

## Electronic Supplementary Information for

# Reductive Hydroxyalkylation/ Alkylation of Amines with Lactones/ Esters

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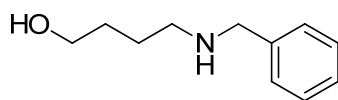
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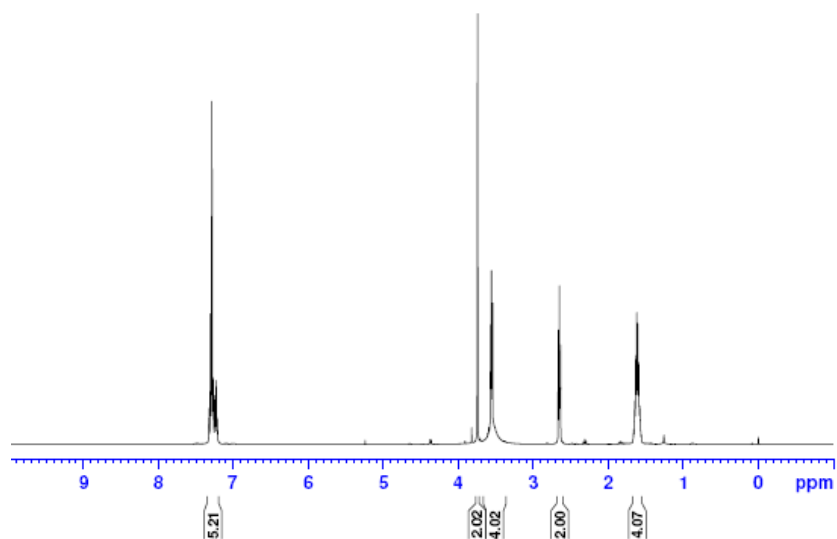
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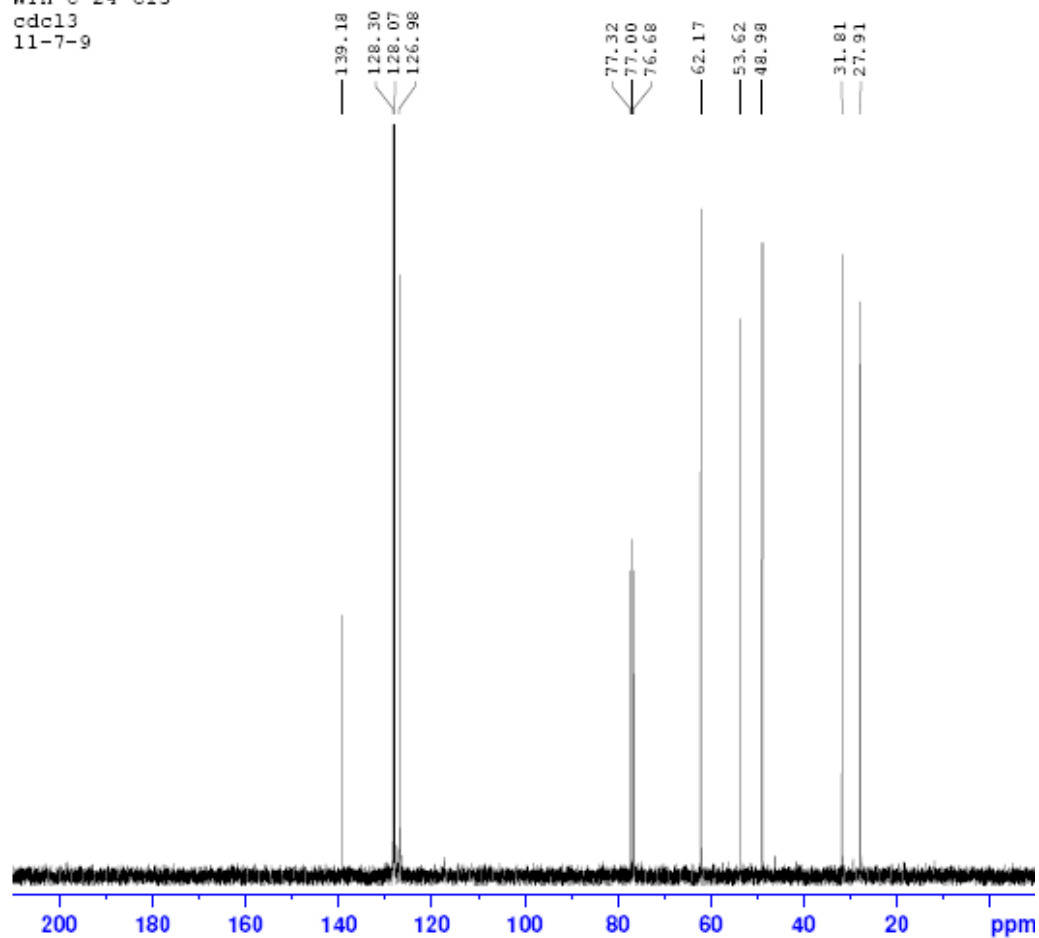
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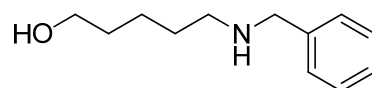
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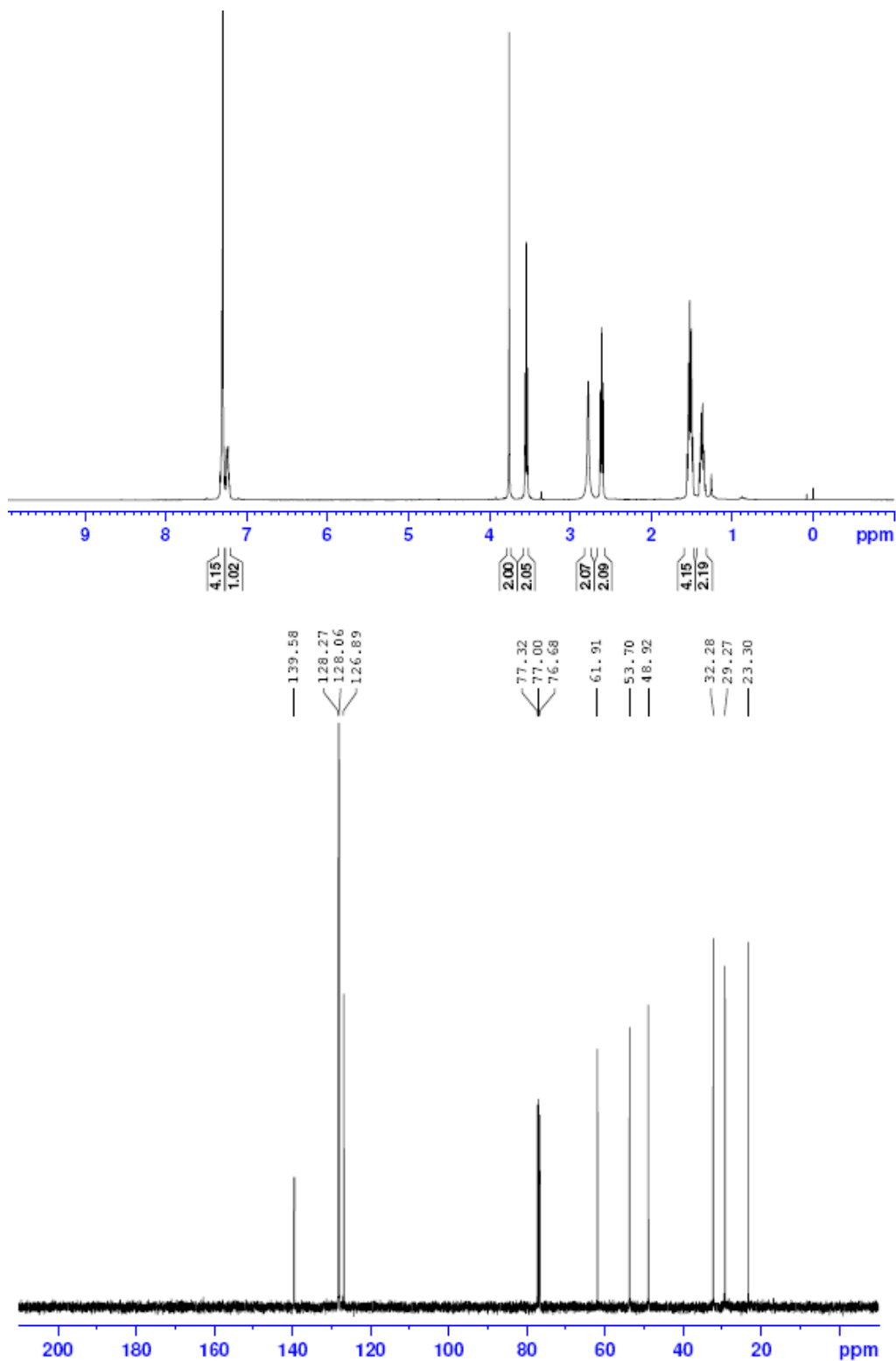
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11-7-9



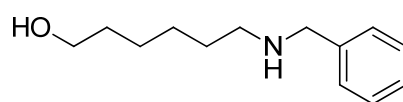
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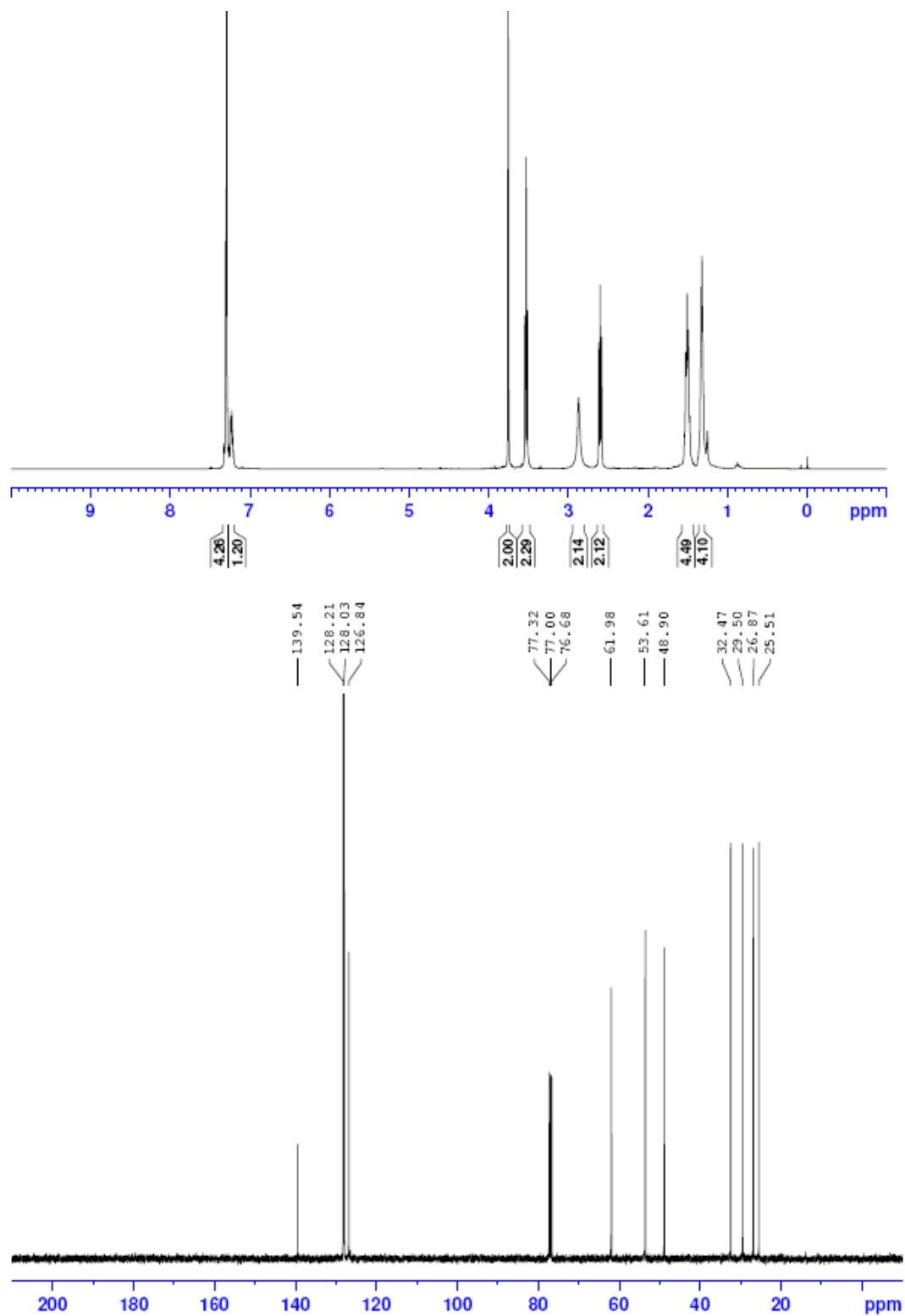
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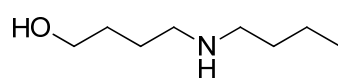
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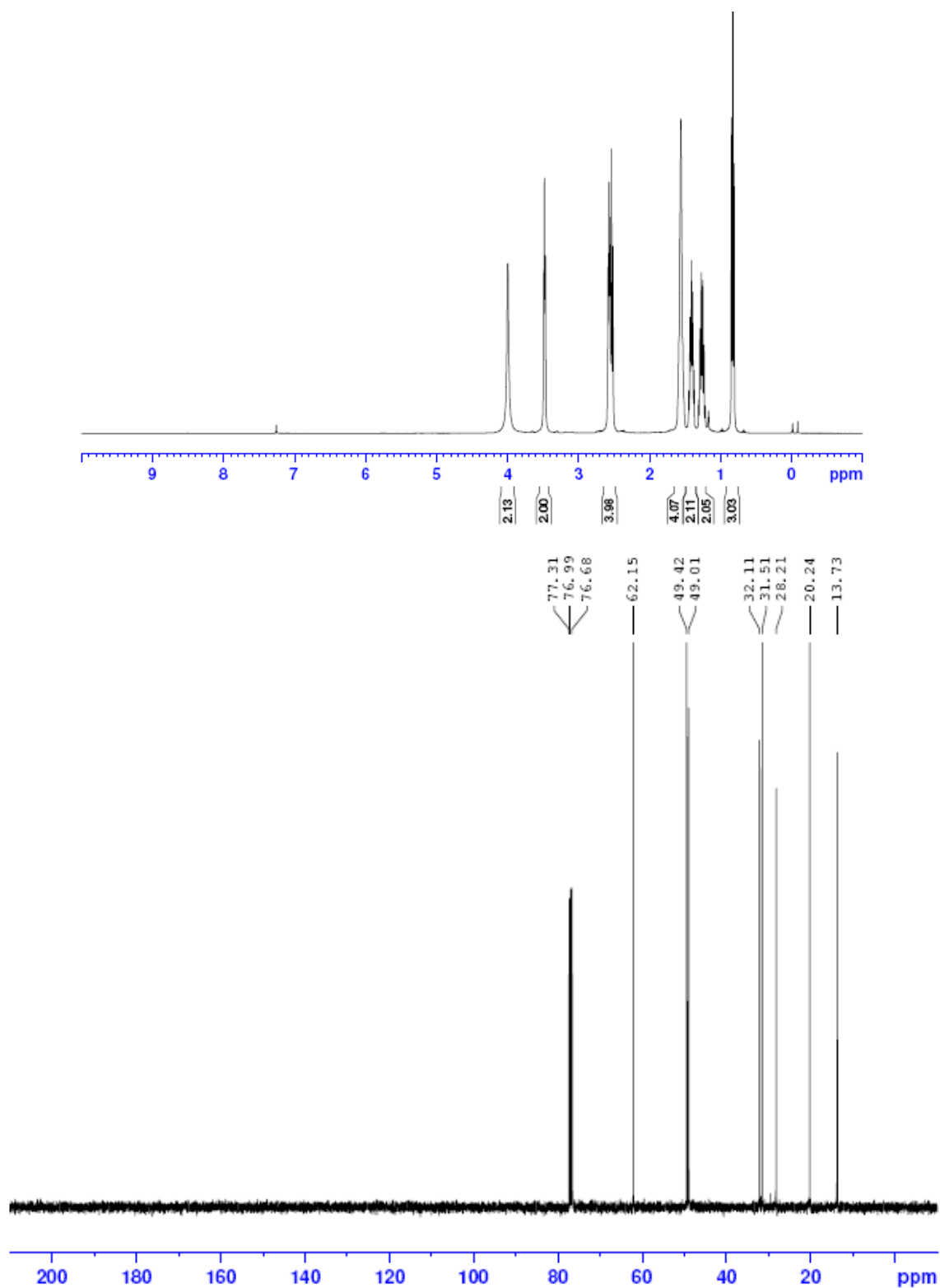
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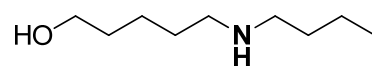
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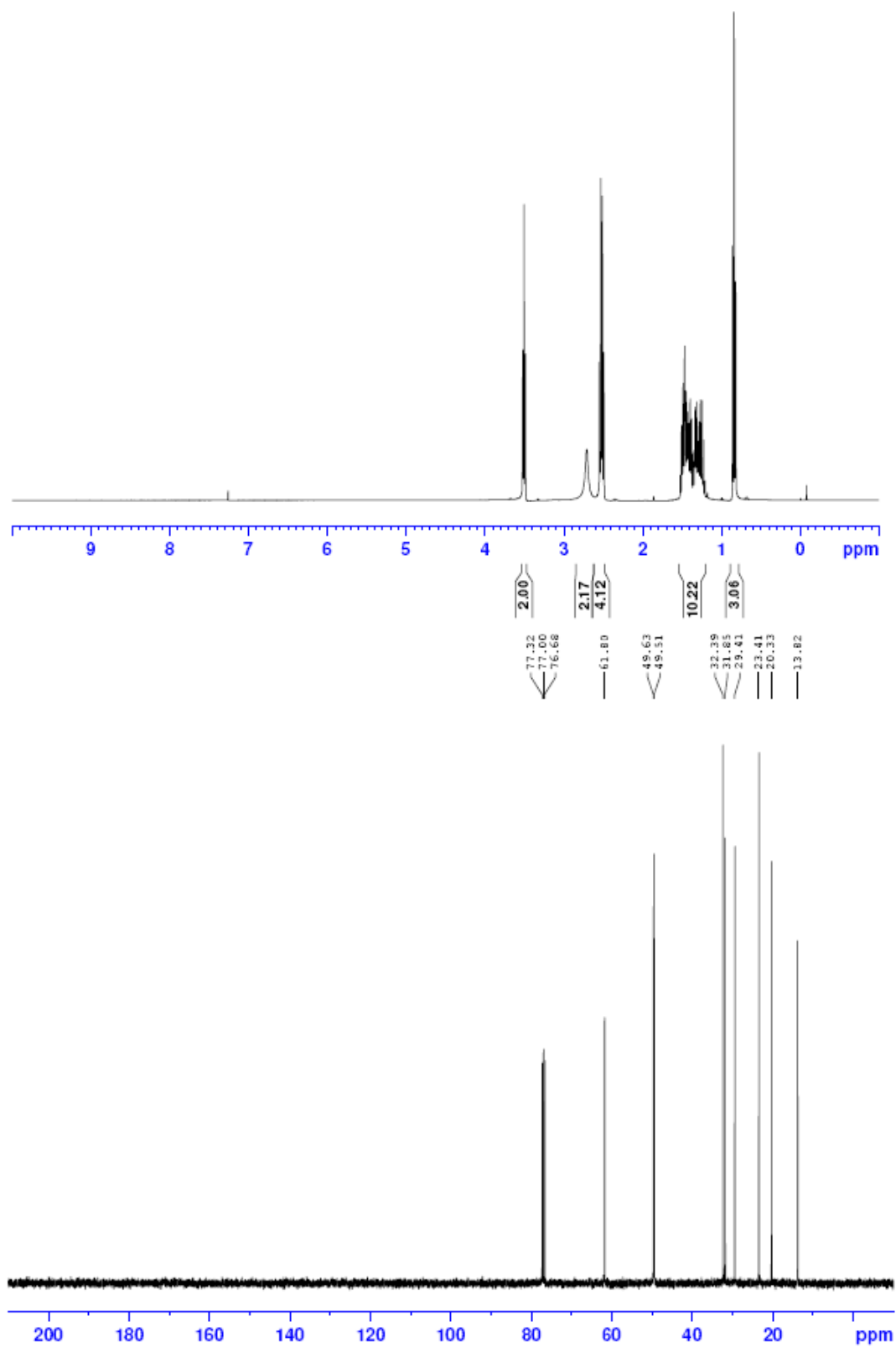
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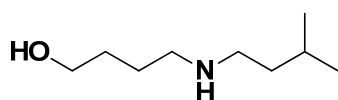
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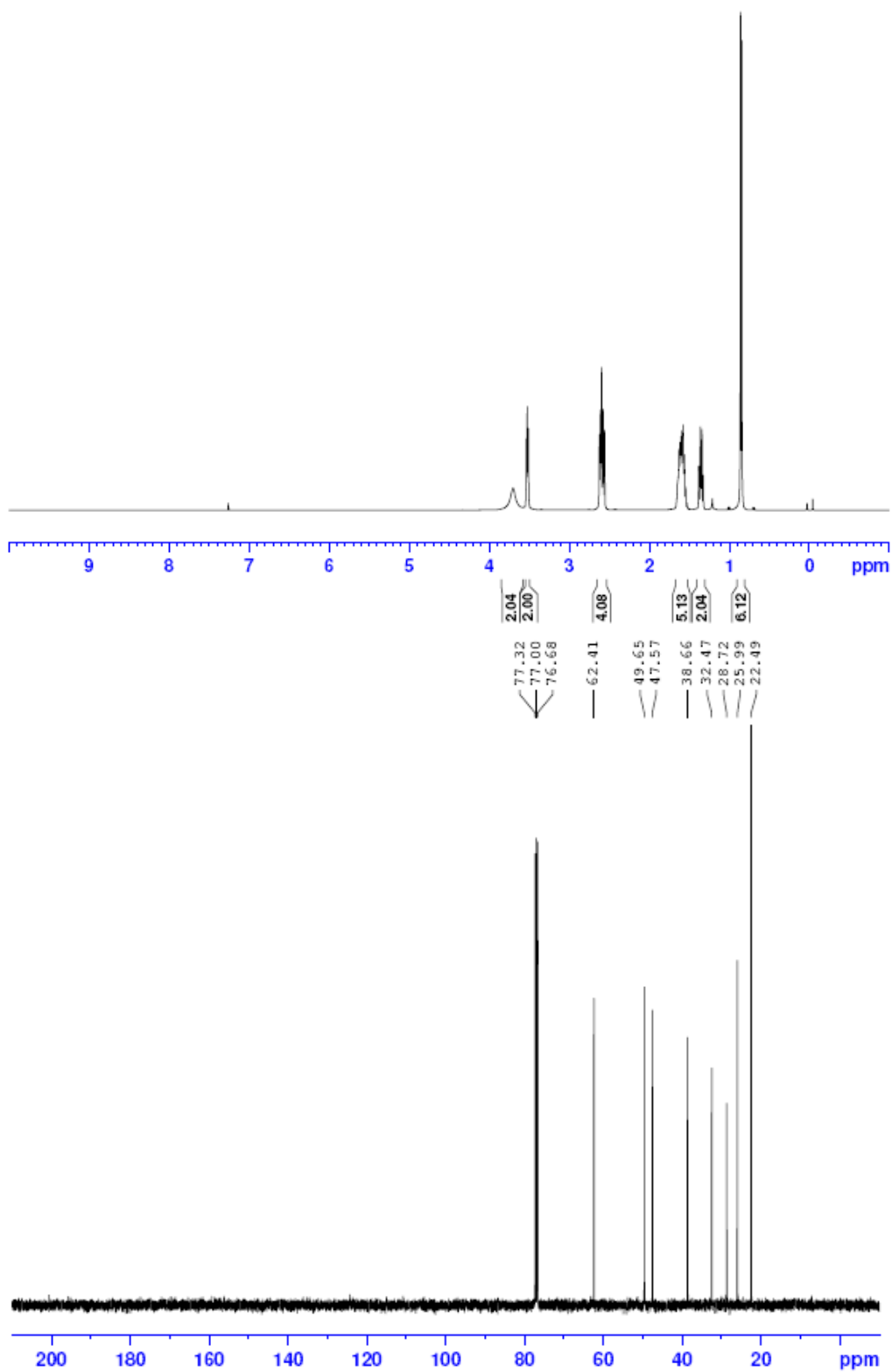
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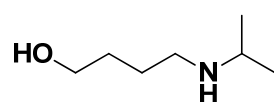
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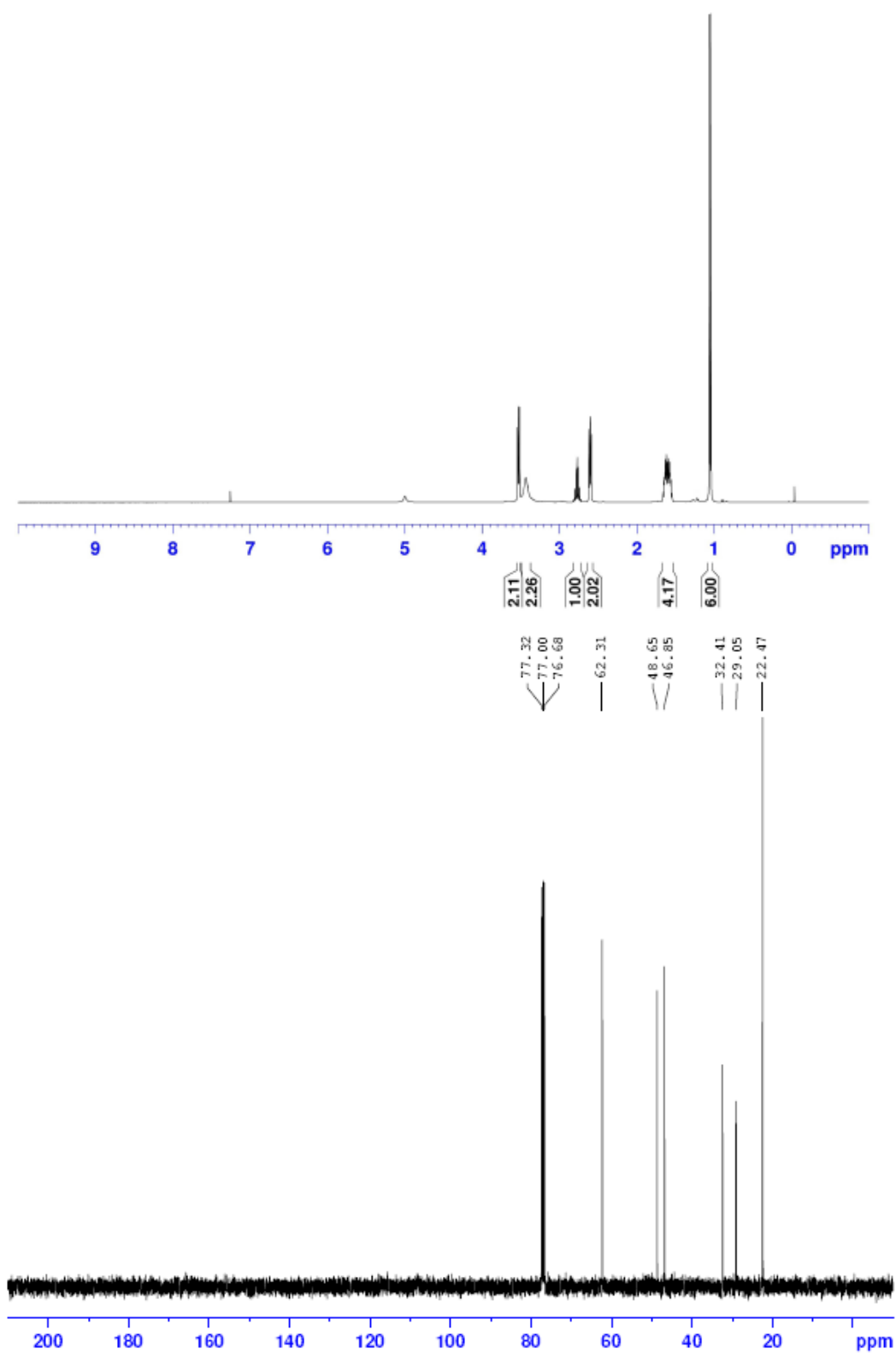
**2f**



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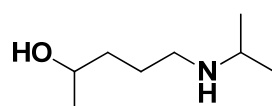


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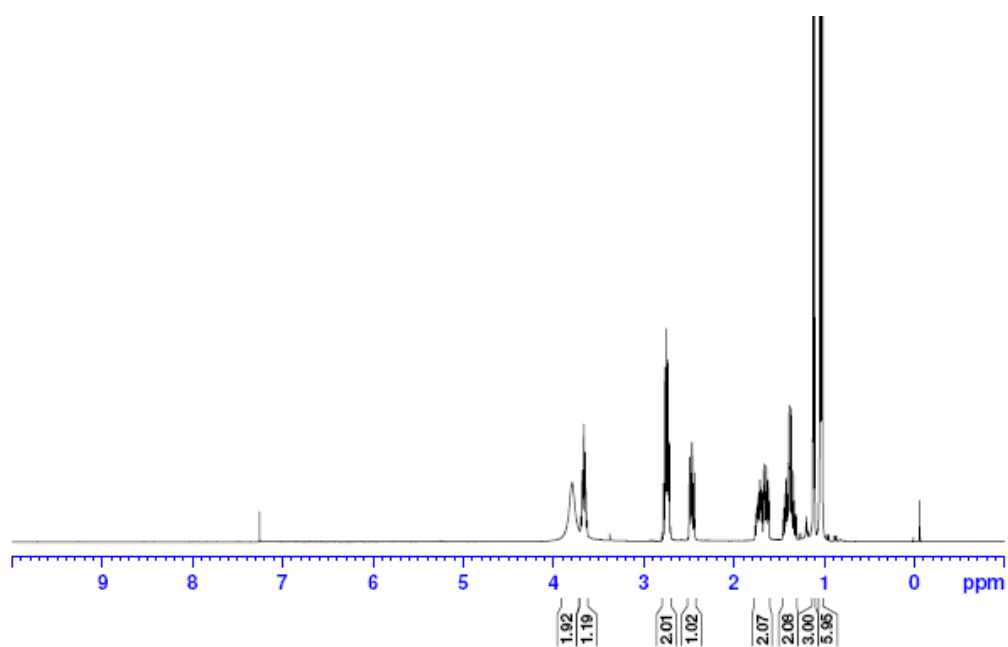




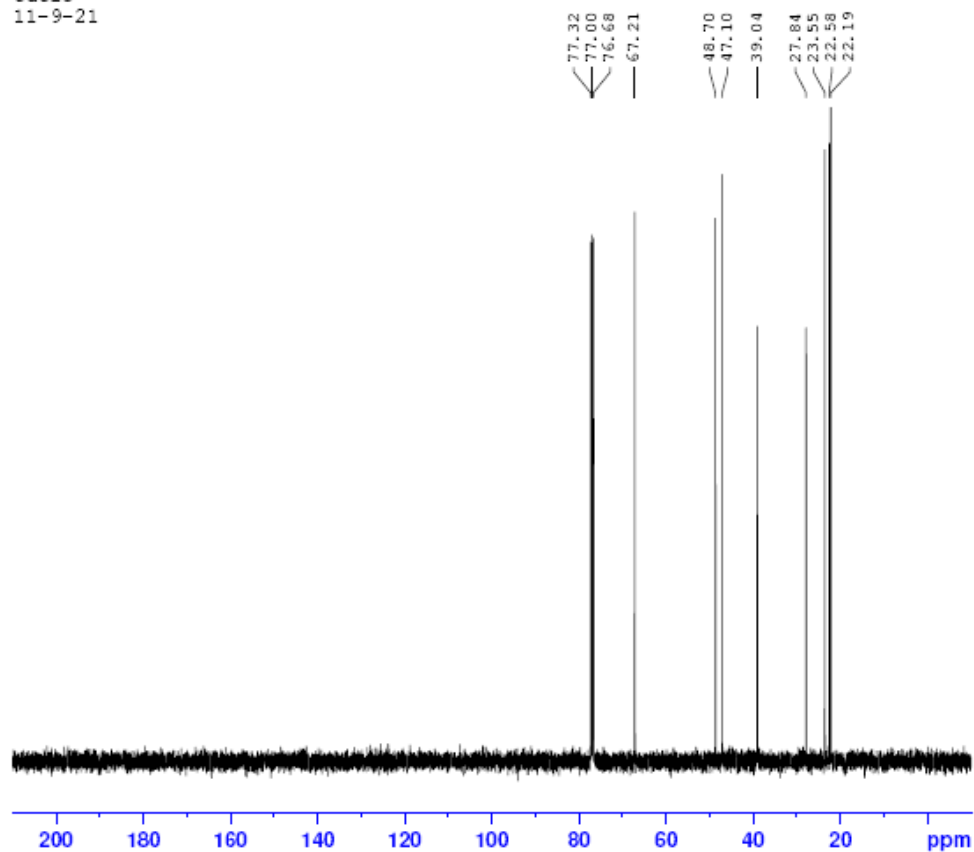
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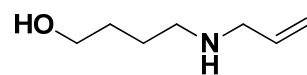
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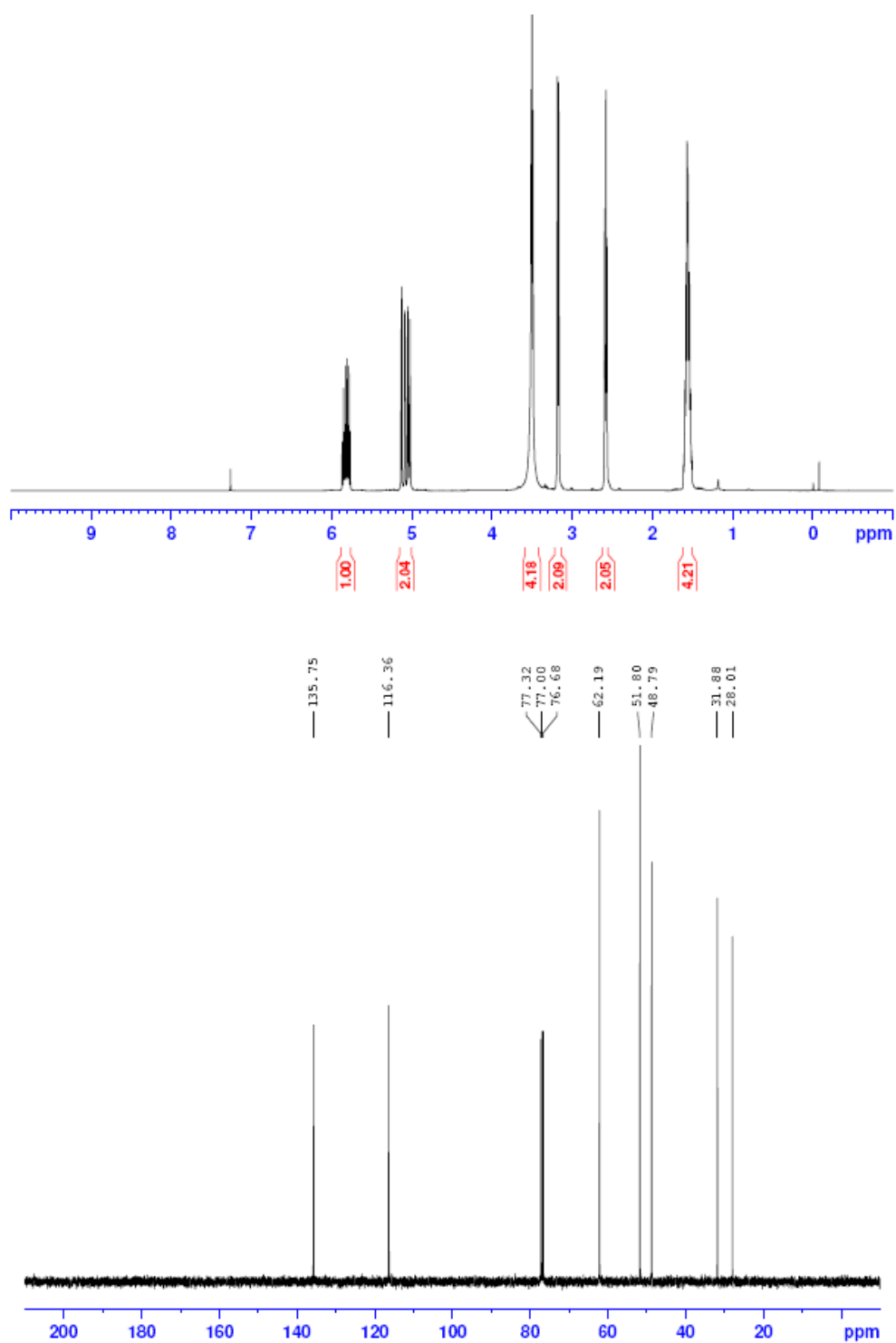
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cdcl3  
11-9-21



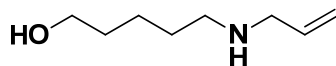
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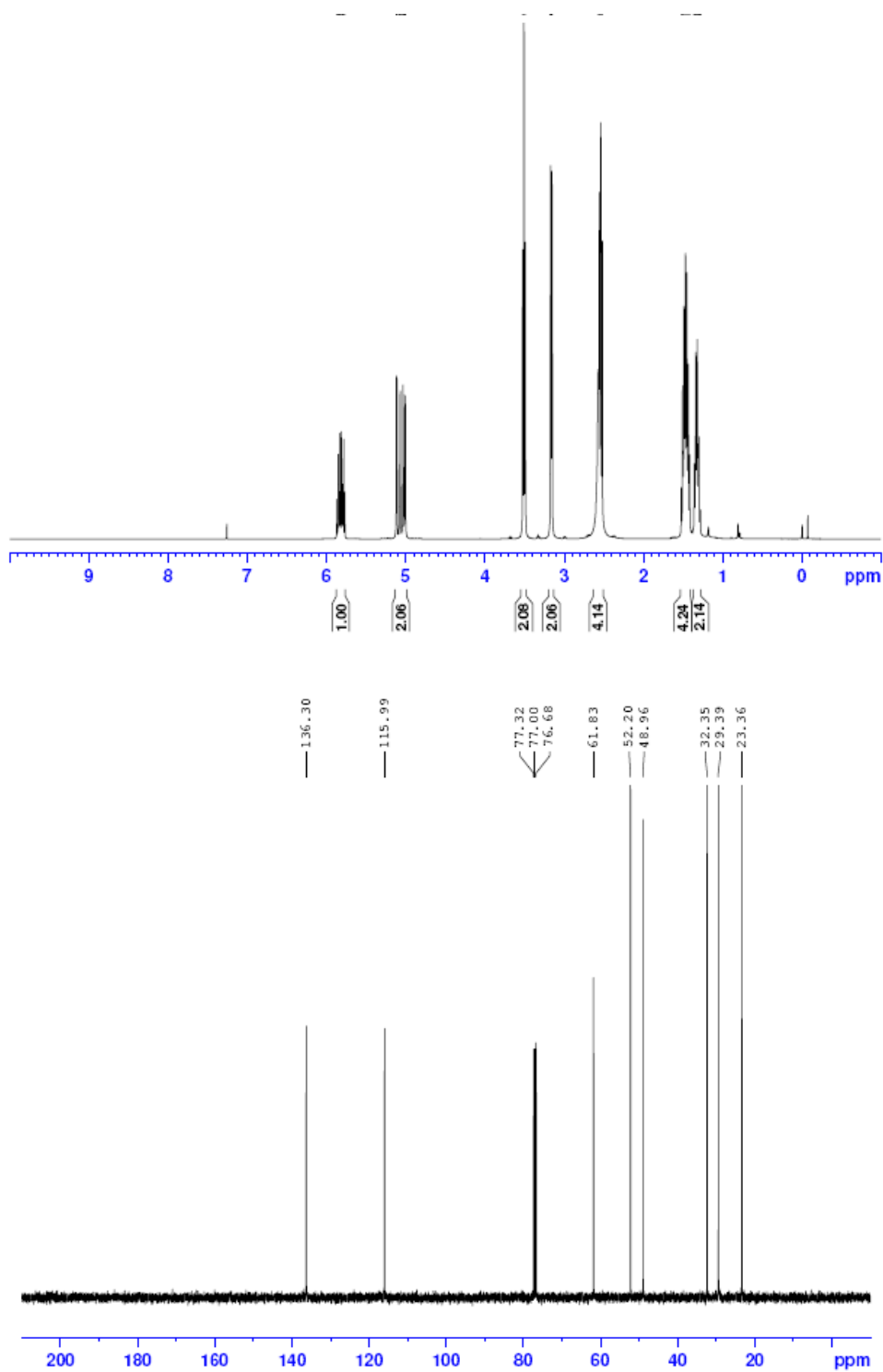
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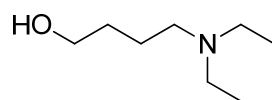
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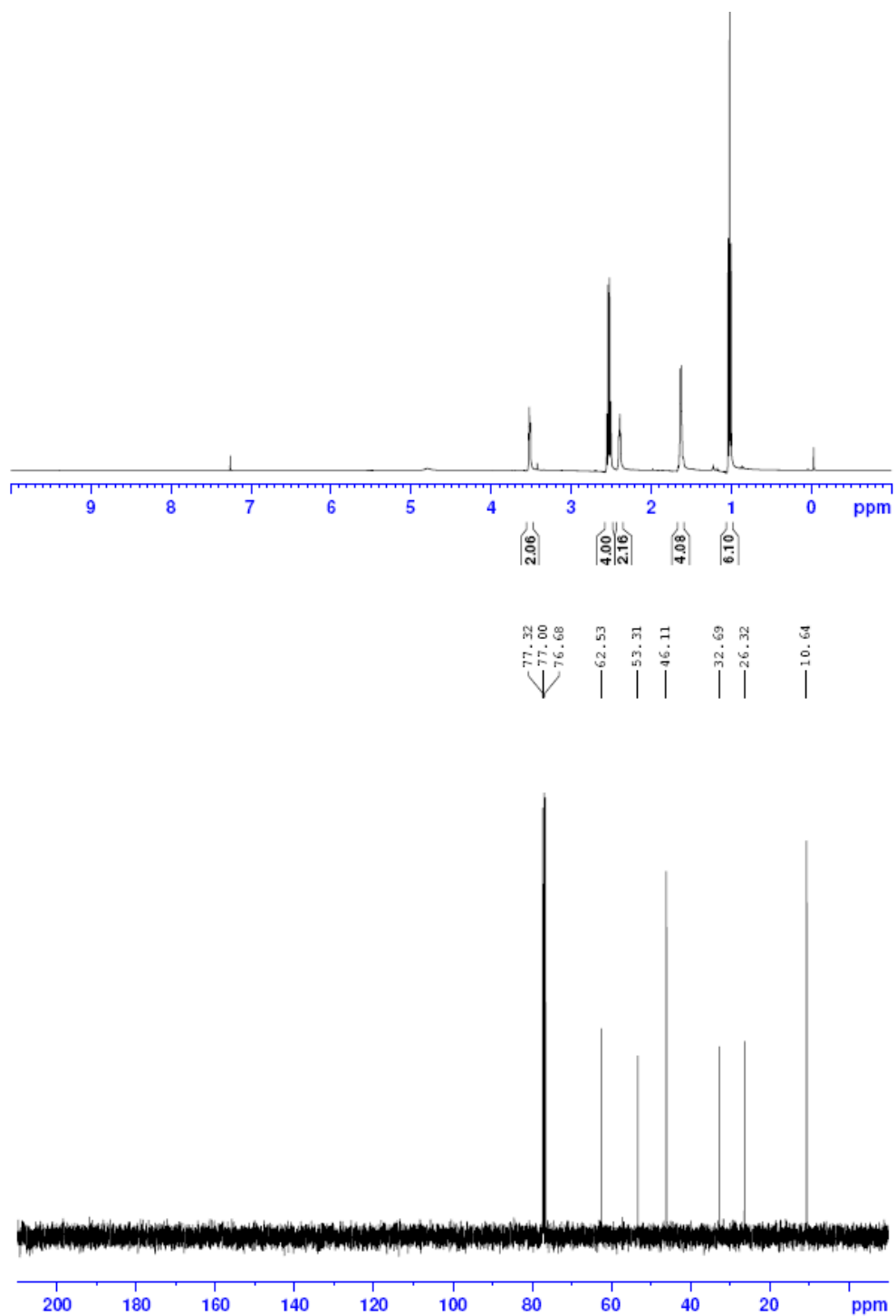
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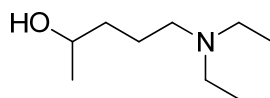
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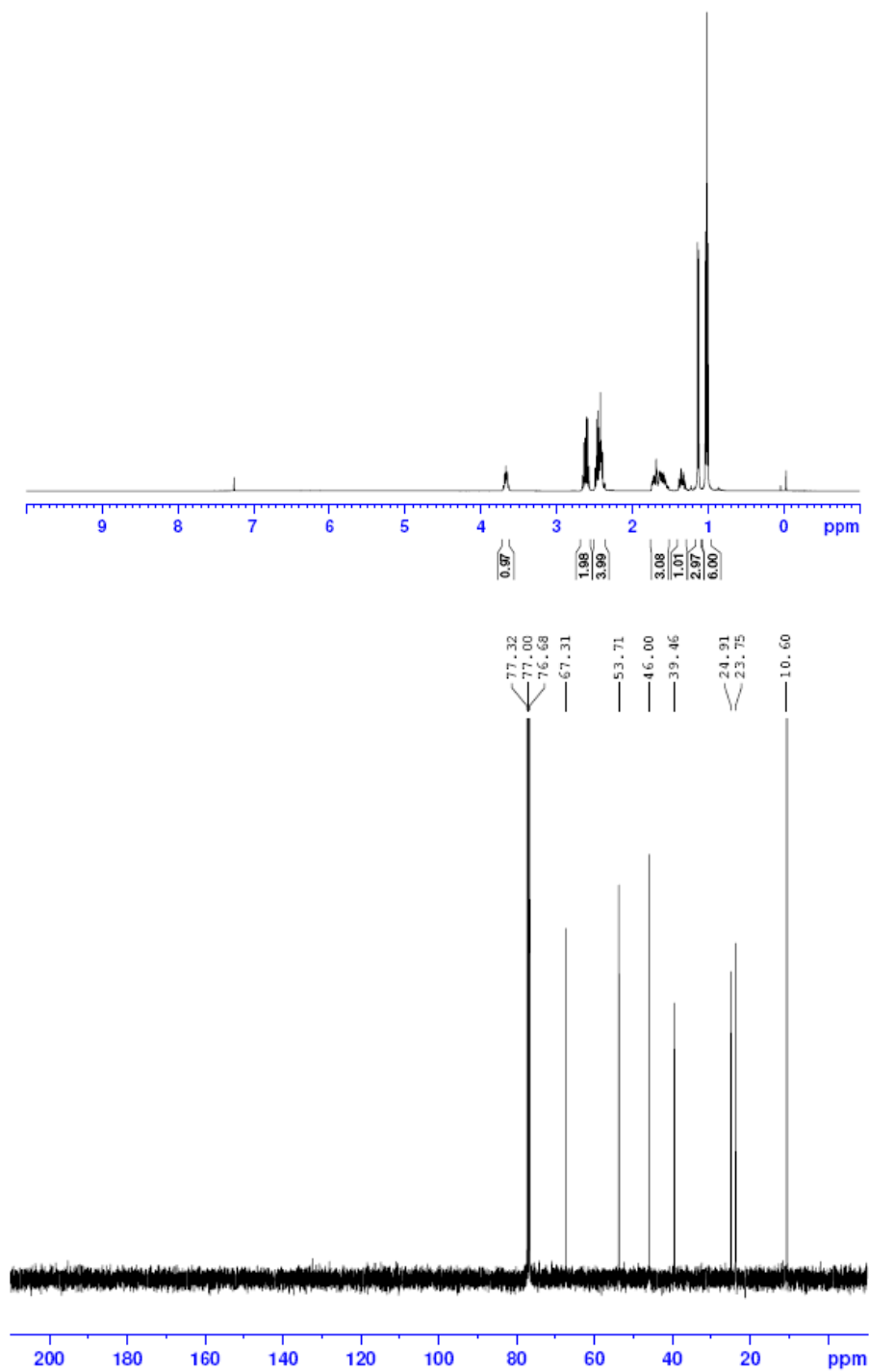
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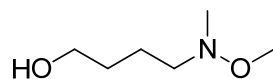
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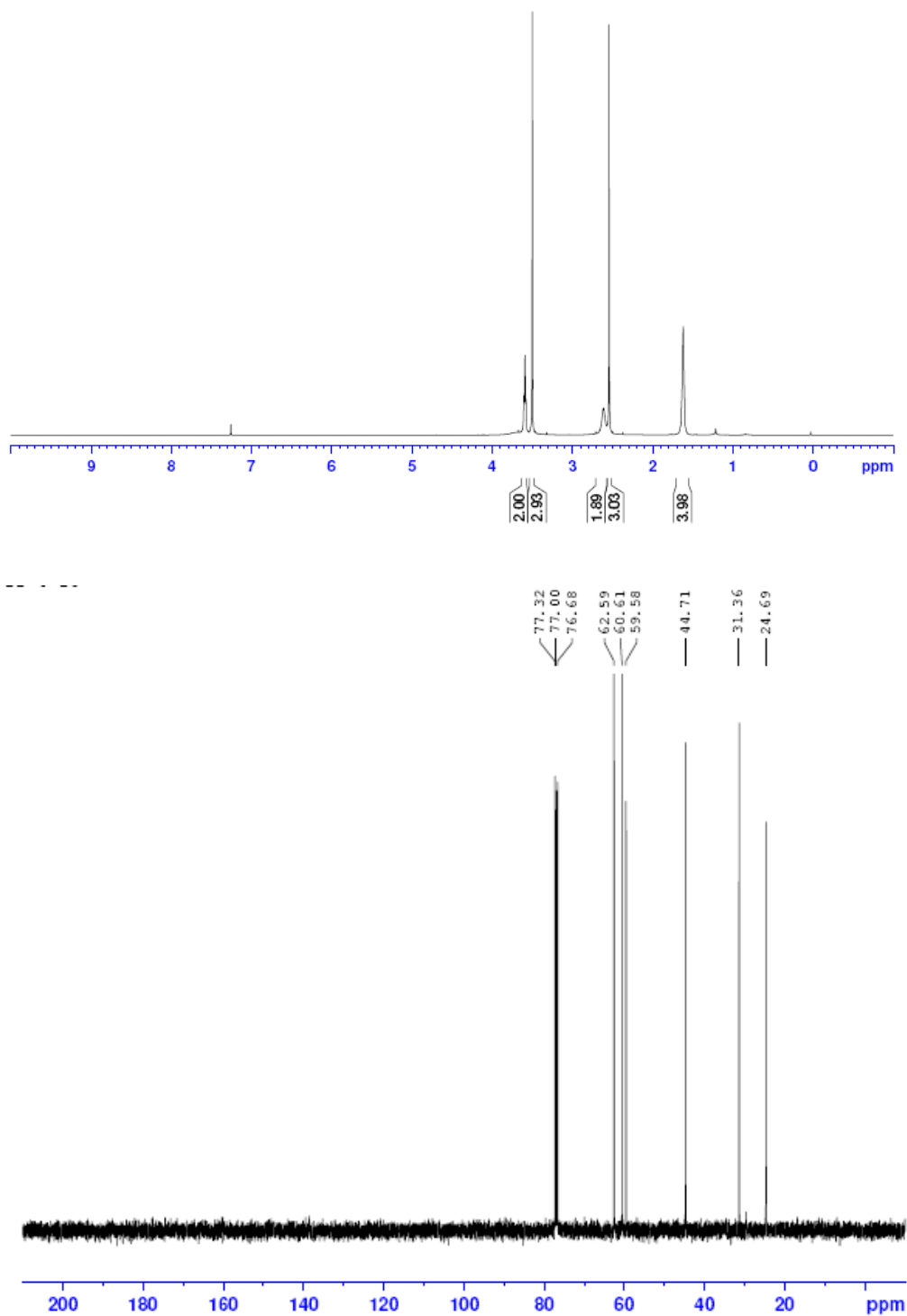
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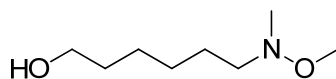
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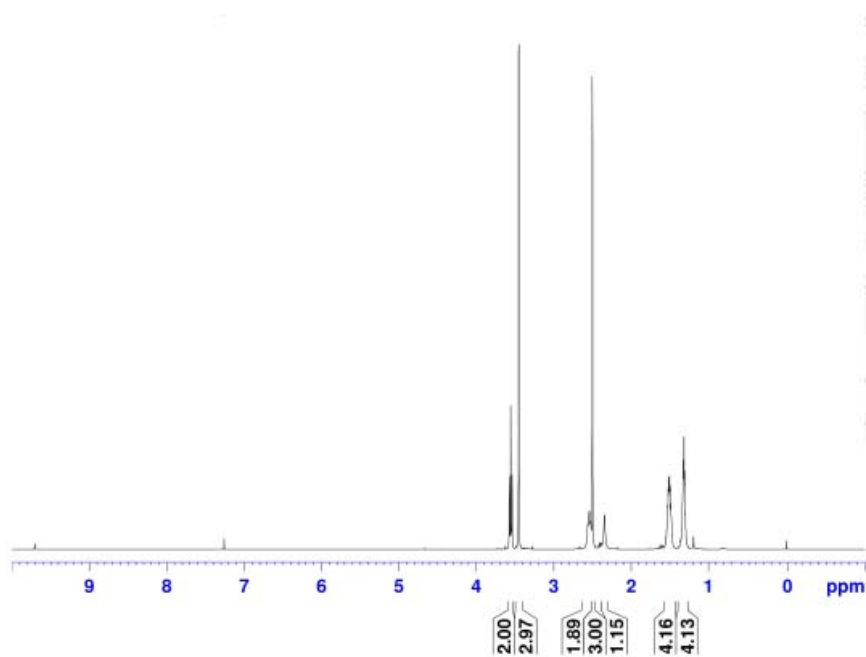
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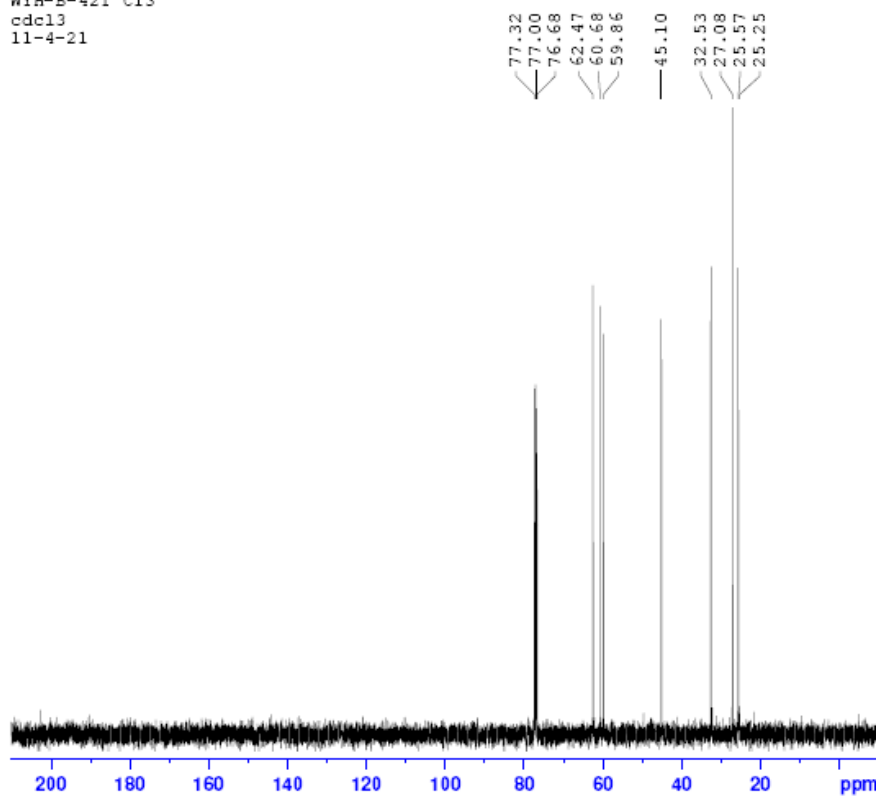
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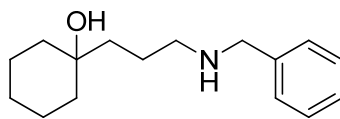
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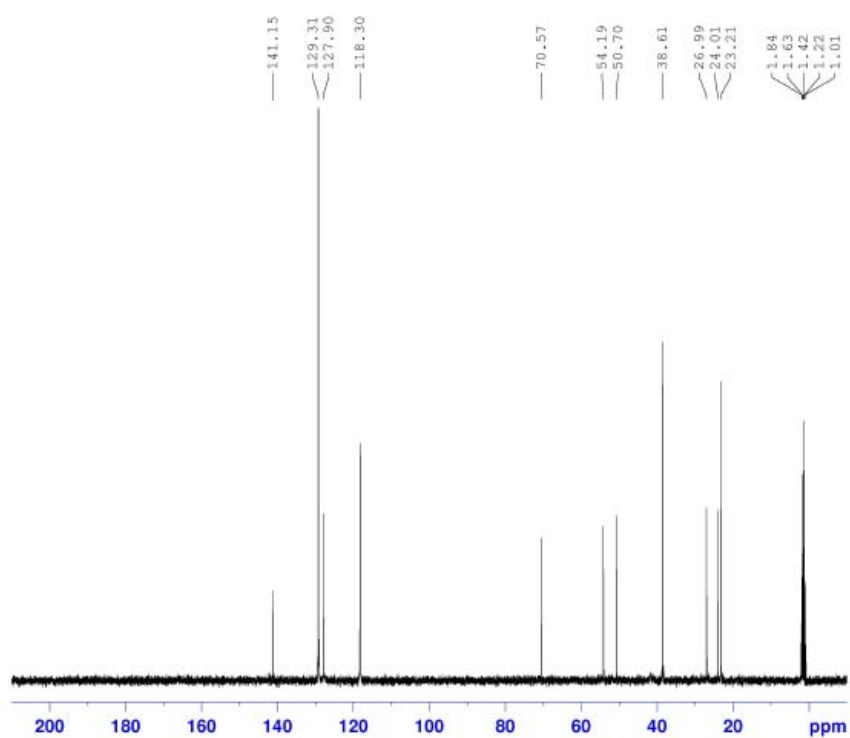
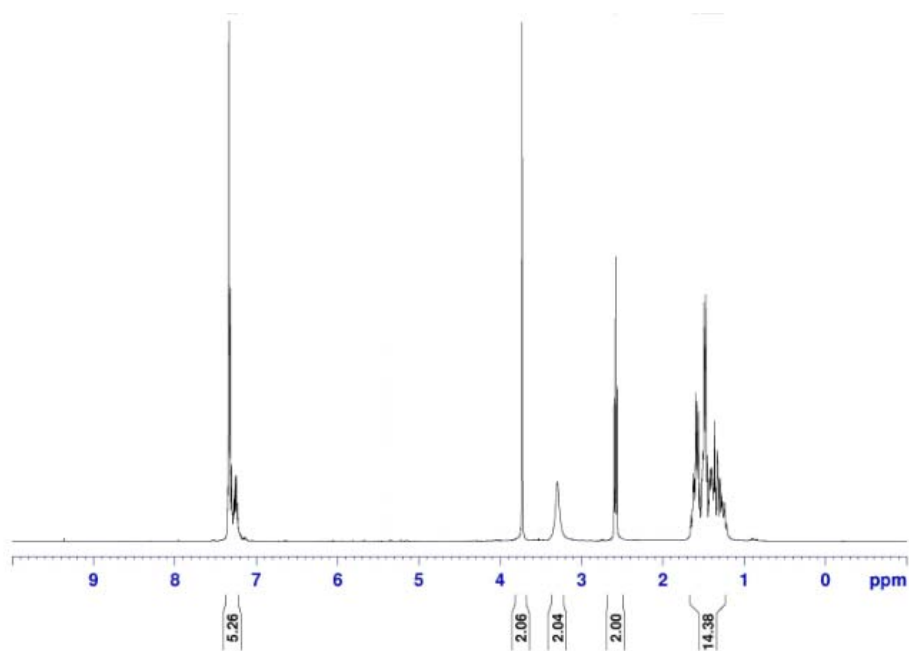
WYH-B-42T C13  
cdc13  
11-4-21



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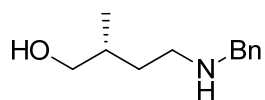


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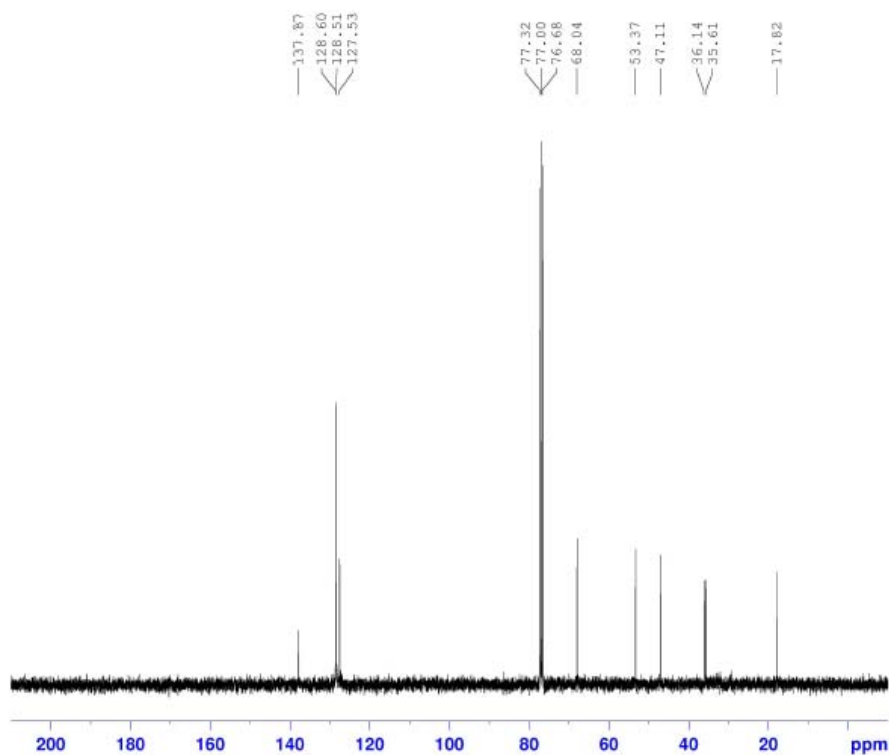
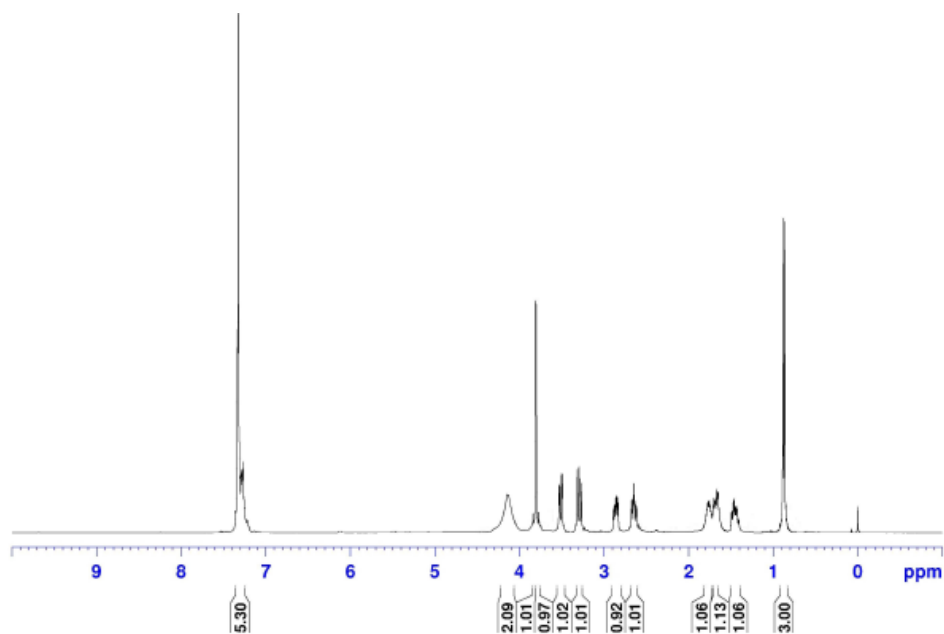




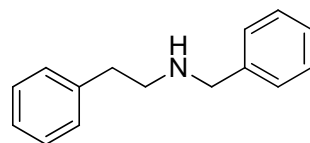
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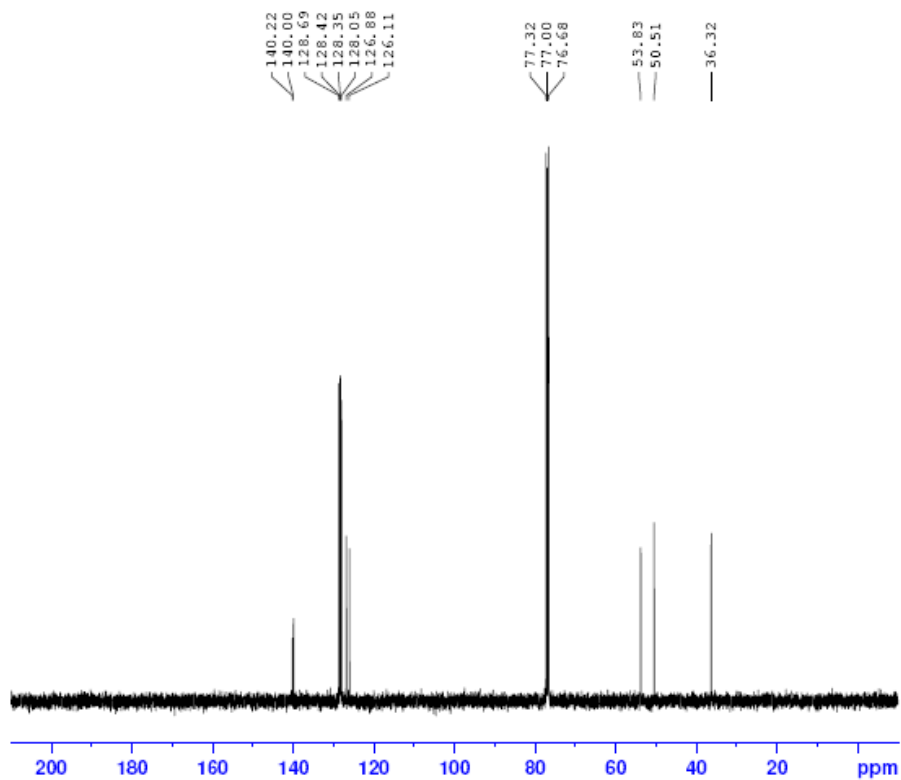
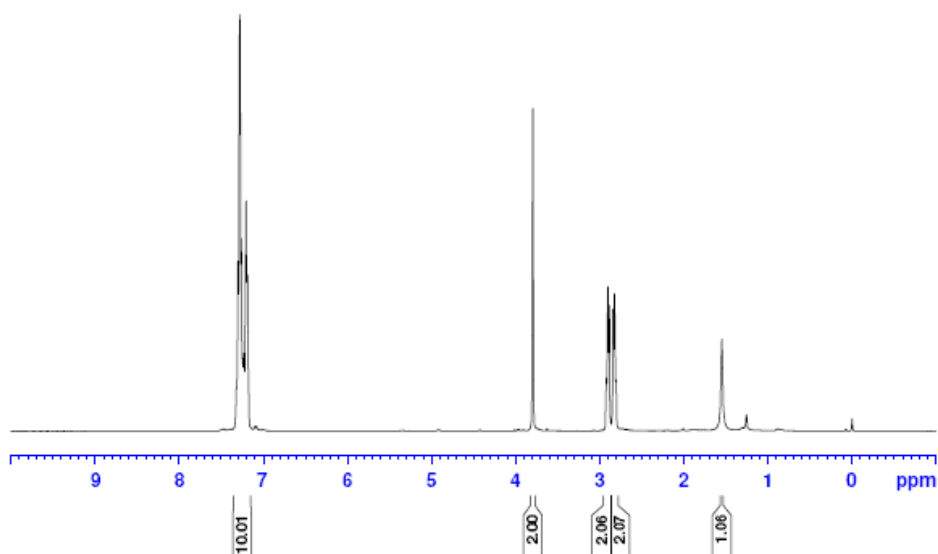
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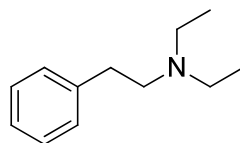
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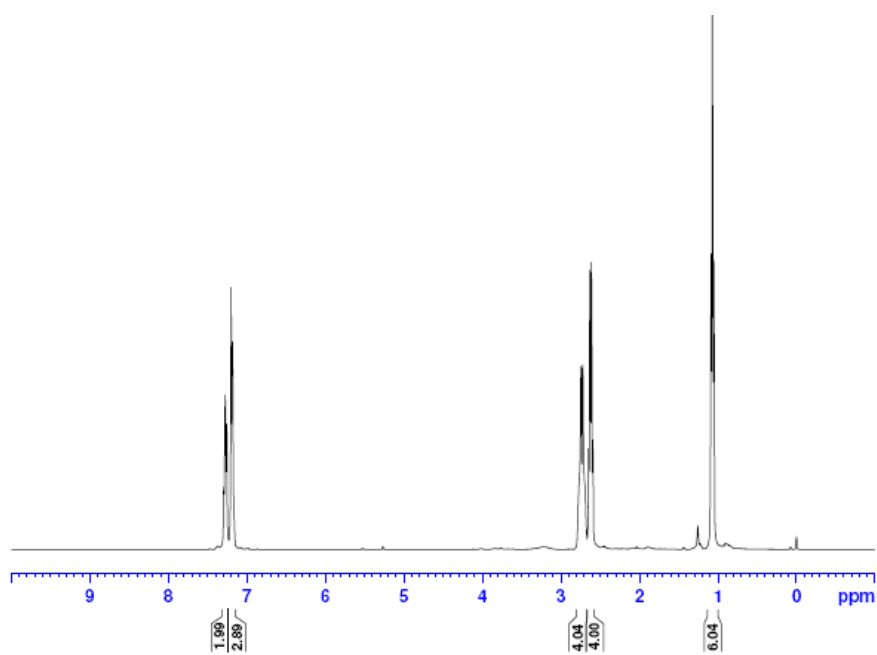
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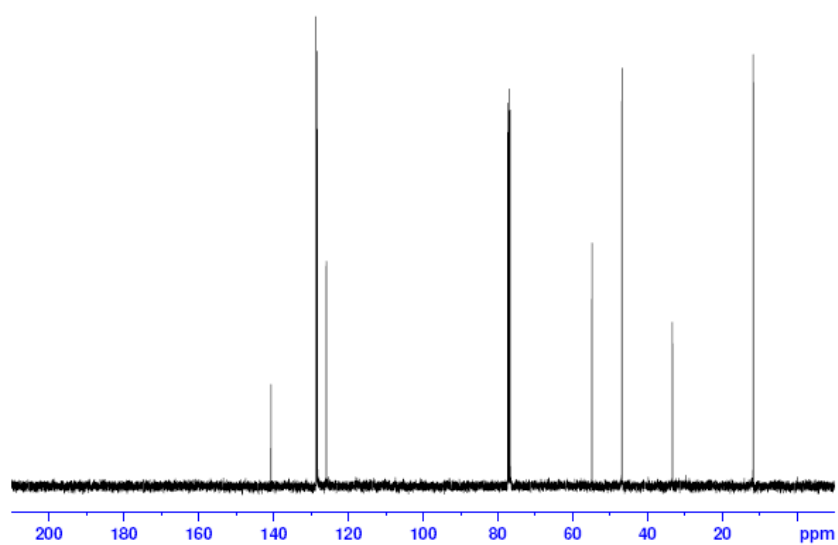
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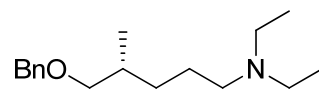
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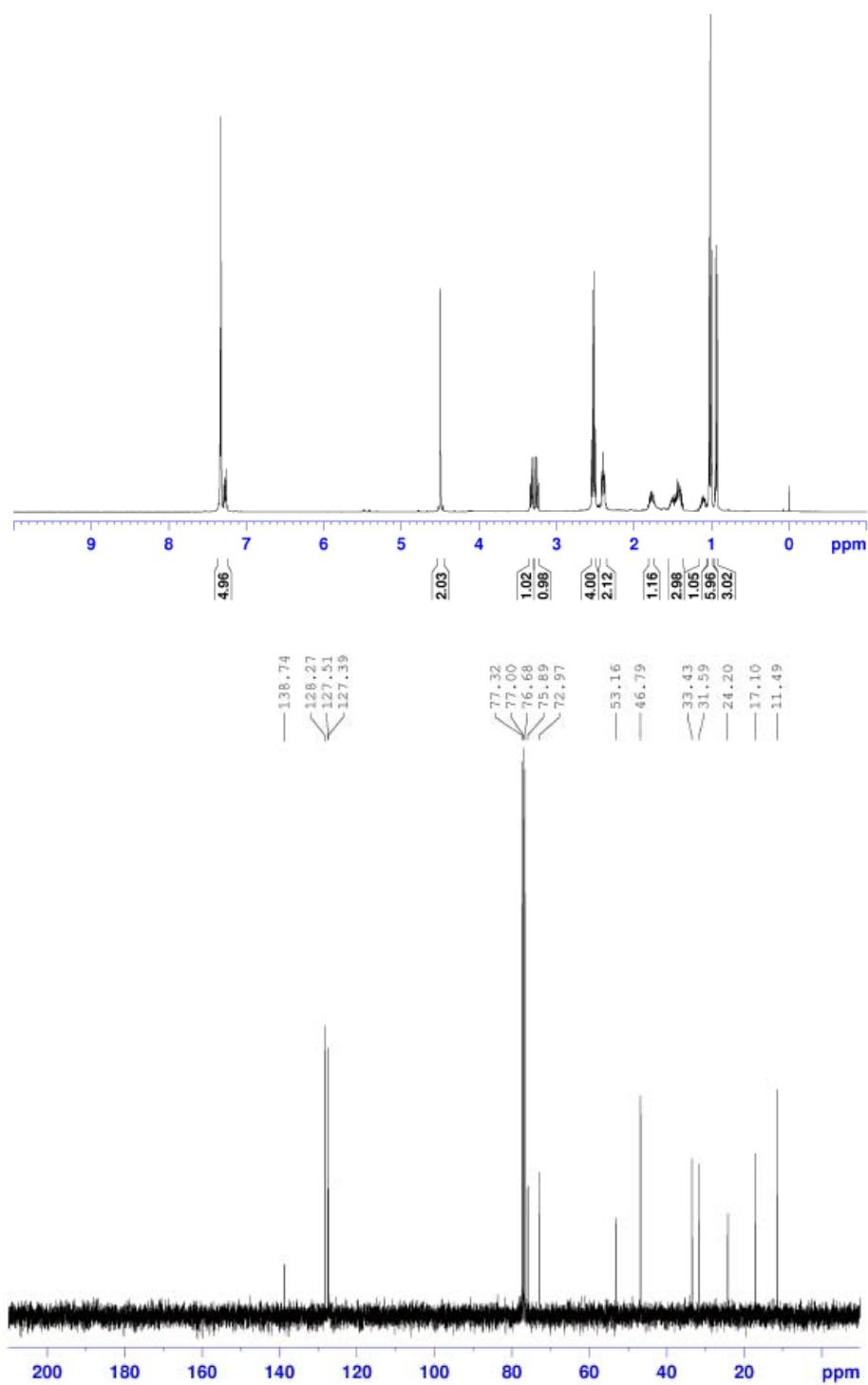
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77.00  
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11.69



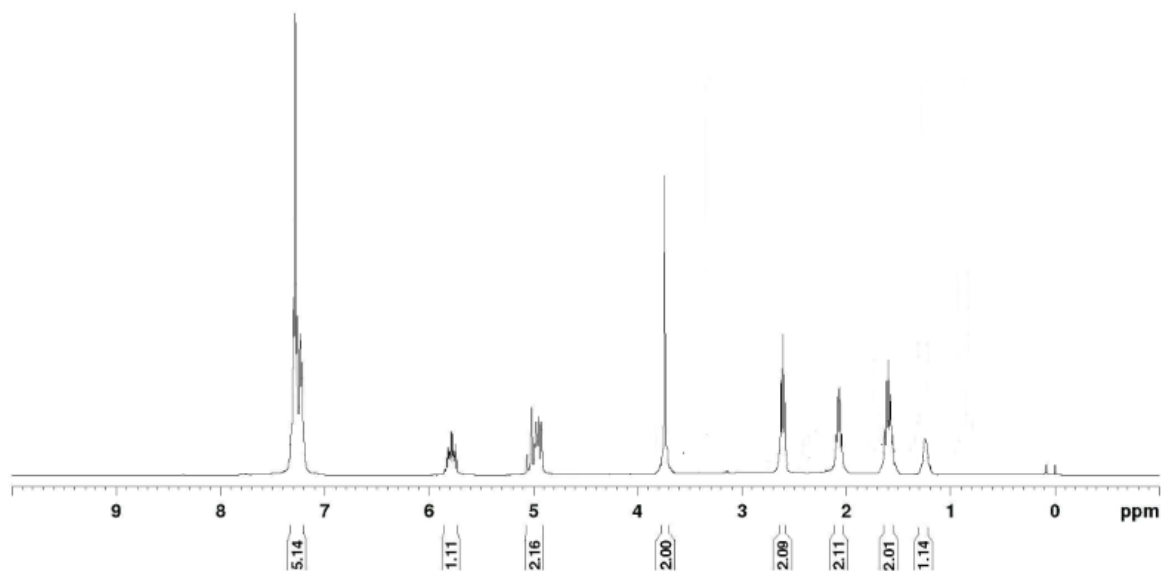
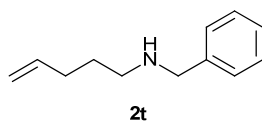
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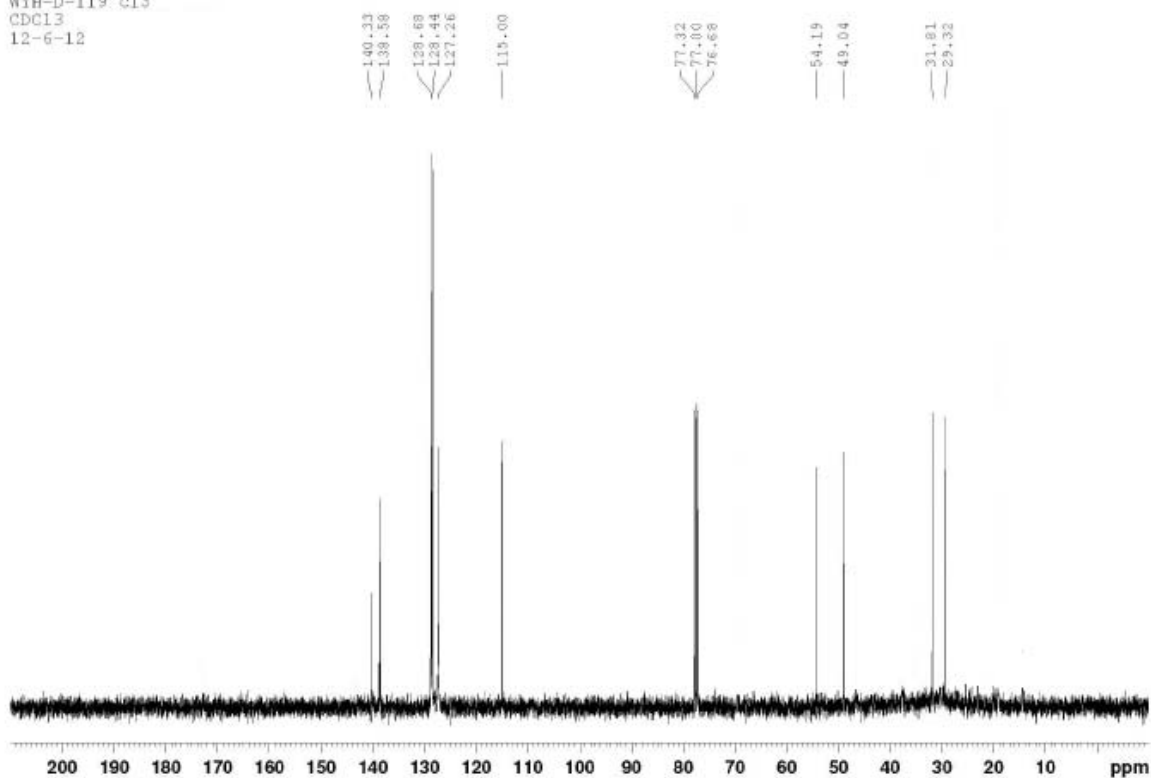
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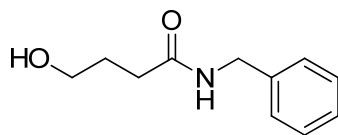
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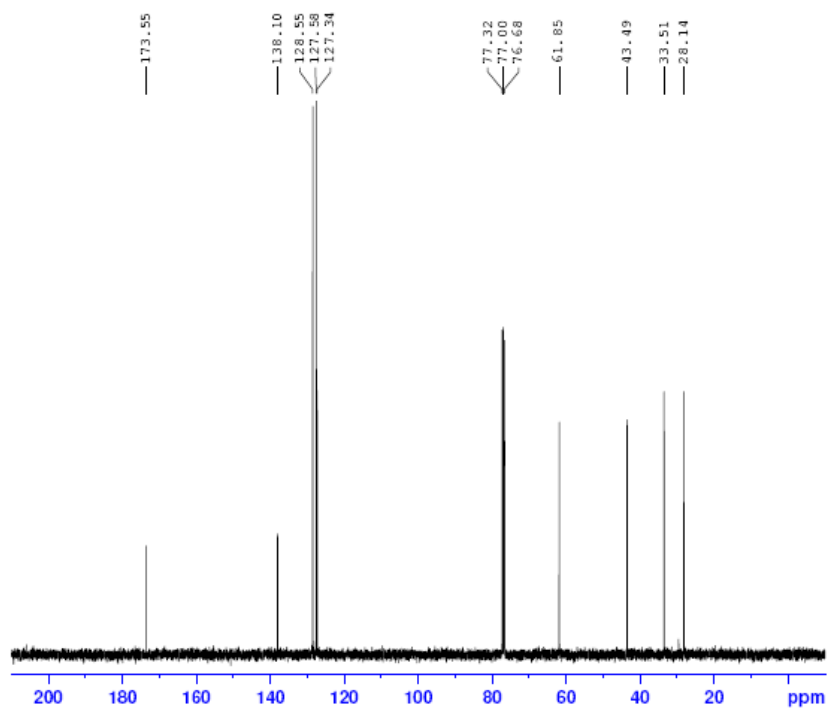
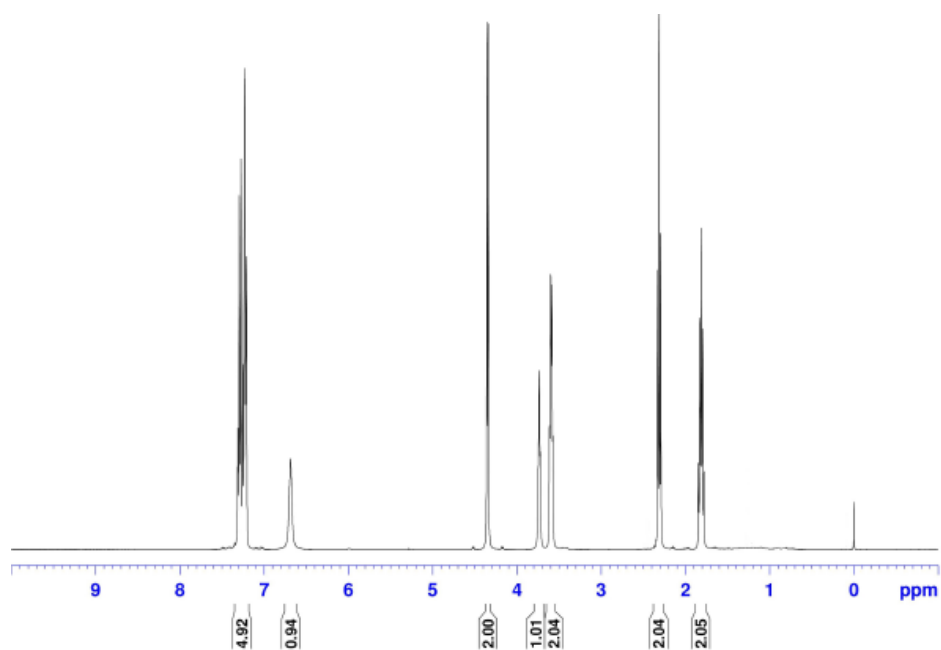
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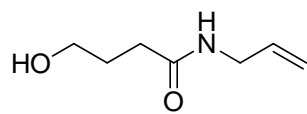
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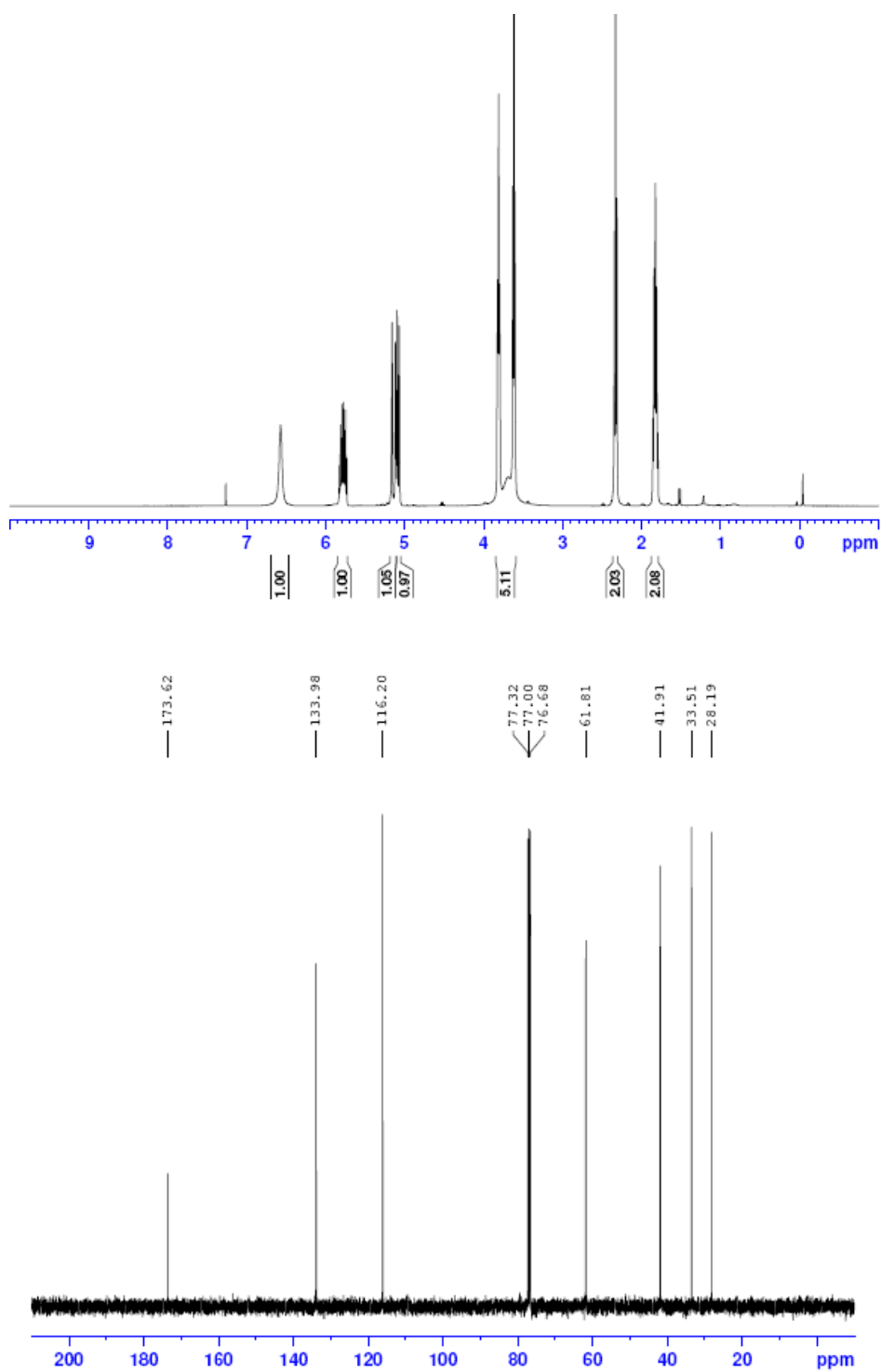
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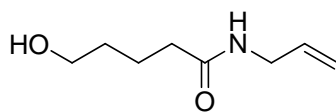
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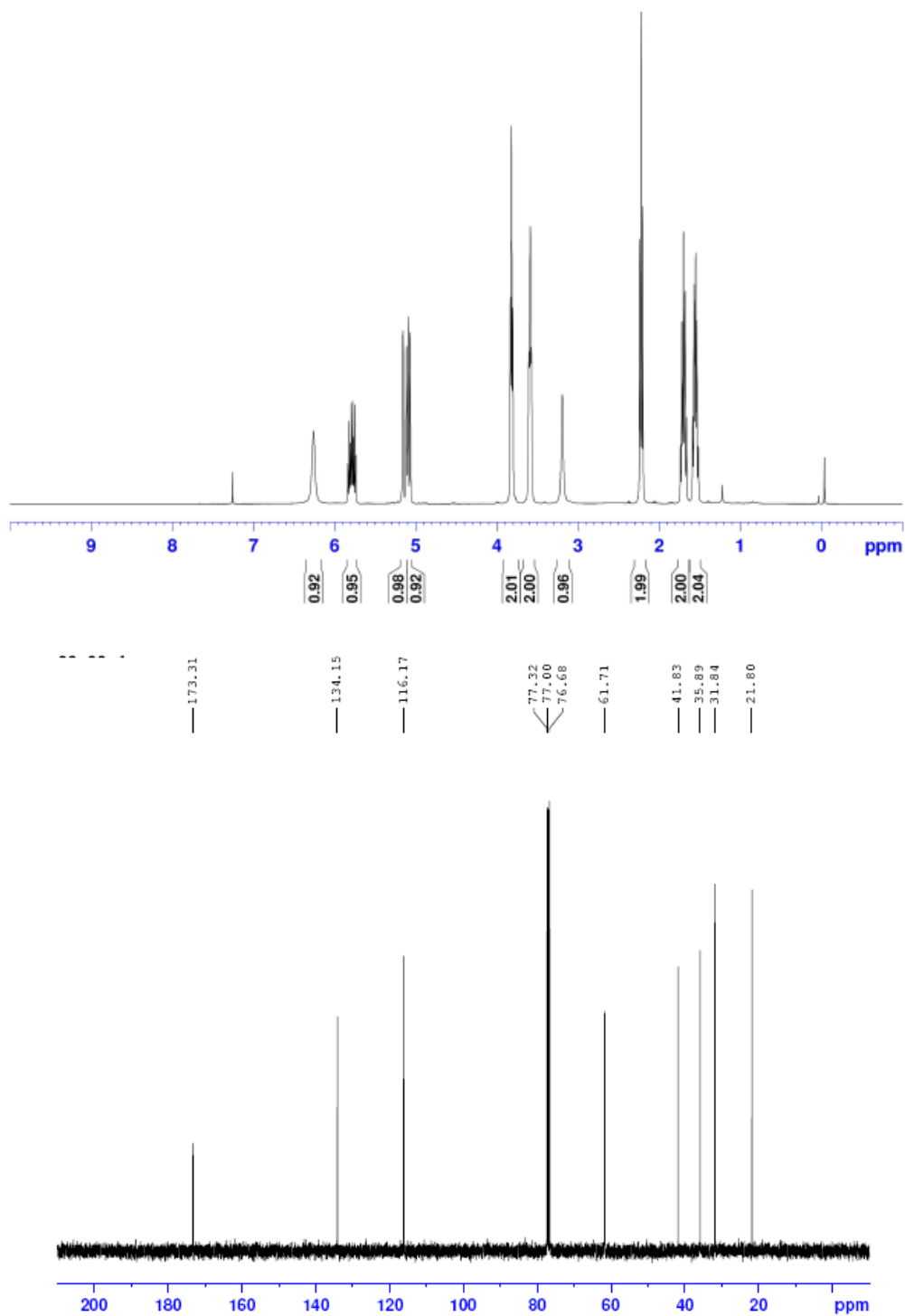
**3b**



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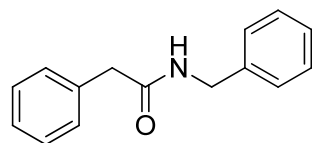


**3c**





$^1\text{H}$  NMR and  $^{13}\text{C}$  NMR spectra of compound **3d**:



**3d**

