

# Supplementary Information

for

## **Iridium- and ruthenium-catalysed synthesis of 2,3-disubstituted indoles from anilines and vicinal diols**

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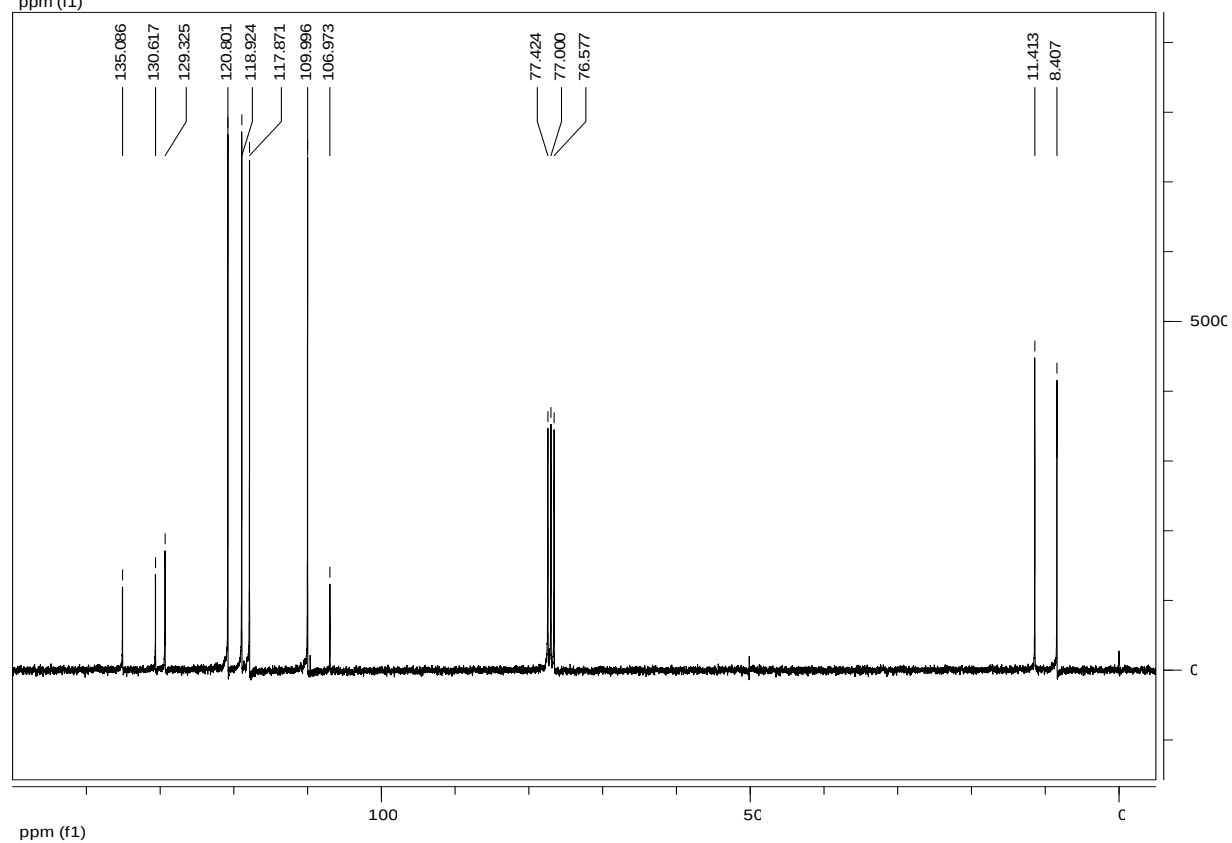
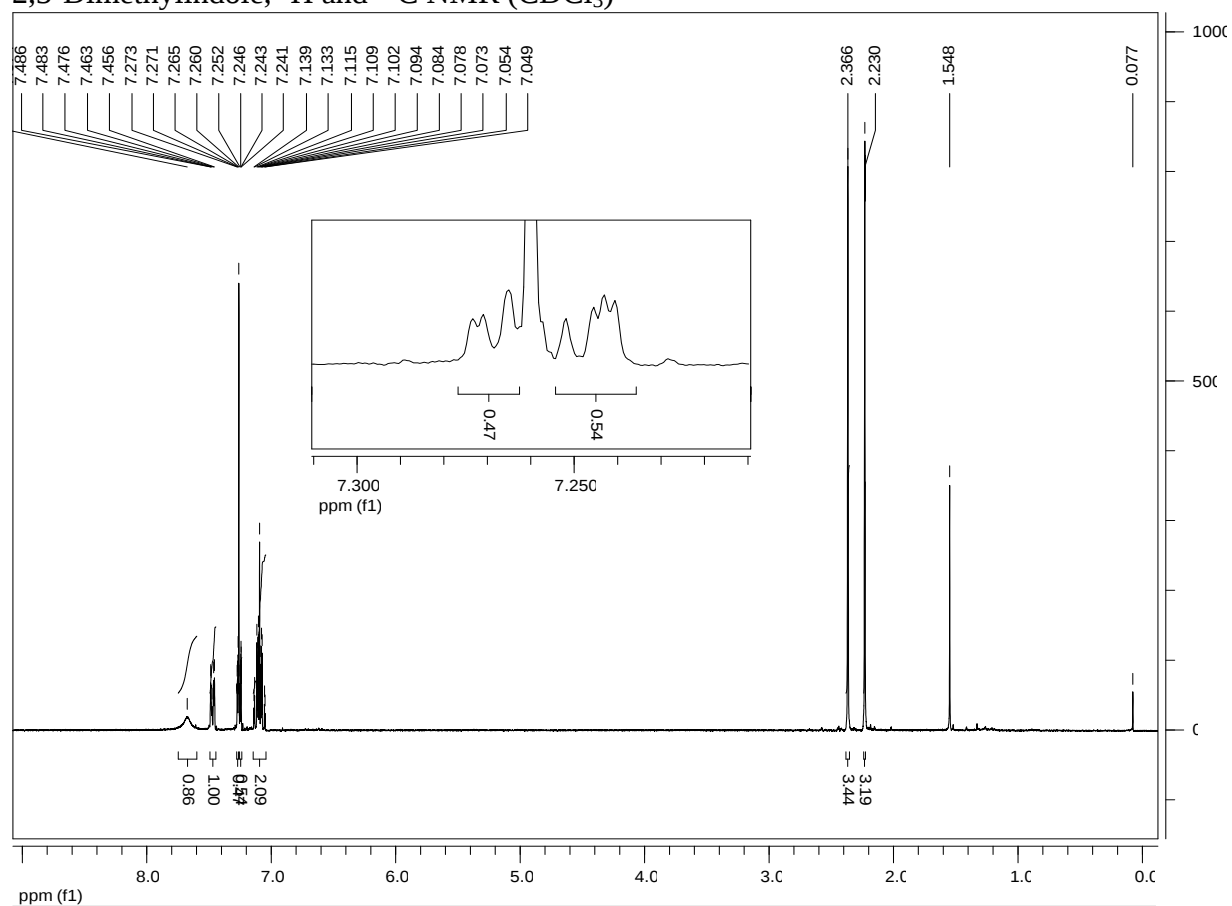
*Technical University of Denmark*

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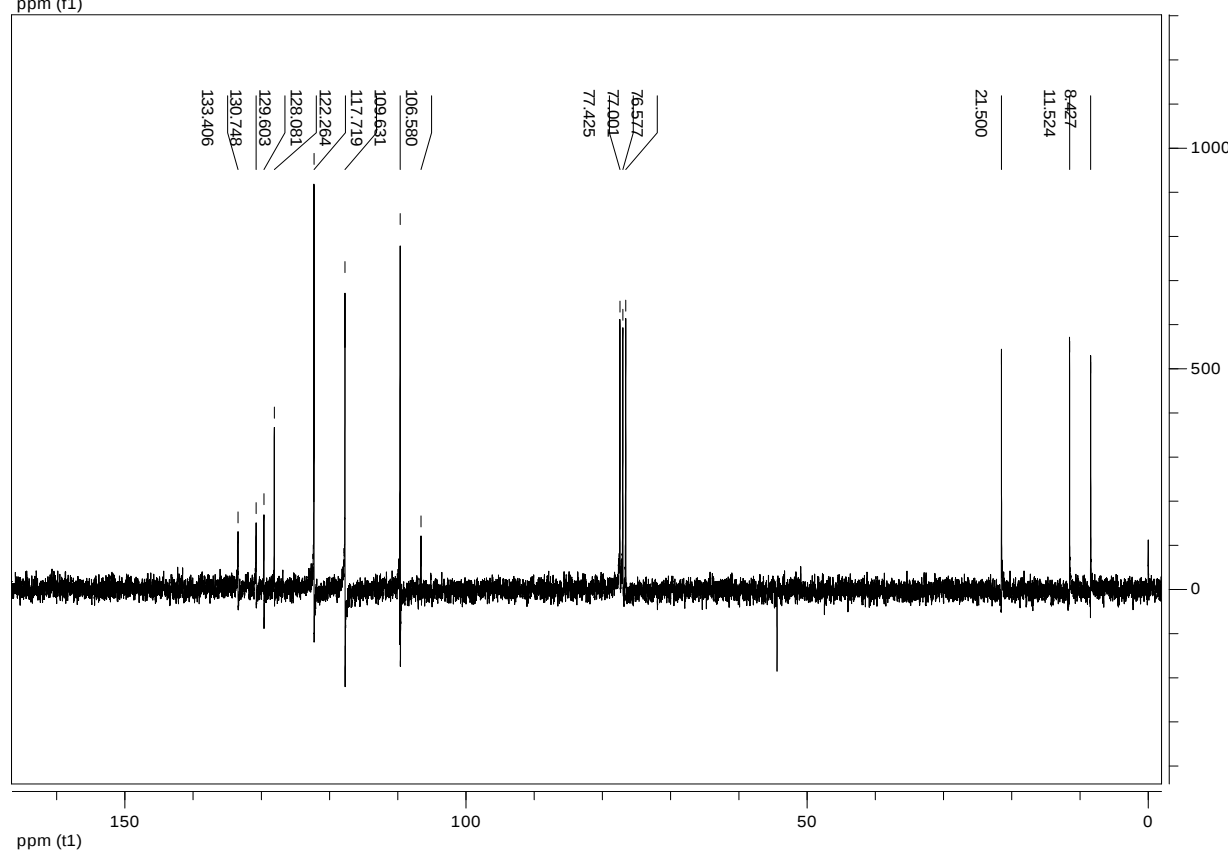
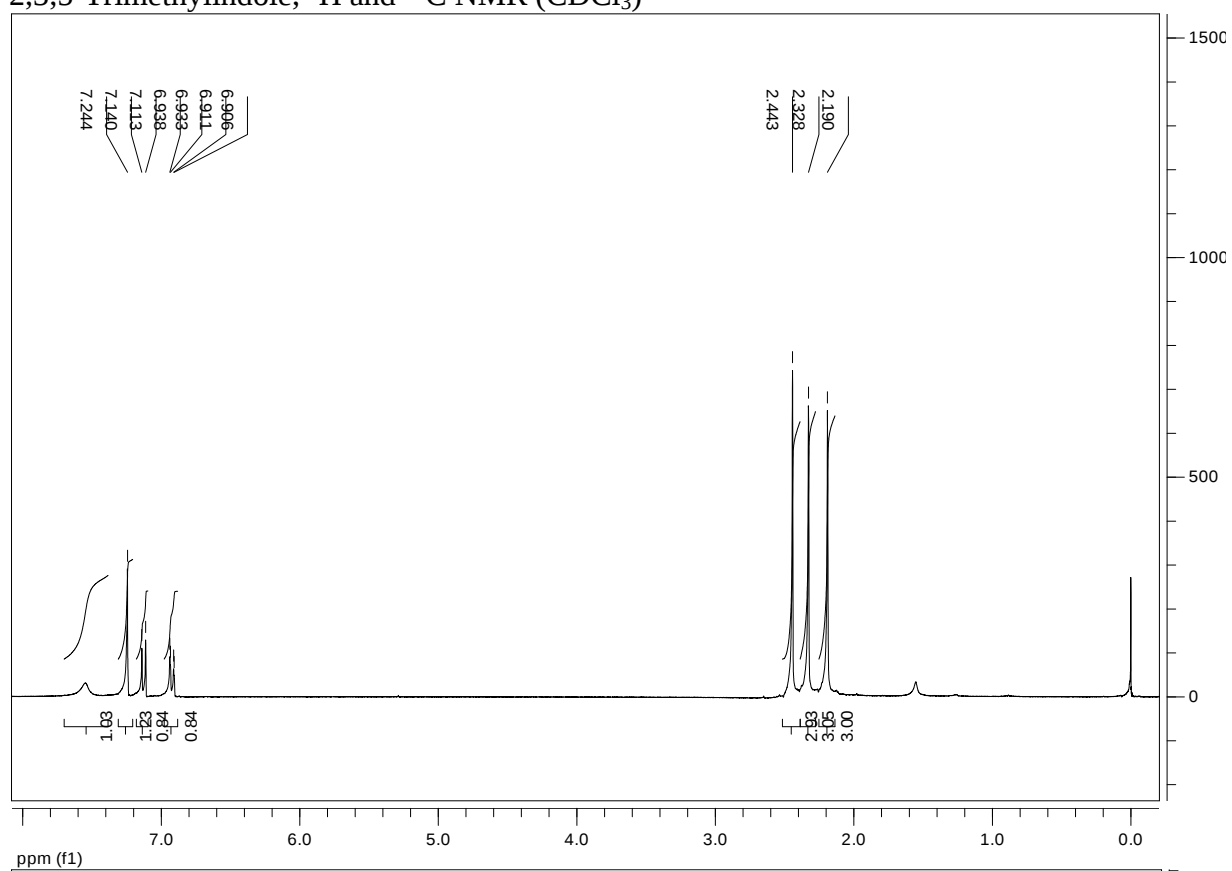
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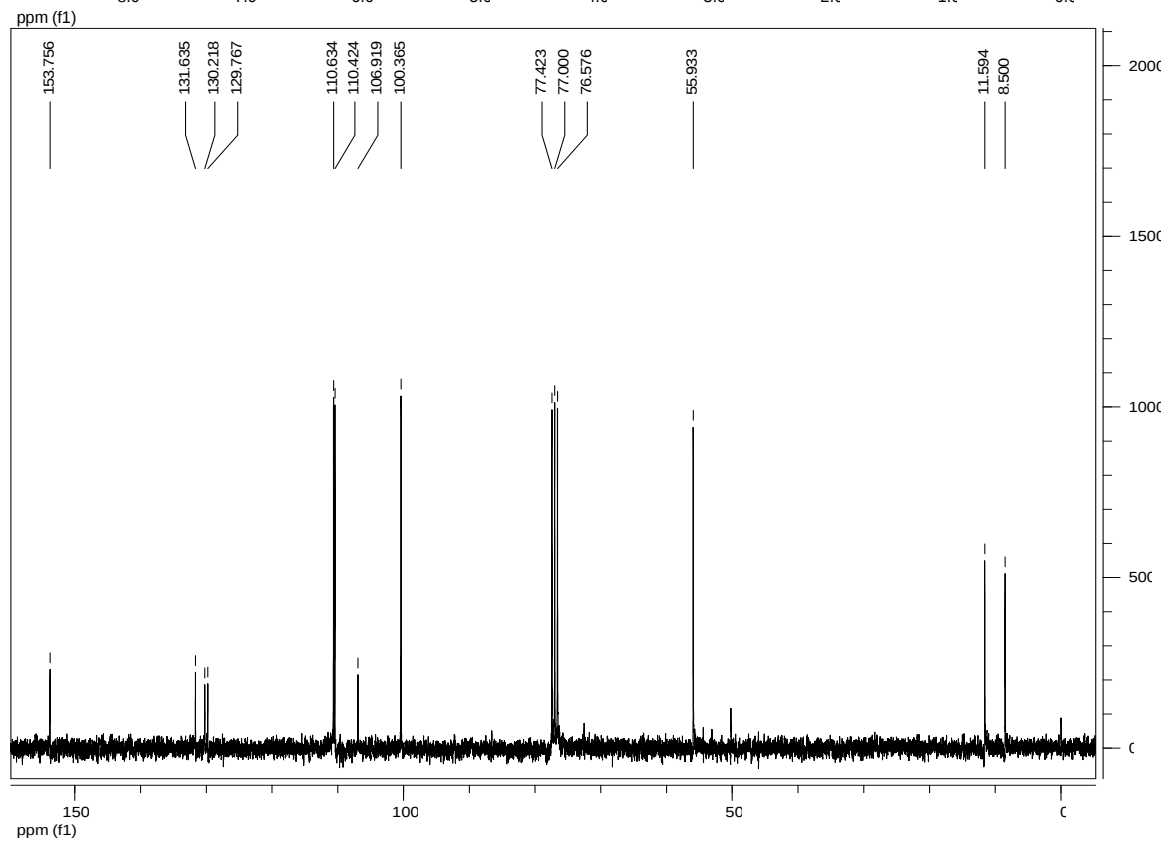
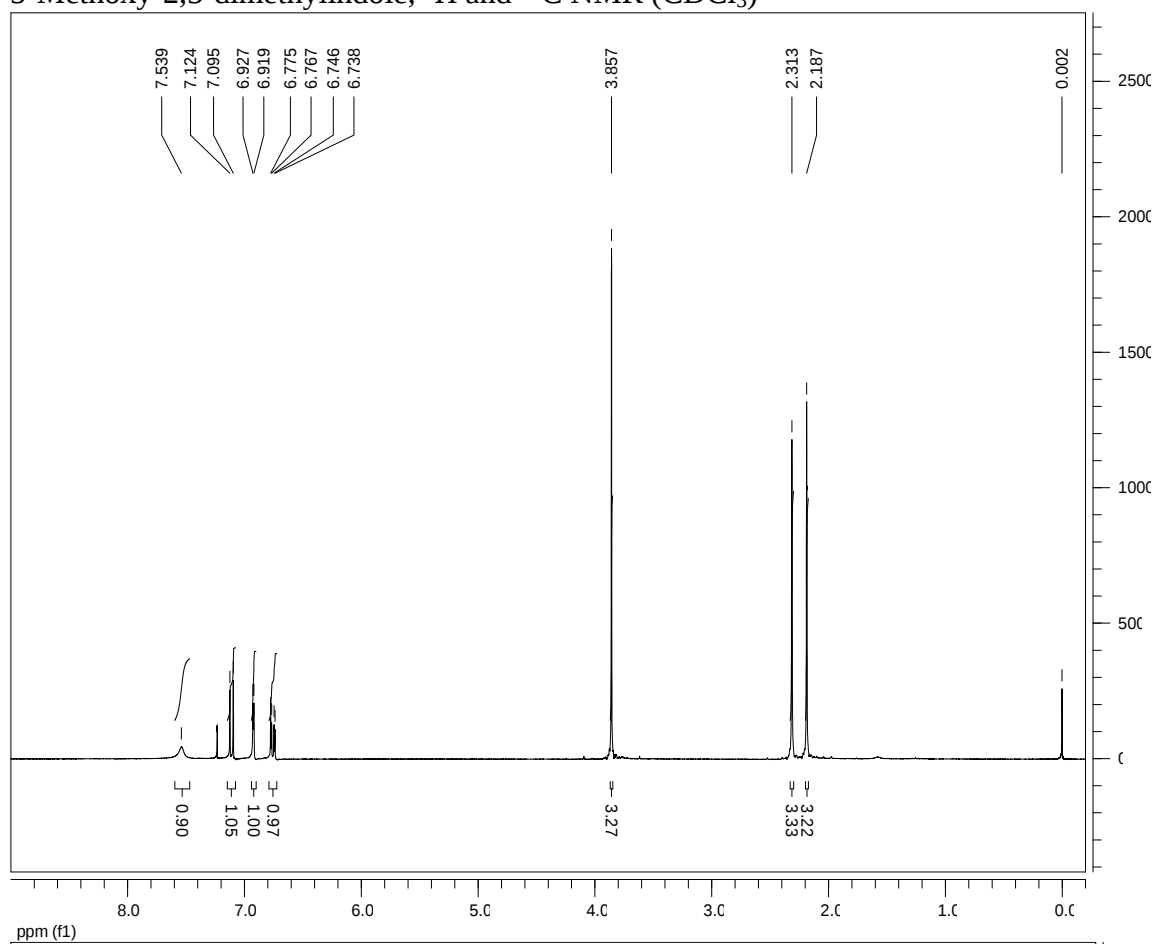
2,3-Dimethylindole,  $^1\text{H}$  and  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ )



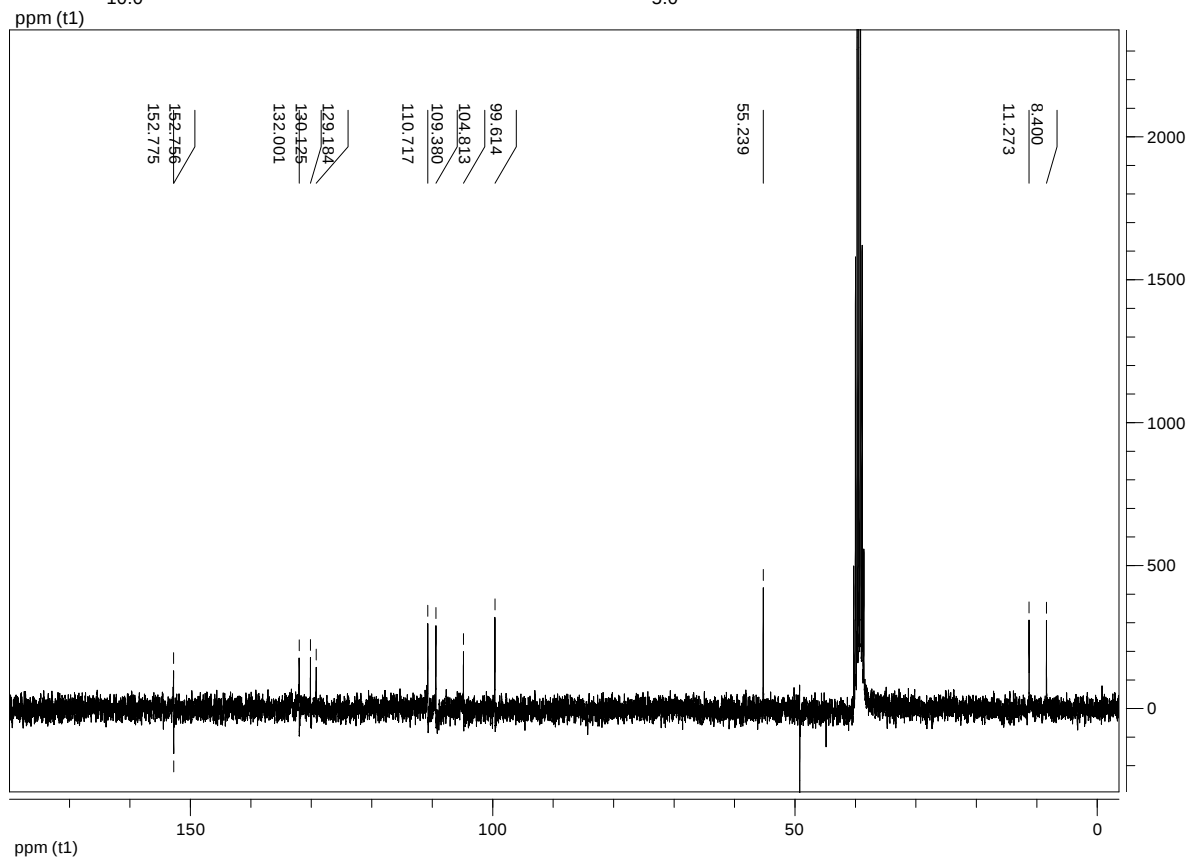
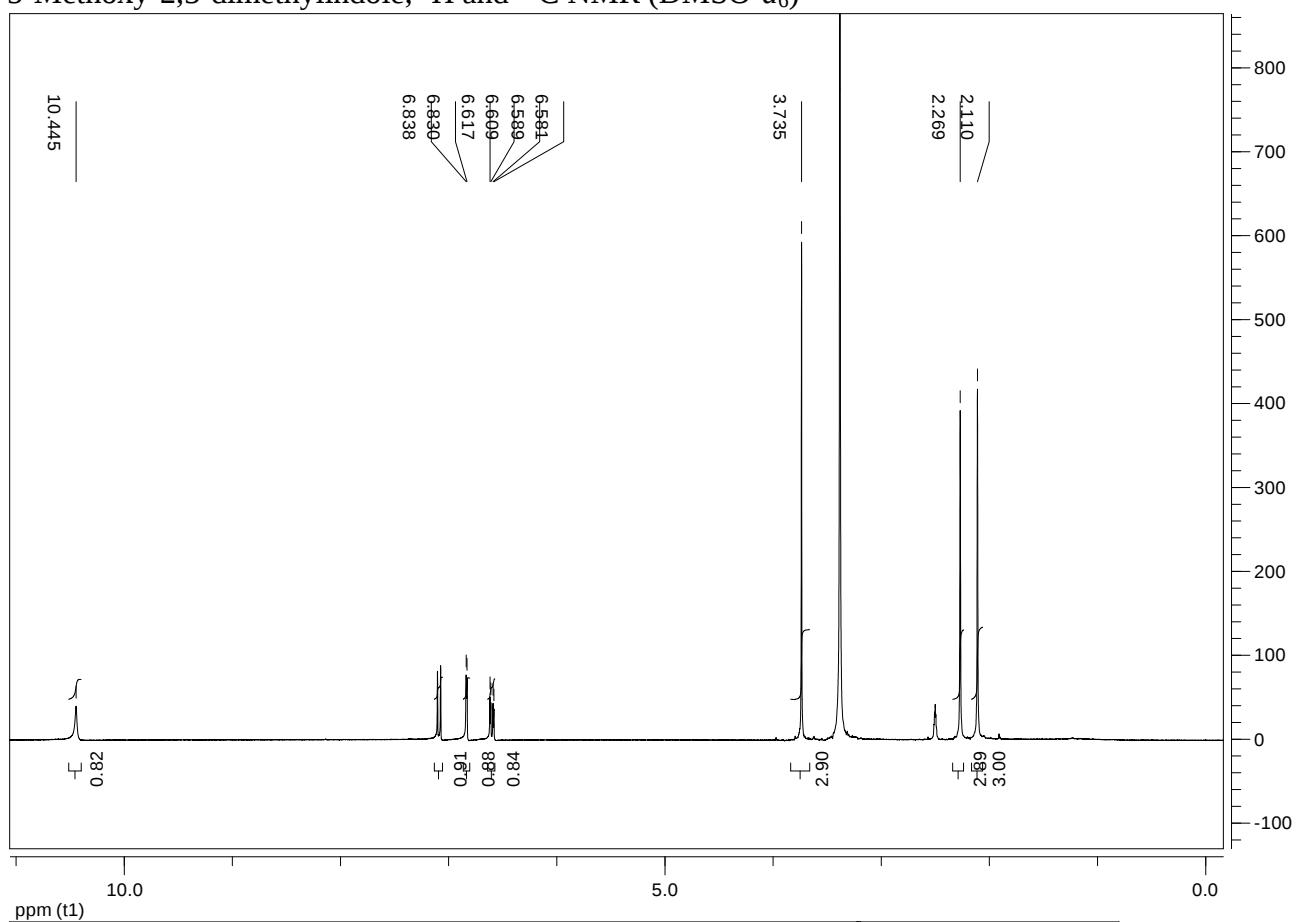
2,3,5-Trimethylindole,  $^1\text{H}$  and  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ )



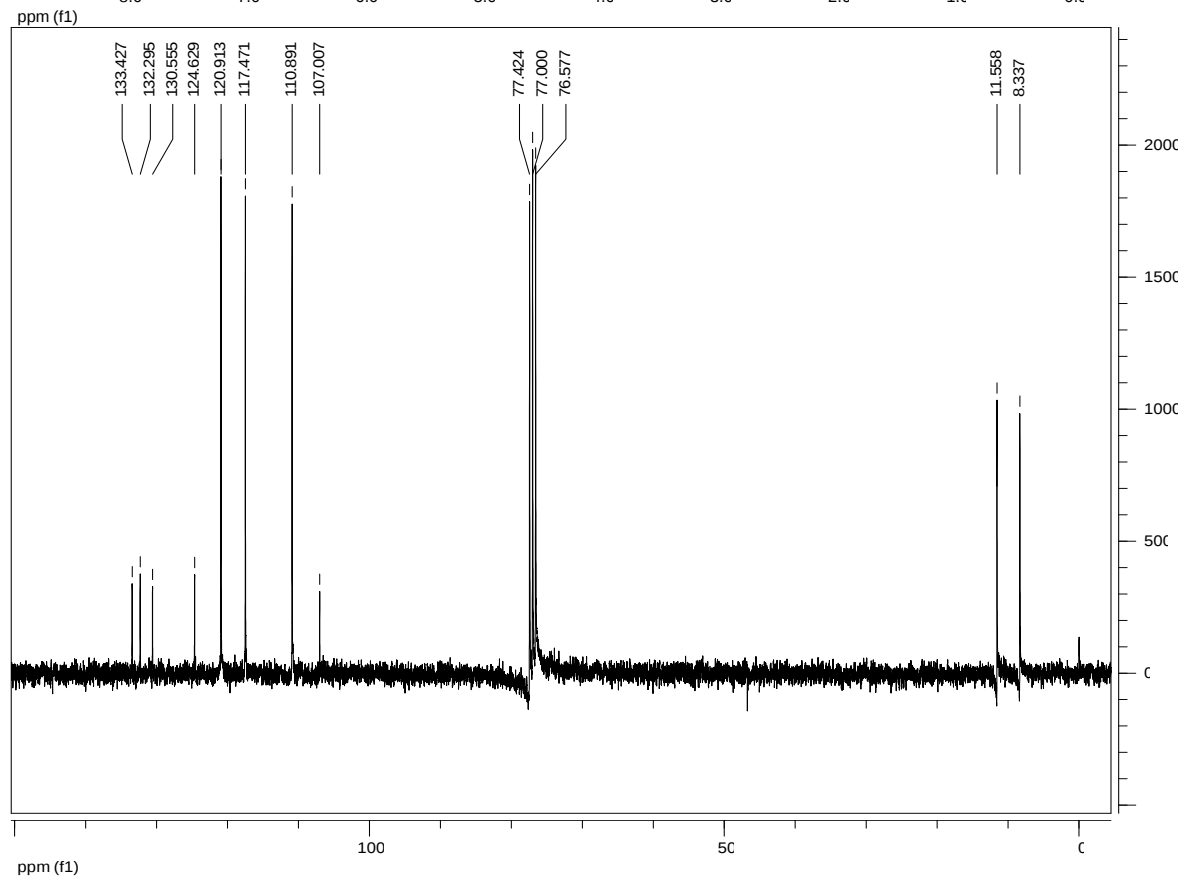
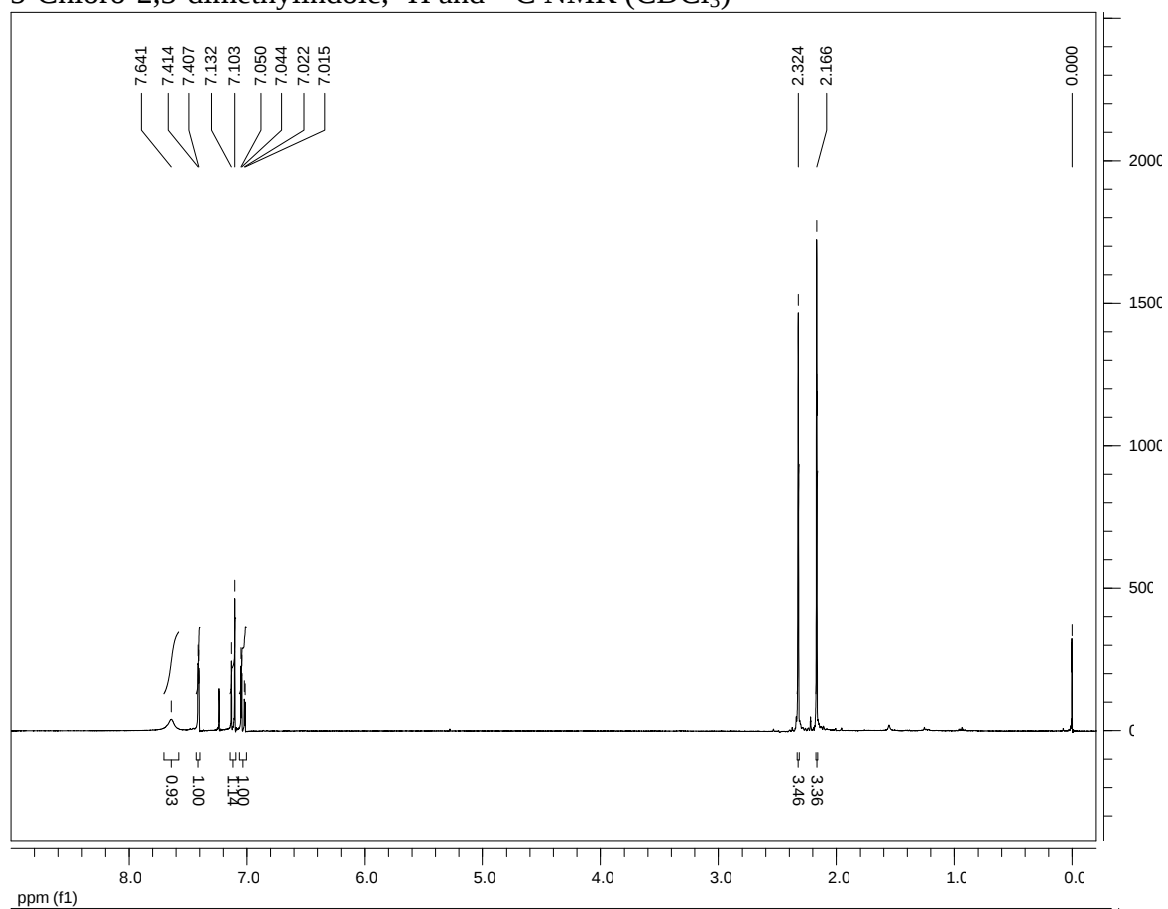
5-Methoxy-2,3-dimethylindole,  $^1\text{H}$  and  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ )



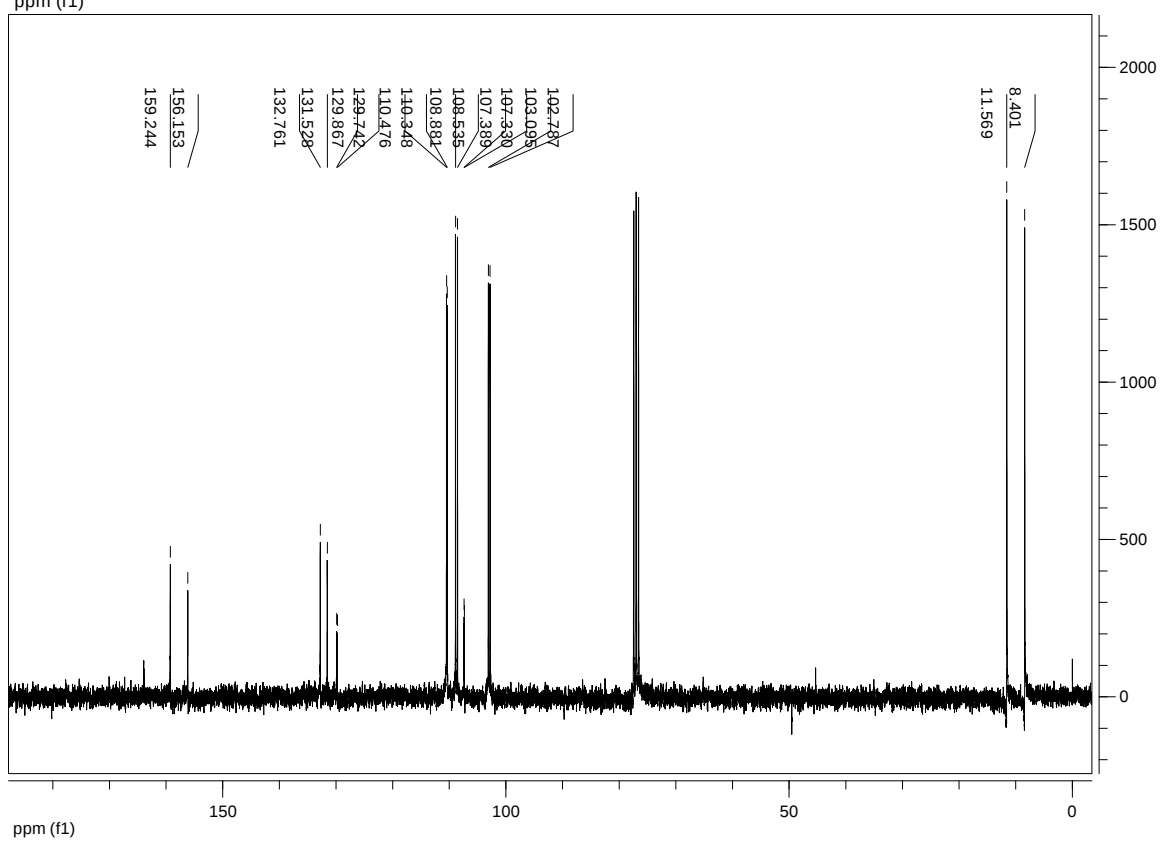
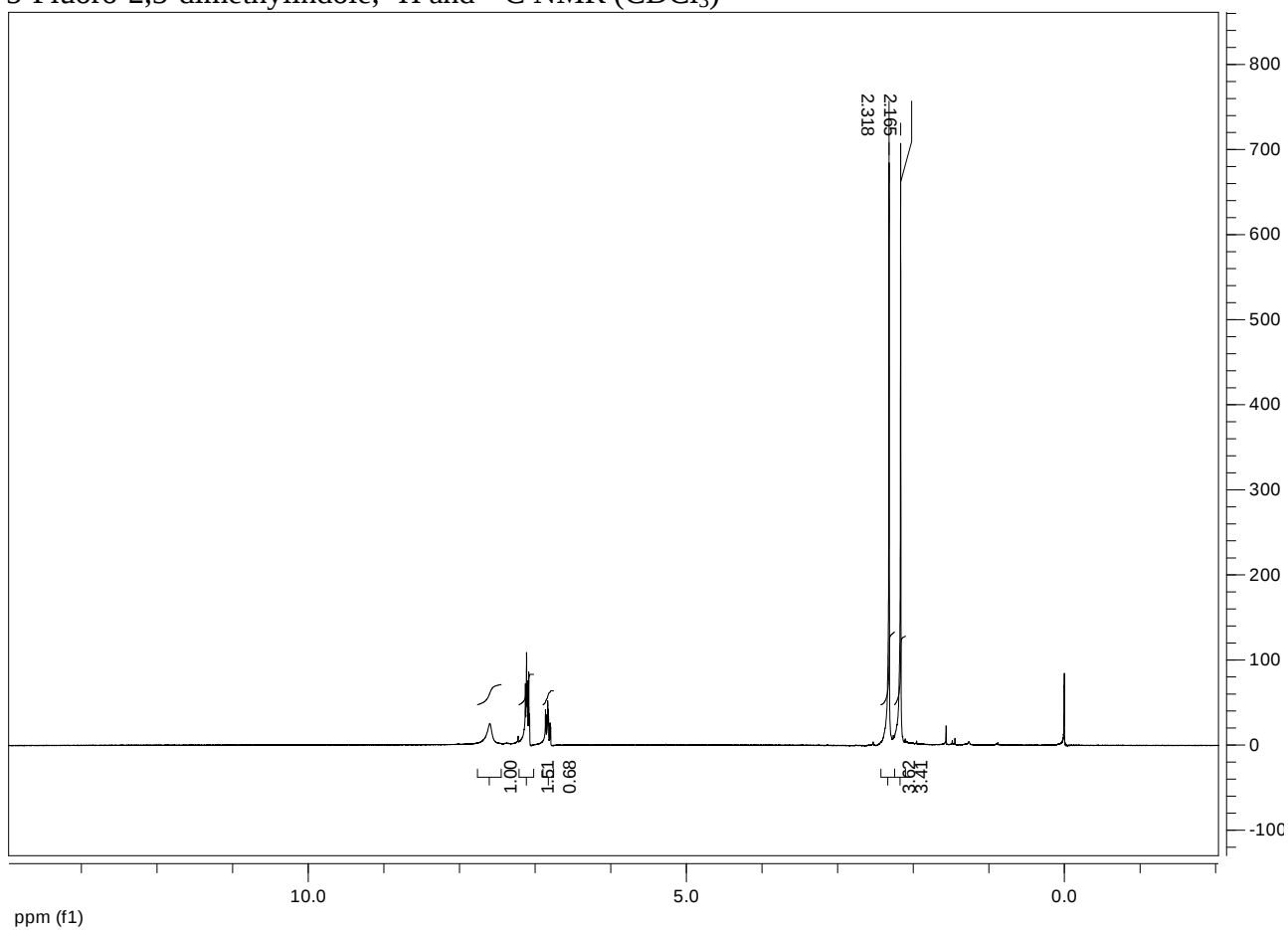
5-Methoxy-2,3-dimethylindole,  $^1\text{H}$  and  $^{13}\text{C}$  NMR (DMSO- $d_6$ )



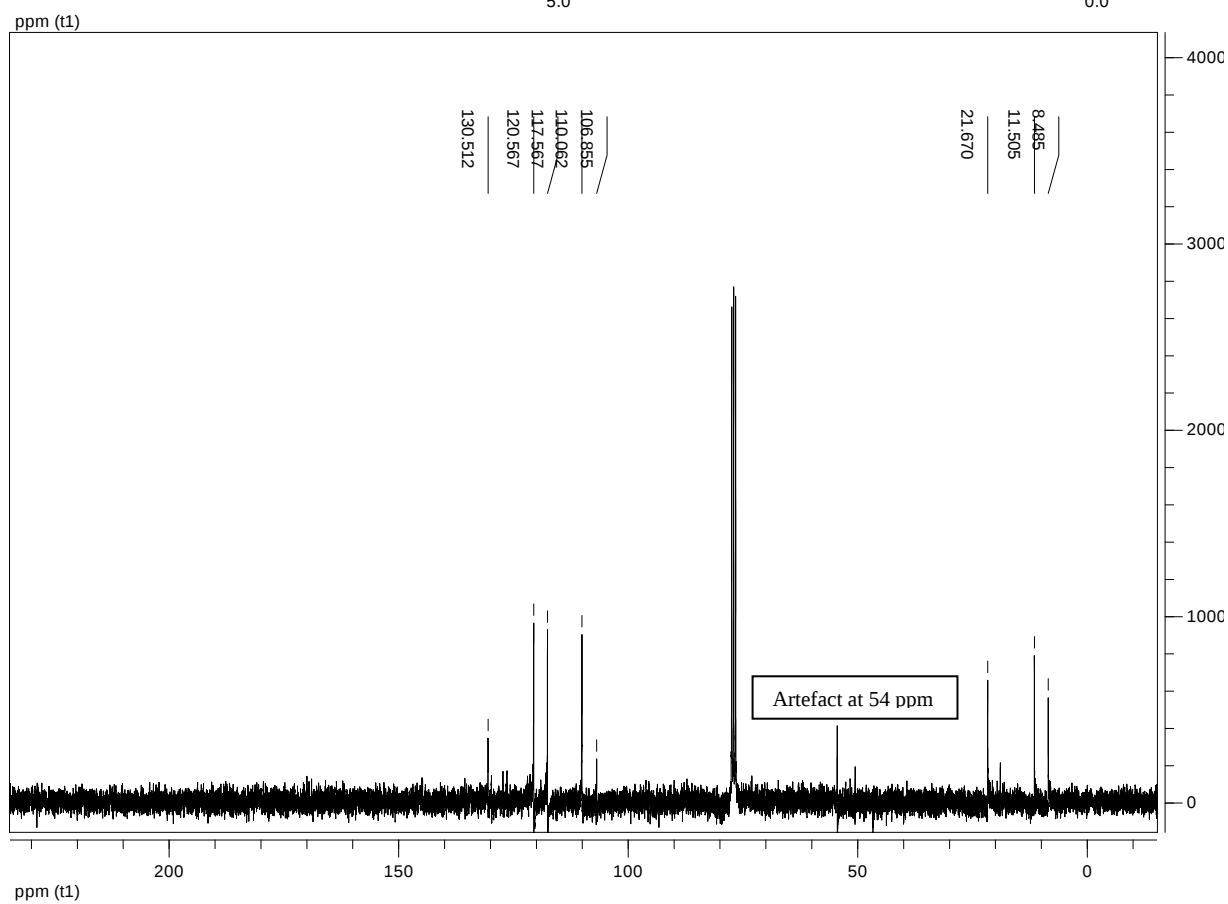
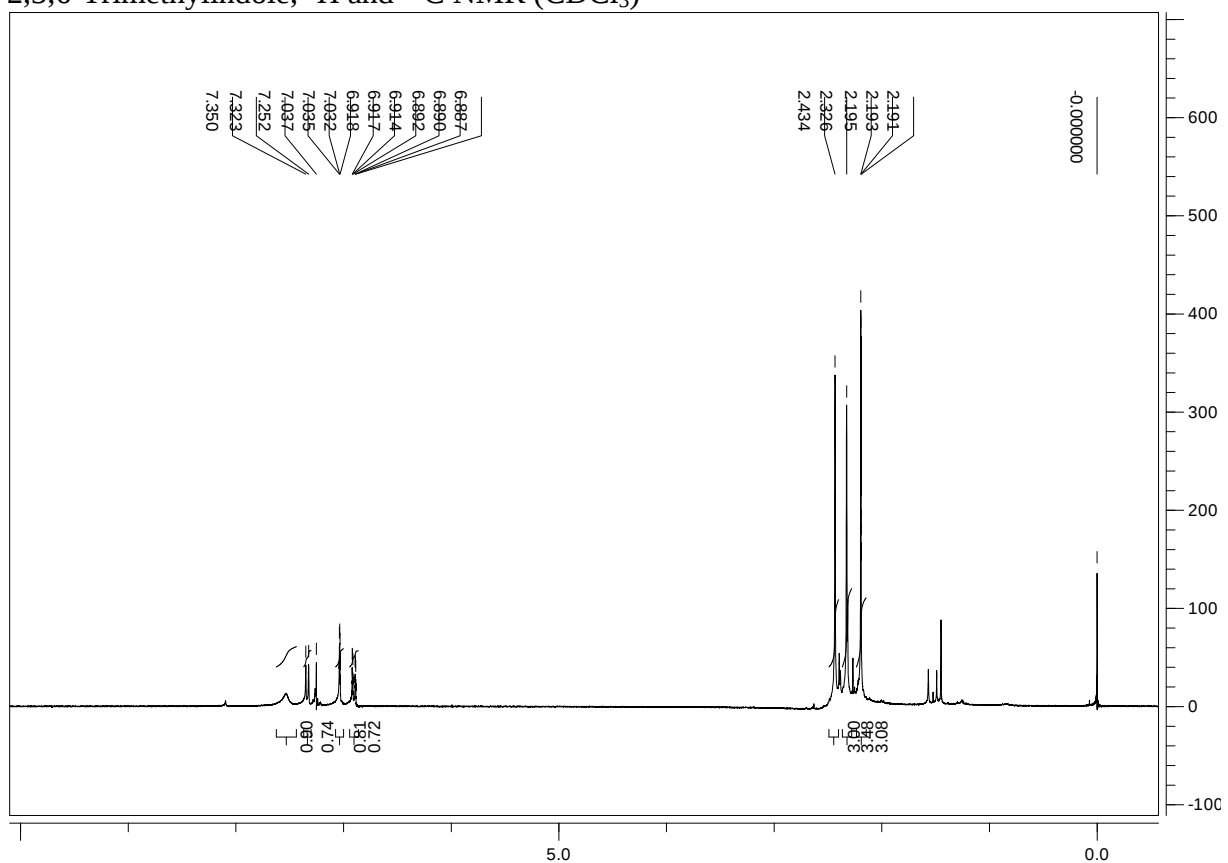
5-Chloro-2,3-dimethylindole,  $^1\text{H}$  and  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ )



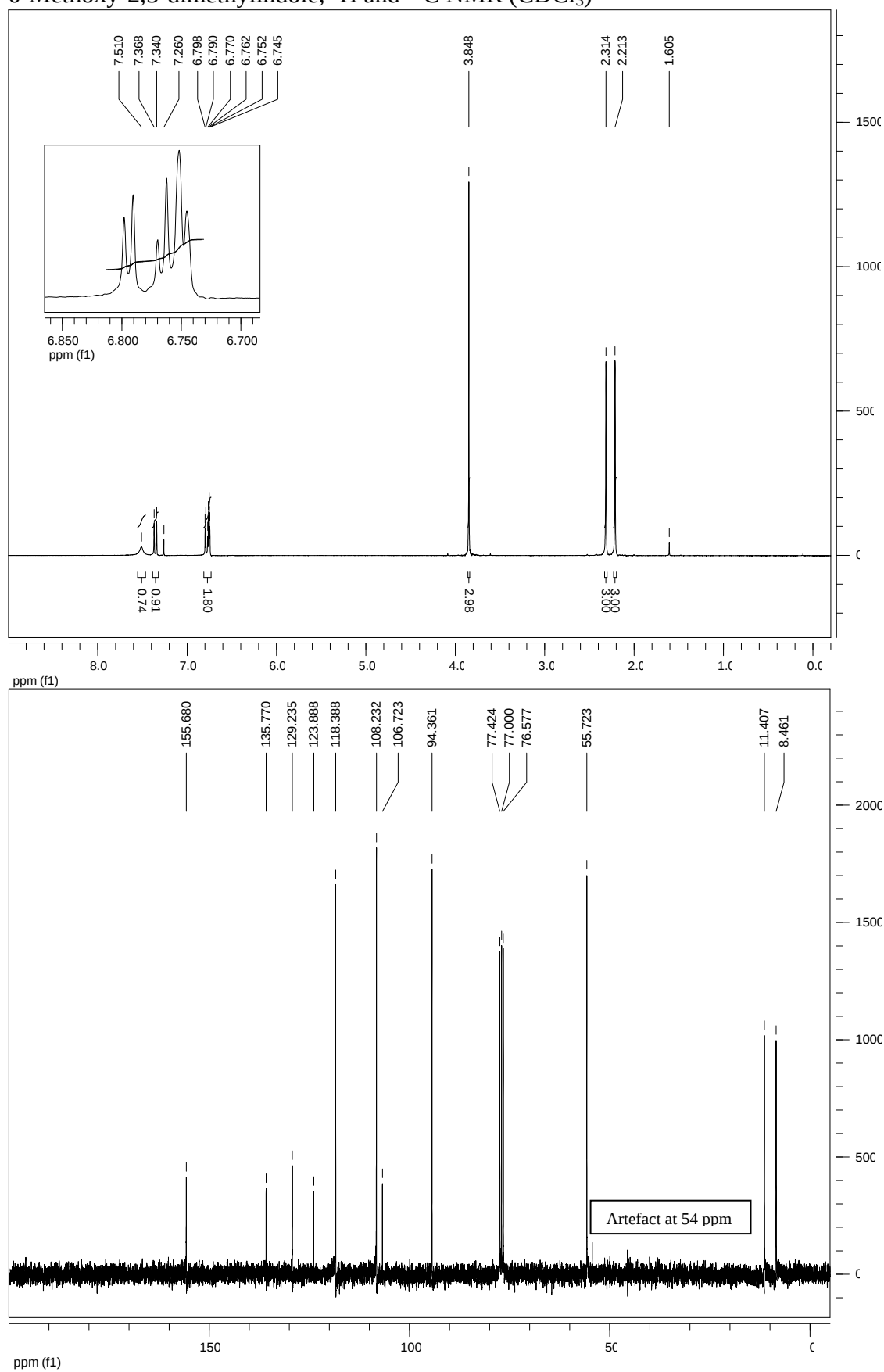
5-Fluoro-2,3-dimethylindole,  $^1\text{H}$  and  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ )



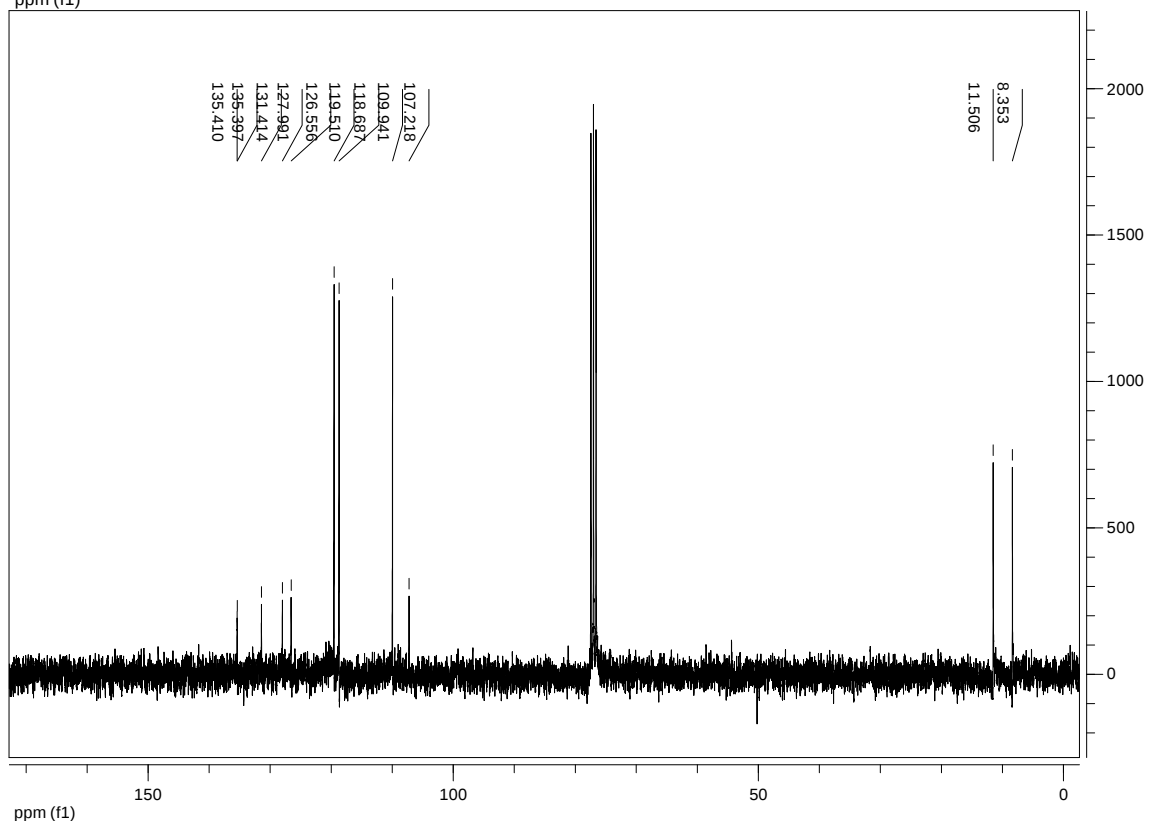
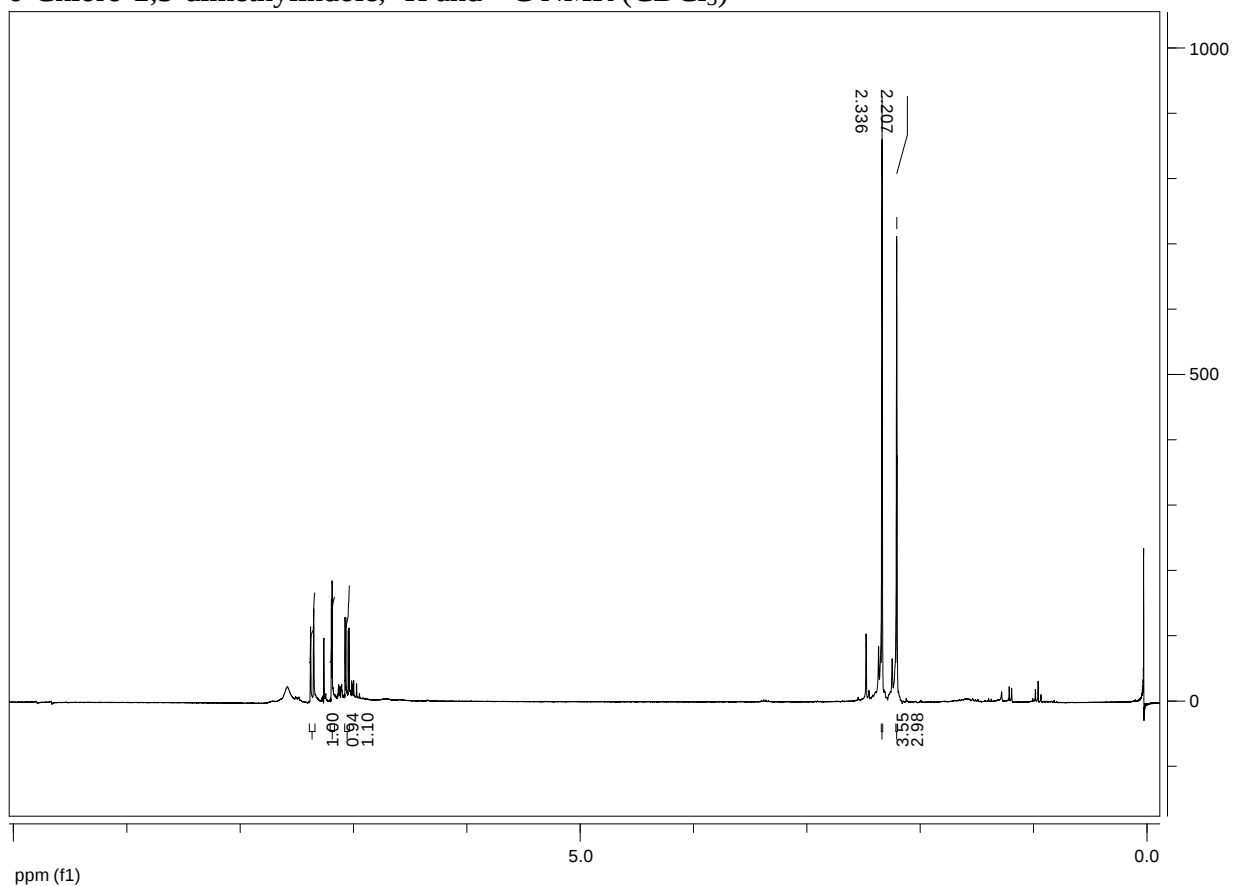
2,3,6-Trimethylindole,  $^1\text{H}$  and  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ )



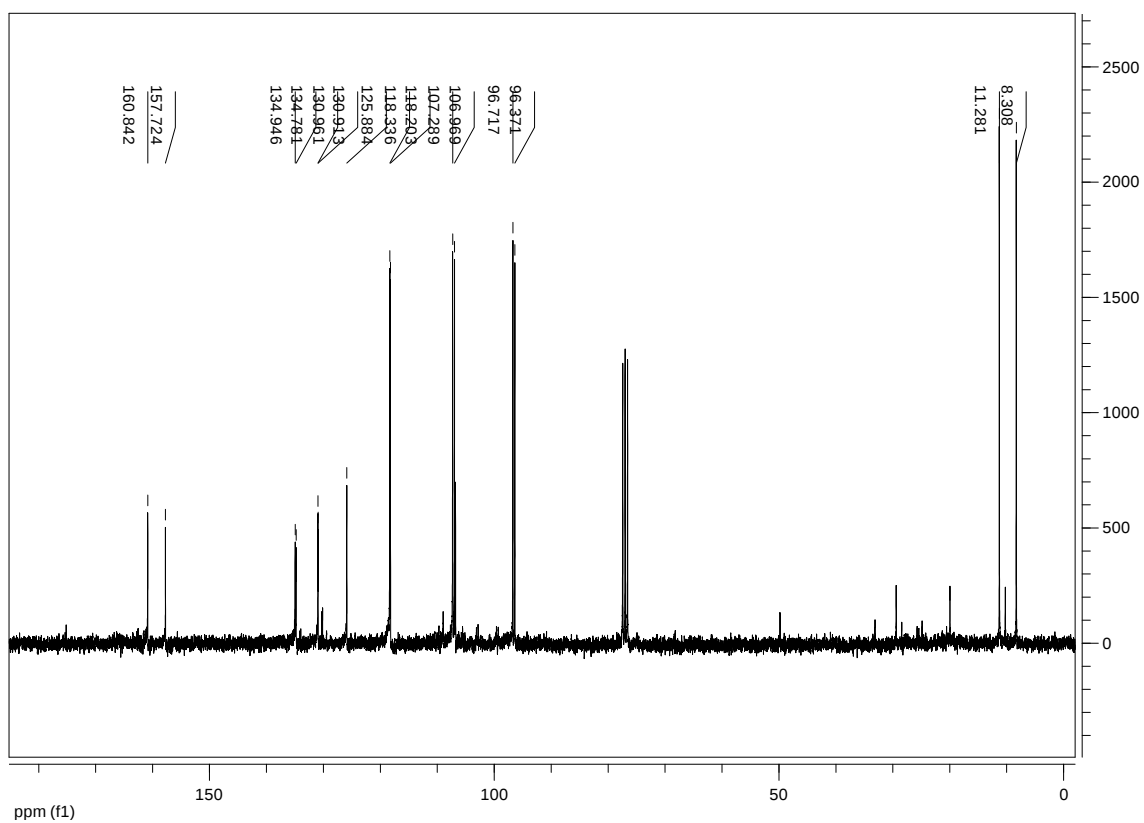
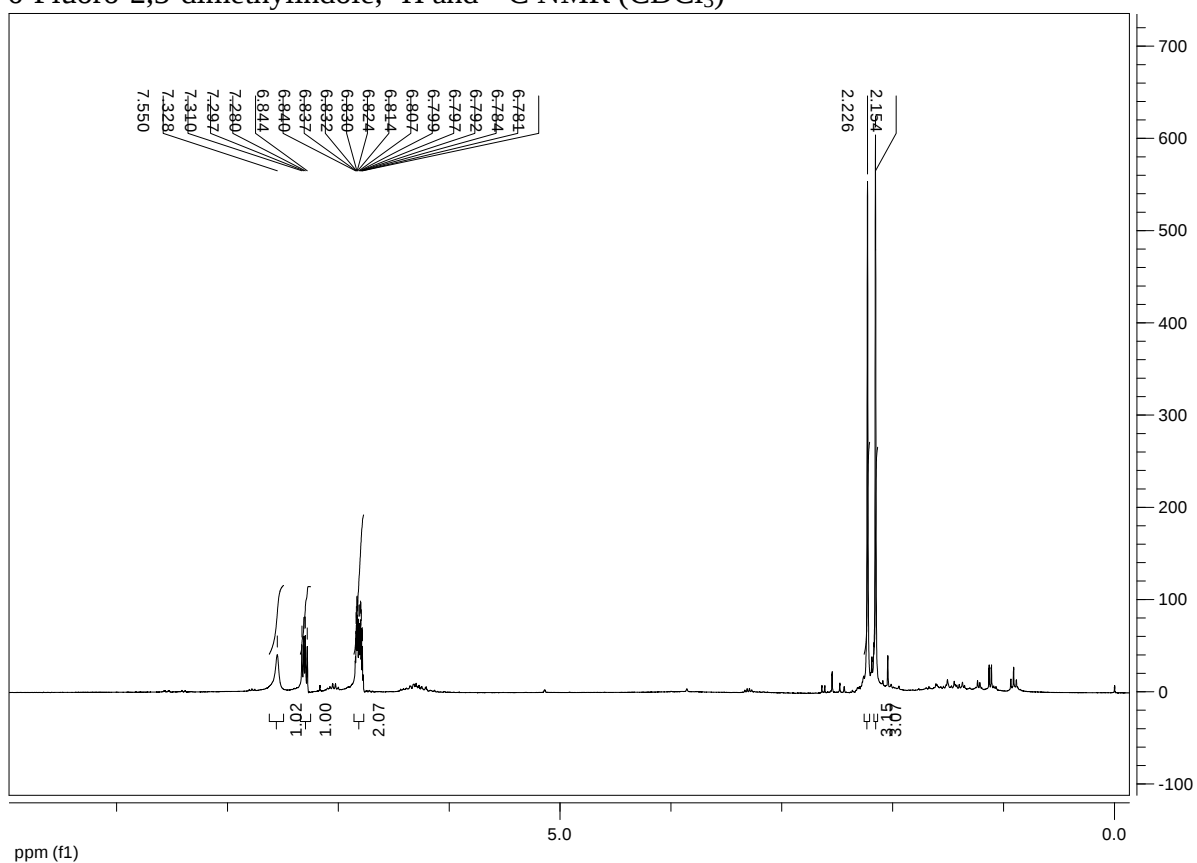
6-Methoxy-2,3-dimethylindole,  $^1\text{H}$  and  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ )



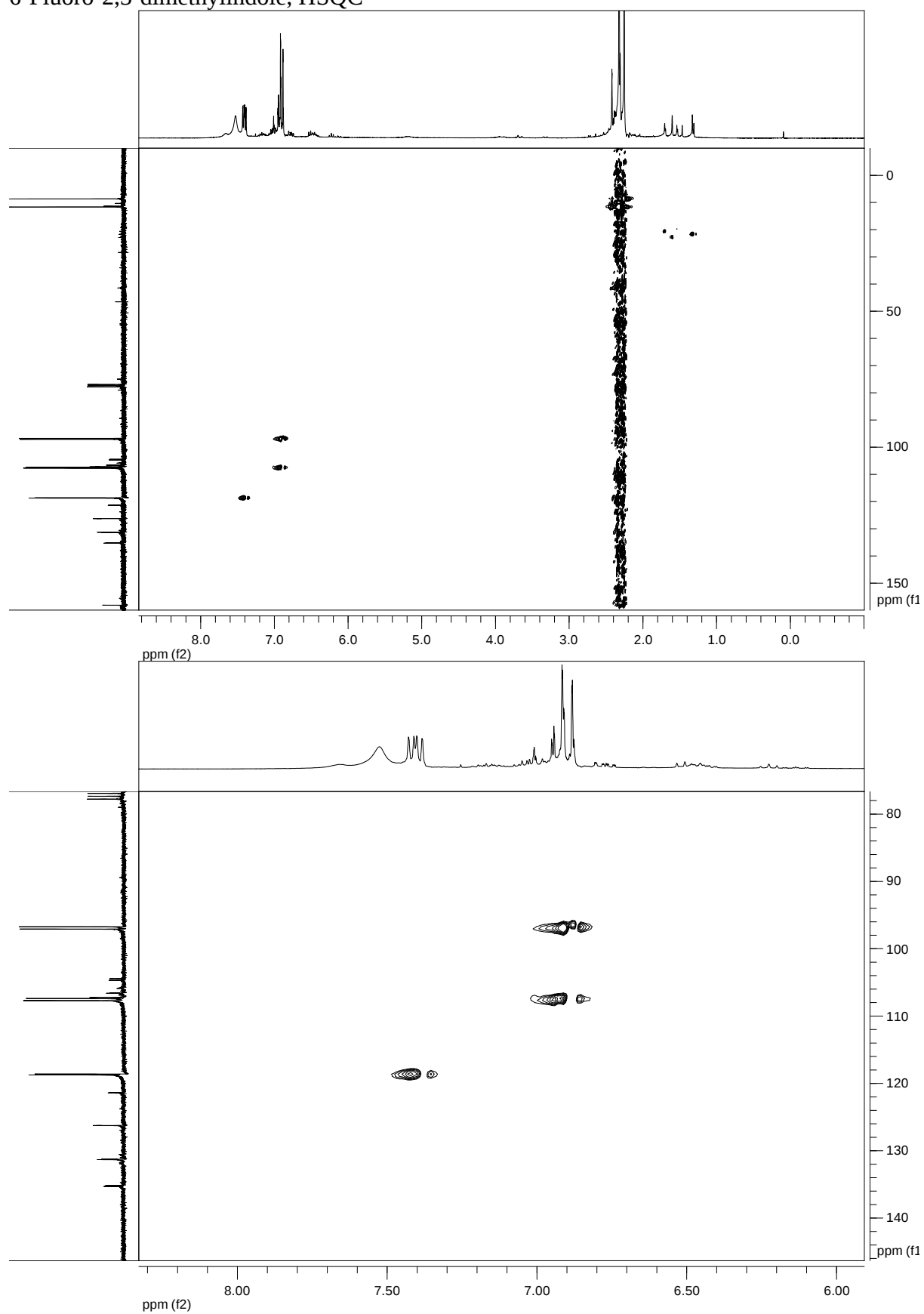
6-Chloro-2,3-dimethylindole,  $^1\text{H}$  and  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ )



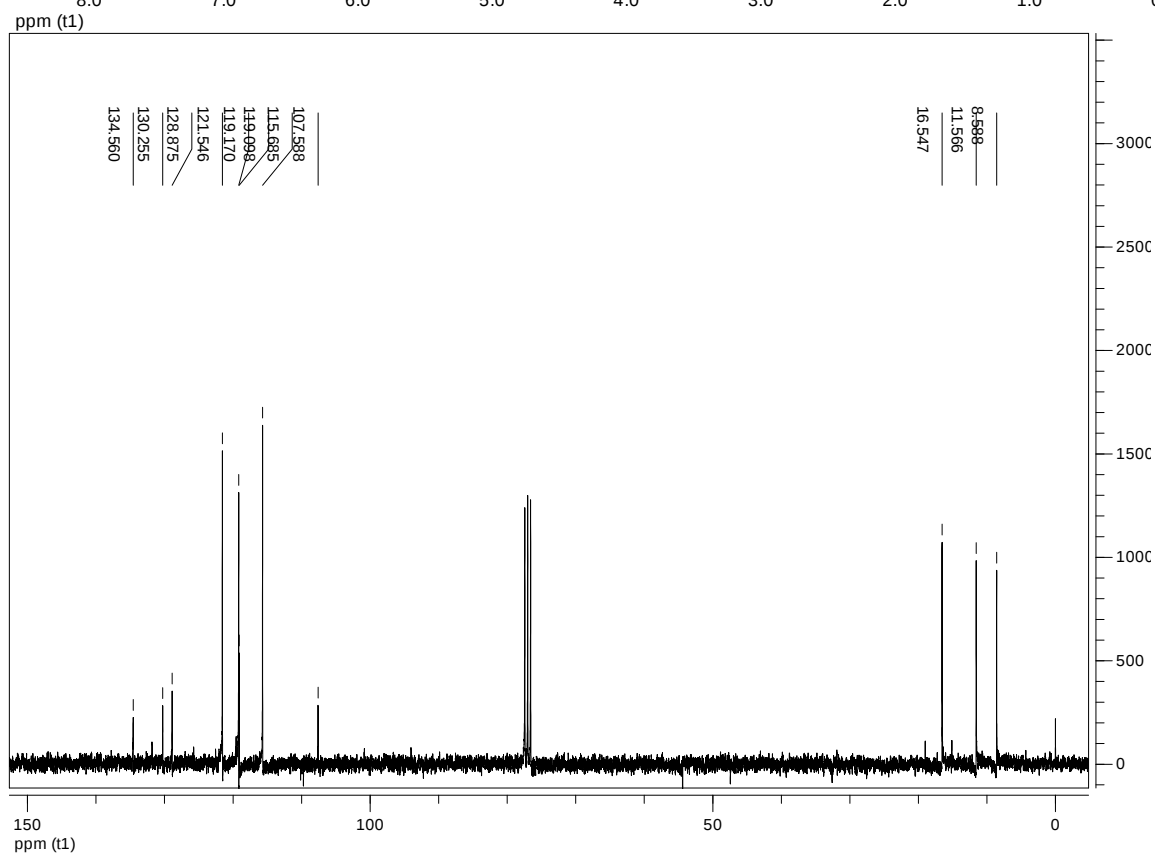
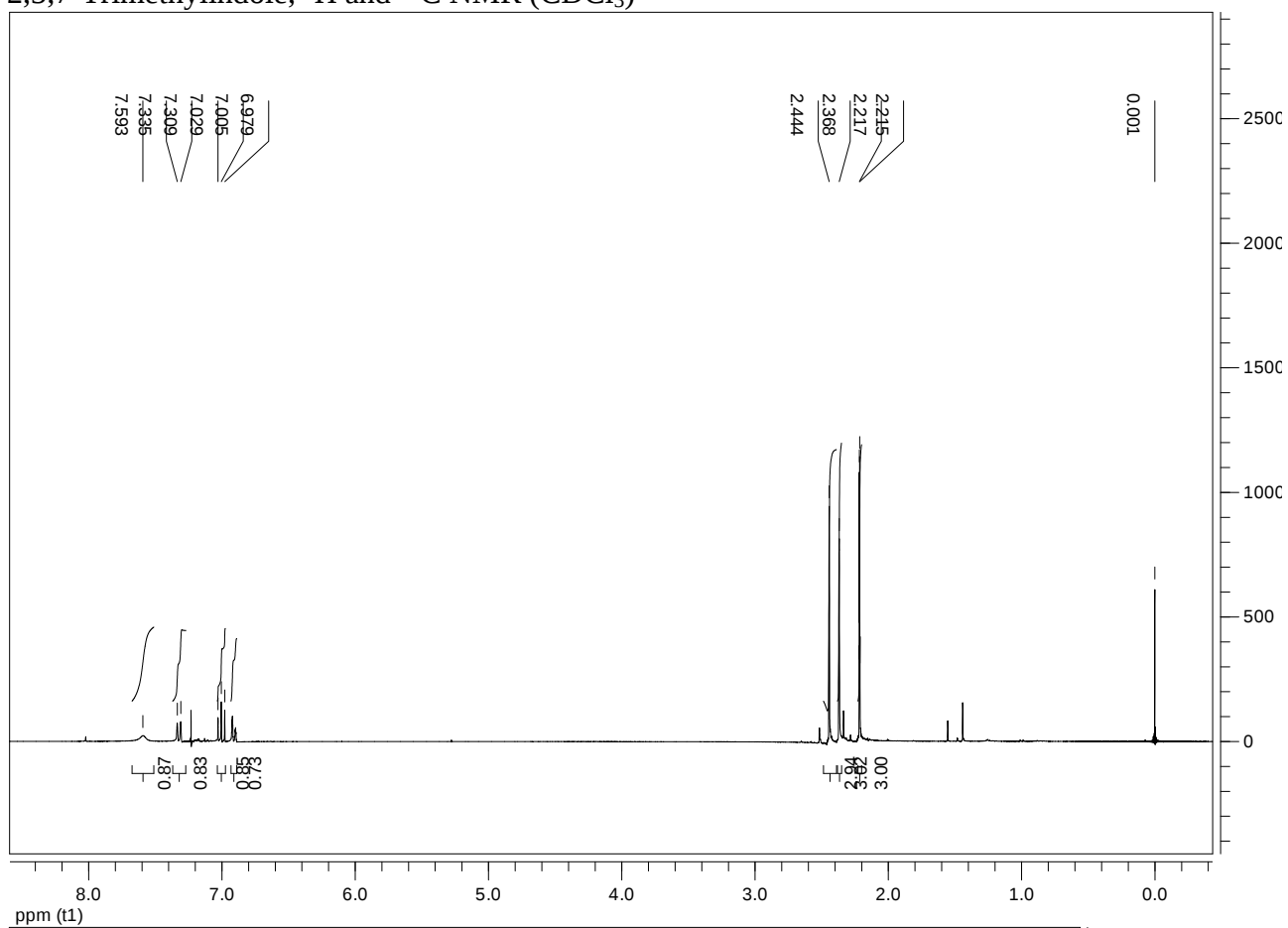
6-Fluoro-2,3-dimethylindole,  $^1\text{H}$  and  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ )



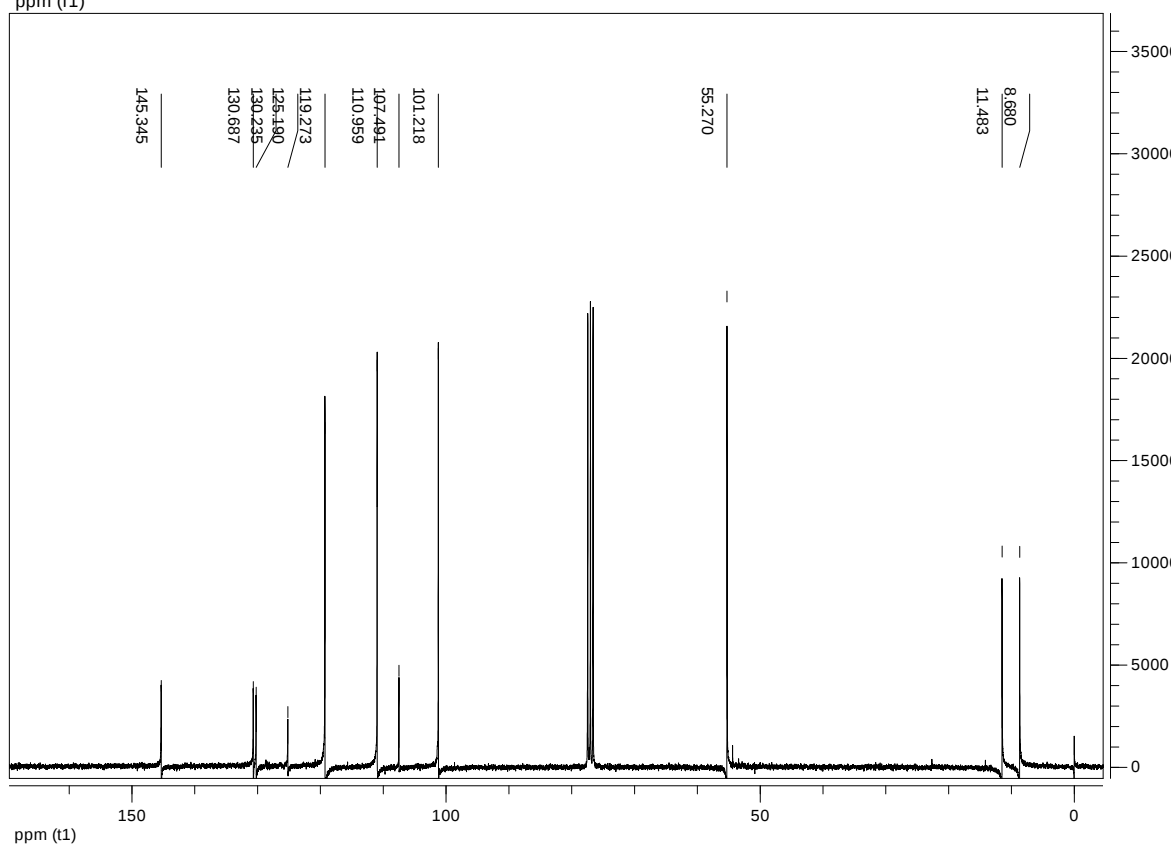
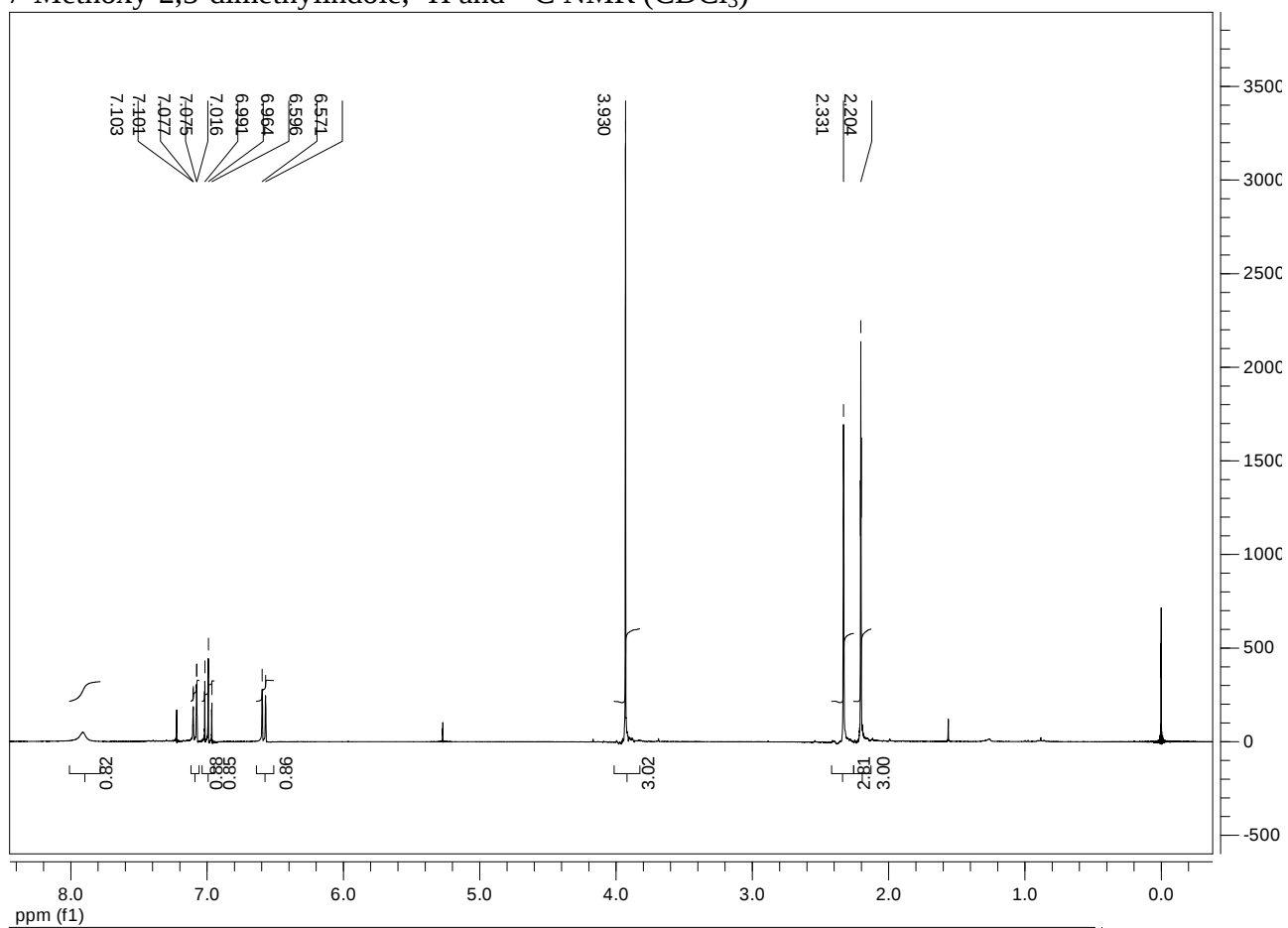
6-Fluoro-2,3-dimethylindole, HSQC



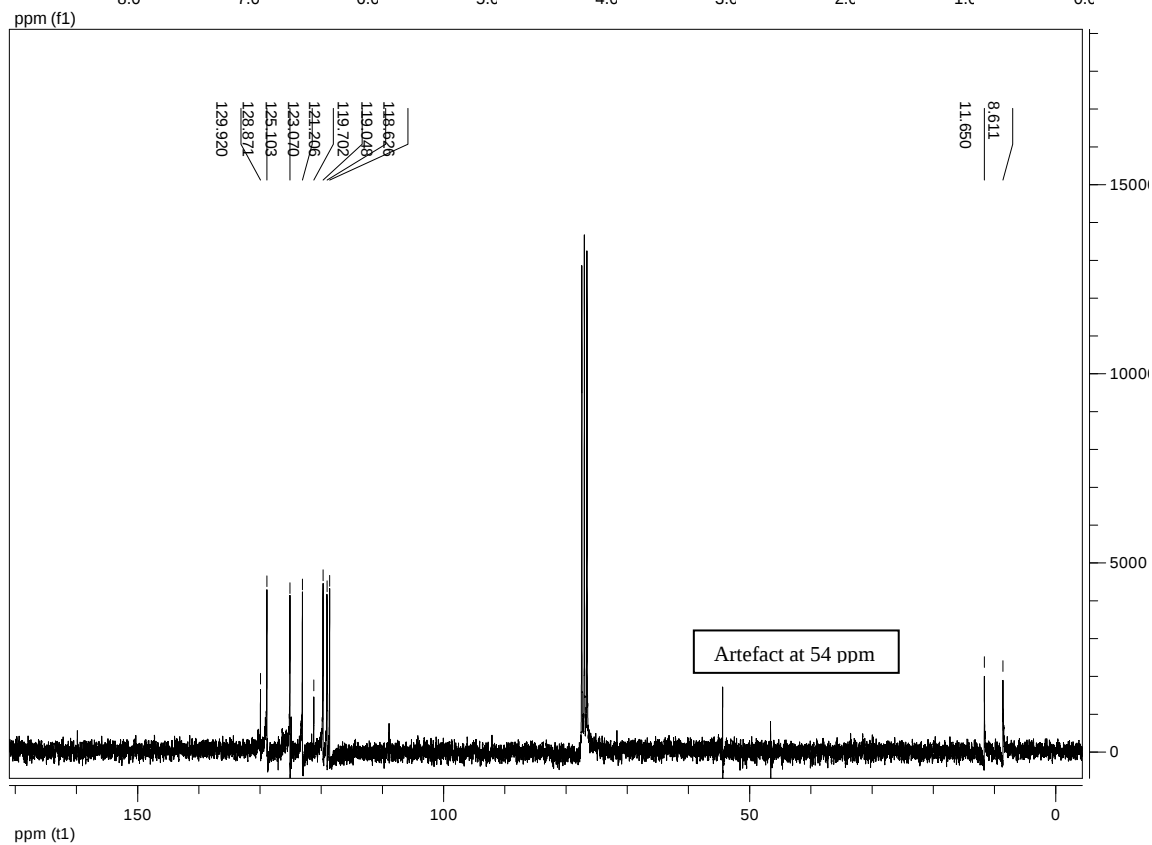
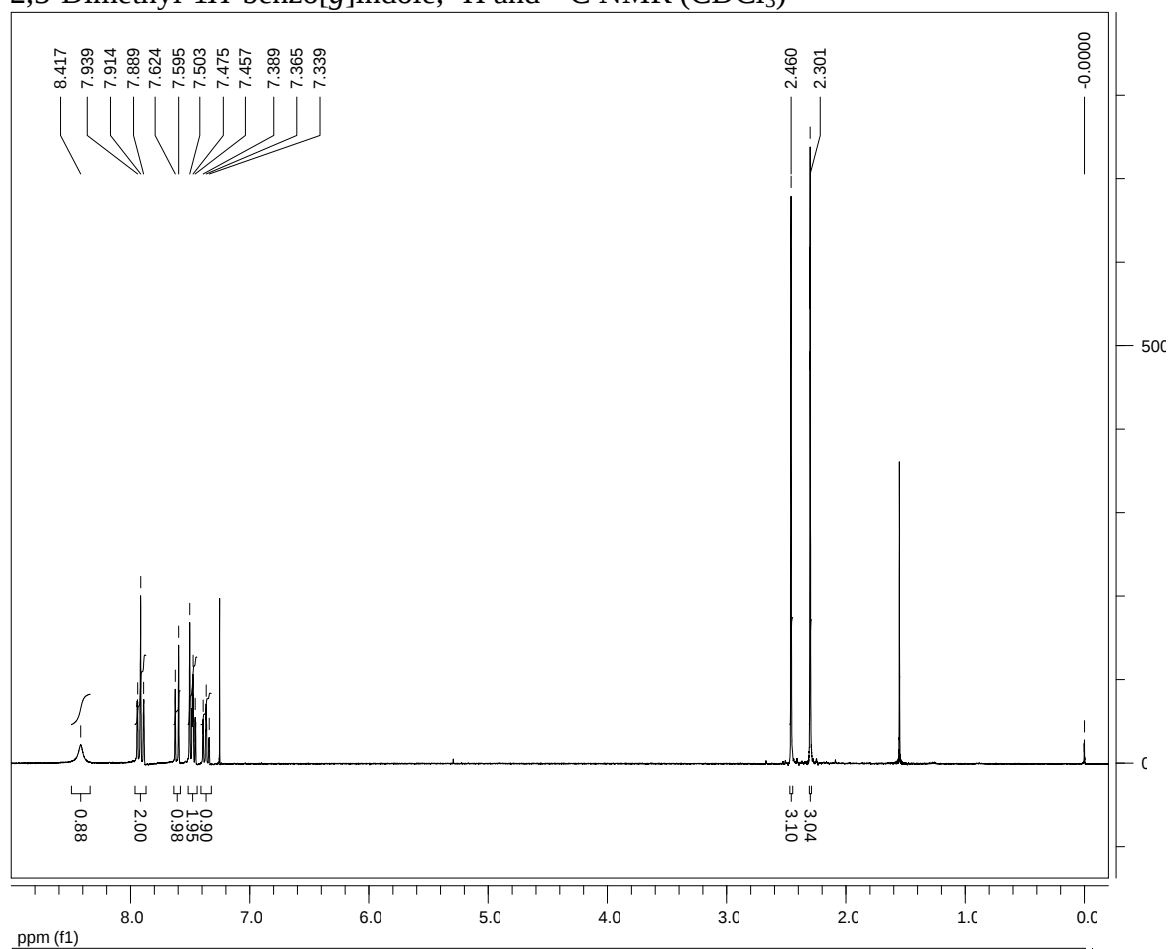
2,3,7-Trimethylindole,  $^1\text{H}$  and  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ )



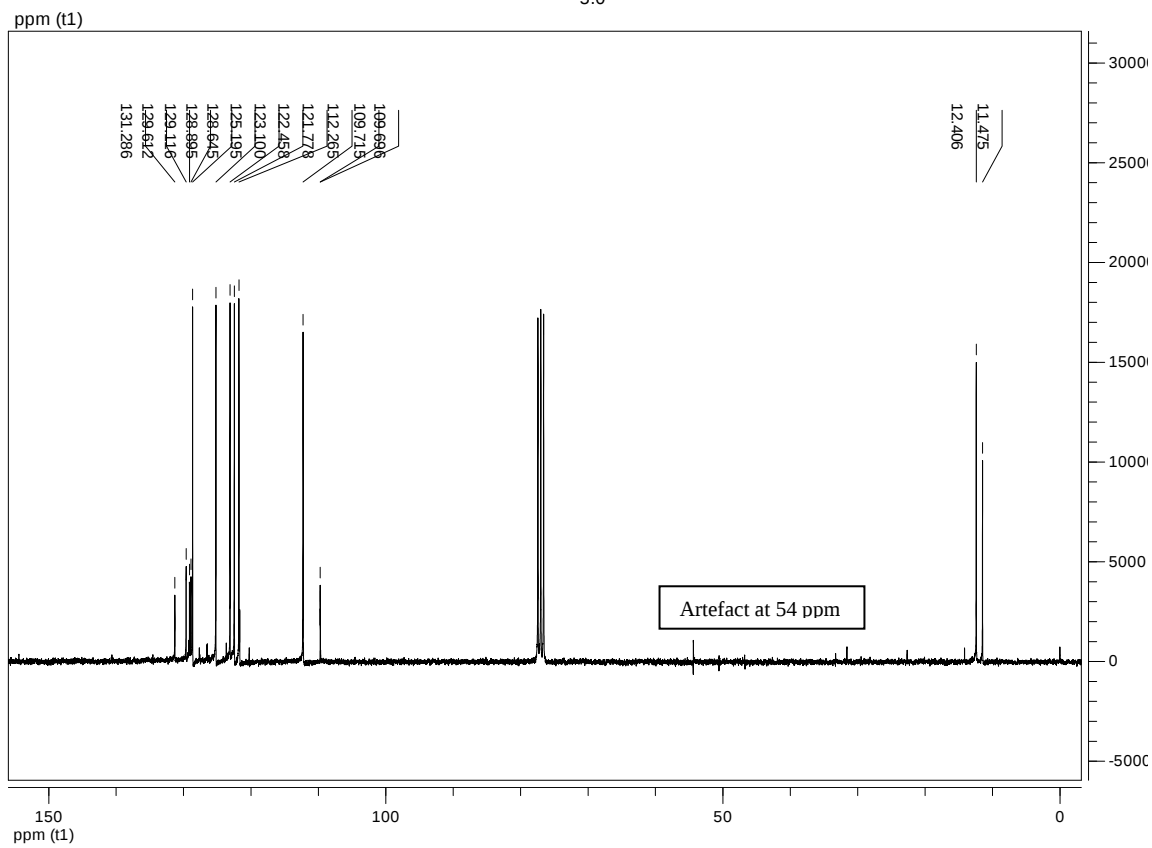
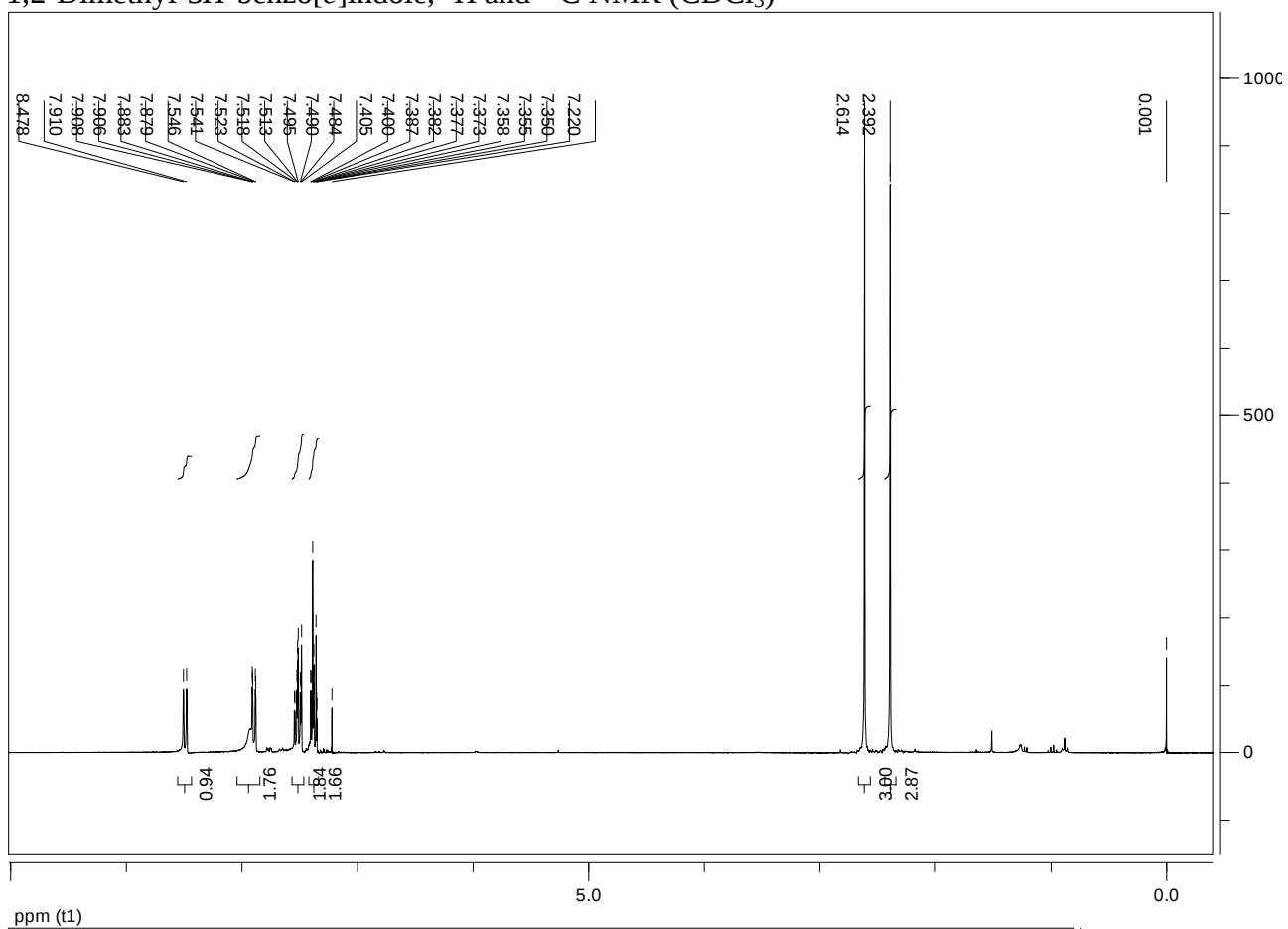
7-Methoxy-2,3-dimethylindole,  $^1\text{H}$  and  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ )



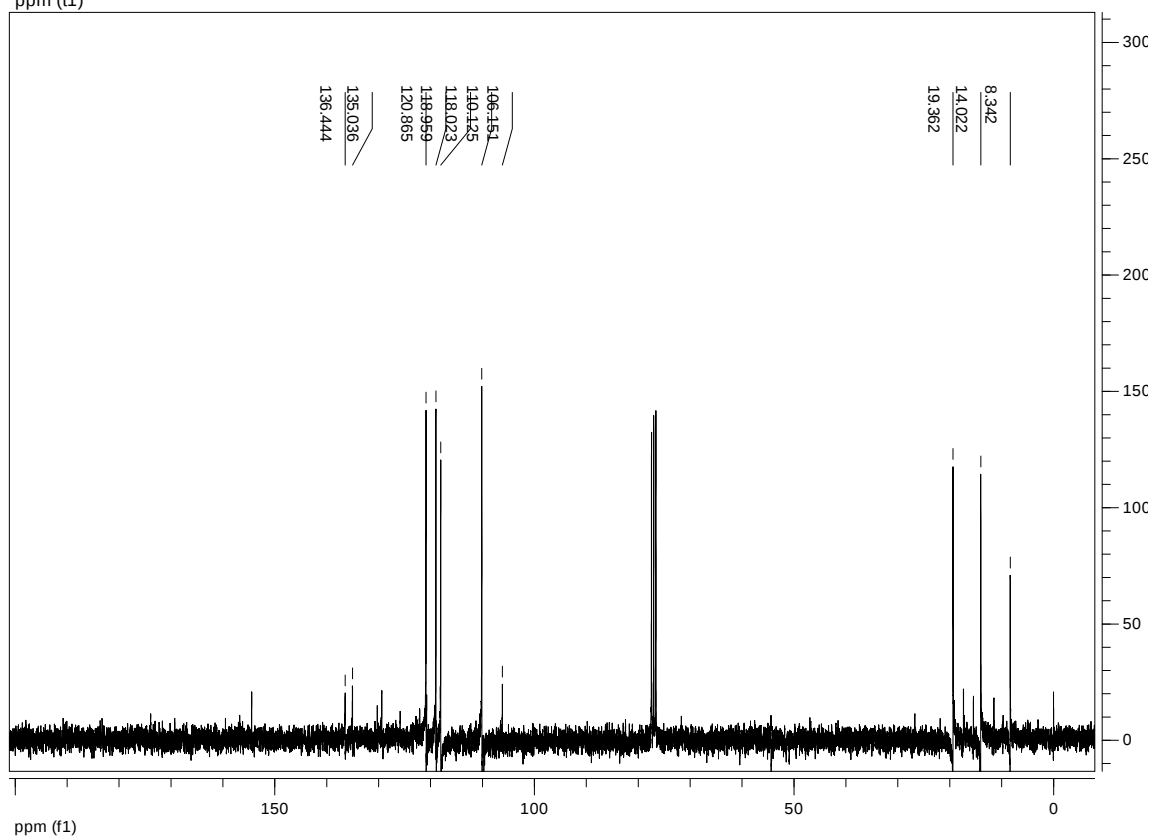
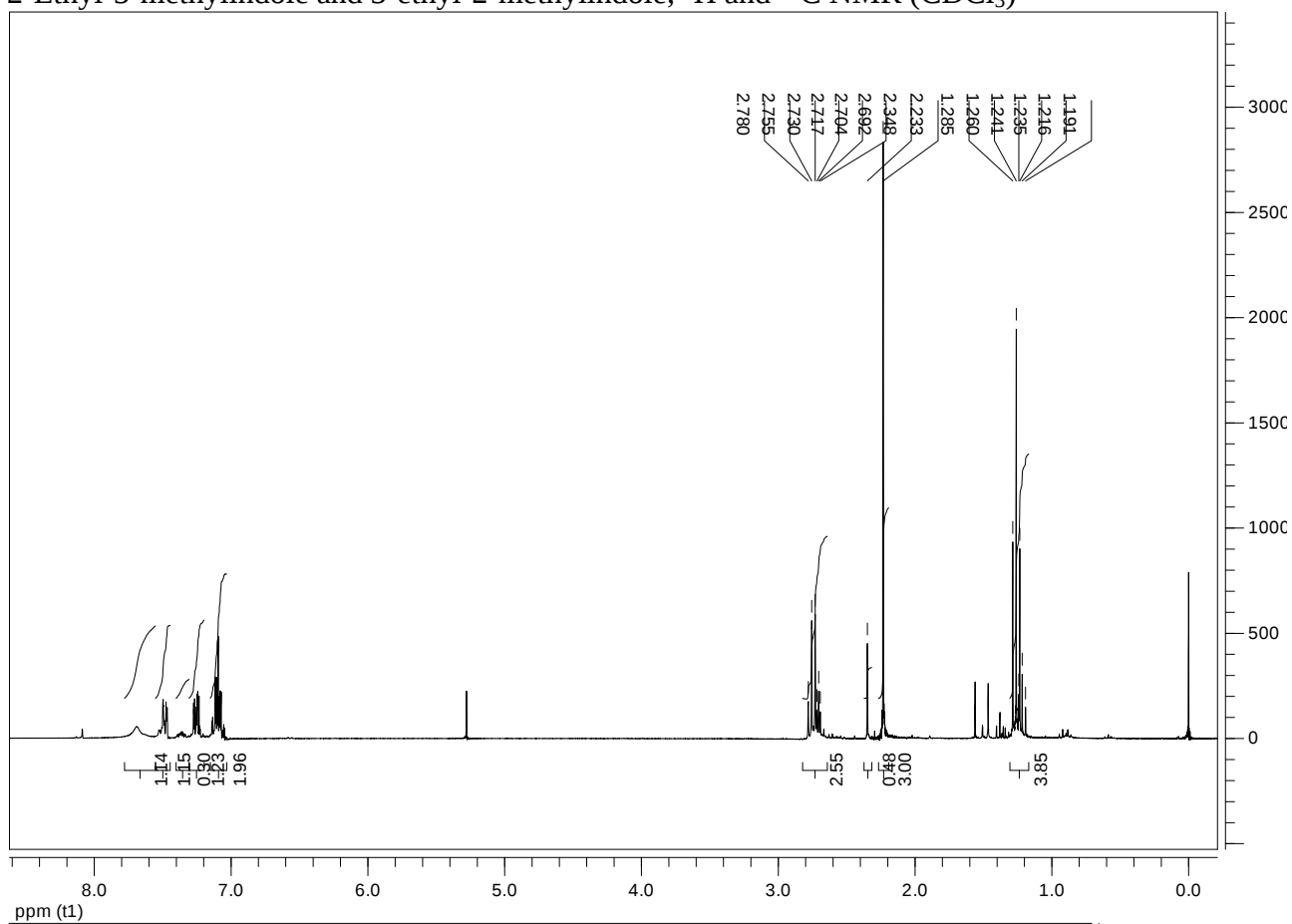
2,3-Dimethyl-1*H*-benzo[*g*]indole, <sup>1</sup>H and <sup>13</sup>C NMR (CDCl<sub>3</sub>)



1,2-Dimethyl-3*H*-benzo[*e*]indole,  $^1\text{H}$  and  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ )



2-Ethyl-3-methylindole and 3-ethyl-2-methylindole,  $^1\text{H}$  and  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ )





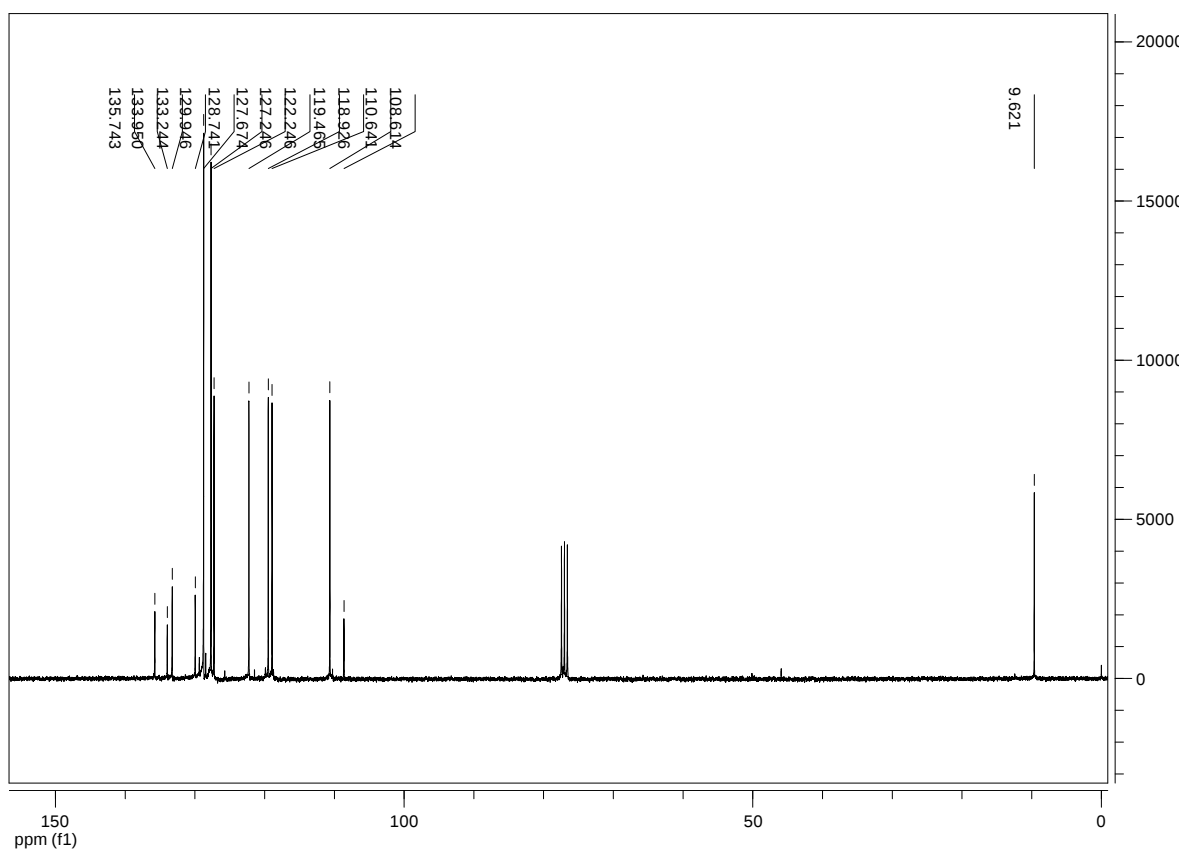
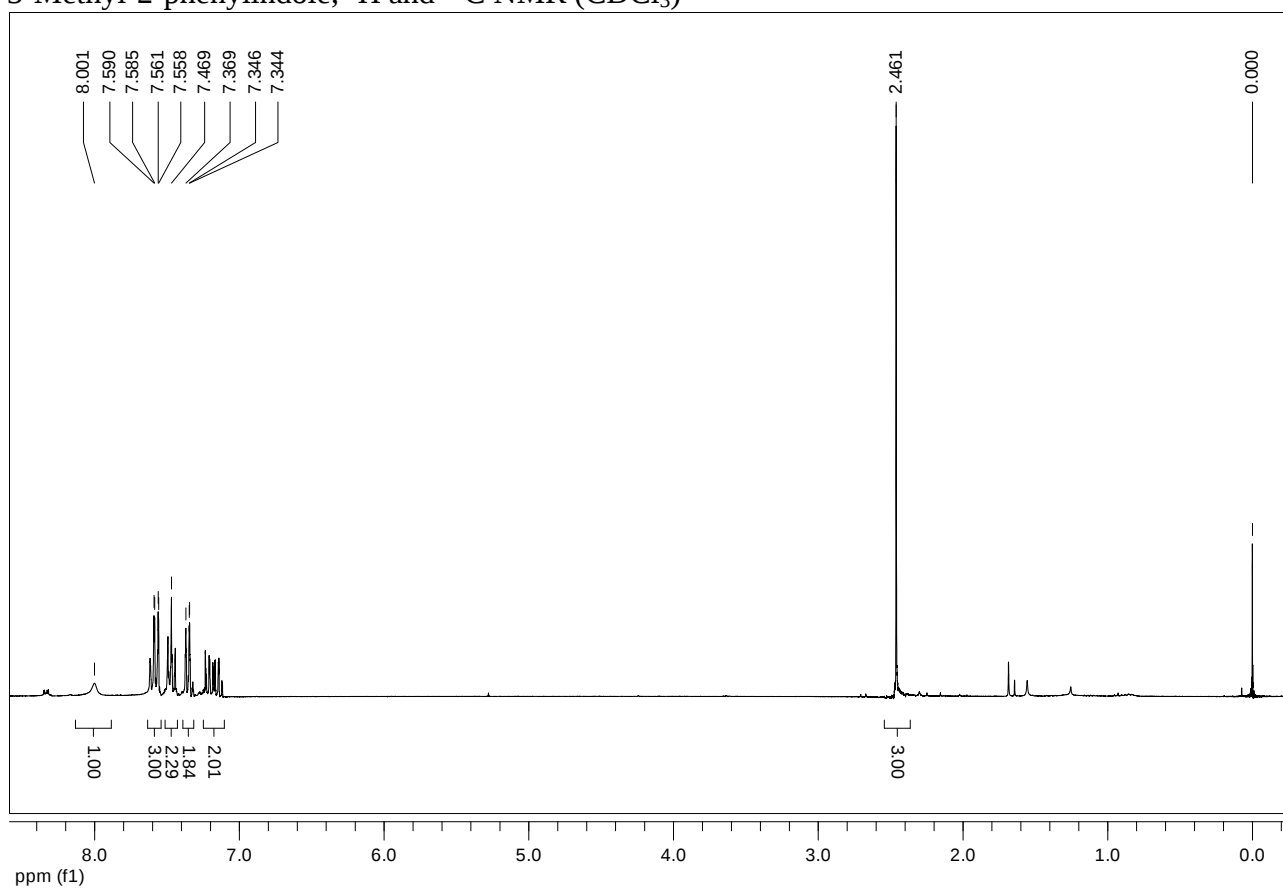
10a

Chemical shift (ppm): 7.721, 7.719, 7.504, 7.481, 7.473, 7.295, 7.289, 7.273, 7.267, 7.265, 7.141, 7.136, 7.118, 7.112, 7.103, 7.095, 7.087, 7.078, 7.073, 7.054, 7.049, 3.251, 2.248, 1.319, 1.295.

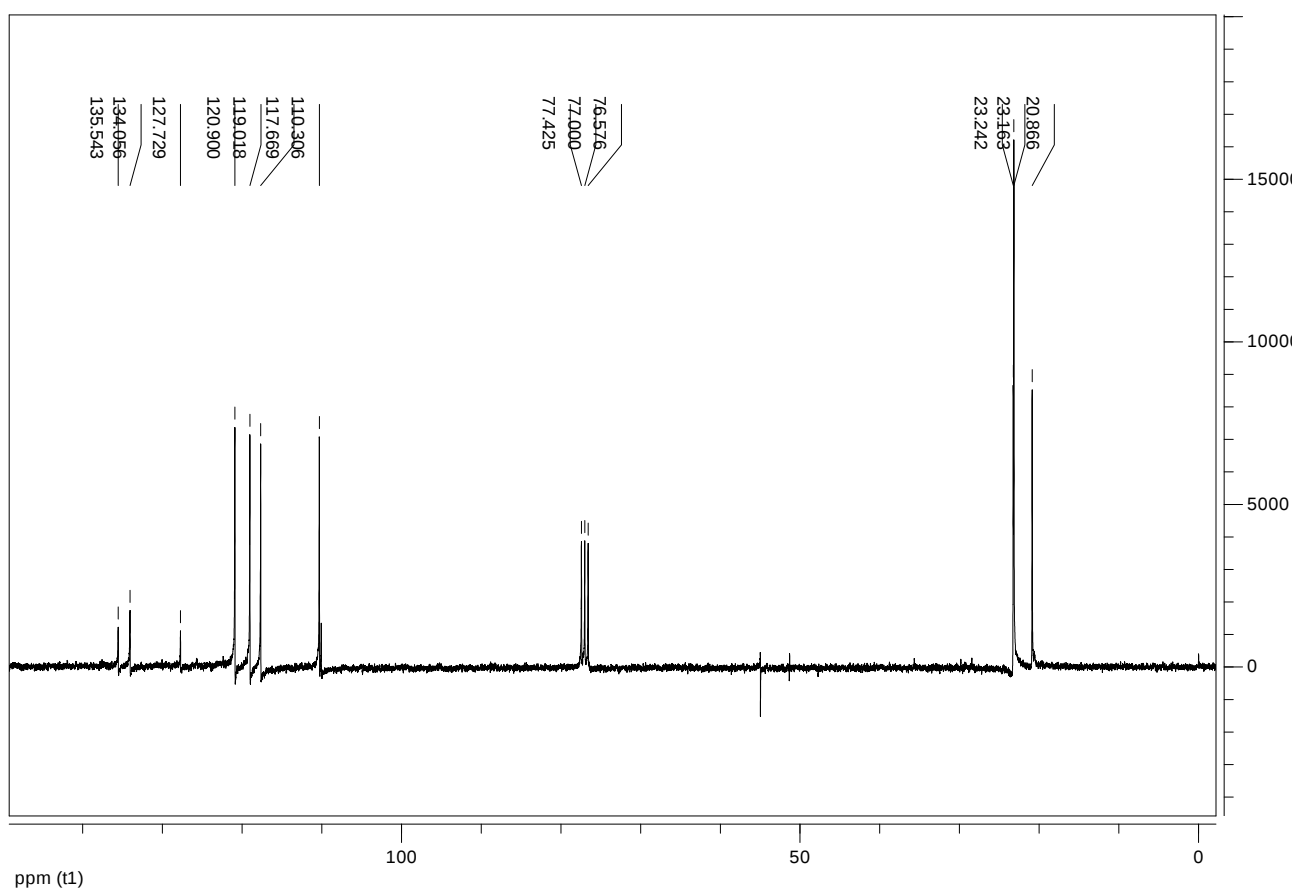
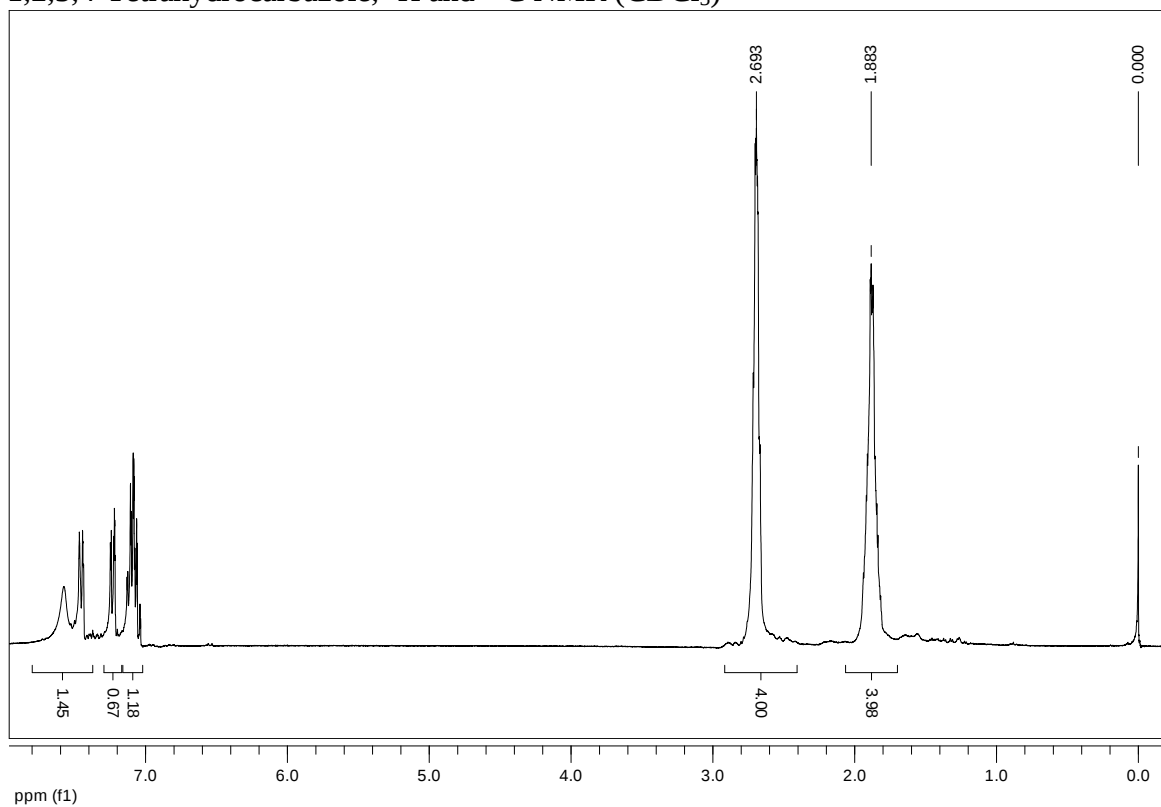
Integration values: 0.27, 1.04, 1.03, 1.01, 0.07, 0.03, 1.01.



3-Methyl-2-phenylindole,  $^1\text{H}$  and  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ )



1,2,3,4-Tetrahydrocarbazole,  $^1\text{H}$  and  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ )



2,3-Diphenylindole,  $^1\text{H}$  and  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ )

