

**Suzuki Coupling Using Benzyl Chlorides**  
**With Potassium Cyclopropyl- and Alkoxytrifluoroborates**

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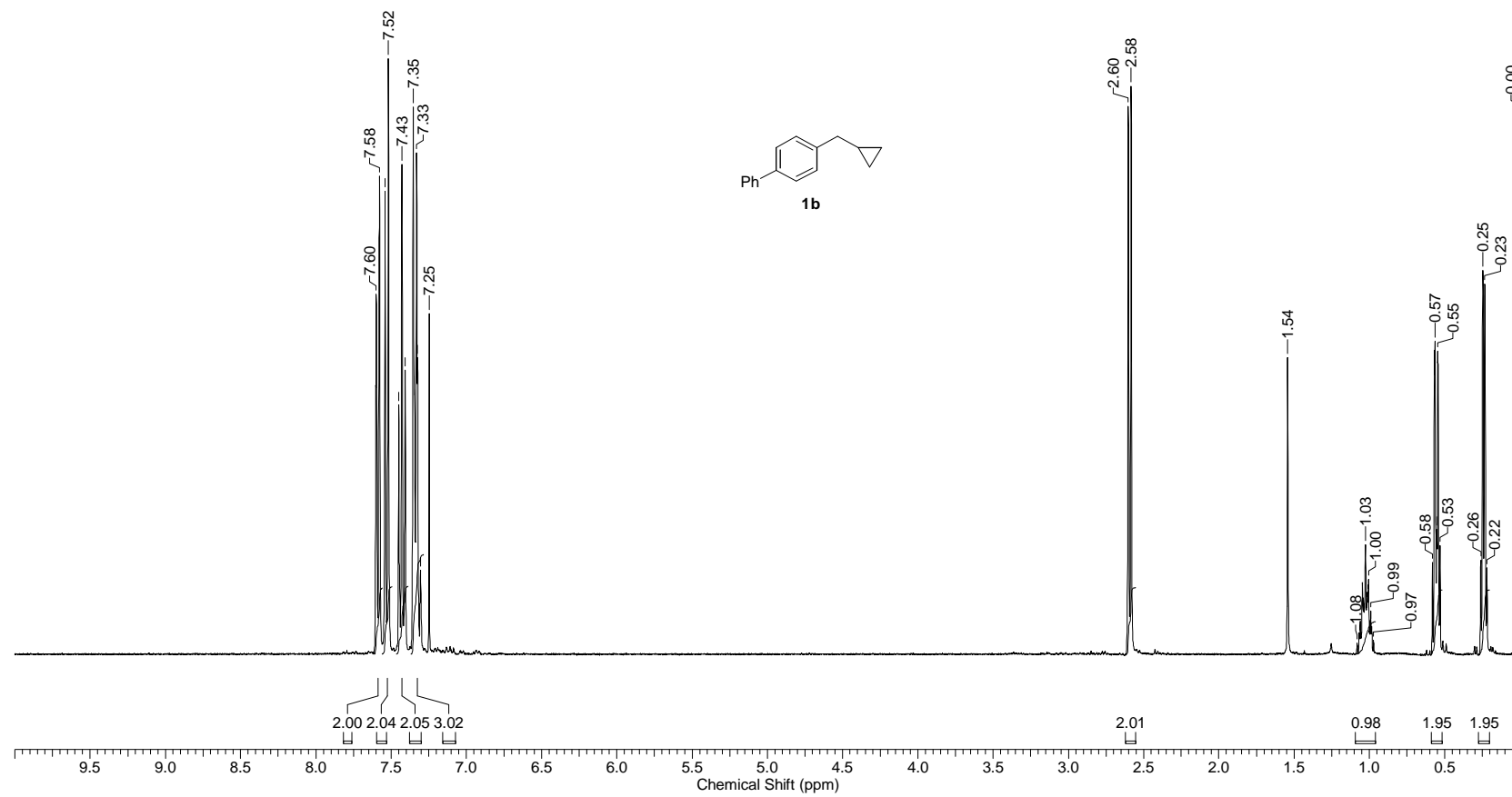
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<sup>†</sup> Roy and Diana Vagelos Laboratories, Department of Chemistry, University of Pennsylvania, Philadelphia, Pennsylvania 19104-6323, United States.

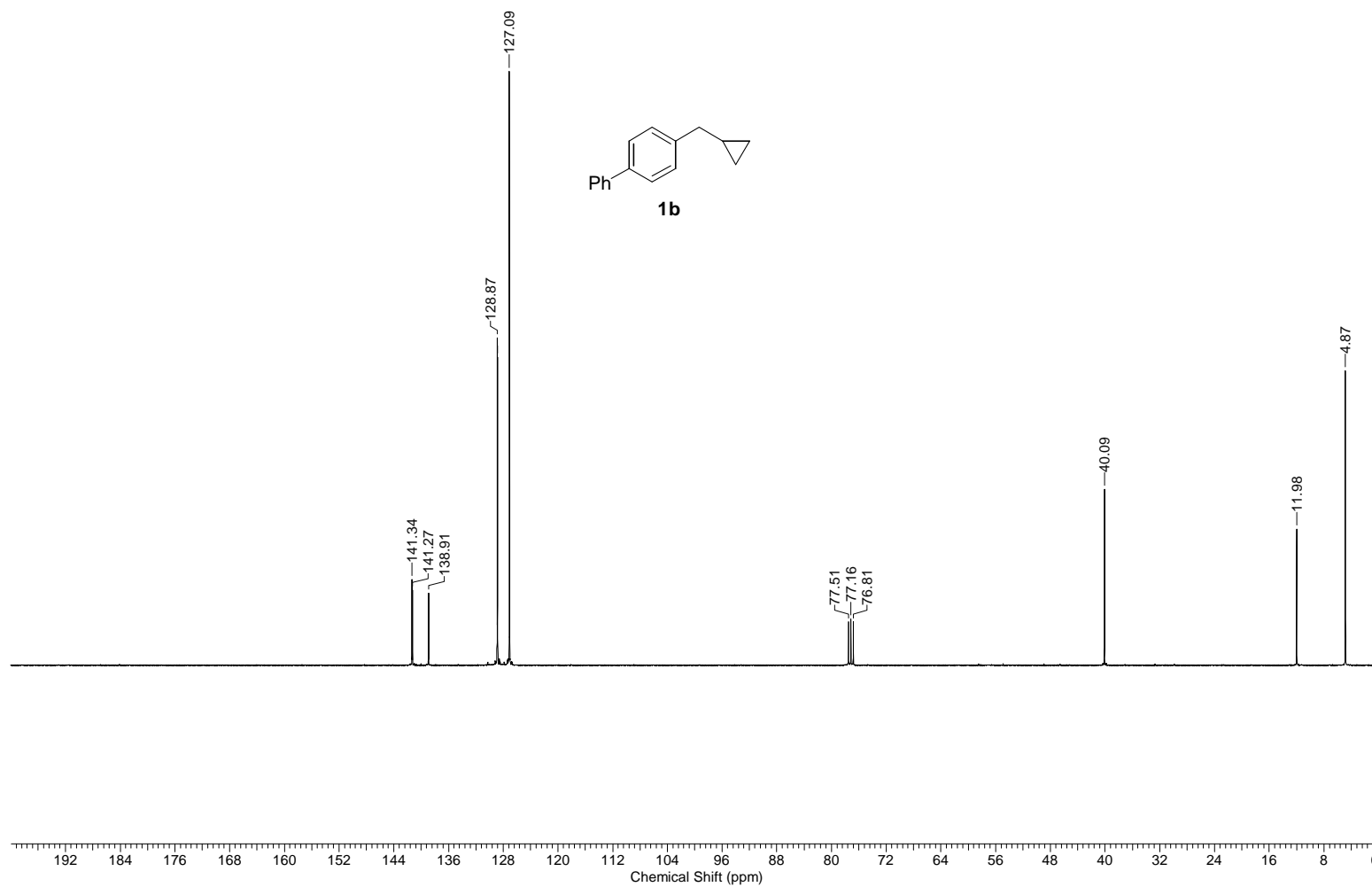
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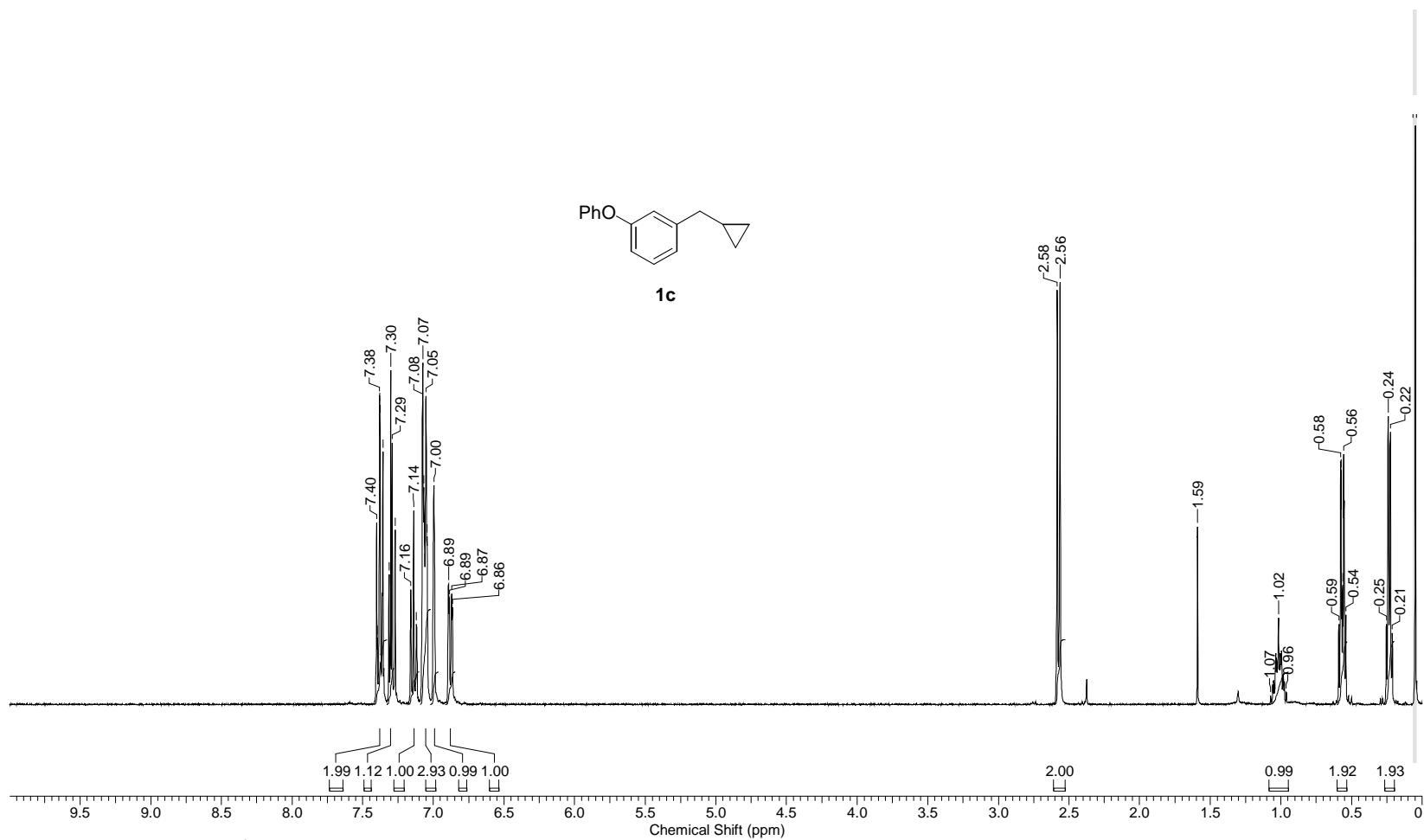
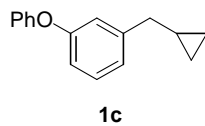
**$^1\text{H}$  and  $^{13}\text{C}$  NMR spectra of compounds 1b-l**



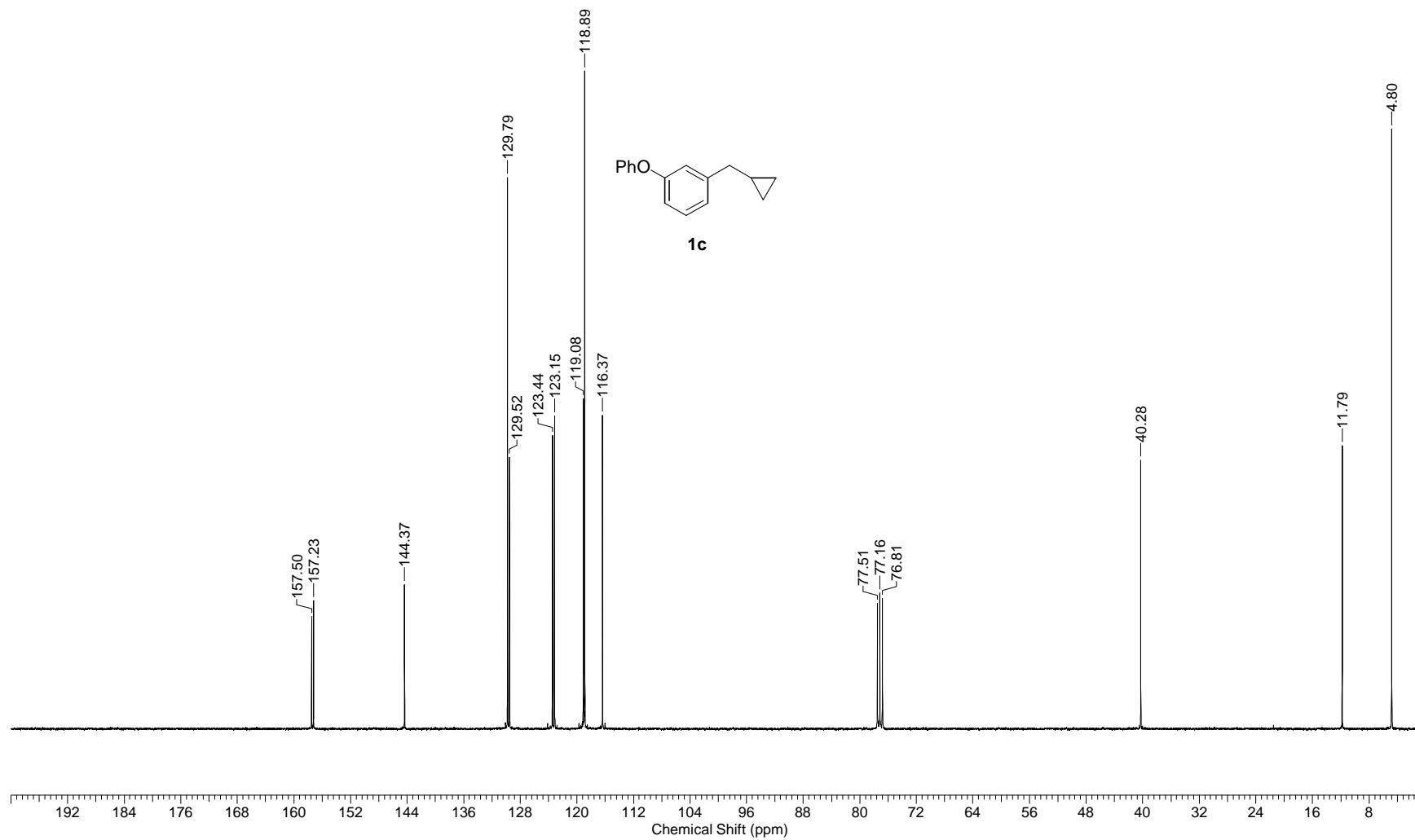
$^1\text{H}$  NMR (360 MHz,  $\text{CDCl}_3$ ) Spectrum of 4-cyclopropylmethyl-biphenyl **1b**  
(Table 2, entry 1)



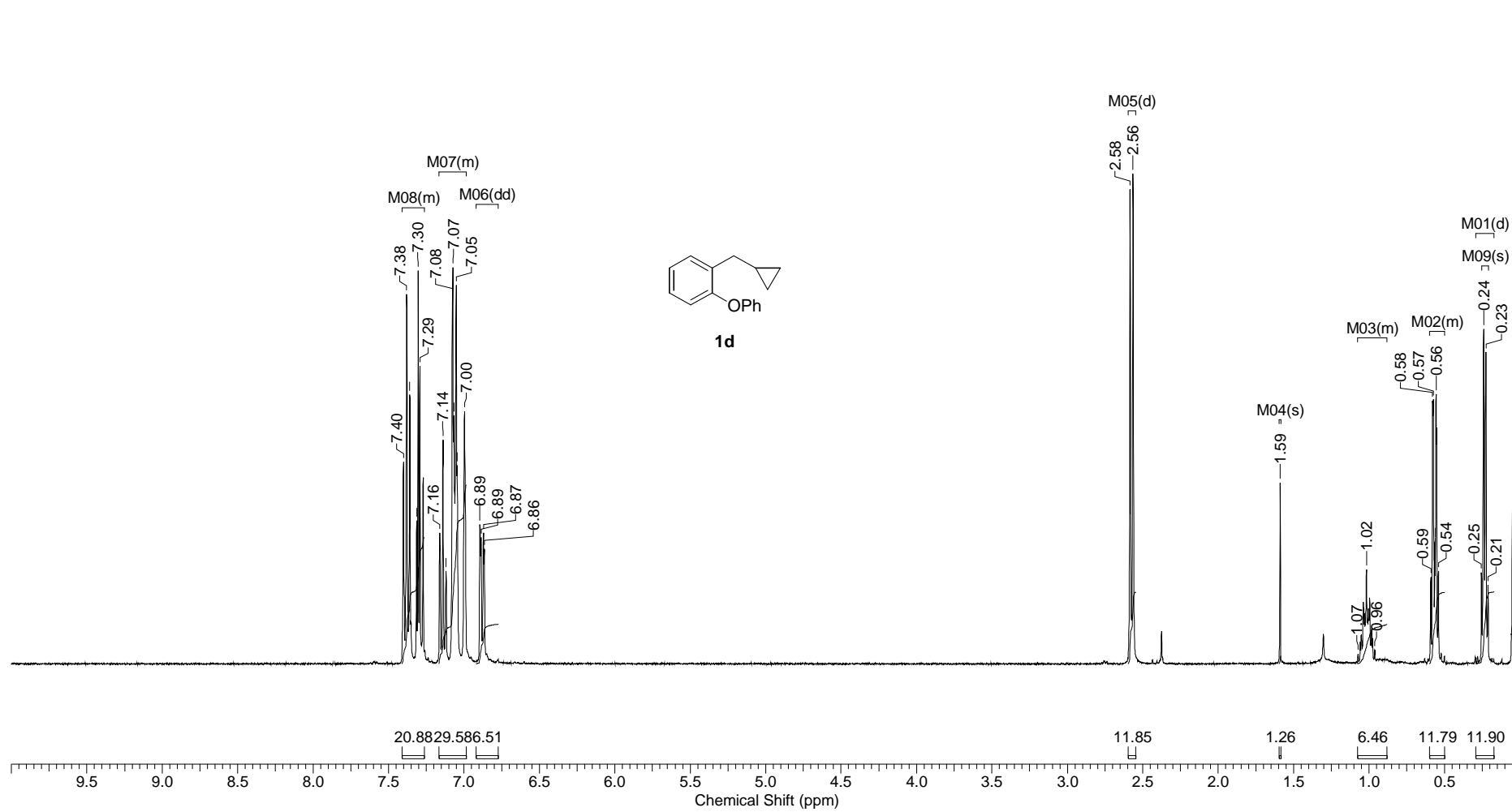
$^{13}\text{C}$  NMR (90 MHz,  $\text{CDCl}_3$ ) Spectrum of 4-cyclopropylmethyl-biphenyl **1b**  
(Table 2, entry 1)



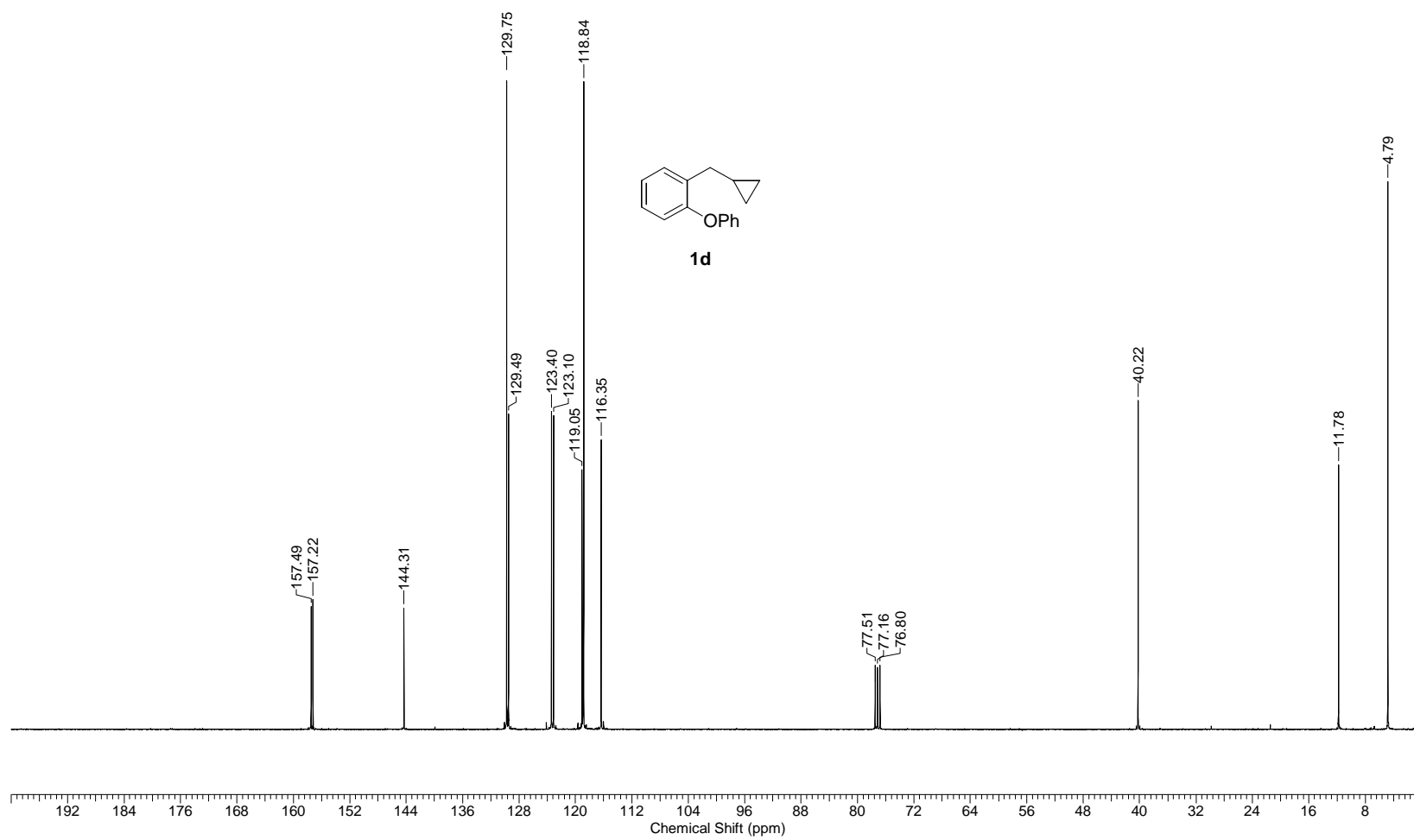
$^1\text{H}$  NMR (360 MHz,  $\text{CDCl}_3$ ) Spectrum of 1-cyclopropylmethyl-3-phenoxybenzene **1c**  
(Table 2, entry 2)



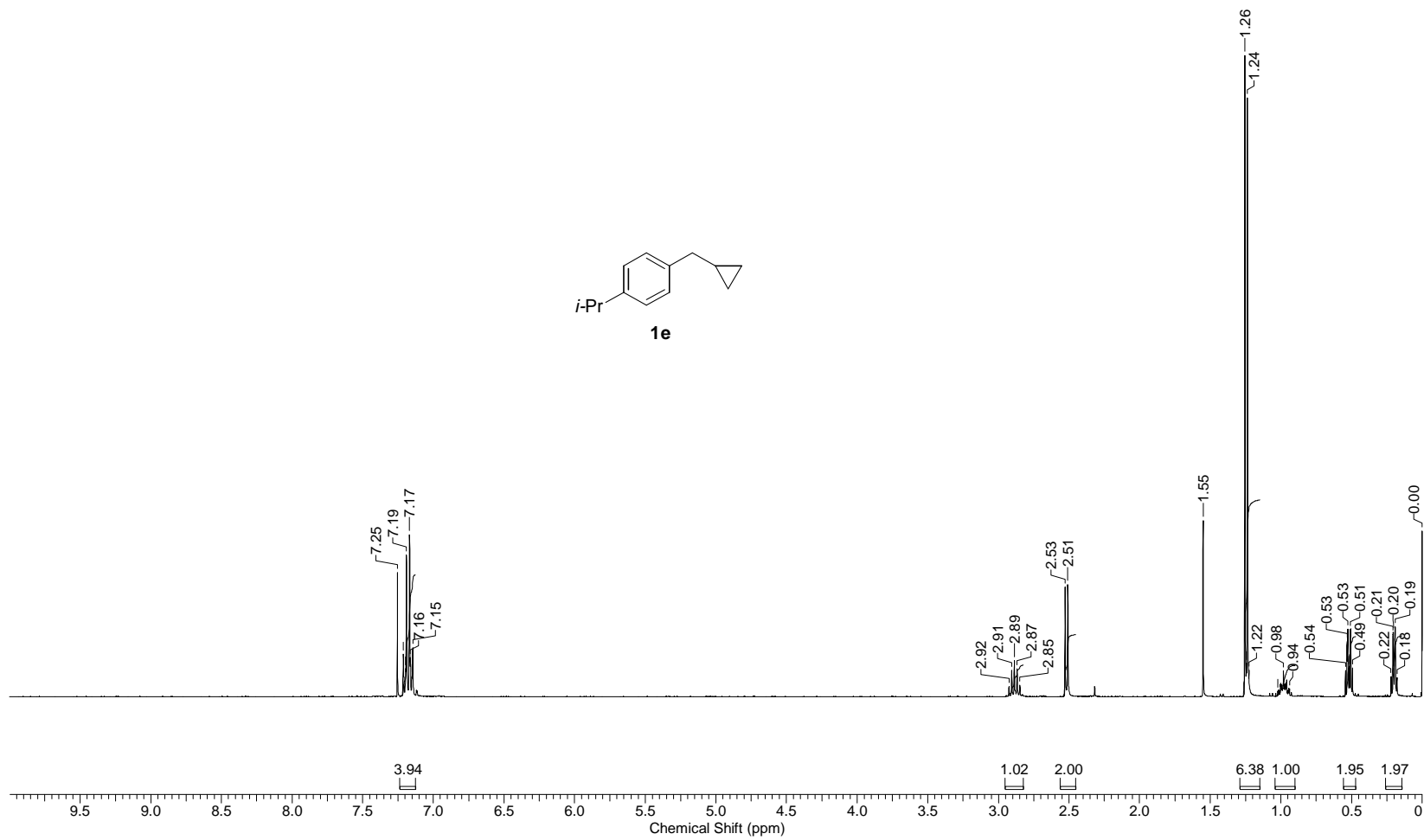
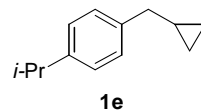
<sup>13</sup>C NMR (90 MHz, CDCl<sub>3</sub>) Spectrum of 1-cyclopropylmethyl-3-phenoxybenzene **1c**  
(Table 2, entry 2)



<sup>1</sup>H NMR (360 MHz, CDCl<sub>3</sub>) Spectrum of 1-cyclopropylmethyl-2-phenoxybenzene **1d**  
(Table 2, entry 3)

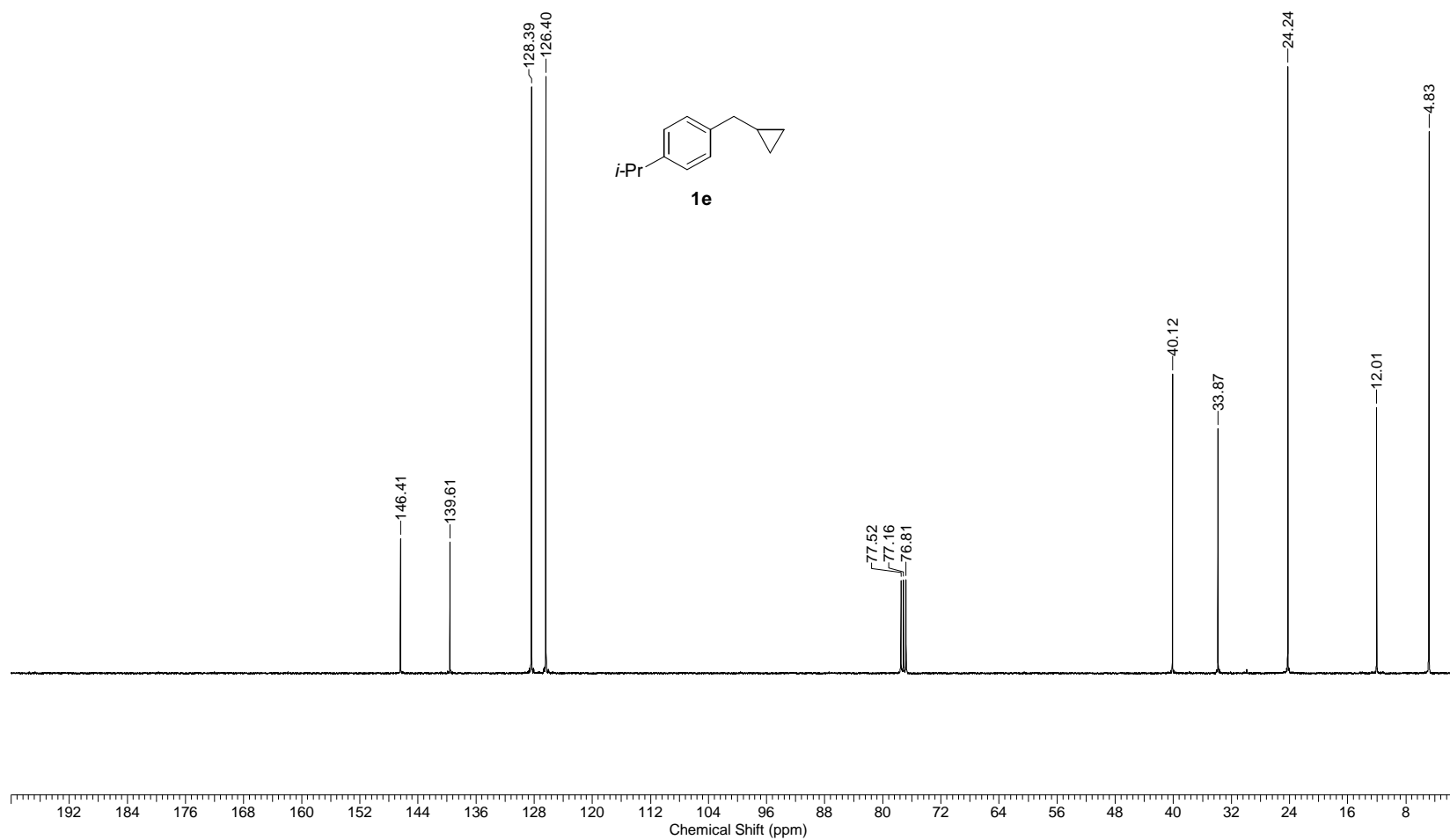


<sup>13</sup>C NMR (90 MHz, CDCl<sub>3</sub>) Spectrum of 1-Cyclopropylmethyl-2-phenoxybenzene **1d**  
(Table 2, entry 3)

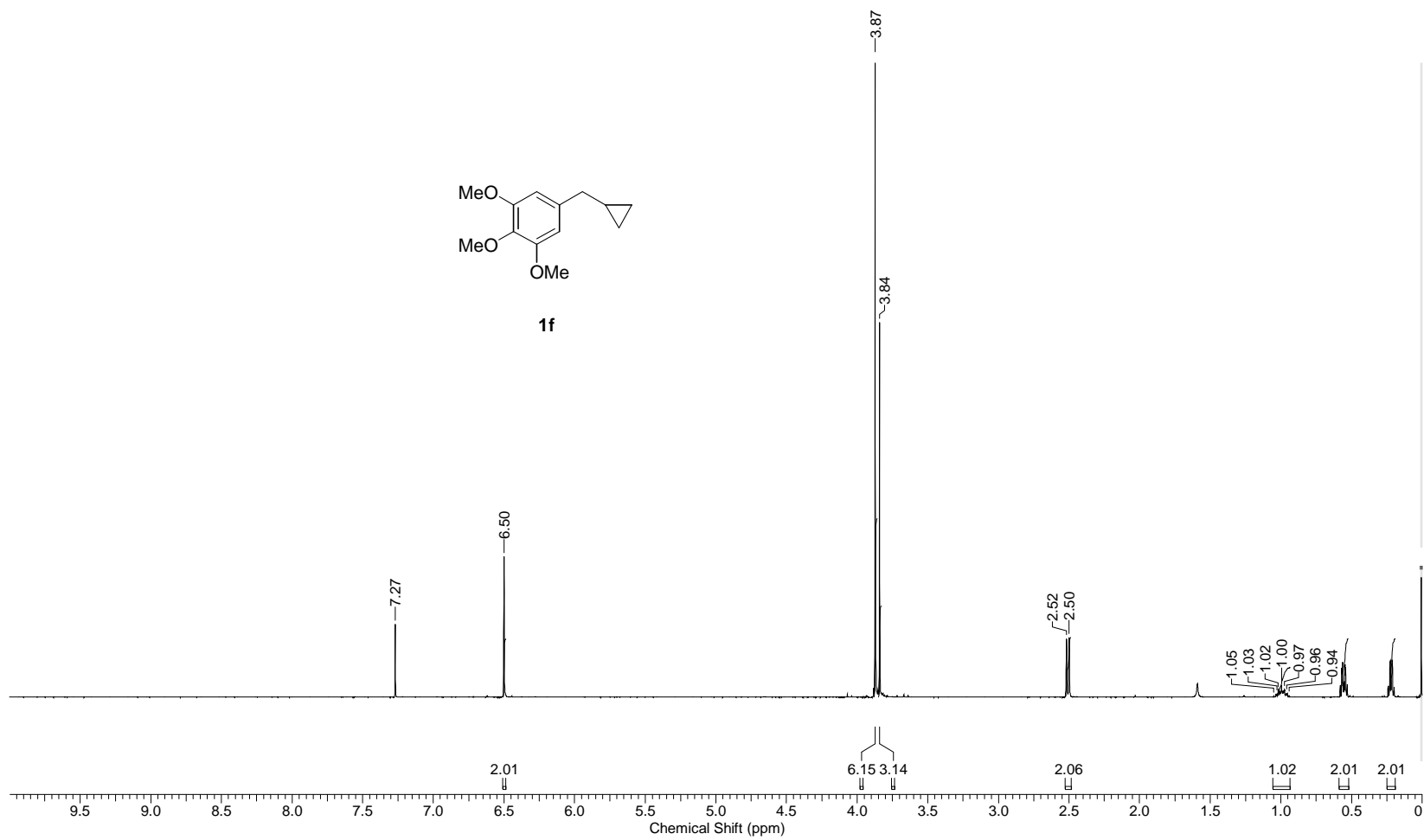


<sup>1</sup>H NMR (360 MHz, CDCl<sub>3</sub>) Spectrum of 1-cyclopropylmethyl-4-(propan-2-yl)benzene **1e**  
(Table 2, entry 4)

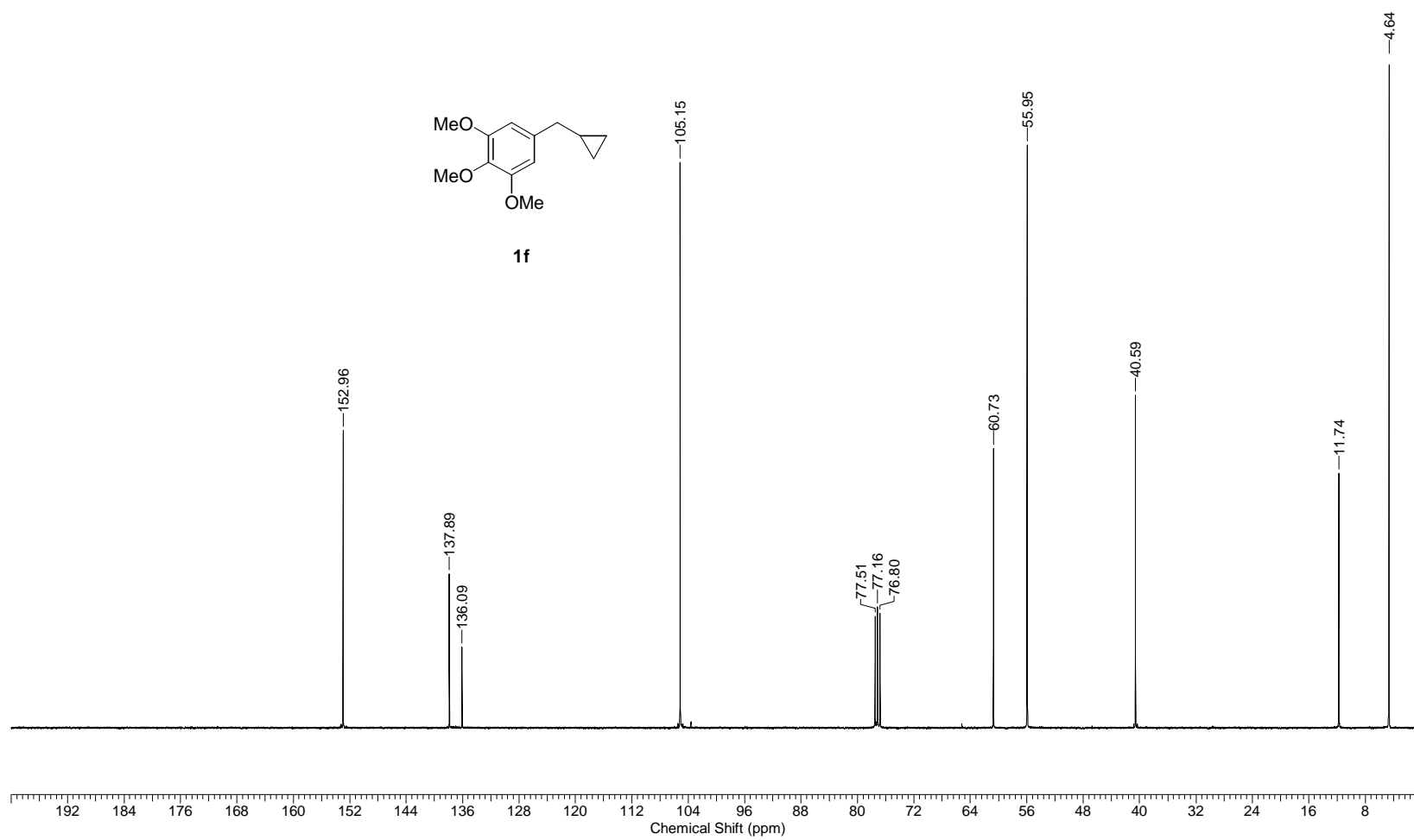




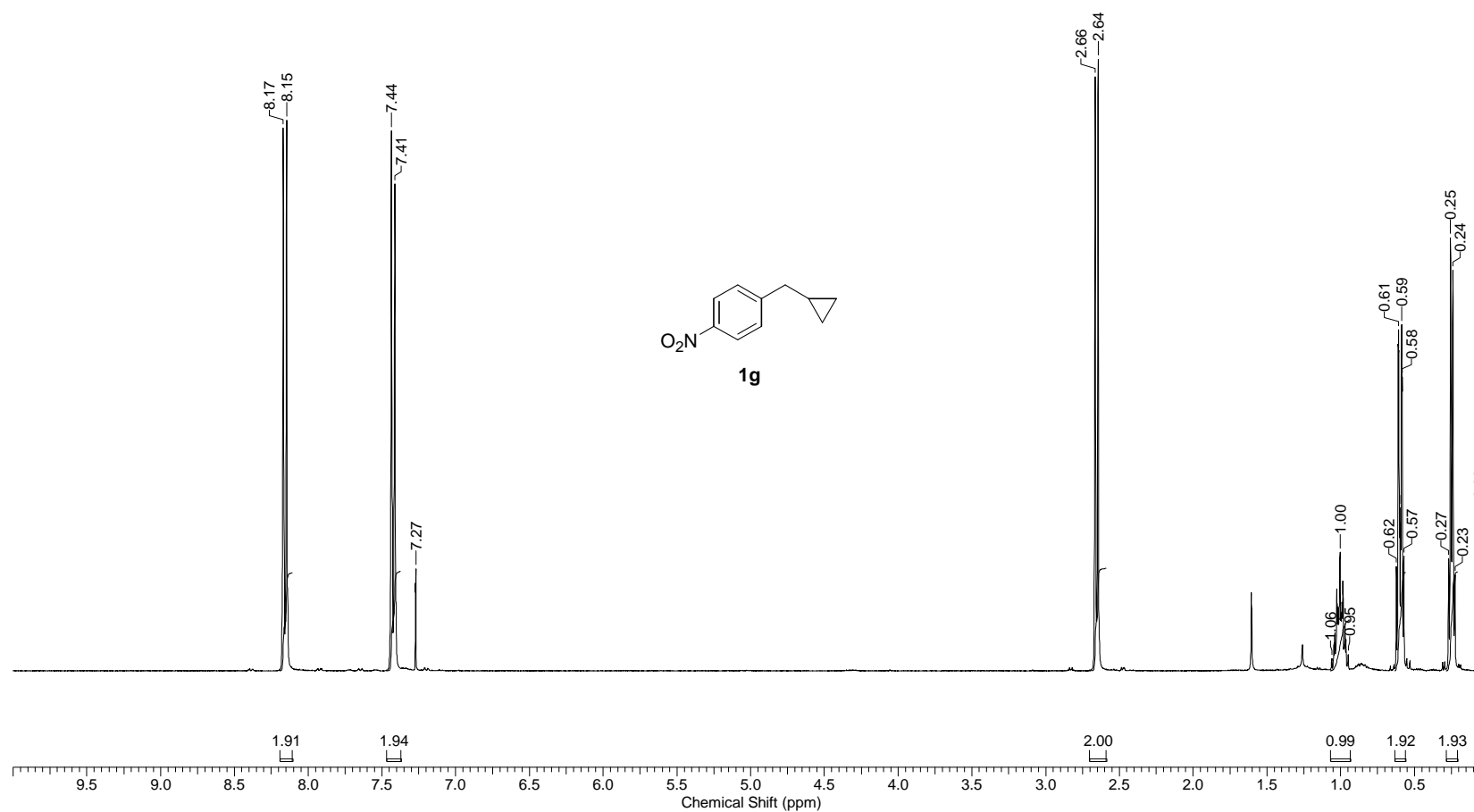
$^{13}\text{C}$  NMR (90 MHz,  $\text{CDCl}_3$ ) Spectrum of 1-cyclopropylmethyl-4-(propan-2-yl)benzene **1e**  
(Table 2, entry 4)



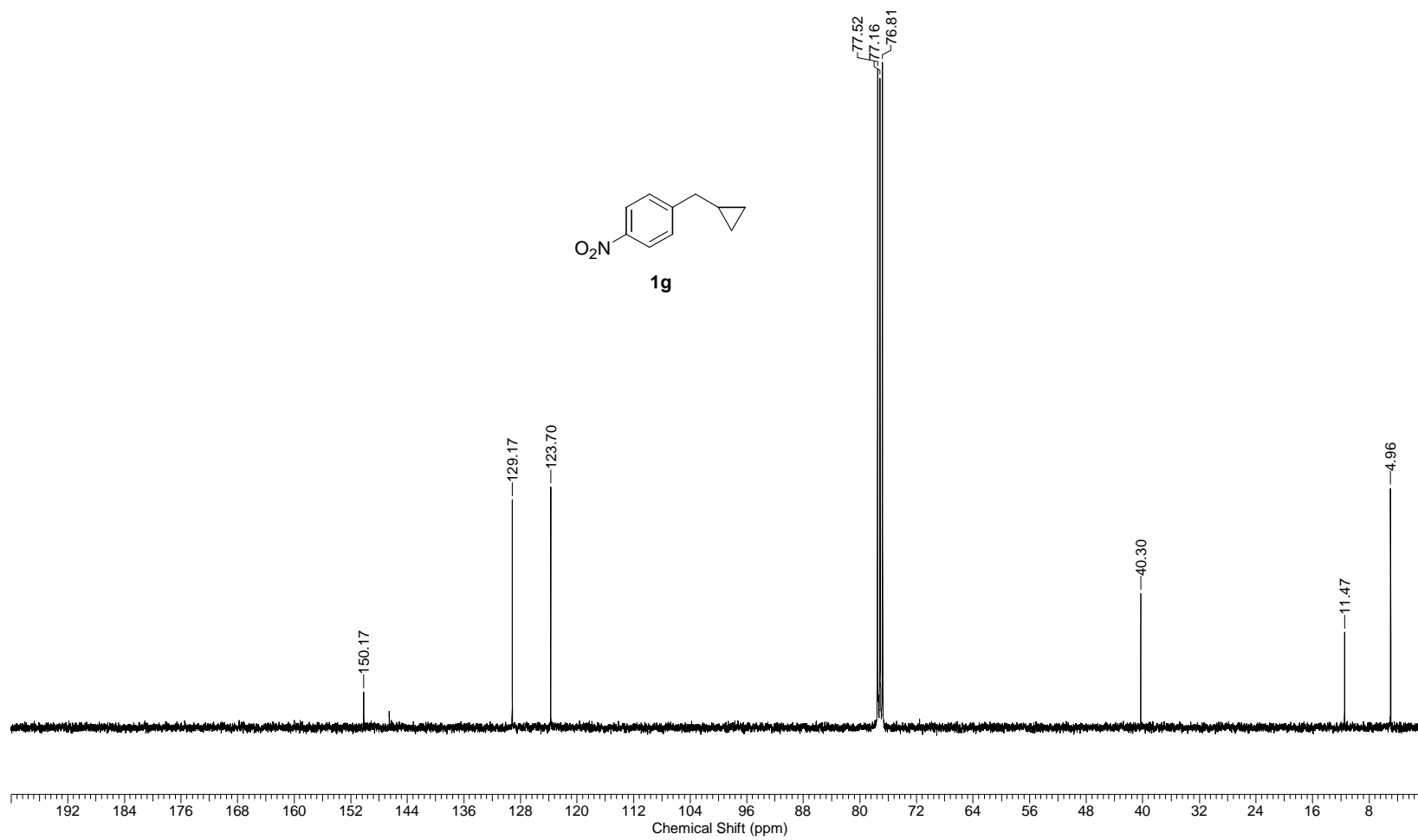
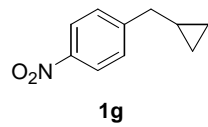
<sup>1</sup>H NMR (360 MHz, CDCl<sub>3</sub>) Spectrum of 5-cyclopropylmethyl-1,2,3-trimethoxybenzene **1f**  
(Table 2, entry 5)



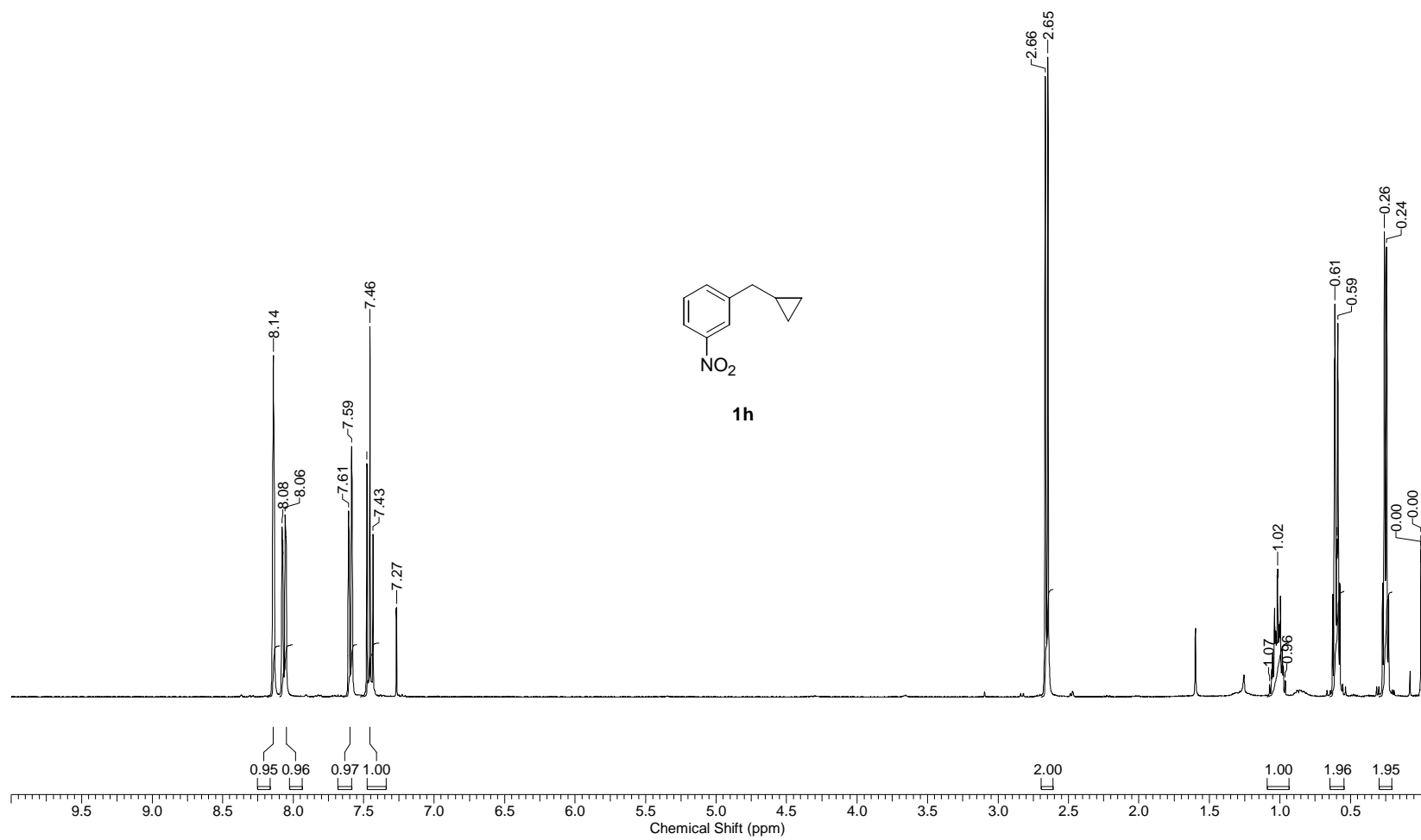
<sup>13</sup>C NMR (90 MHz, CDCl<sub>3</sub>) Spectrum of 5-cyclopropylmethyl-1,2,3-trimethoxybenzene **1f**  
(Table 2, entry 5)



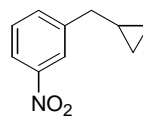
$^1\text{H}$  NMR (360 MHz,  $\text{CDCl}_3$ ) Spectrum of 1-cyclopropylmethyl-4-nitrobenzene **1g**  
(Table 2, entry 6)



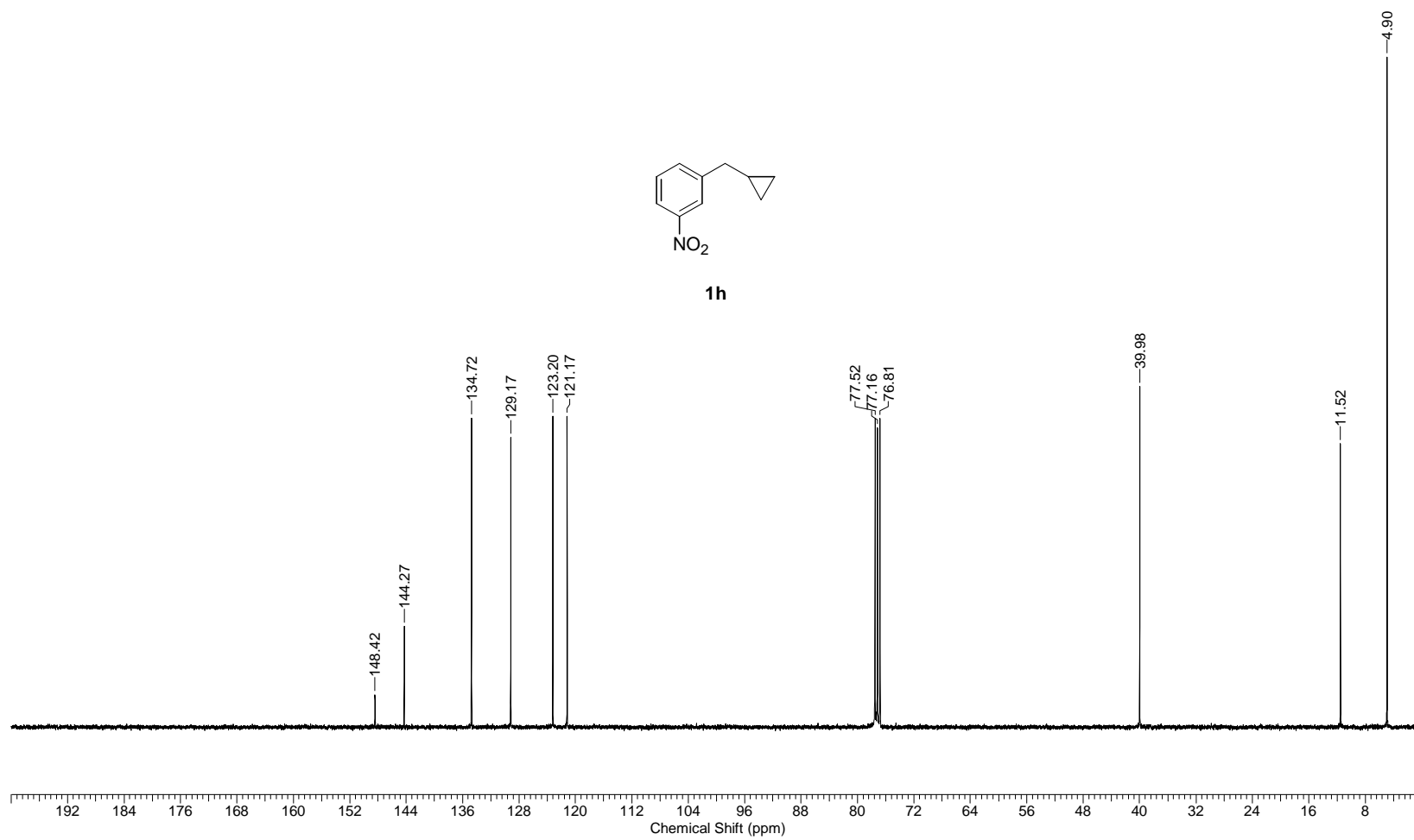
<sup>13</sup>C NMR (90 MHz, CDCl<sub>3</sub>) Spectrum of 1-cyclopropylmethyl-4-nitrobenzene **1g**  
(Table 2, entry 6)



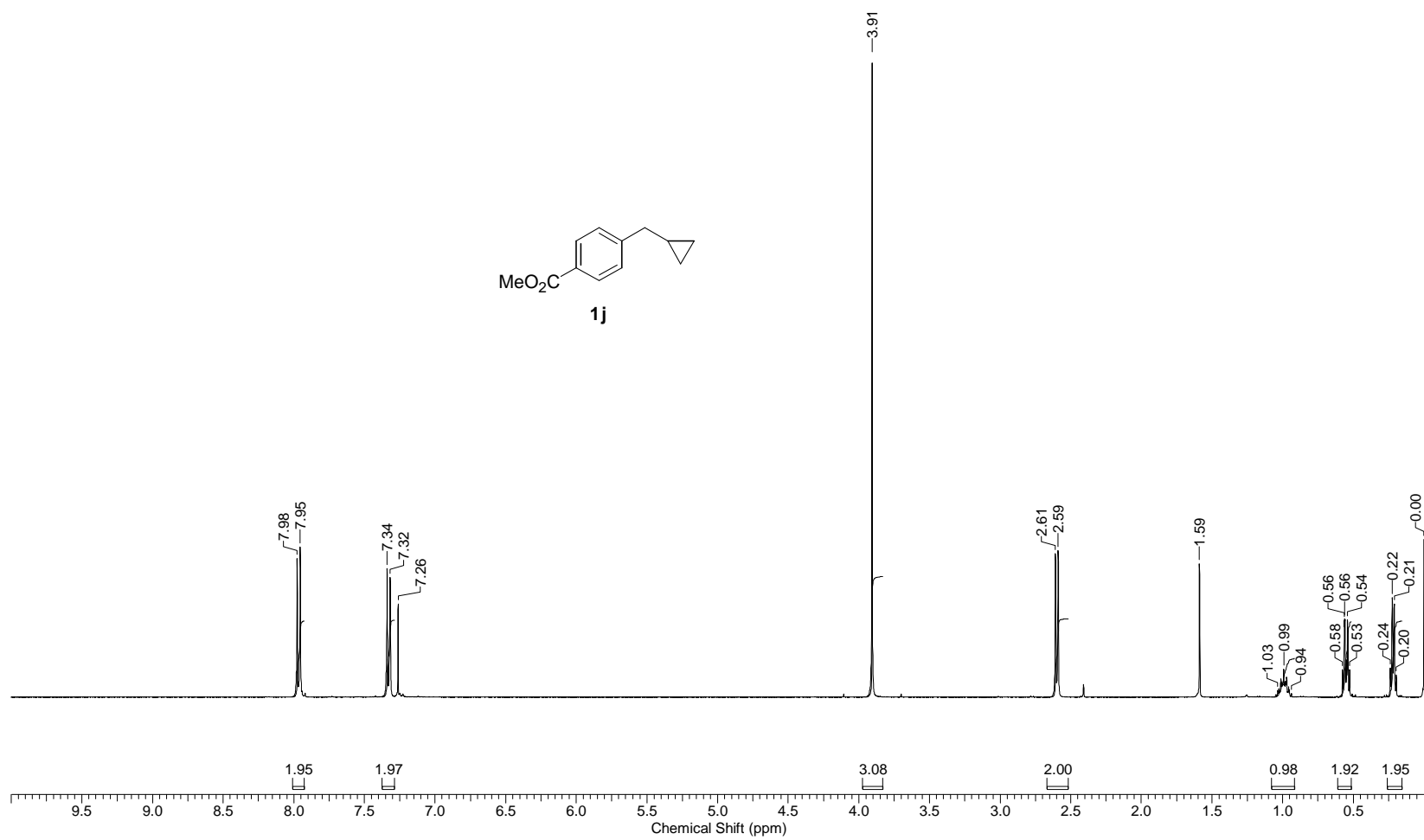
<sup>1</sup>H NMR (360 MHz, CDCl<sub>3</sub>) Spectrum of 1-cyclopropylmethyl-3-nitrobenzene **1h**  
(Table 2, entry 7)



**1h**

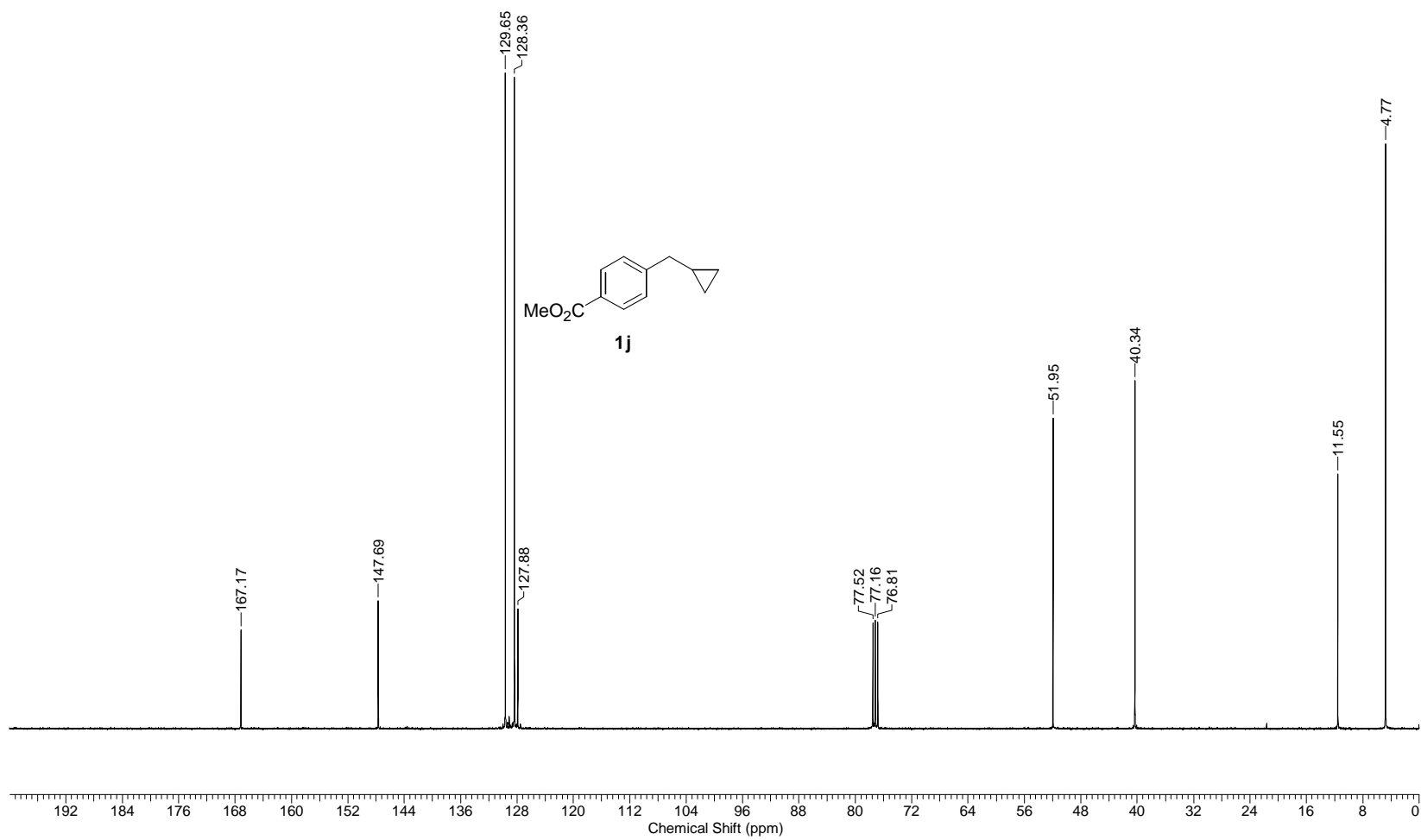


<sup>13</sup>C NMR (90 MHz, CDCl<sub>3</sub>) Spectrum of 1-cyclopropylmethyl-3-nitrobenzene **1h**  
(Table 2, entry 7)

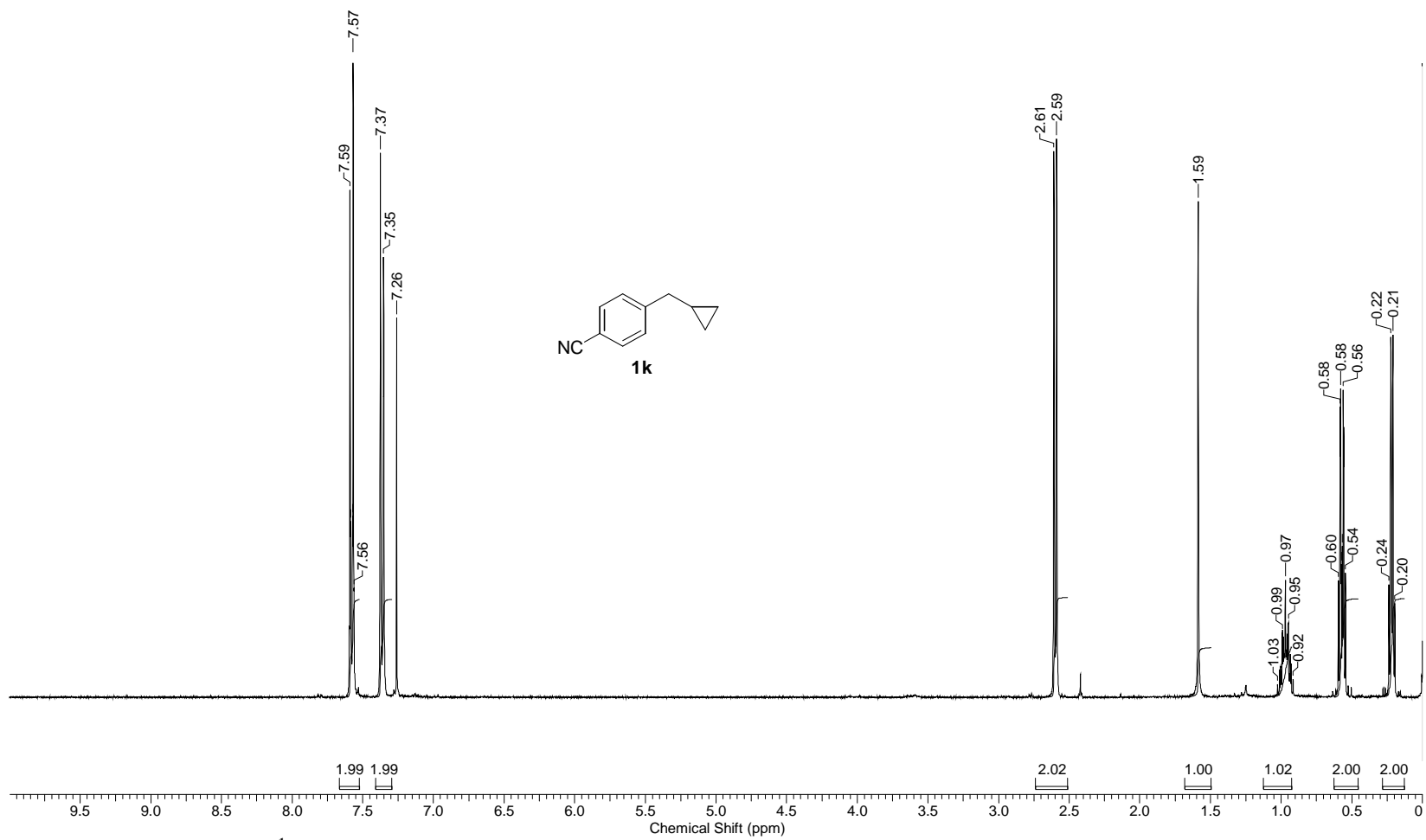


<sup>1</sup>H NMR (360 MHz, CDCl<sub>3</sub>) Spectrum of 4-cyclopropylmethylbenzoic acid, methyl ester **1j**  
(Table 2, entry 9)

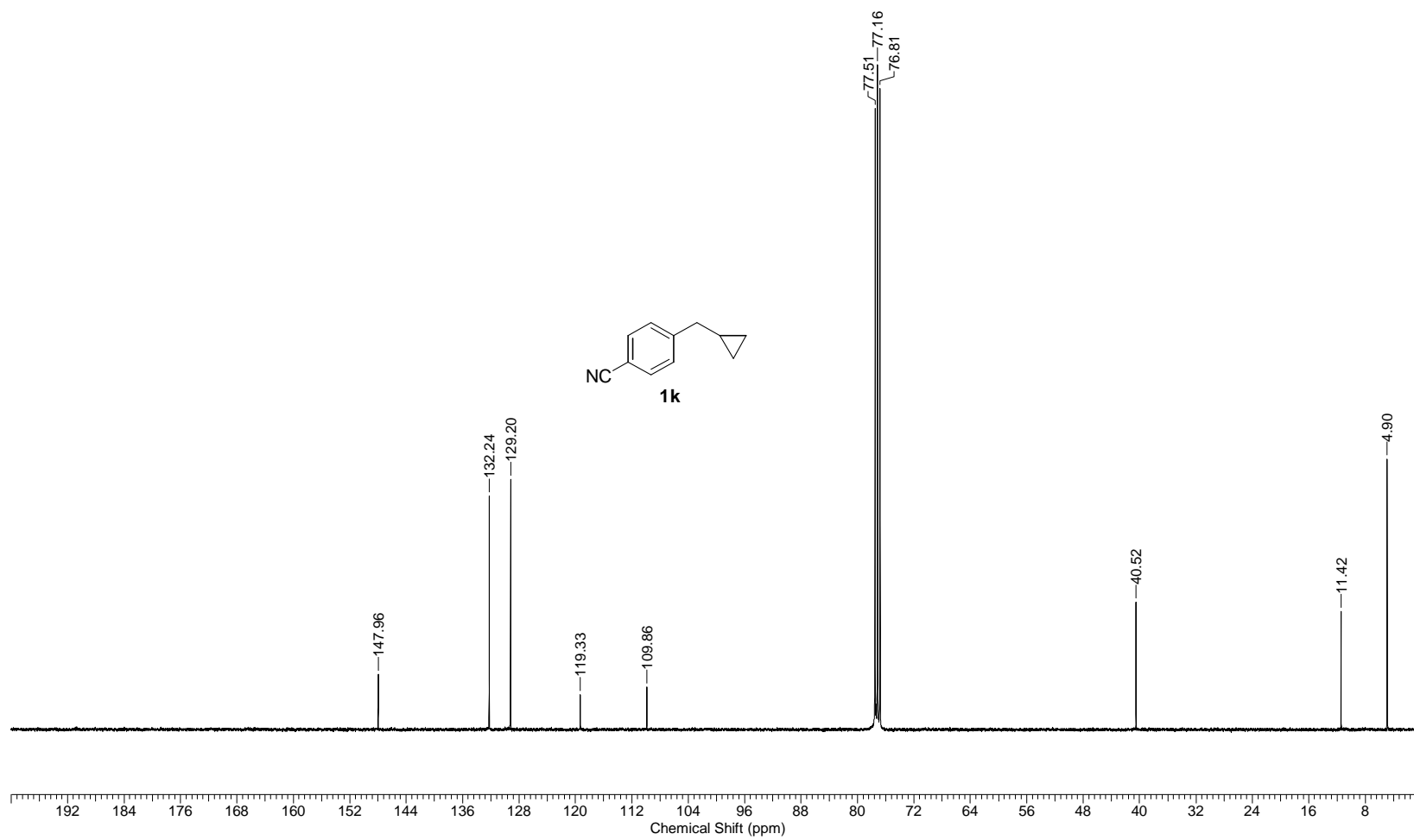




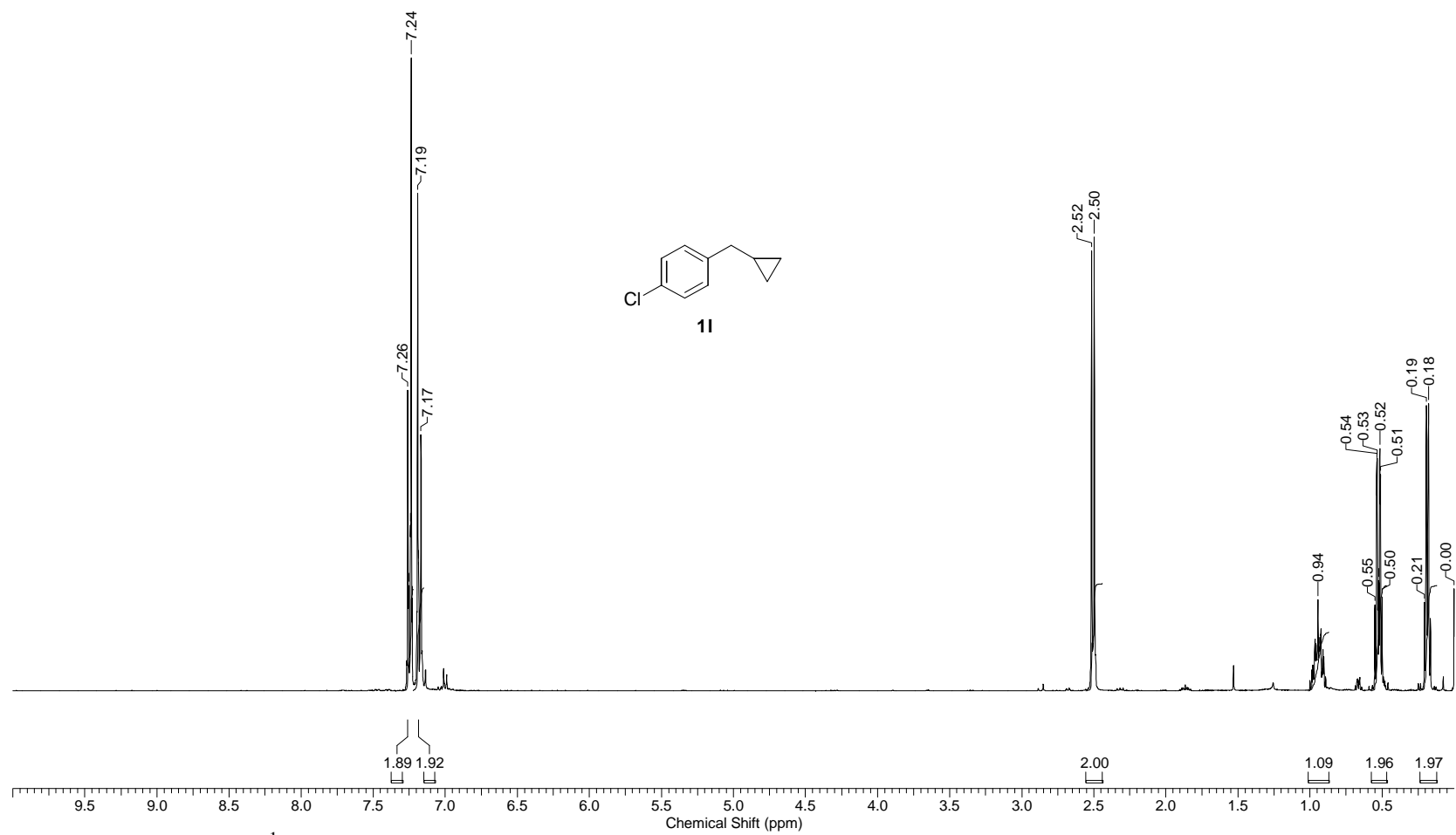
$^{13}\text{C}$  NMR (90 MHz,  $\text{CDCl}_3$ ) Spectrum of 4-cyclopropylmethylbenzoic acid, methyl ester **1j**  
(Table 2, entry 9)



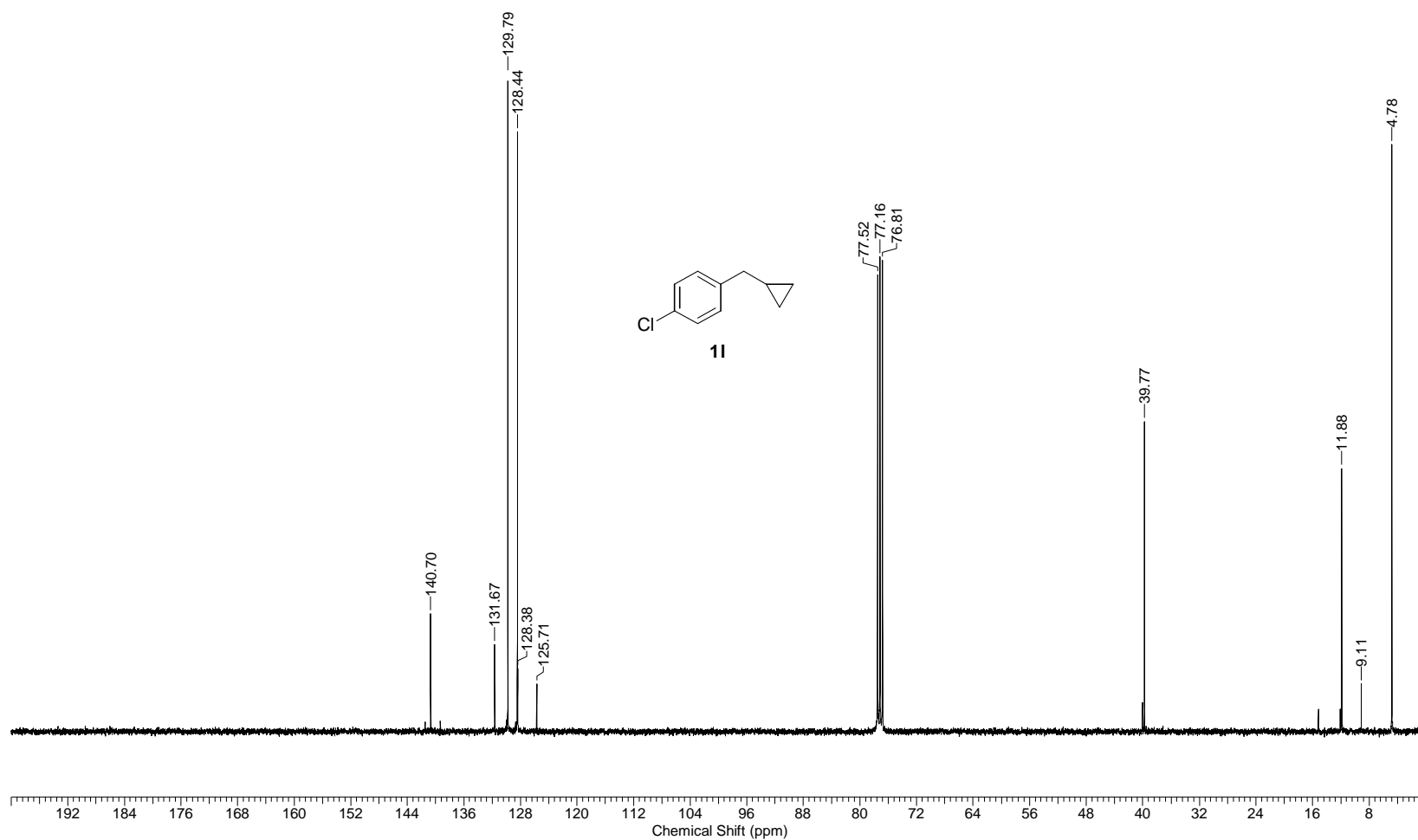
<sup>1</sup>H NMR (360 MHz, CDCl<sub>3</sub>) Spectrum of 4-cyclopropylmethyl-benzonitrile **1k**  
(Table 10, entry 10)



$^{13}\text{C}$  NMR (90 MHz,  $\text{CDCl}_3$ ) Spectrum of 4-cyclopropylmethyl-benzonitrile **1k**  
(Table 10, entry 10)

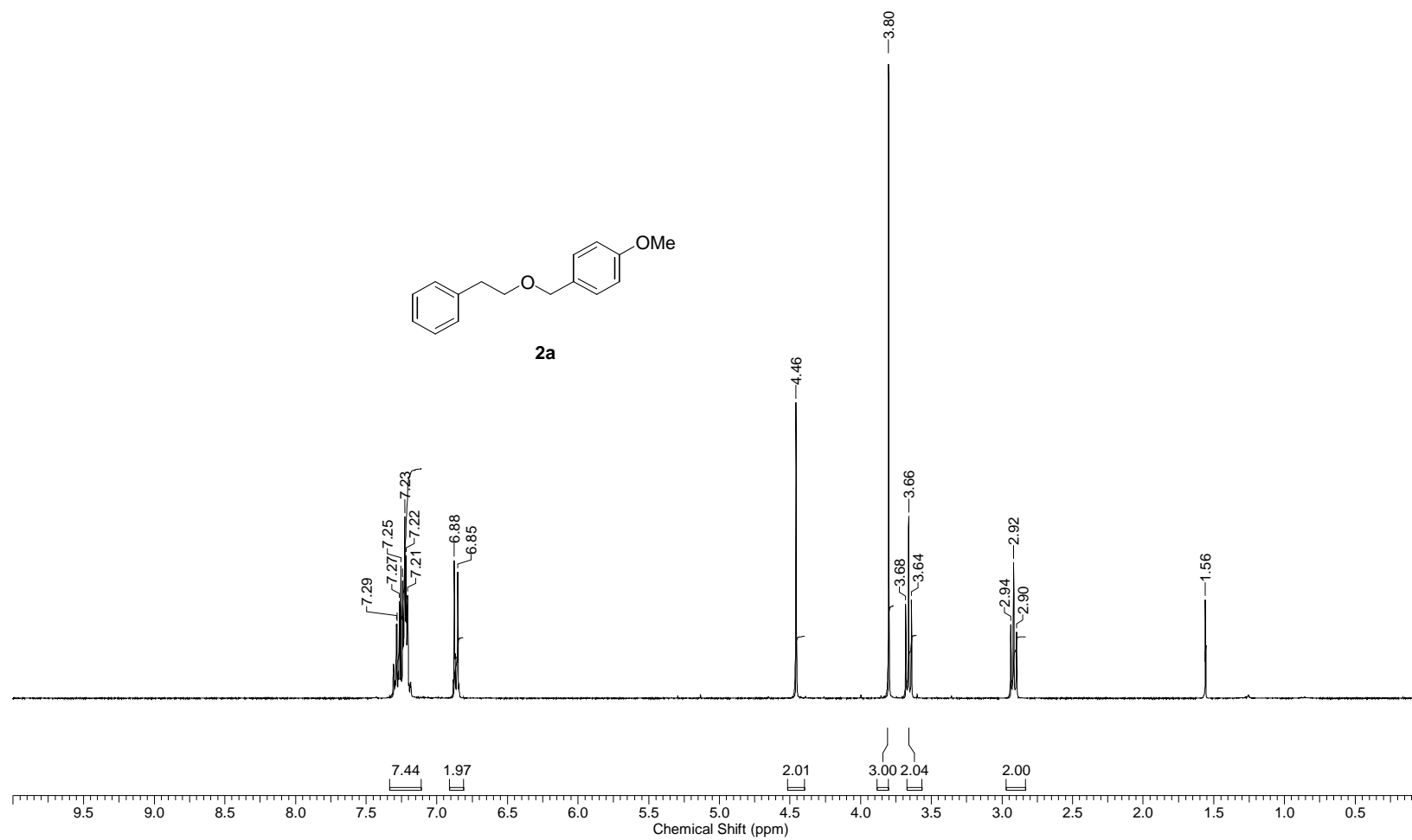


<sup>1</sup>H NMR (360 MHz, CDCl<sub>3</sub>) Spectrum of 1-chloro-4-cyclopropylmethylbenzene **11**  
(Table 2, entry 11)

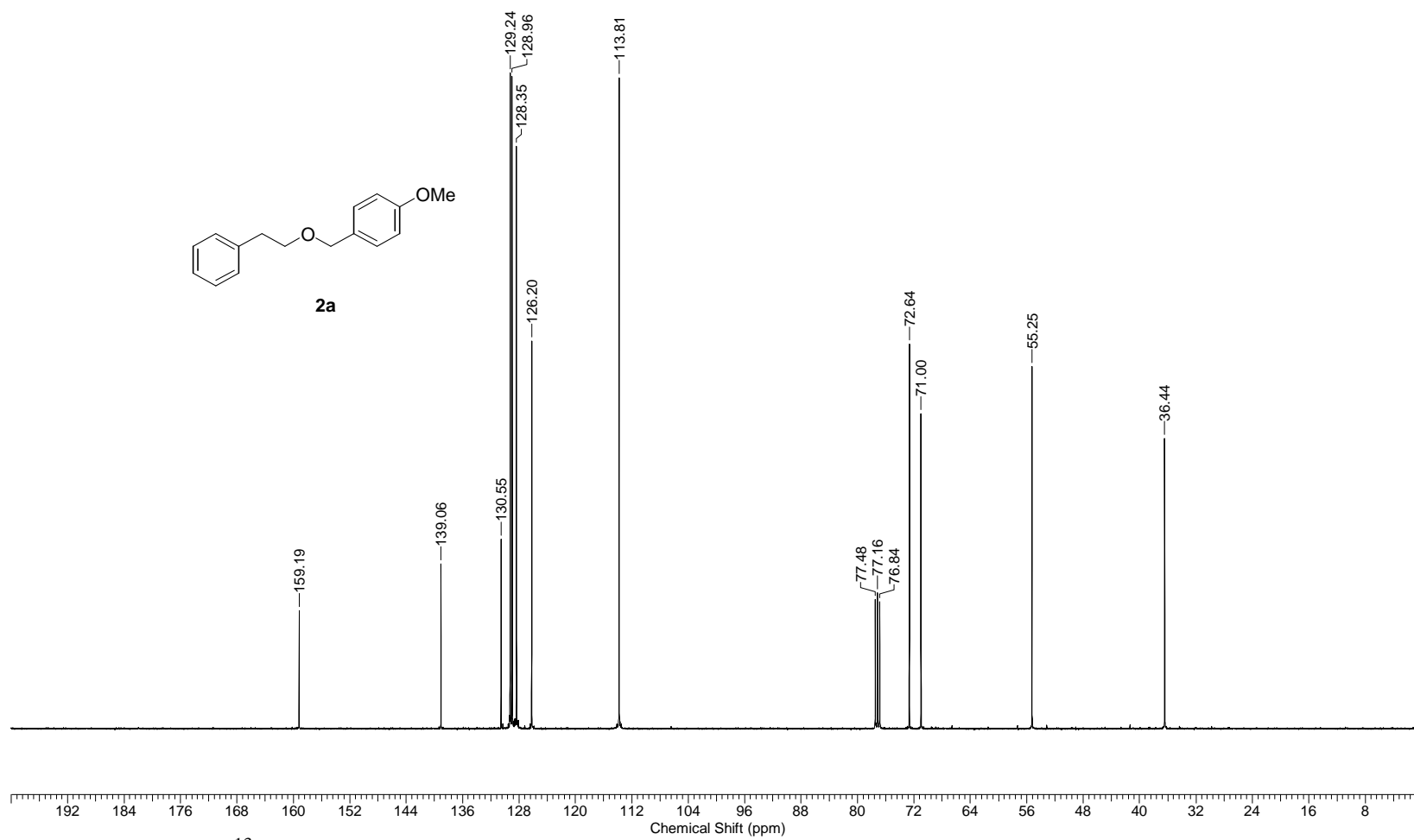


$^{13}\text{C}$  NMR (90 MHz,  $\text{CDCl}_3$ ) Spectrum of 1-chloro-4-cyclopropylmethylbenzene **11**  
(Table 2, entry 11)

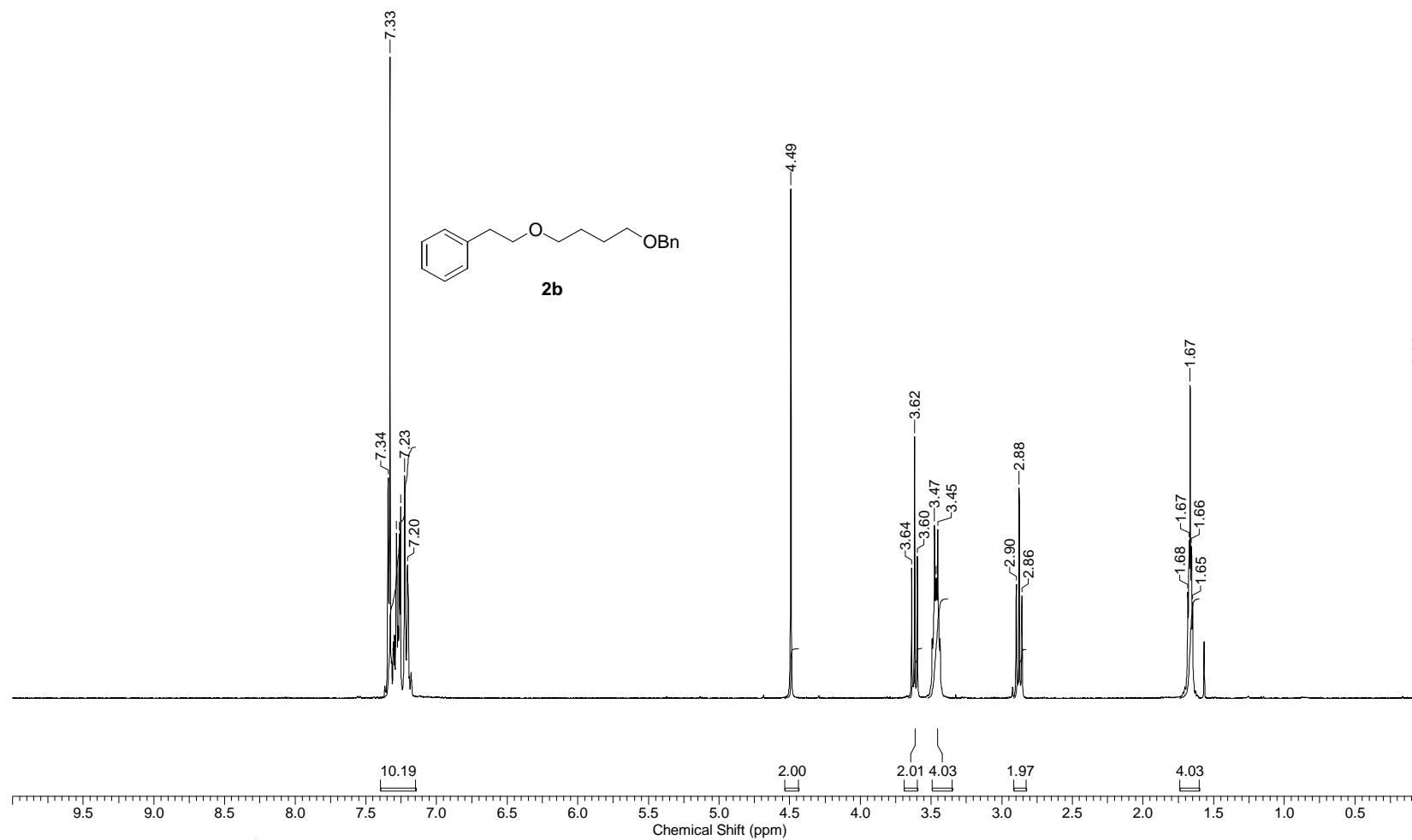
$^1\text{H}$  and  $^{13}\text{C}$  NMR spectra of compounds 2a-g



$^1\text{H}$  NMR (360 MHz,  $\text{CDCl}_3$ ) Spectrum of 1-methoxy-4-phenethylbenzene **2a**  
(Table 3, entry 1)

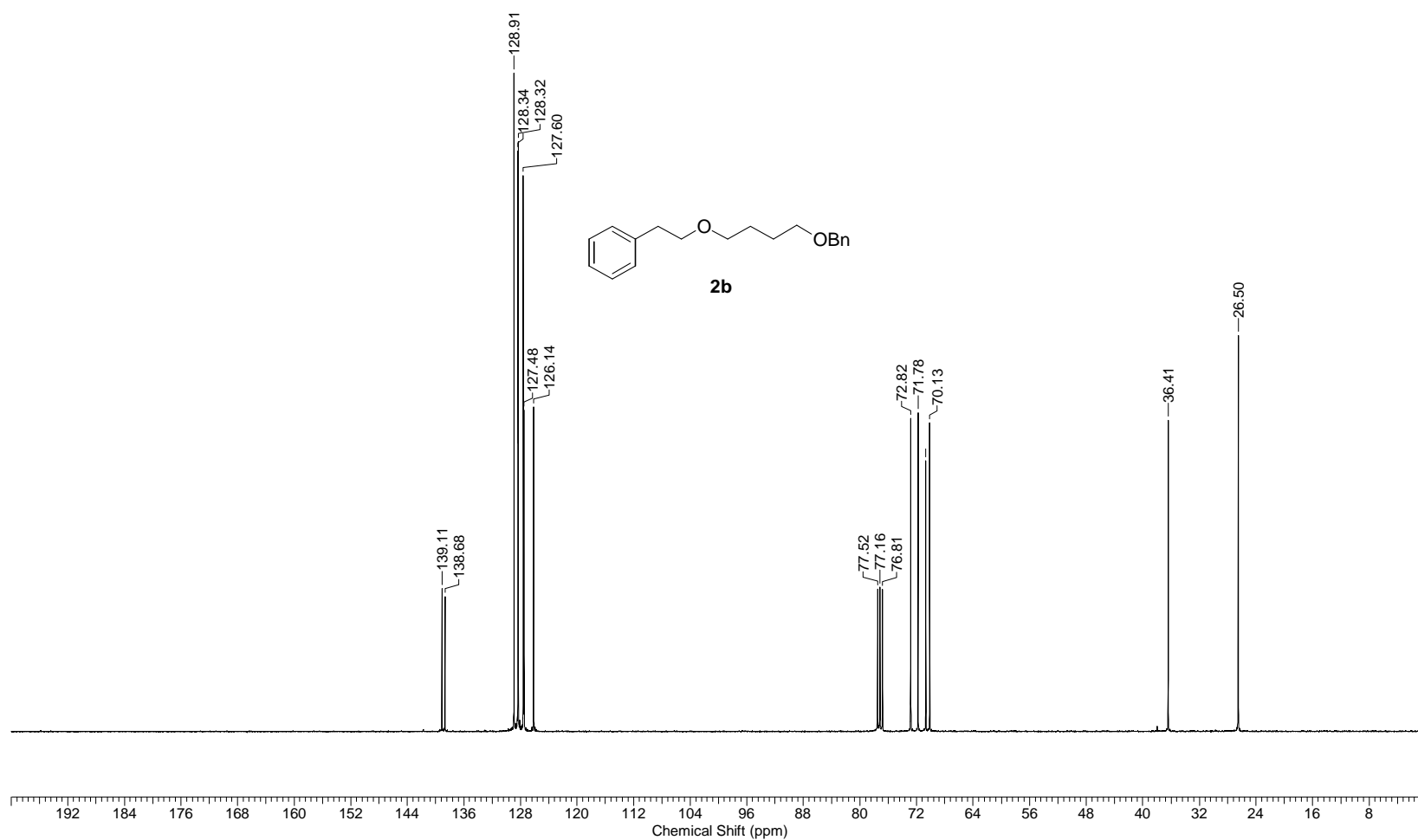


<sup>13</sup>C NMR (90 MHz, CDCl<sub>3</sub>) Spectrum of 1-methoxy-4-phenethylbenzene **2a**  
(Table 3, entry 1)

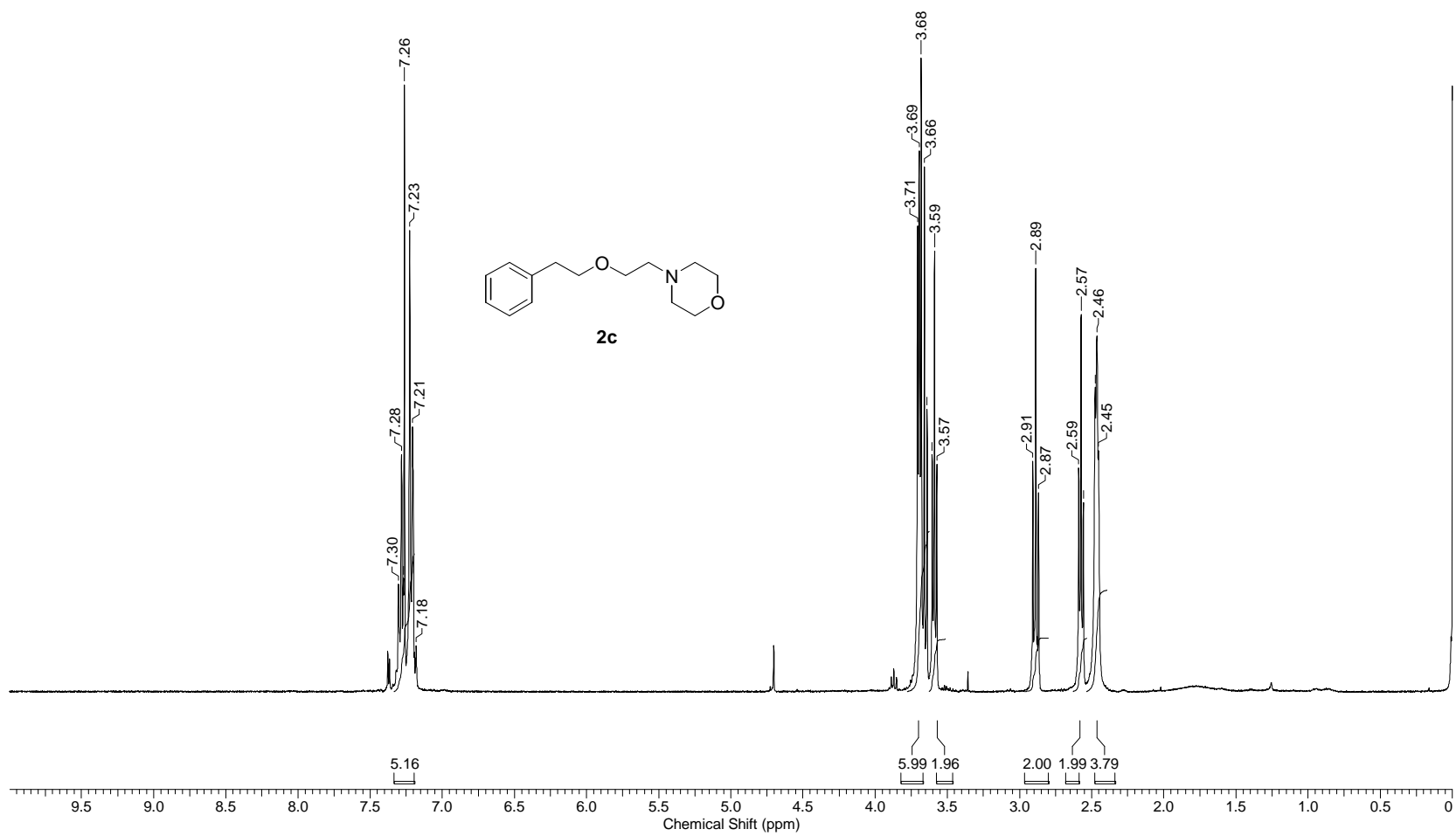


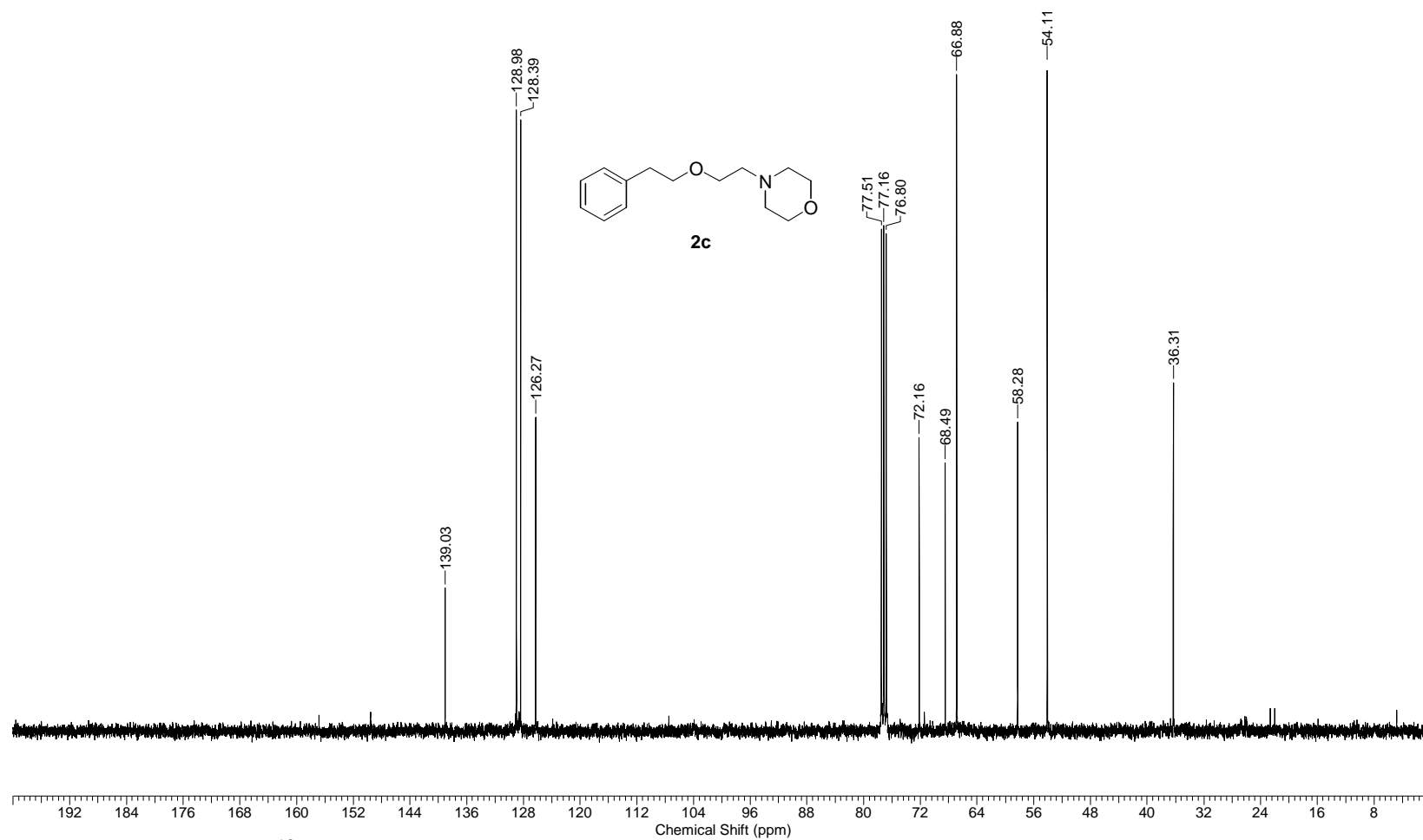
$^1\text{H}$  NMR (360 MHz,  $\text{CDCl}_3$ ) Spectrum of [4-(2-phenylethoxy)butoxy]methyl)benzene **2b**  
(Table ,3 entry 2)



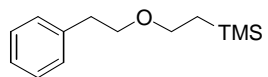


<sup>13</sup>C NMR (90 MHz, CDCl<sub>3</sub>) Spectrum of [4-(2-phenylethoxy)butoxy]methylbenzene **2b**  
(Table ,3 entry 2)

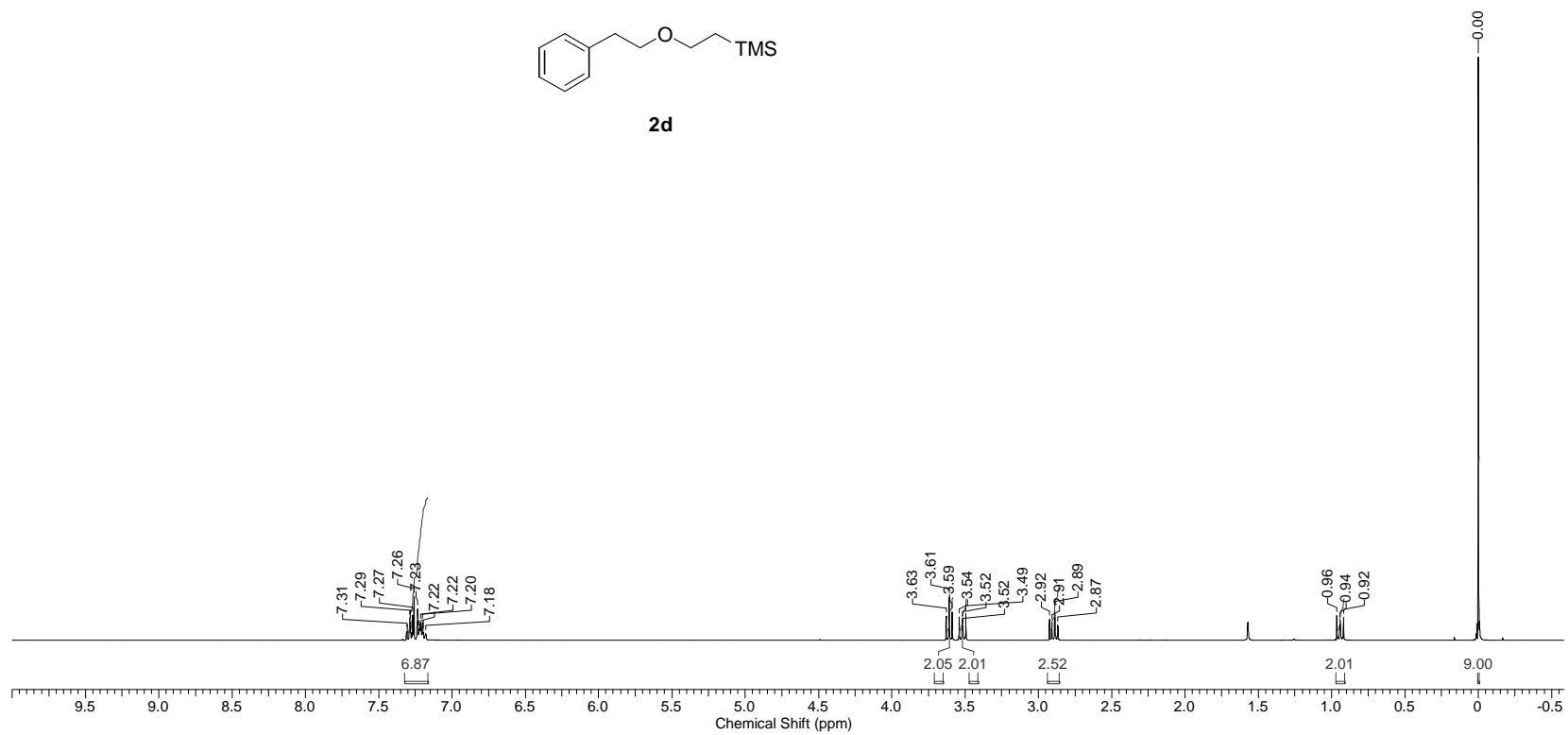




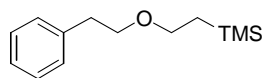
$^{13}\text{C}$  NMR (90 MHz,  $\text{CDCl}_3$ ) Spectrum of 4-(2-benethoxyethyl)-morpholine **2c**  
(Table 3, entry 3)



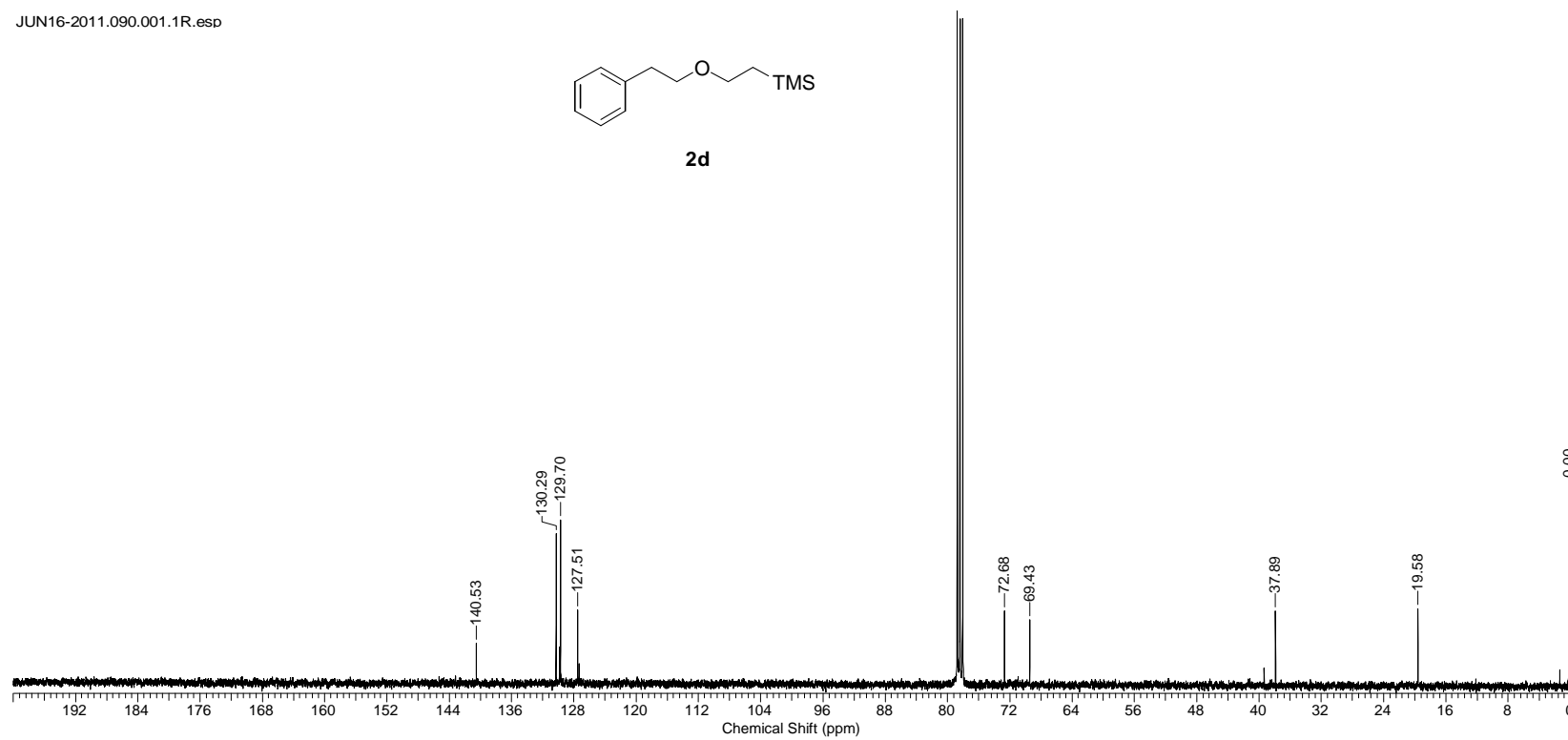
**2d**



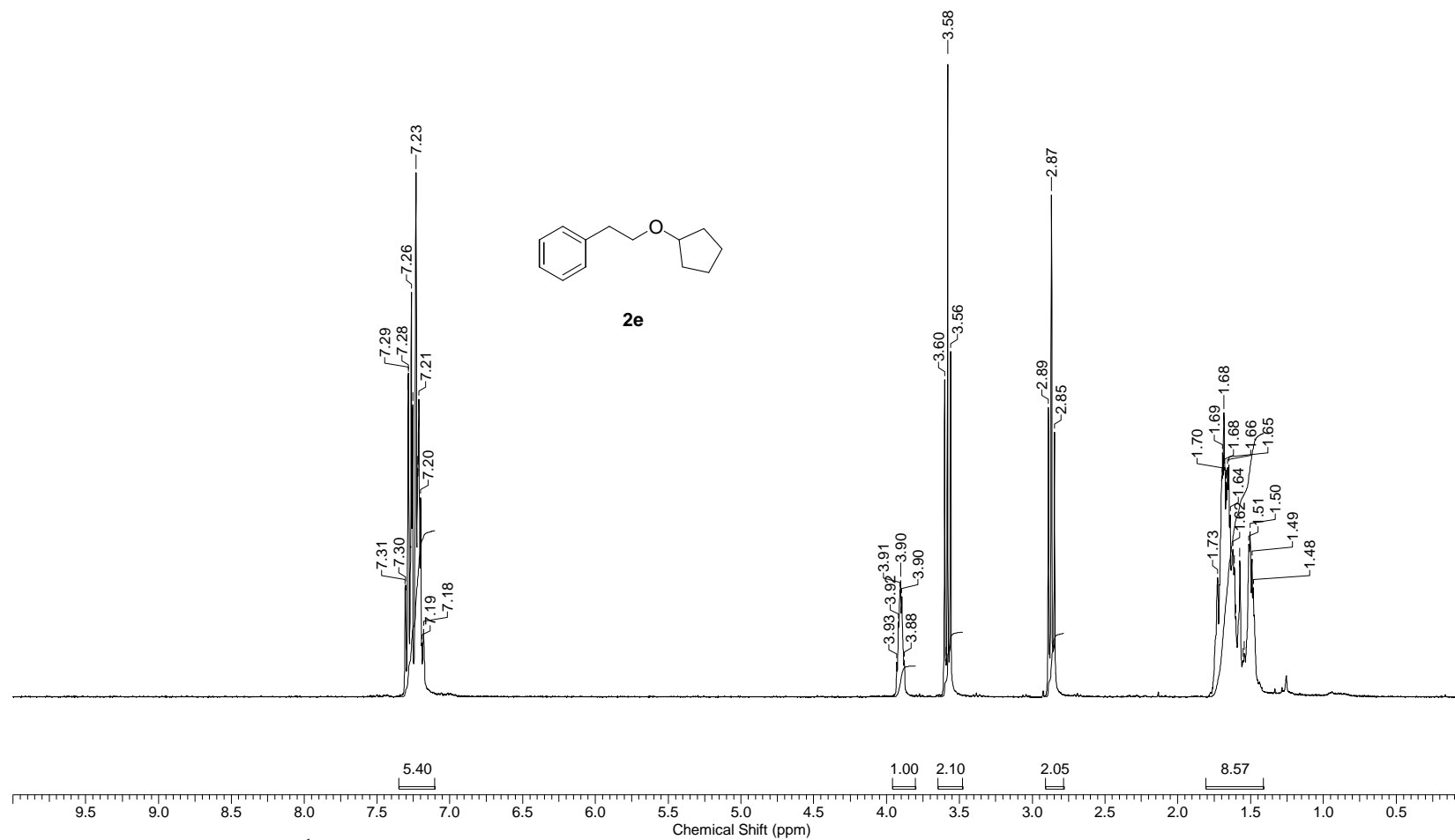
<sup>1</sup>H NMR (360 MHz, CDCl<sub>3</sub>) Spectrum of trimethyl-(2-phenethoxyethyl)silane **2d**  
(Table 3, entry 4)



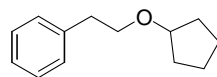
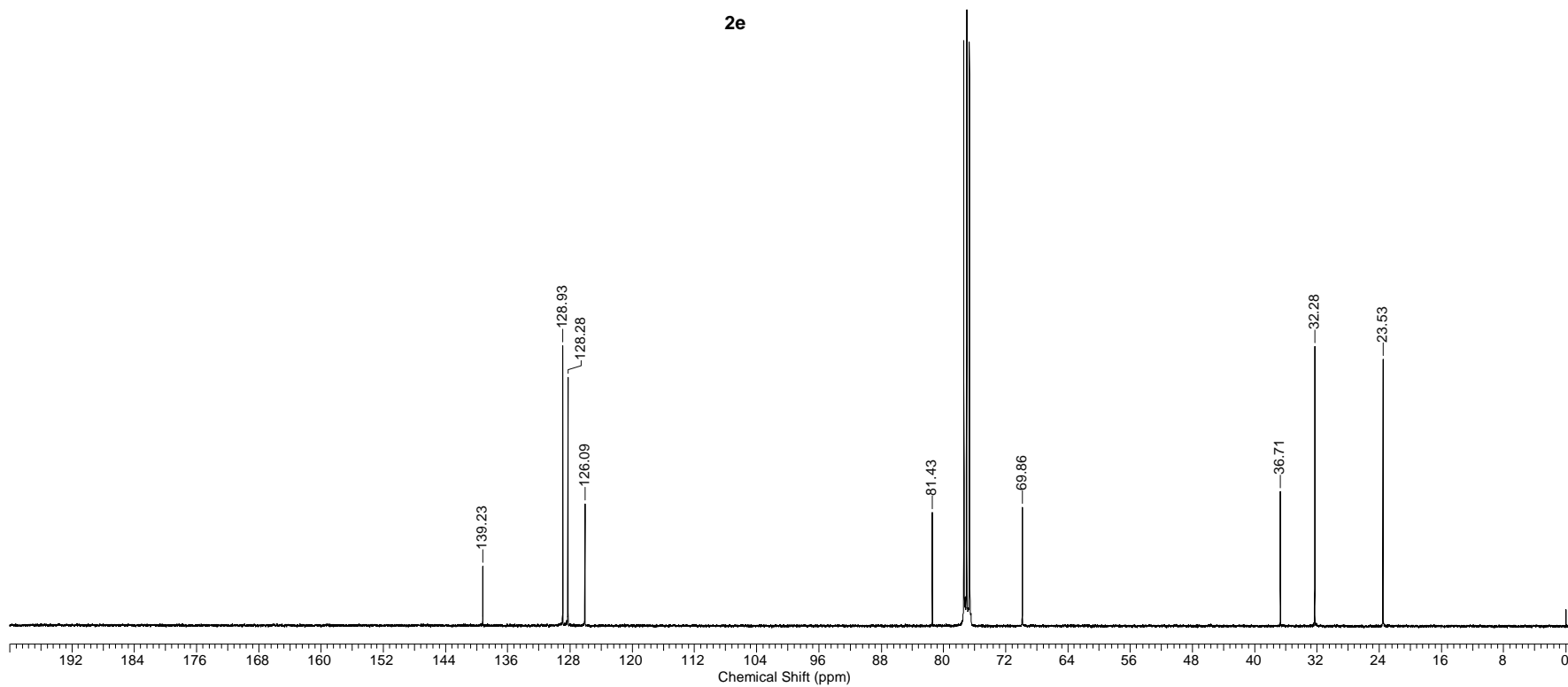
**2d**



<sup>13</sup>C NMR (90 MHz, CDCl<sub>3</sub>) Spectrum of trimethyl-(2-phenethoxyethyl)silane **2d**  
(Table 3, entry 4)

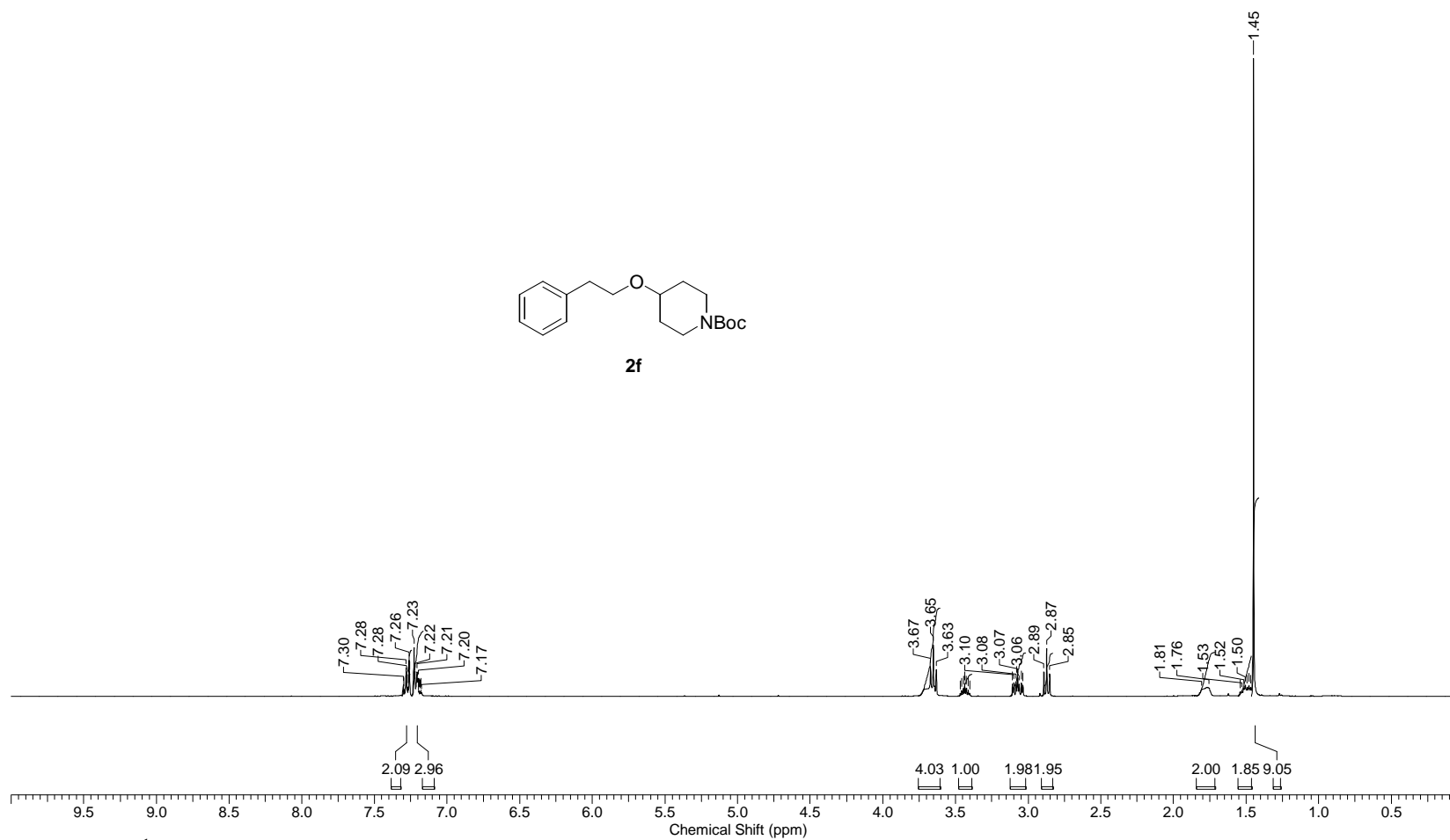
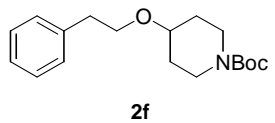


<sup>1</sup>H NMR (360 MHz, CDCl<sub>3</sub>) Spectrum of (2-cyclopentyloxyethyl)benzene **2e**  
(Table 3, entry 5)

**2e**

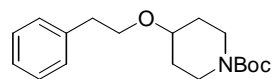
<sup>13</sup>C NMR (90 MHz, CDCl<sub>3</sub>) Spectrum of (2-cyclopentyloxyethyl)benzene **2e**  
(Table 3, entry 5)

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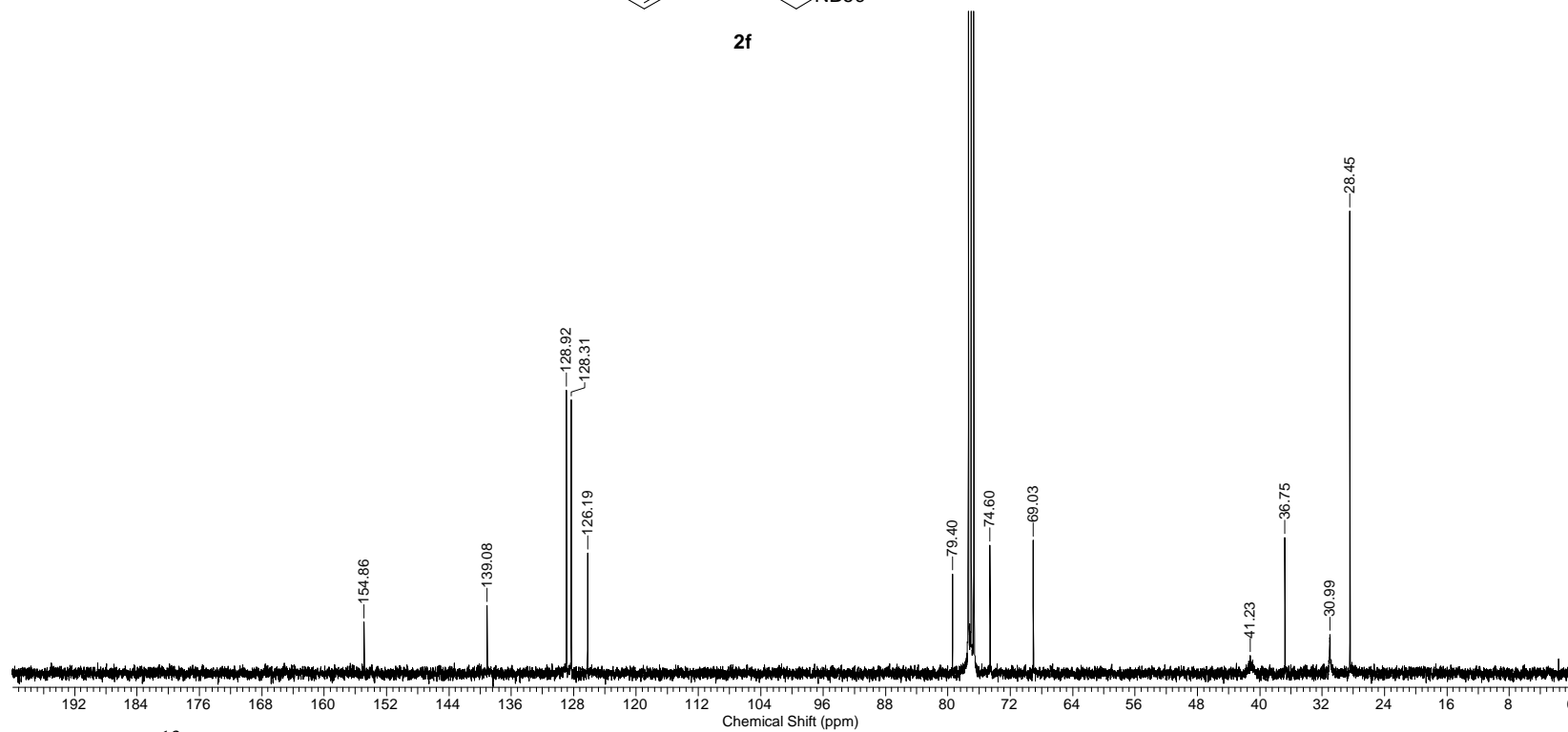


<sup>1</sup>H NMR (360 MHz, CDCl<sub>3</sub>) Spectrum of 4-phenethoxy-piperidine-1-carboxylic acid, *tert*-butyl ester **2f**  
(Table 3, entry 6)

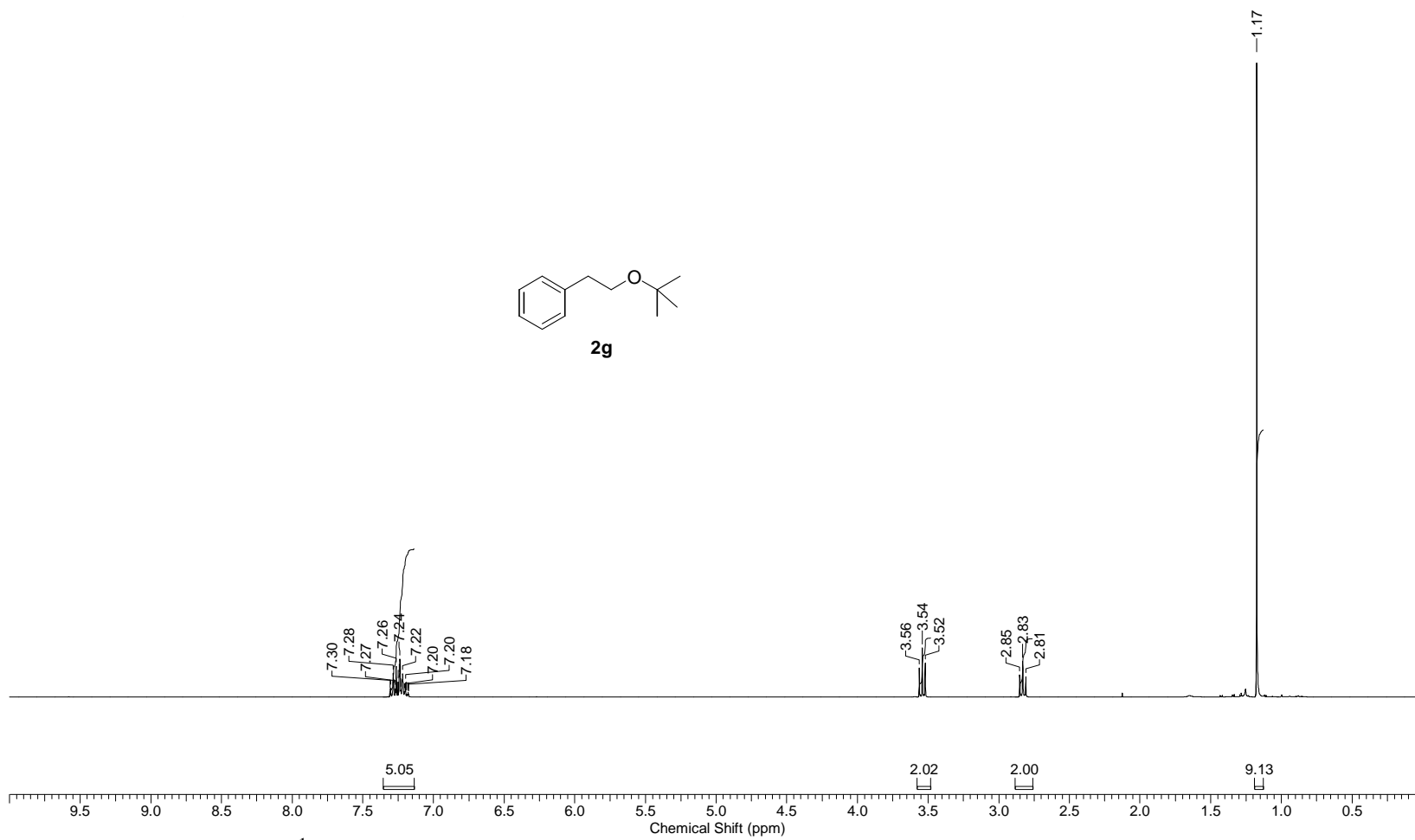
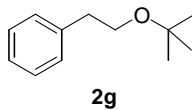




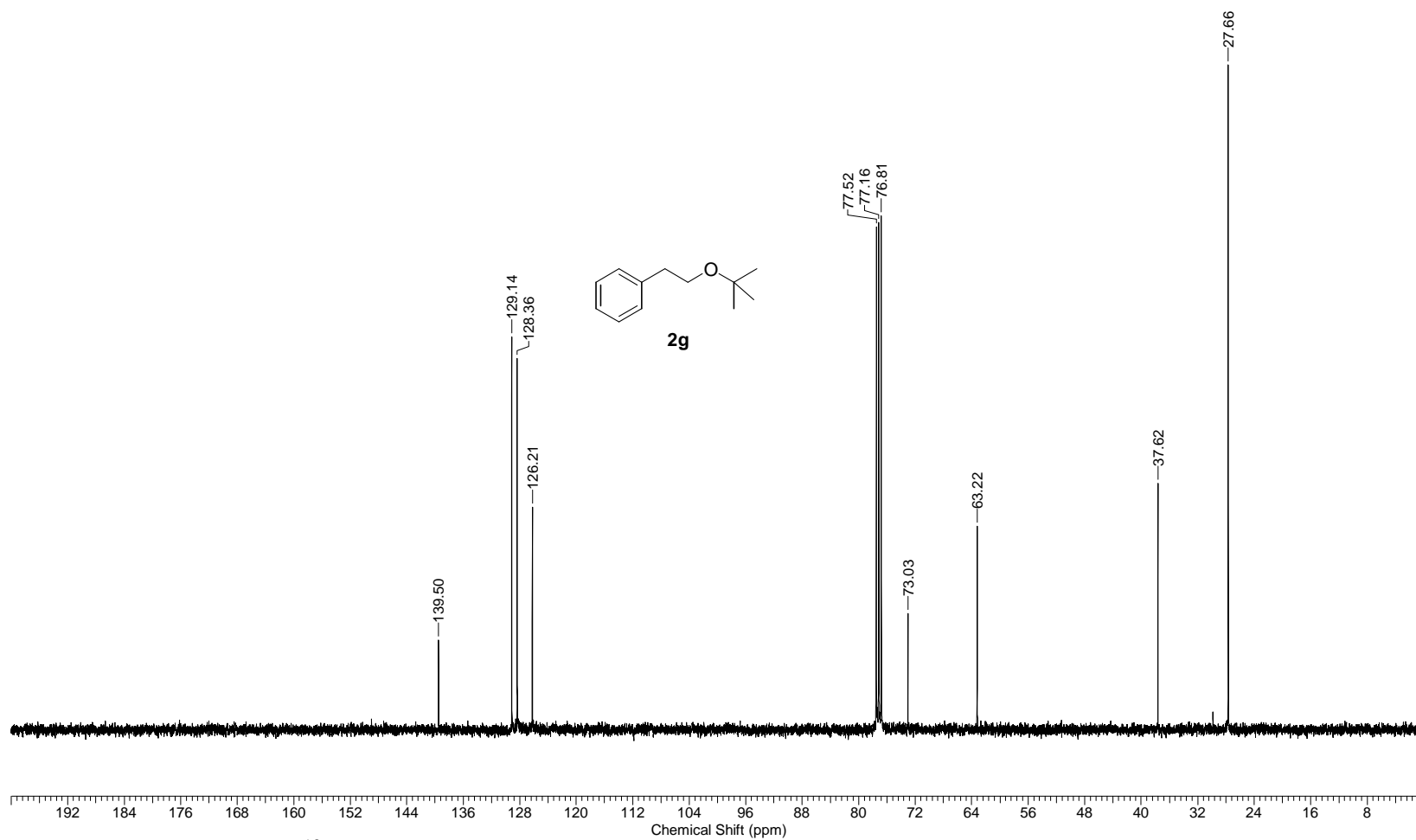
**2f**



$^{13}\text{C}$  NMR (90 MHz,  $\text{CDCl}_3$ ) Spectrum of -phenethoxy-piperidine-1-carboxylic acid, *tert*-butyl ester **2f**  
(Table 3, entry 6)



$^1\text{H}$  NMR (360 MHz,  $\text{CDCl}_3$ ) Spectrum of (2-tert-Butoxy-ethyl)-benzene **2g**  
(Table 3, entry 7)



$^{13}\text{C}$  NMR (90 MHz,  $\text{CDCl}_3$ ) Spectrum of (2-tert-Butoxy-ethyl)-benzene **2g**  
(Table 3, entry 7)