

Electronic Supplementary Information

Catalyst-Controlled Regio- and Stereoselective Synthesis of Diverse 12*H*-6,12-Methanodibenzo[*d,g*][1,3]dioxocines

Likai Xia, Hongyun Cai, and Yong Rok Lee*

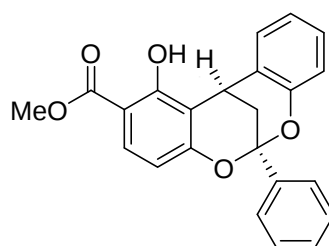
School of Chemical Engineering, Yeungnam University, Gyeongsan 712-749, Republic of Korea

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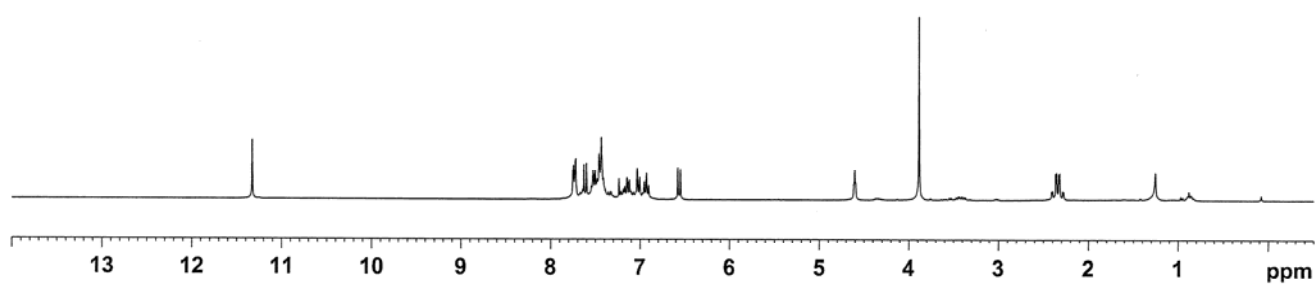
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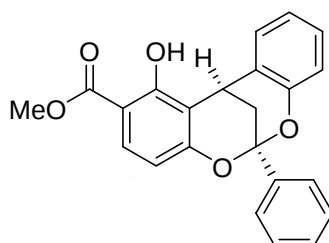
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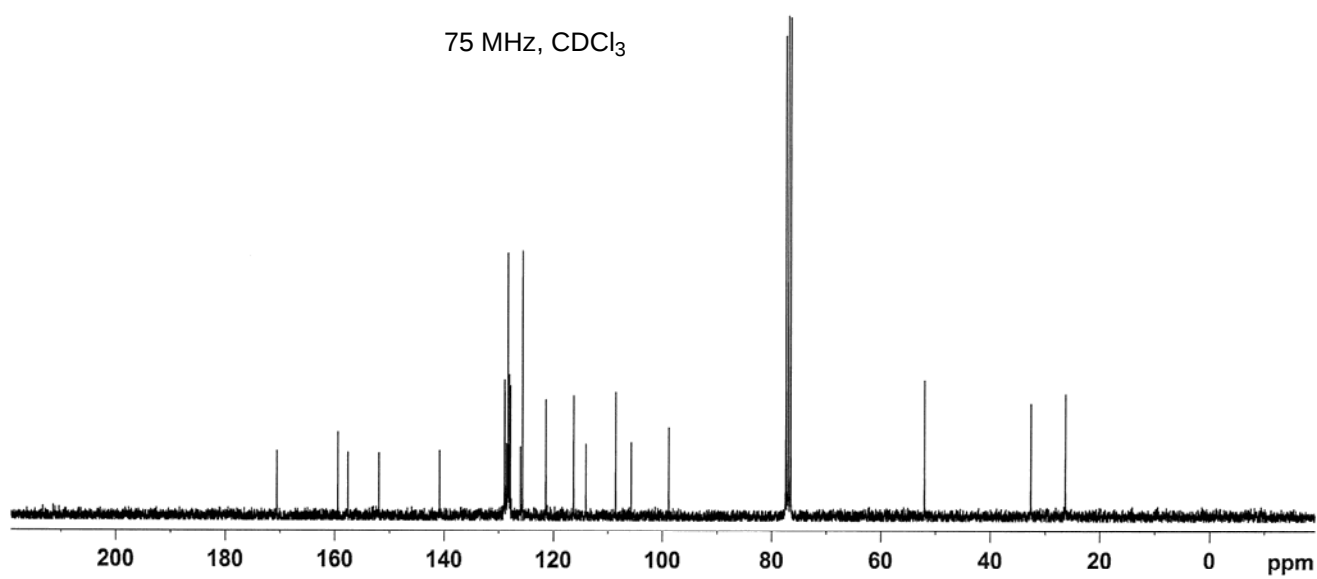
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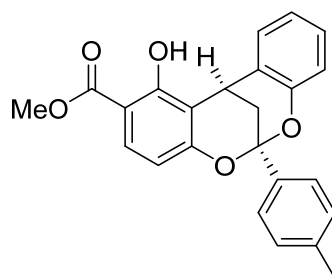
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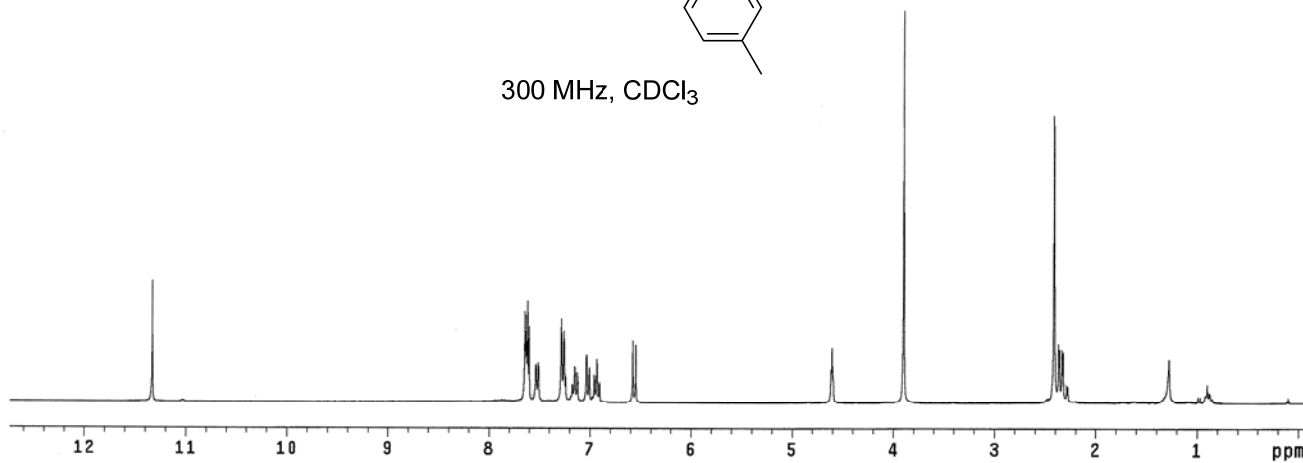
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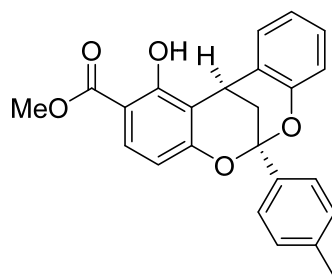
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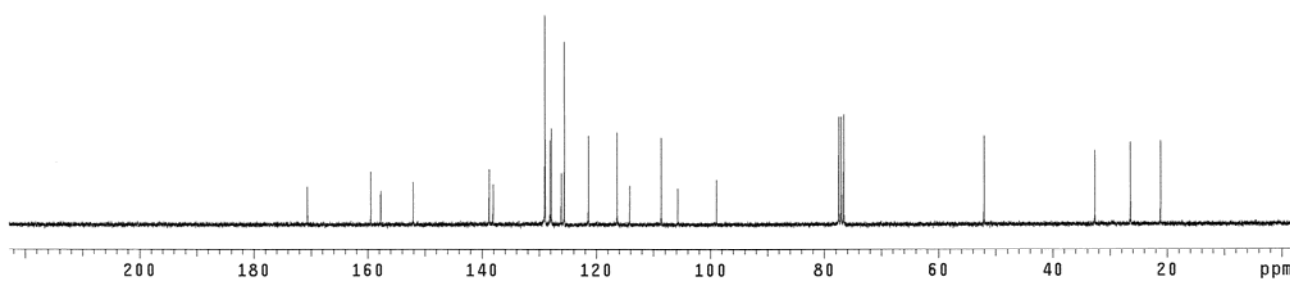
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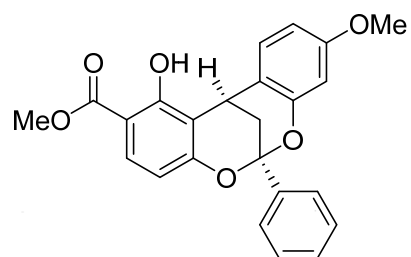
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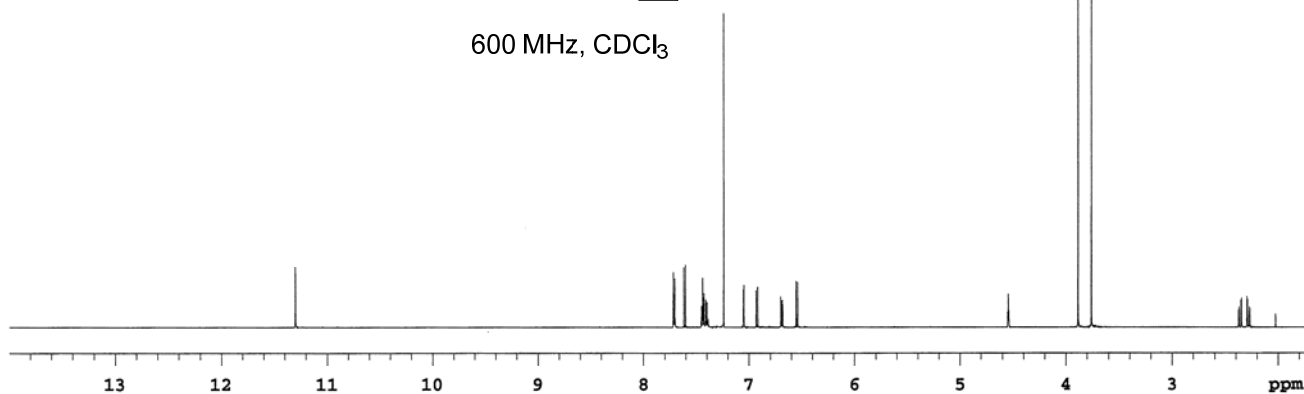
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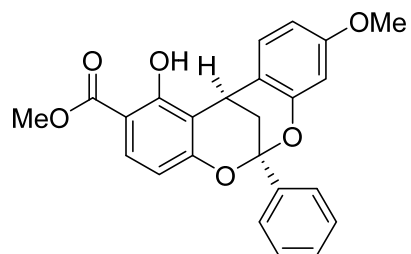
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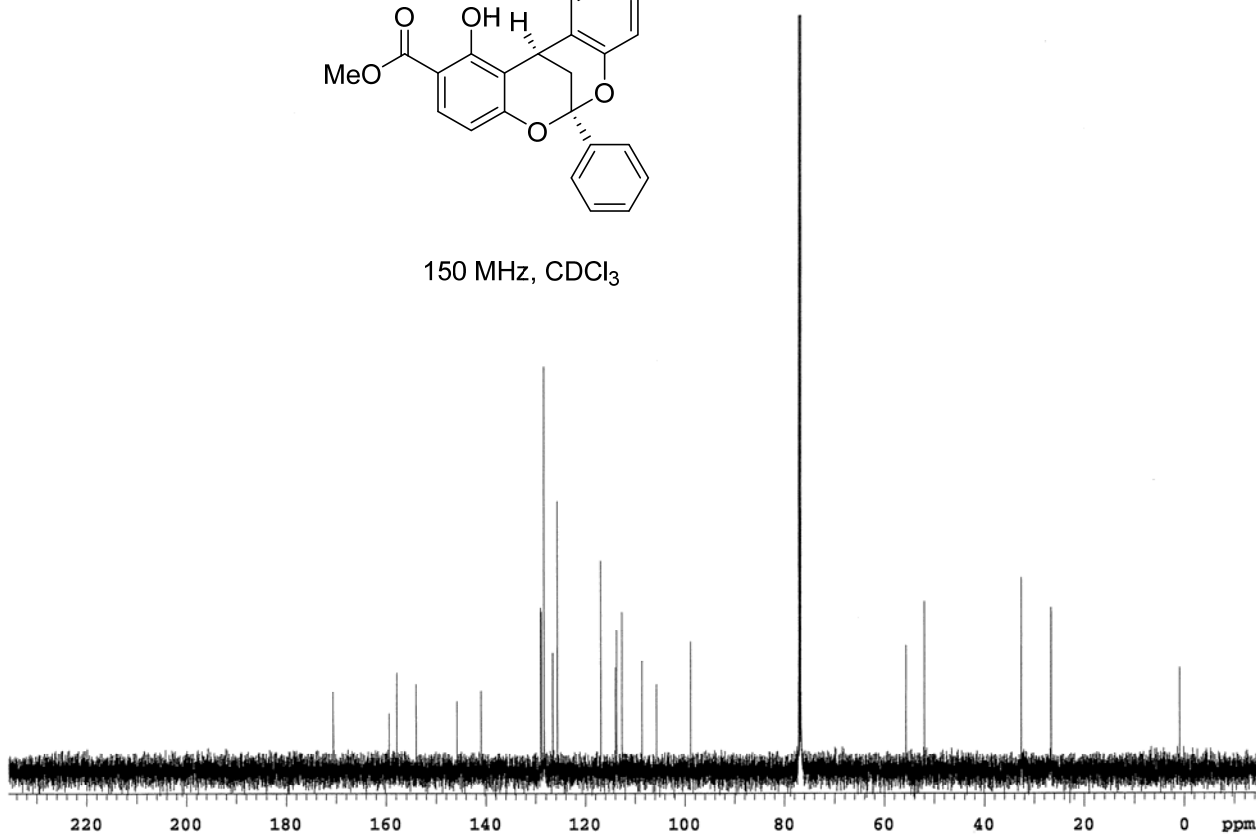
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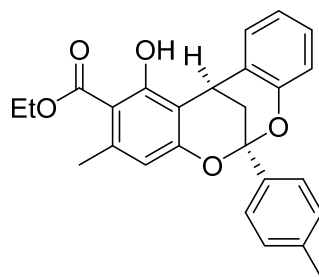
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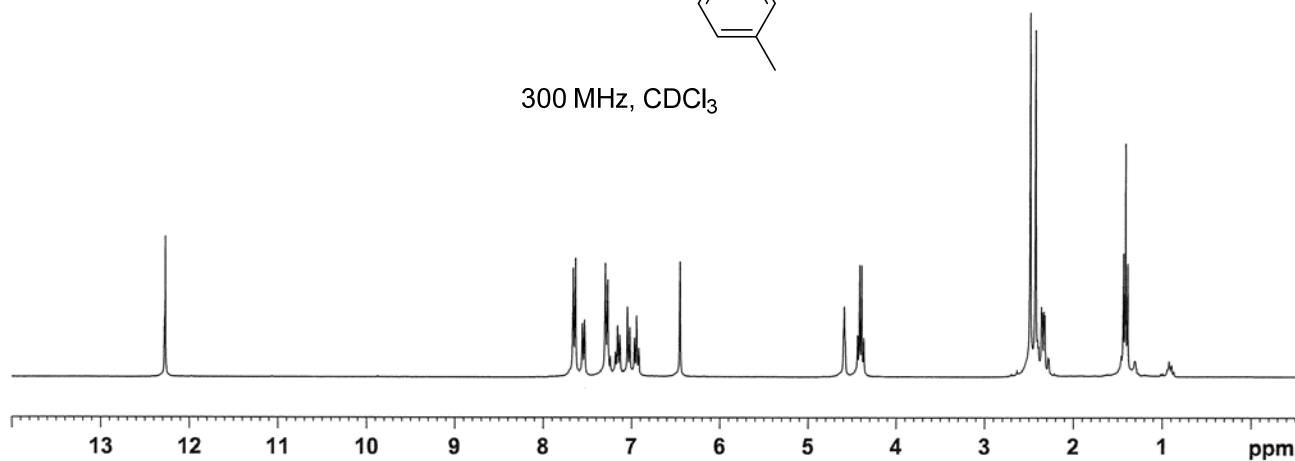
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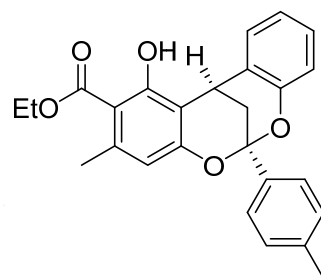
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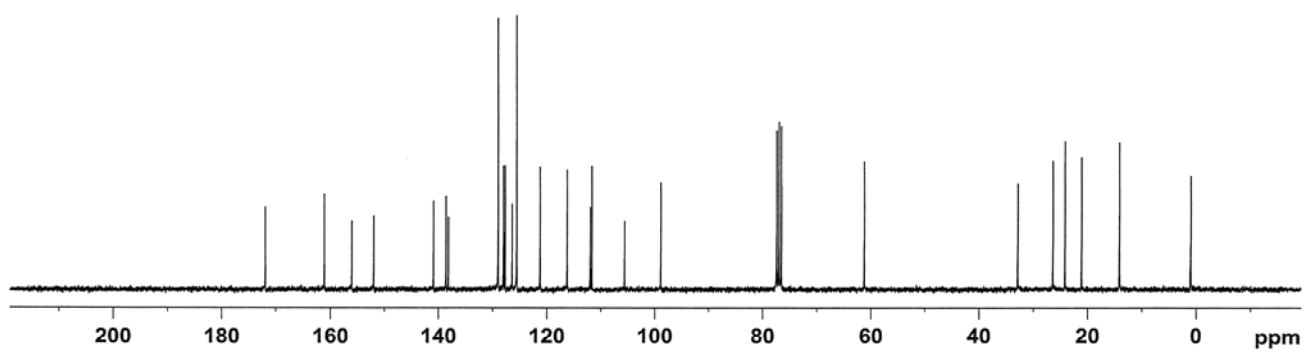
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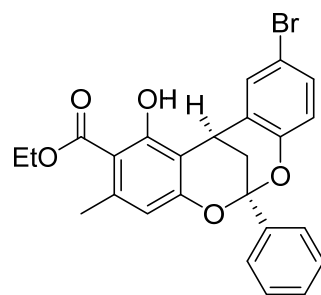
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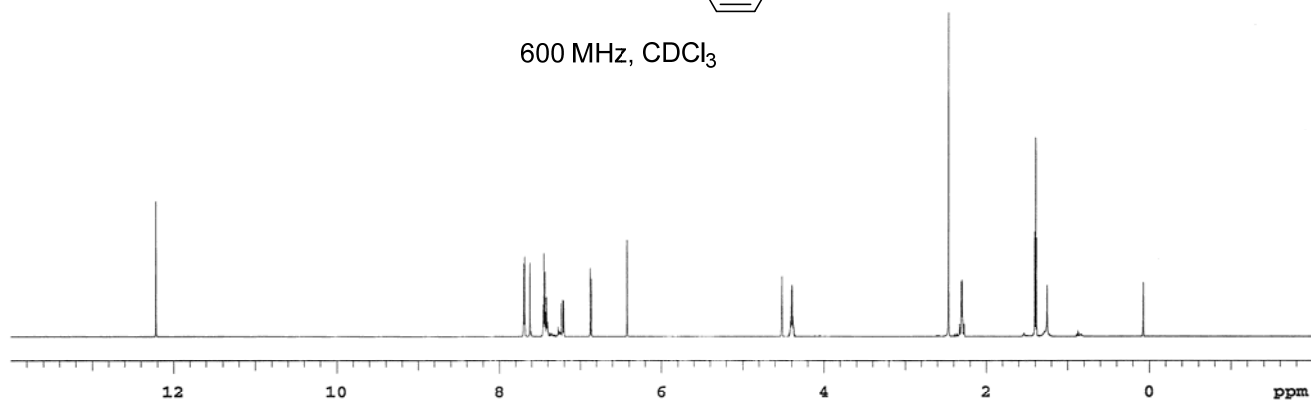
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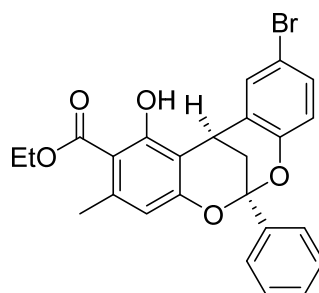
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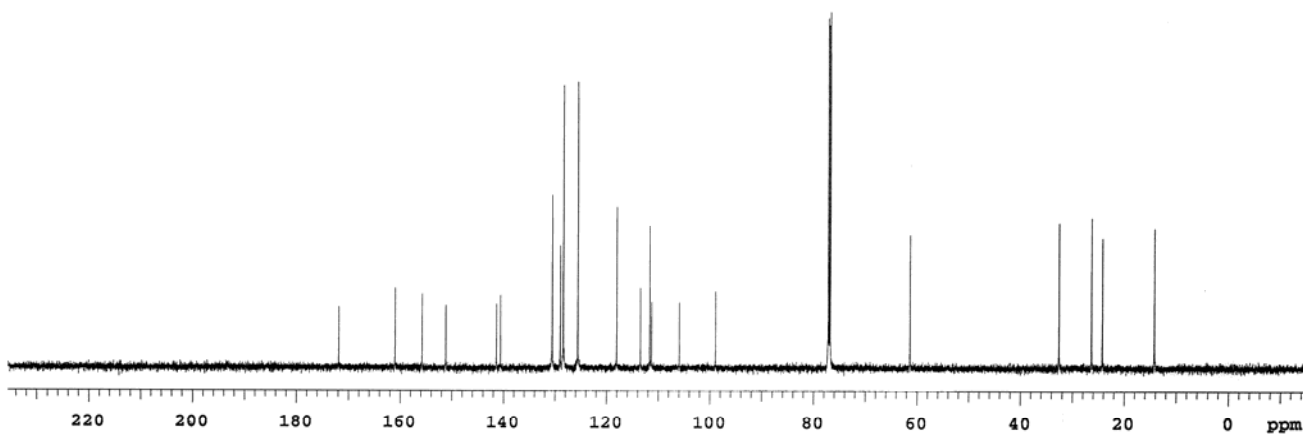
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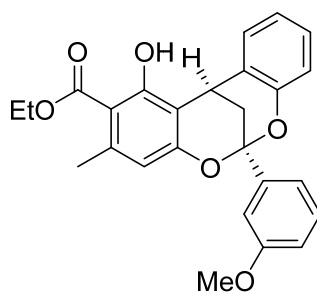
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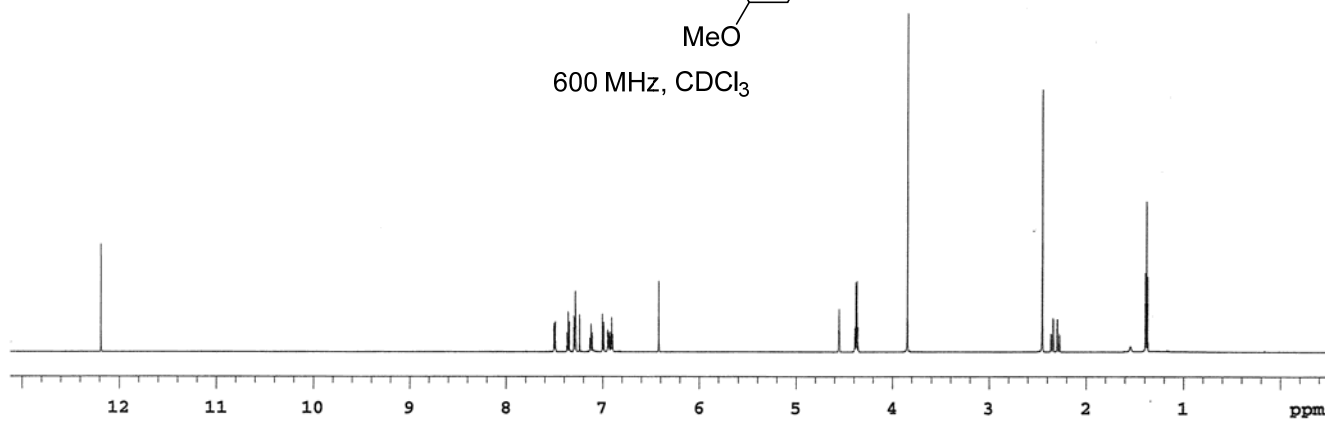
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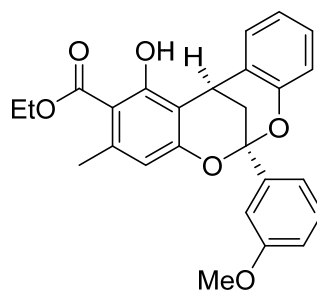
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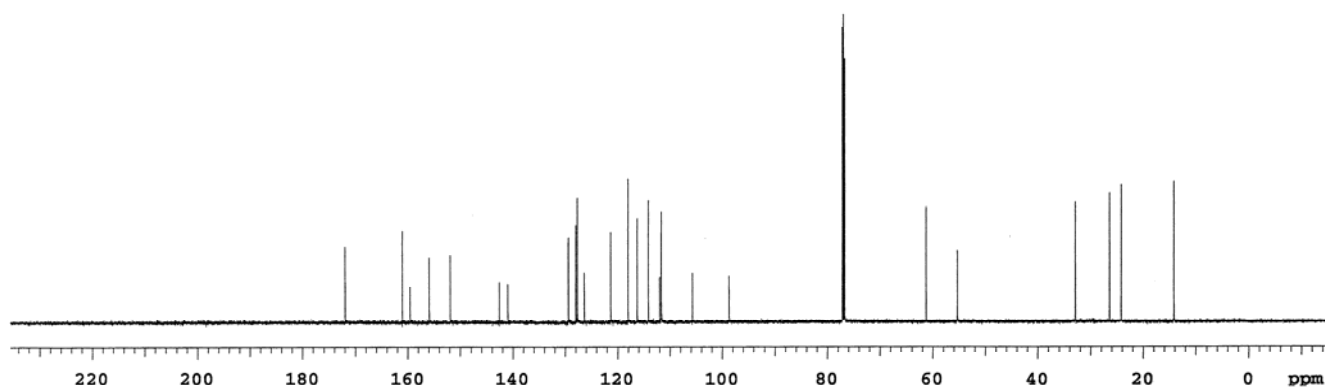
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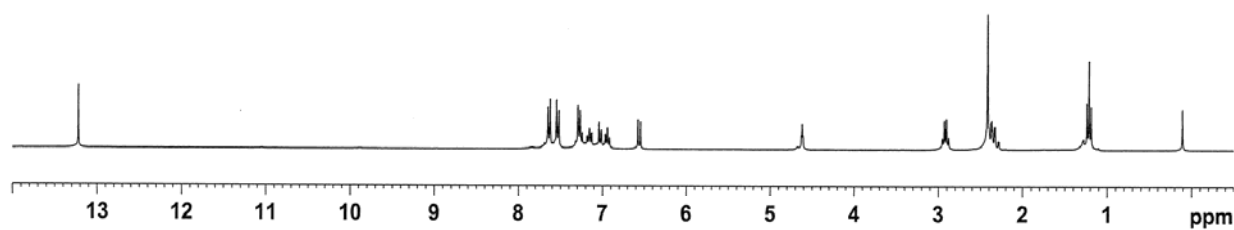
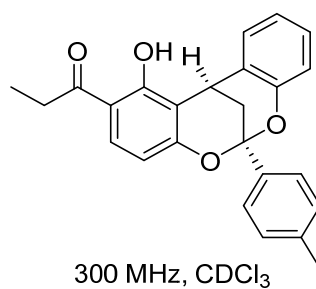
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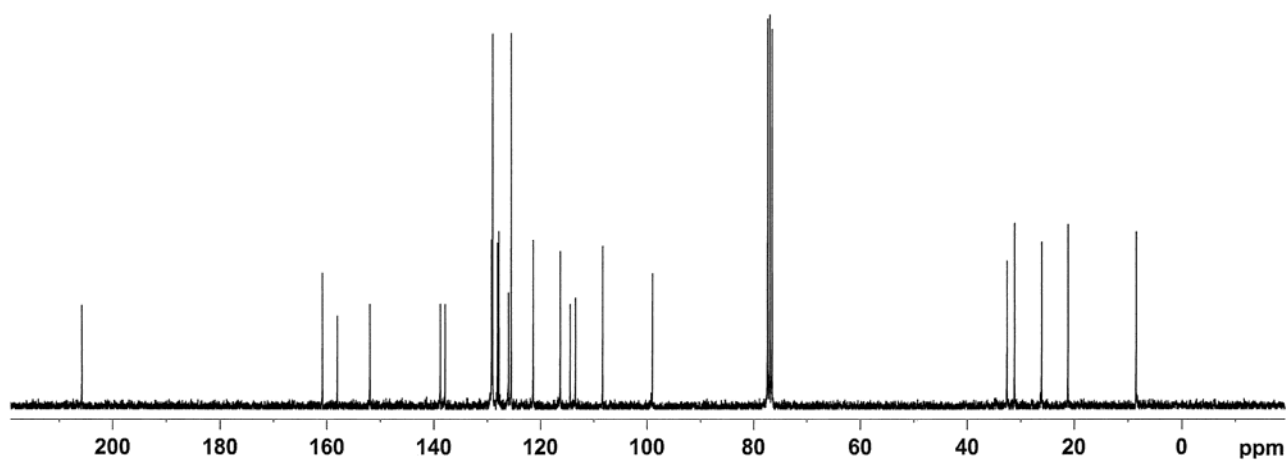
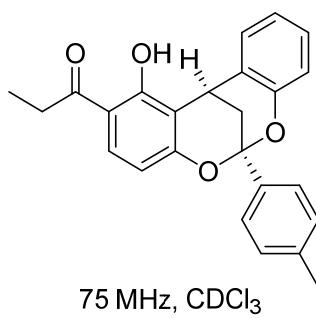
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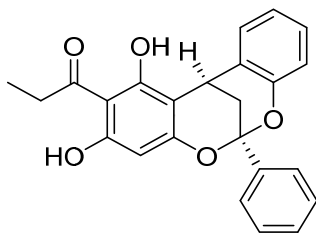
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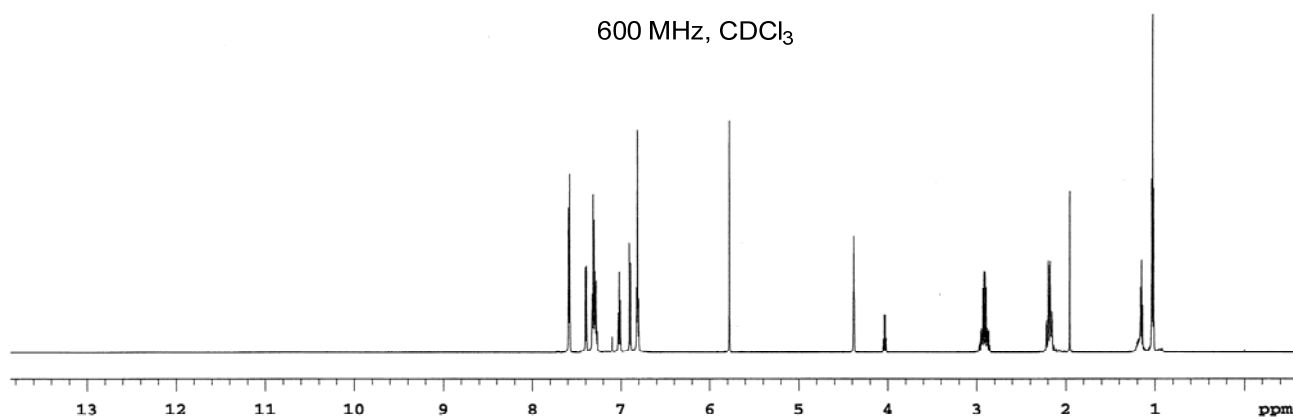
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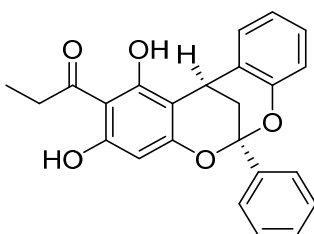
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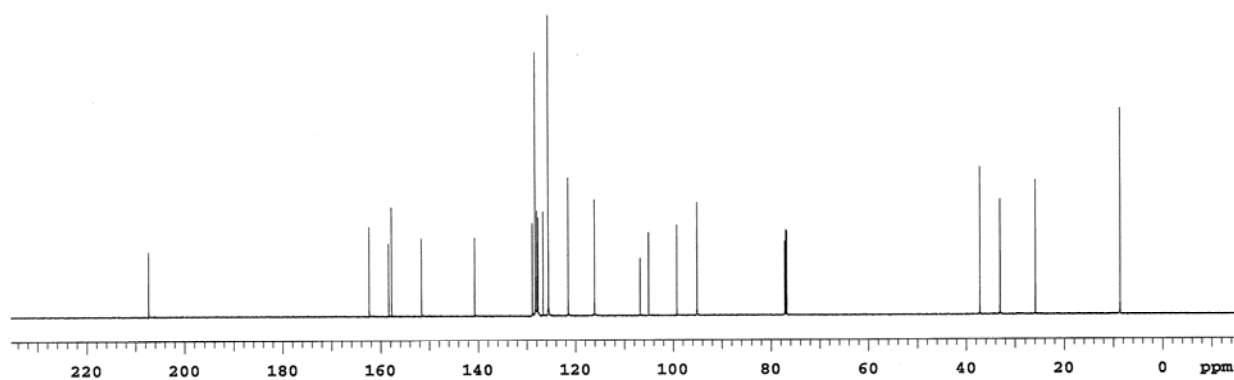
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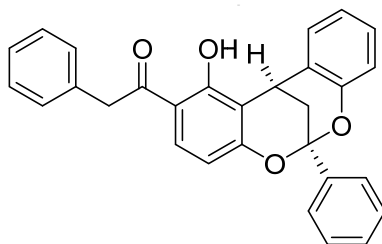
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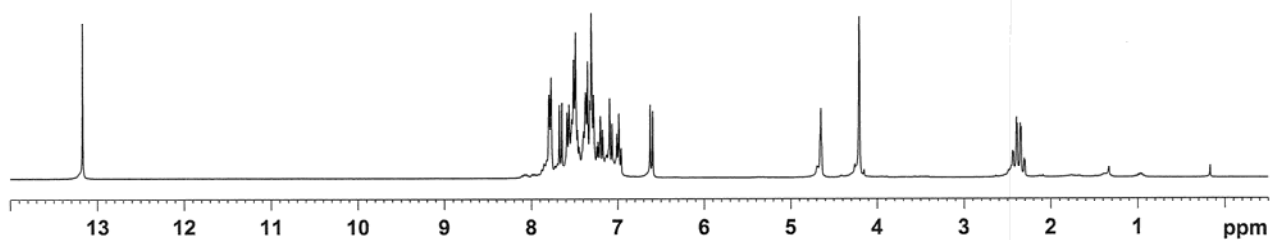
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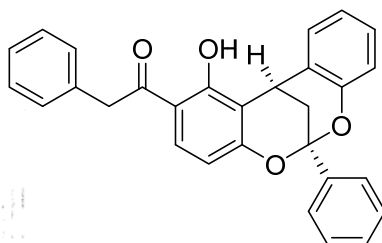
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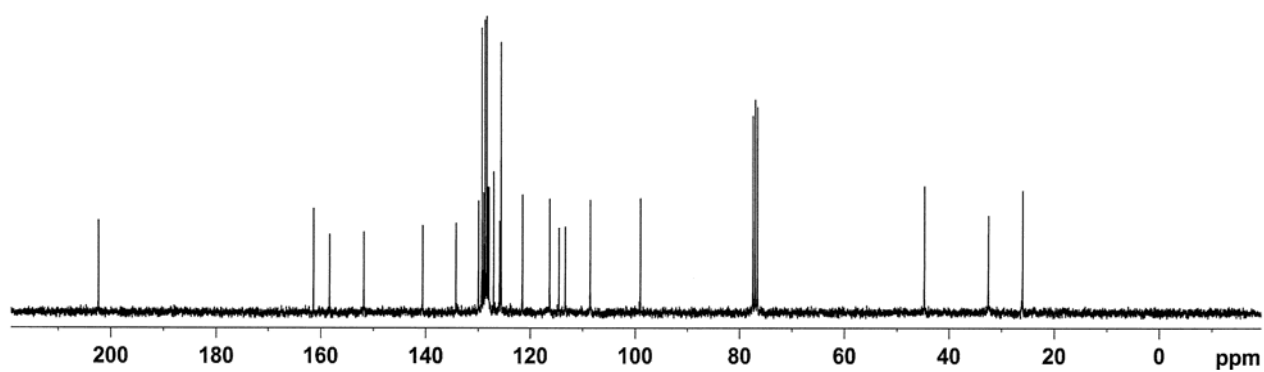
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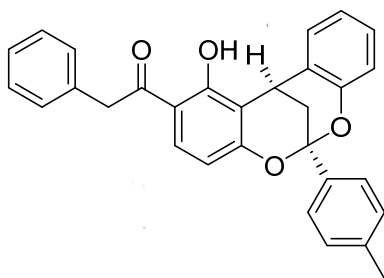
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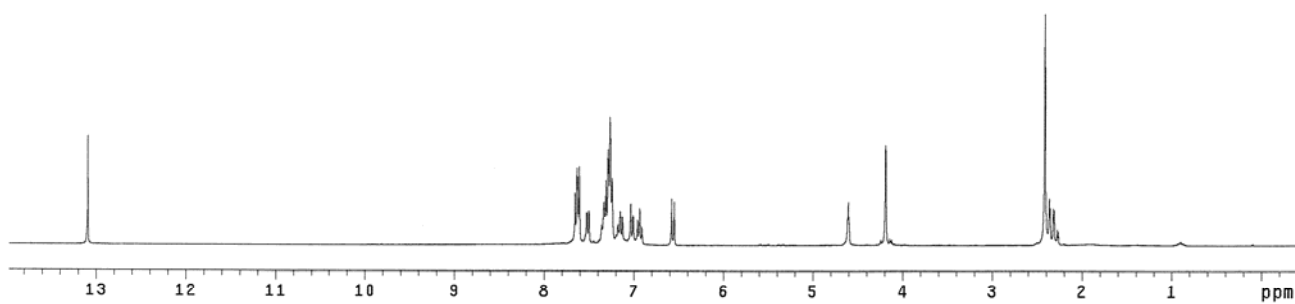
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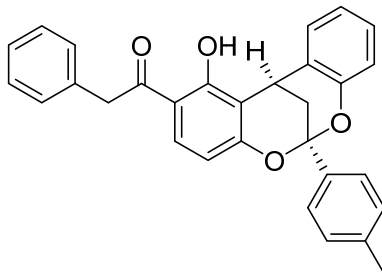
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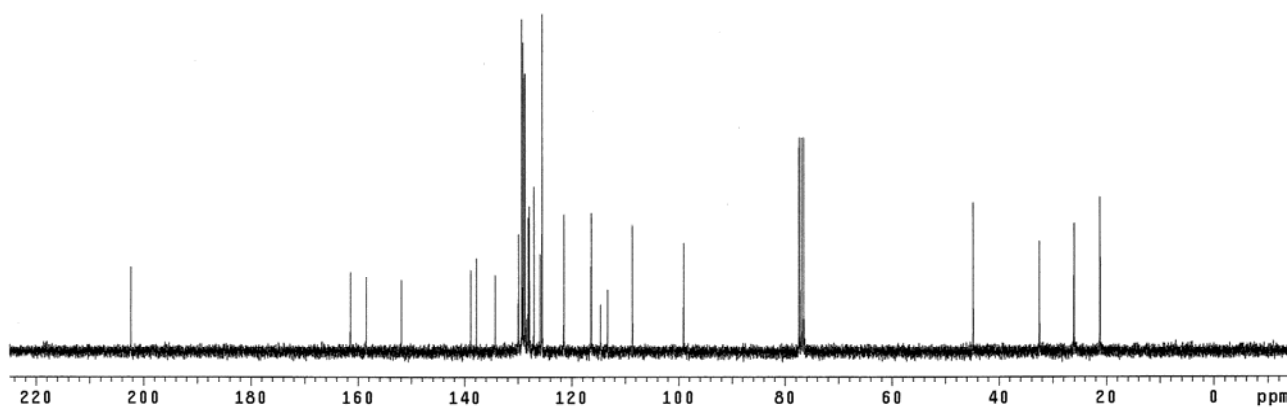
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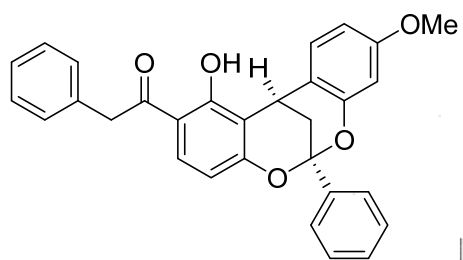
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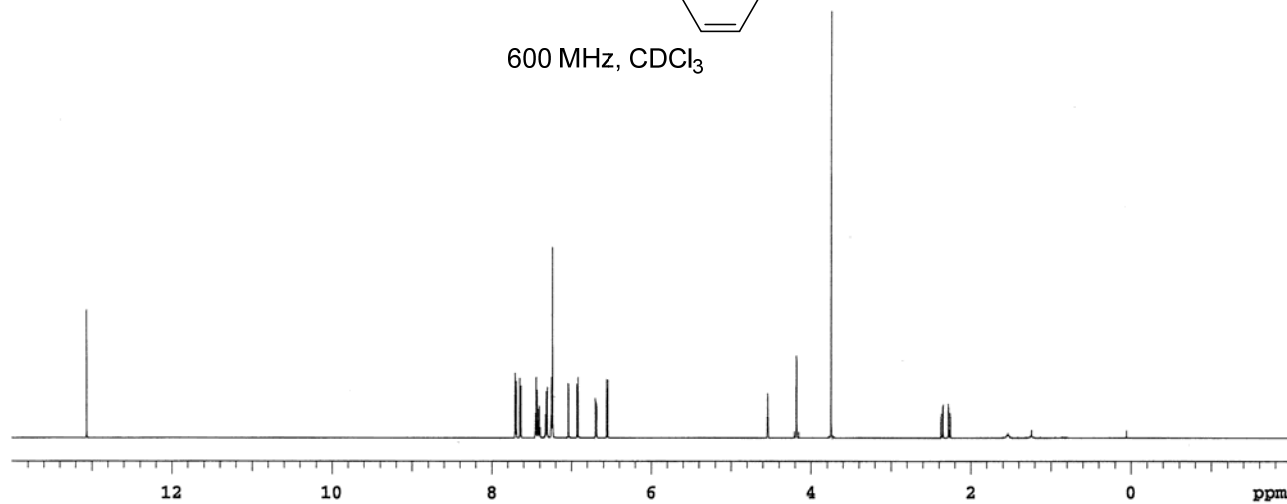
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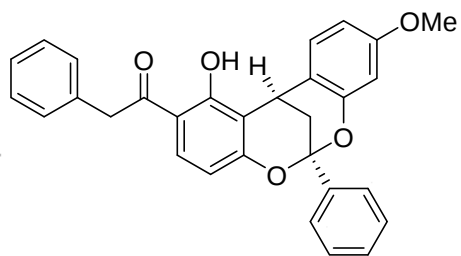
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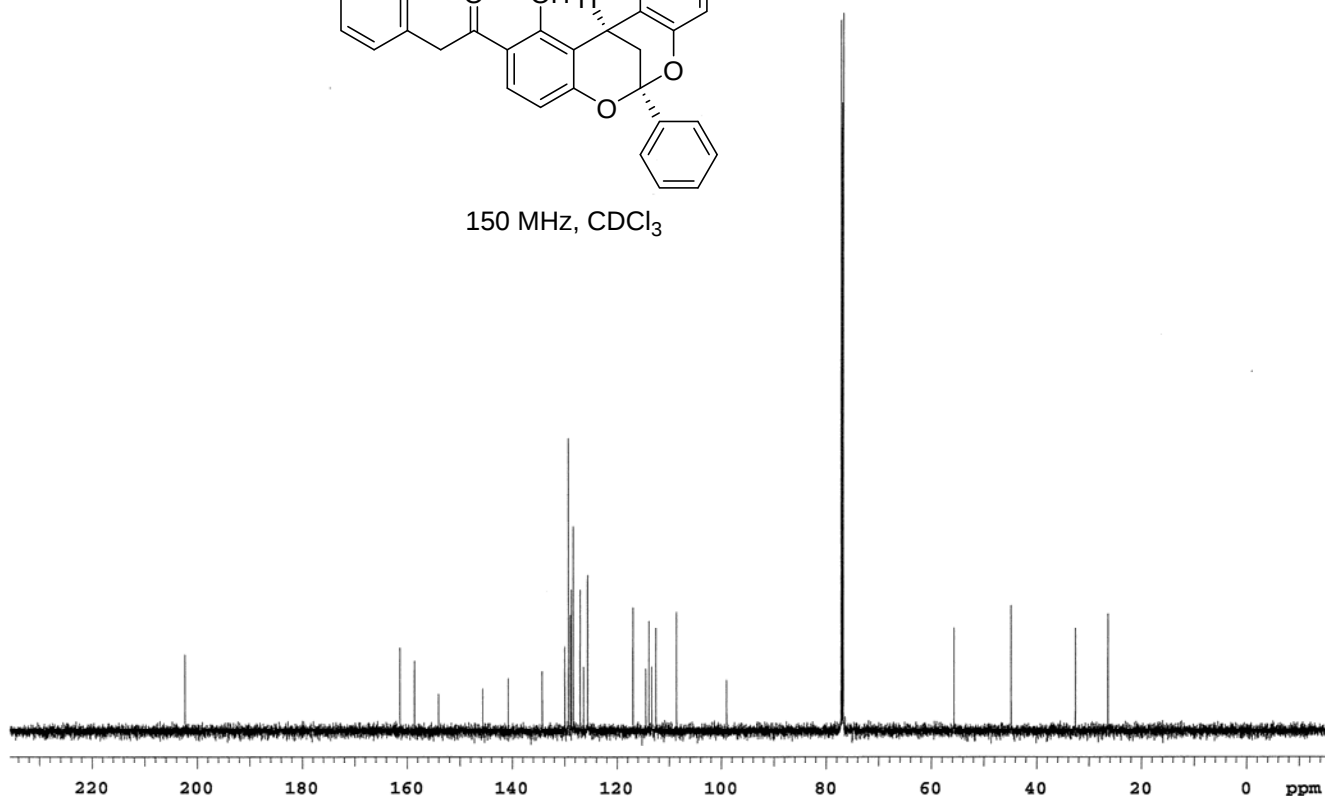
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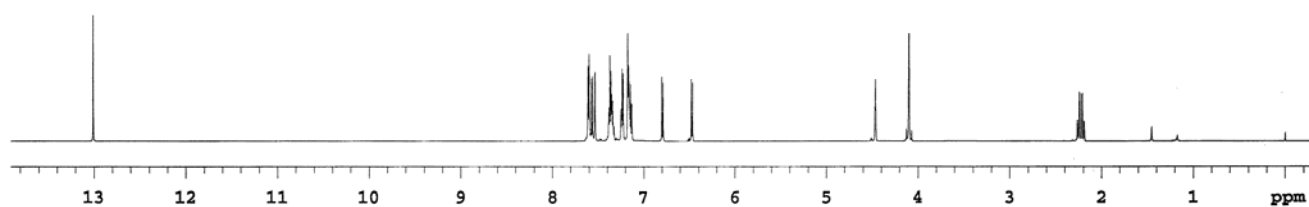
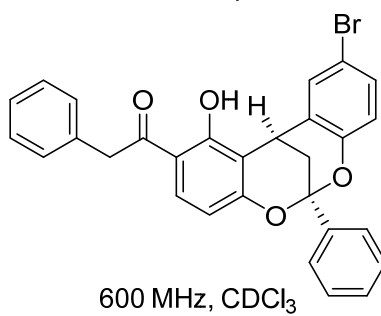
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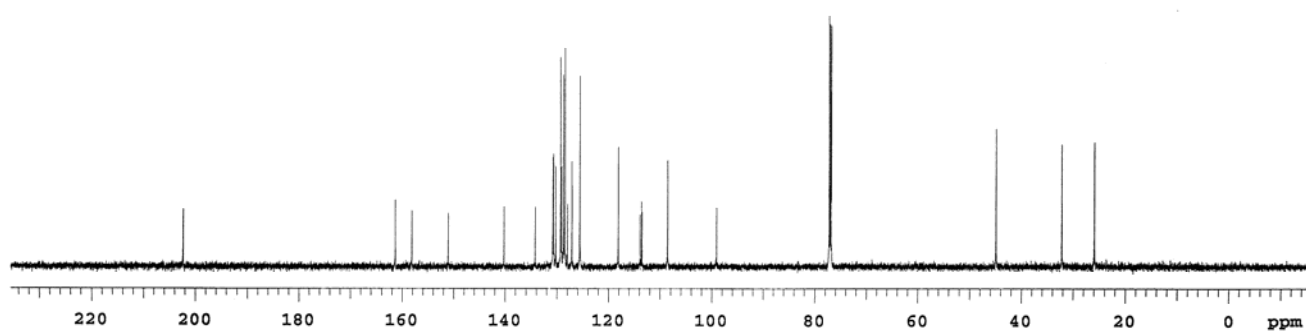
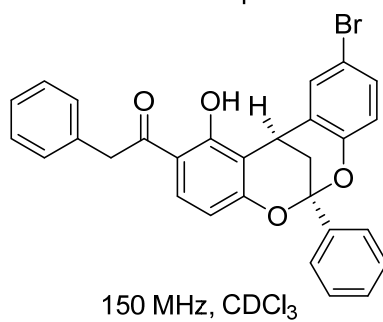
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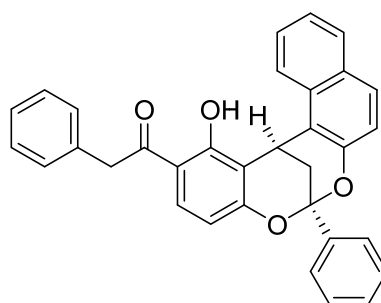
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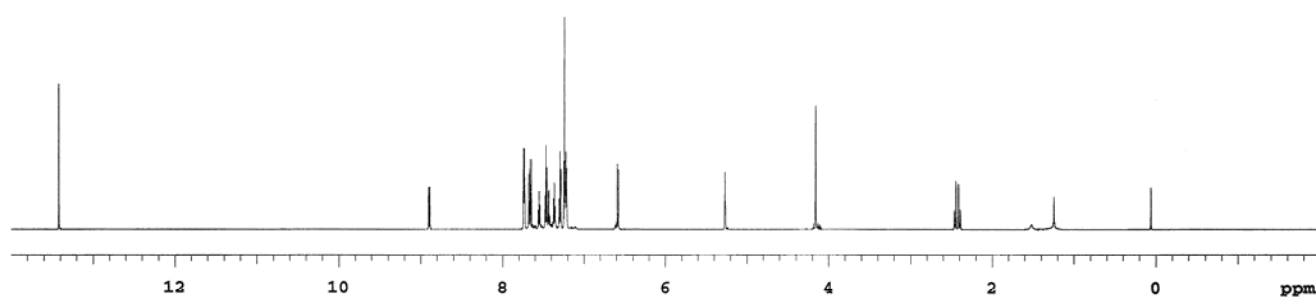
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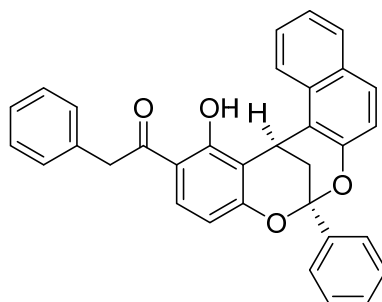
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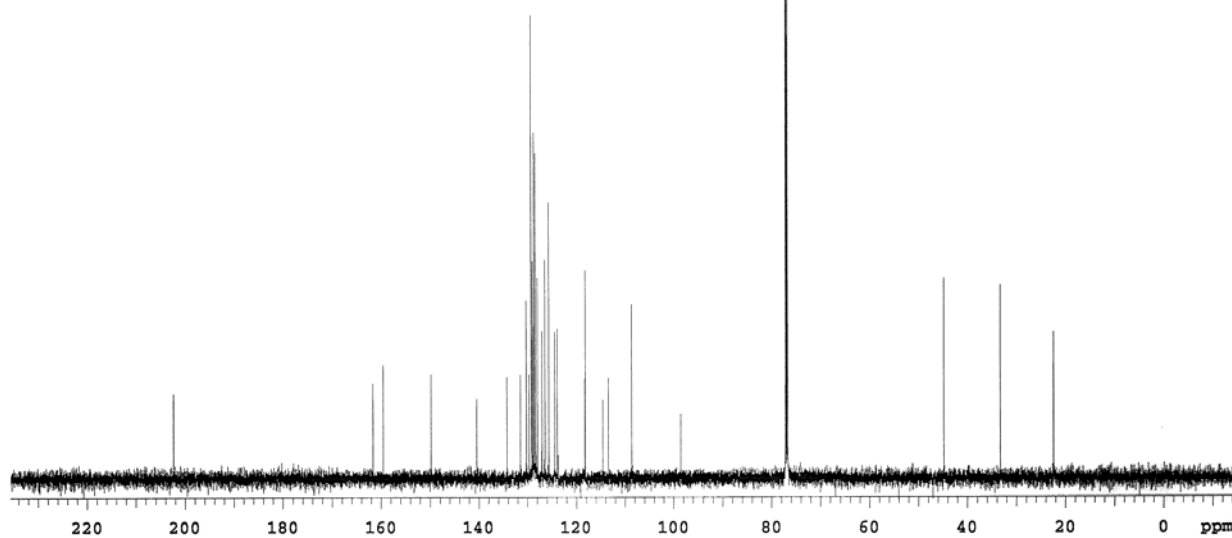
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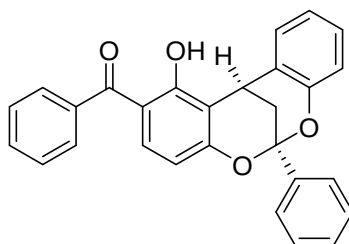
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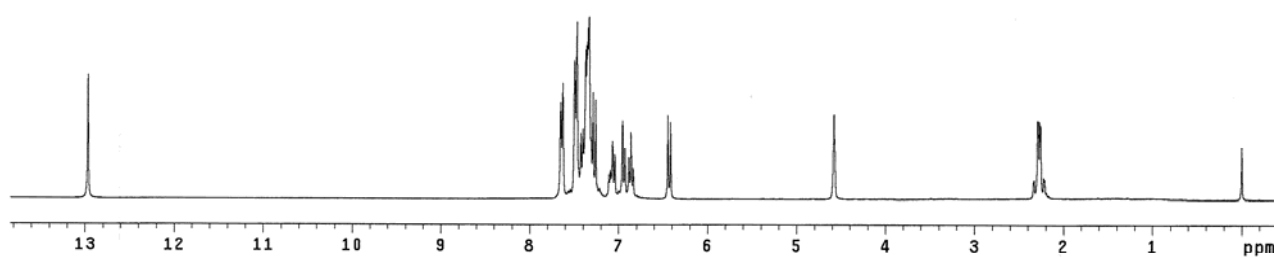
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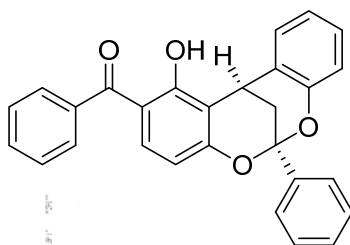
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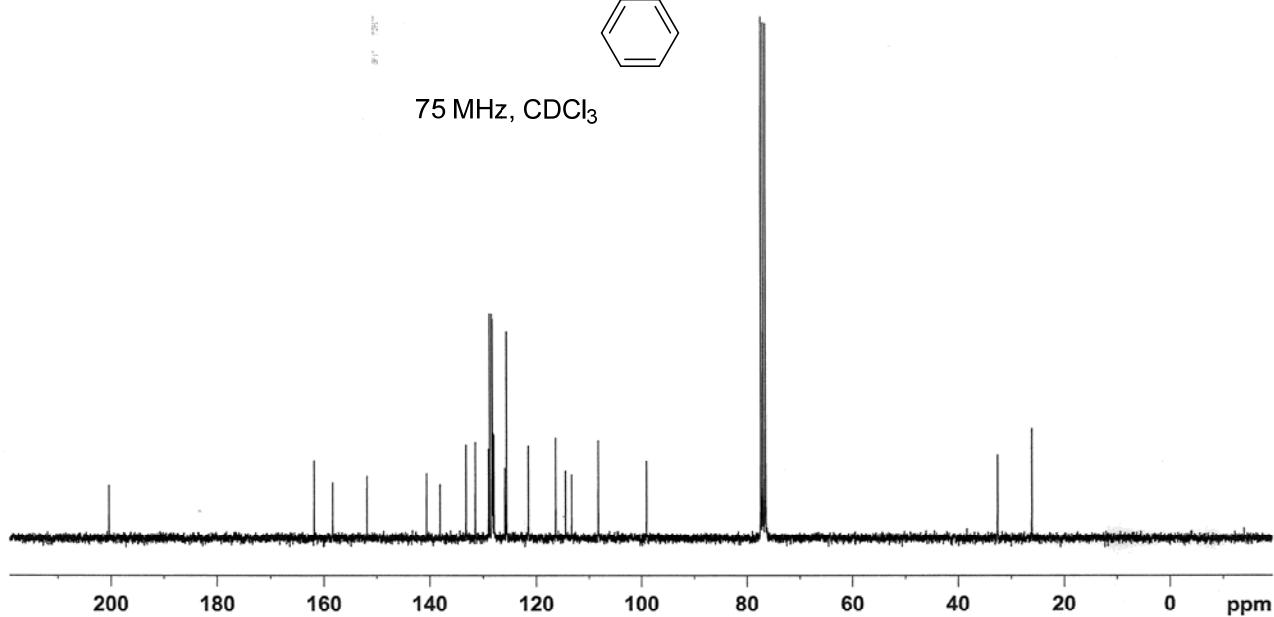
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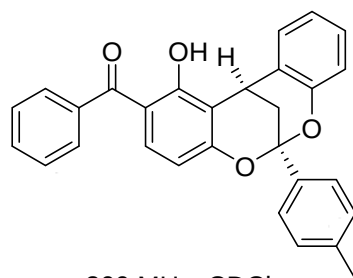
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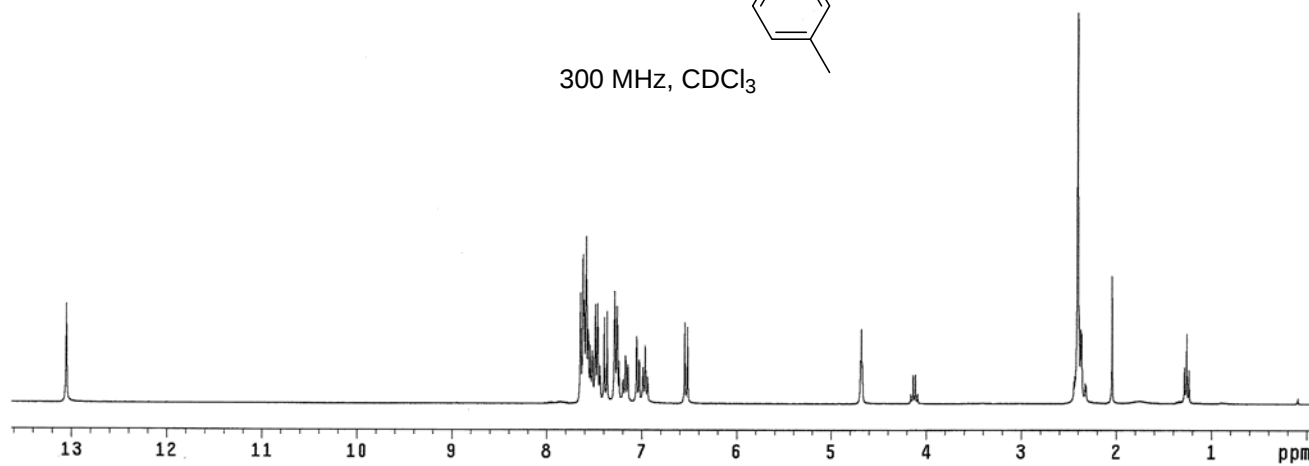
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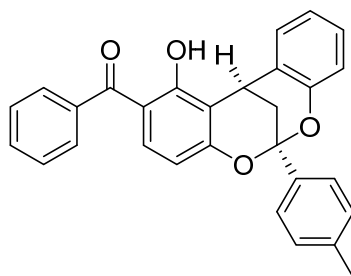
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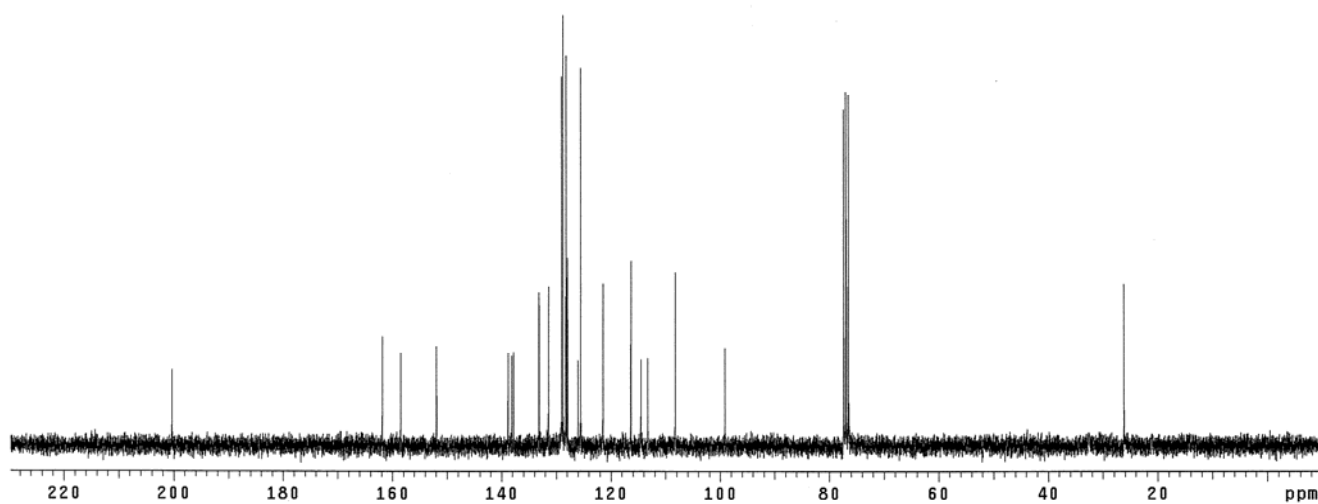
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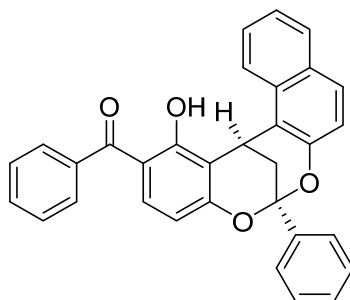
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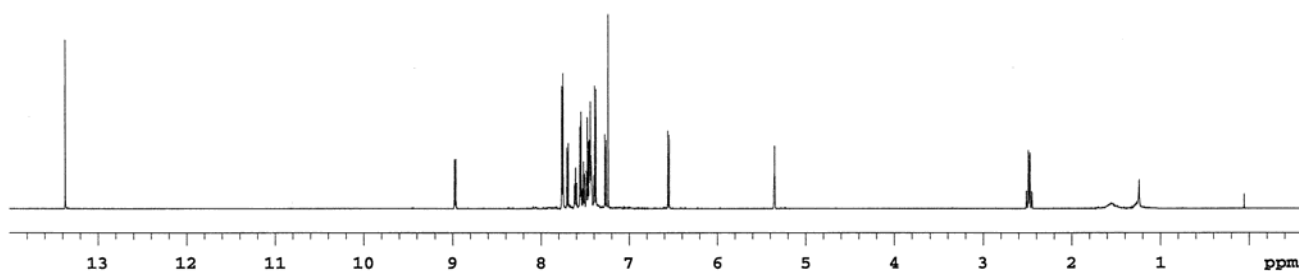
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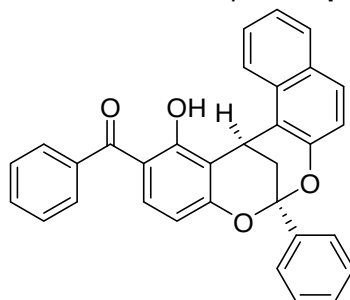
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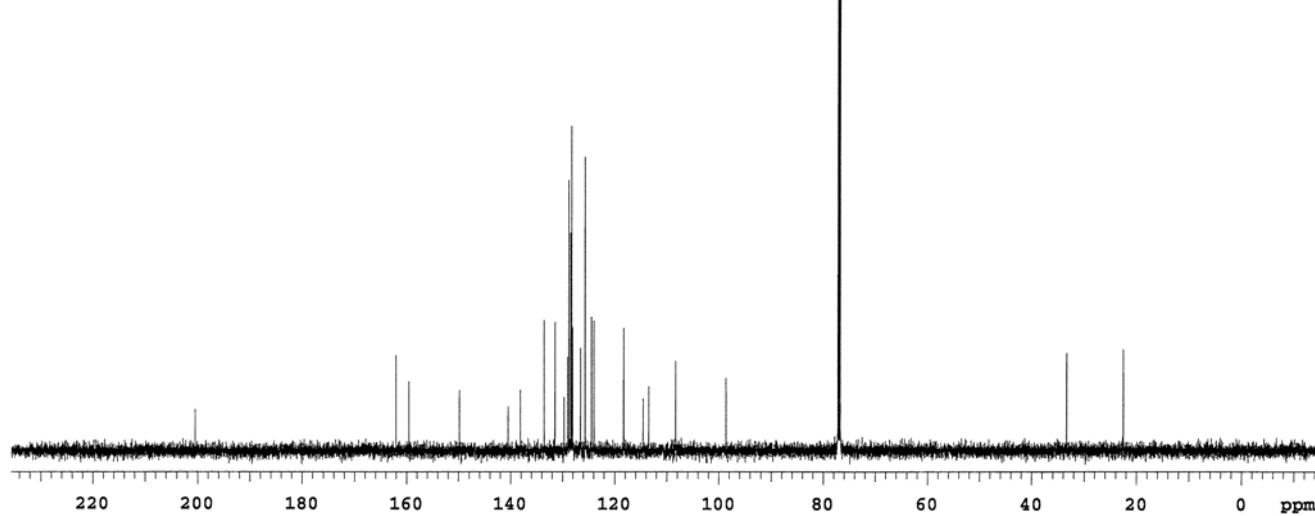
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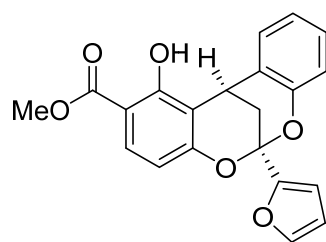
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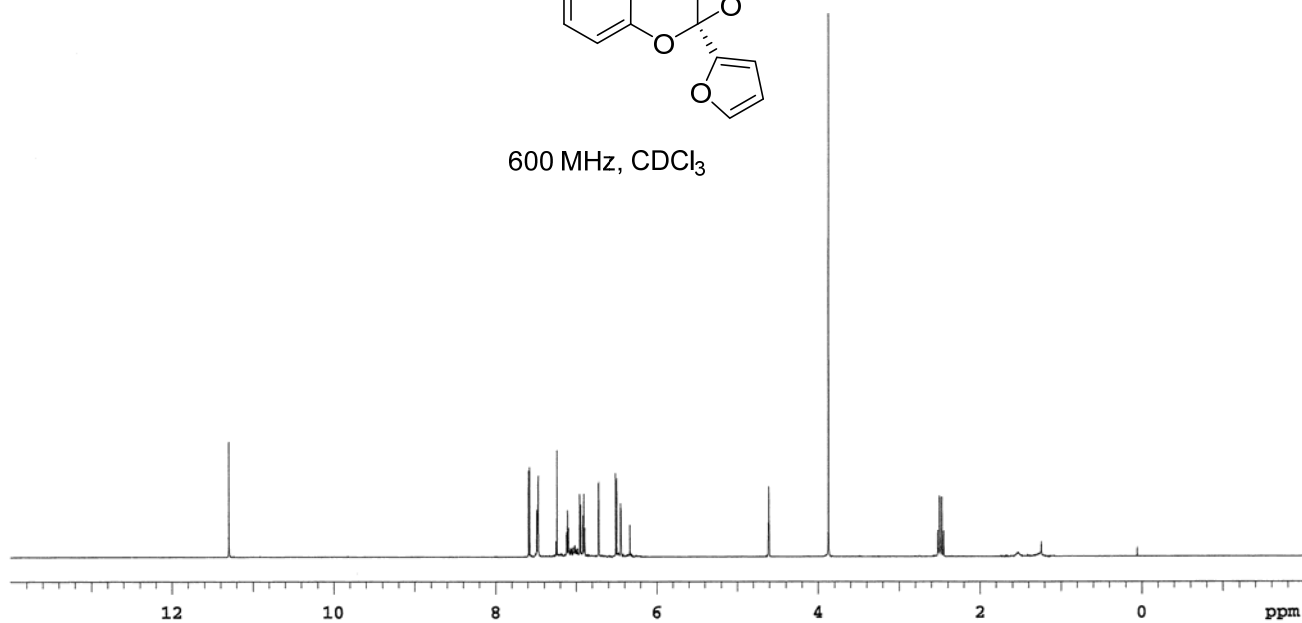
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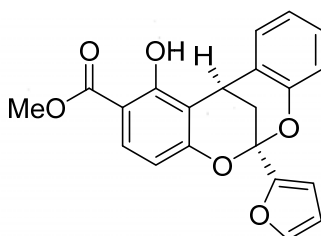
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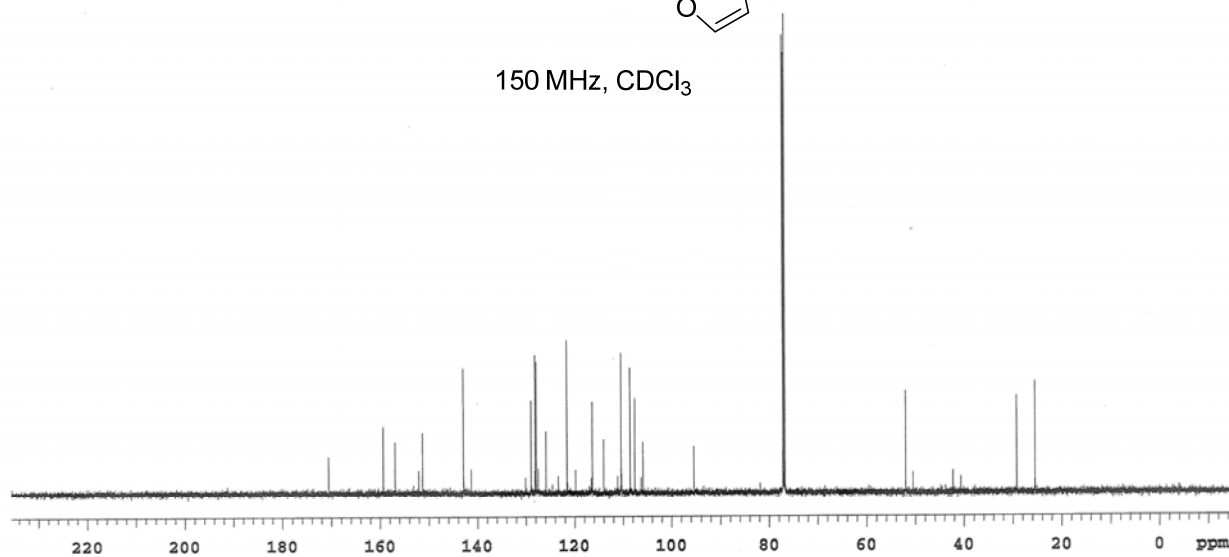
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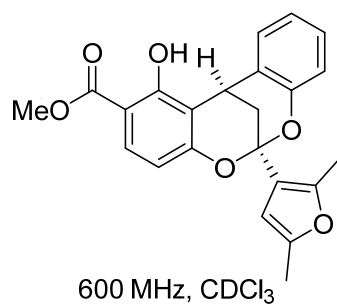
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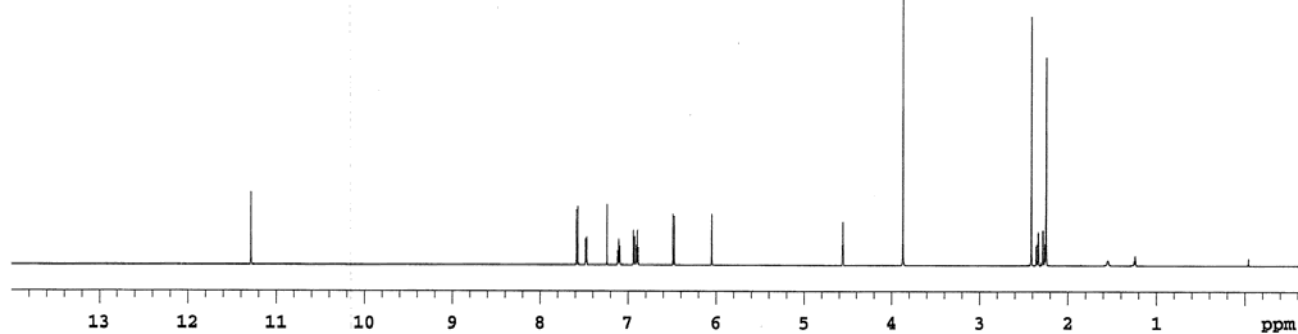
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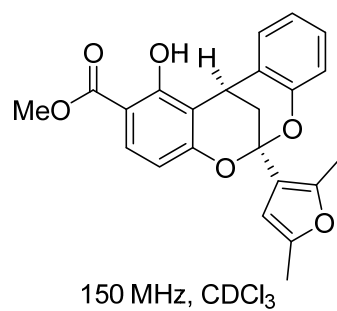
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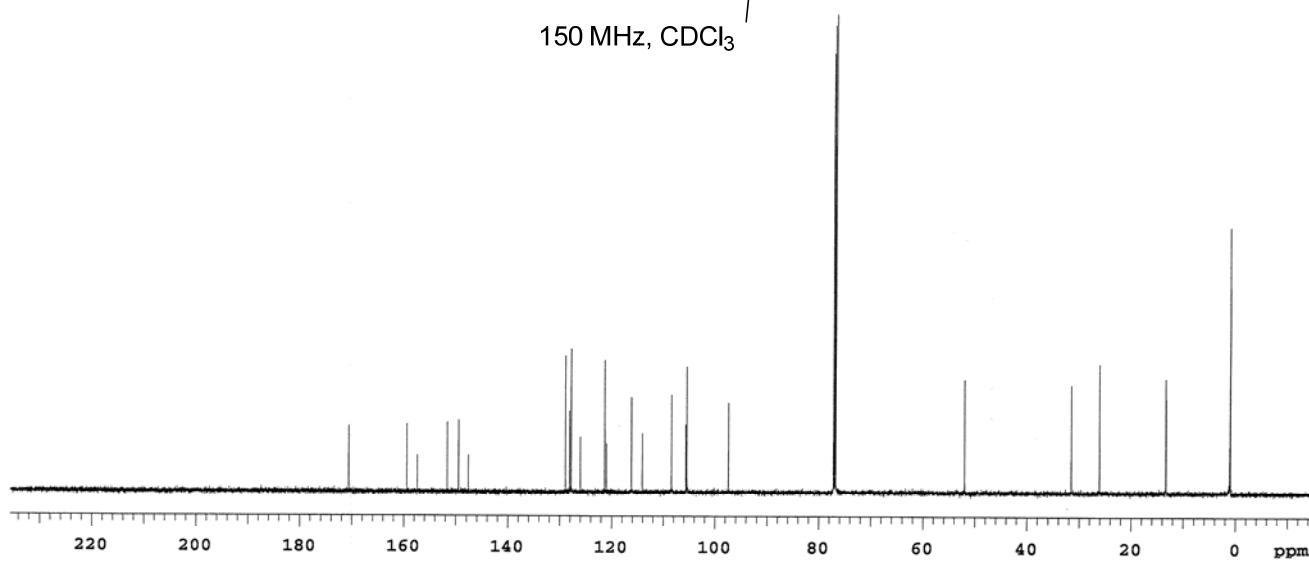
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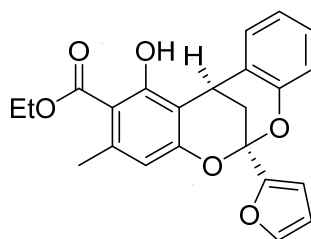
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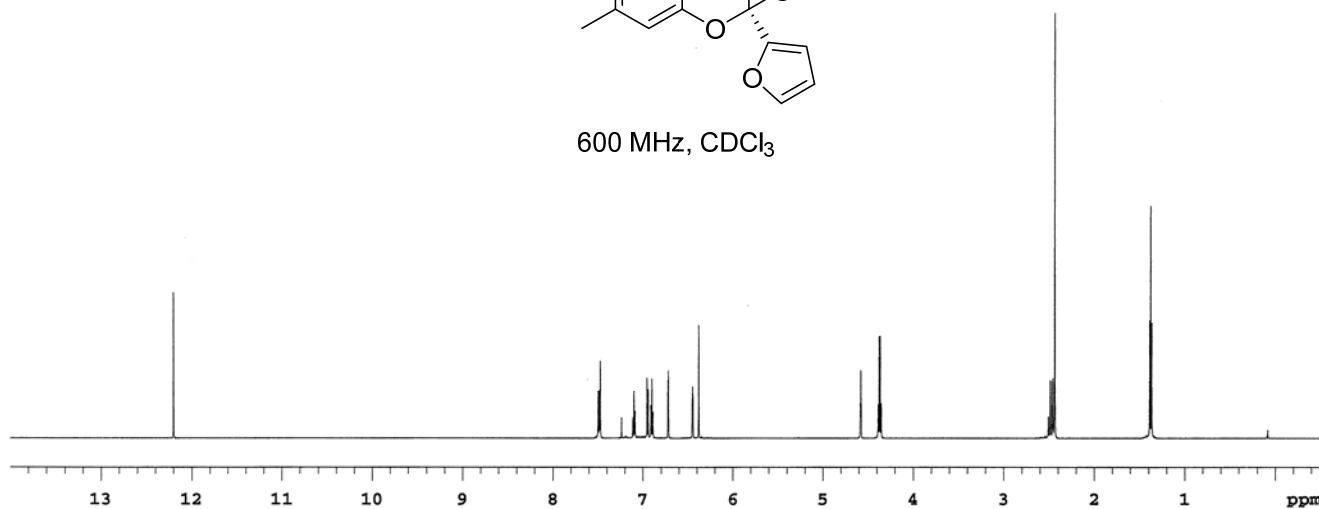
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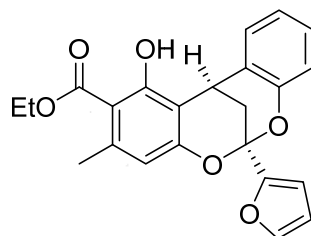
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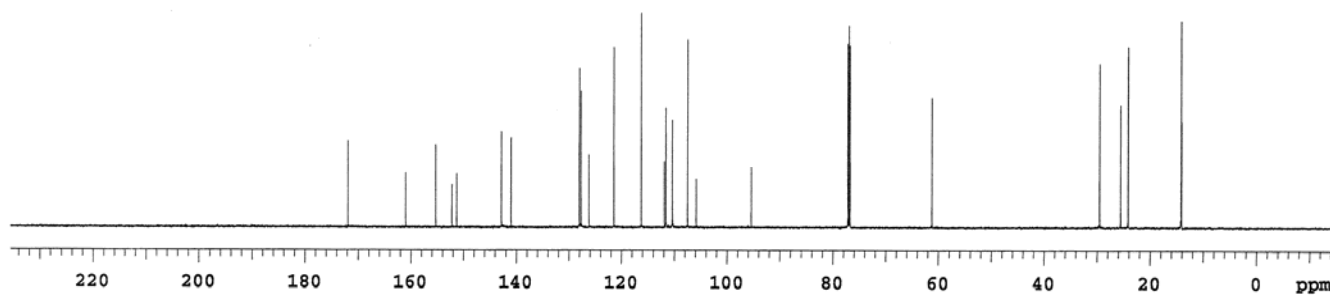
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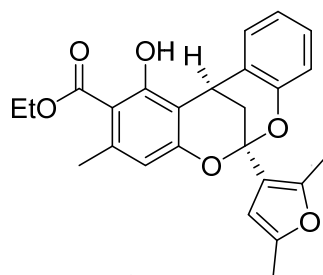
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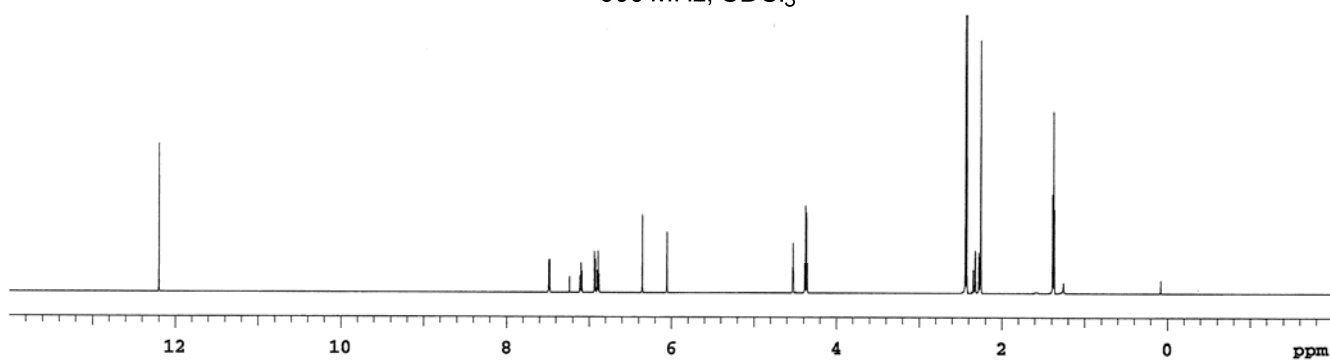
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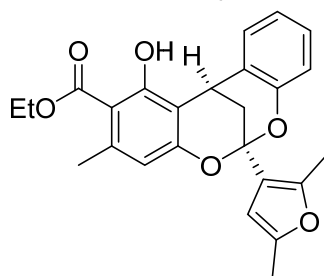
¹H NMR of Compound **9t**



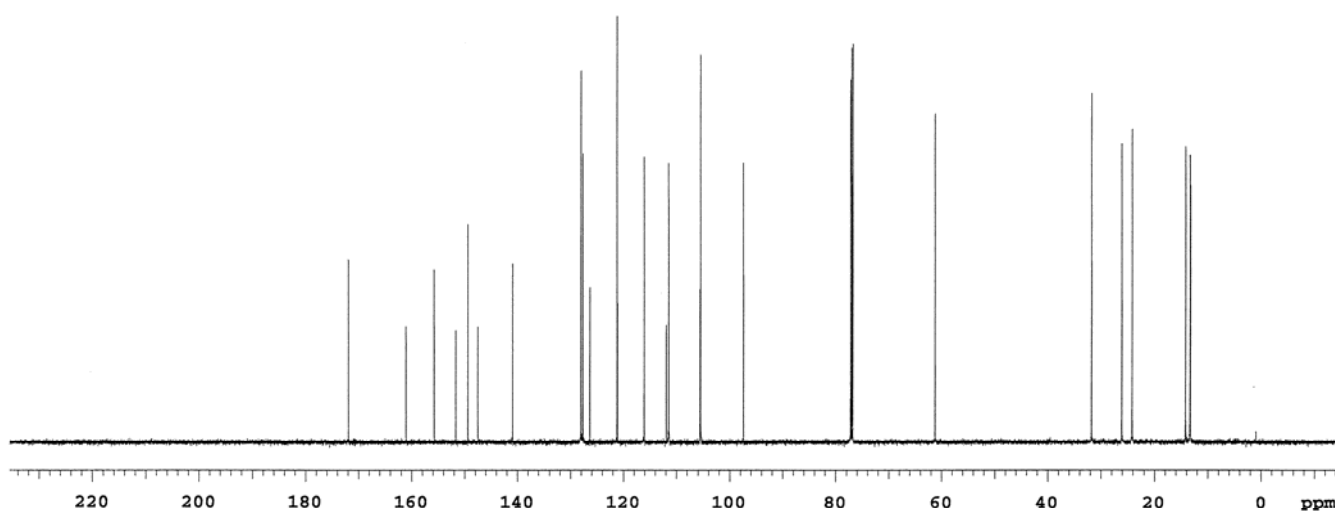
600 MHz, CDCl₃



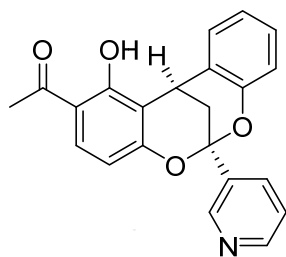
¹³C NMR of Compound **9t**



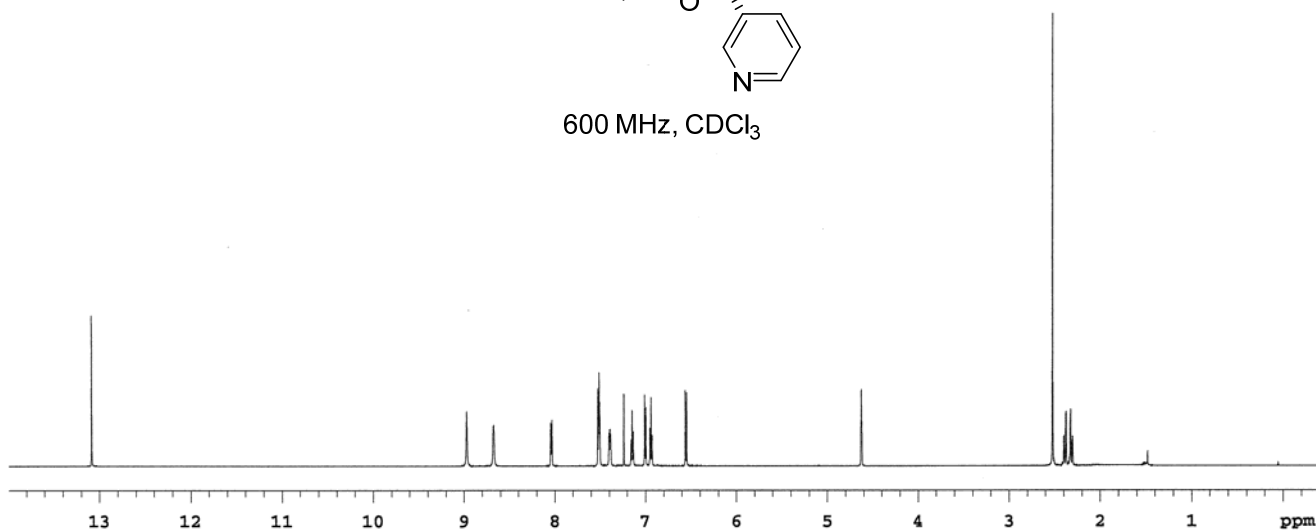
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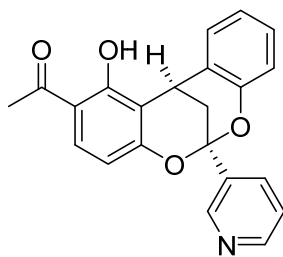
¹H NMR of Compound **9u**



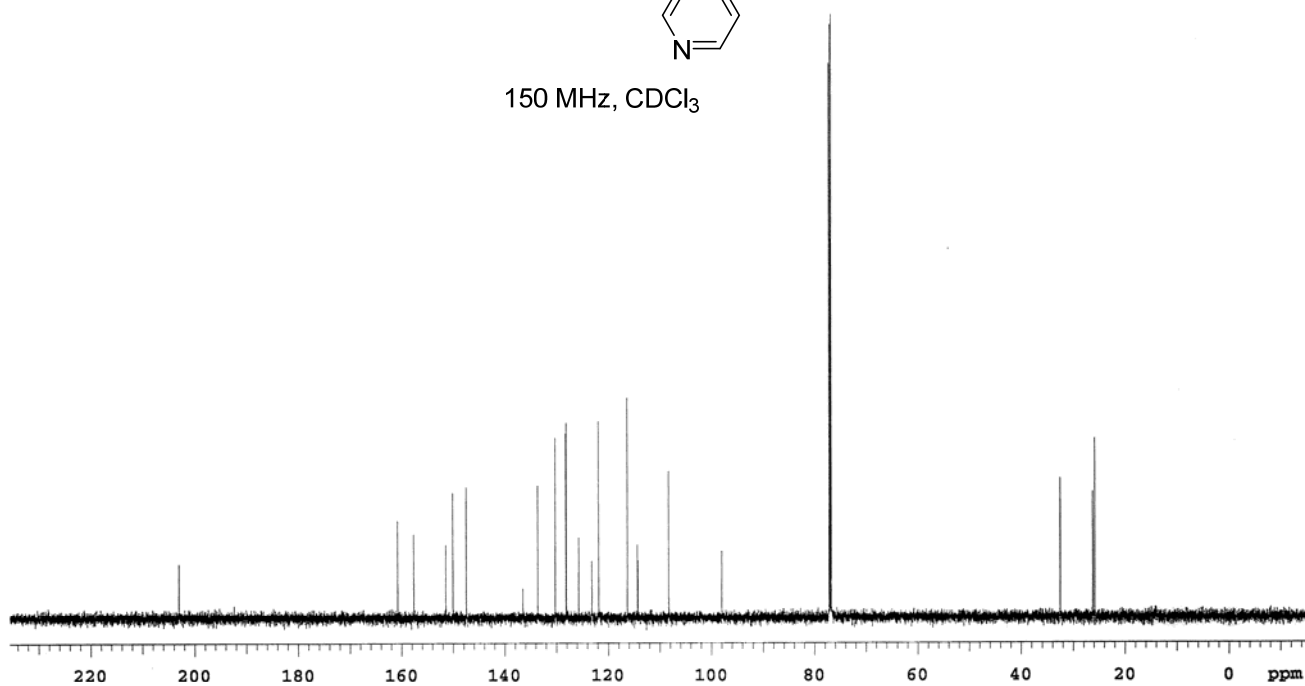
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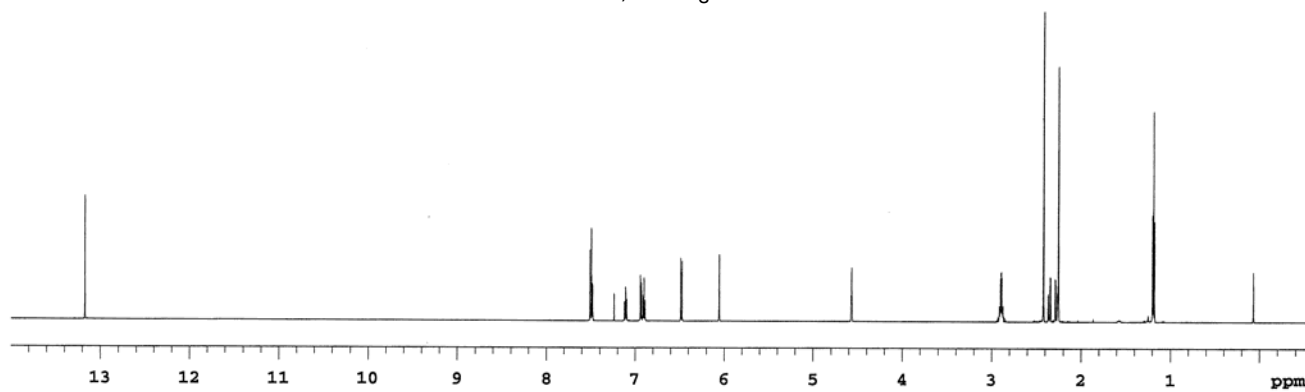
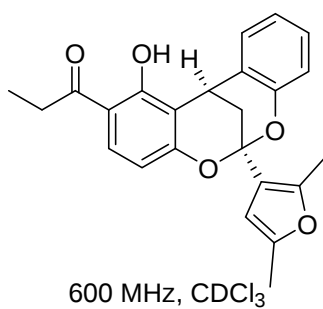
¹³C NMR of Compound **9u**



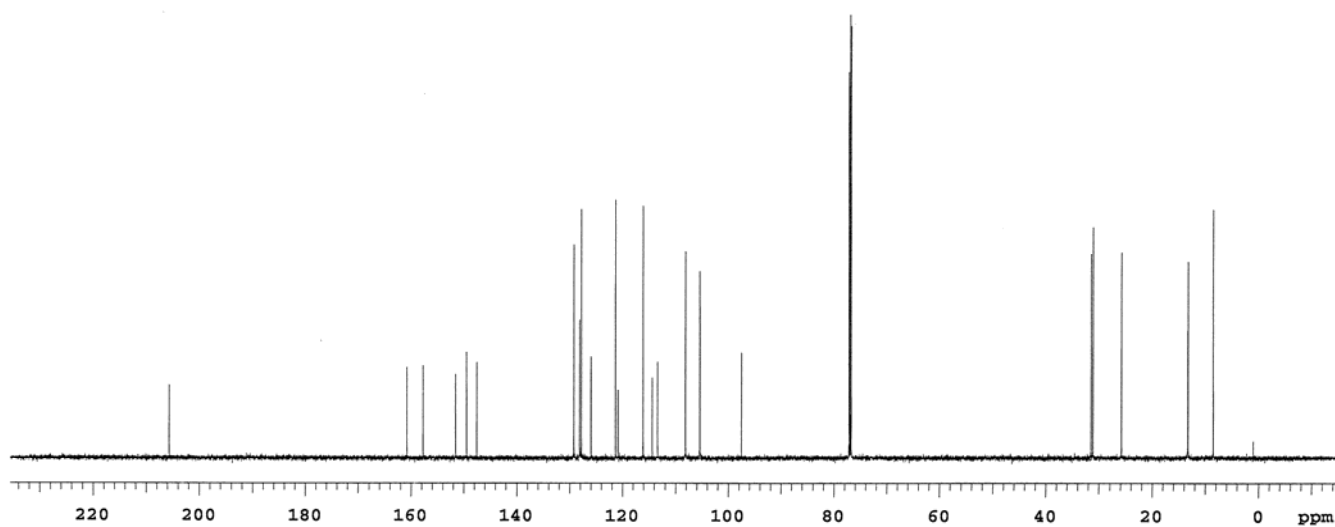
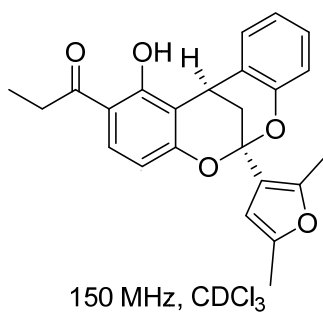
150 MHz, CDCl₃



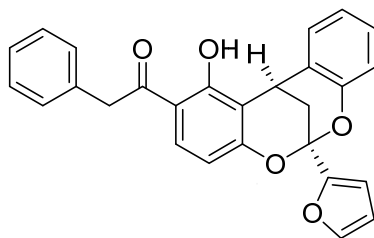
¹H NMR of Compound **9v**



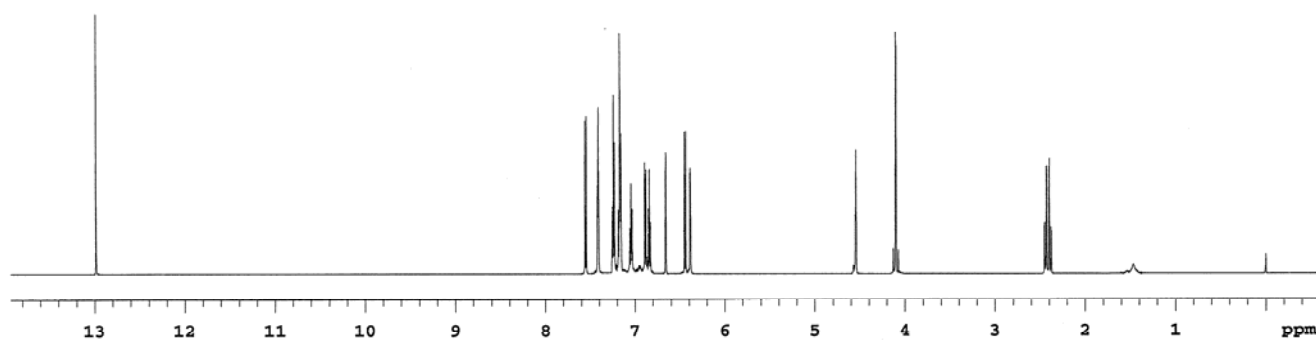
¹³C NMR of Compound **9v**



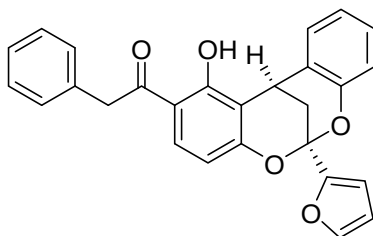
¹H NMR of Compound **9w**



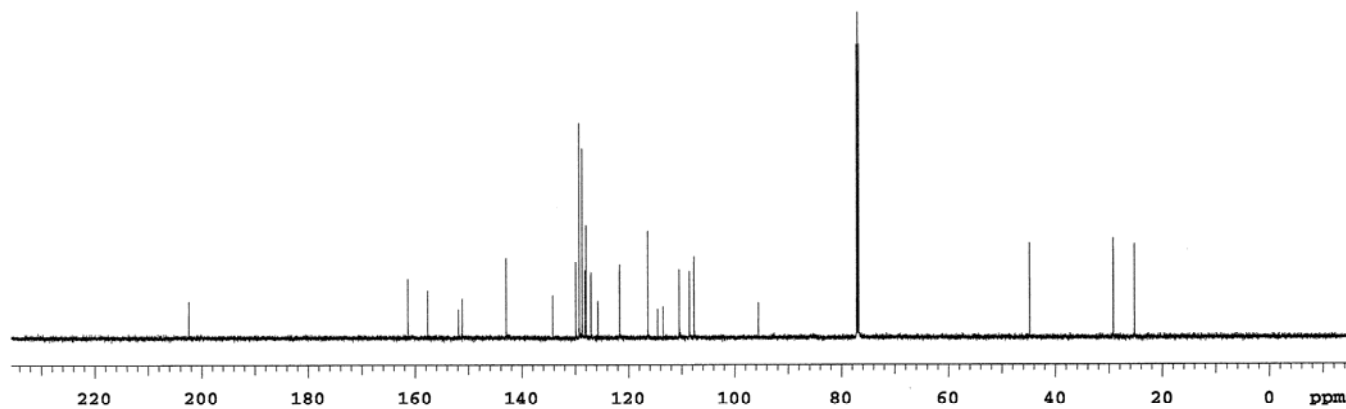
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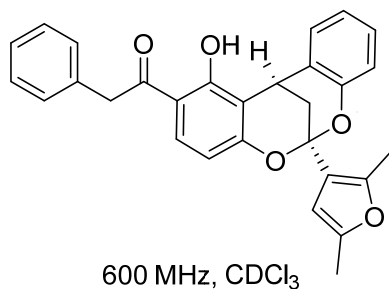
¹³C NMR of Compound **9w**



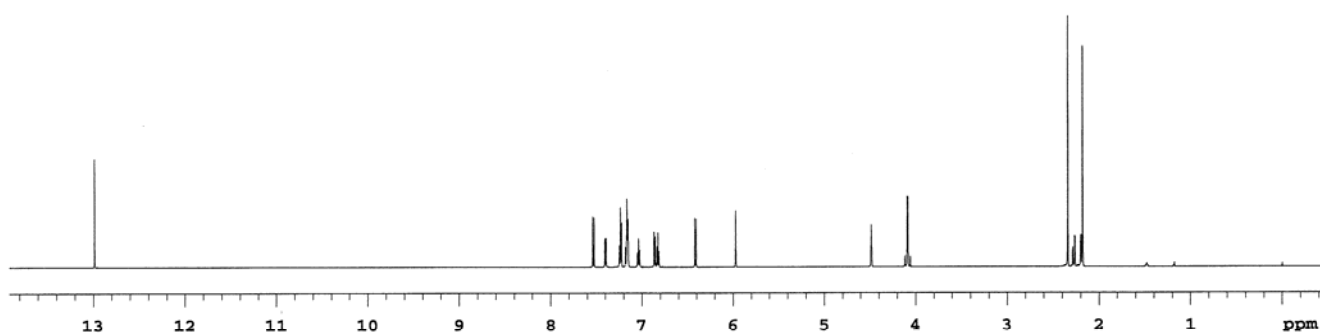
150 MHz, CDCl₃



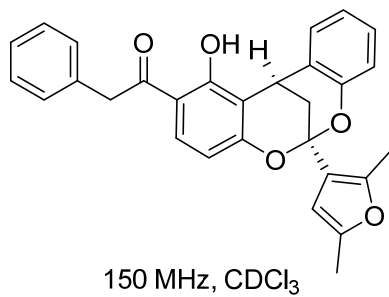
¹H NMR of Compound **9x**



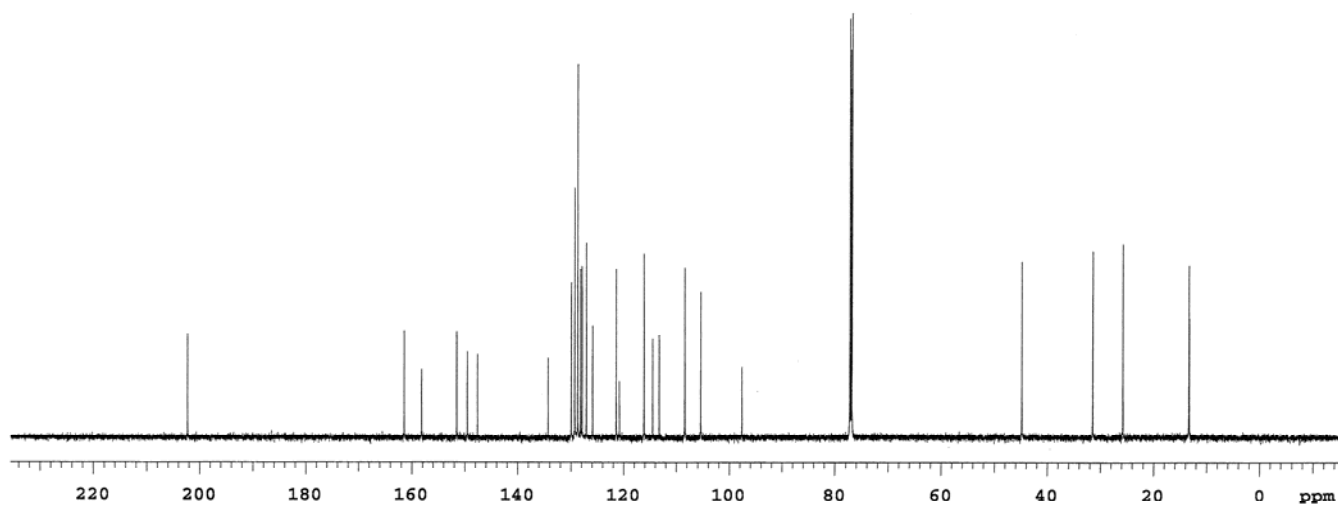
600 MHz, CDCl₃



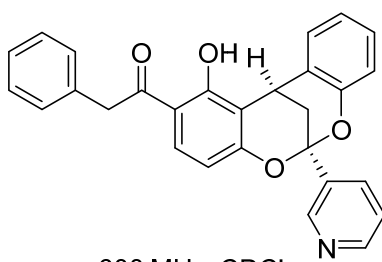
¹³C NMR of Compound **9x**



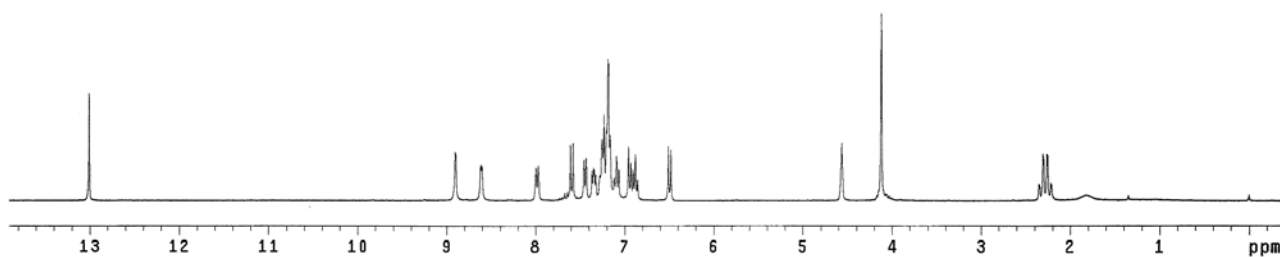
150 MHz, CDCl₃



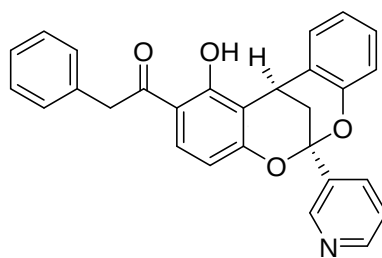
¹H NMR of Compound **9y**



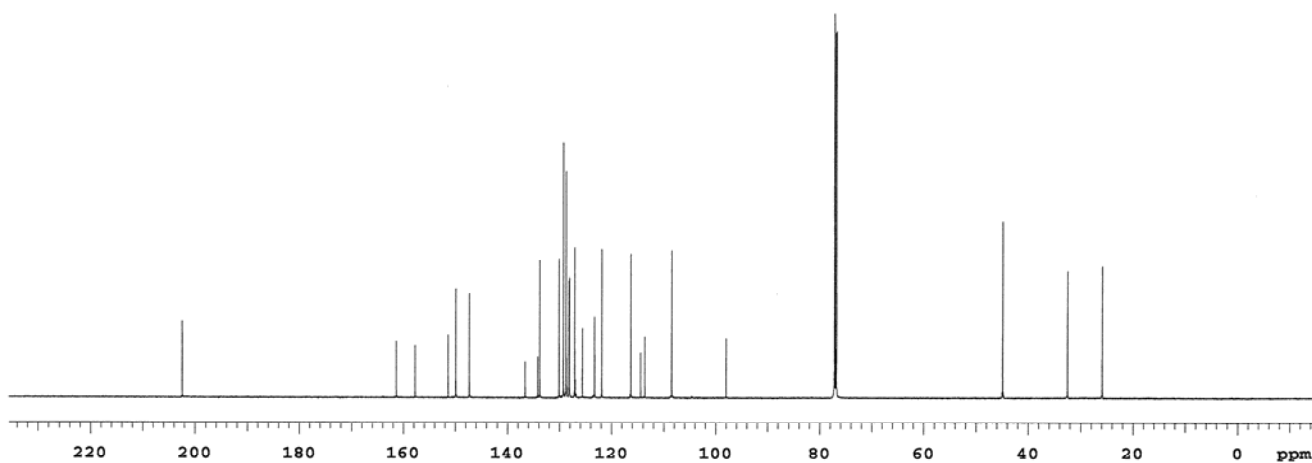
600 MHz, CDCl₃



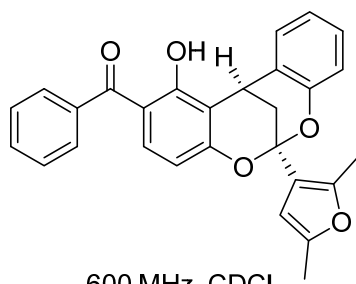
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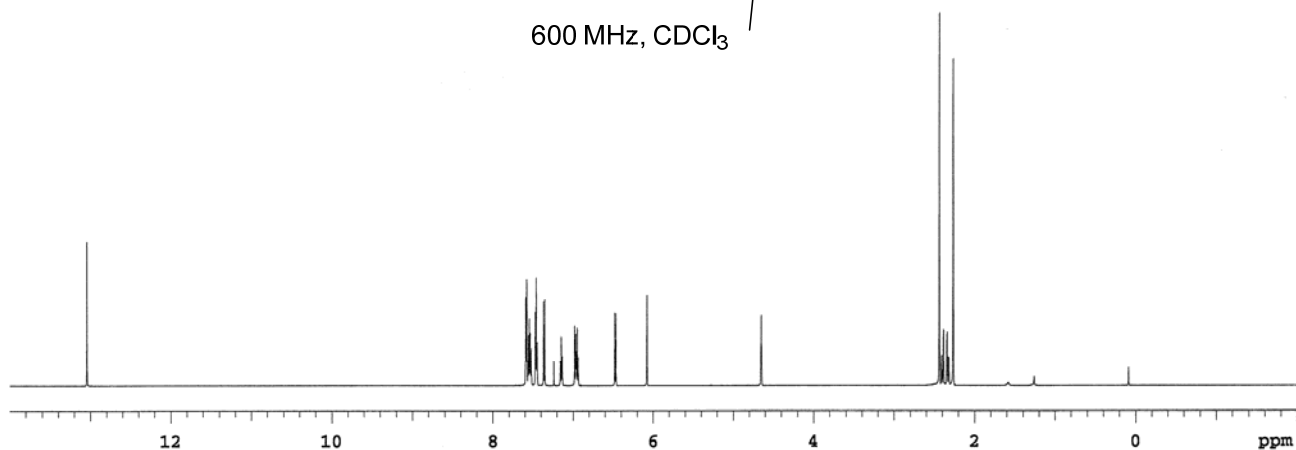
150 MHz, CDCl₃



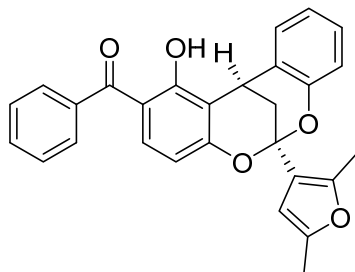
¹H NMR of Compound **9z**



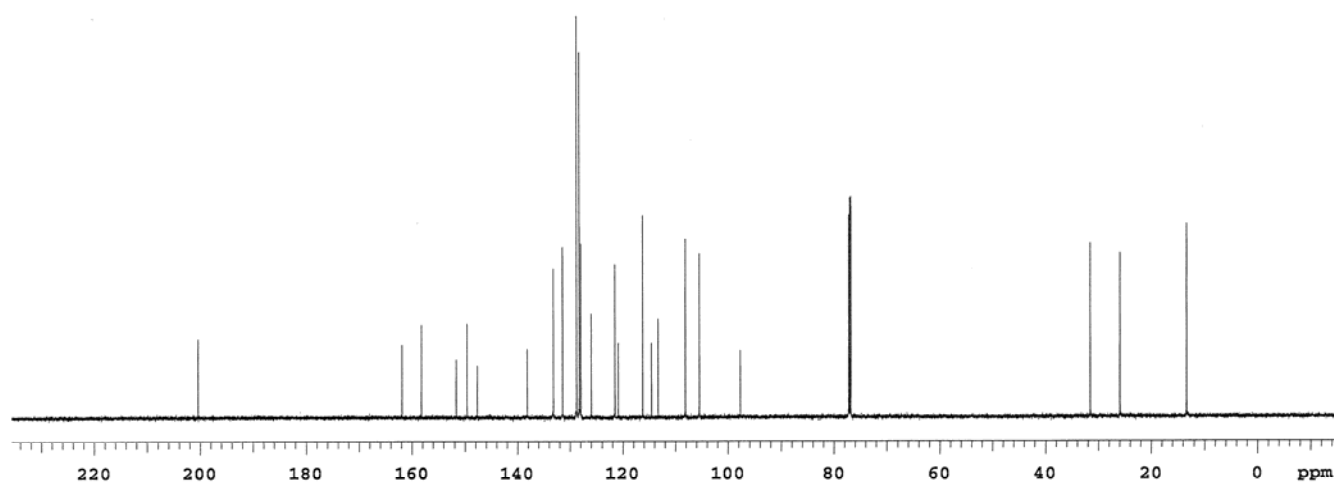
600 MHz, CDCl₃



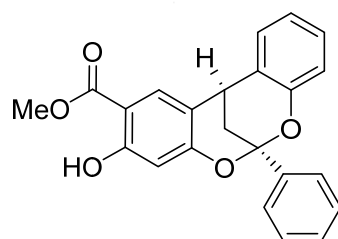
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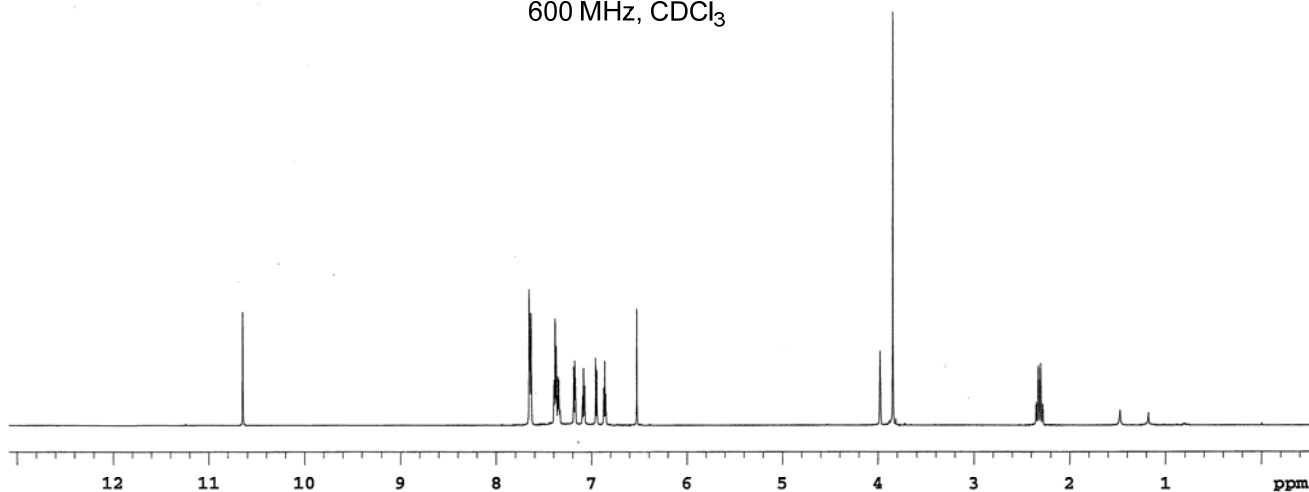
150 MHz, CDCl₃



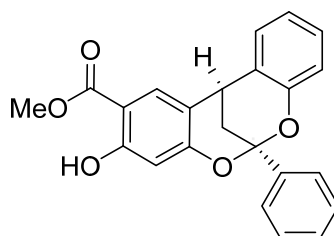
¹H NMR of Compound **10a**



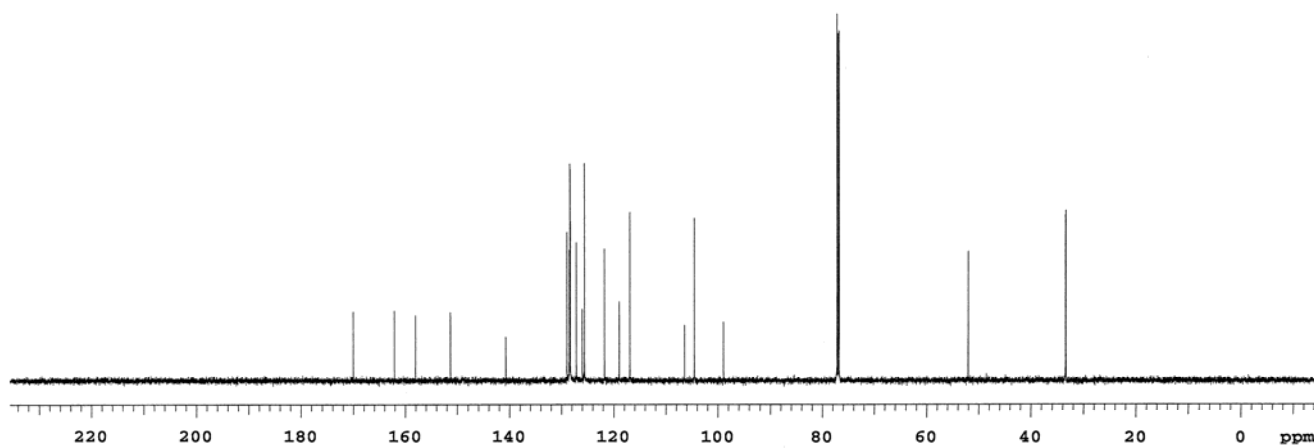
600 MHz, CDCl₃



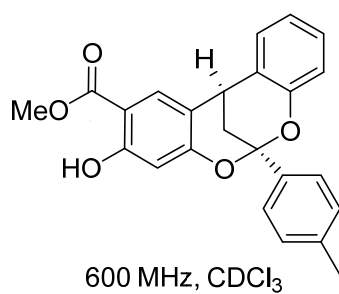
¹³C NMR of Compound **10a**



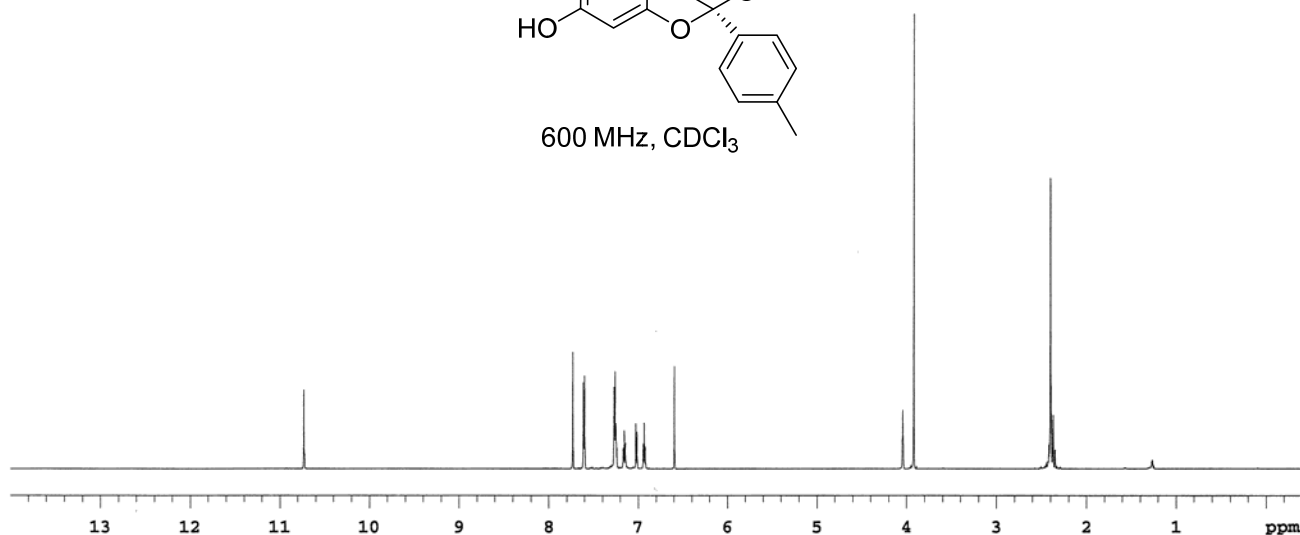
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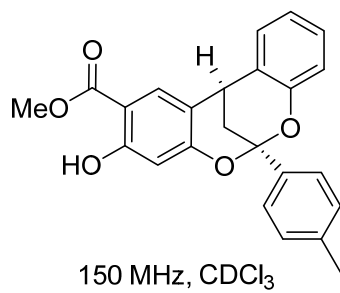
¹H NMR of Compound **10b**



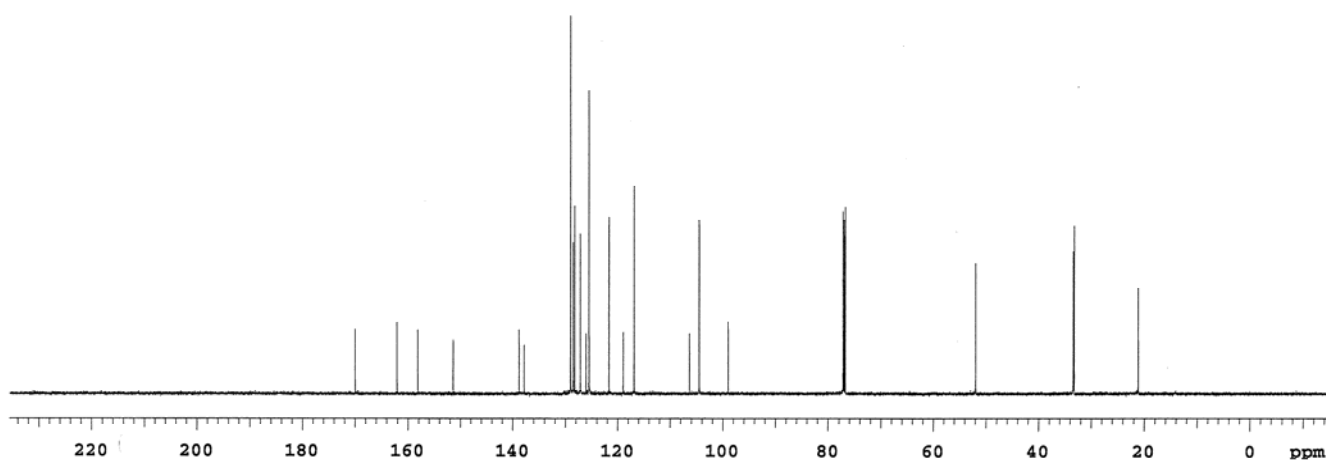
600 MHz, CDCl₃



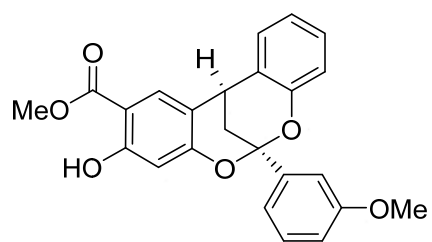
¹³C NMR of Compound **10b**



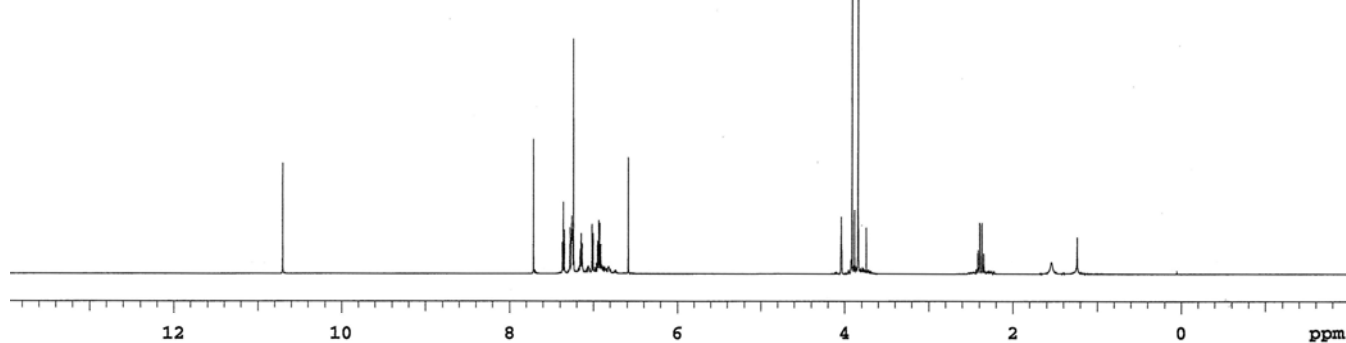
150 MHz, CDCl₃



¹H NMR of Compound **10c**

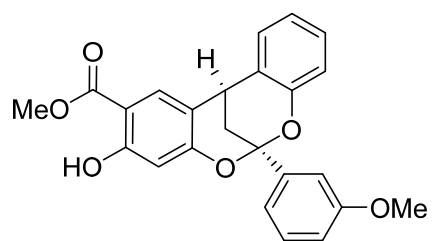


600 MHz, CDCl₃

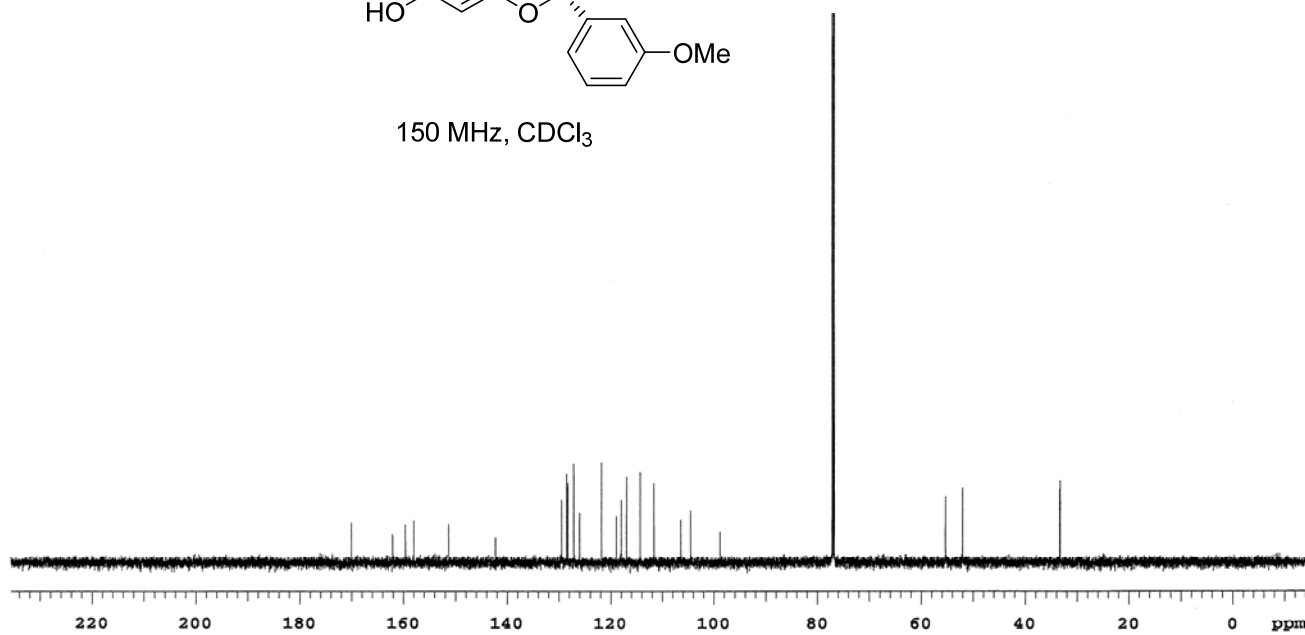


or

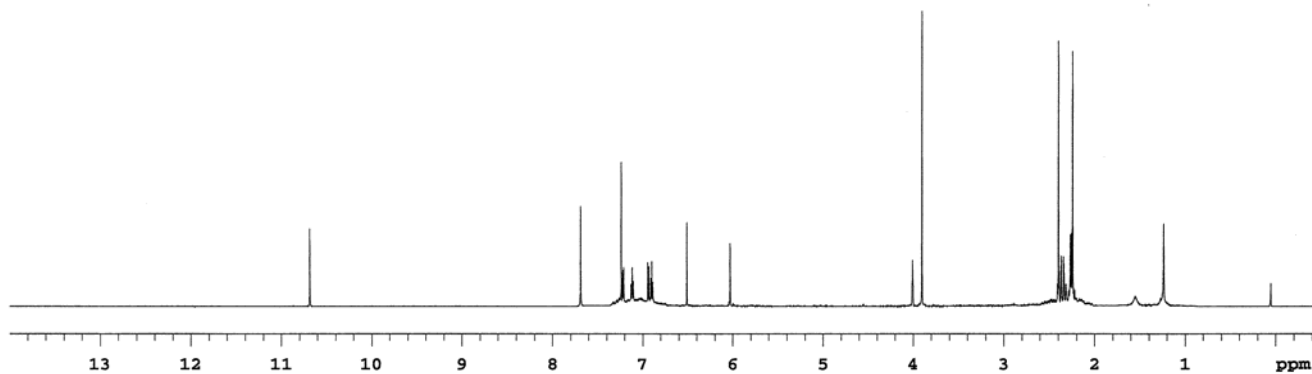
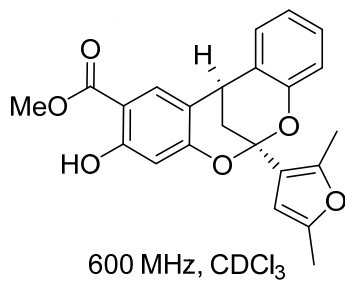
¹³C NMR of Compound **10c**



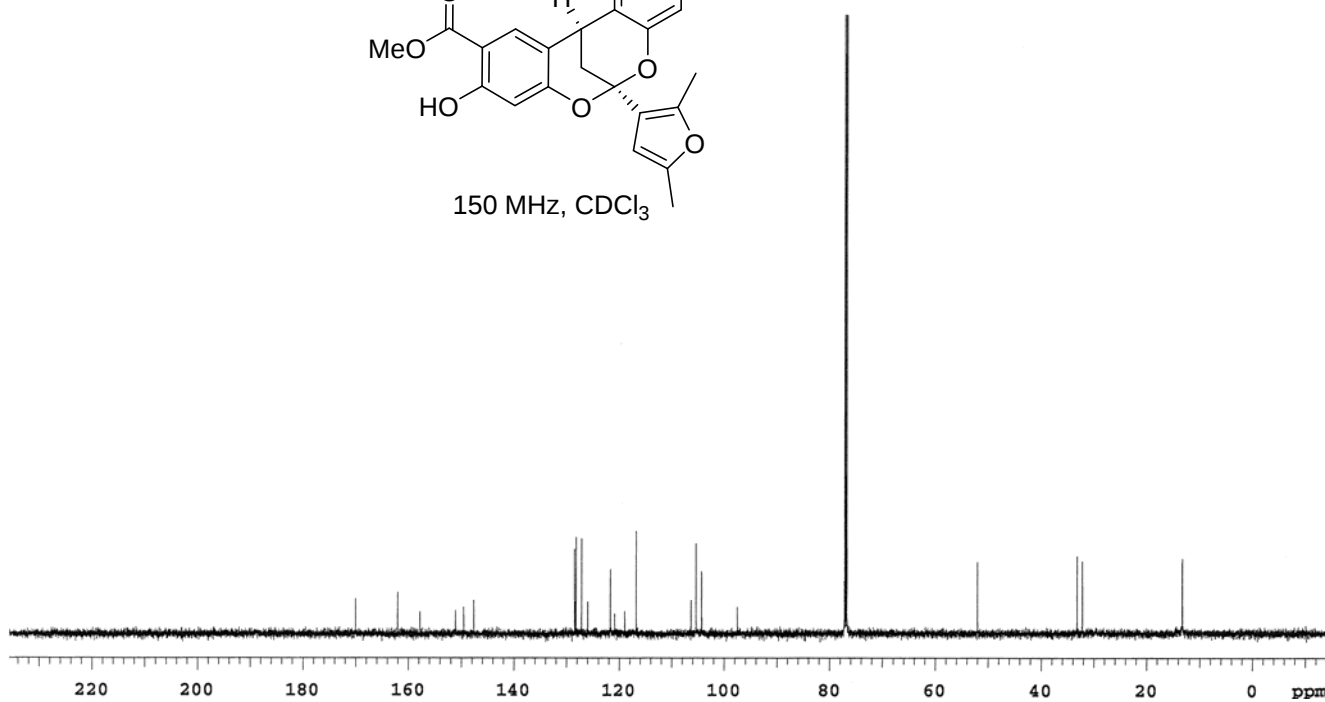
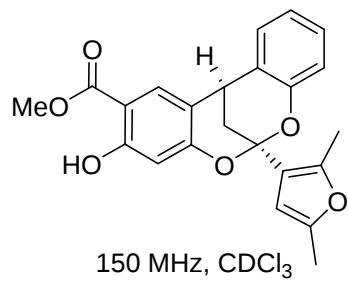
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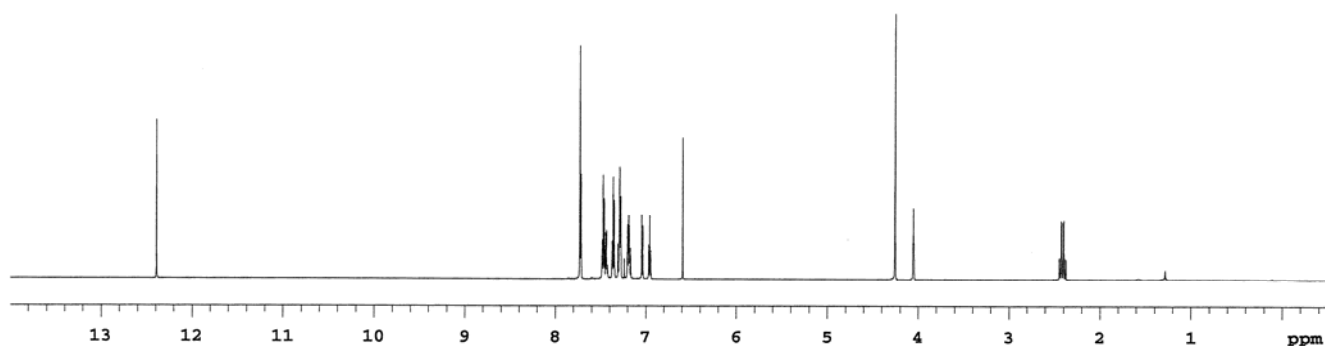
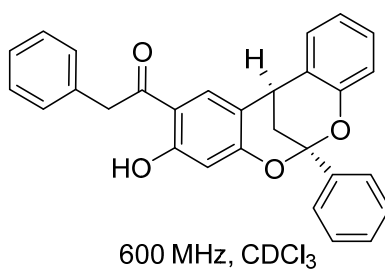
¹H NMR of Compound **10d**



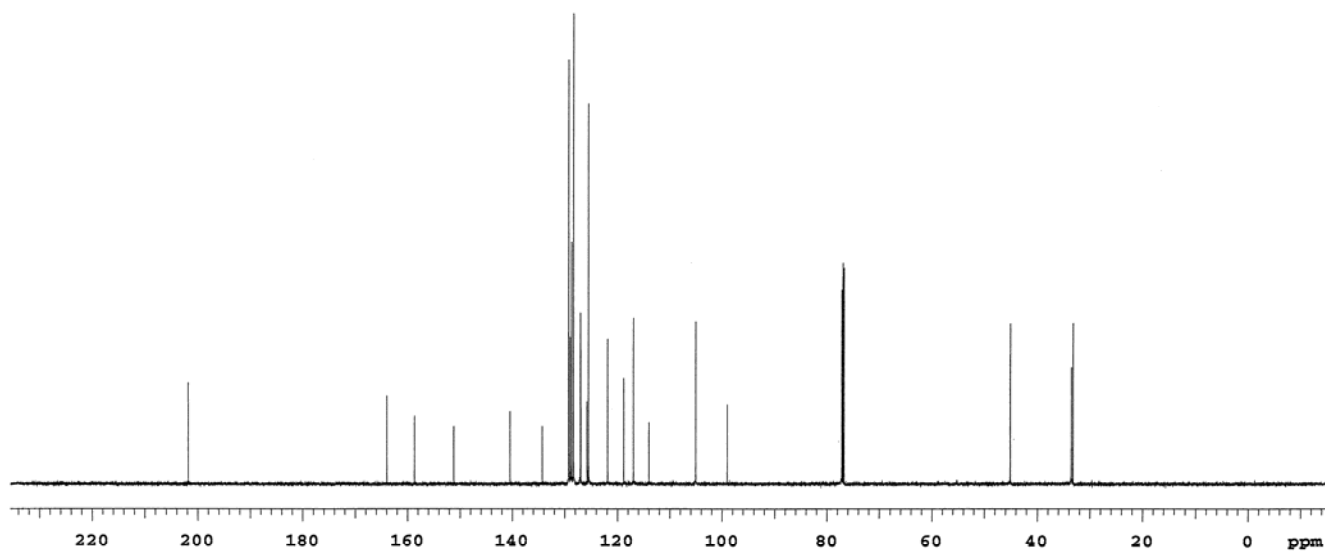
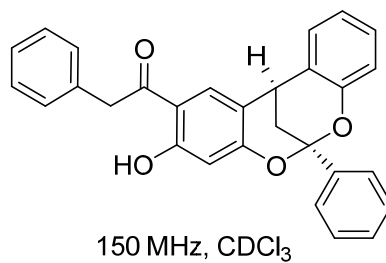
¹³C NMR of Compound **10d**



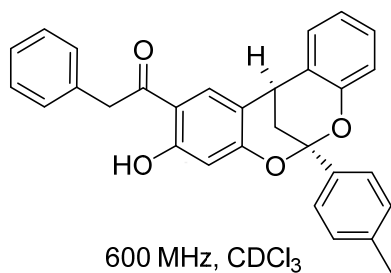
¹H NMR of Compound **10e**



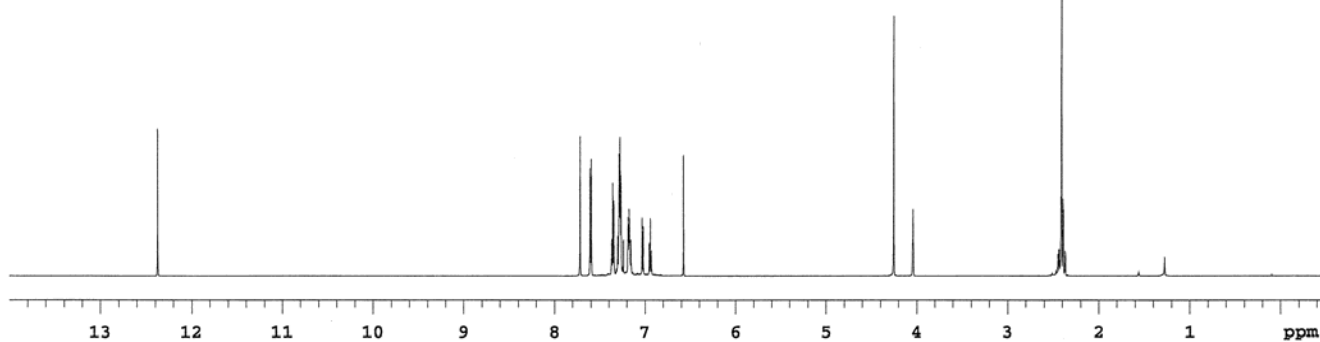
¹³C NMR of Compound **10e**



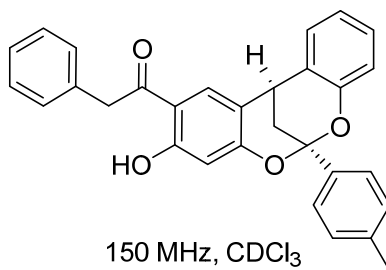
¹H NMR of Compound **10f**



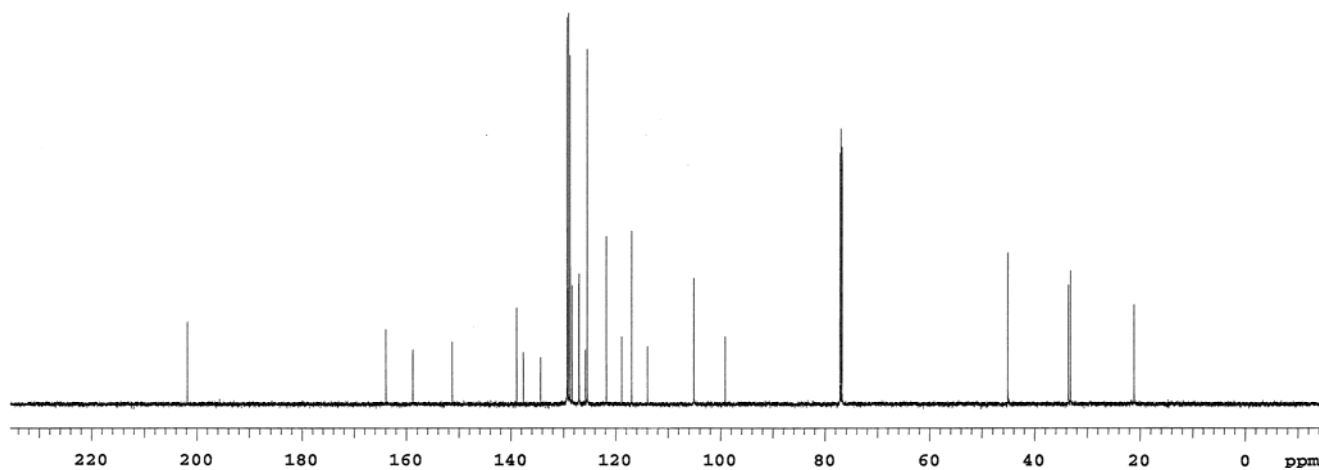
600 MHz, CDCl₃



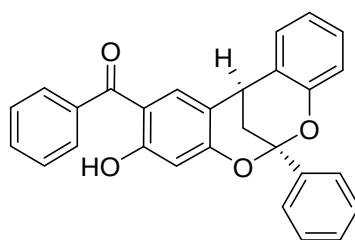
¹³C NMR of Compound **10f**



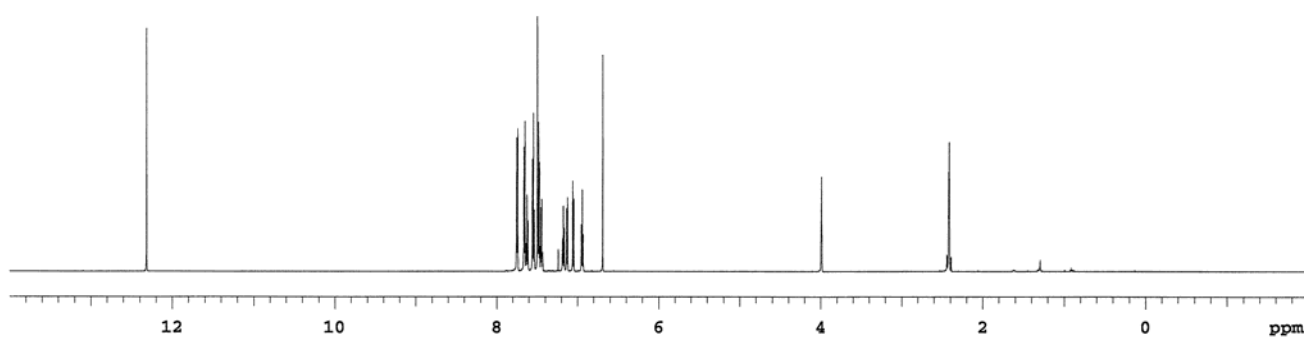
150 MHz, CDCl₃



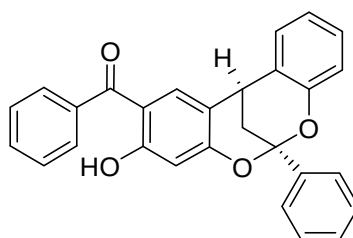
¹H NMR of Compound **10g**



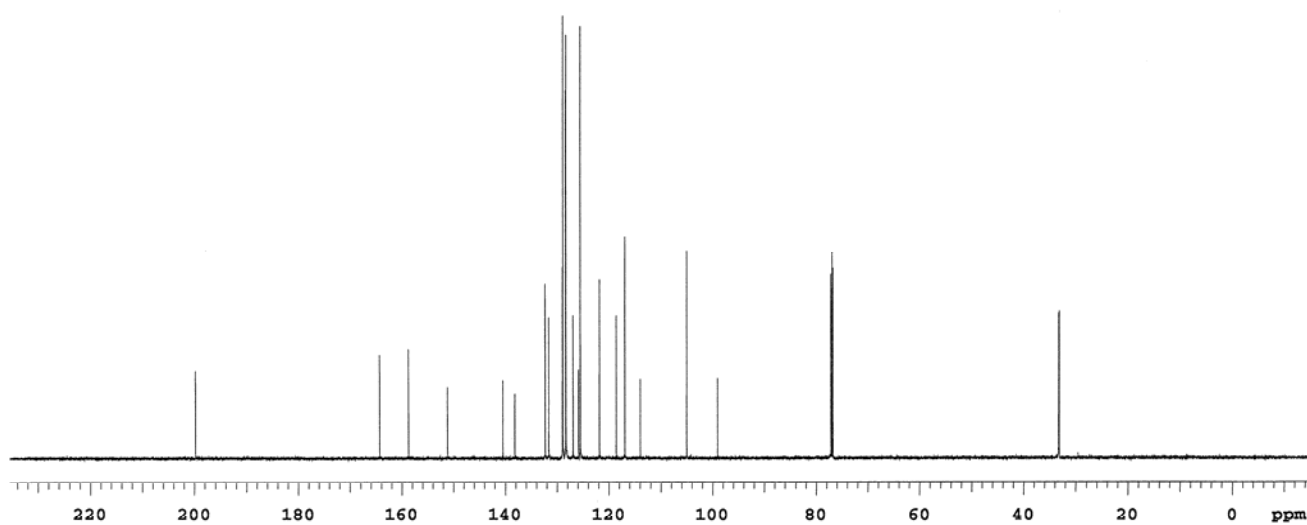
600 MHz, CDCl₃



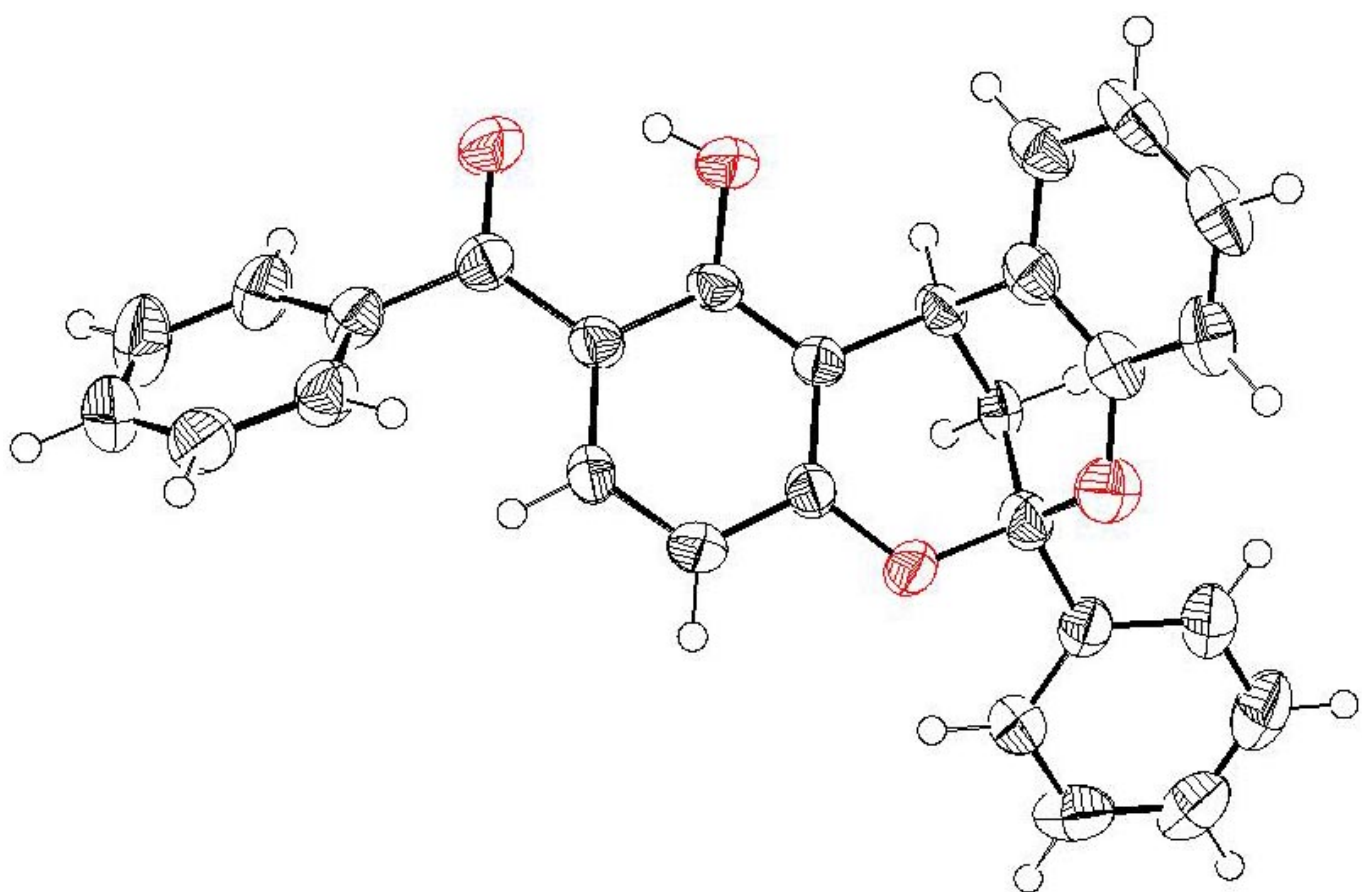
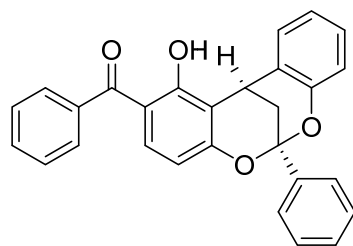
¹³C NMR of Compound **10g**



150 MHz, CDCl₃



X-ray Structure of Compound **9n** (CCDC 981010)



X-ray Structure of Compound **10a** (CCDC 991036)

