

## In Situ Anodically Oxidized BMIm-BF<sub>4</sub>: a Safe and Recyclable BF<sub>3</sub> Source

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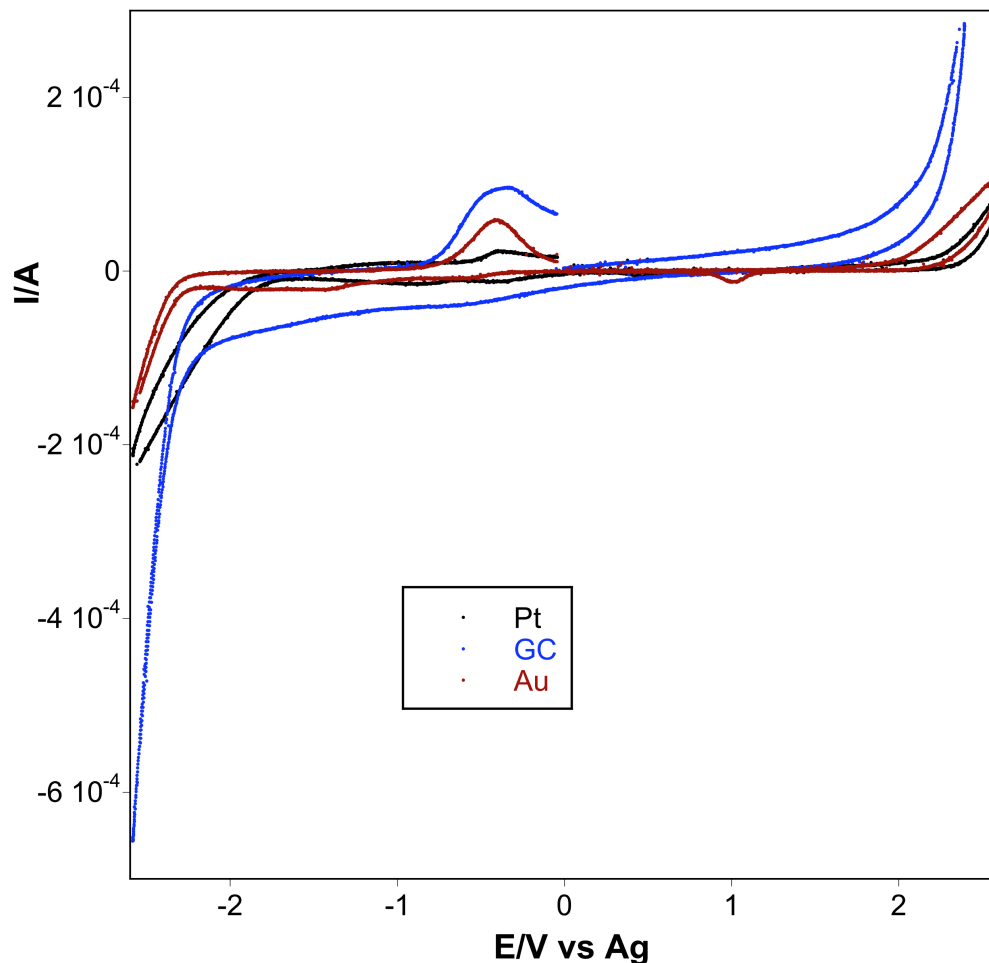
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**Cyclic Voltammetry of neat BMIm-BF<sub>4</sub> on Platinum or Glassy Carbon or Gold electrode.**

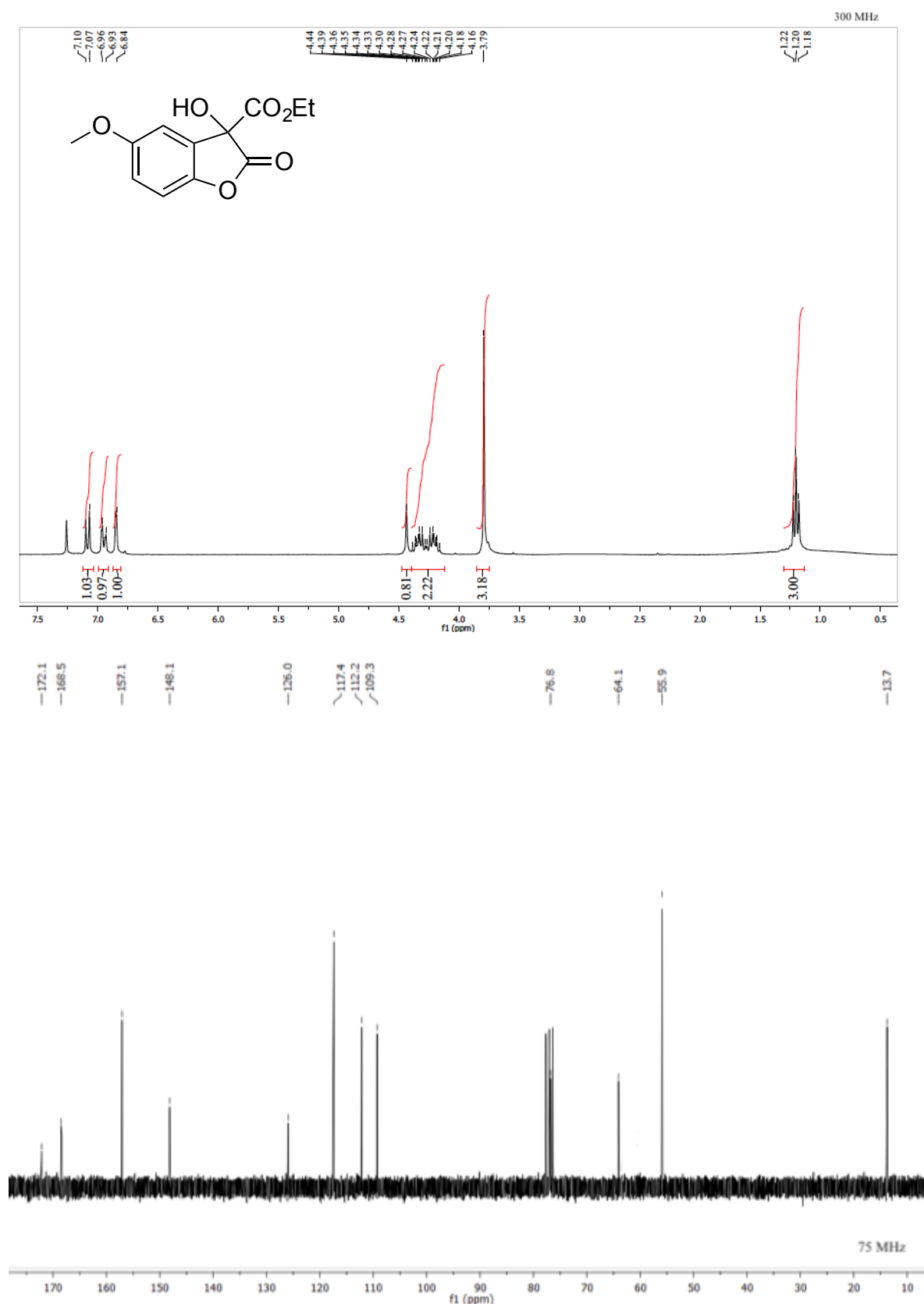


Cyclic voltammetry of neat BMIm-BF<sub>4</sub>. Pt (492/PT/1) or GC (492/GC/3) or Au (492/AU/1) Amel working microelectrode, Ag quasi-reference electrode, room temperature, nitrogen atmosphere. Scan rate: 200 mV s<sup>-1</sup>. Potential scan: 0 to + 2.6 to - 2.6 to 0 V.

Instrument: Amel 552 potentiostat equipped with an Amel 566 function generator and an Amel 563 multipurpose unit in a three-electrode cell; Amel 863 recorder; acquisition software: CorrWare for windows version 2.8d1 Scribner, elaboration software: CorrView for windows version 2.8d1 Scribner.

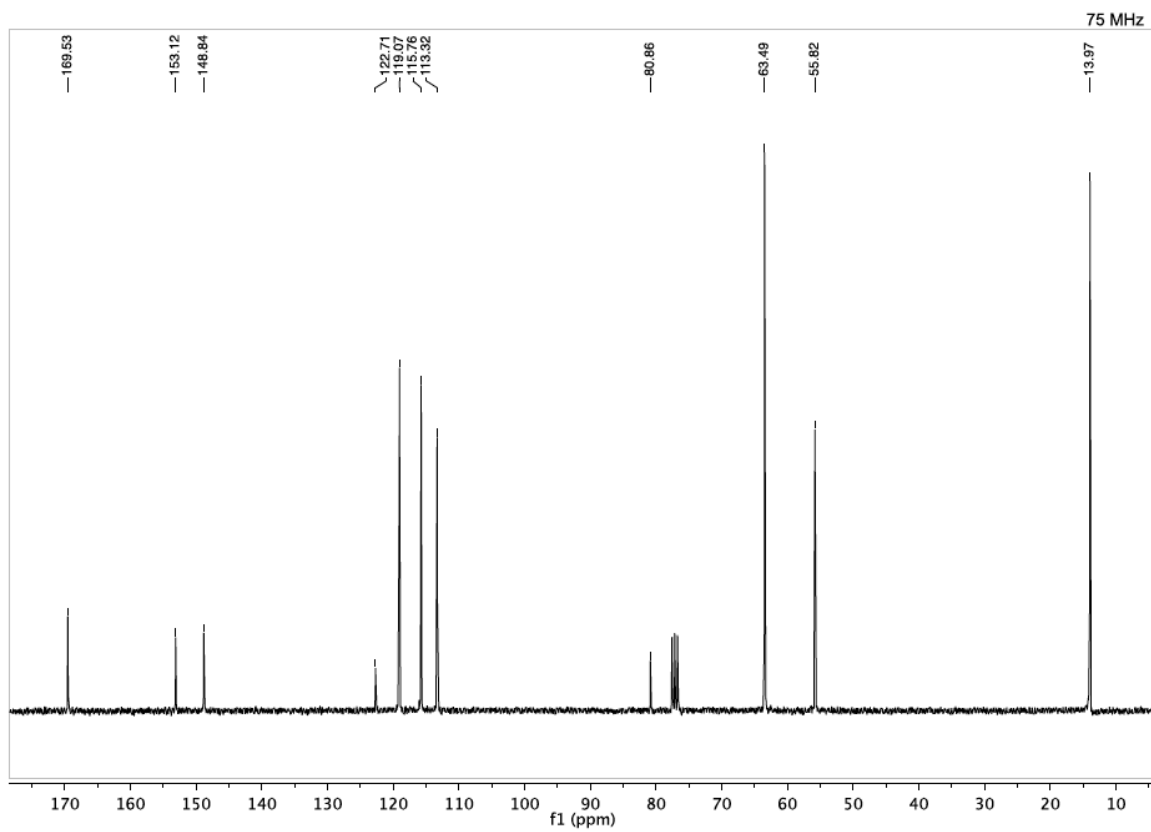
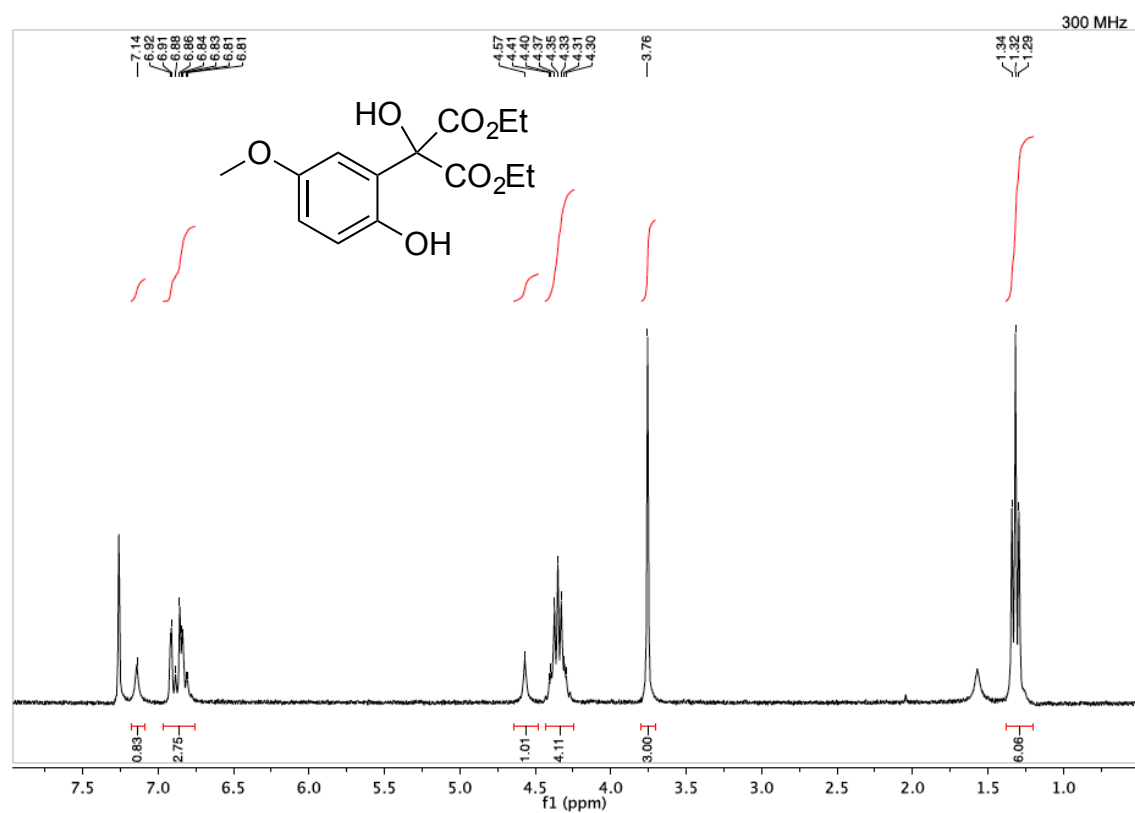
$^1\text{H}$  and  $^{13}\text{C}\{^1\text{H}\}$  NMR spectra in  $\text{CDCl}_3$

Ethyl 3-hydroxy-5-methoxy-2-oxo-2,3-dihydrobenzofuran-3-carboxylate (3a)



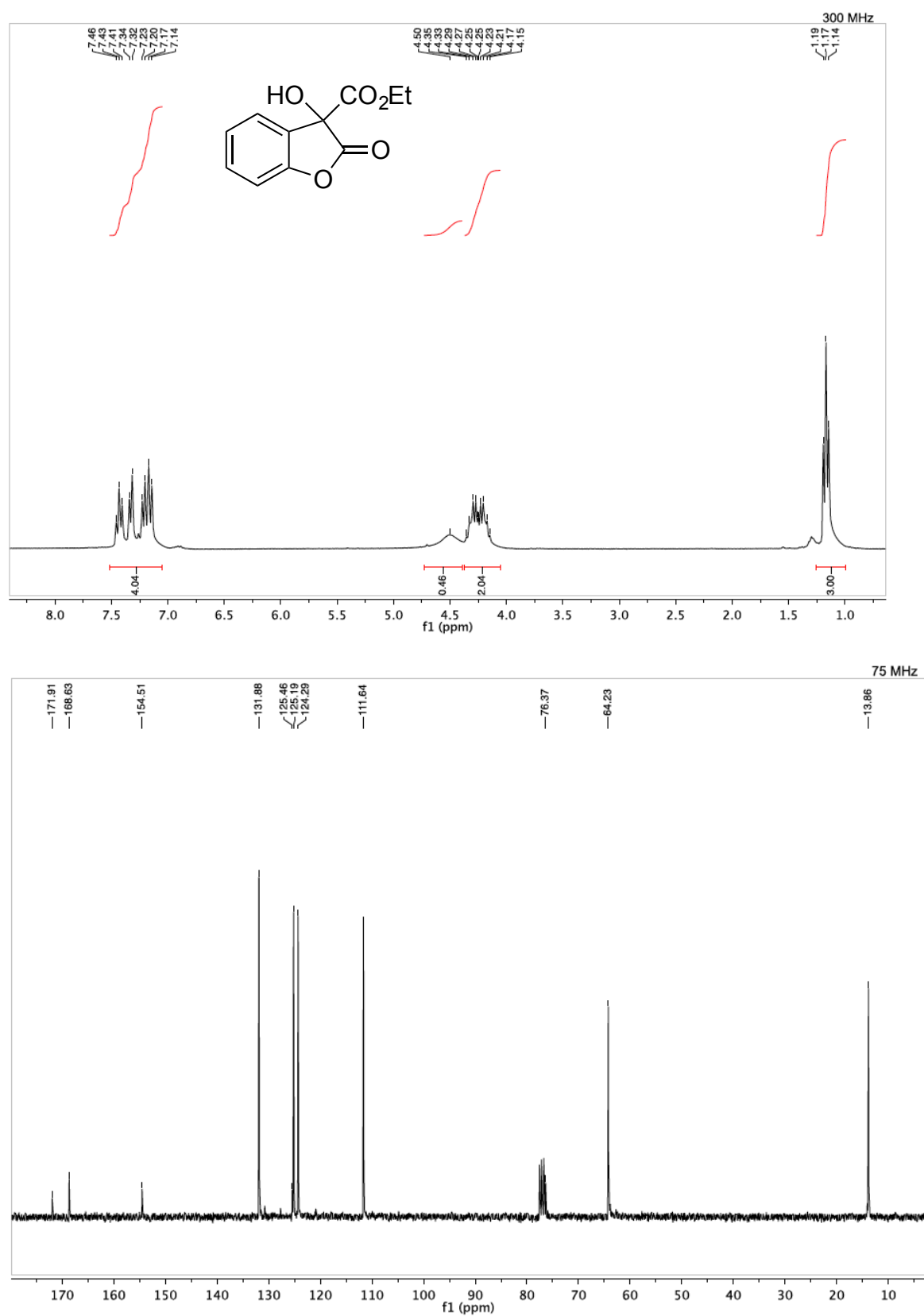
$^1\text{H}$  and  $^{13}\text{C}\{^1\text{H}\}$  NMR spectra in  $\text{CDCl}_3$

Diethyl 2-hydroxy-2-(2-hydroxy-5-methoxyphenyl)malonate (4a)



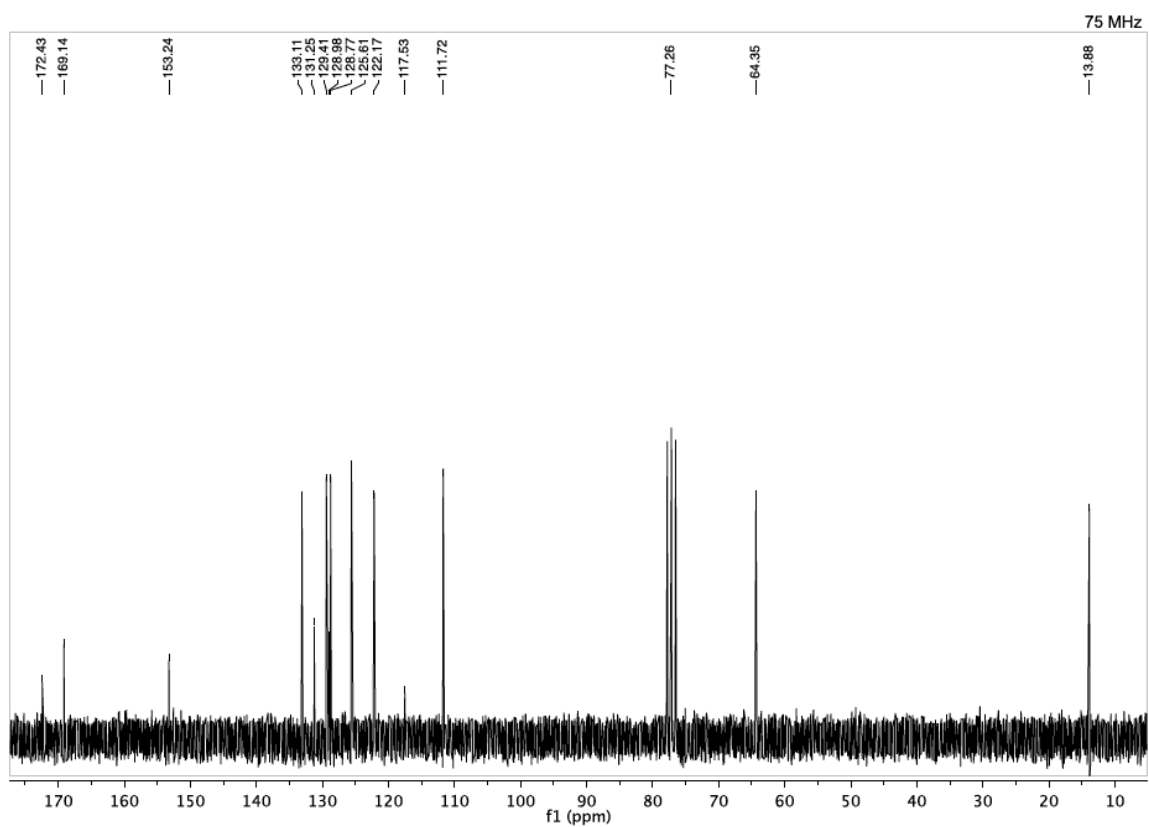
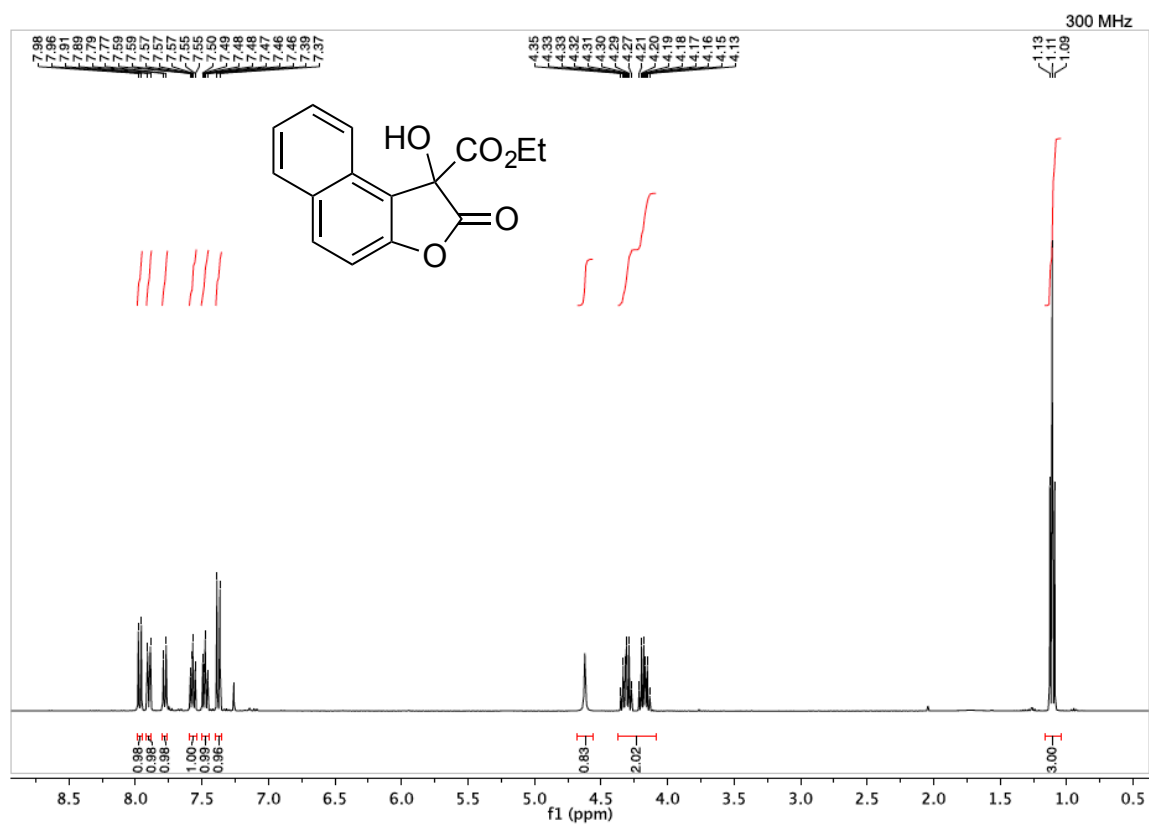
$^1\text{H}$  and  $^{13}\text{C}\{^1\text{H}\}$  NMR spectra in  $\text{CDCl}_3$

Ethyl 3-hydroxy-2-oxo-2,3-dihydrobenzofuran-3-carboxylate (3b)



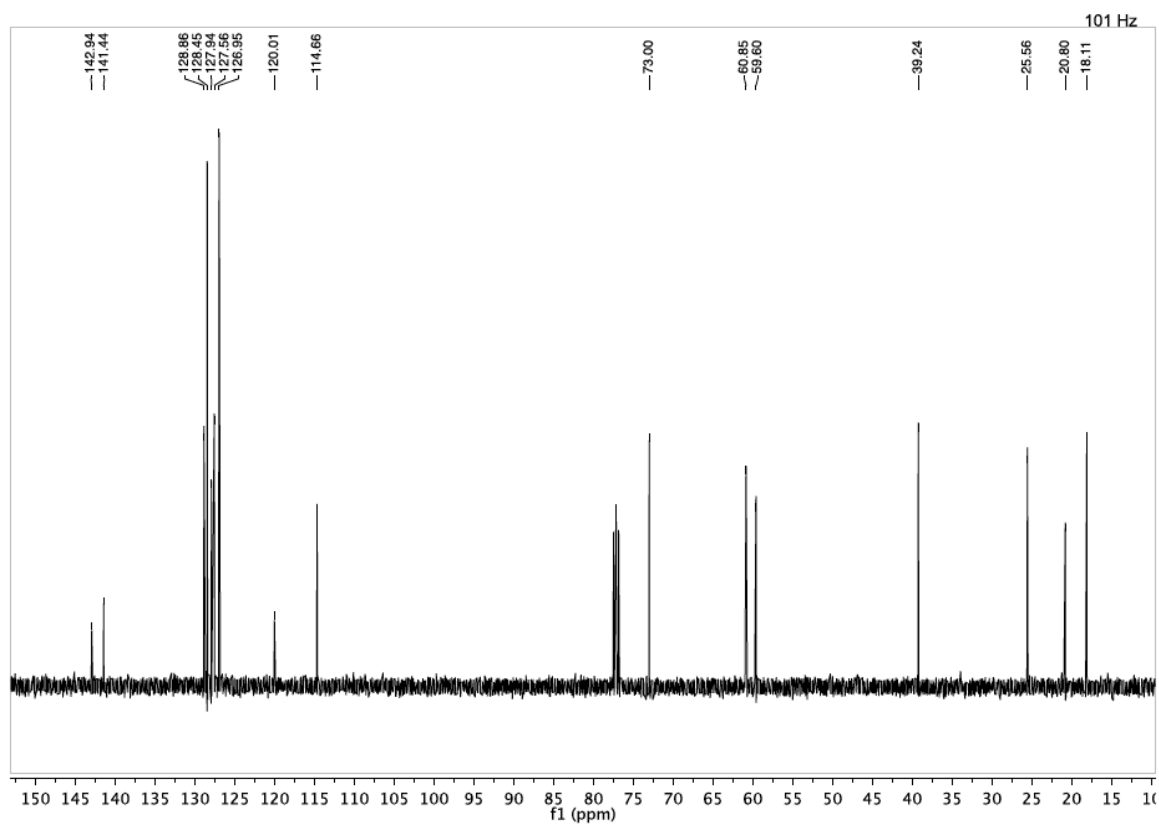
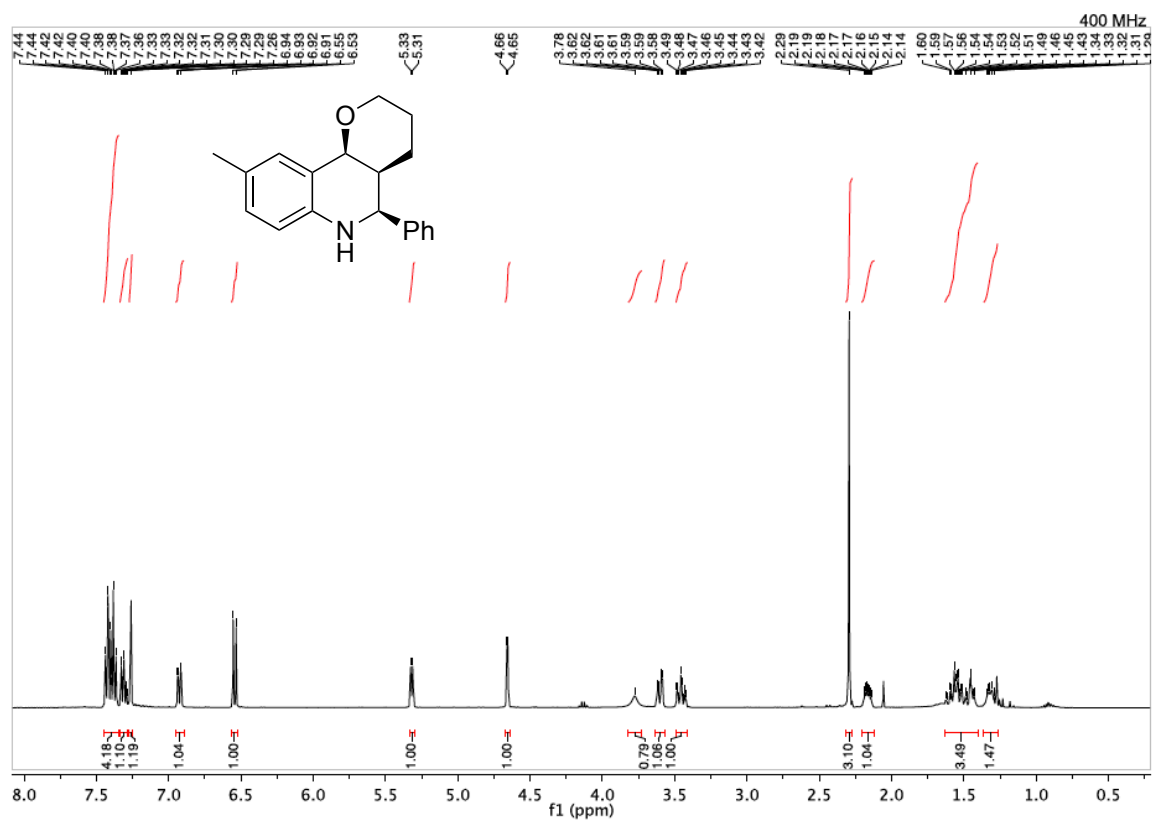
$^1\text{H}$  and  $^{13}\text{C}\{^1\text{H}\}$  NMR spectra in  $\text{CDCl}_3$

Ethyl 1-hydroxy-2-oxo-1,2-dihydronaphtho[2,1-*b*]furan-1-carboxylate (3c)



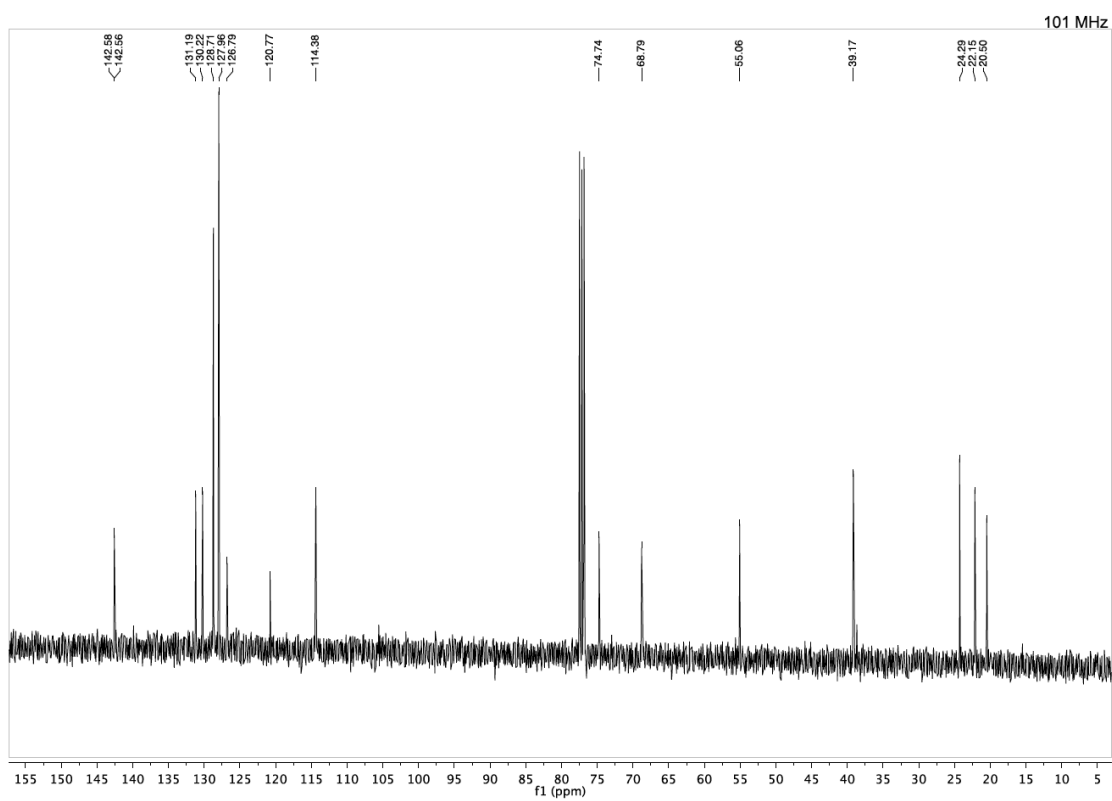
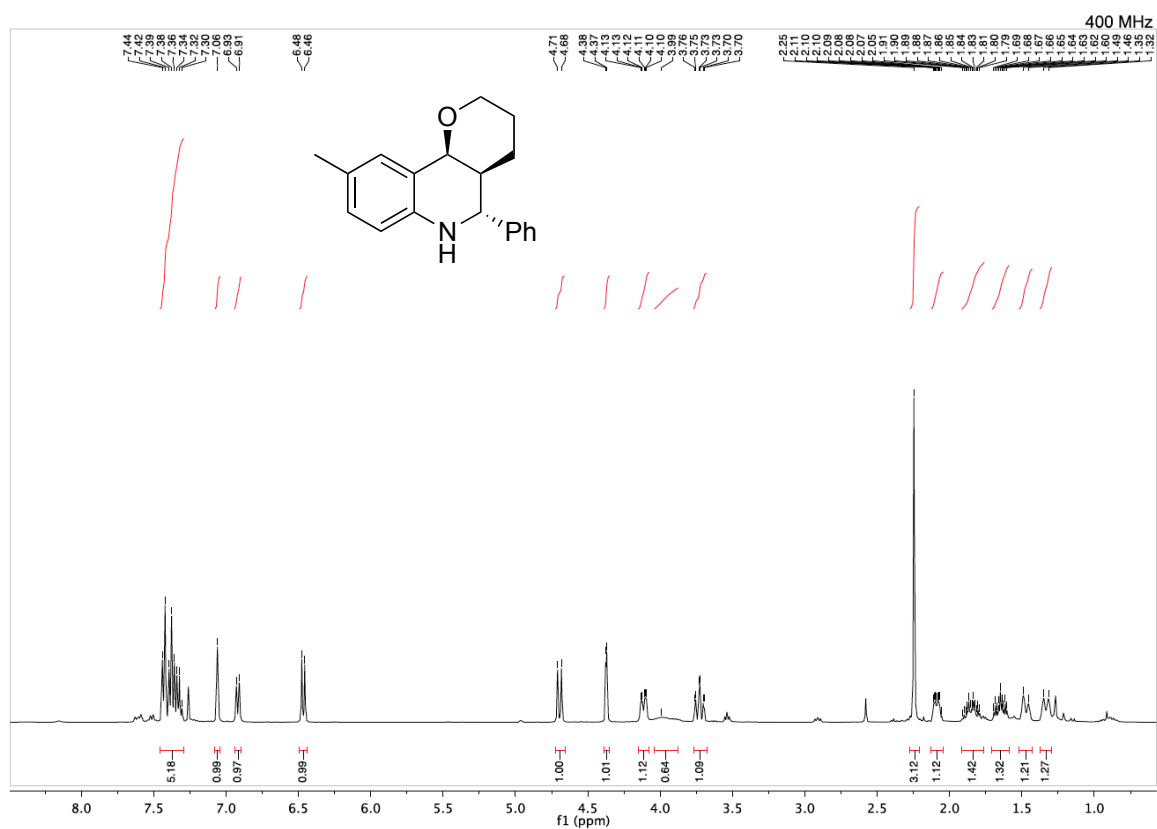
$^1\text{H}$  and  $^{13}\text{C}\{^1\text{H}\}$  NMR spectra in  $\text{CDCl}_3$

*cis*-9-methyl-5-phenyl-3,4,4a,5,6,10b-hexahydro-2H-pyrano[3,2-c]quinoline (8a)



$^1\text{H}$  and  $^{13}\text{C}\{^1\text{H}\}$  NMR spectra in  $\text{CDCl}_3$

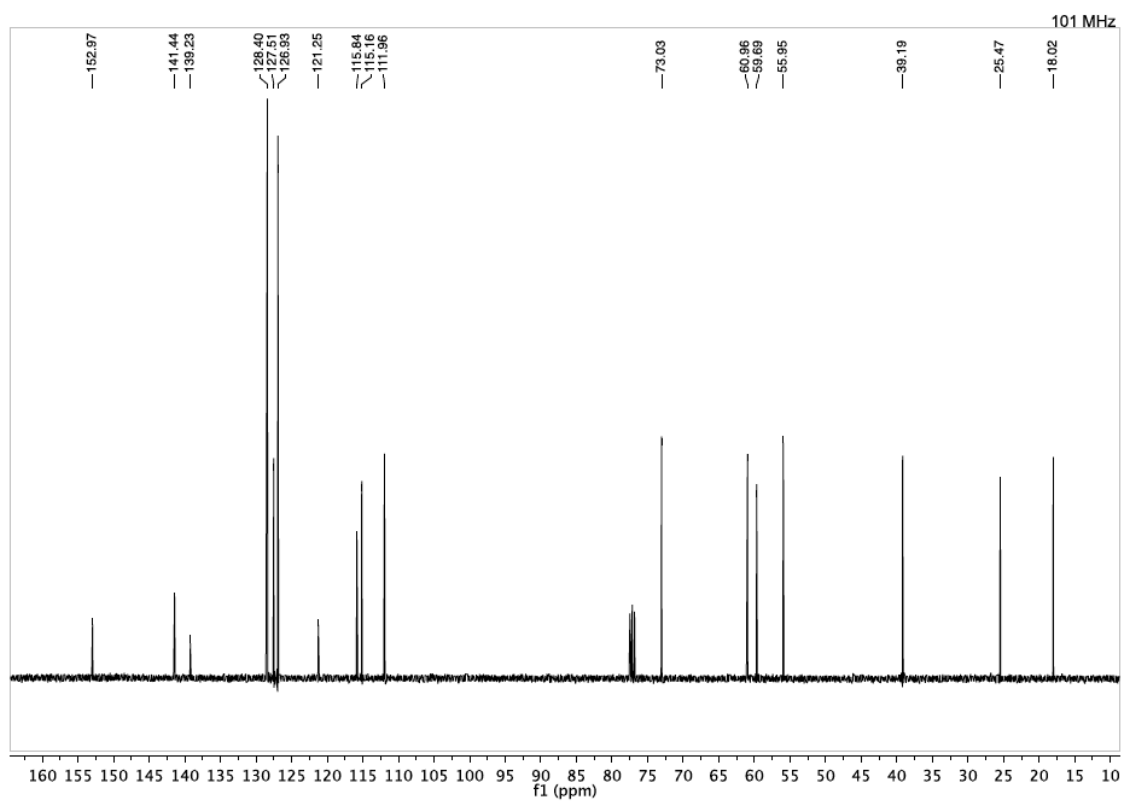
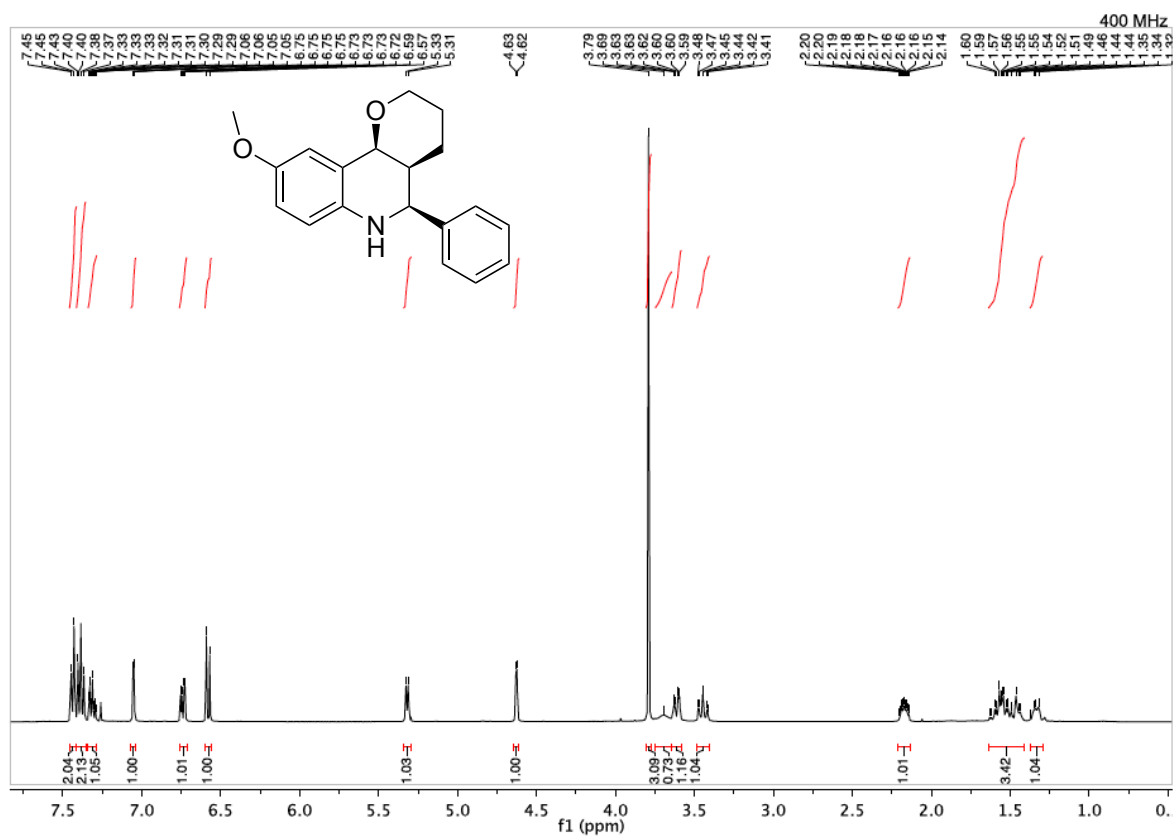
*trans*-9-methyl-5-phenyl-3,4,4a,5,6,10b-hexahydro-2H-pyrano[3,2-c]quinoline (8a)





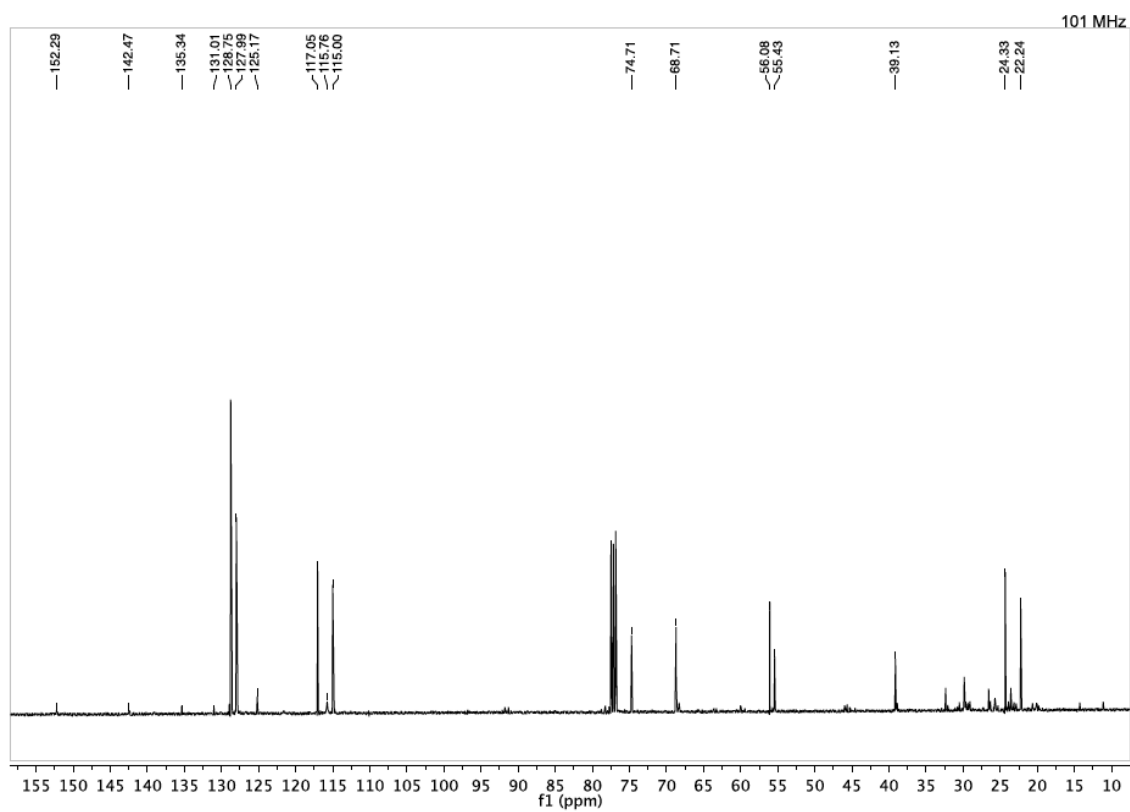
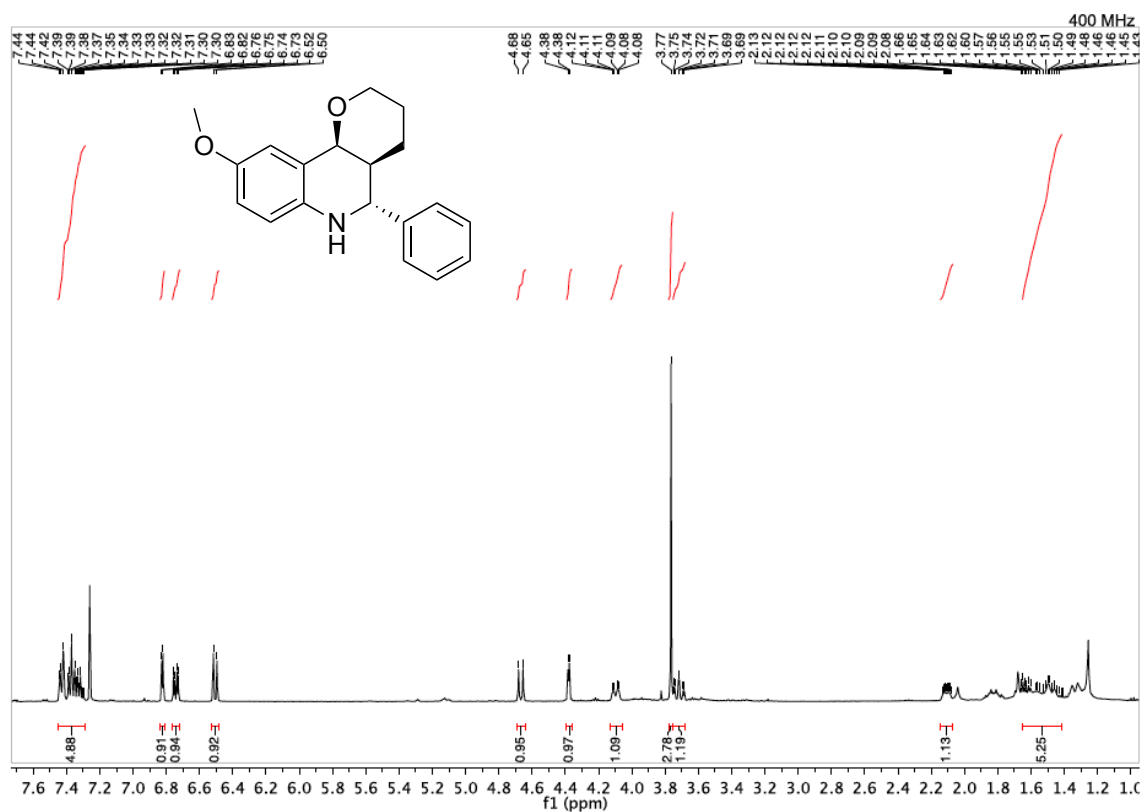
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*cis*-9-methoxy-5-phenyl-3,4,4a,5,6,10b-hexahydro-2*H*-pyrano[3,2-*c*]quinoline (8b)



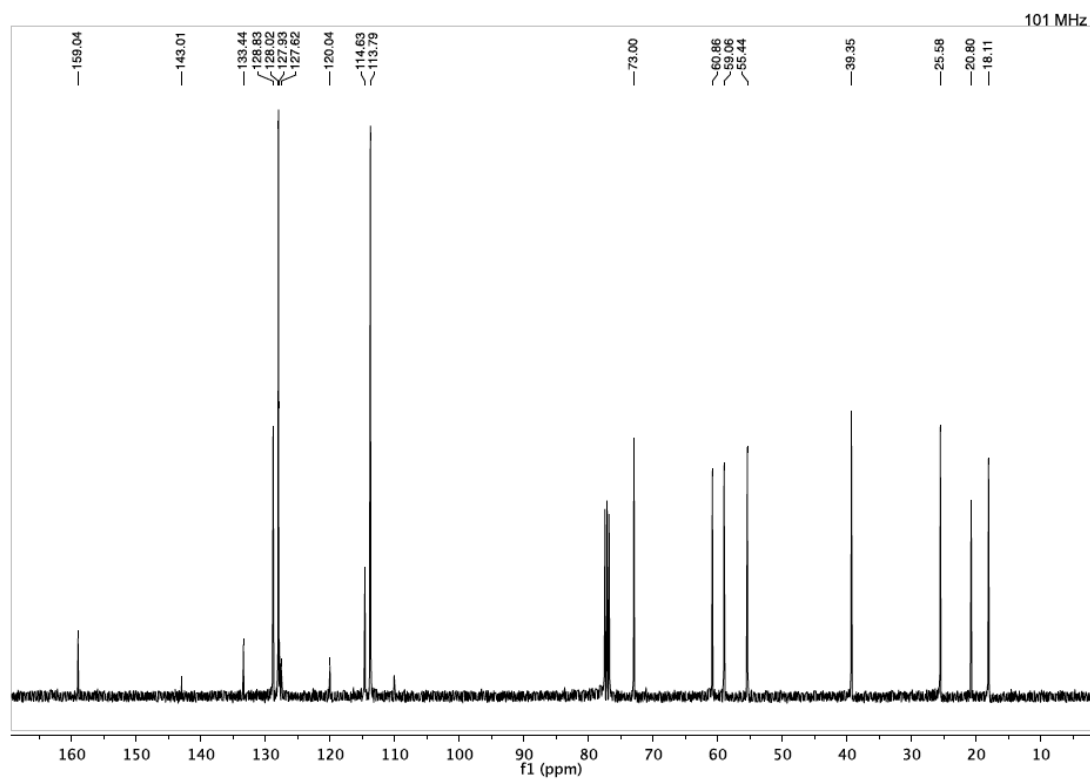
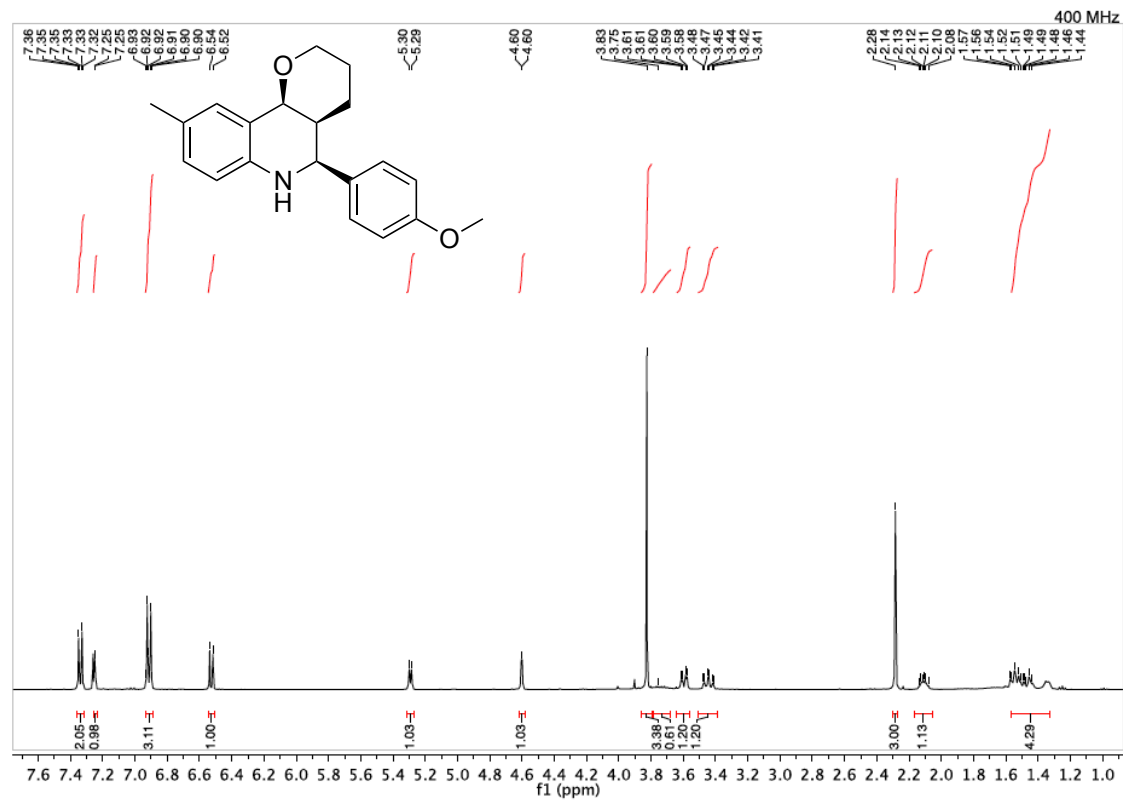
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*trans*-9-methoxy-5-phenyl-3,4,4a,5,6,10b-hexahydro-2H-pyrano[3,2-c]quinoline (8b)



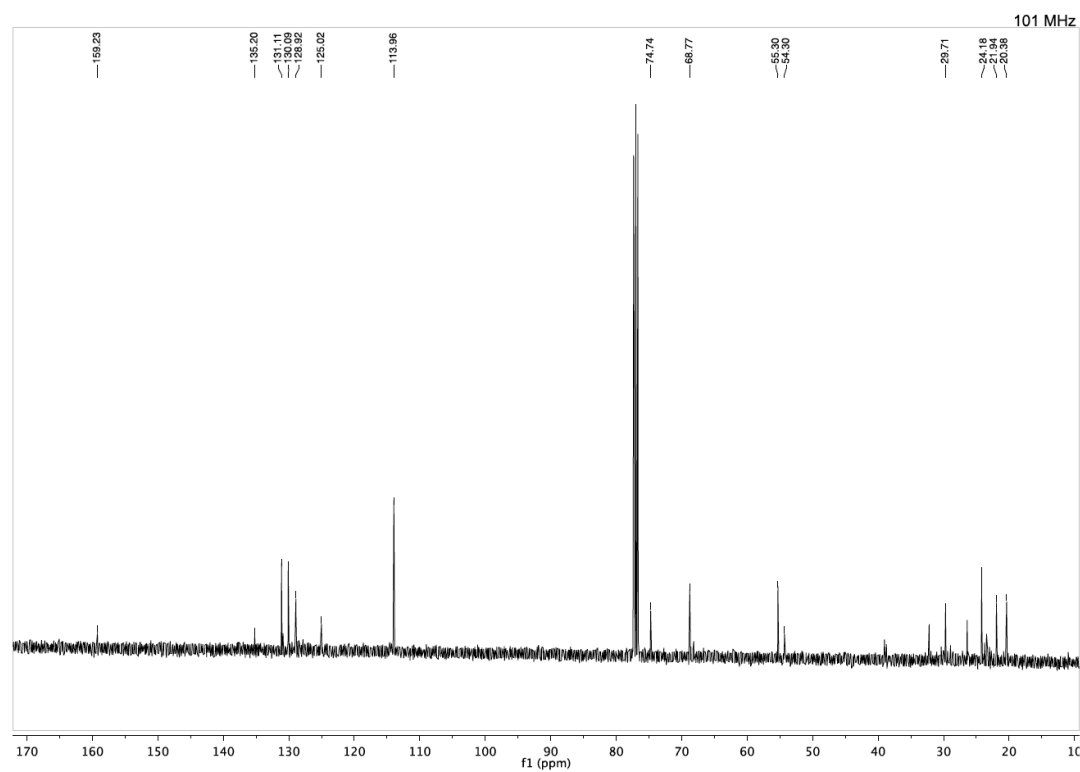
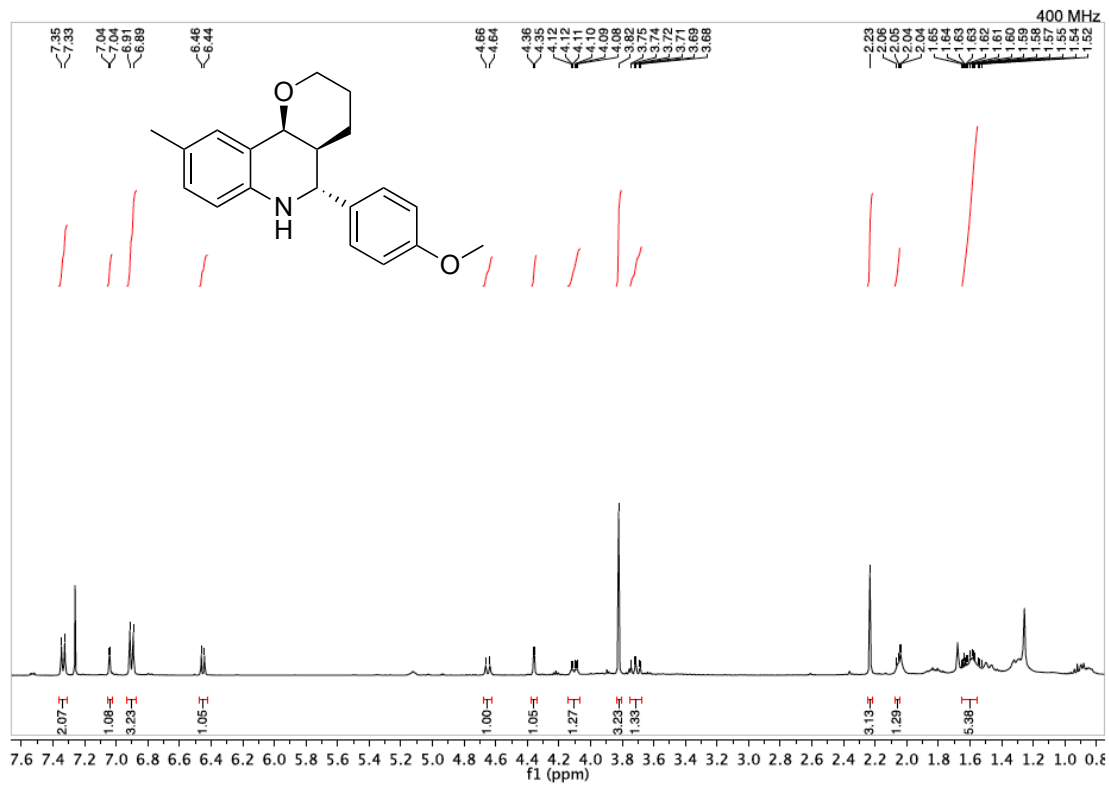
$^1\text{H}$  and  $^{13}\text{C}\{^1\text{H}\}$  NMR spectra in  $\text{CDCl}_3$

*cis*-5-(4-methoxyphenyl)-9-methyl-3,4,4a,5,6,10b-hexahydro-2*H*-pyrano[3,2-*c*]quinoline (8c)



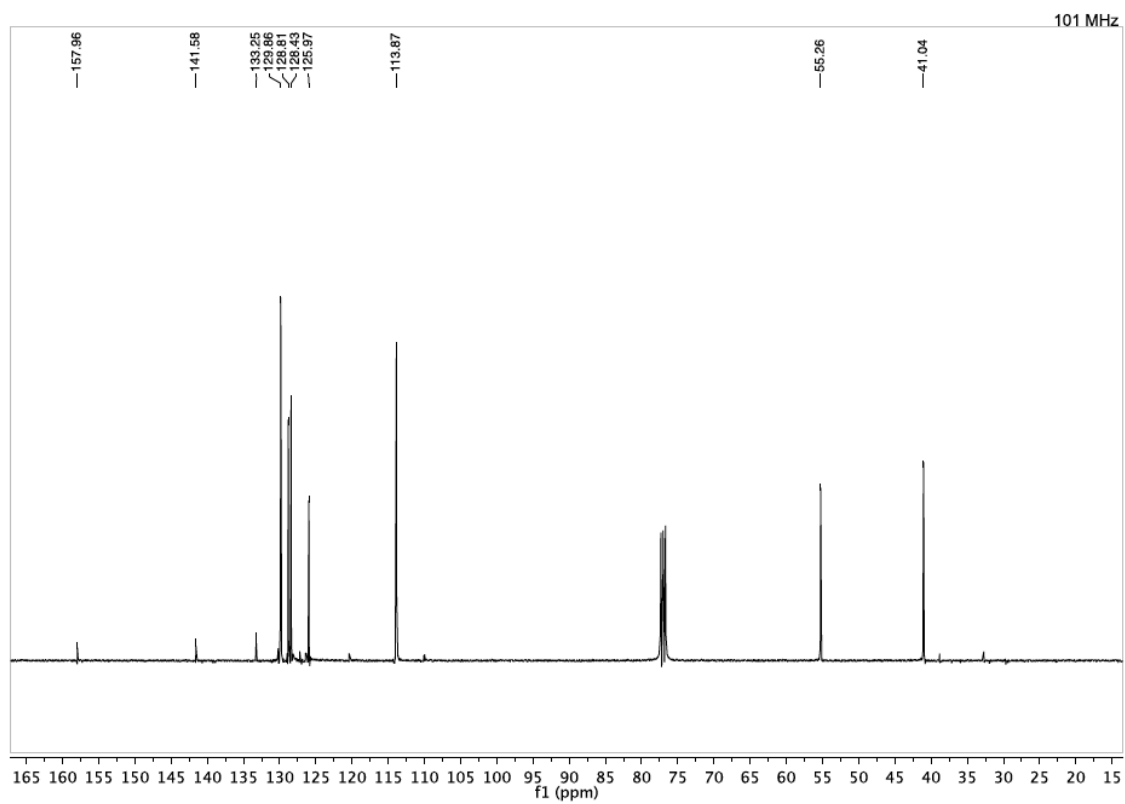
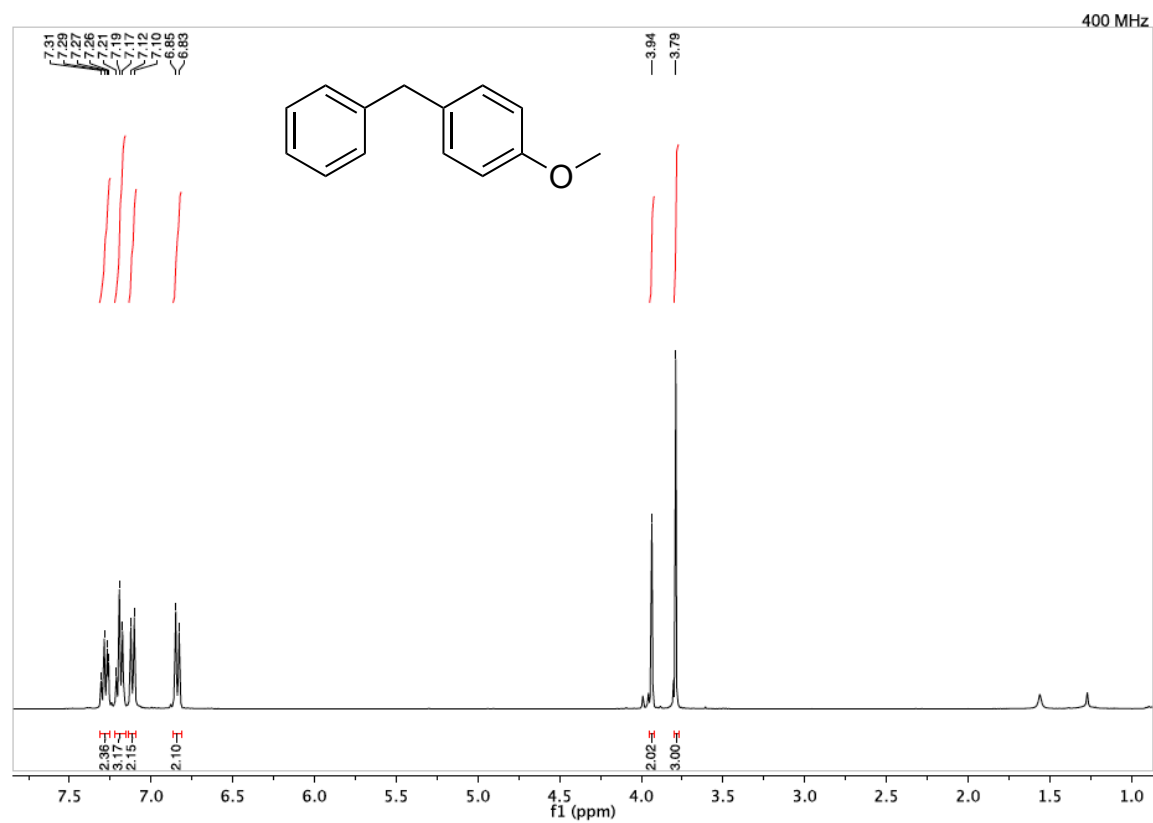
$^1\text{H}$  and  $^{13}\text{C}\{^1\text{H}\}$  NMR spectra in  $\text{CDCl}_3$

*trans*-5-(4-methoxyphenyl)-9-methyl-3,4,4a,5,6,10b-hexahydro-2*H*-pyrano[3,2-*c*]quinoline (8c)



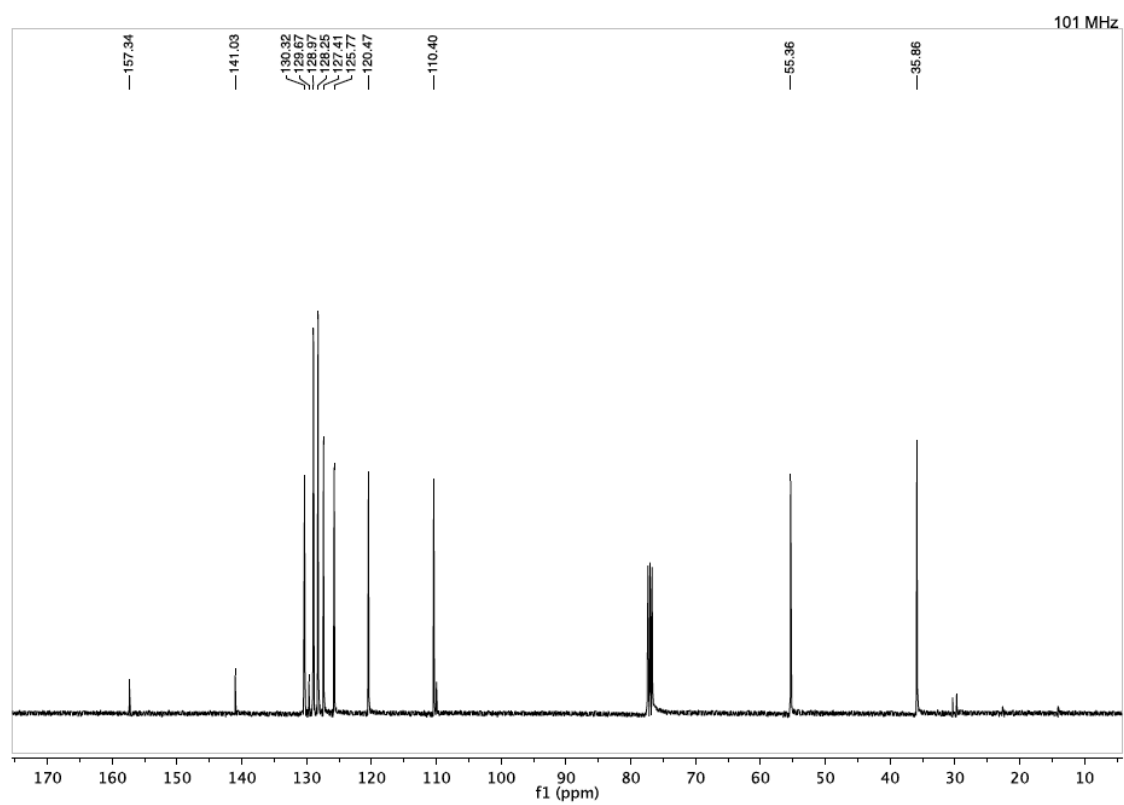
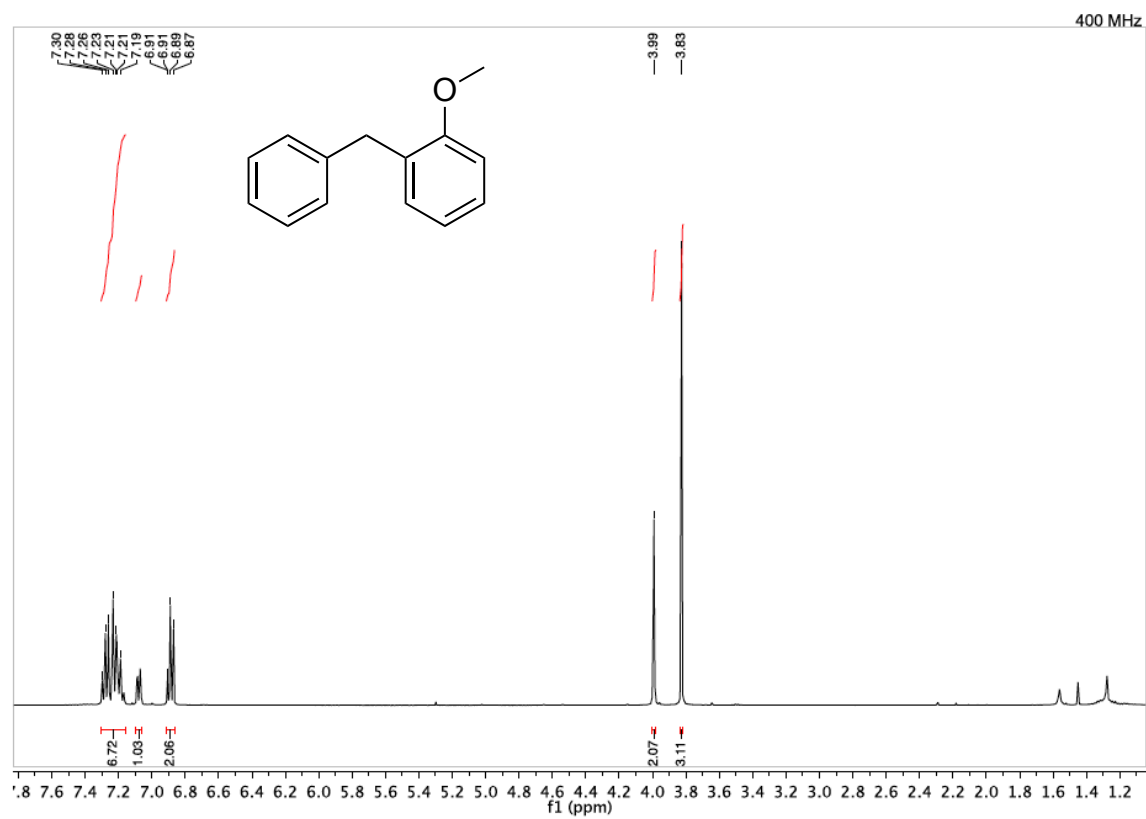
$^1\text{H}$  and  $^{13}\text{C}\{^1\text{H}\}$  NMR spectra in  $\text{CDCl}_3$

1-benzyl-4-methoxybenzene (*p*-11)



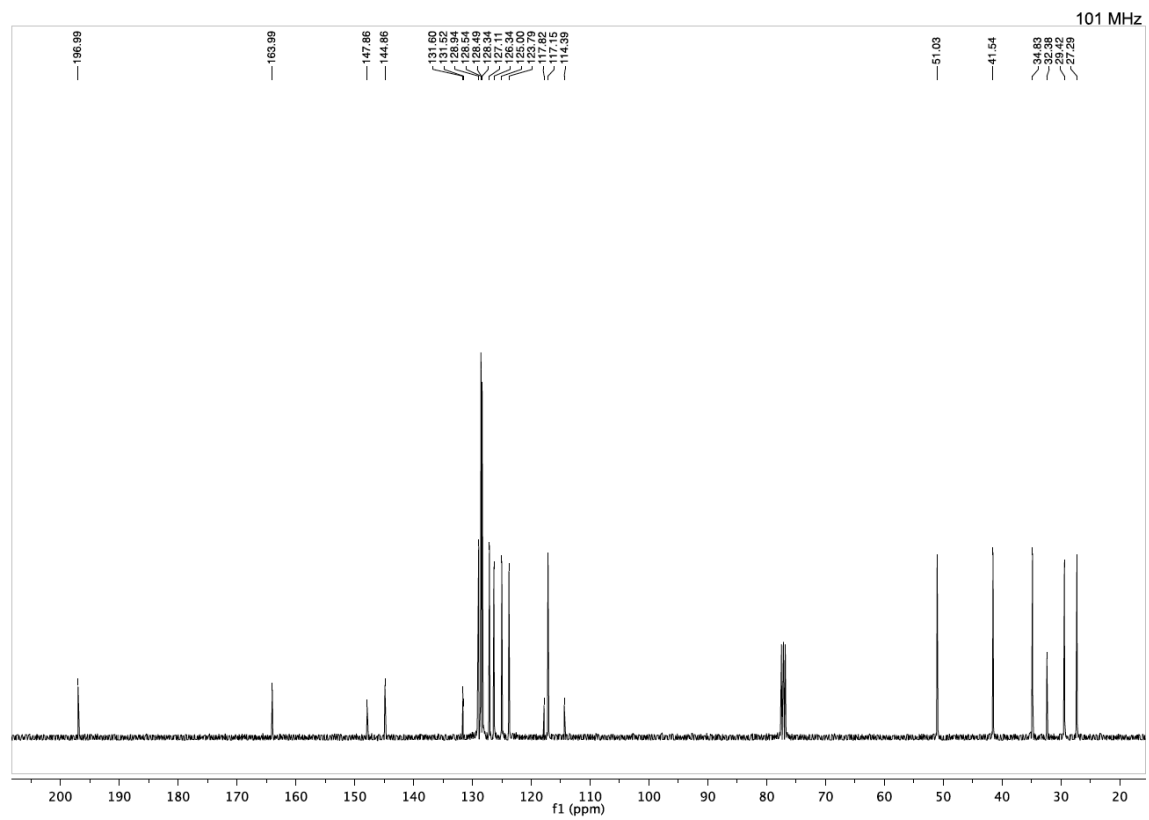
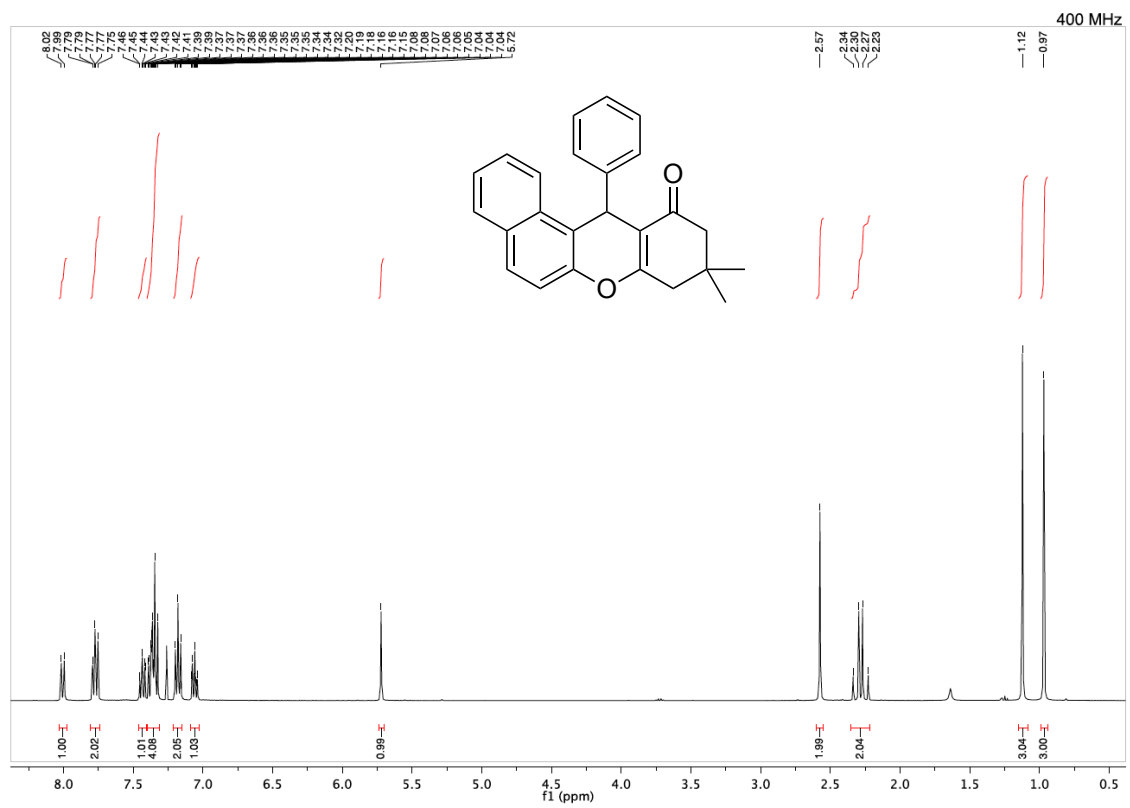
# $^1\text{H}$ and $^{13}\text{C}\{^1\text{H}\}$ NMR spectra in $\text{CDCl}_3$

## 1-benzyl-2-methoxybenzene (*o*-11)



$^1\text{H}$  and  $^{13}\text{C}\{^1\text{H}\}$  NMR spectra in  $\text{CDCl}_3$

9,9-dimethyl-12-phenyl-8,9,10,12-tetrahydro-11H-benzo[a]xanthen-11-one (13a)



$^1\text{H}$  and  $^{13}\text{C}\{^1\text{H}\}$  NMR spectra in  $\text{CDCl}_3$

12-(4-chlorophenyl)-9,9-dimethyl-8,9,10,12-tetrahydro-11H-benzo[a]xanthen-11-one  
(13b)

