

Supporting information:

Sequential One-Pot Approach for the Synthesis of Functionalized Phthalans via Heck-Reduction-Cyclization (HRC) Reactions

Jonnada Krishna, Pedireddi Niharika and Gedu Satyanarayana*

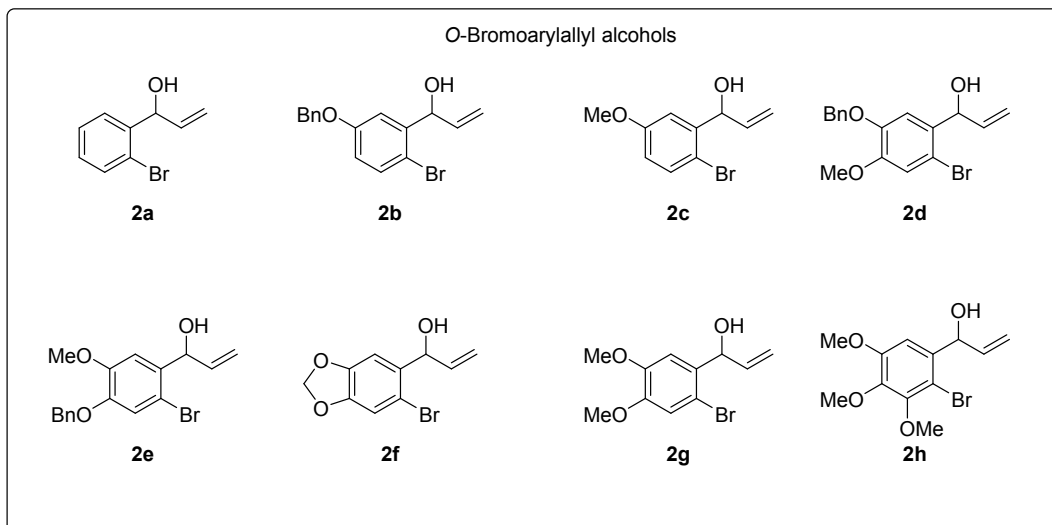
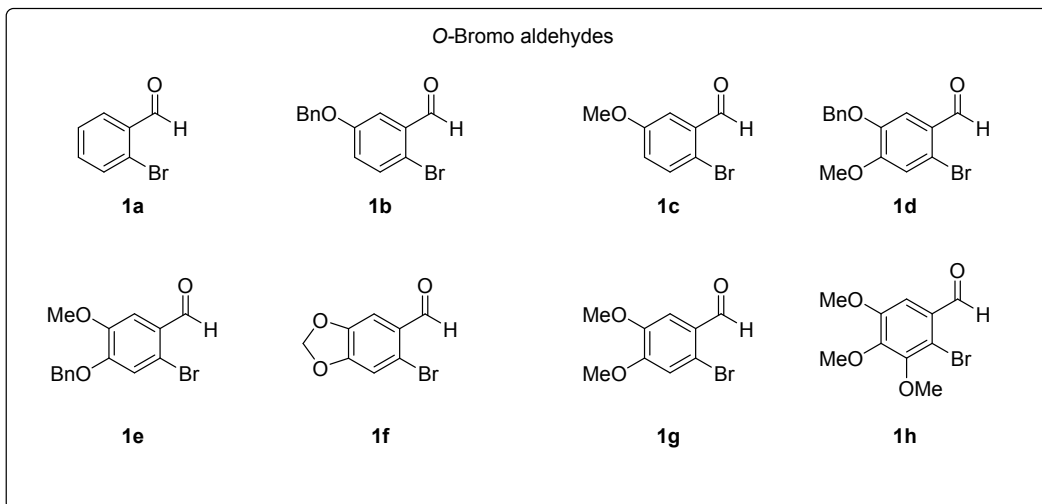
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Spectra for all new compounds

S3-S33

The following *ortho*-bromobenzaldehydes **1a–1h**¹ except **1a** were synthesized from corresponding aromatic aldehydes using literature reported bromination method.

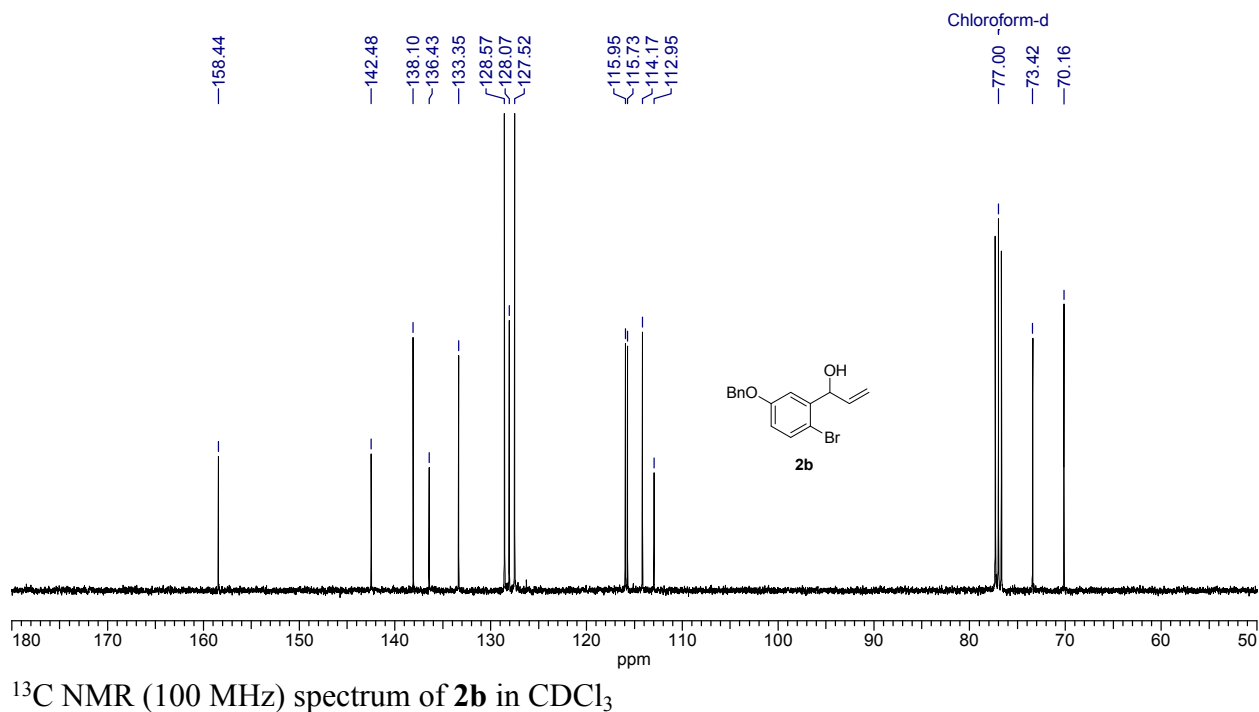
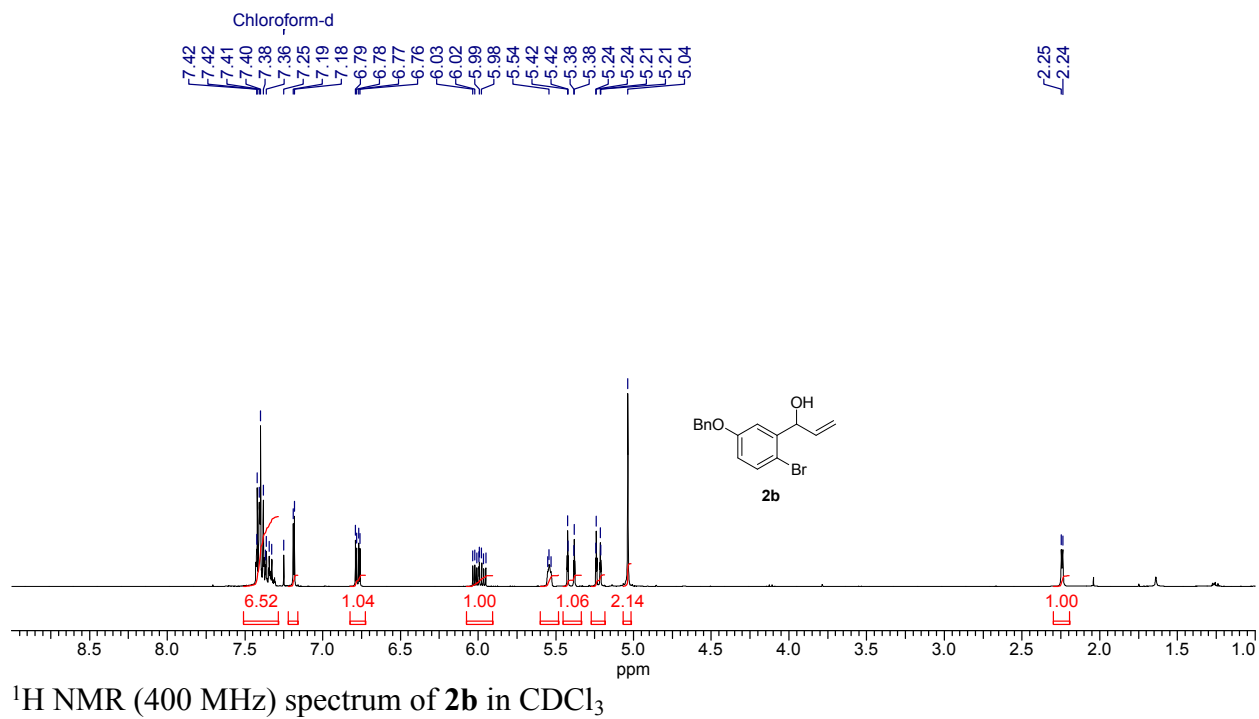
bromo aryl allylic alcohols **2a**², **2g** and **2h**³ except were reported in the literature.

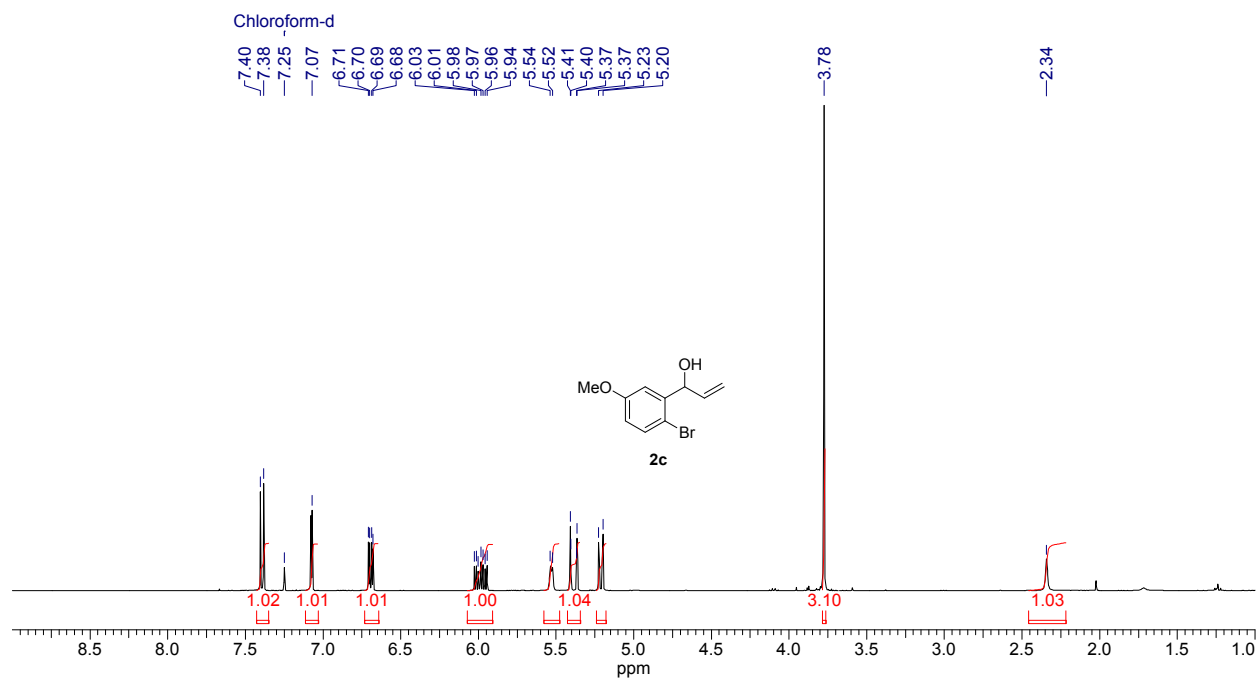


1 Chandrasekhar, S.; Reddy, N. R.; Rao, Y. S. *Tetrahedron* **2006**, *62*, 12098–12107.

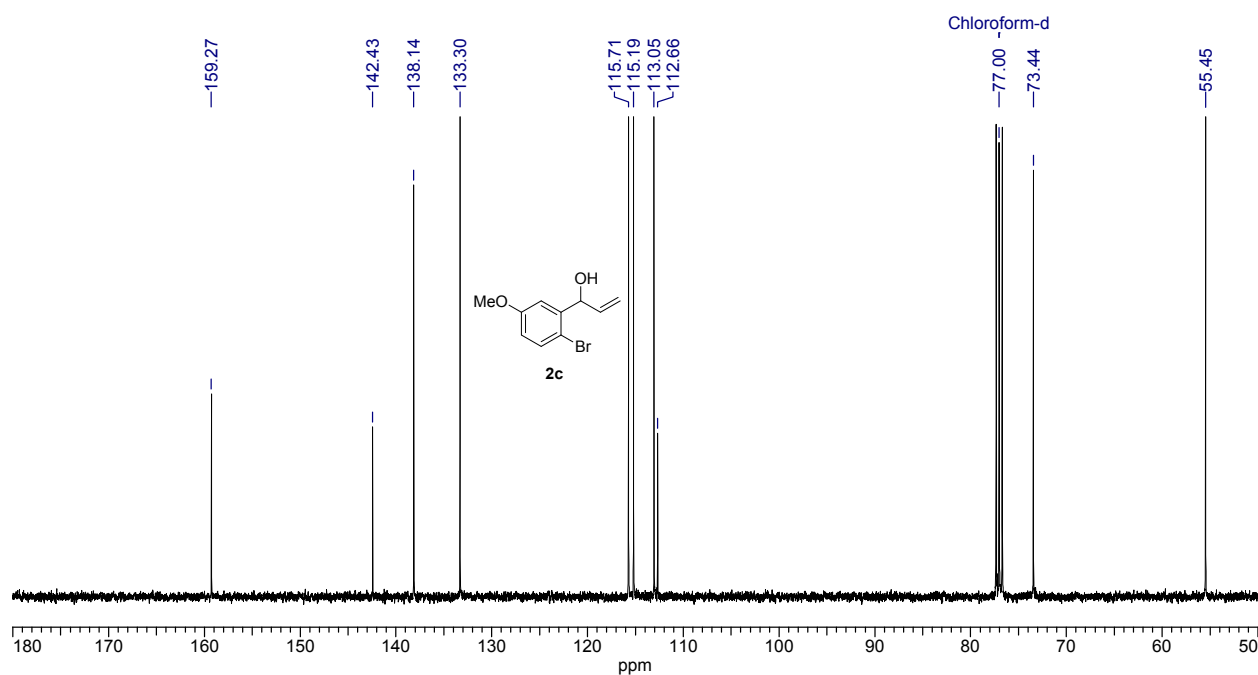
2 Muratake, H.; Natsume, M.; Nakai, H. *Tetrahedron* **2004**, *60*, 11783–11803.

3 Krishna, J.; Reddy, A. G. K.; Mahendar, L.; Ramulu, B. V. *Synlett* **2012**, *23*, 375–380.

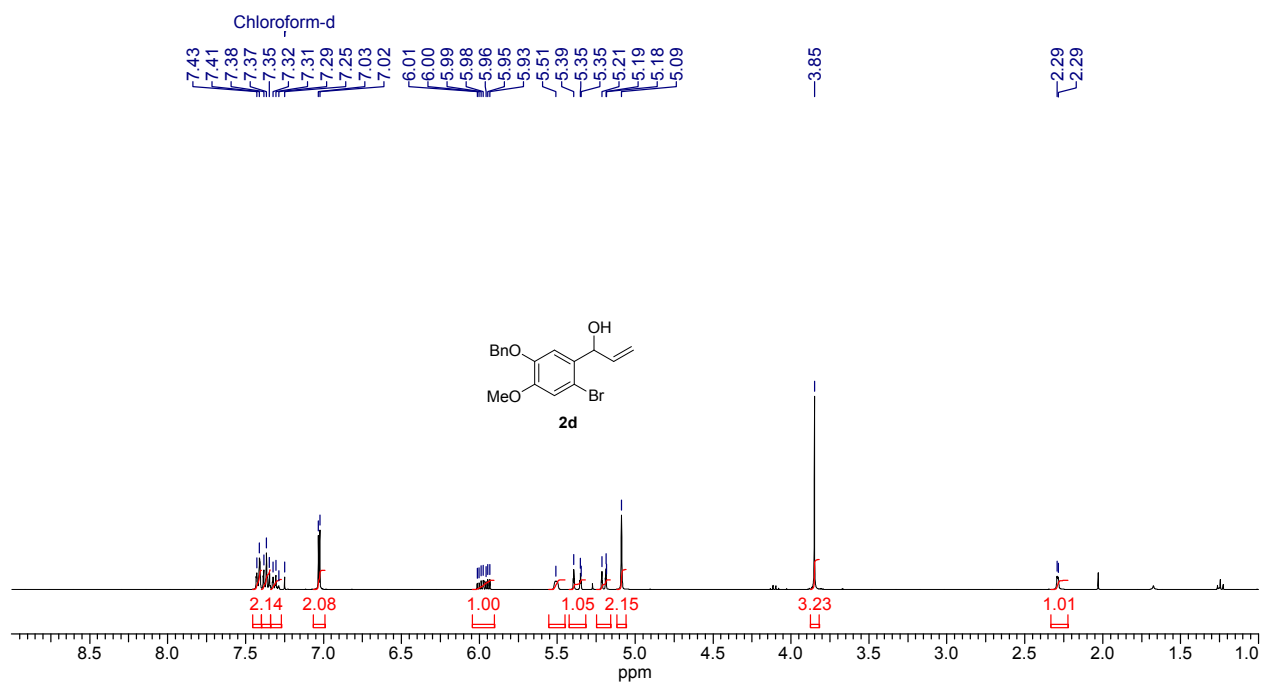




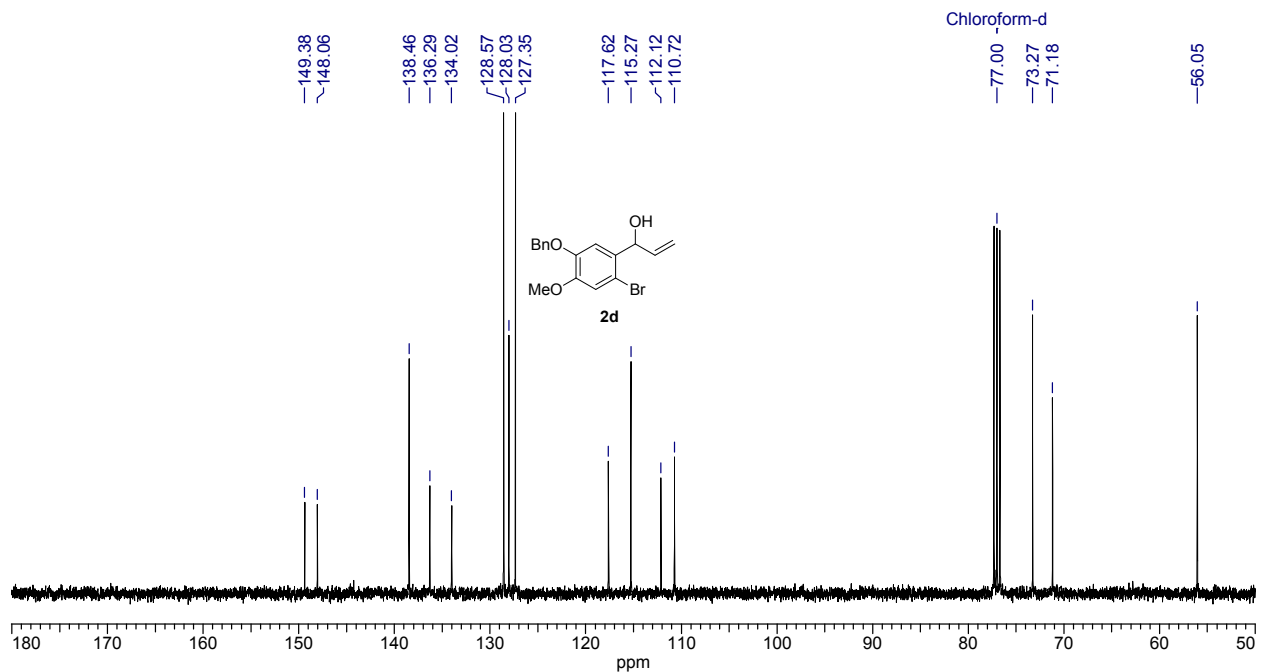
¹H NMR (400 MHz) spectrum of **2c** in CDCl₃



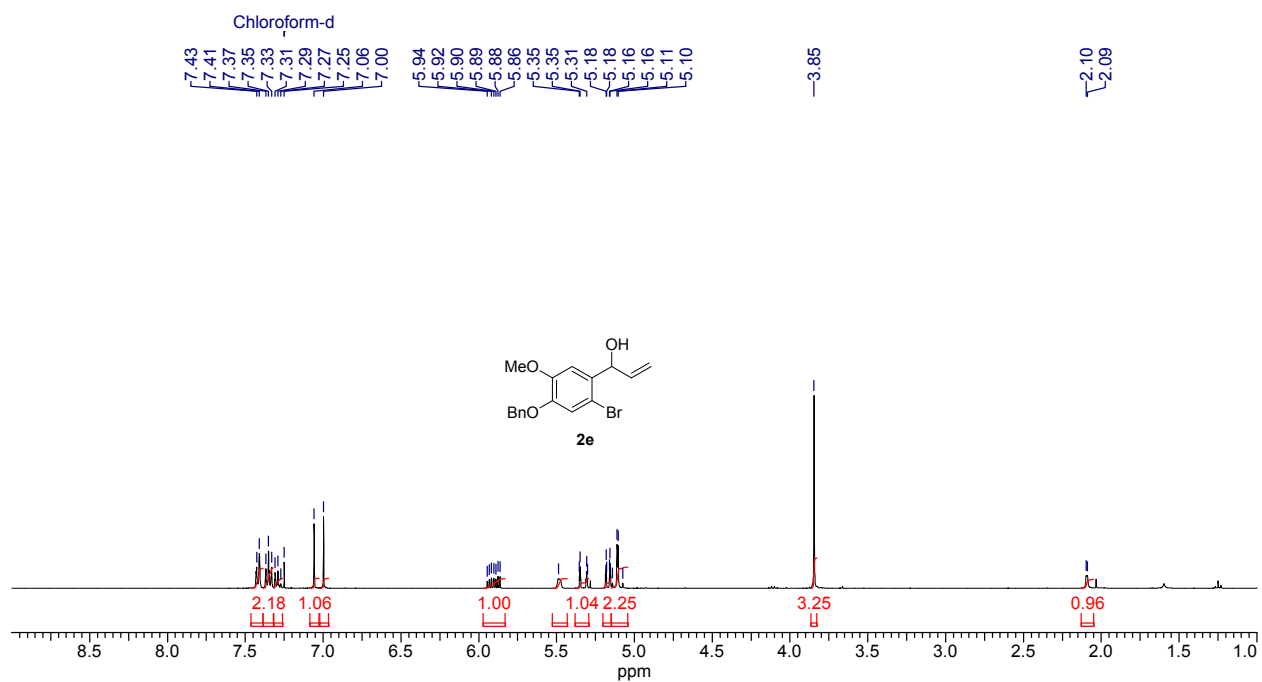
¹³C NMR (100 MHz) spectrum of **2c** in CDCl₃



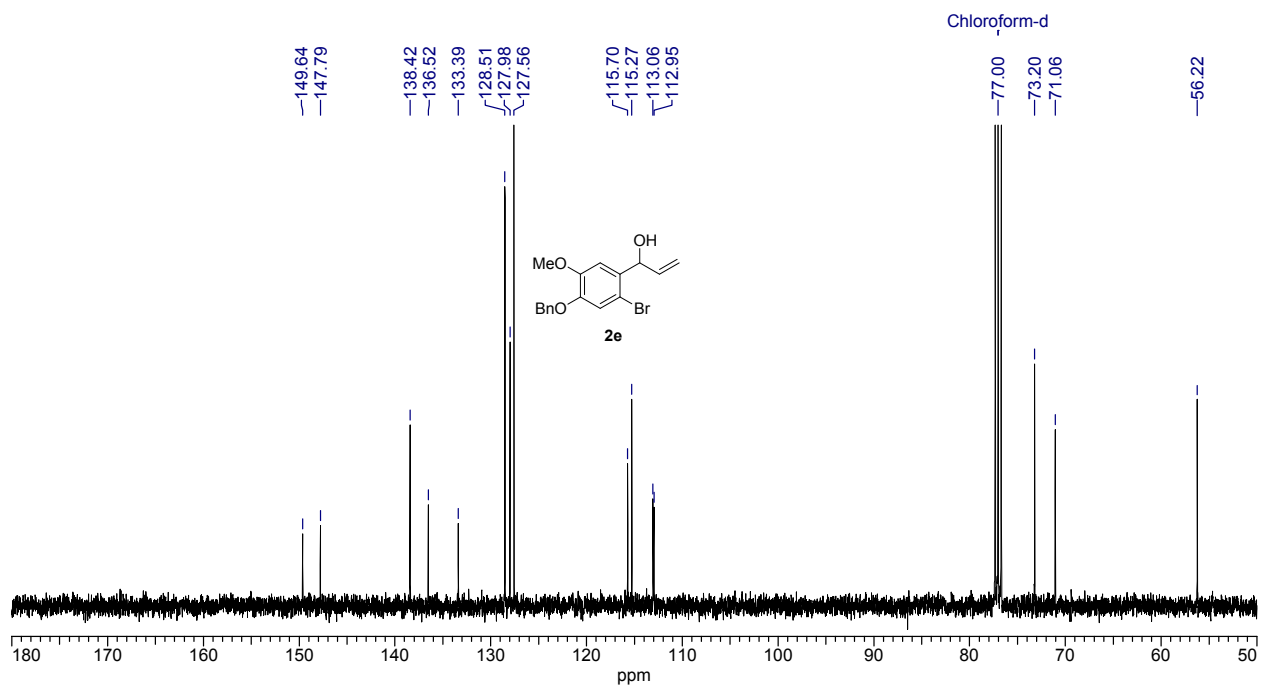
¹H NMR (400 MHz) spectrum of **2d** in CDCl₃



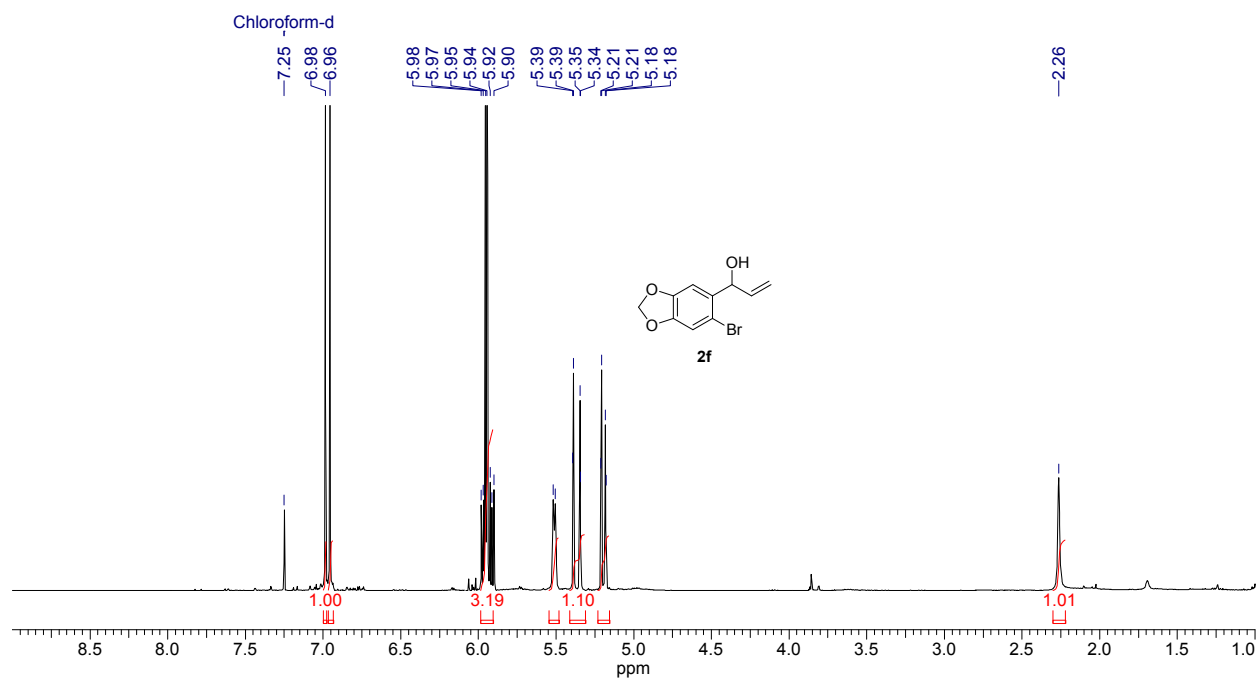
¹³C NMR (100 MHz) spectrum of **2d** in CDCl₃



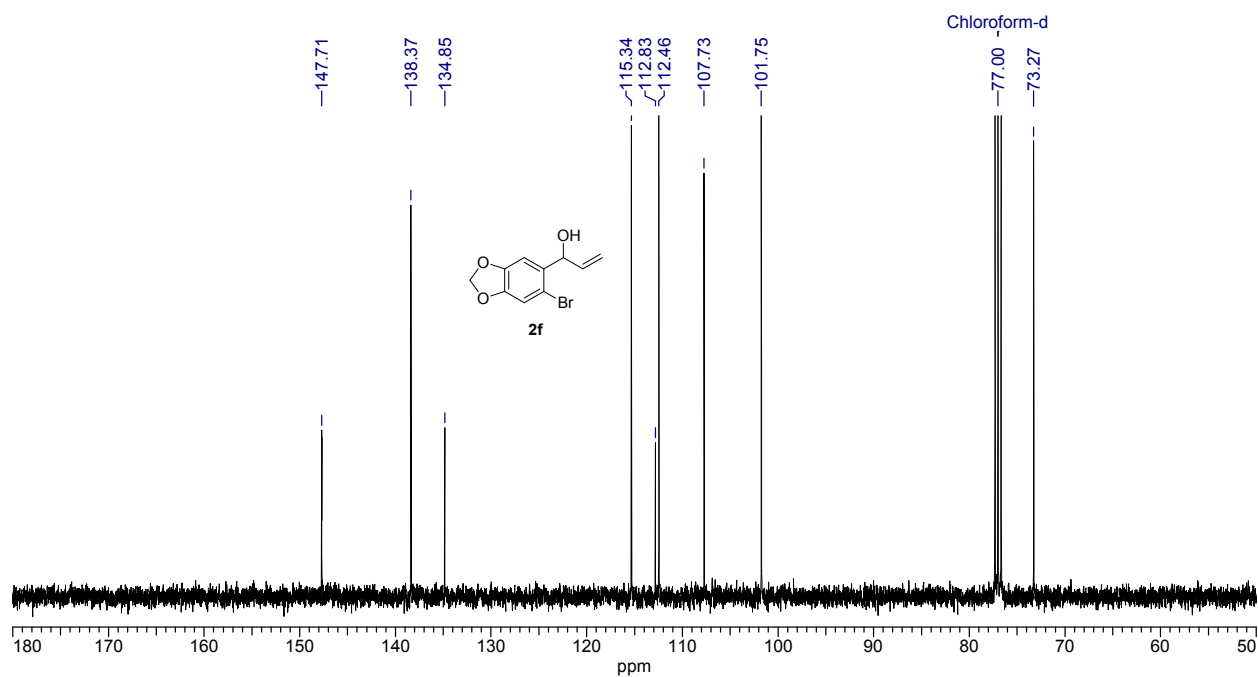
¹H NMR (400 MHz) spectrum of **2e** in CDCl₃



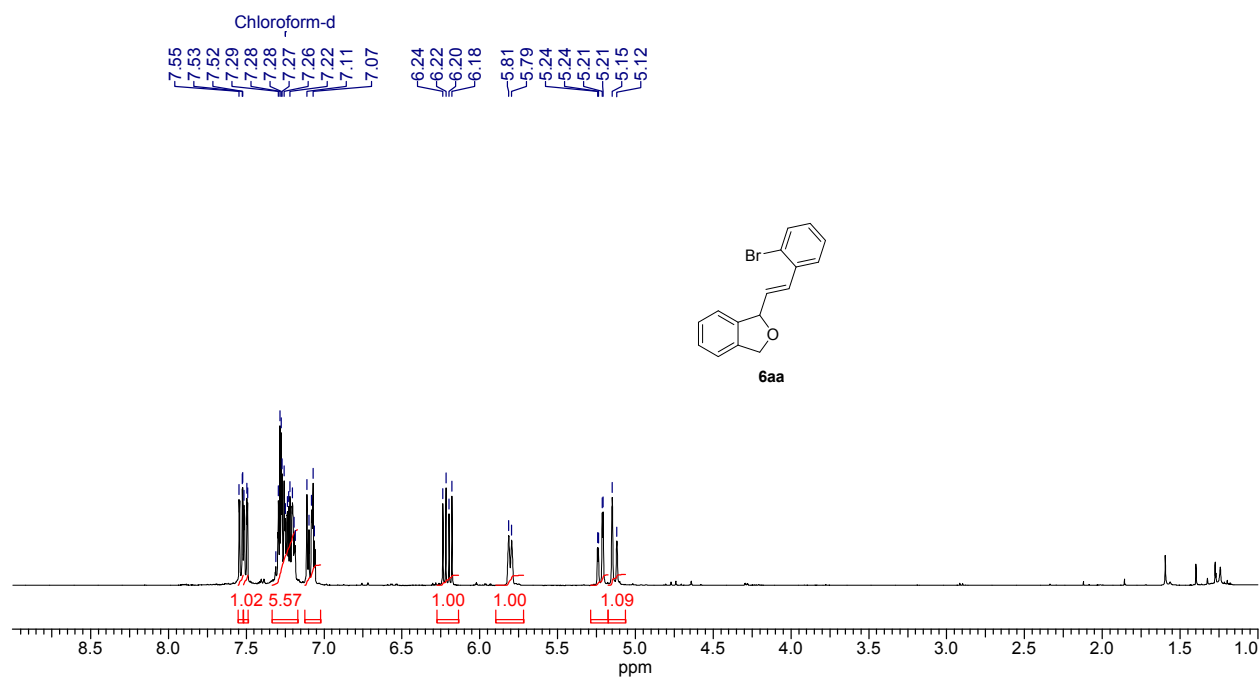
¹³C NMR (100 MHz) spectrum of **2e** in CDCl₃



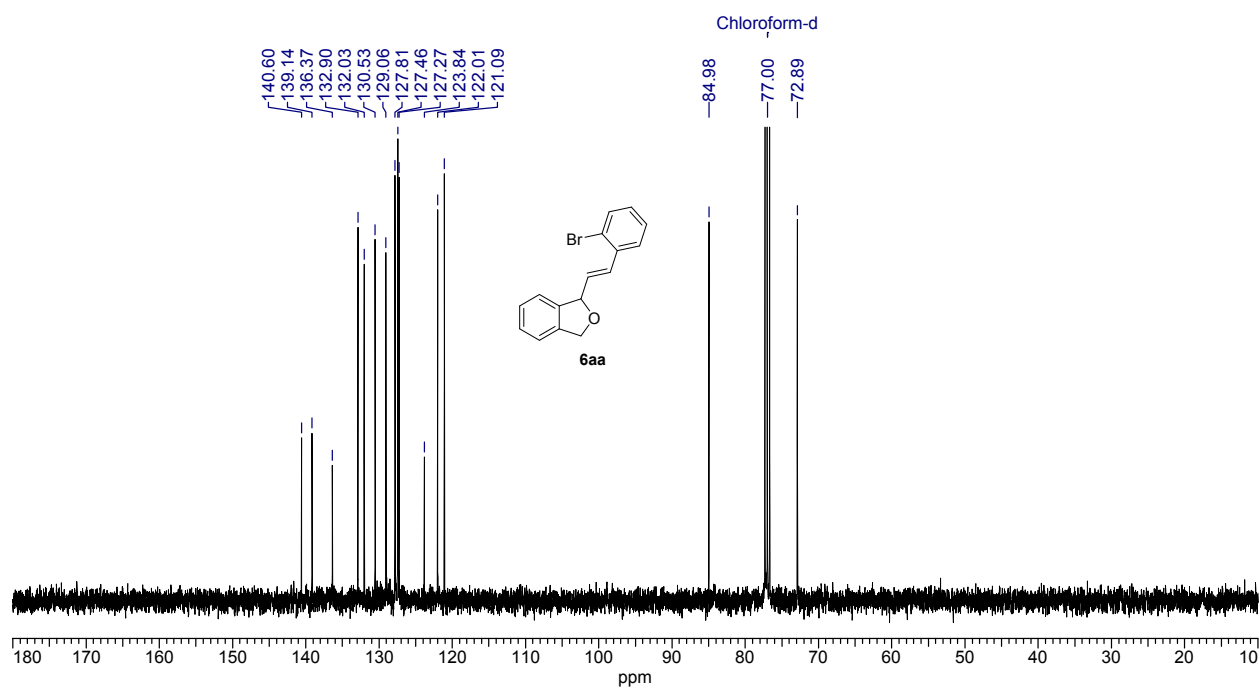
^1H NMR (400 MHz) spectrum of **2f** in CDCl_3



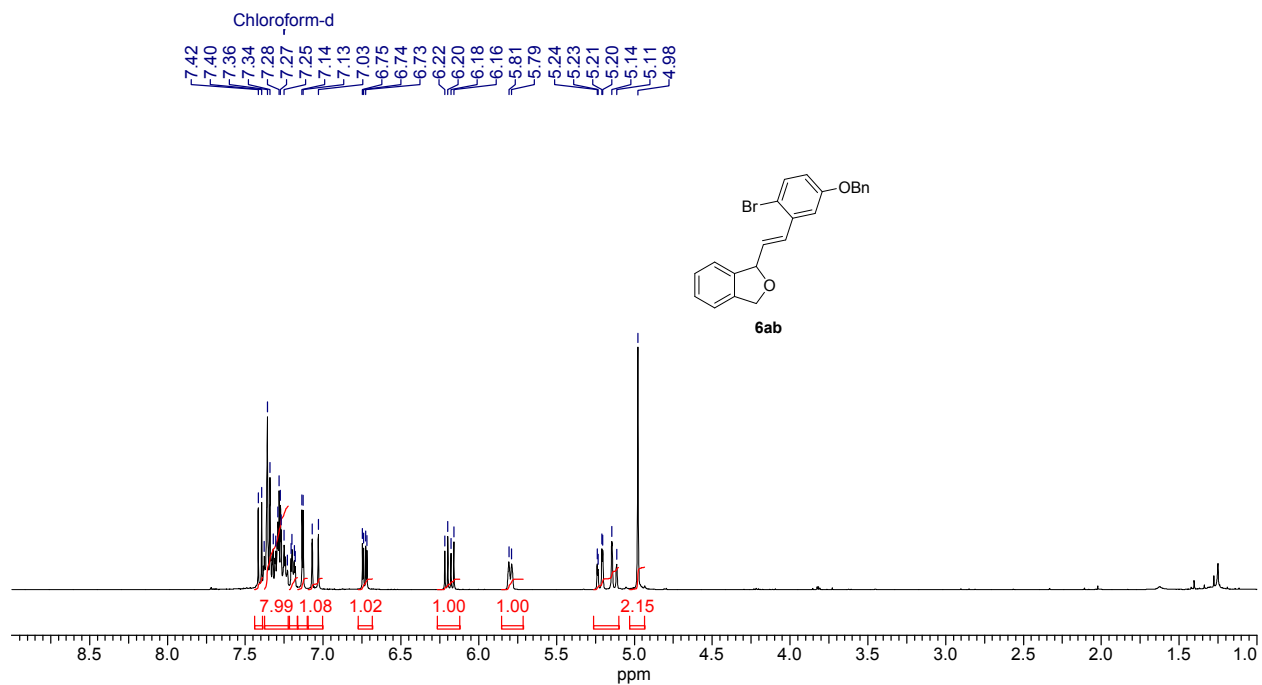
^{13}C NMR (100 MHz) spectrum of **2f** in CDCl_3



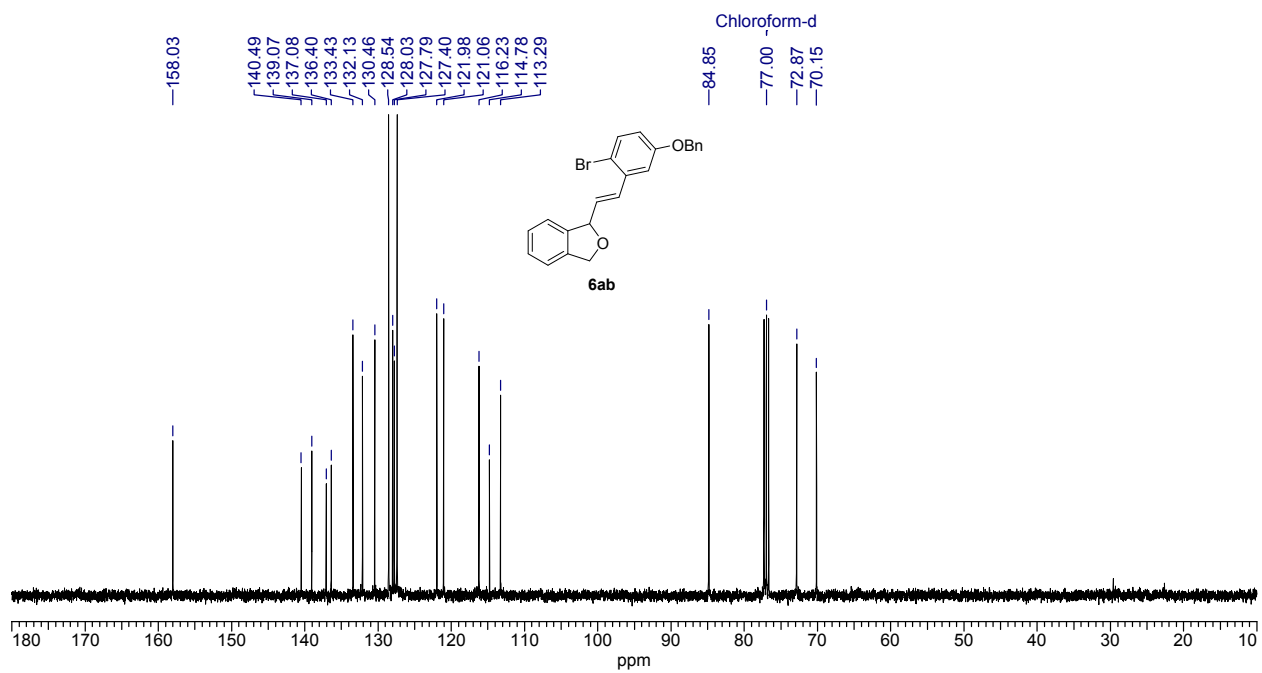
^1H NMR (400 MHz) spectrum of **6aa** in CDCl_3



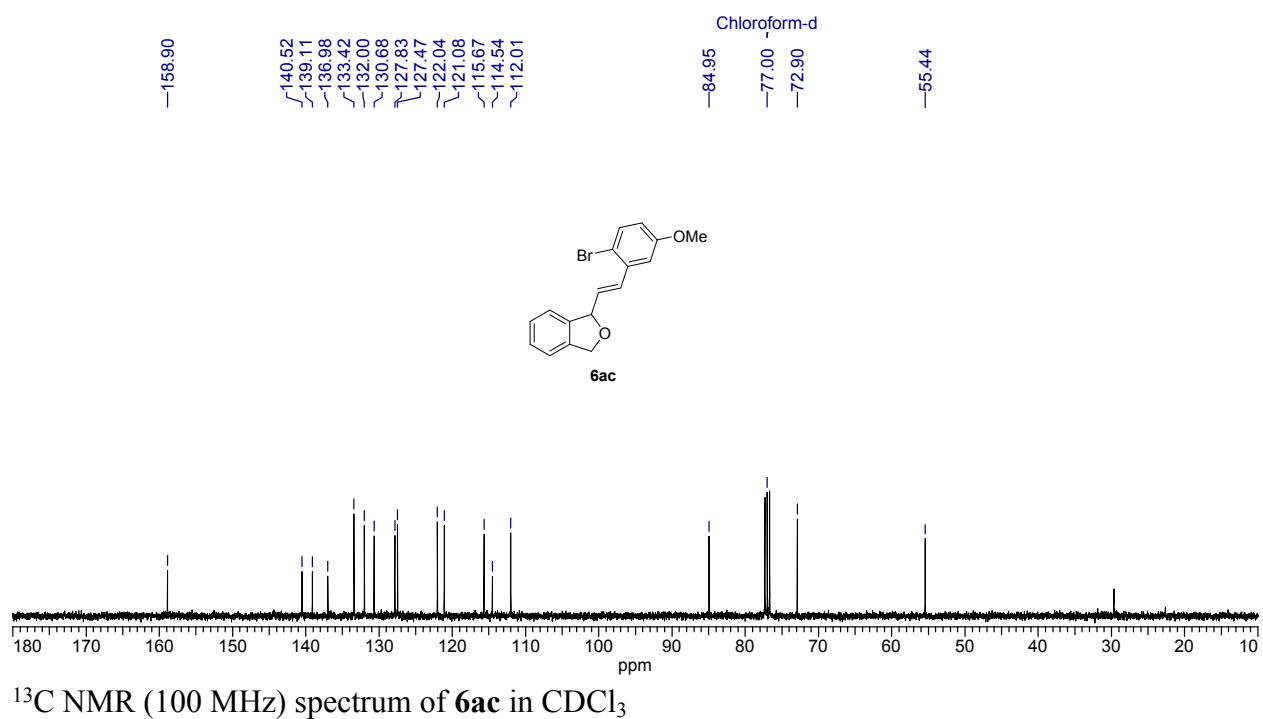
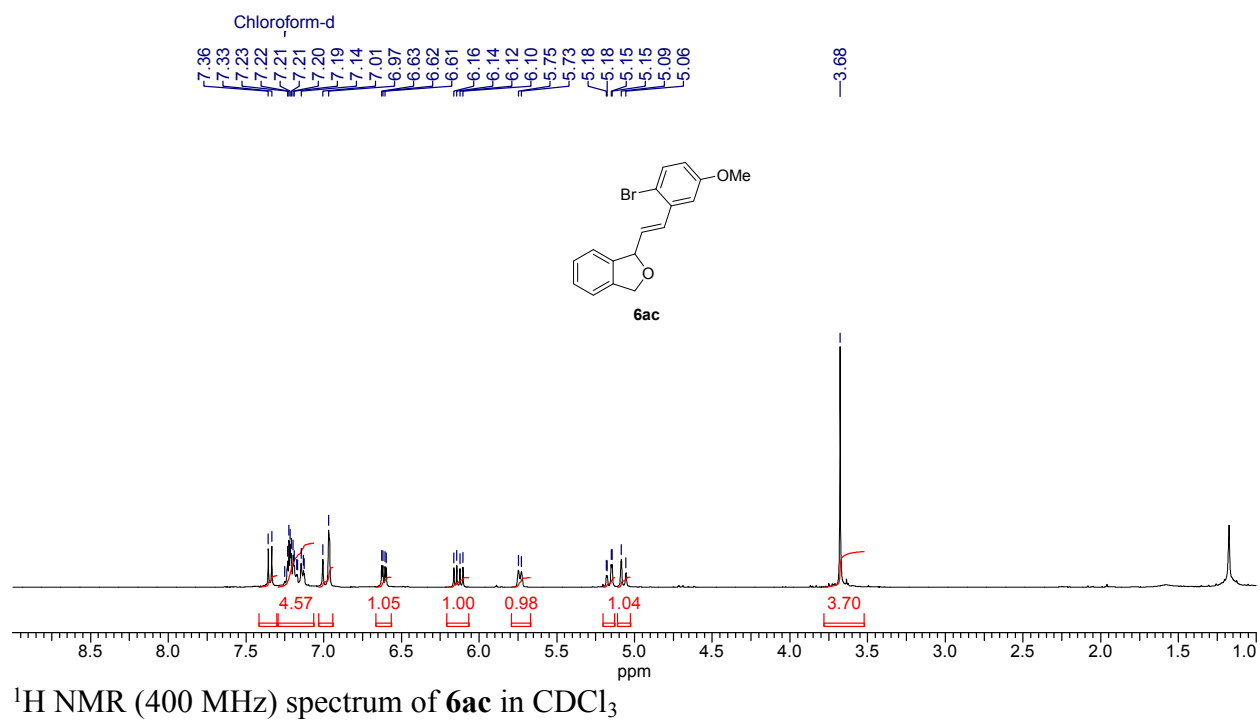
^{13}C NMR (100 MHz) spectrum of **6aa** in CDCl_3

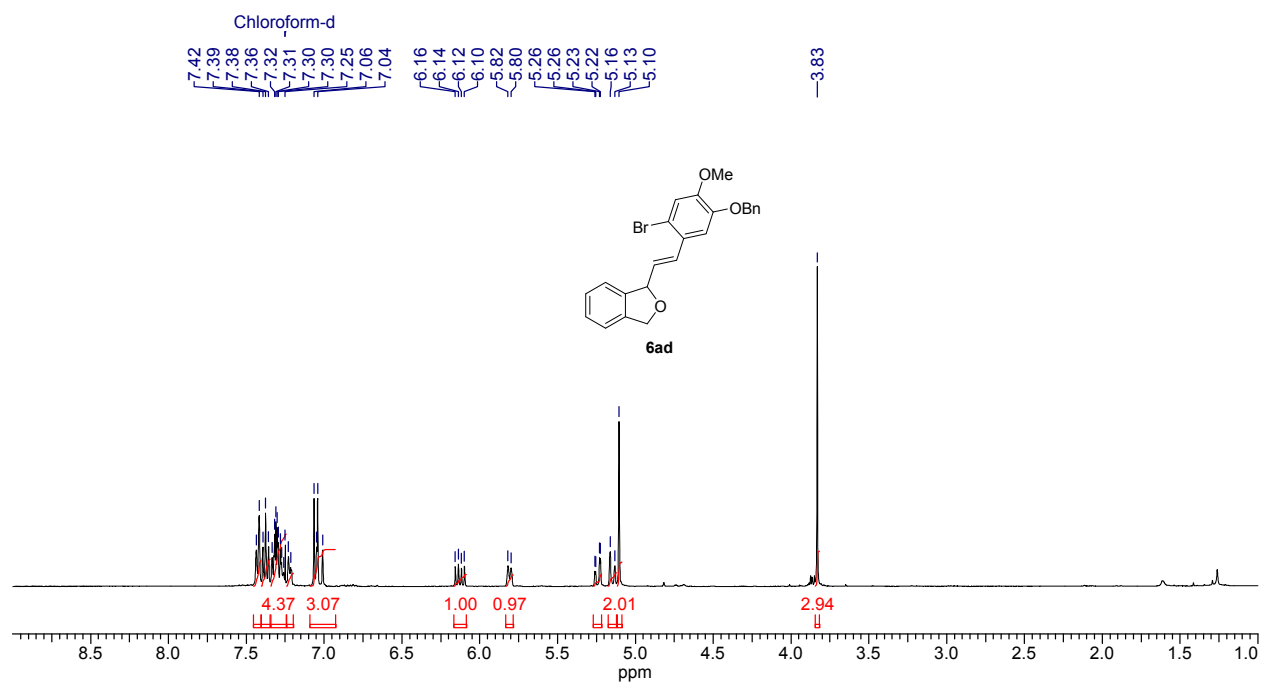


^1H NMR (400 MHz) spectrum of **6ab** in CDCl_3

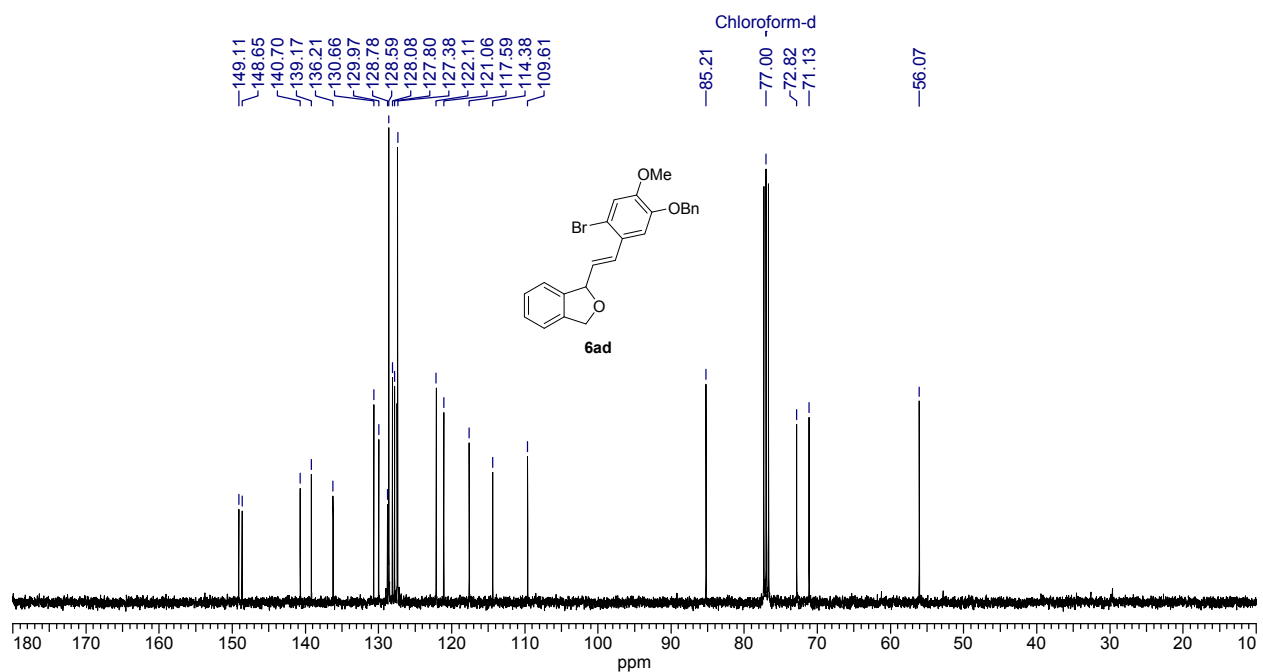


^{13}C NMR (100 MHz) spectrum of **6ab** in CDCl_3

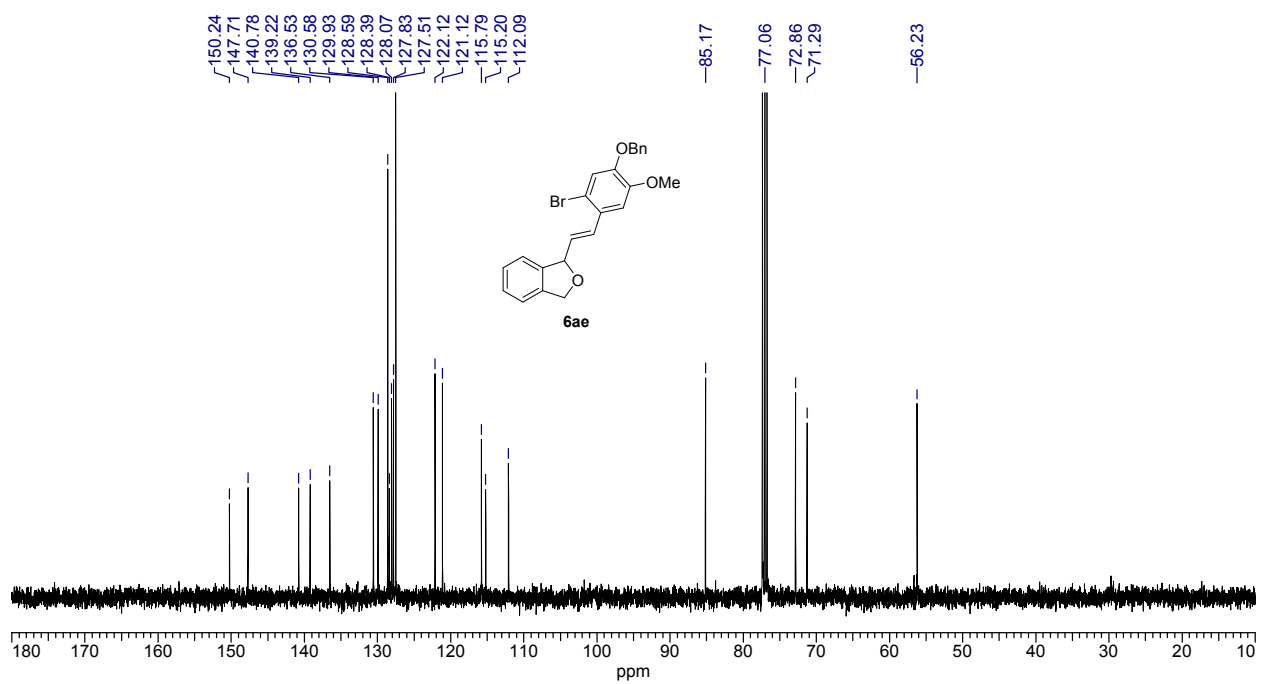
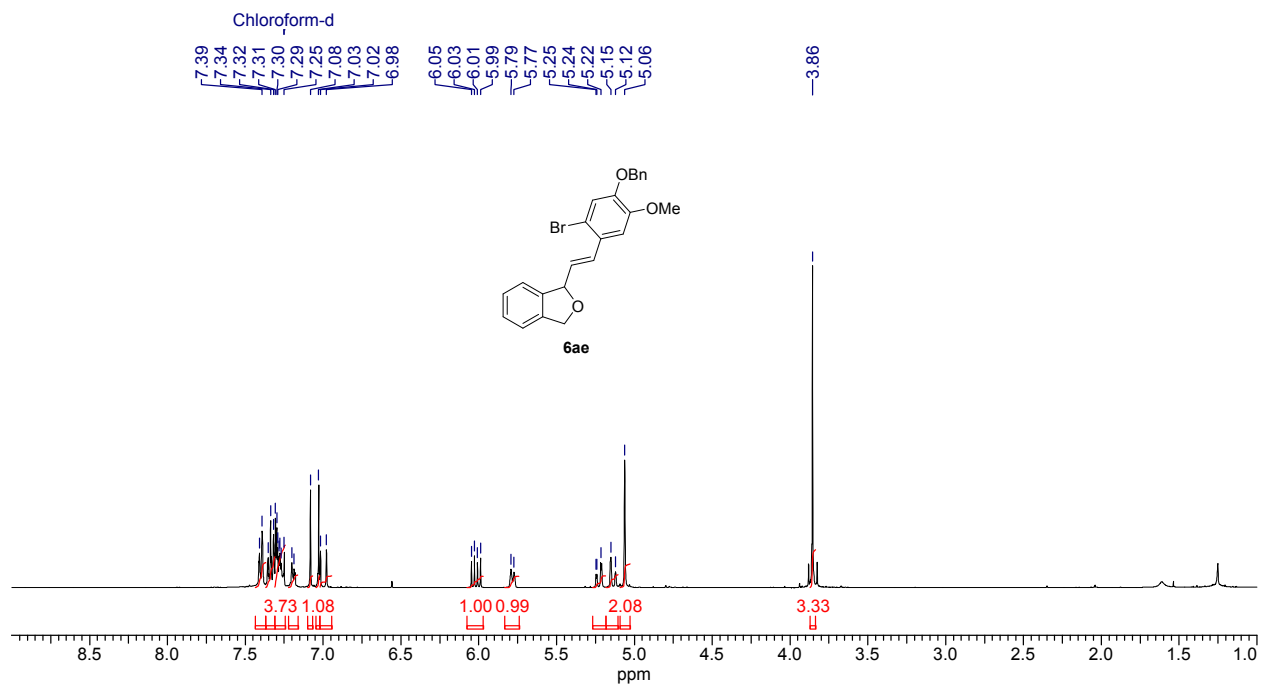


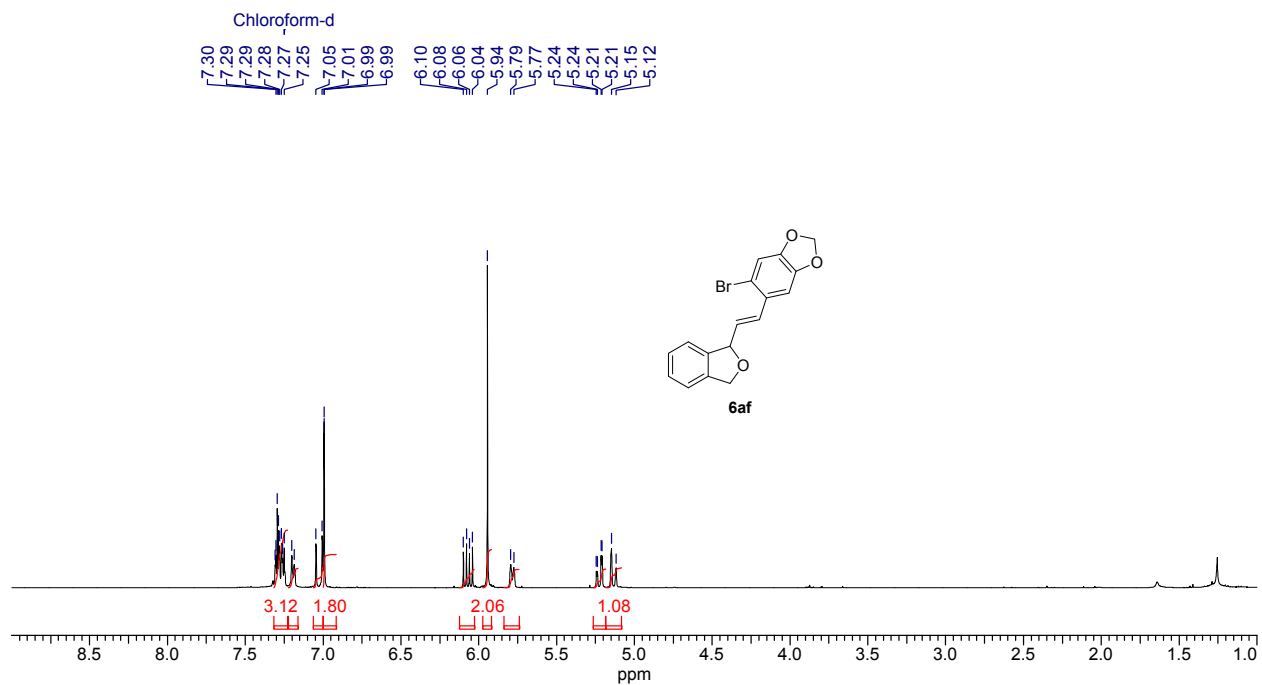


¹H NMR (400 MHz) spectrum of **6ad** in CDCl₃

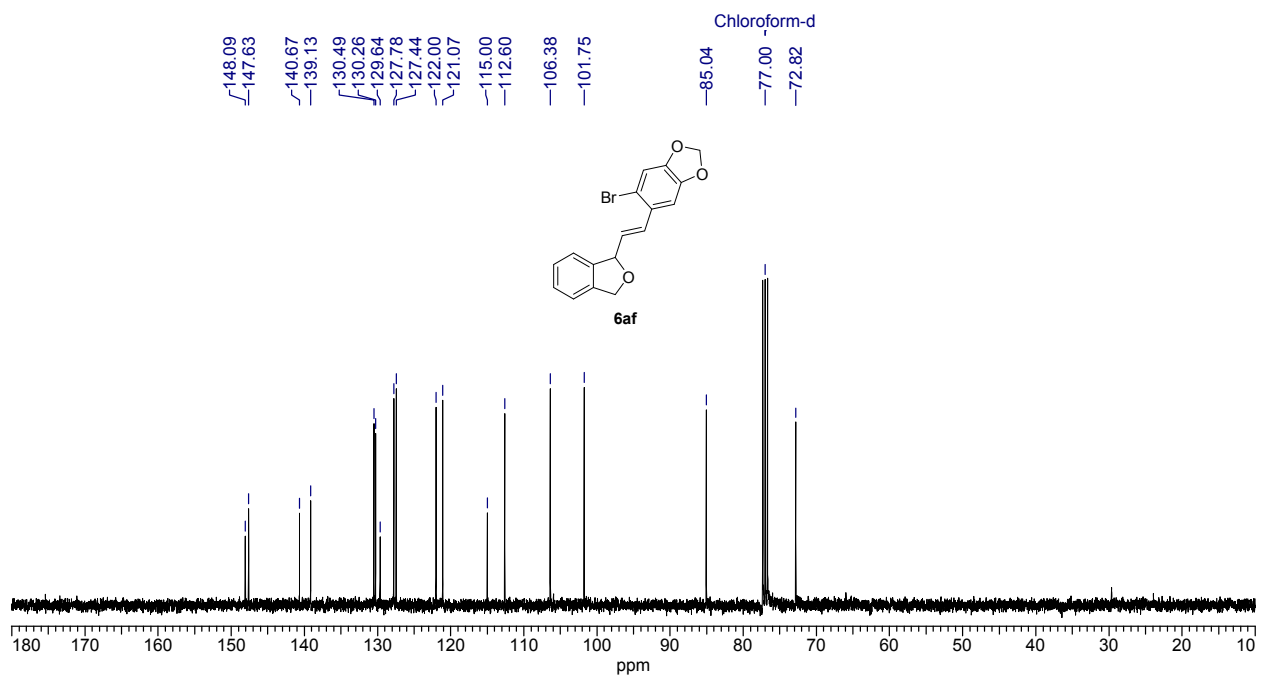


¹³C NMR (100 MHz) spectrum of **6ad** in CDCl₃

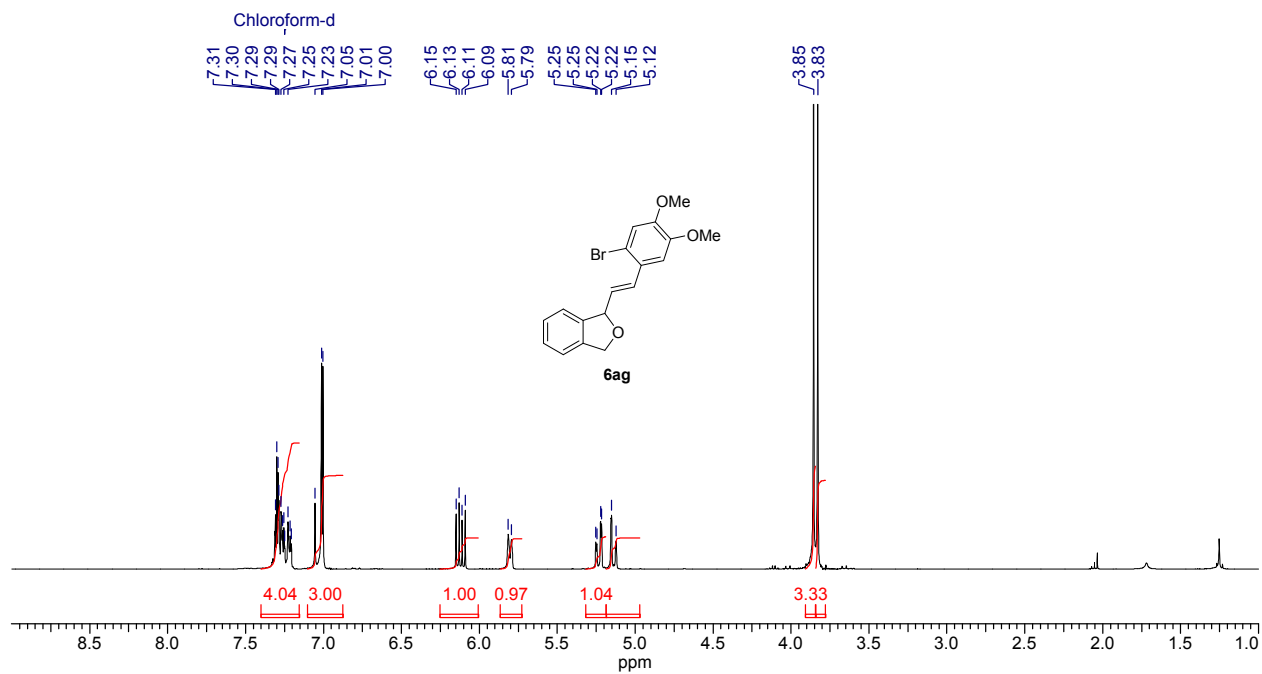




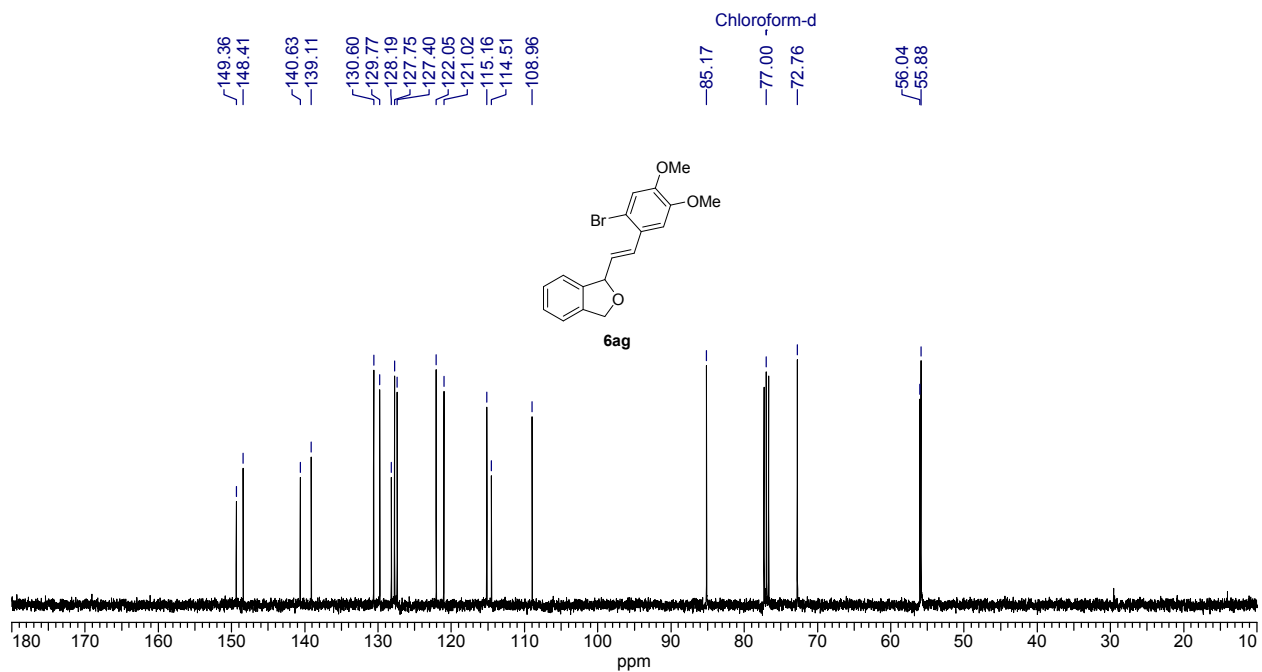
^1H NMR (400 MHz) spectrum of **6af** in CDCl_3



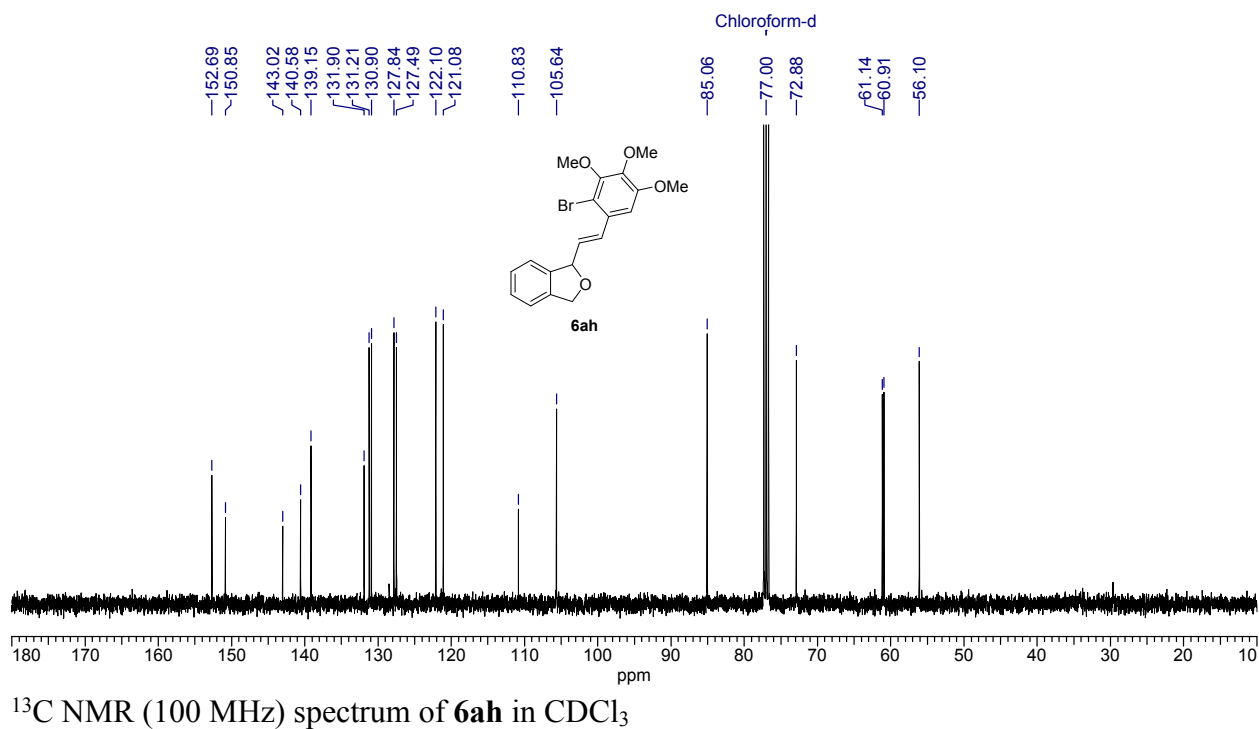
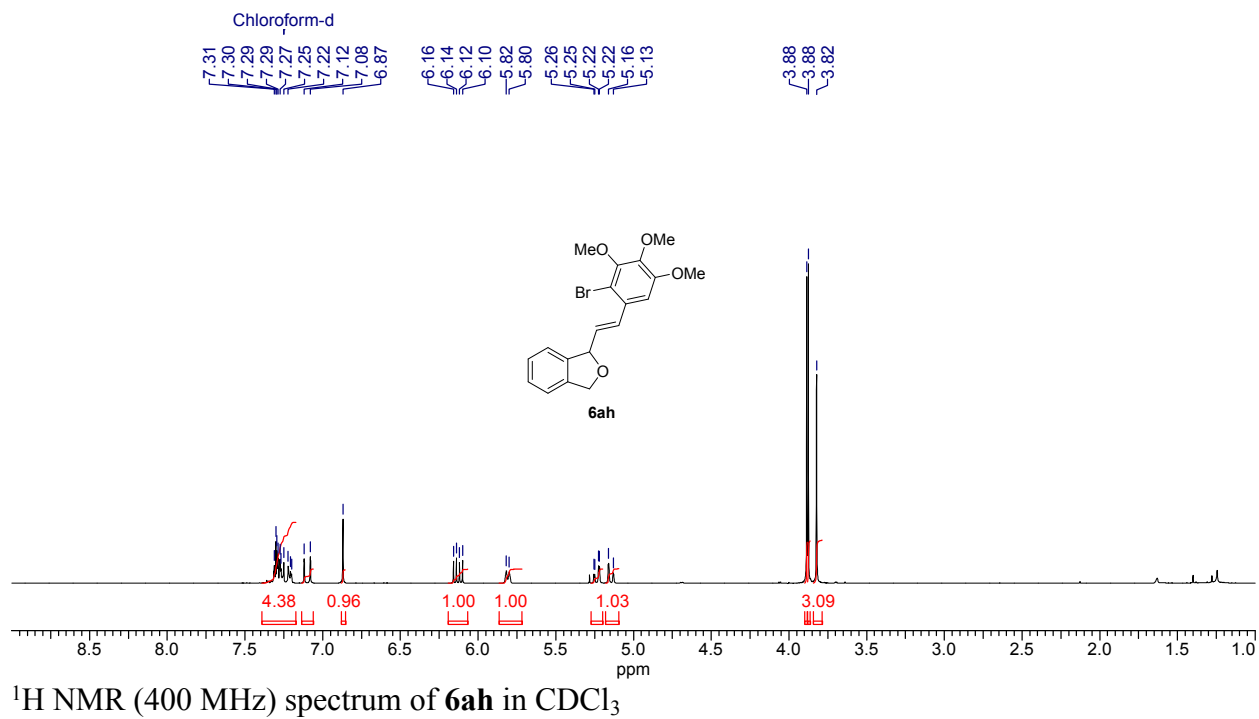
^{13}C NMR (100 MHz) spectrum of **6af** in CDCl_3

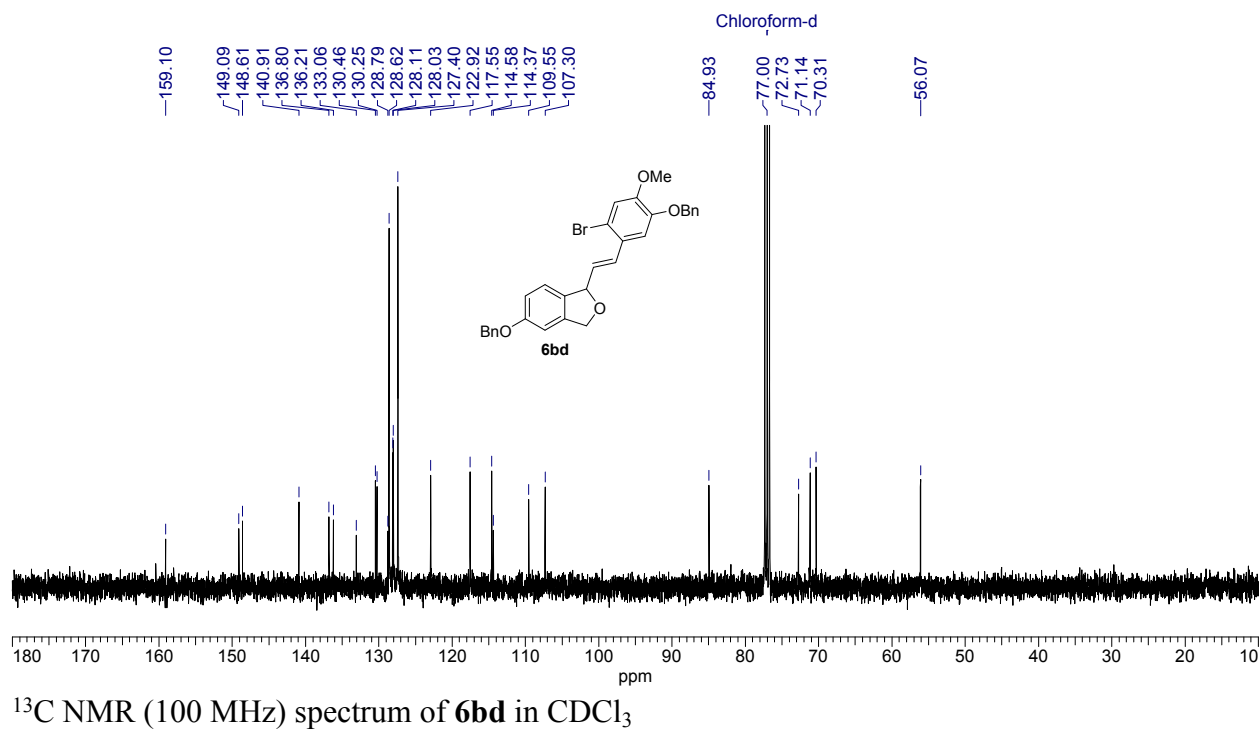
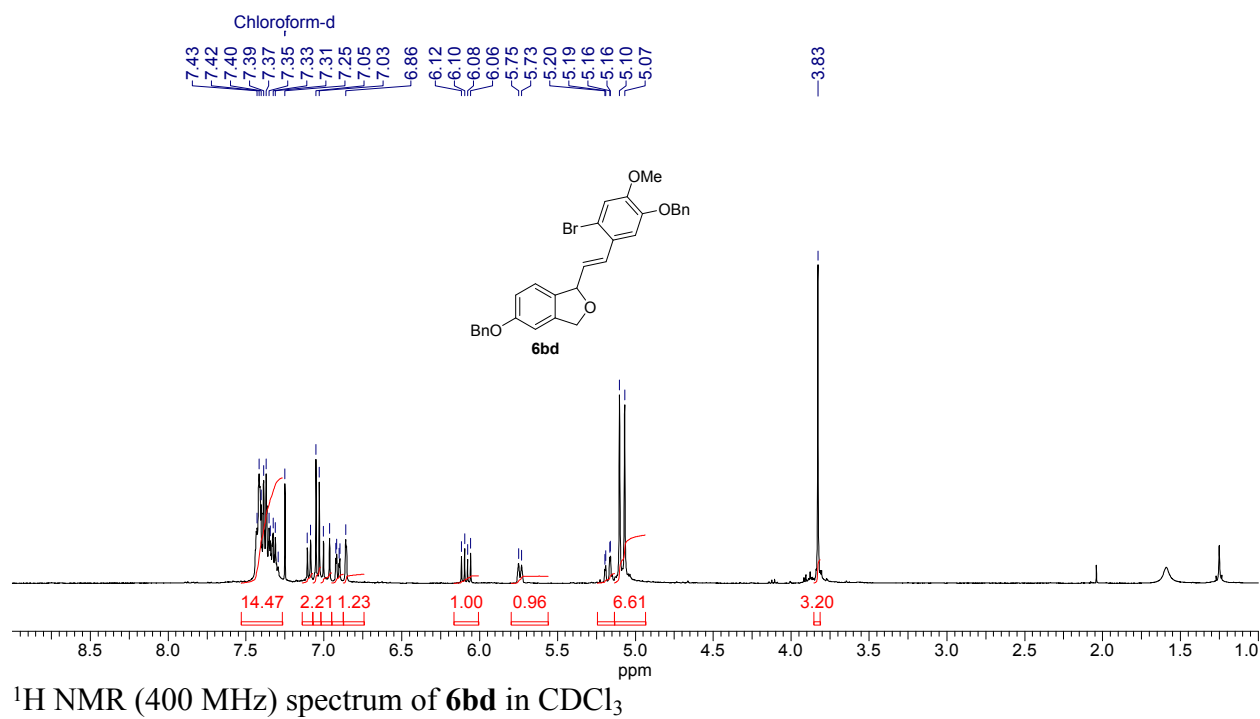


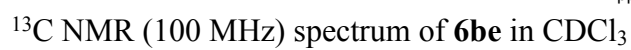
^1H NMR (400 MHz) spectrum of **6ag** in CDCl_3

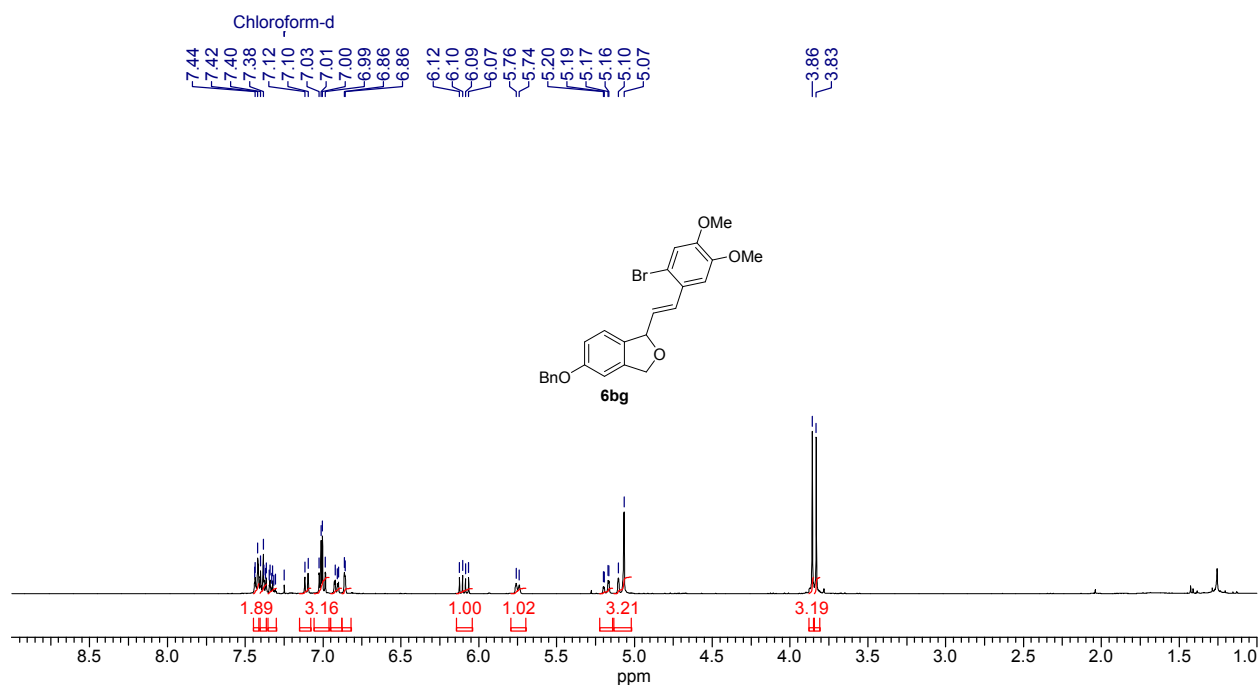


^{13}C NMR (100 MHz) spectrum of **6ag** in CDCl_3

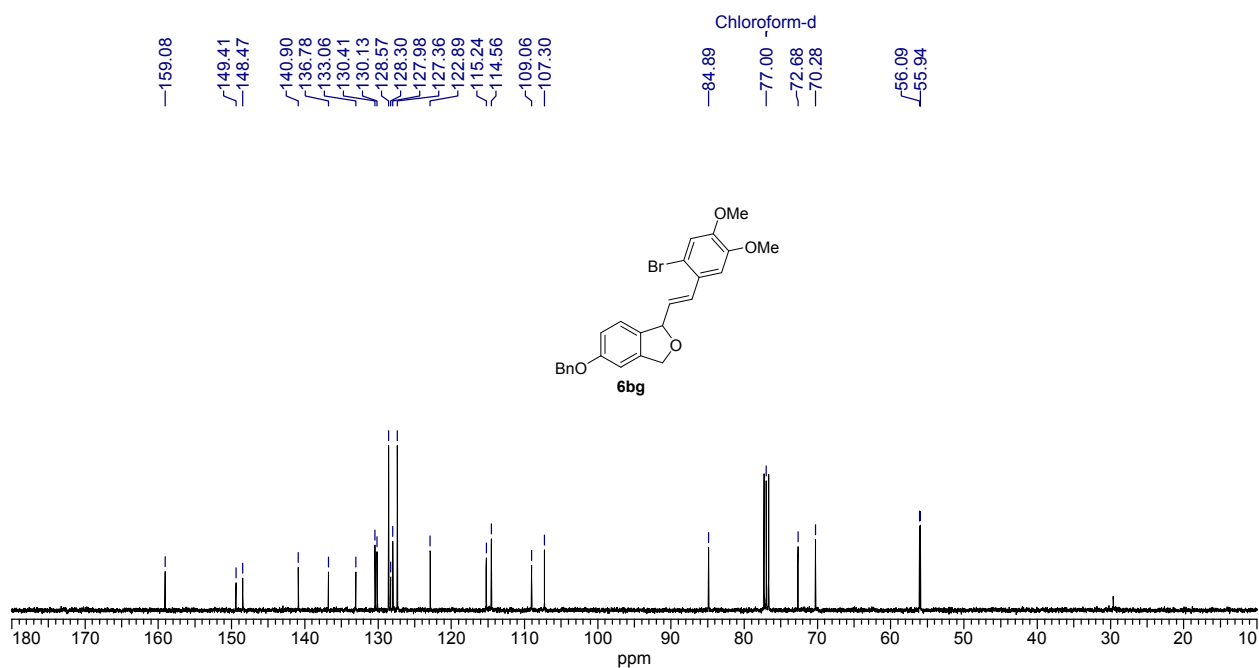




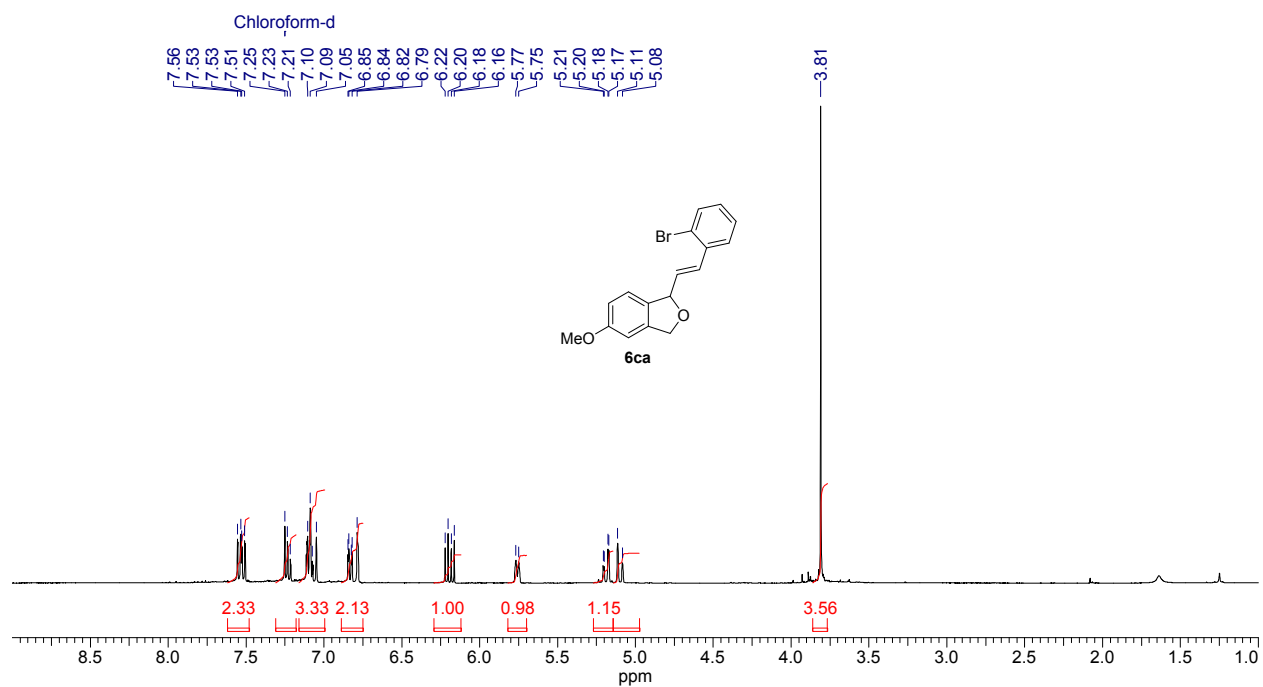




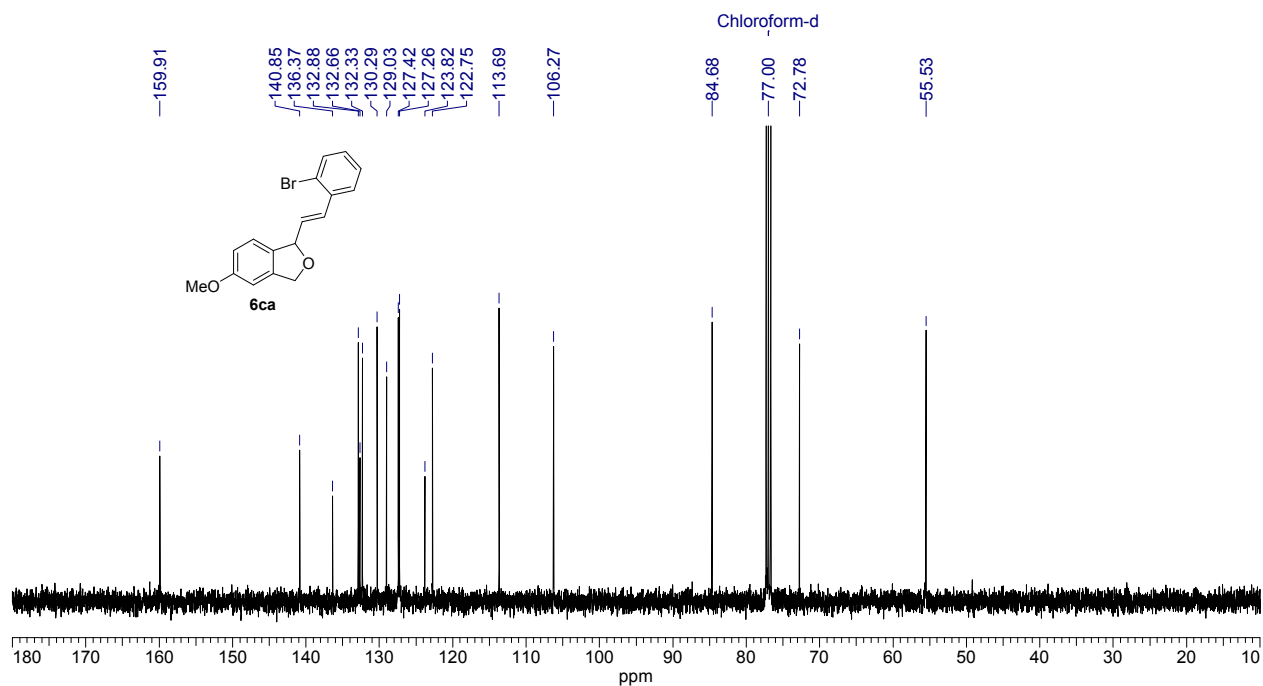
¹H NMR (400 MHz) spectrum of **6bg** in CDCl₃



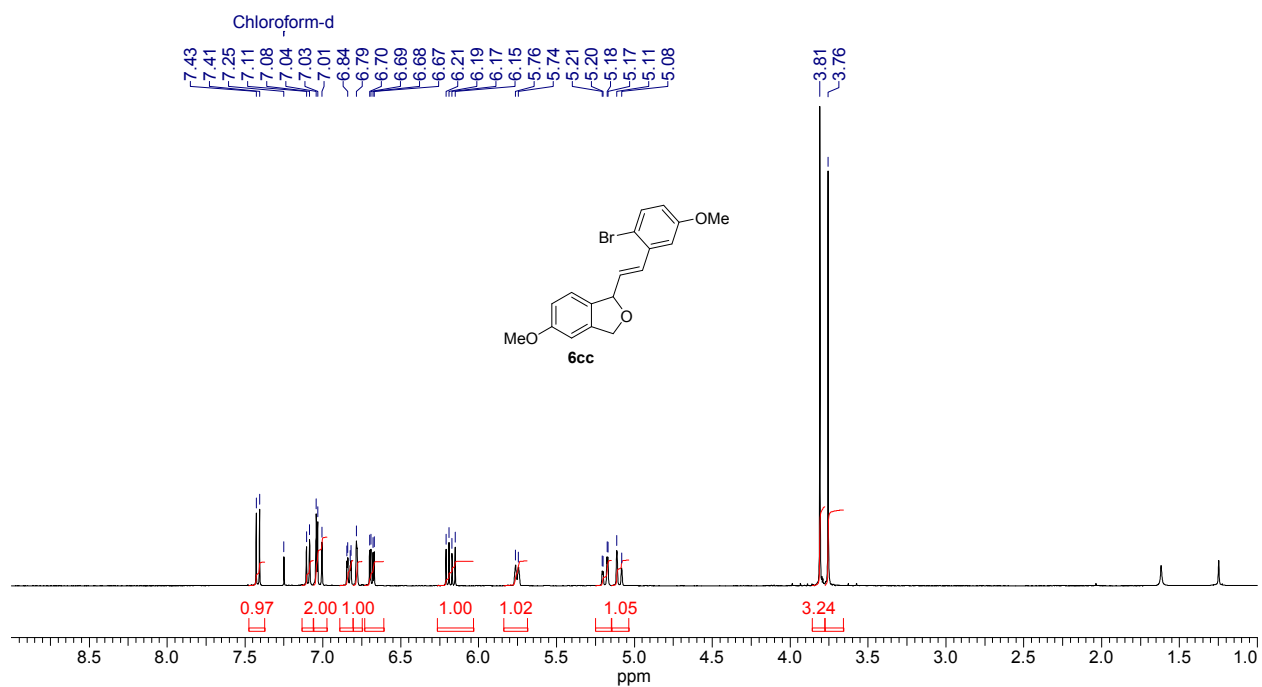
¹³C NMR (100 MHz) spectrum of **6bg** in CDCl₃



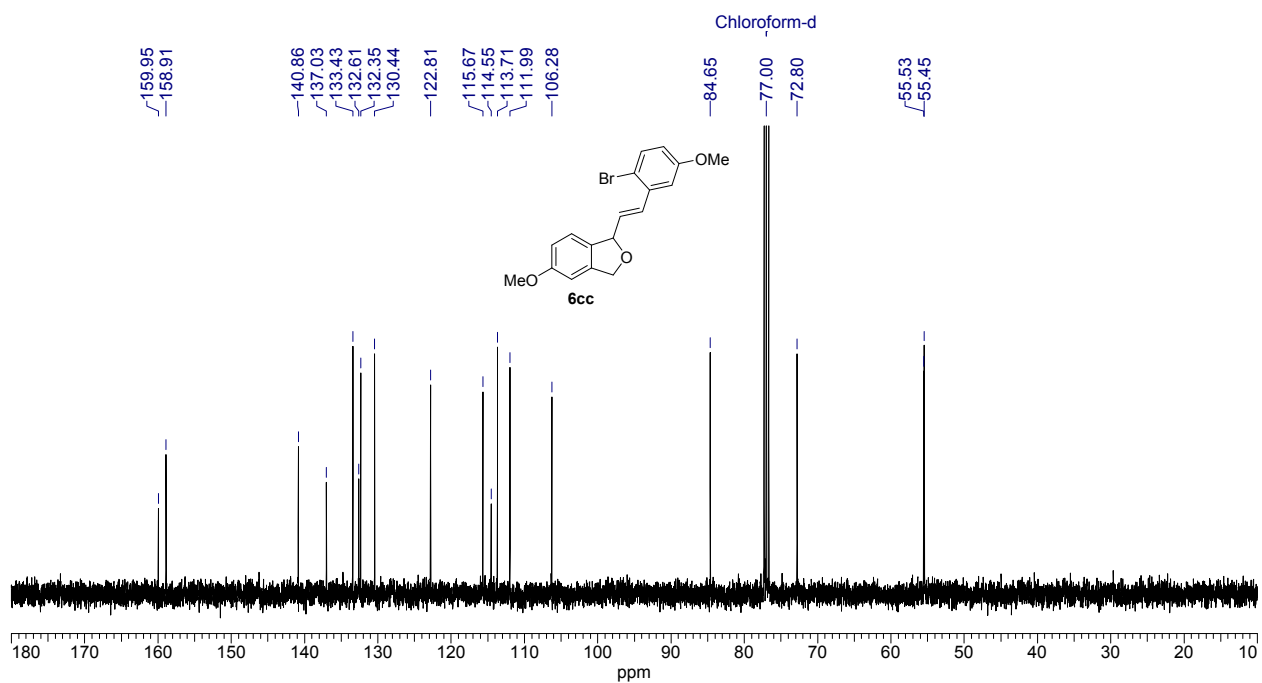
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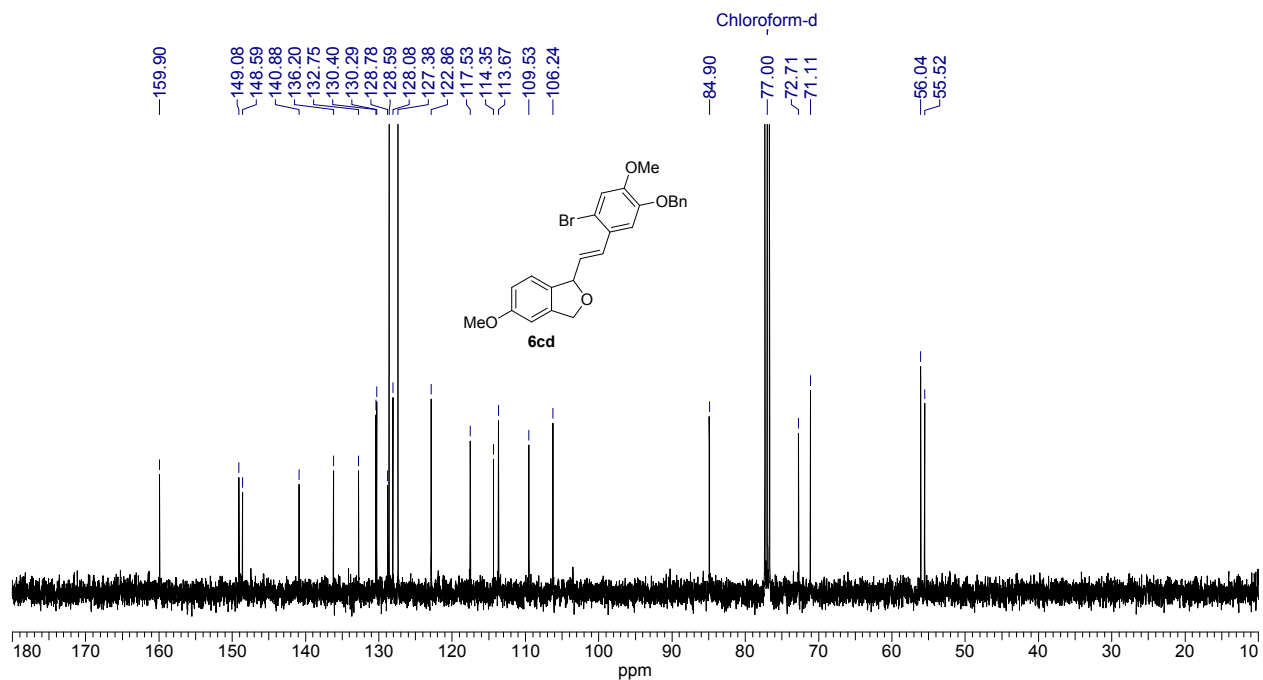
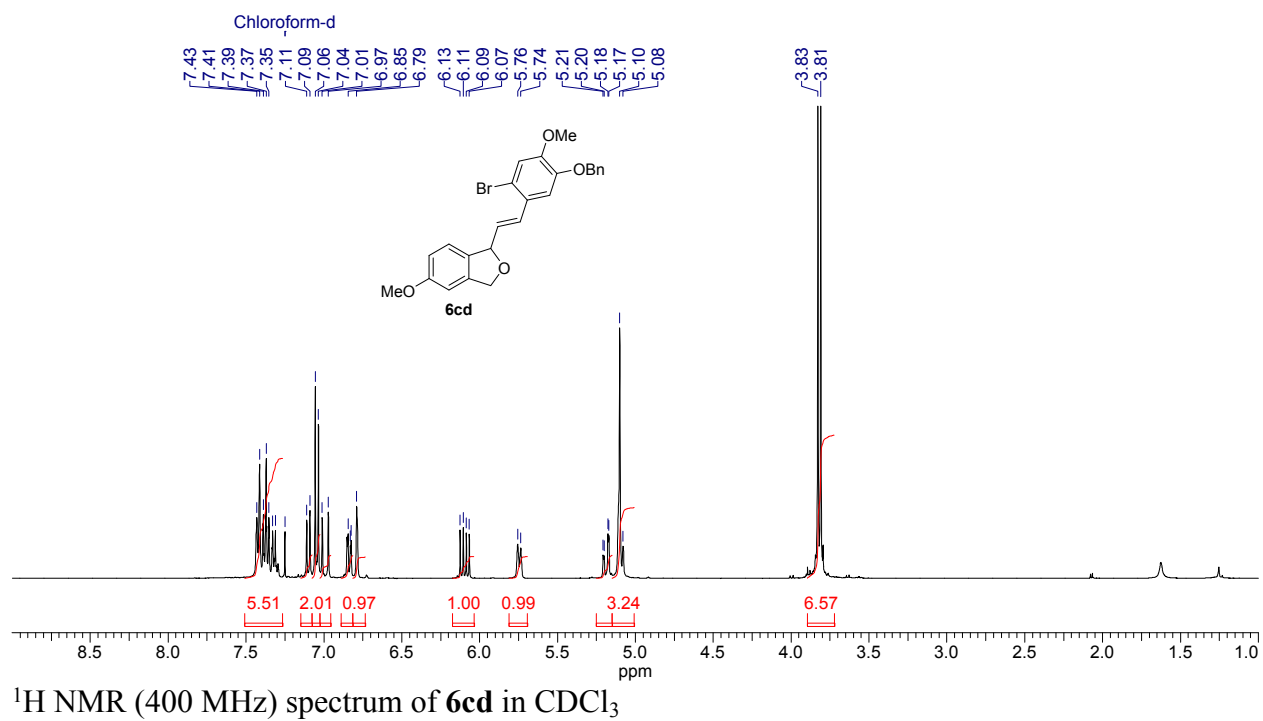
^{13}C NMR (100 MHz) spectrum of **6ca** in CDCl_3

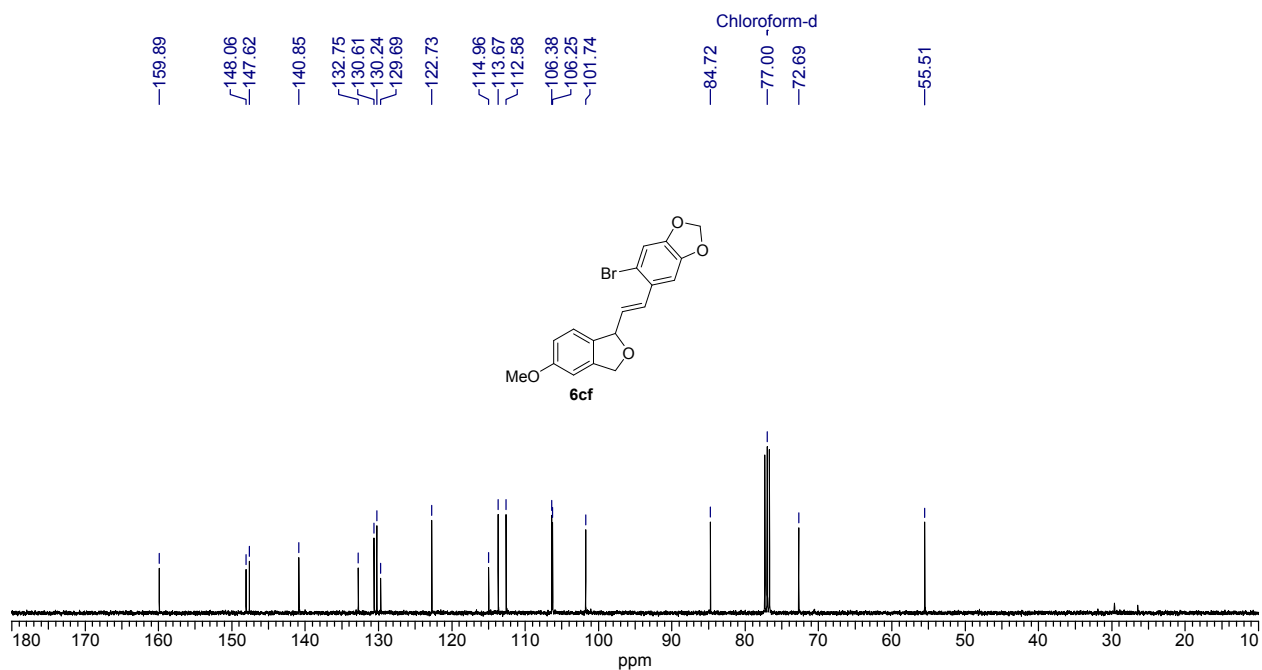
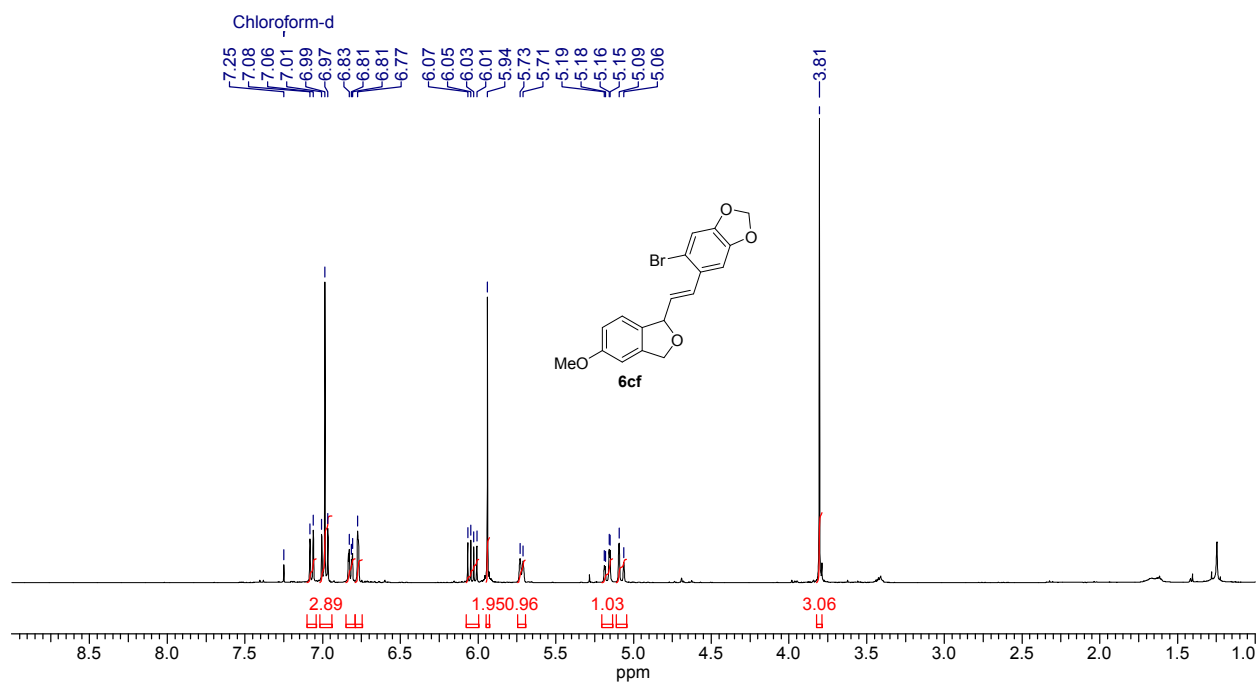


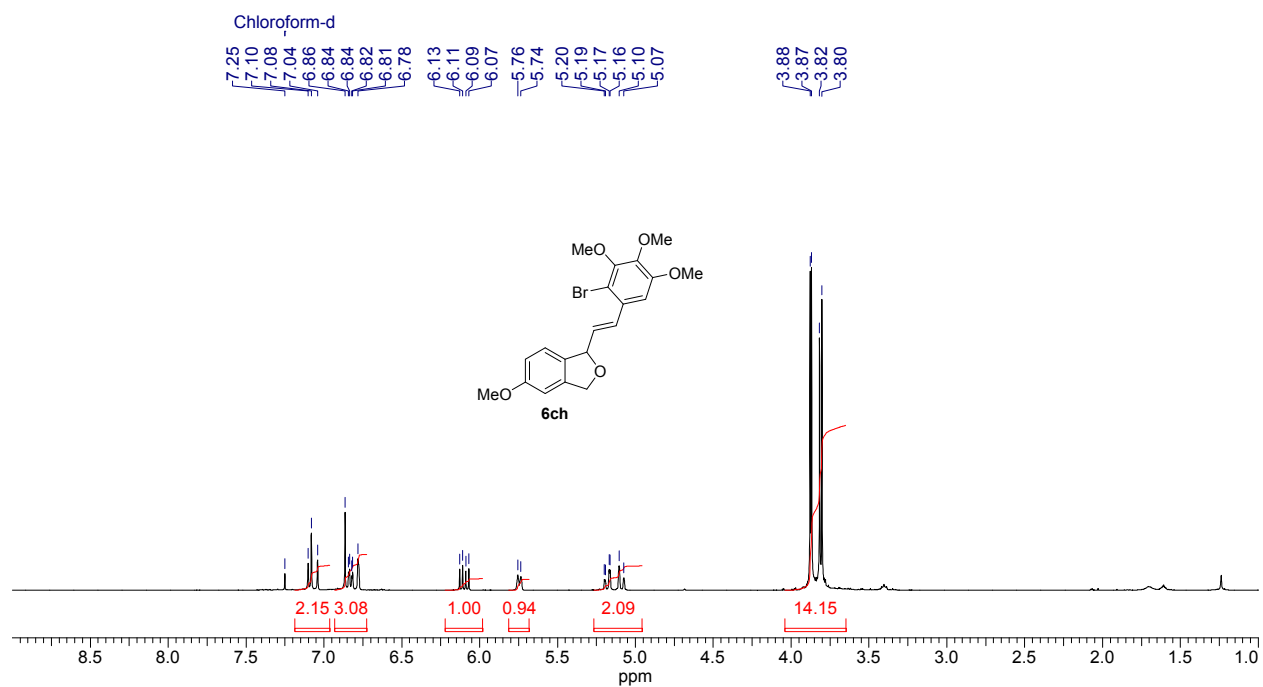
^1H NMR (400 MHz) spectrum of **6cc** in CDCl_3



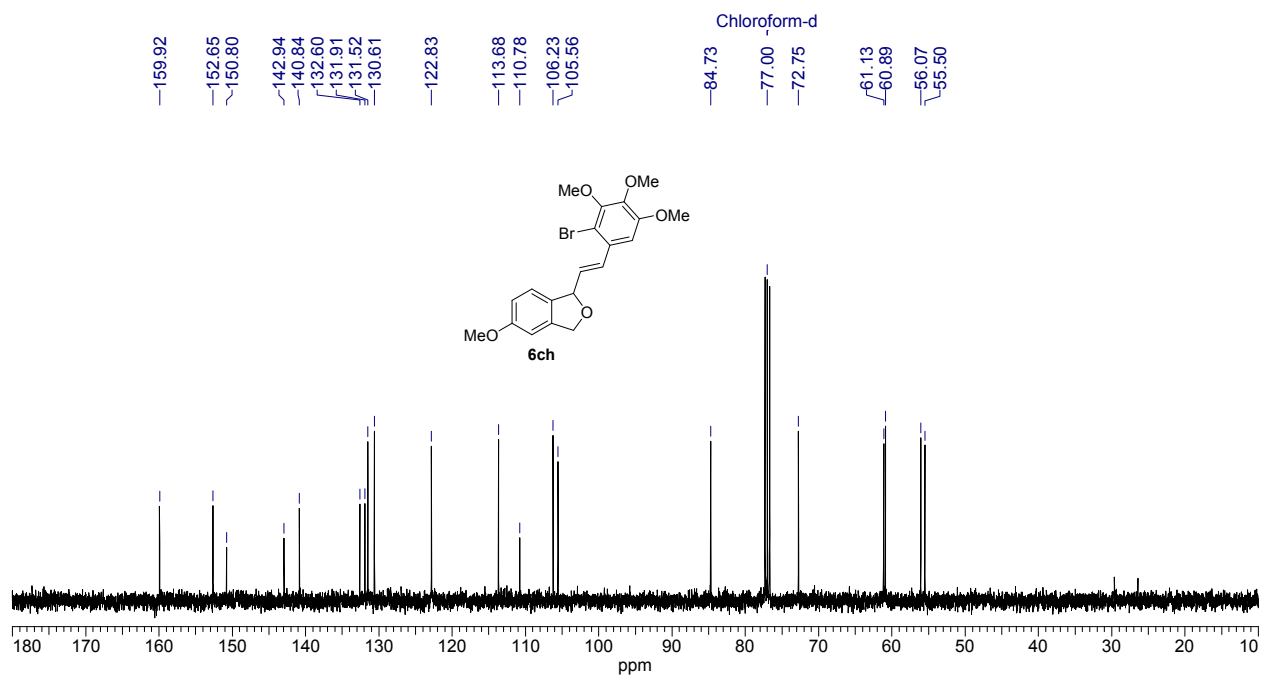
^{13}C NMR (100 MHz) spectrum of **6cc** in CDCl_3



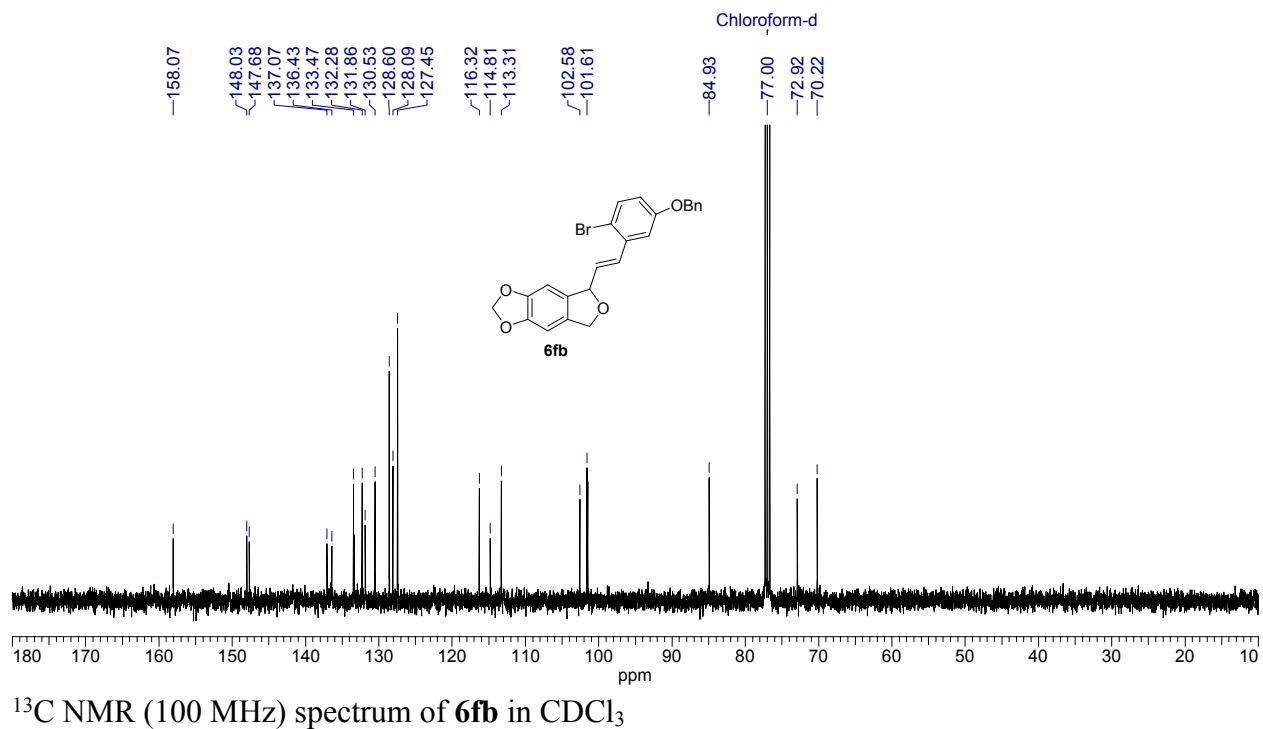
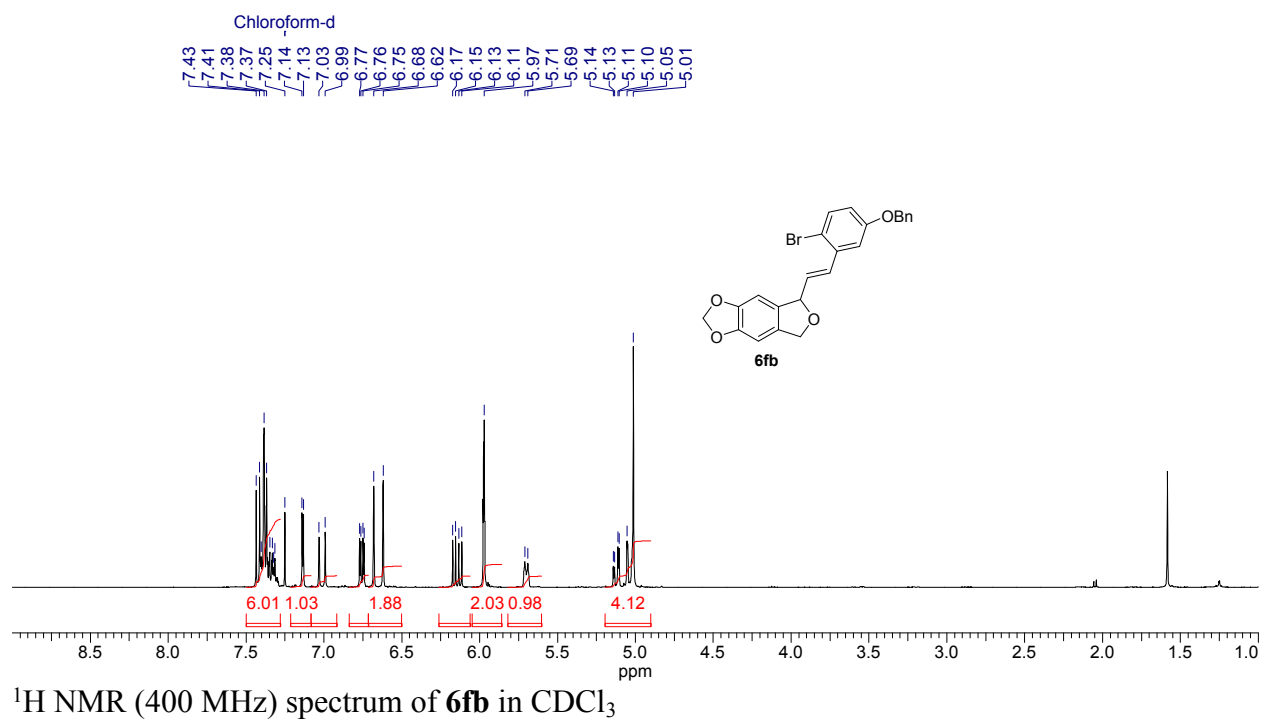


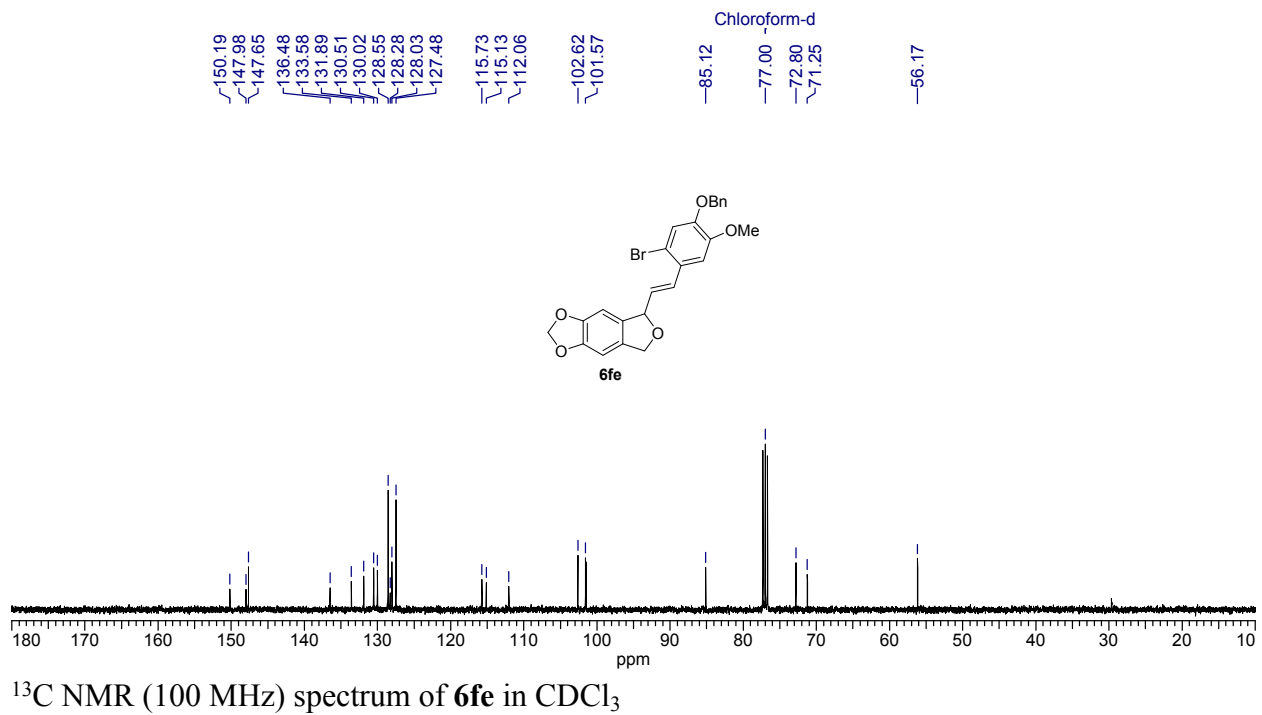
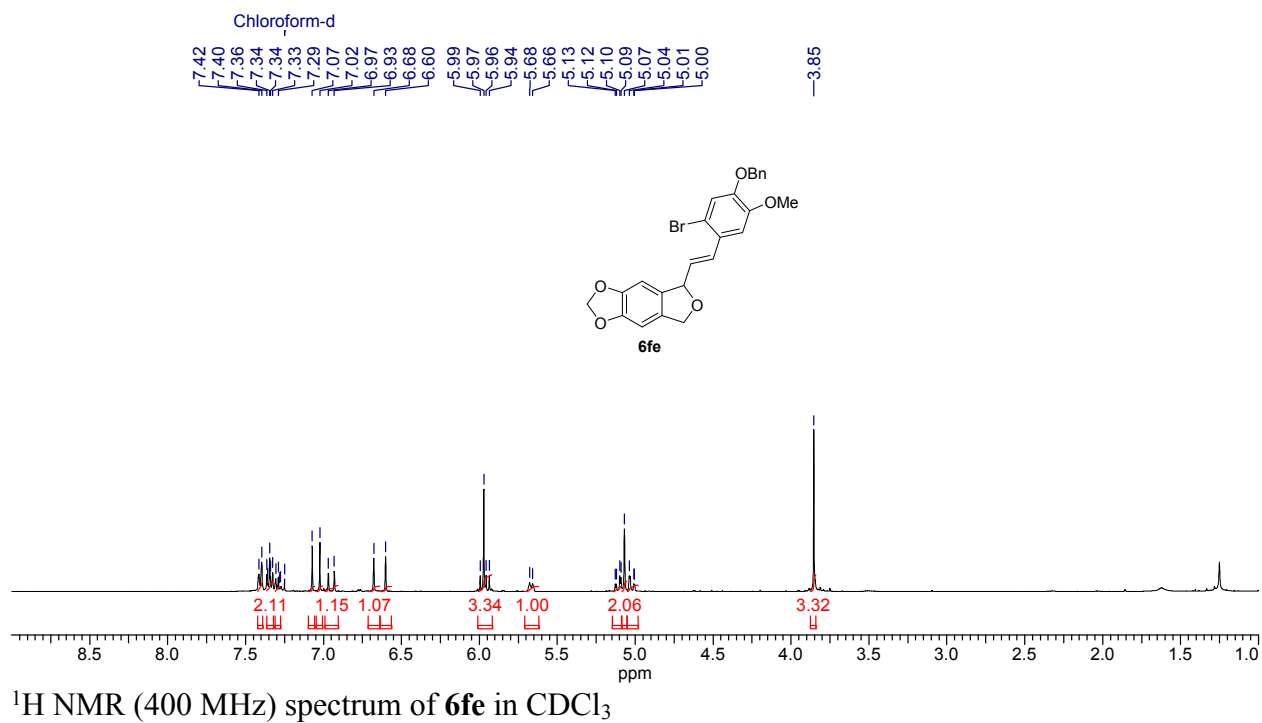


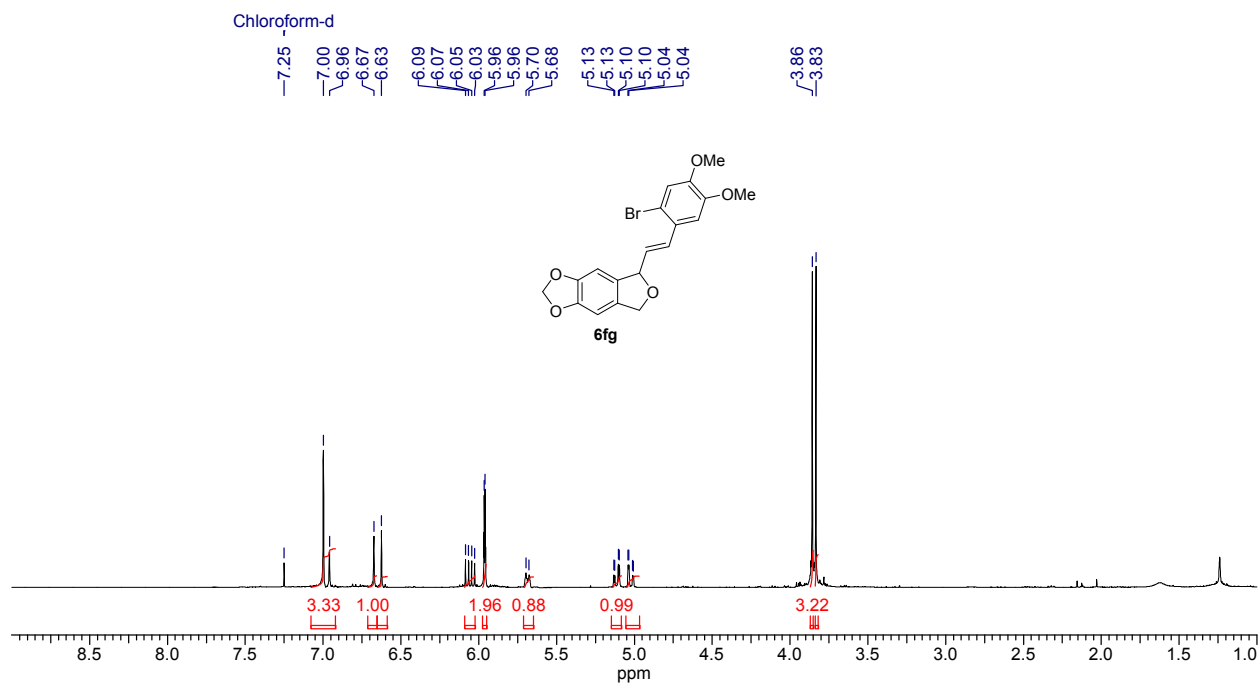
^1H NMR (400 MHz) spectrum of **6ch** in CDCl_3



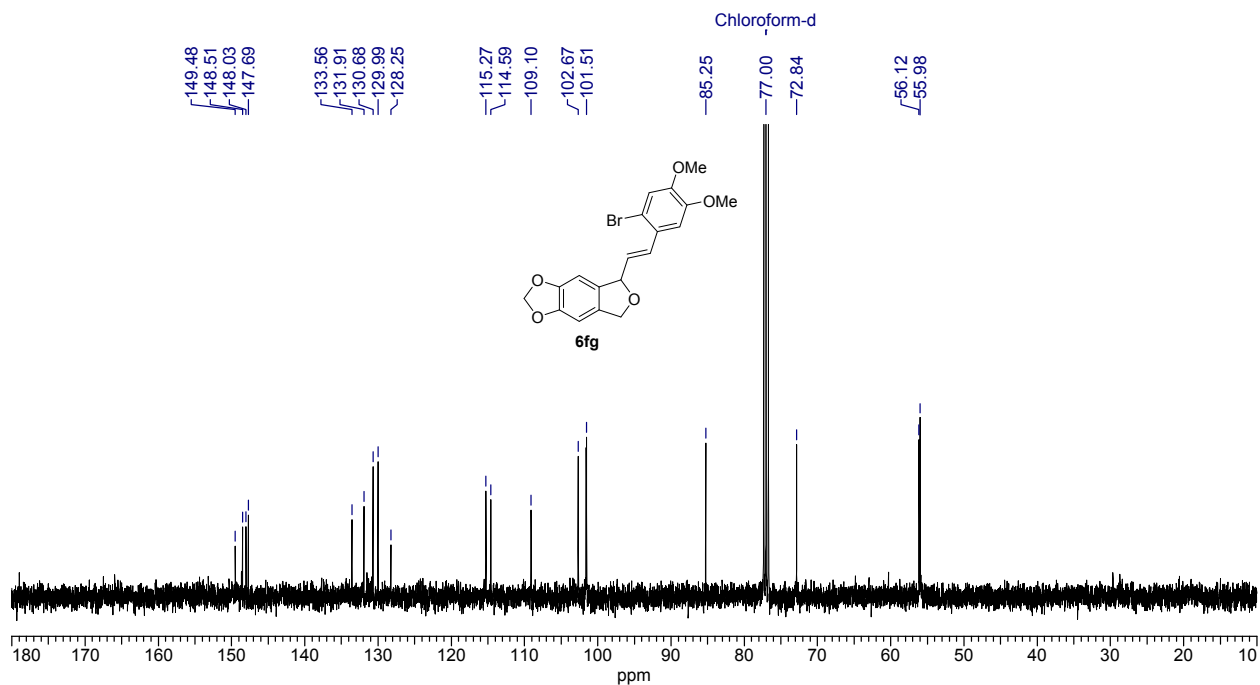
^{13}C NMR (100 MHz) spectrum of **6ch** in CDCl_3



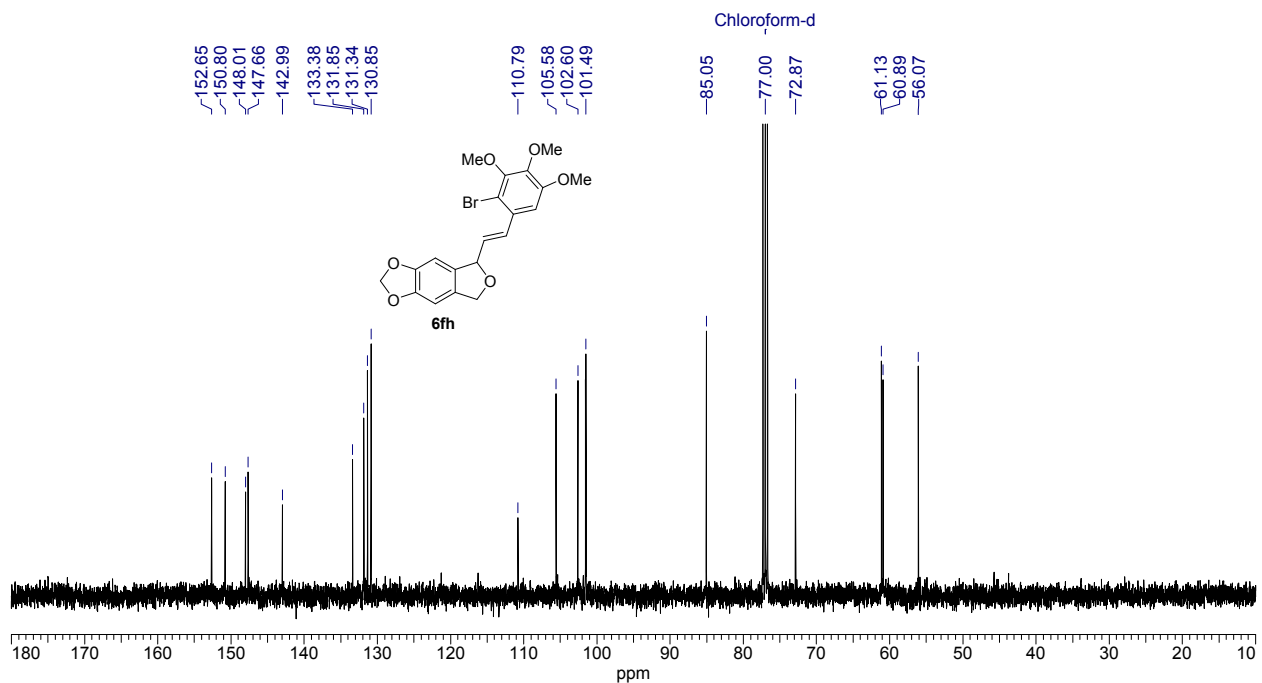
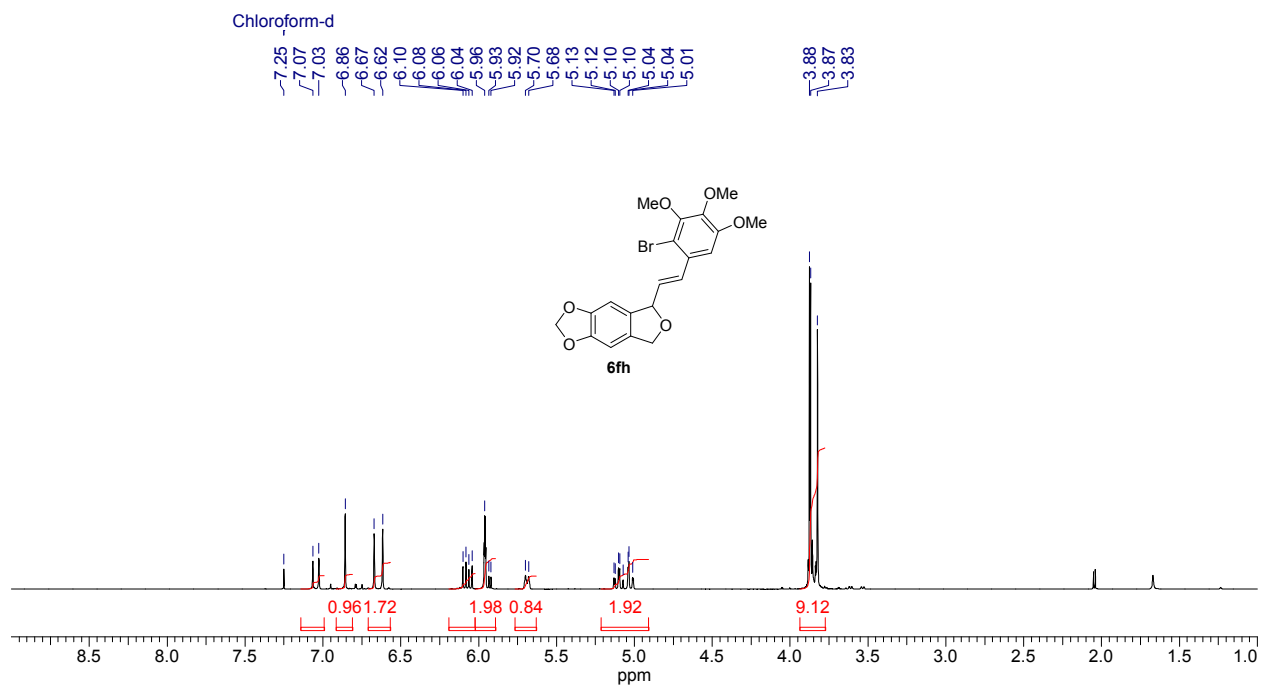


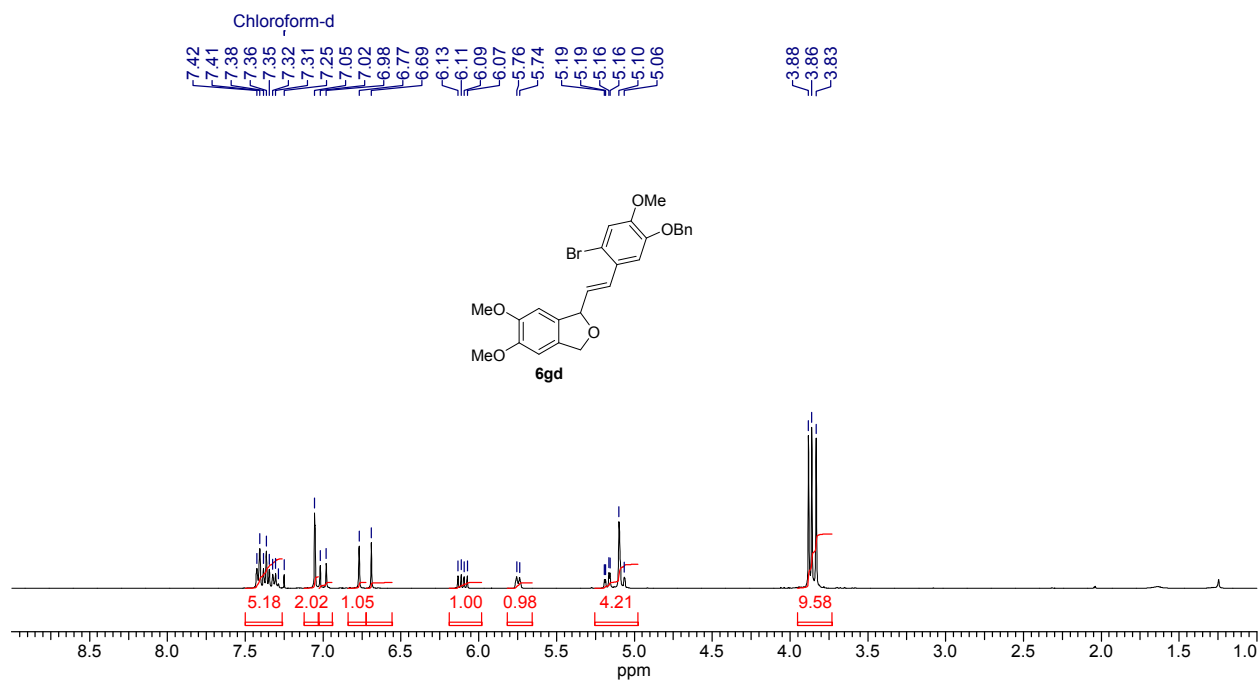


^1H NMR (400 MHz) spectrum of **6fg** in CDCl_3

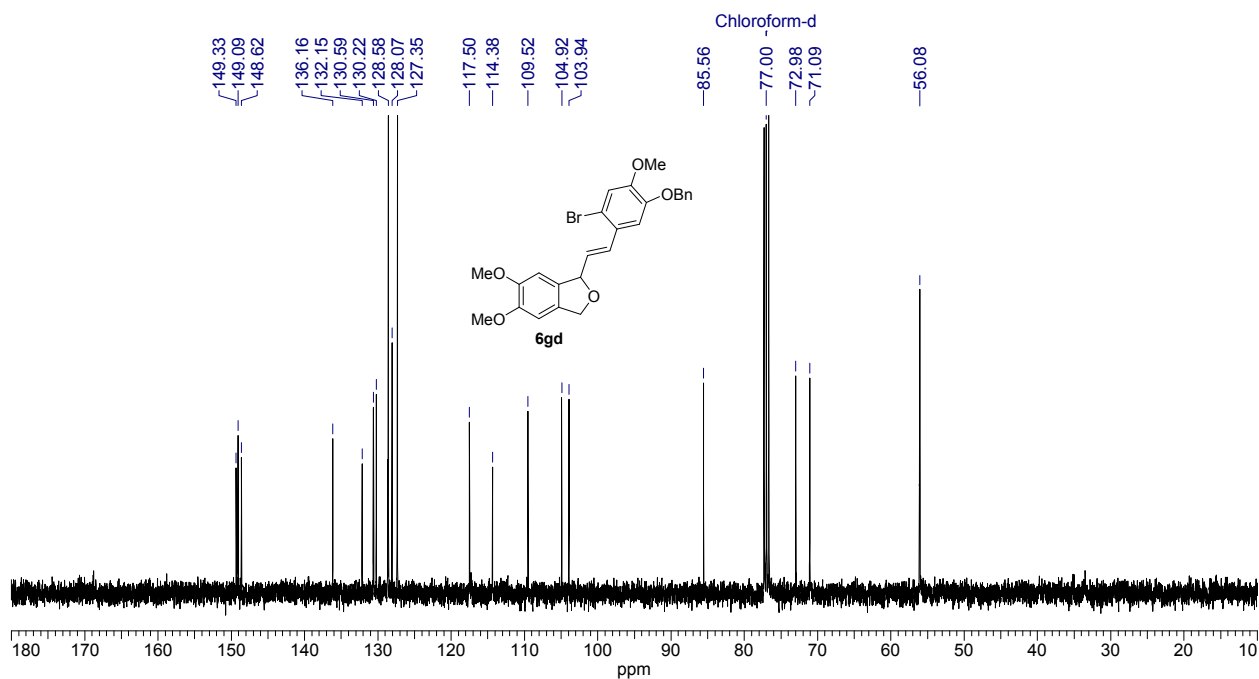


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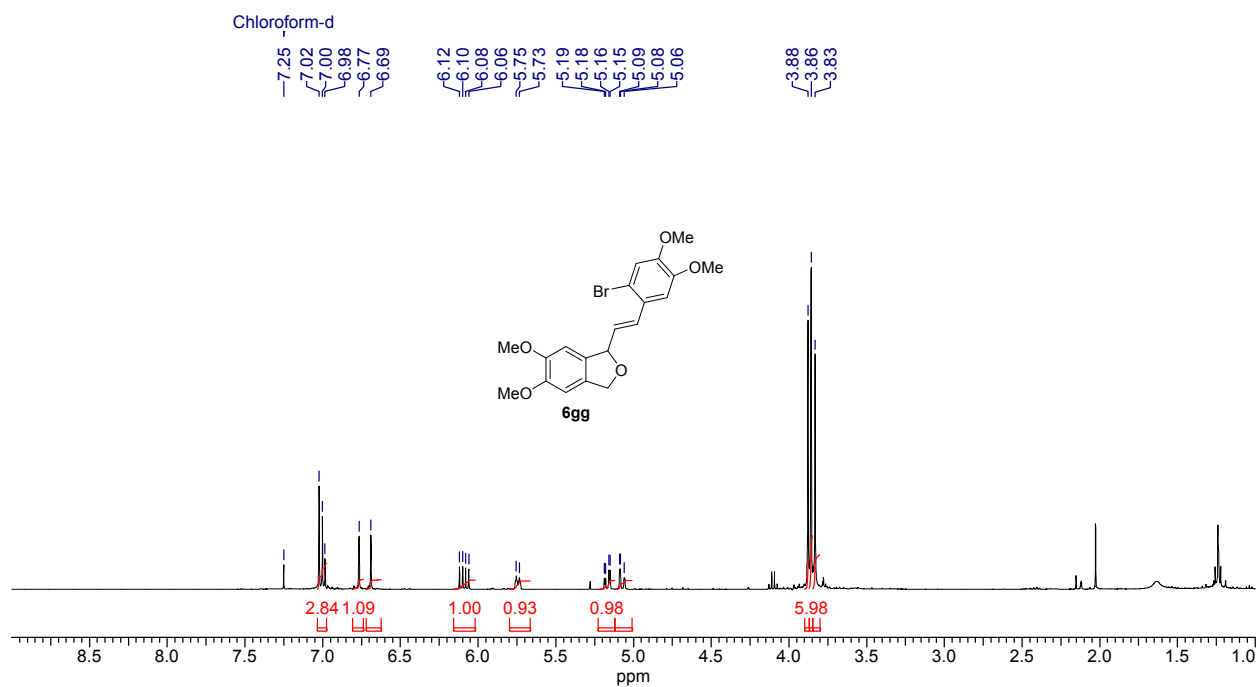




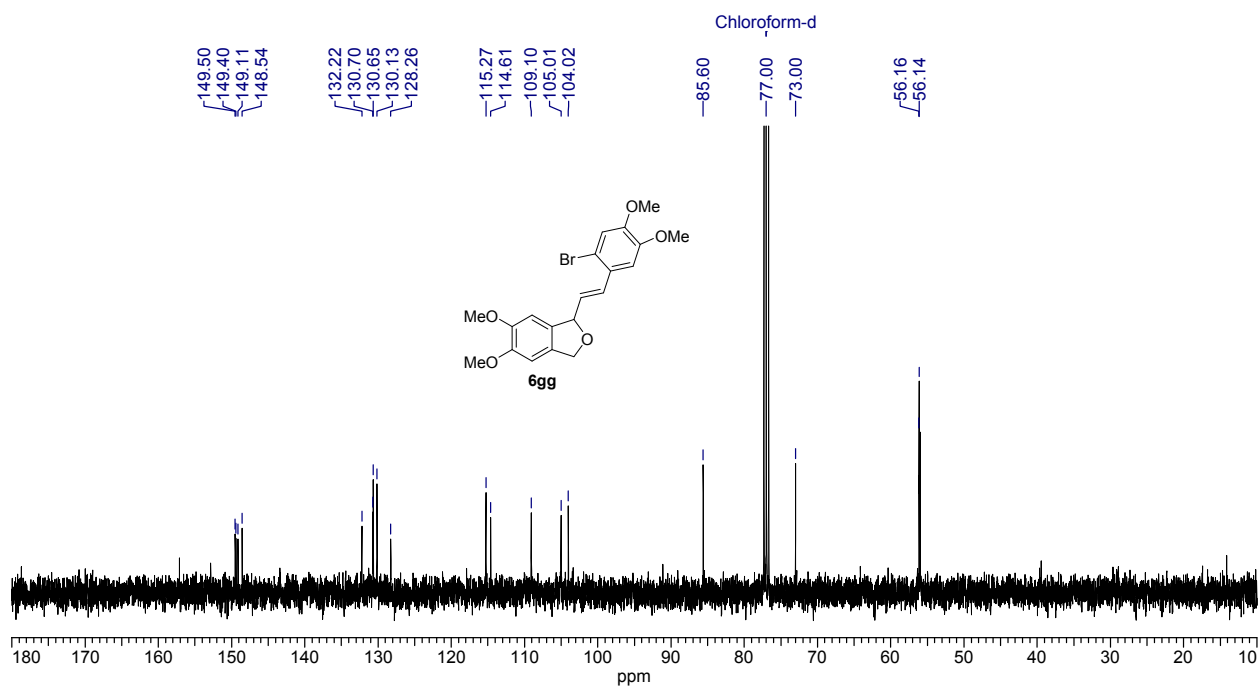
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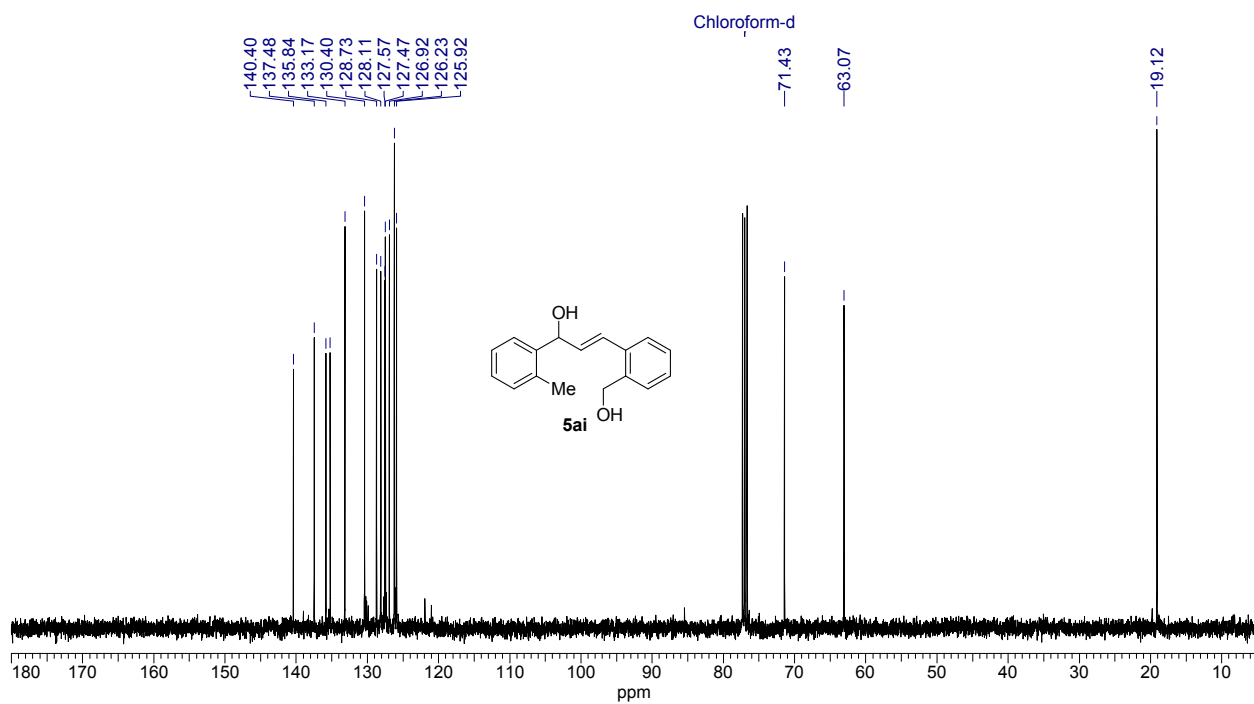
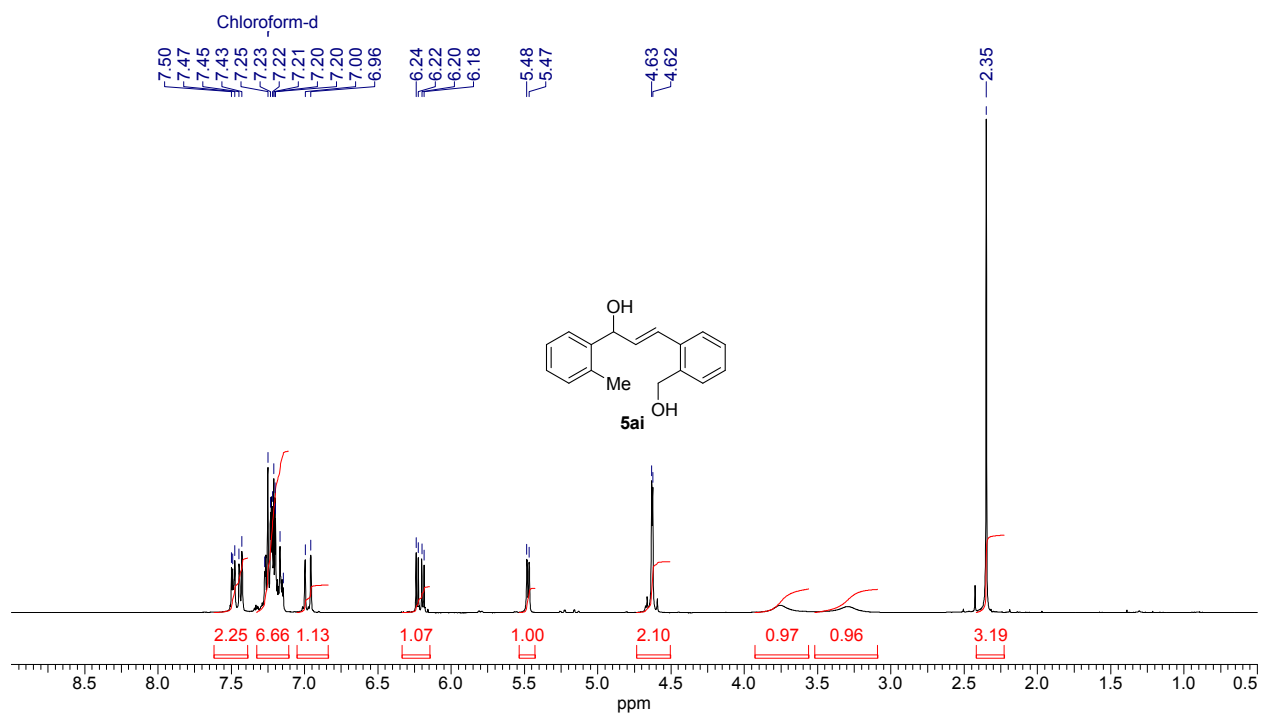
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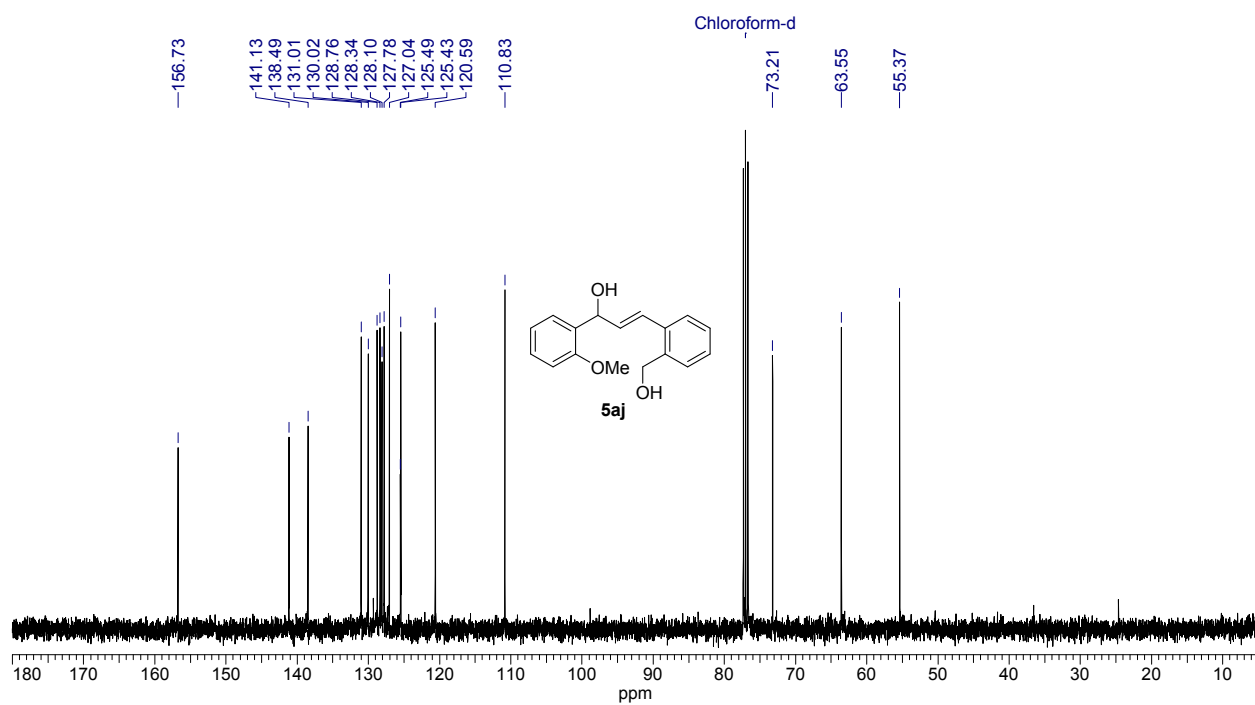
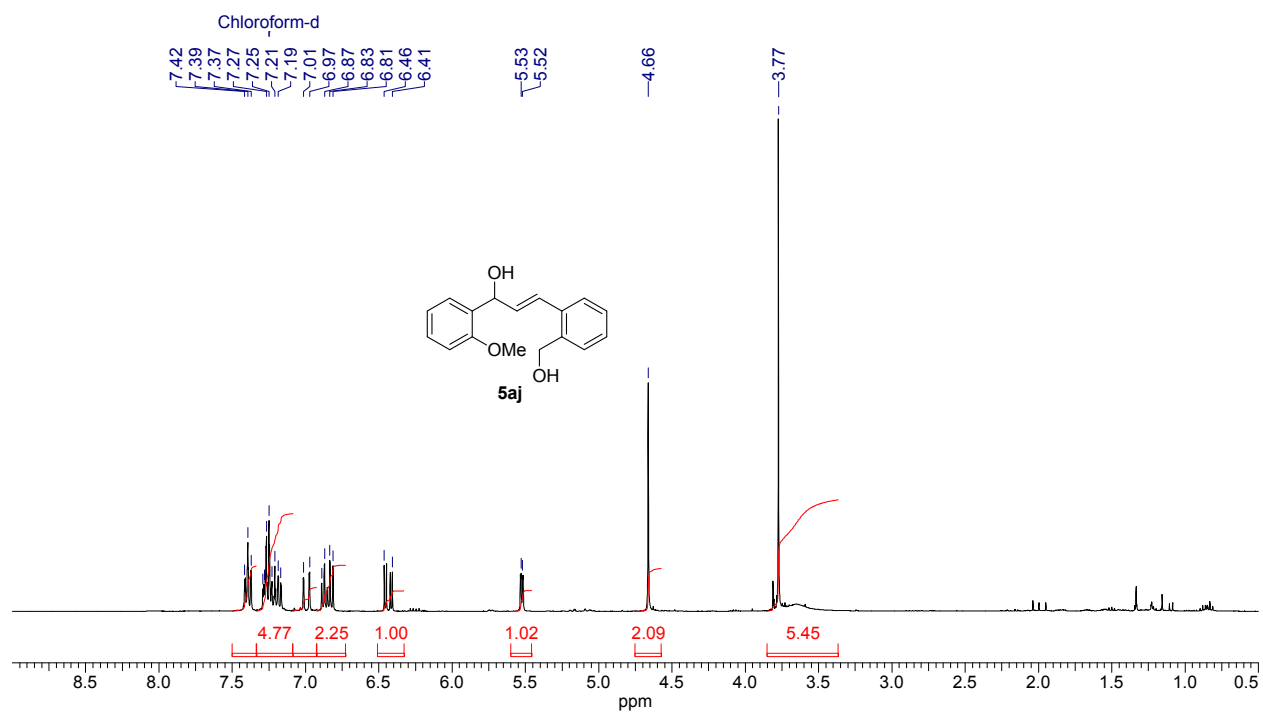


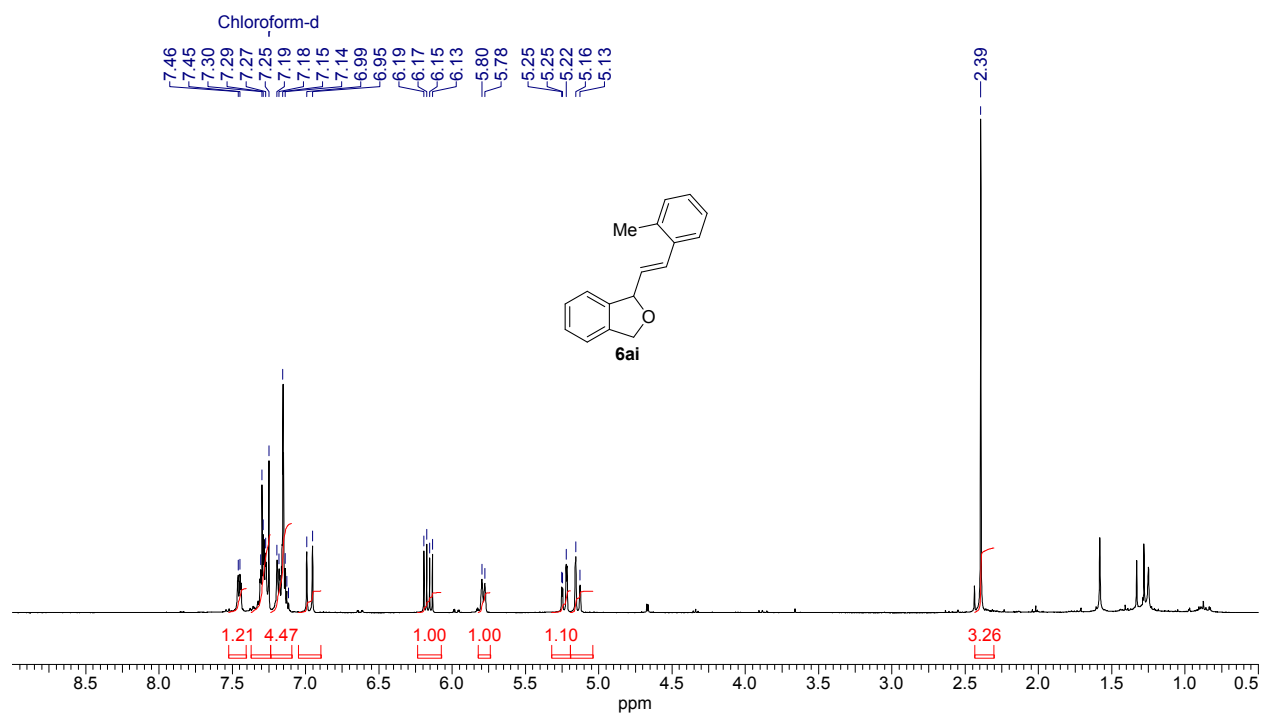
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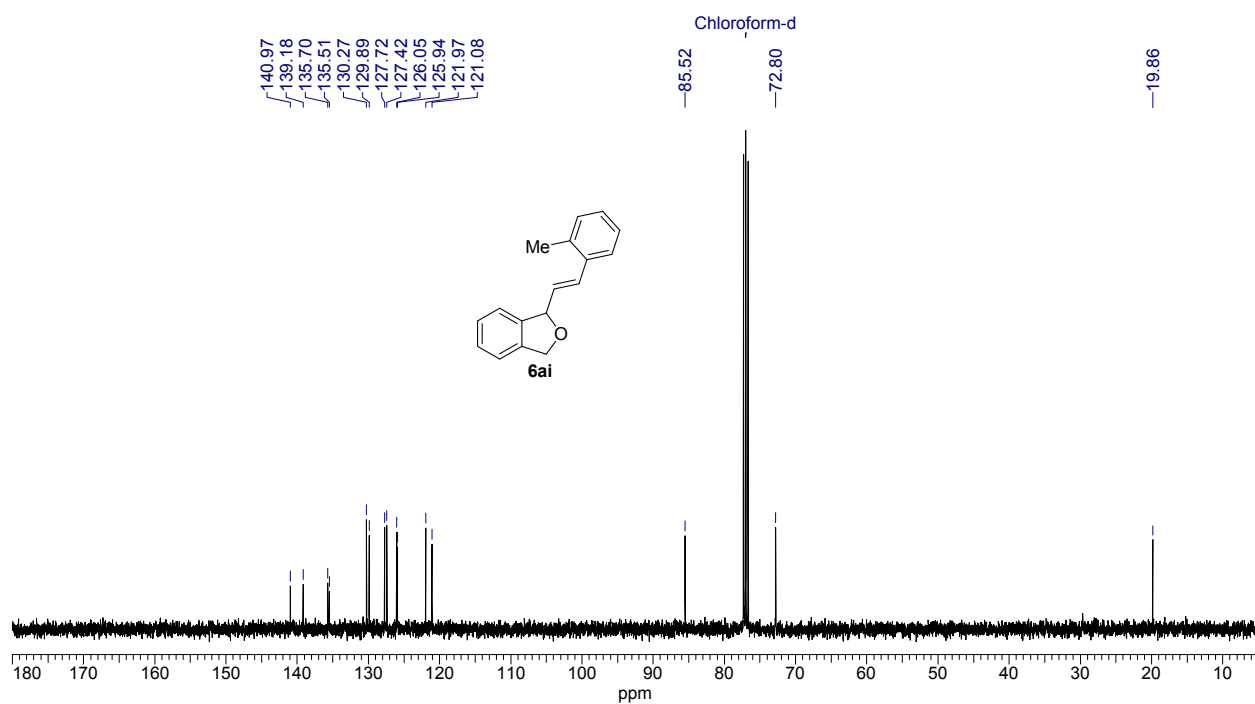
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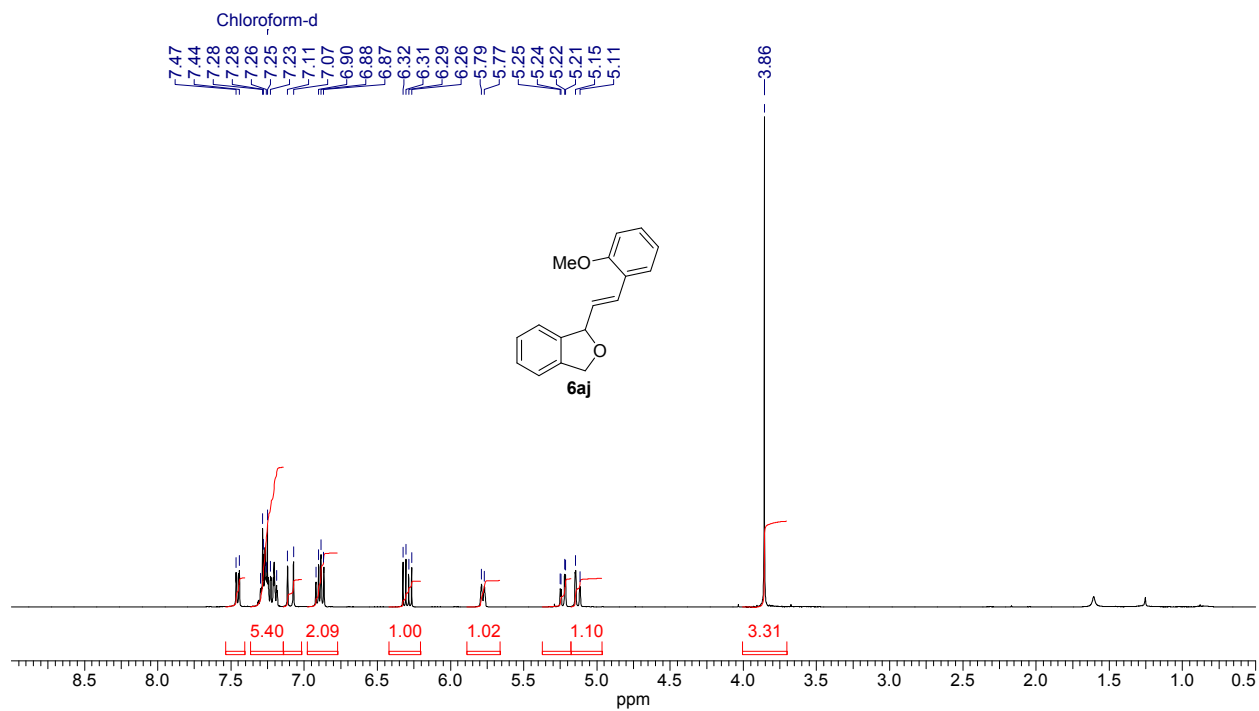




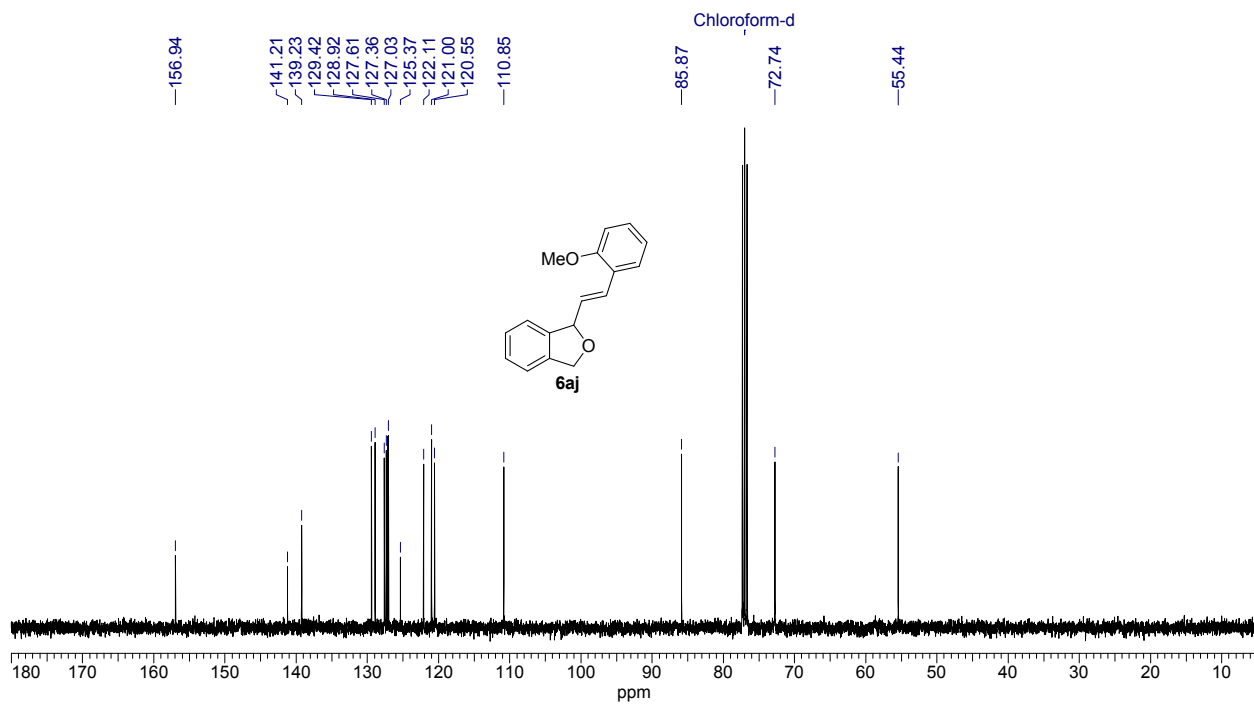
^1H NMR (400 MHz) spectrum of **6ai** in CDCl_3



^{13}C NMR (100 MHz) spectrum of **6ai** in CDCl_3



^1H NMR (400 MHz) spectrum of **6aj** in CDCl_3



^{13}C NMR (100 MHz) spectrum of **6aj** in CDCl_3