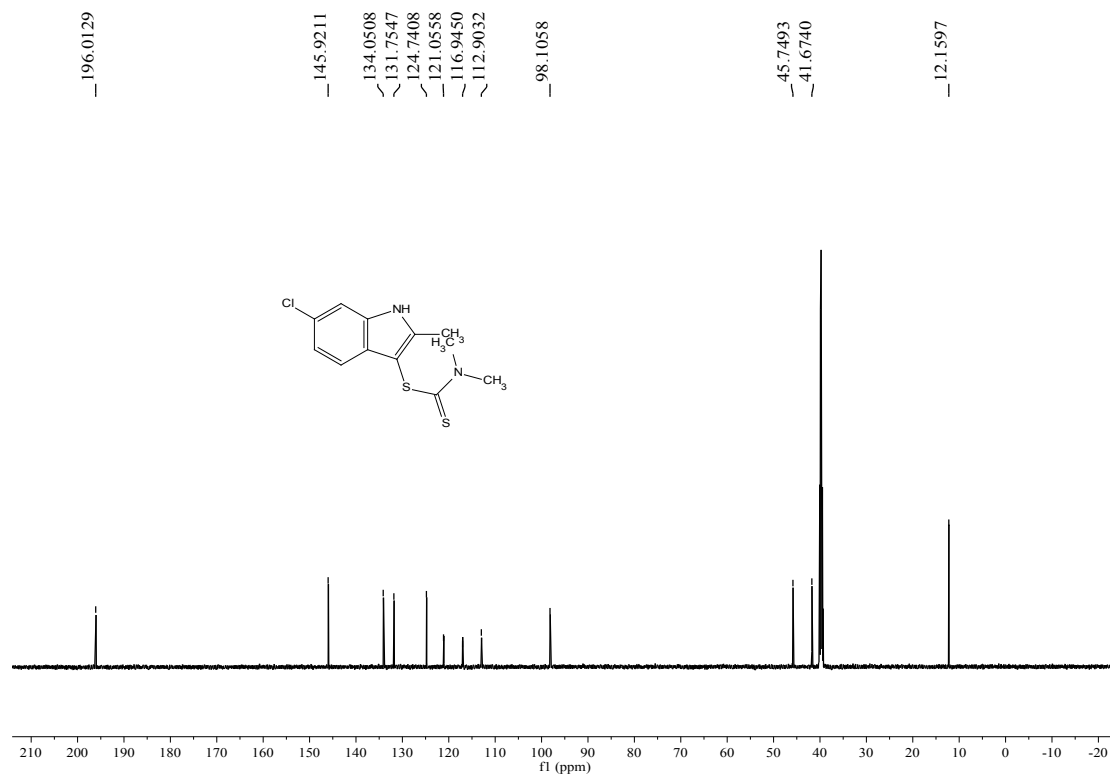
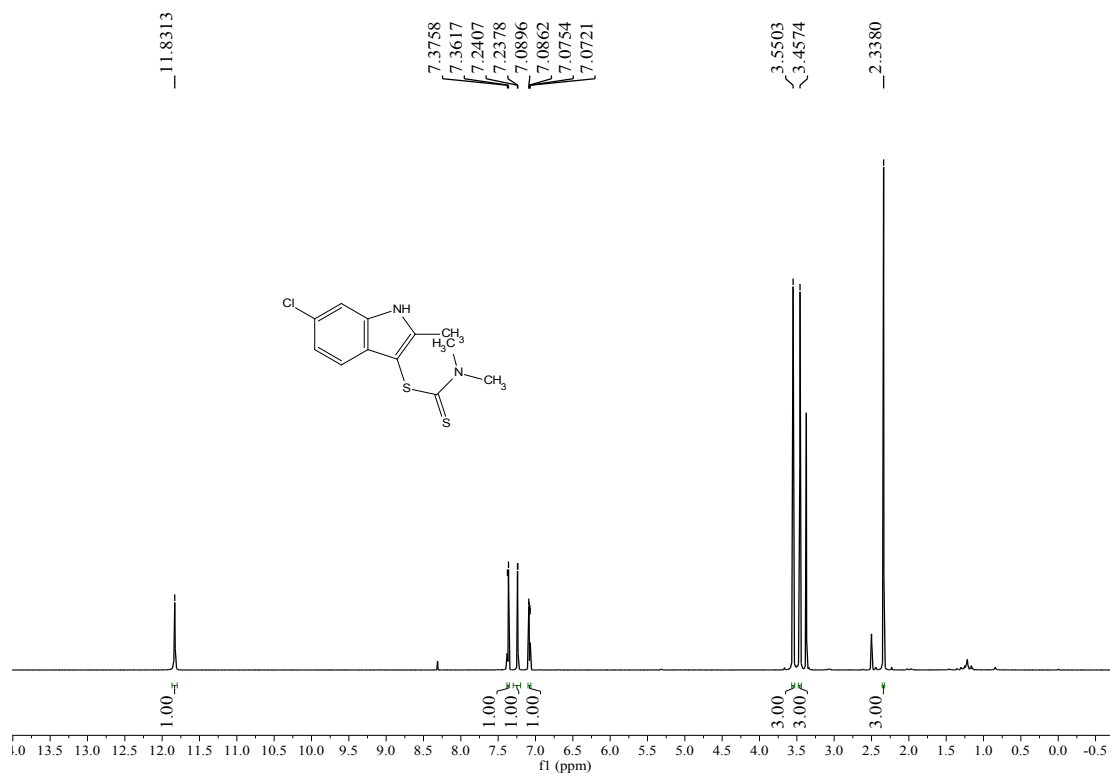




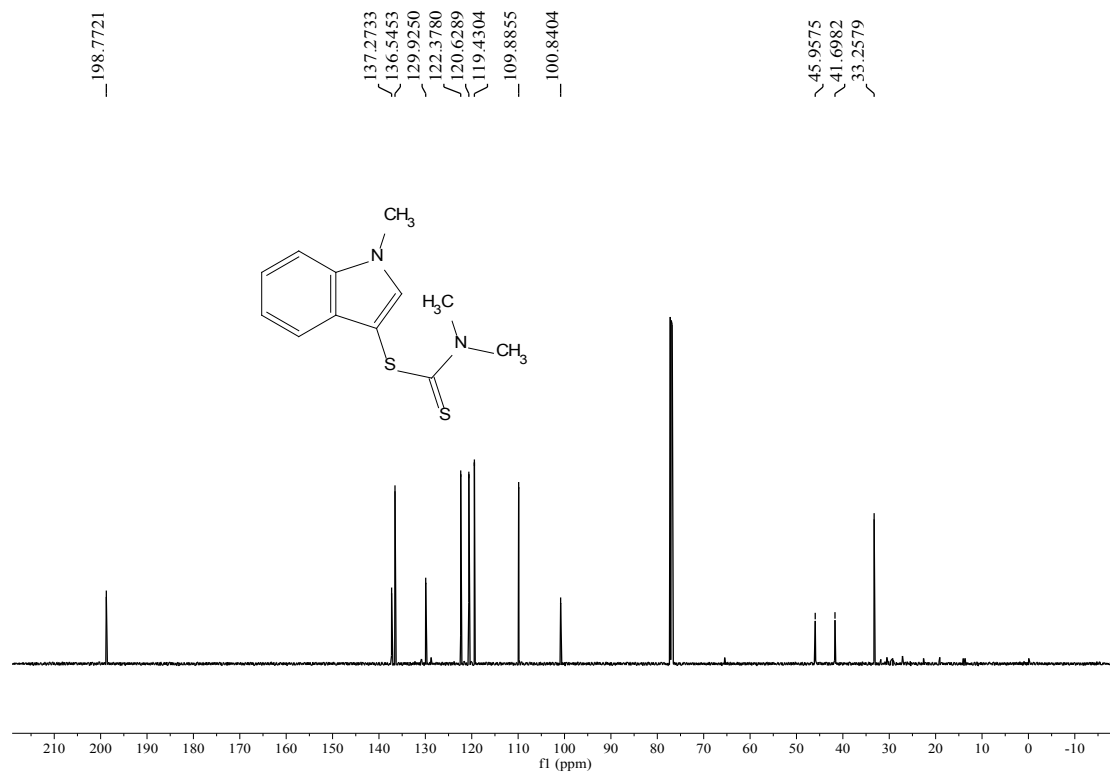
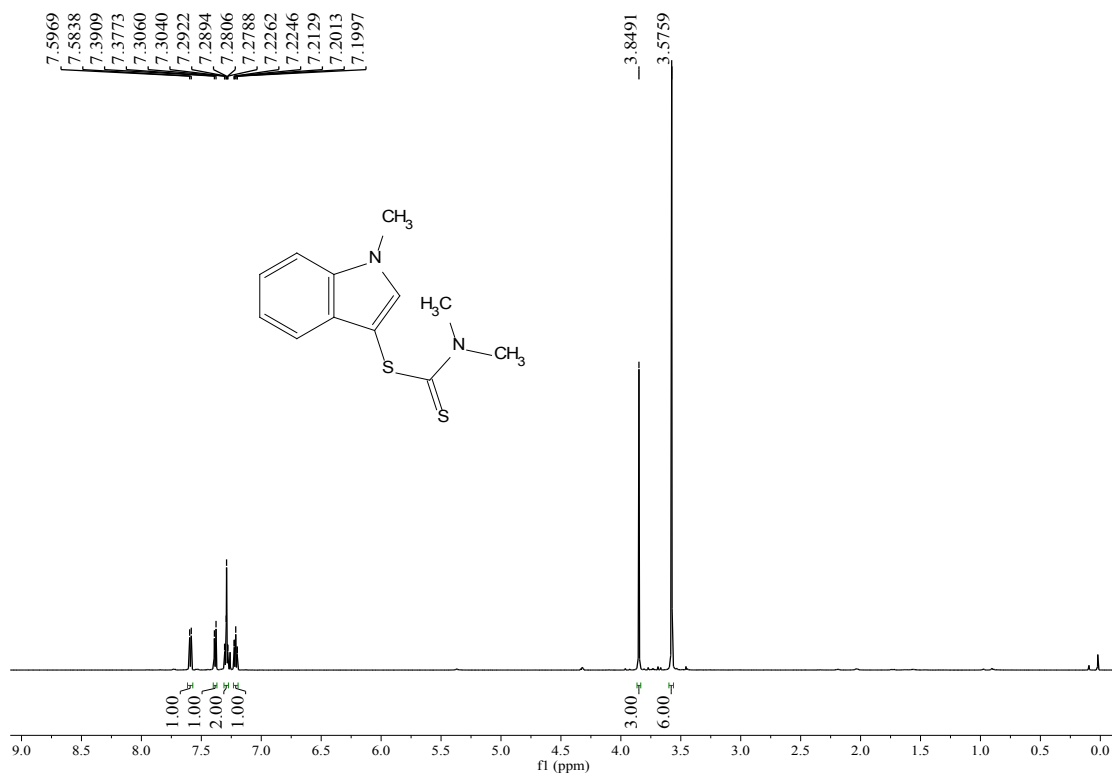
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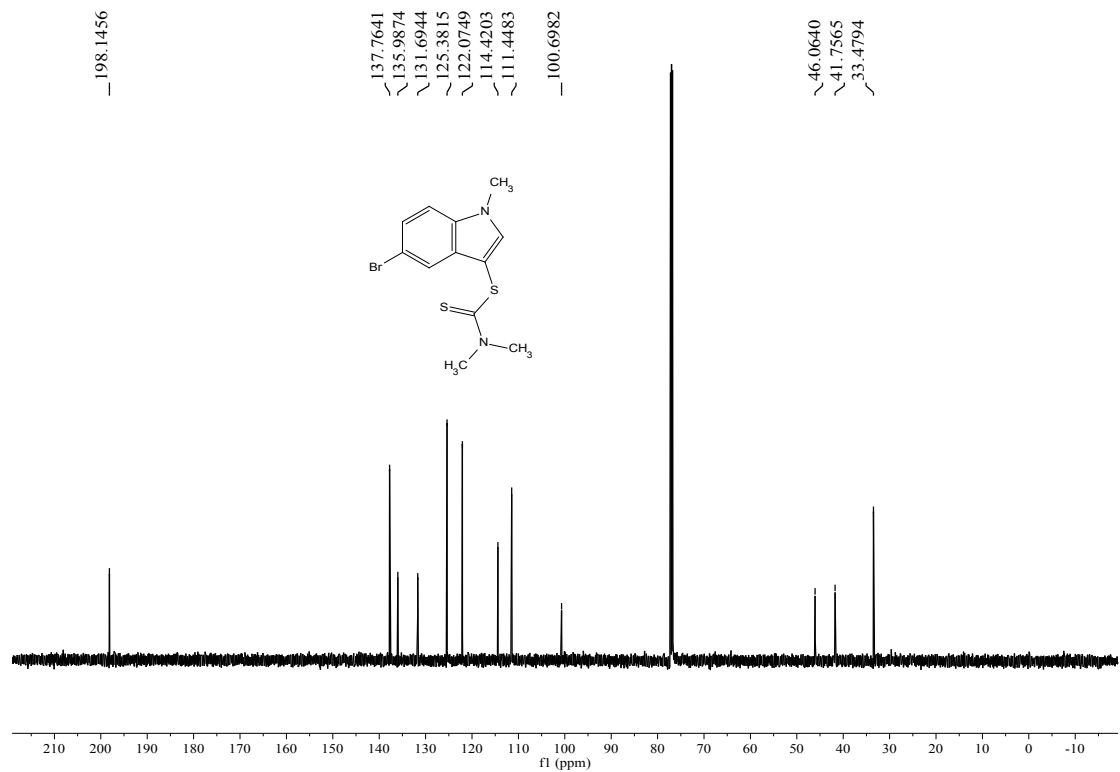
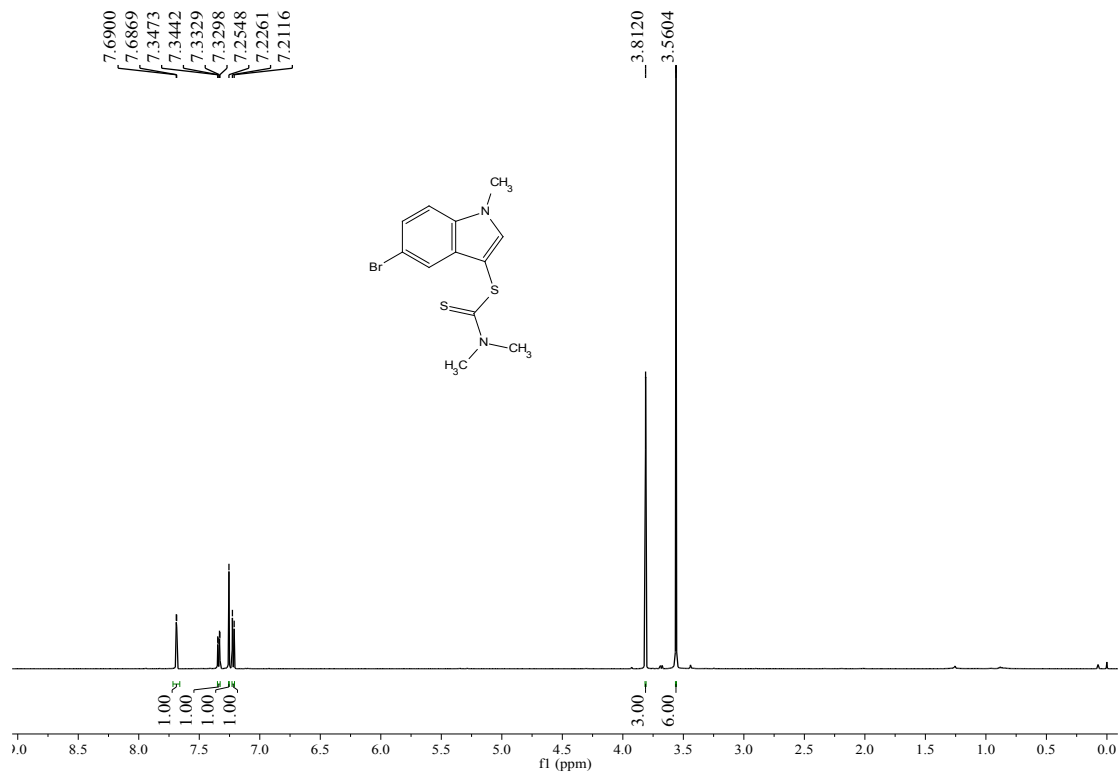
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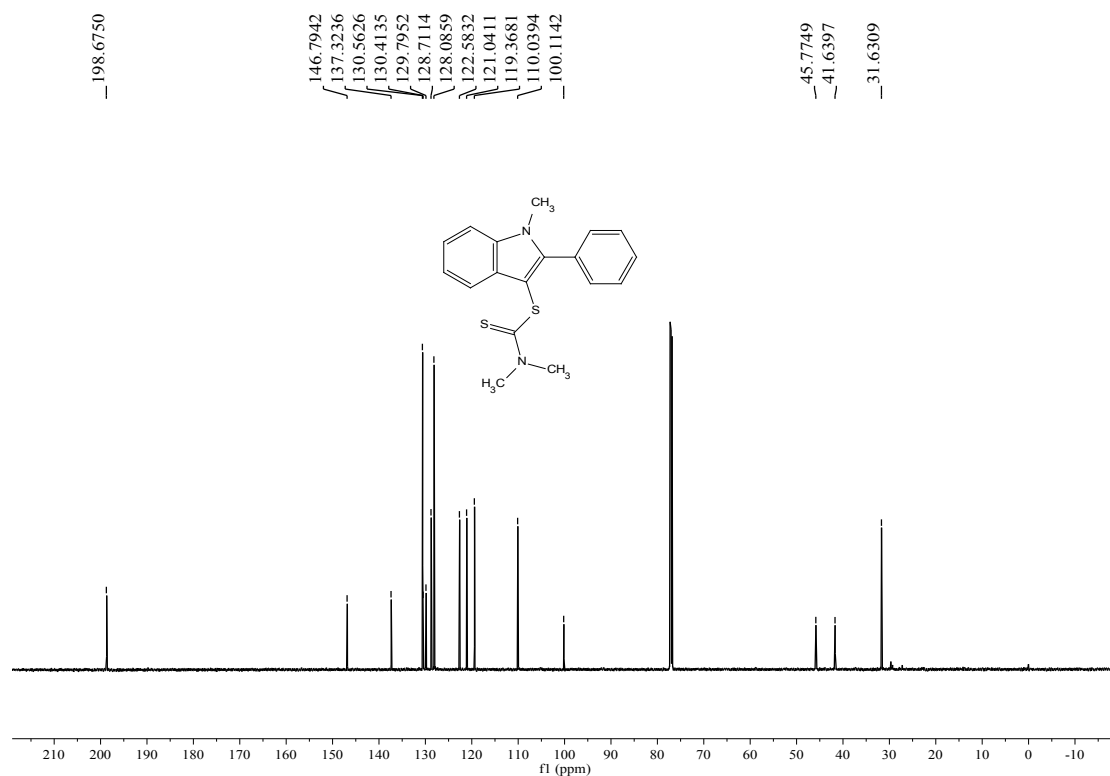
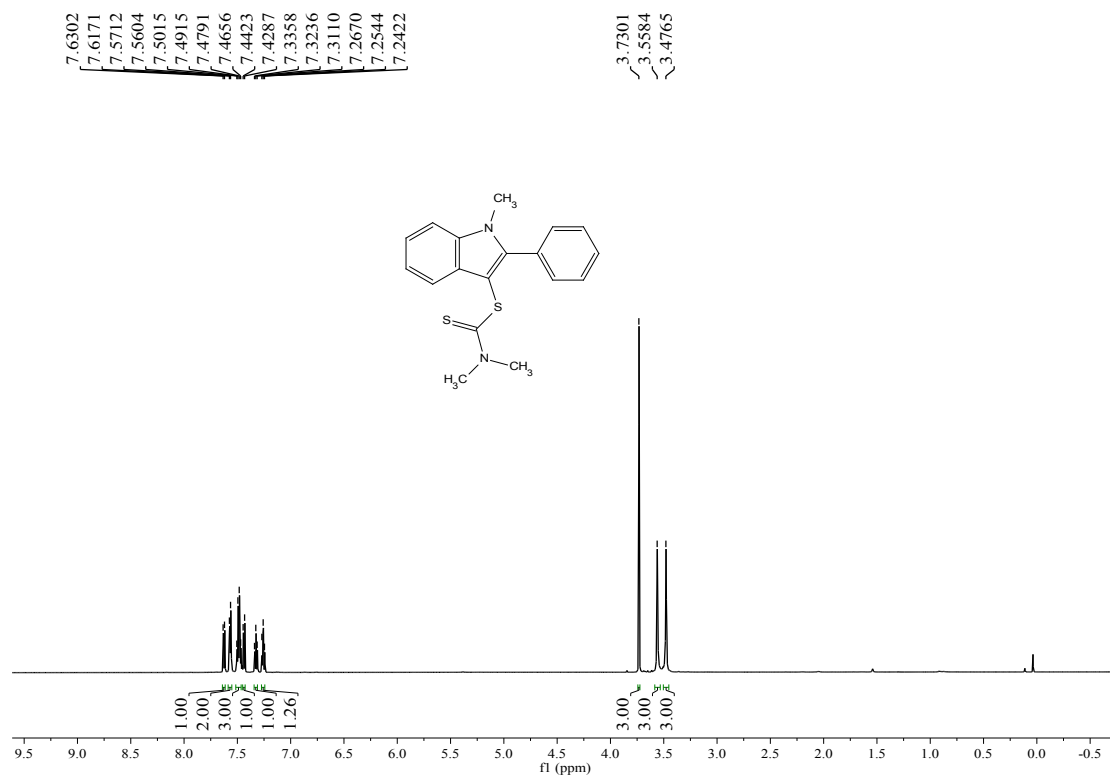
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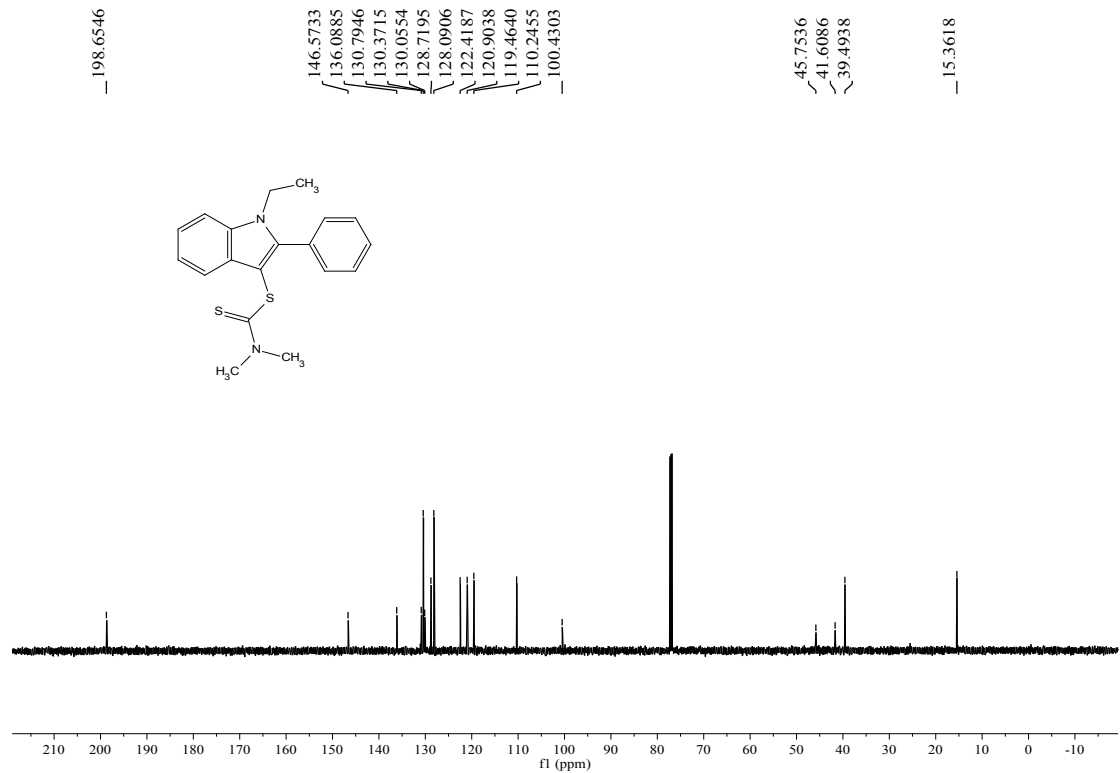
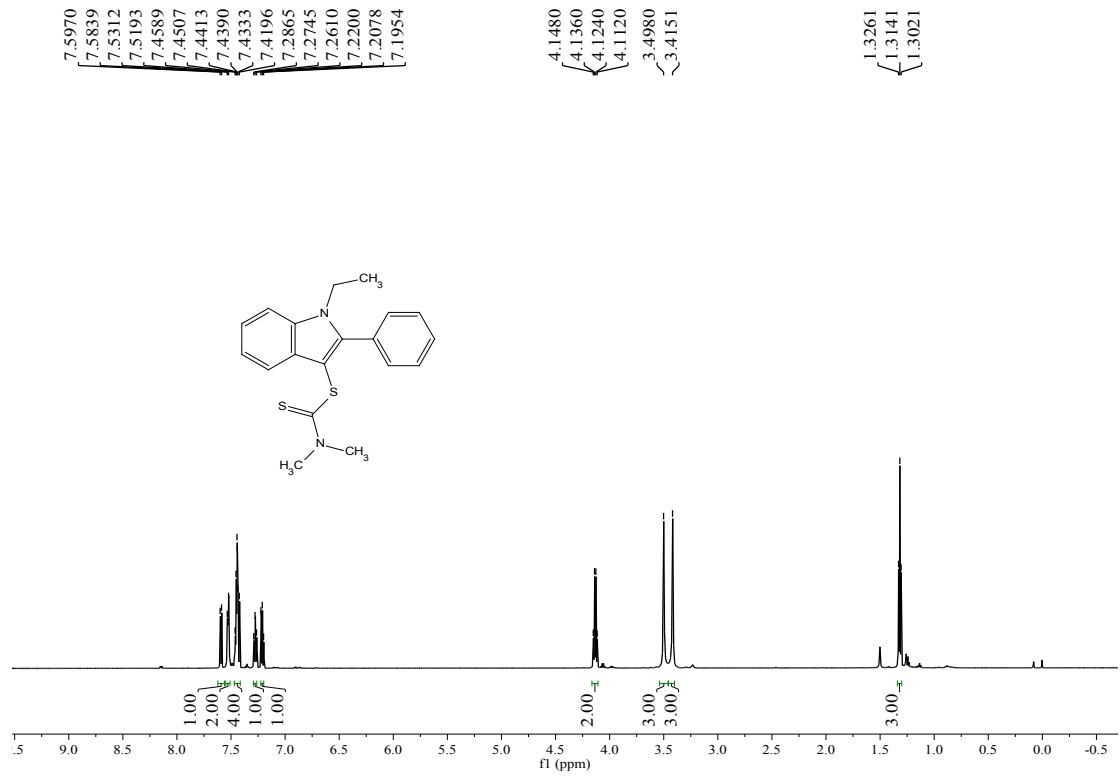
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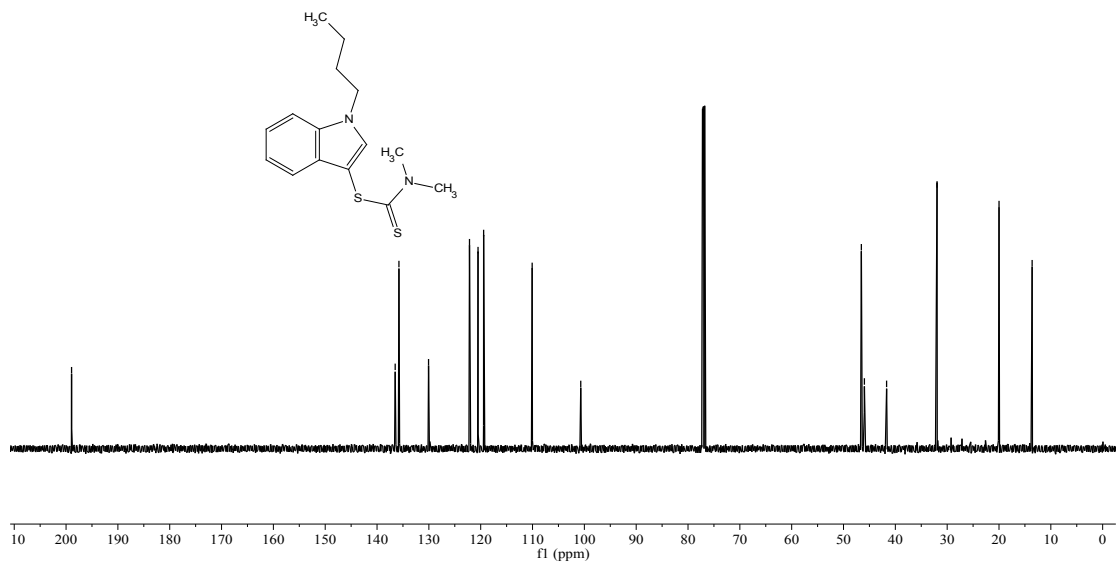
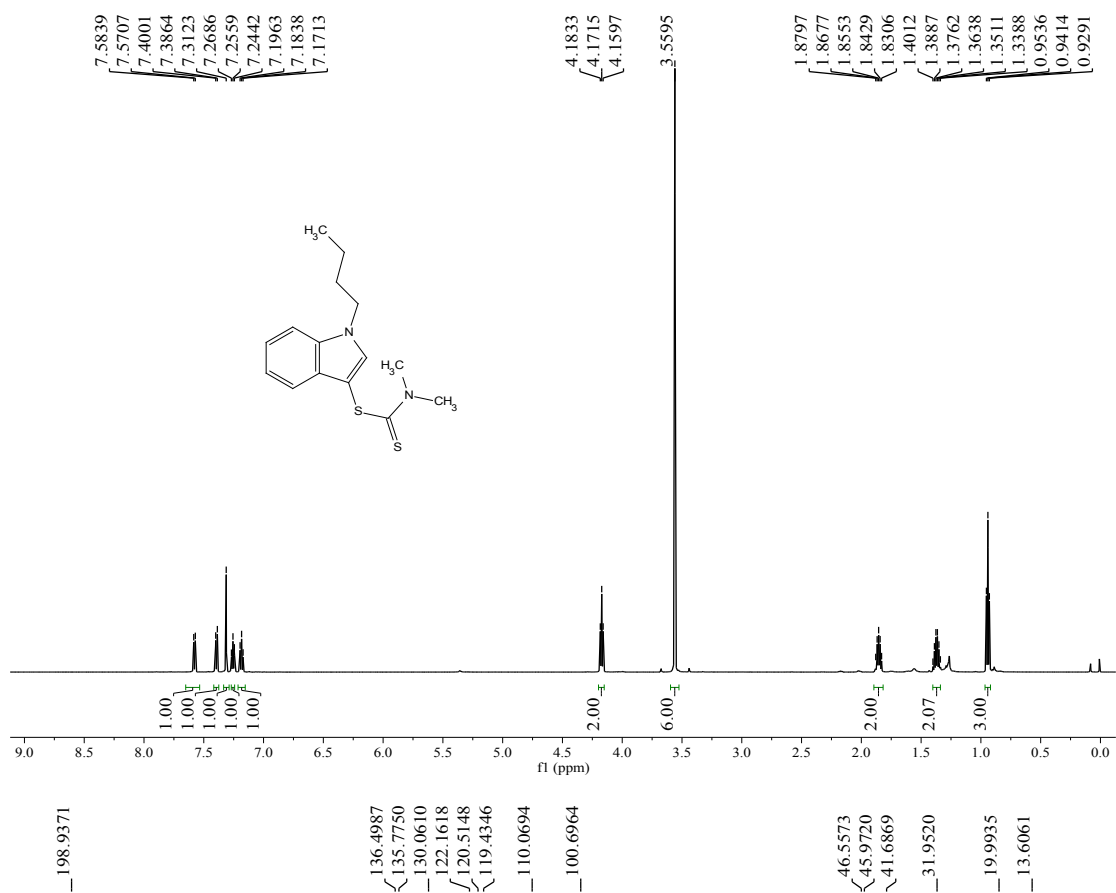
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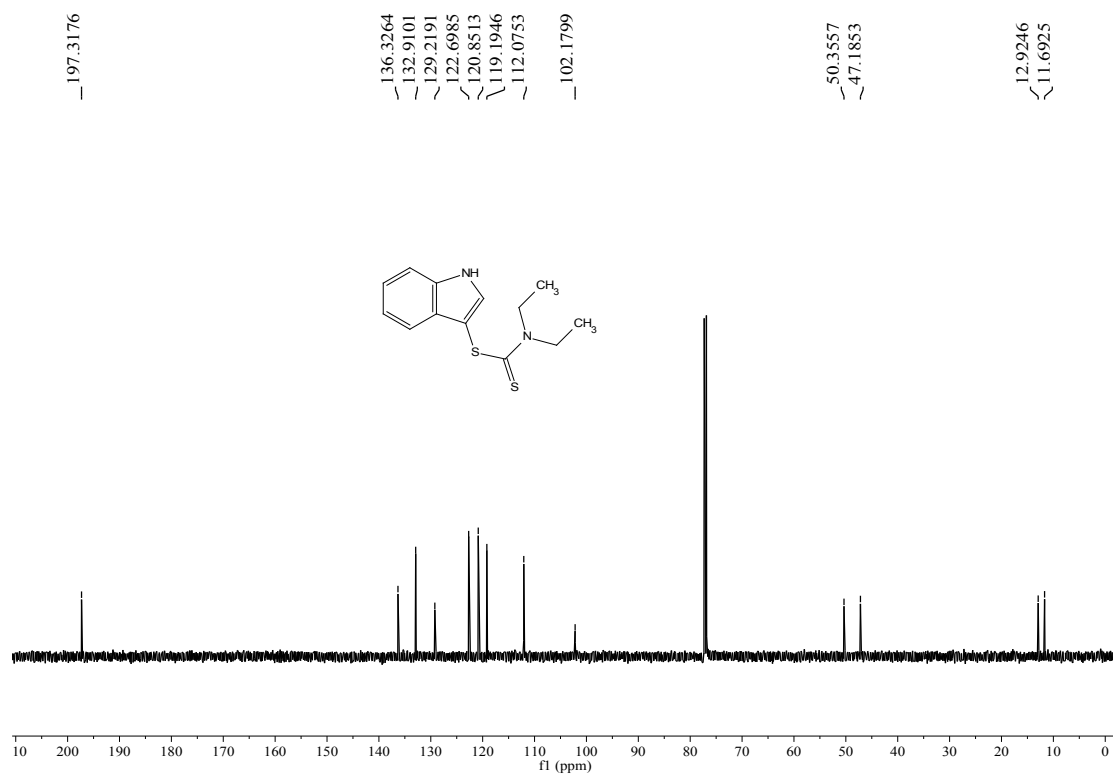
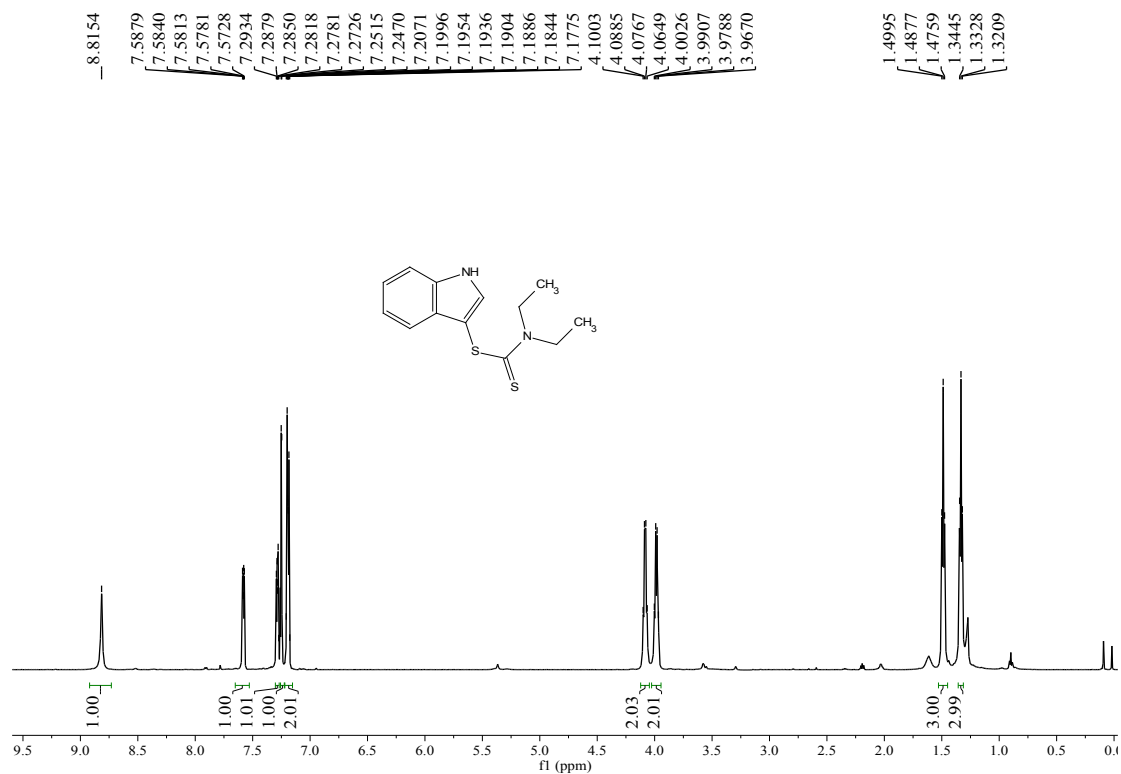
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1-butyl-1H-indol-3-yl dimethylcarbamodithioate(24)

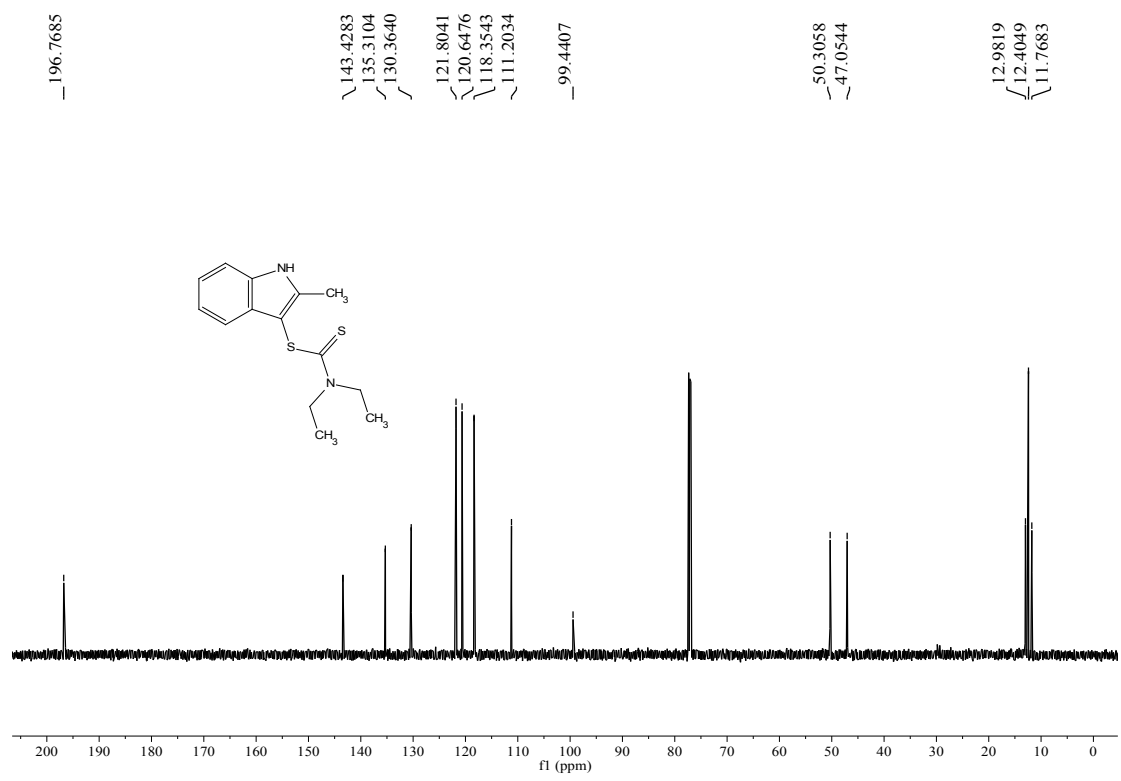
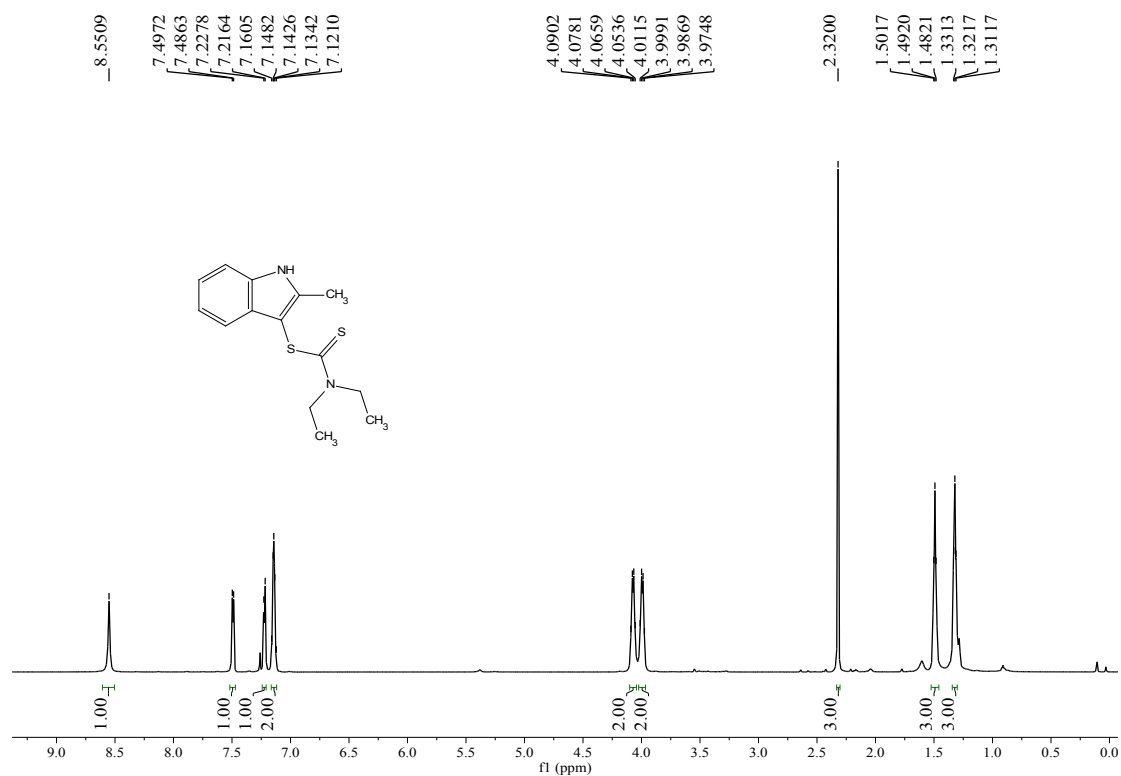


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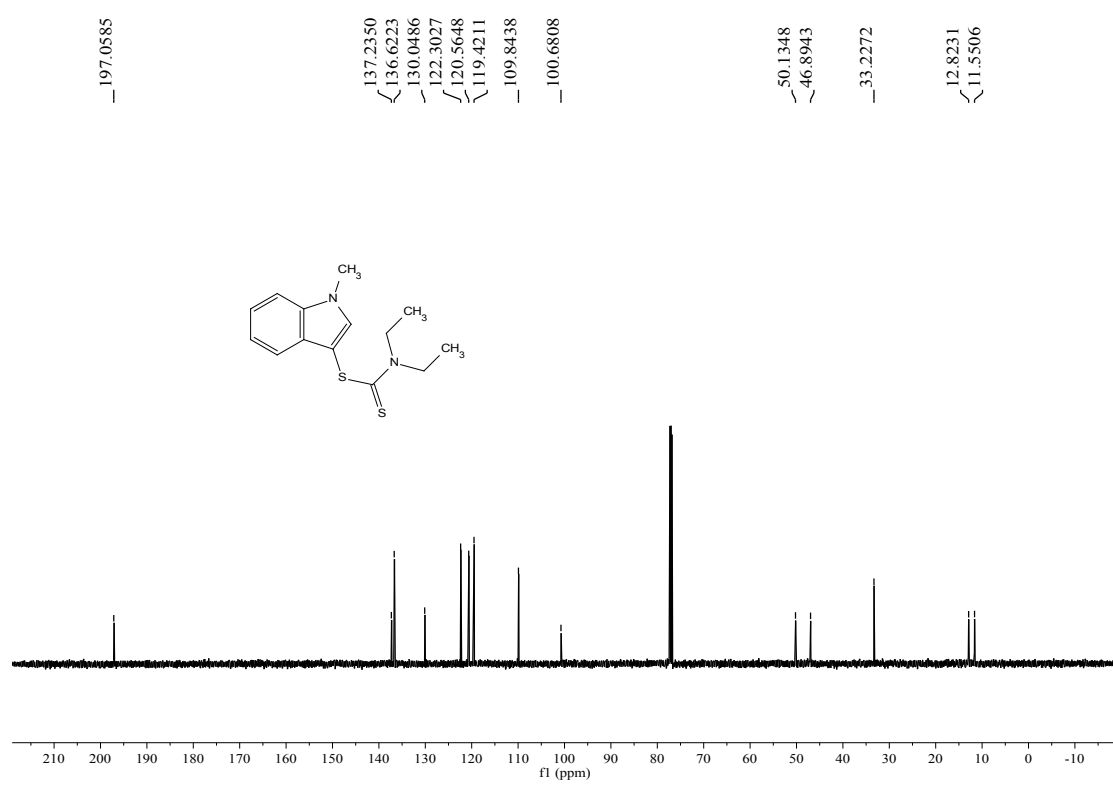
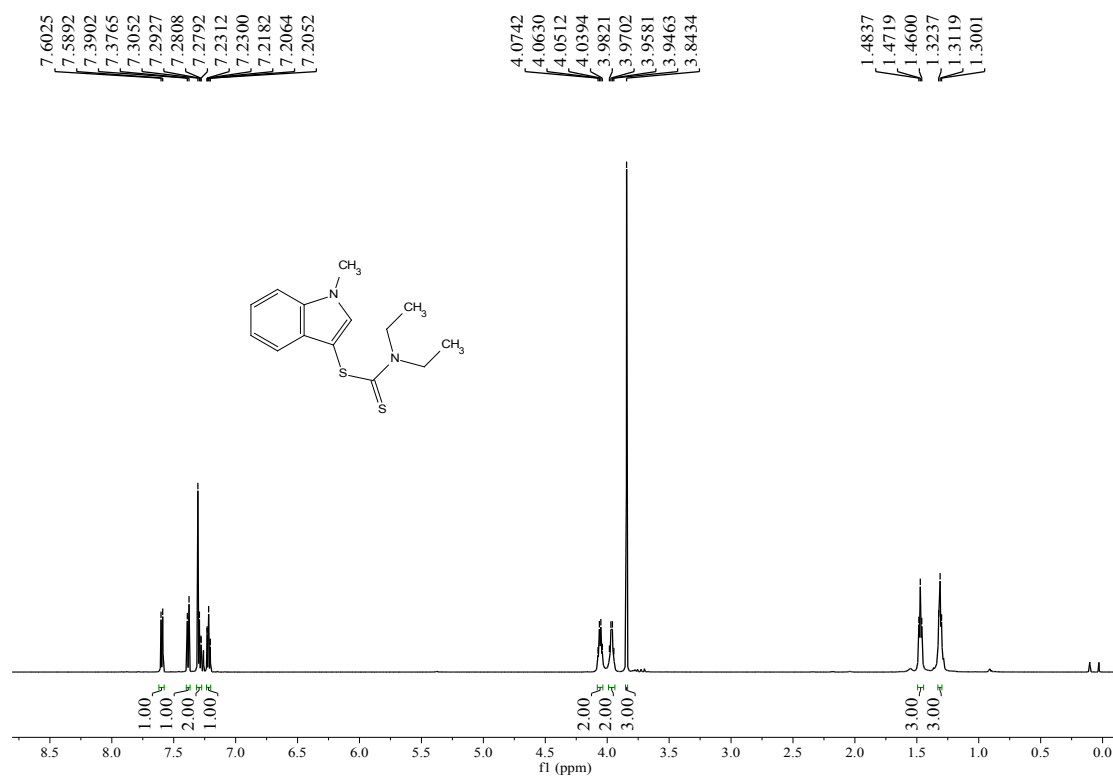




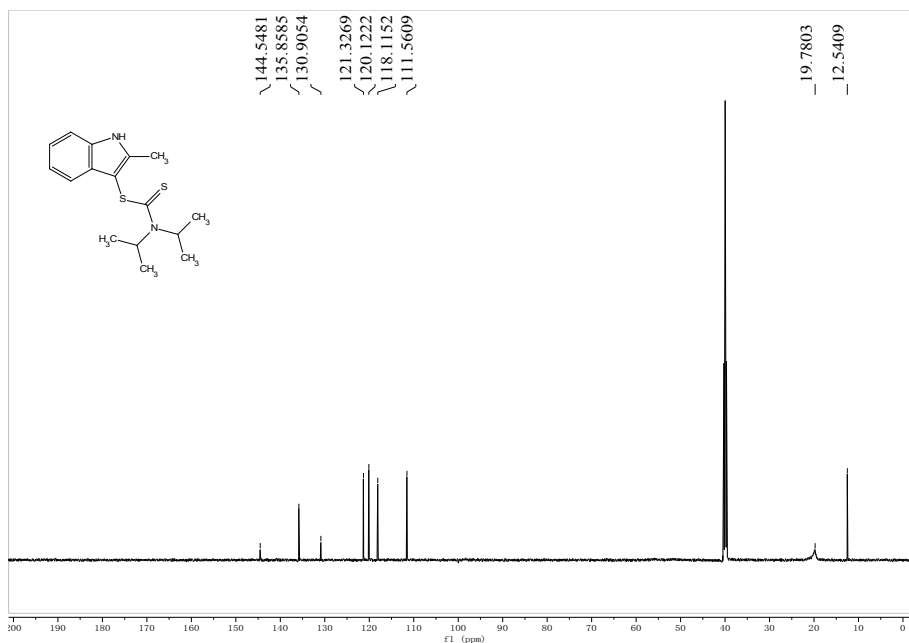
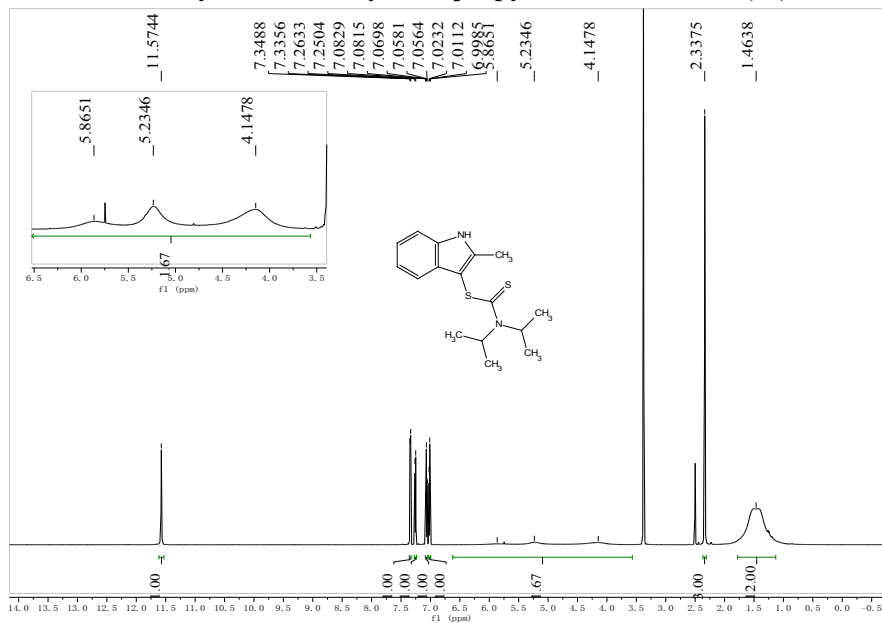
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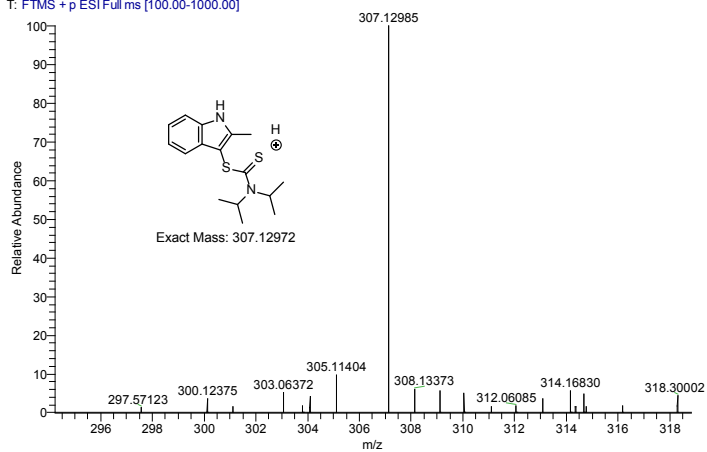
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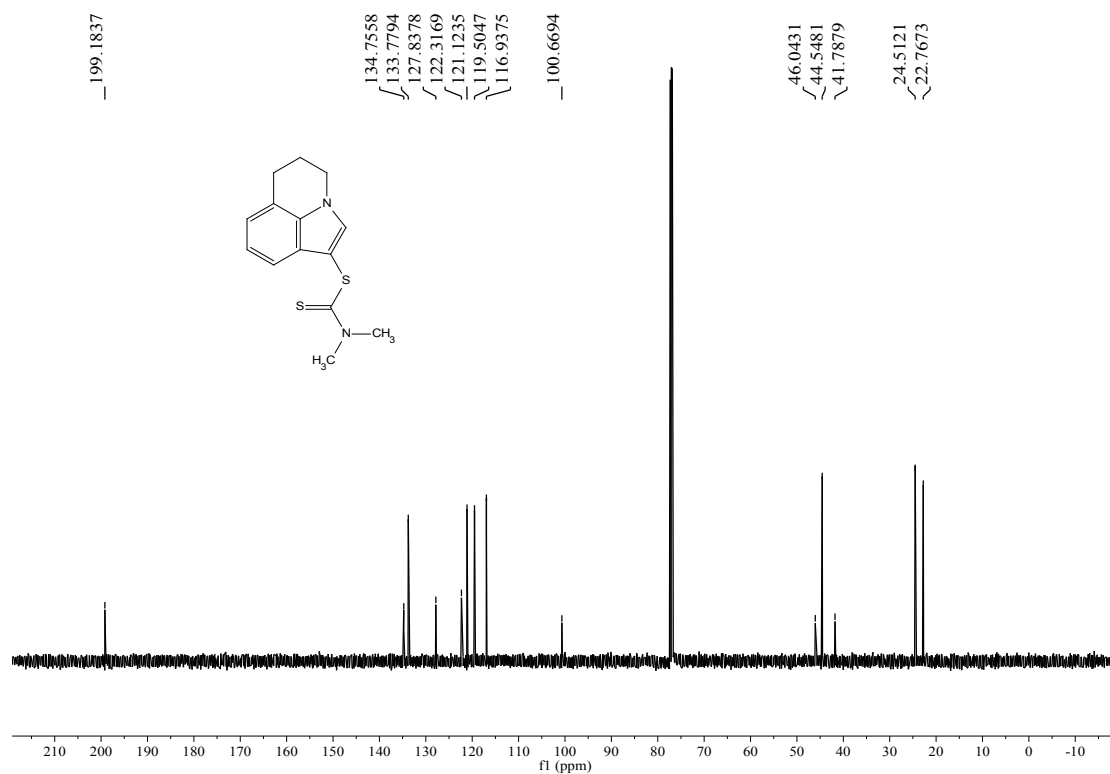
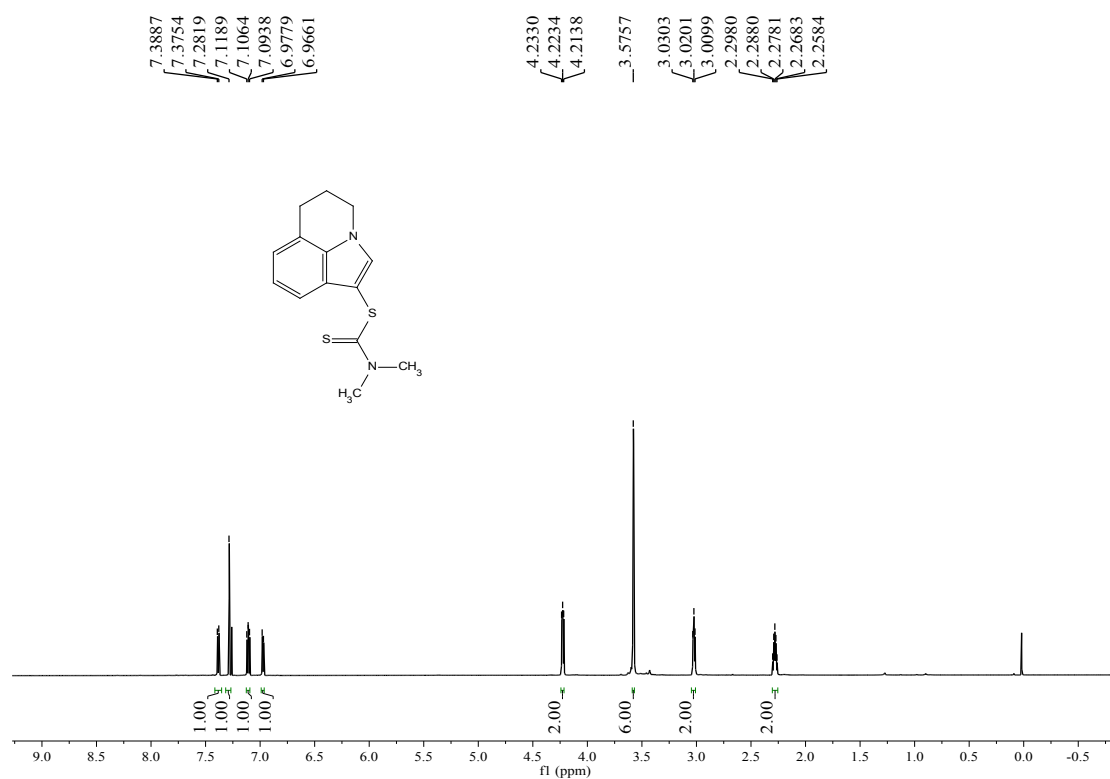
**2-methyl-1H-indol-3-yl diisopropylcarbamodithioate(28)**



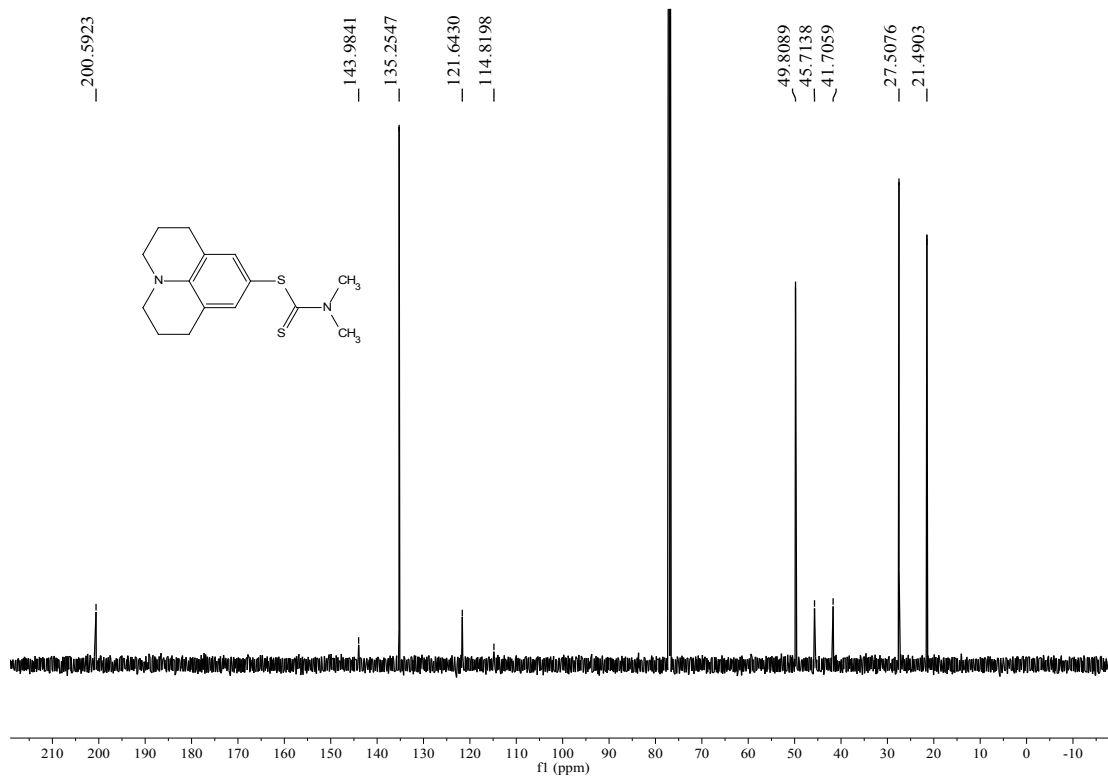
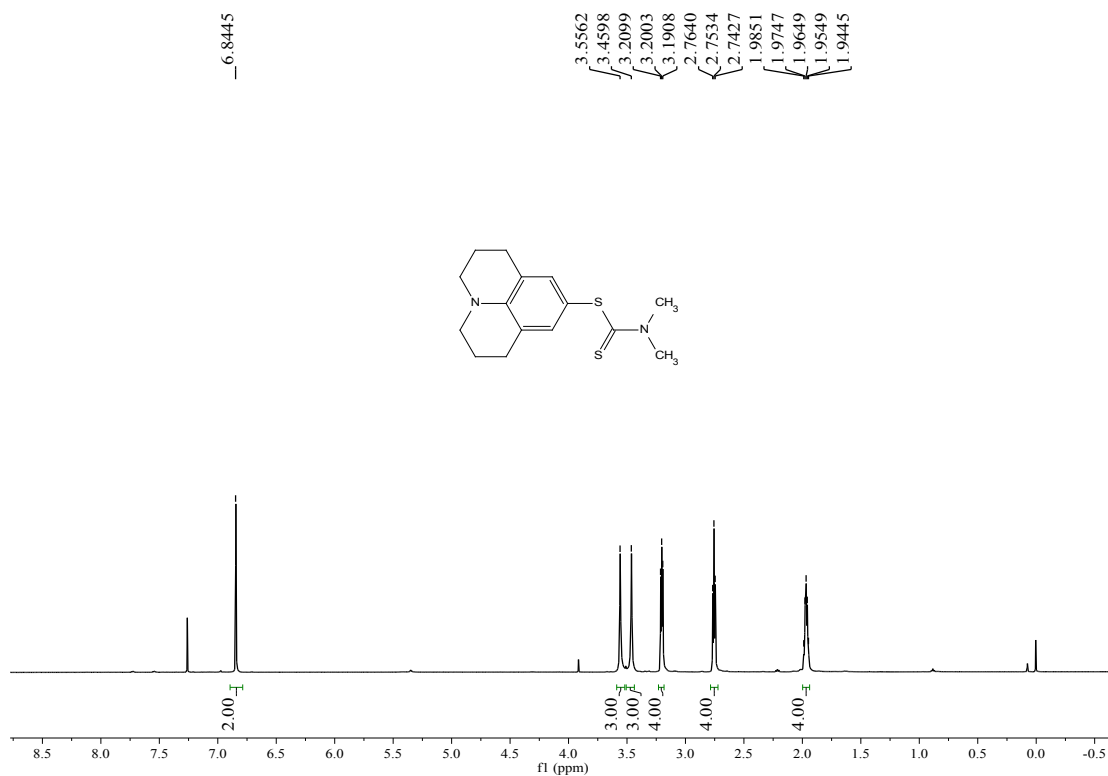
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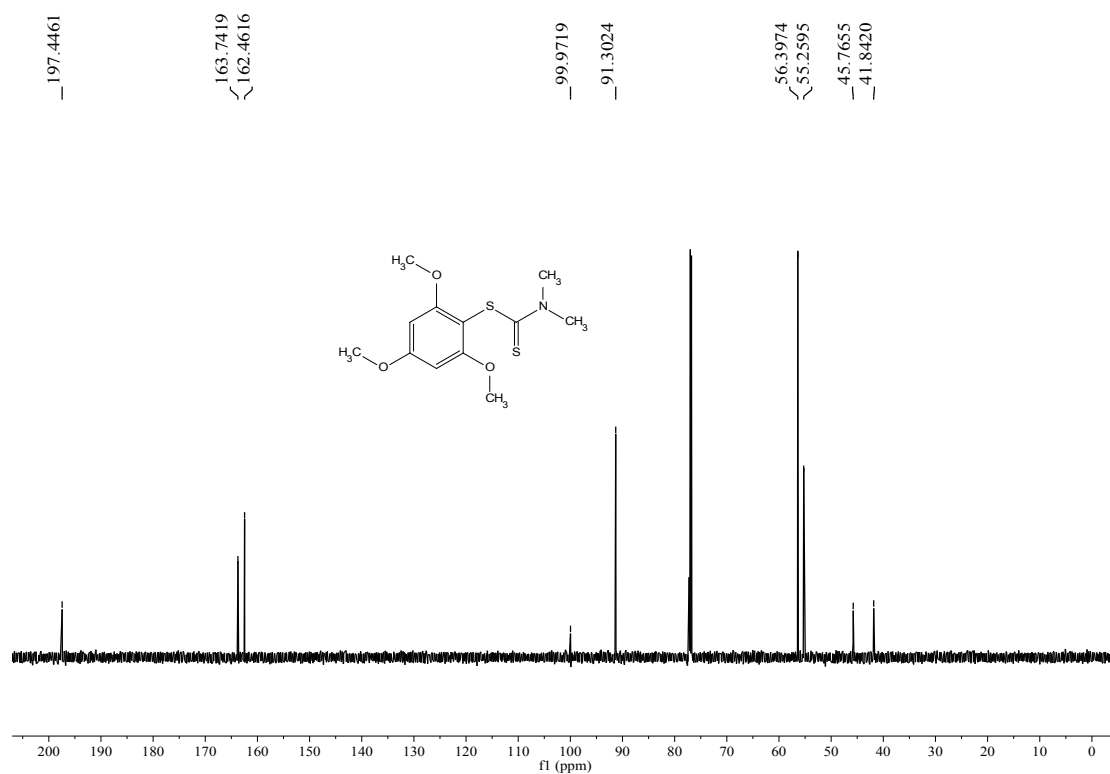
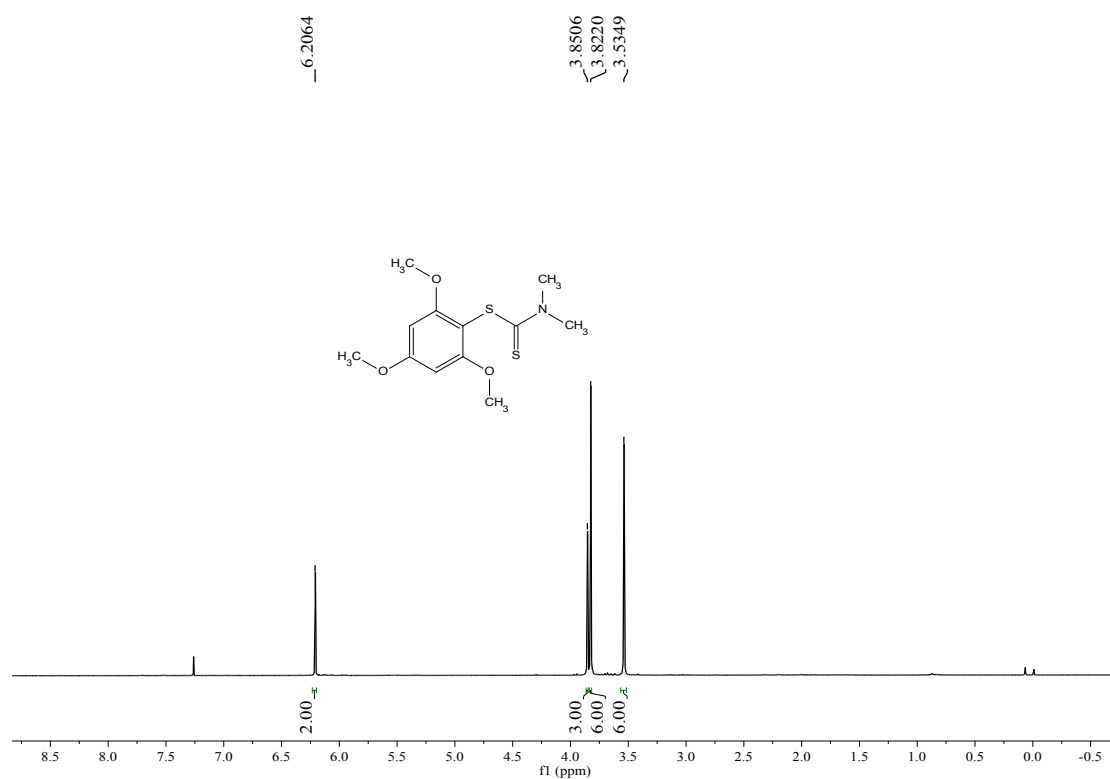
# 5,6-dihydro-4H-pyrrolo[3,2,1-ij]quinolin-1-yl dimethylcarbamodithioate (29)



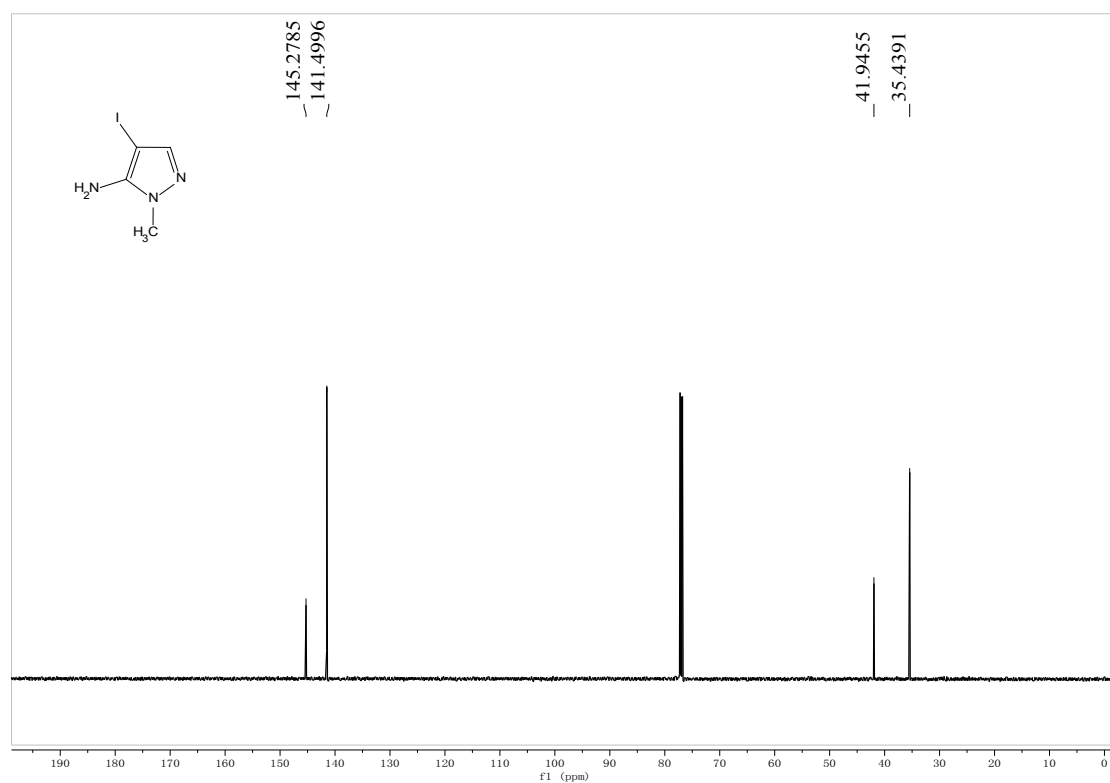
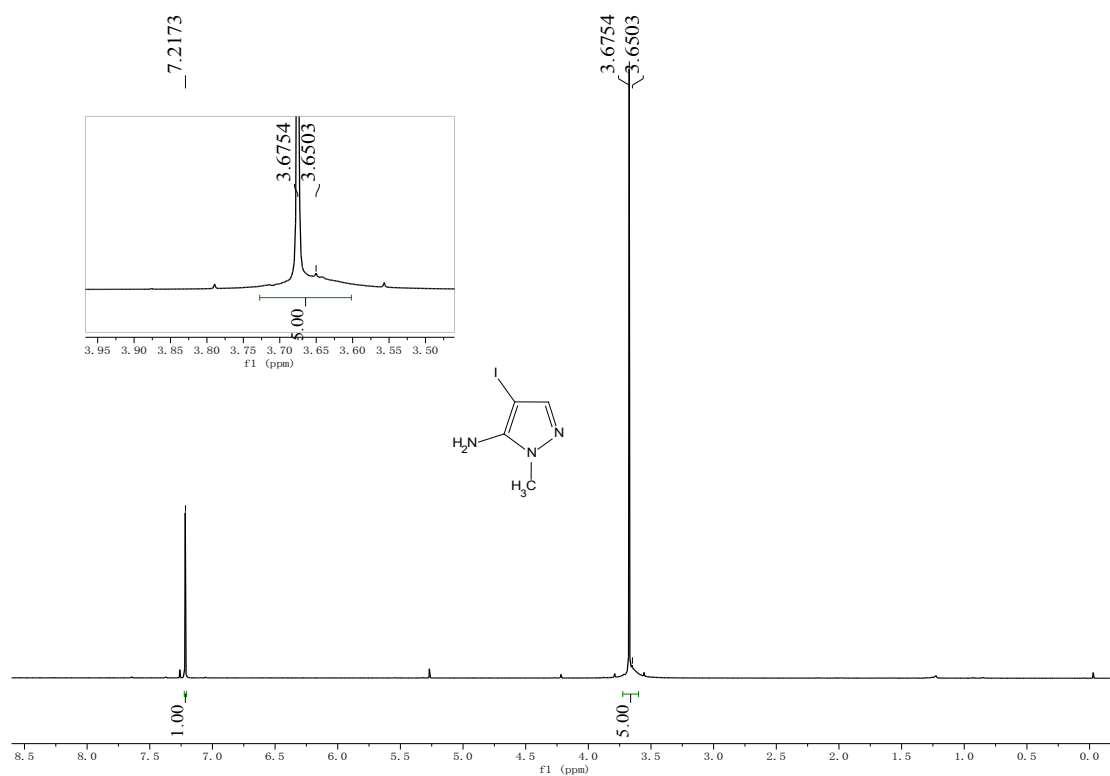
1,2,3,5,6,7-hexahydropyrido[3,2,1-ij]quinolin-9-yl dimethylcarbamodithioate(30)



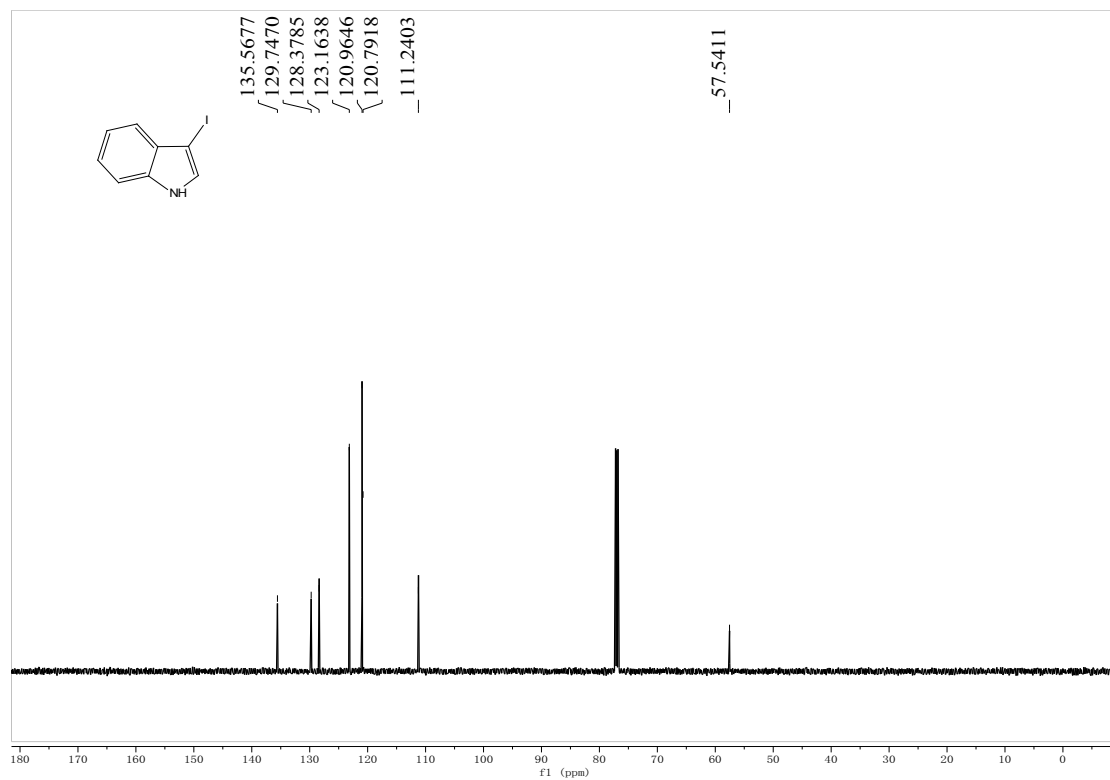
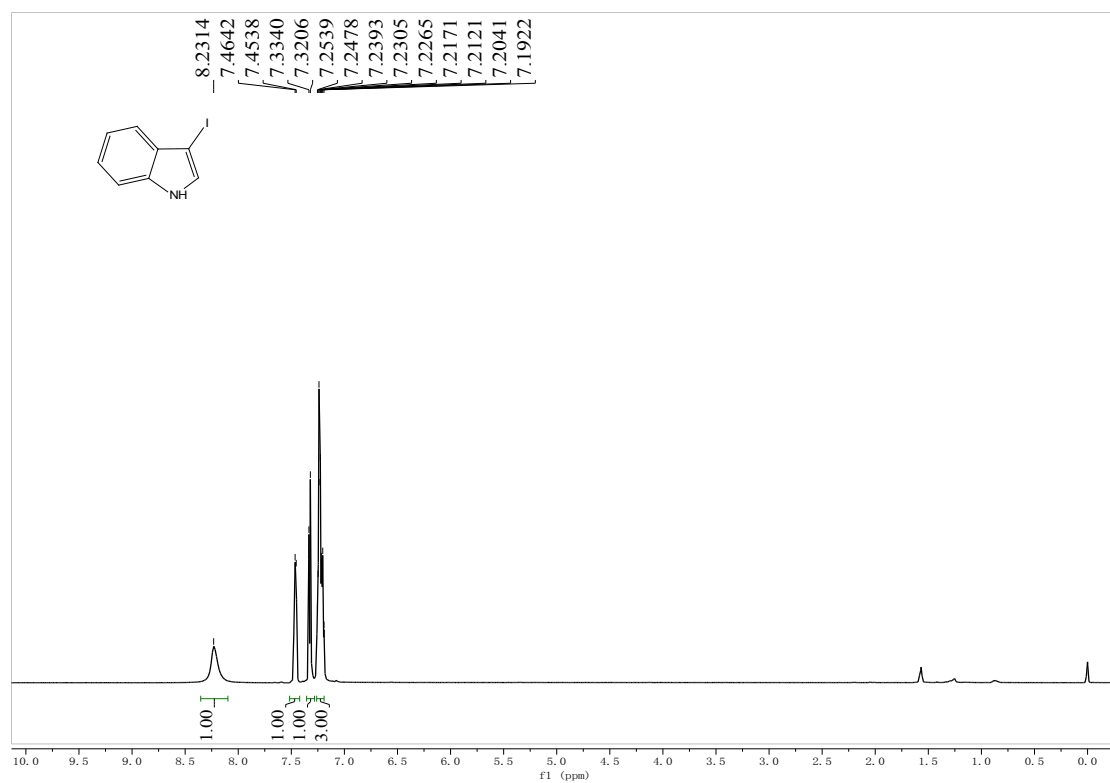
# 2,4,6-trimethoxyphenyl dimethylcarbamodithioate(31)



### 4-iodo-1-methyl-1H-pyrazol-5-amine (32)



3-iodo-1H-indole (33)





### Tetraisopropylthiuram Disulfide

This NMR spectra is used to identify the structure of compounds **12** and **28**. The  $^1\text{H}$  NMR signal peak of CH in isopropyl is weak and broad, and there are no  $^{13}\text{C}$  NMR signal peaks of the carbonyl and the CH.

