

## Supporting Information

### Formal synthesis of (+)-3-*epi*-eupomatilone-6 and its 3,5-bis-epimer

Sariya Yodwaree,<sup>a</sup> Darunee Soorukram,<sup>\*a</sup> Chutima Kuhakarn,<sup>a</sup> Patoomratana Tuchinda,<sup>a</sup> Vichai Reutrakul,<sup>a</sup> and Manat Pohmakotr<sup>a</sup>

<sup>a</sup>*Department of Chemistry and Center of Excellence for Innovation in Chemistry (PERCH-CIC),  
Faculty of Science, Mahidol University, Rama VI Road, Bangkok 10400, Thailand*

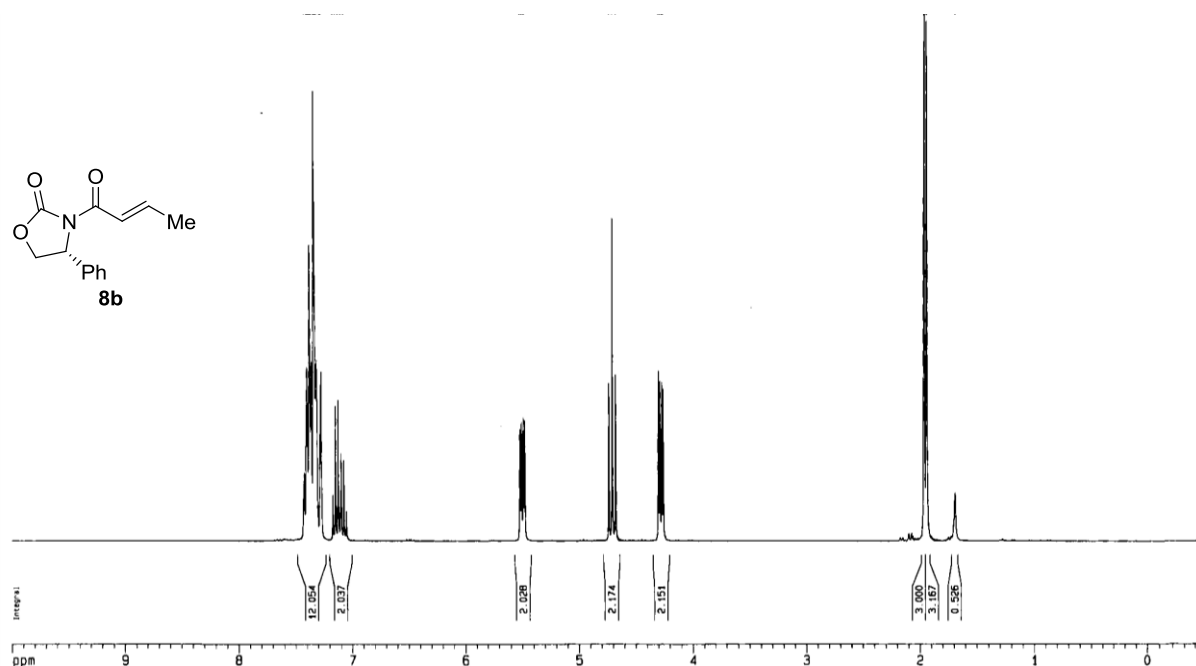
*Fax: +662 354 7151; Tel: +662 201 5148*

*\*E-mail: darunee.soo@mahidol.ac.th*

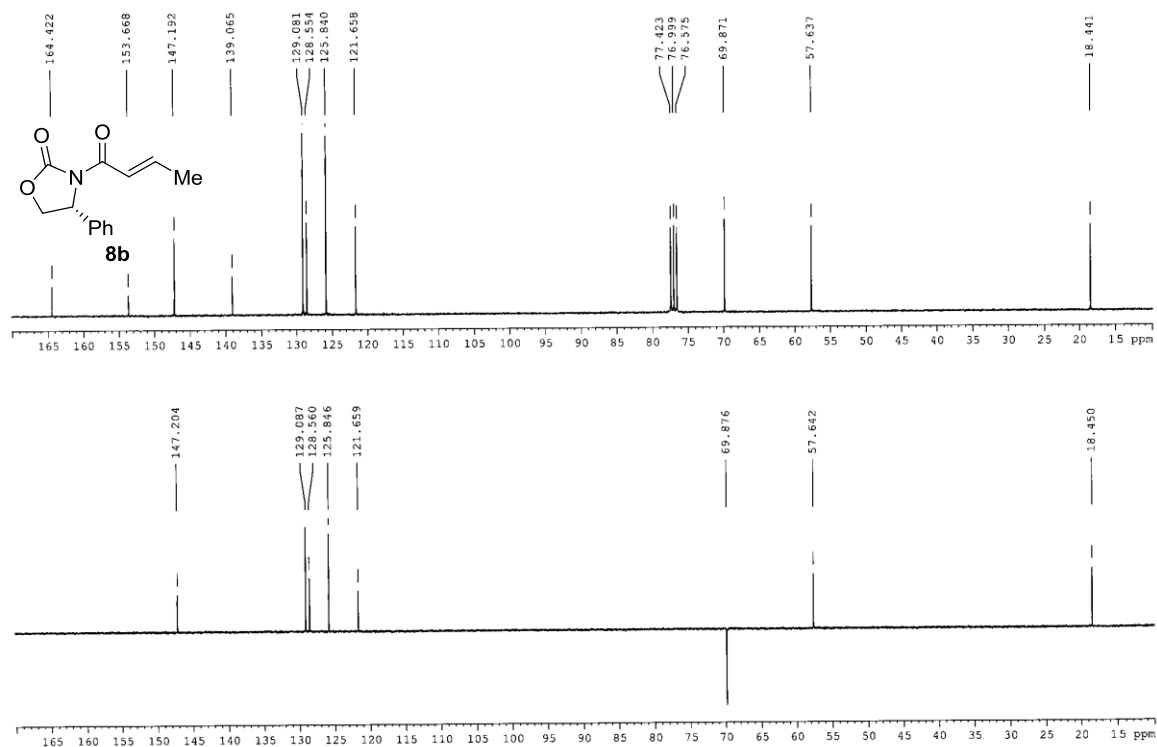
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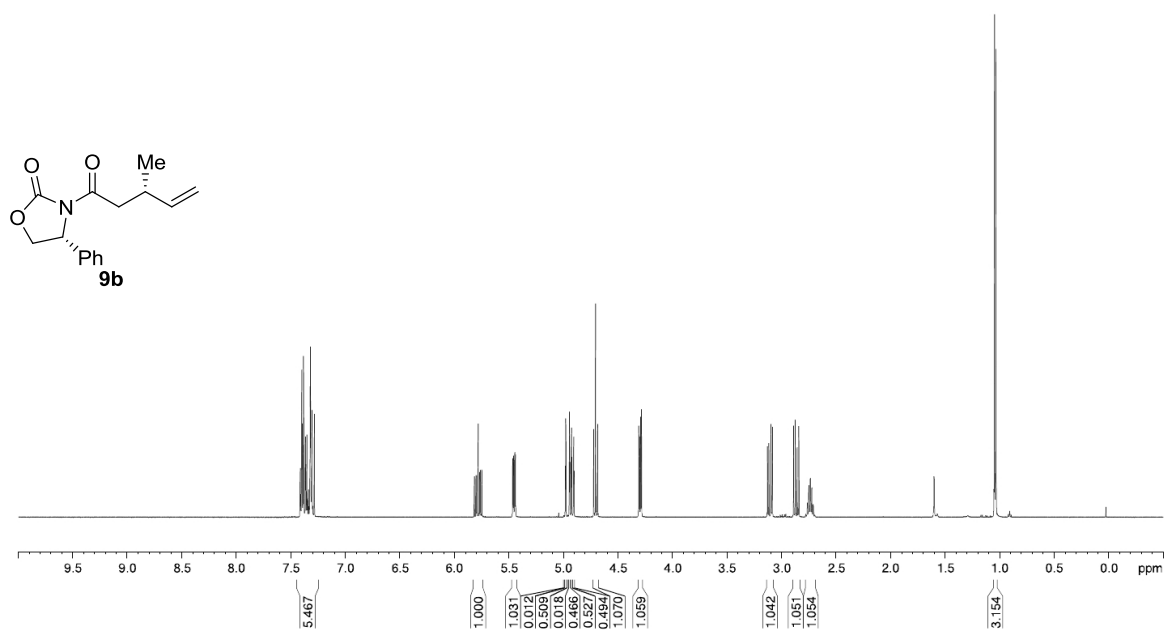
$^1\text{H}$  NMR spectrum of **8b** (300 MHz,  $\text{CDCl}_3$ )



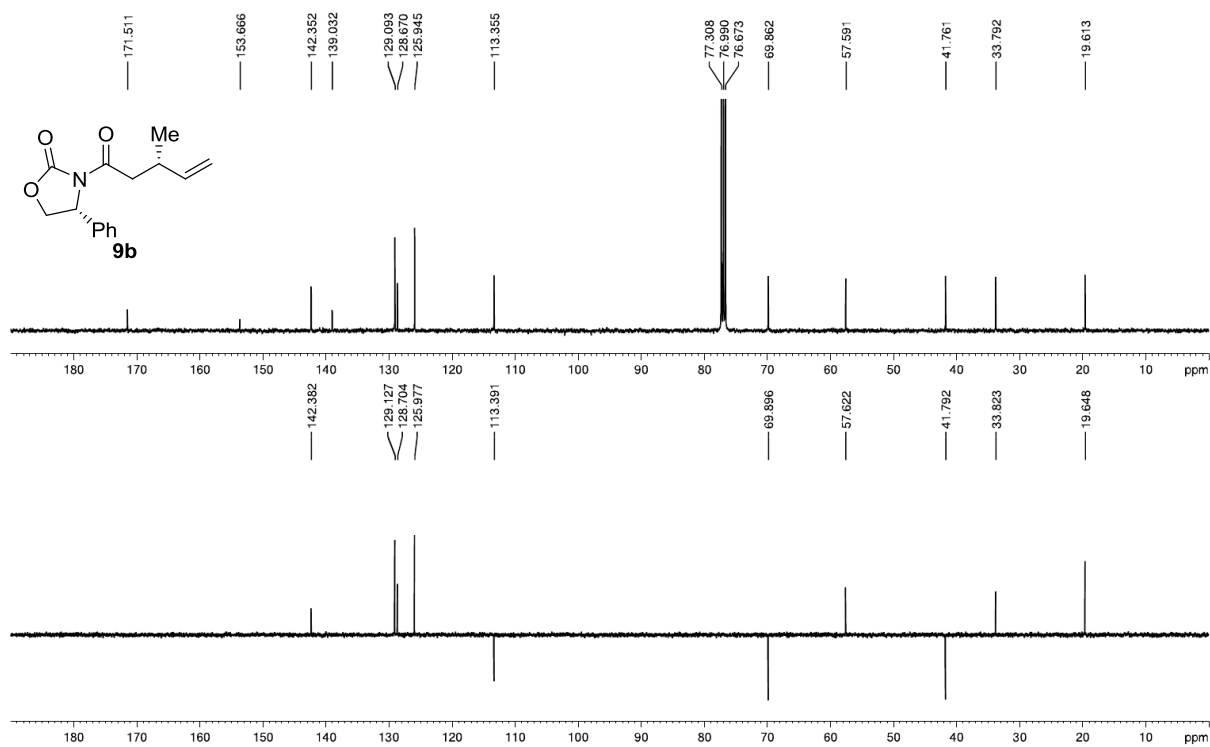
$^{13}\text{C}$  NMR spectrum of **8b** (75 MHz,  $\text{CDCl}_3$ )



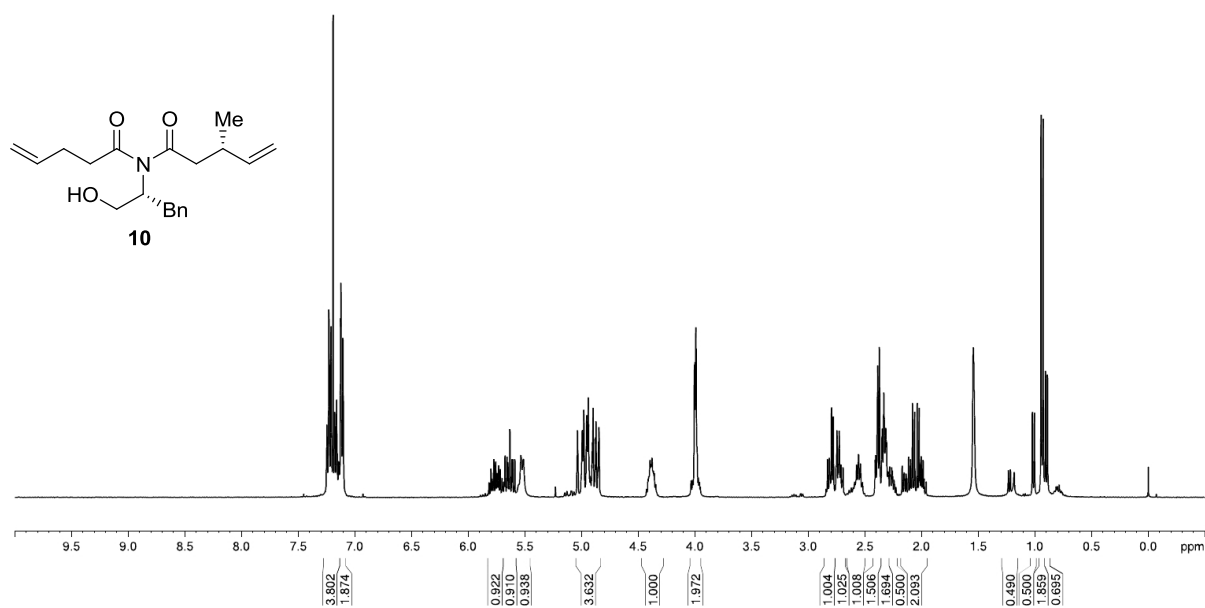
$^1\text{H}$  NMR spectrum of **9b** (500 MHz,  $\text{CDCl}_3$ )



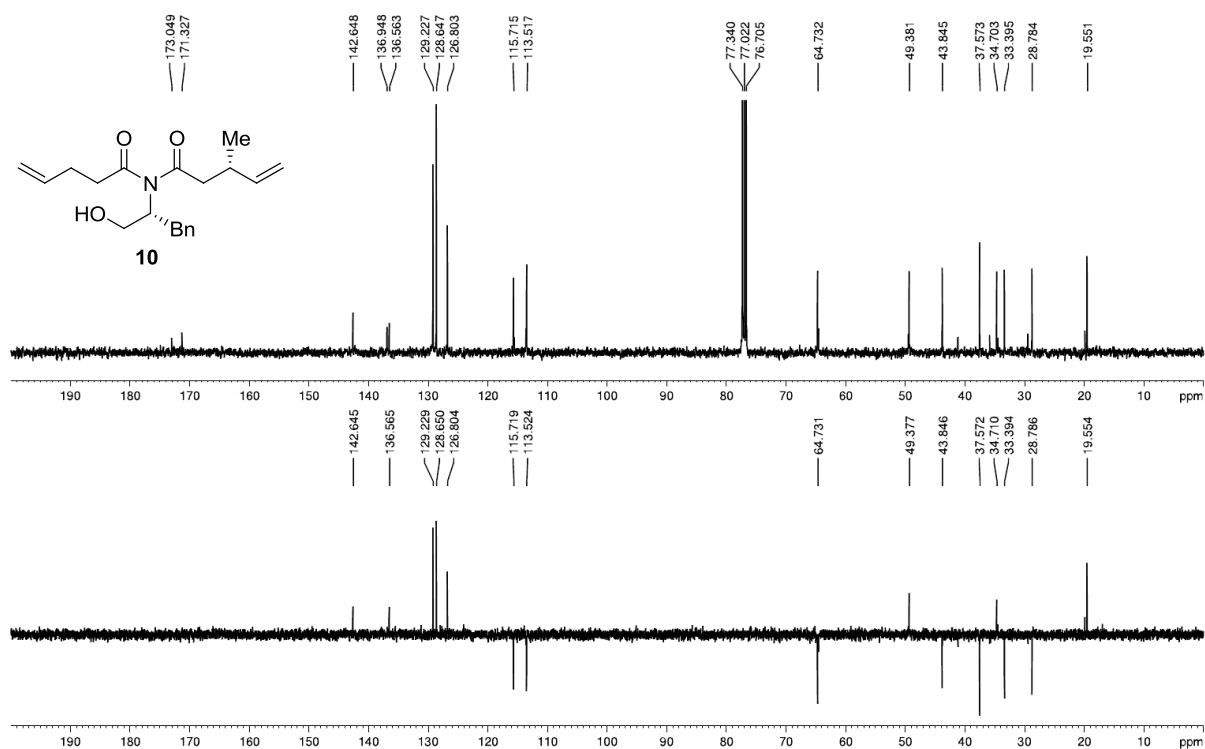
$^{13}\text{C}$  NMR spectrum of **9b** (100 MHz,  $\text{CDCl}_3$ )



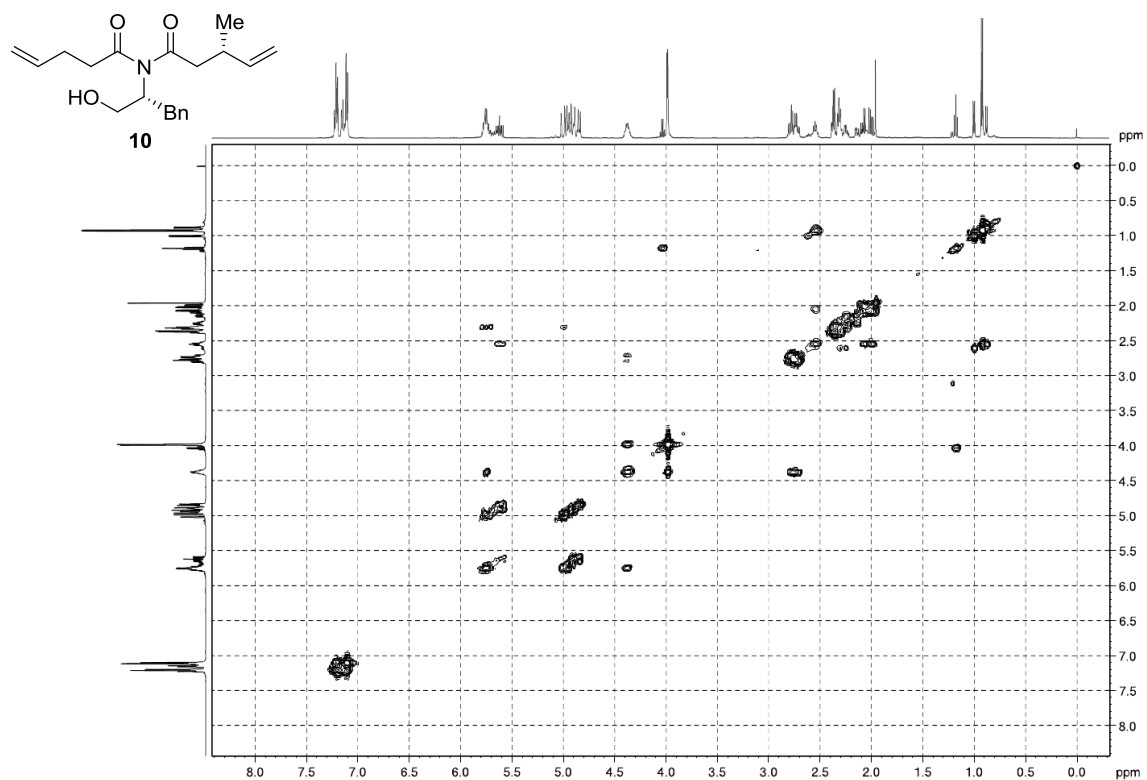
$^1\text{H}$  NMR spectrum of **10** (400 MHz,  $\text{CDCl}_3$ )



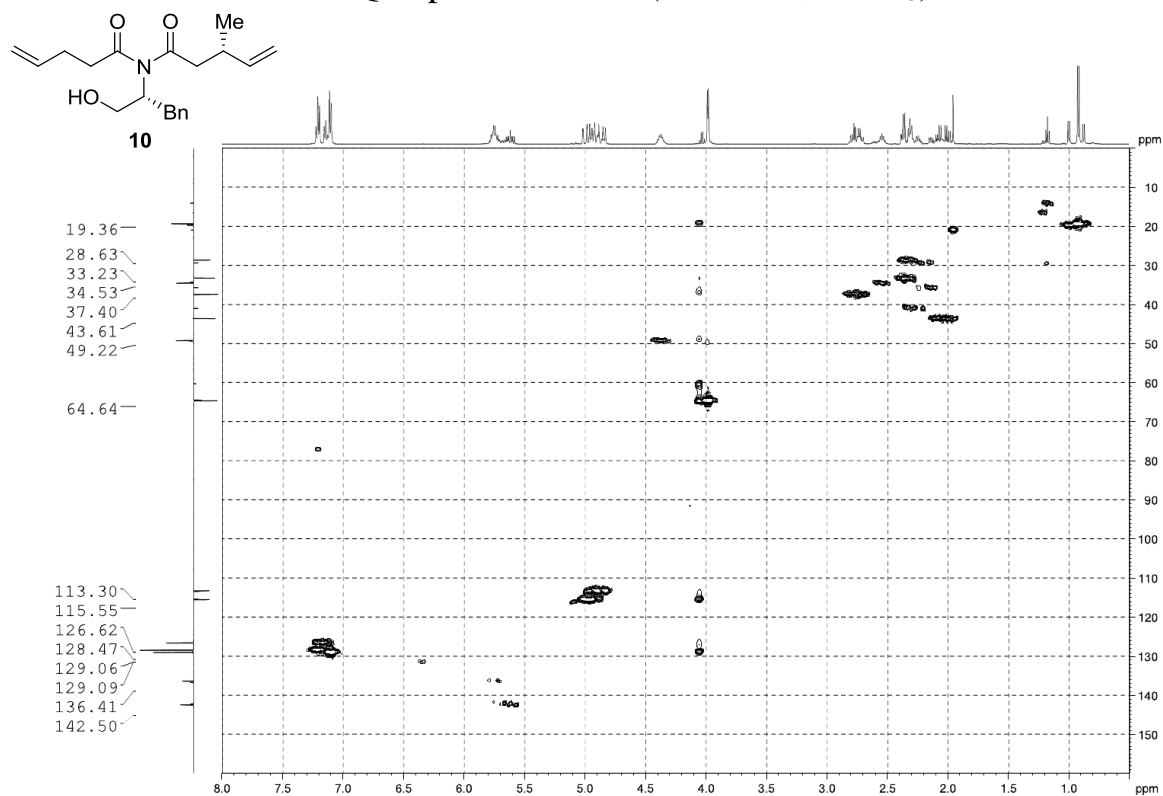
$^{13}\text{C}$  NMR spectrum of **10** (100 MHz,  $\text{CDCl}_3$ )



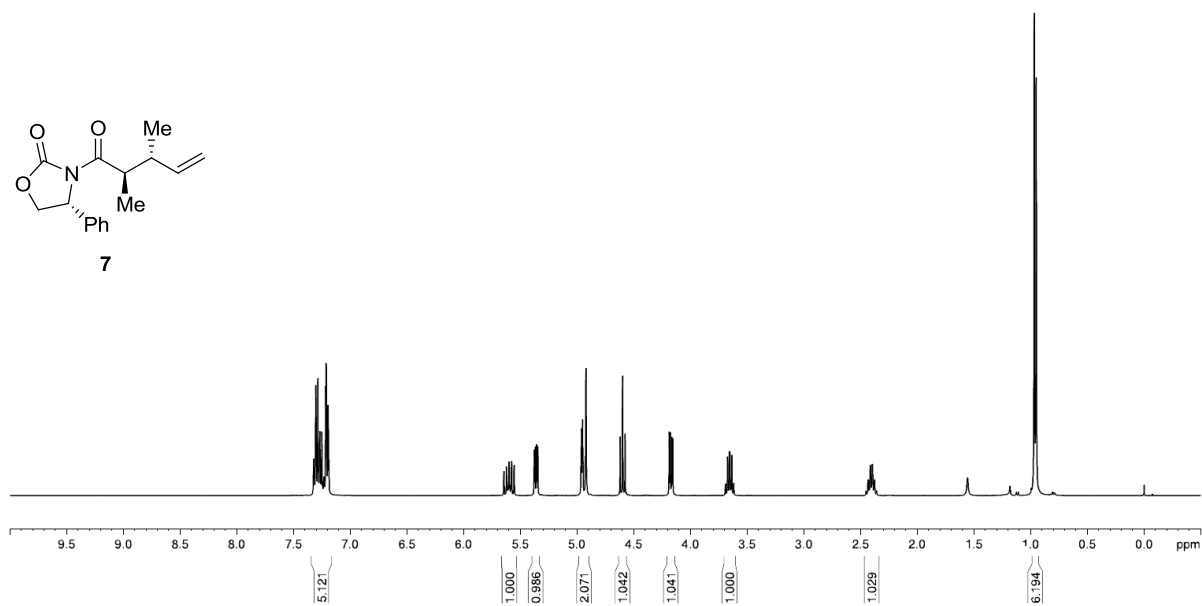
COSY spectrum of **10** (500 MHz, CDCl<sub>3</sub>)



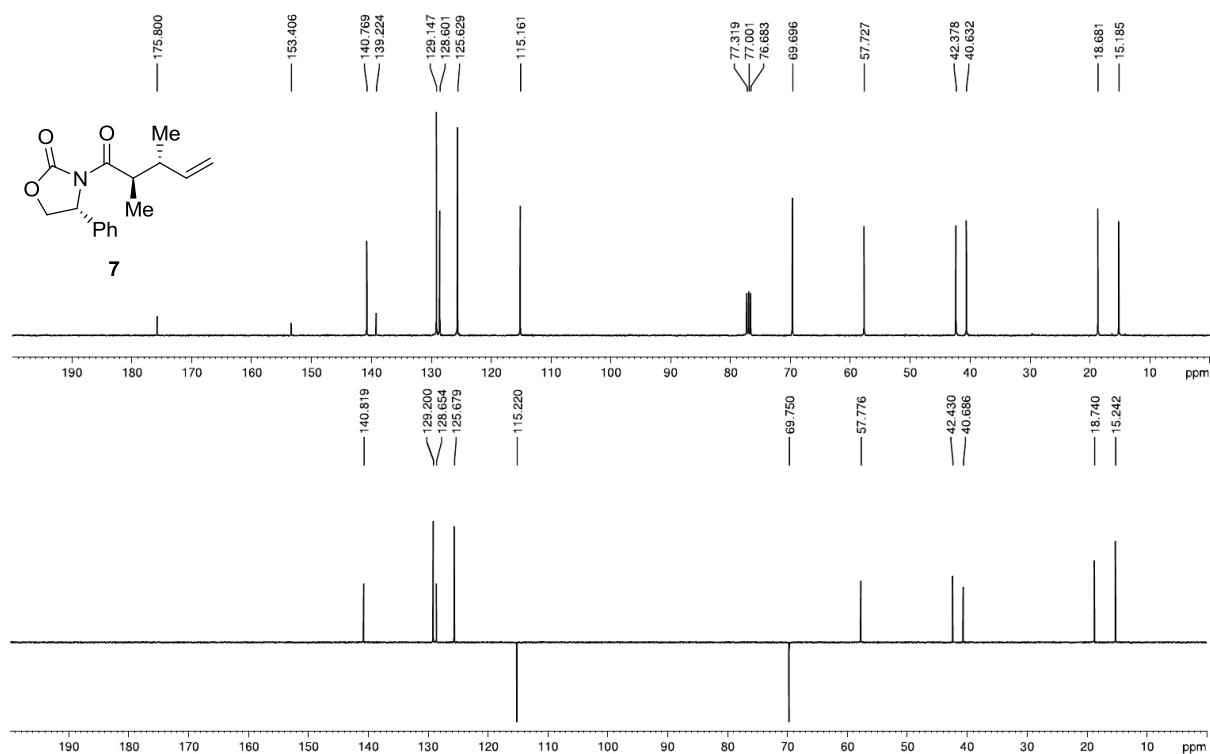
HMQC spectrum of **10** (500 MHz, CDCl<sub>3</sub>)



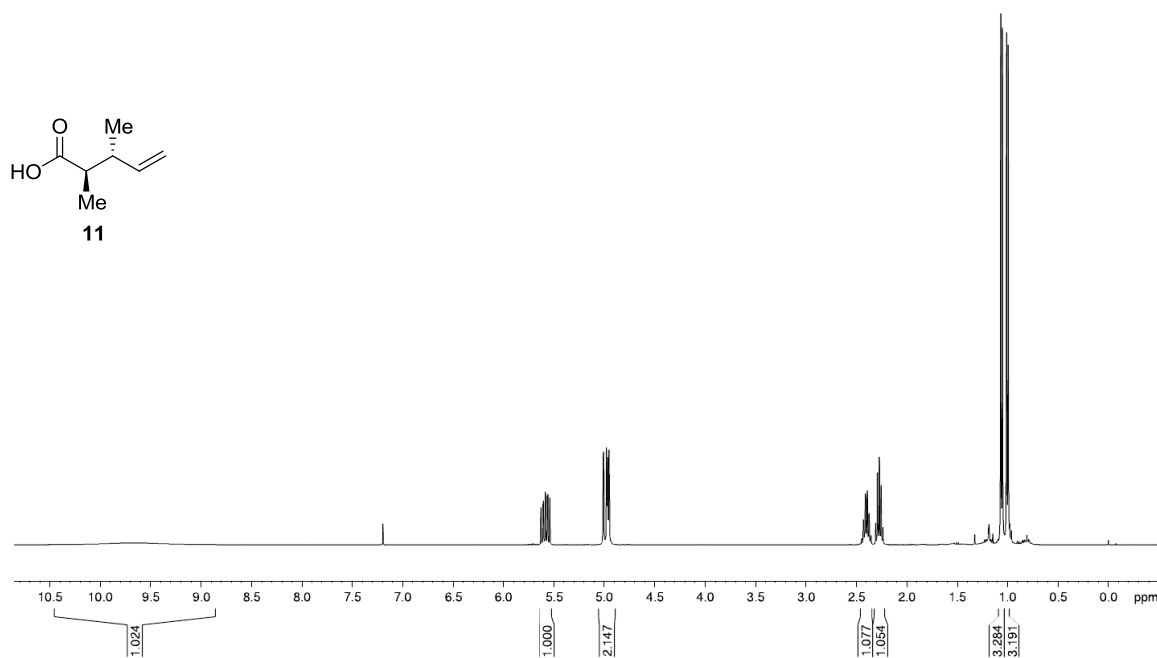
$^1\text{H}$  NMR spectrum of **7** (400 MHz,  $\text{CDCl}_3$ )



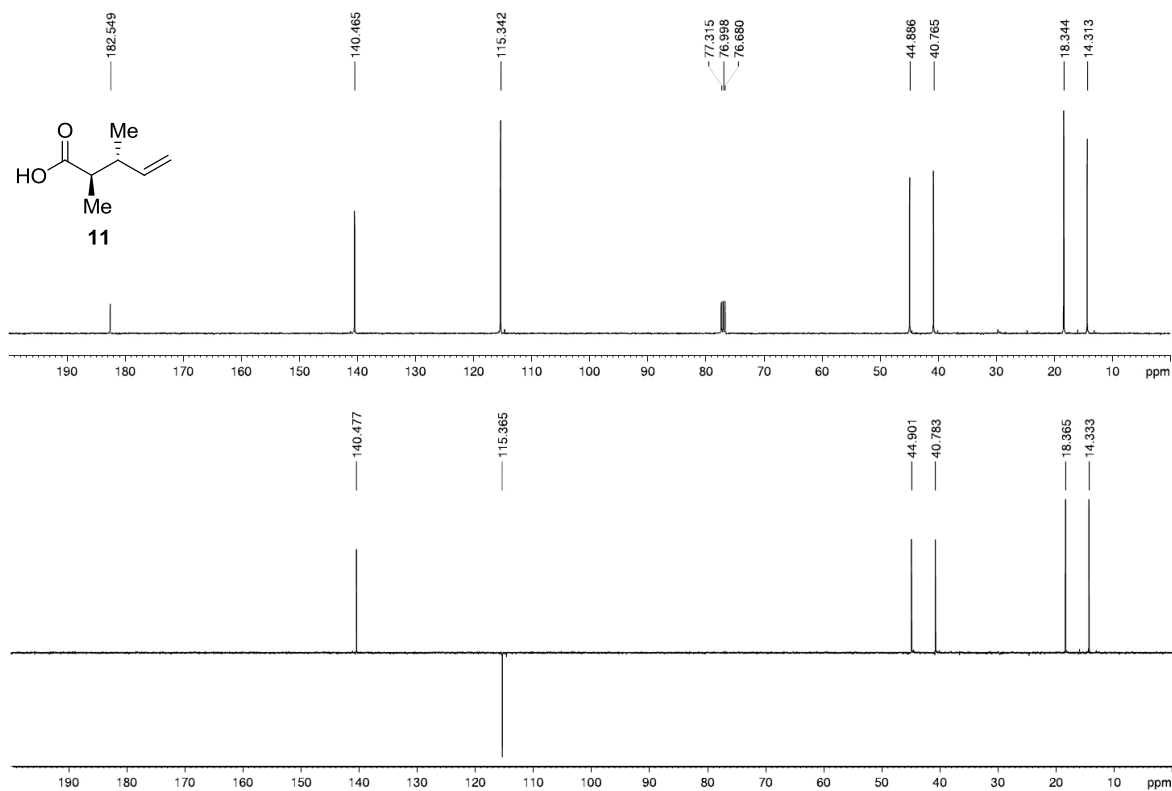
$^{13}\text{C}$  NMR spectrum of **7** (100 MHz,  $\text{CDCl}_3$ )

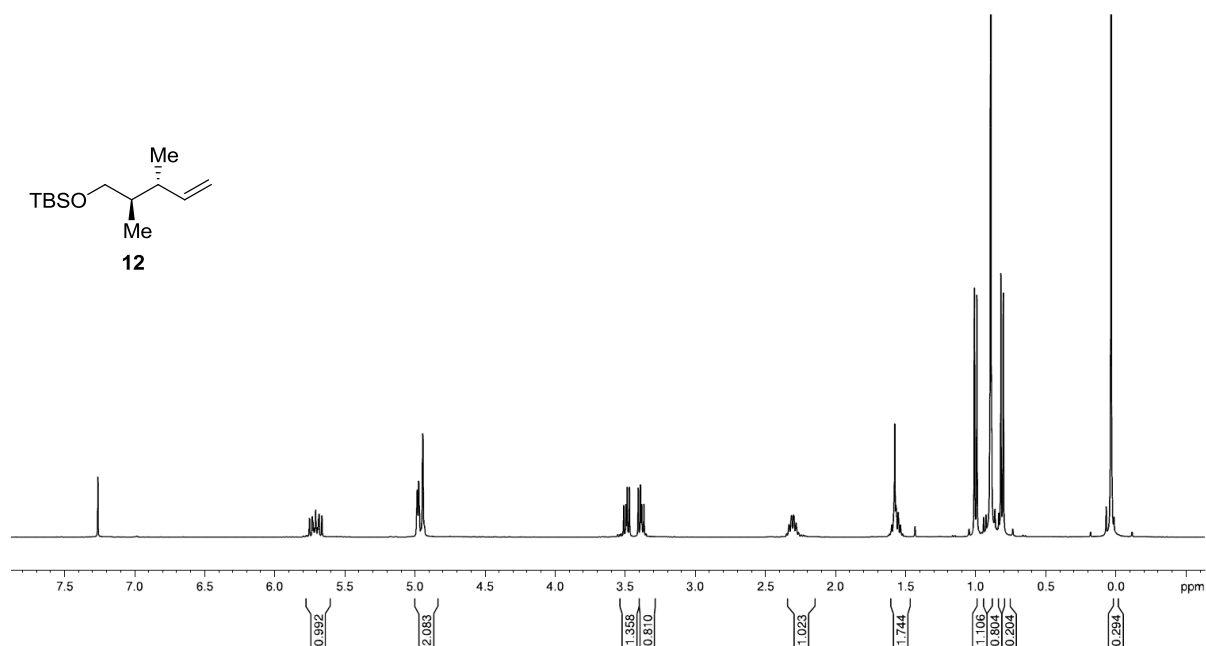


<sup>1</sup>H NMR spectrum of **11** (400 MHz, CDCl<sub>3</sub>)

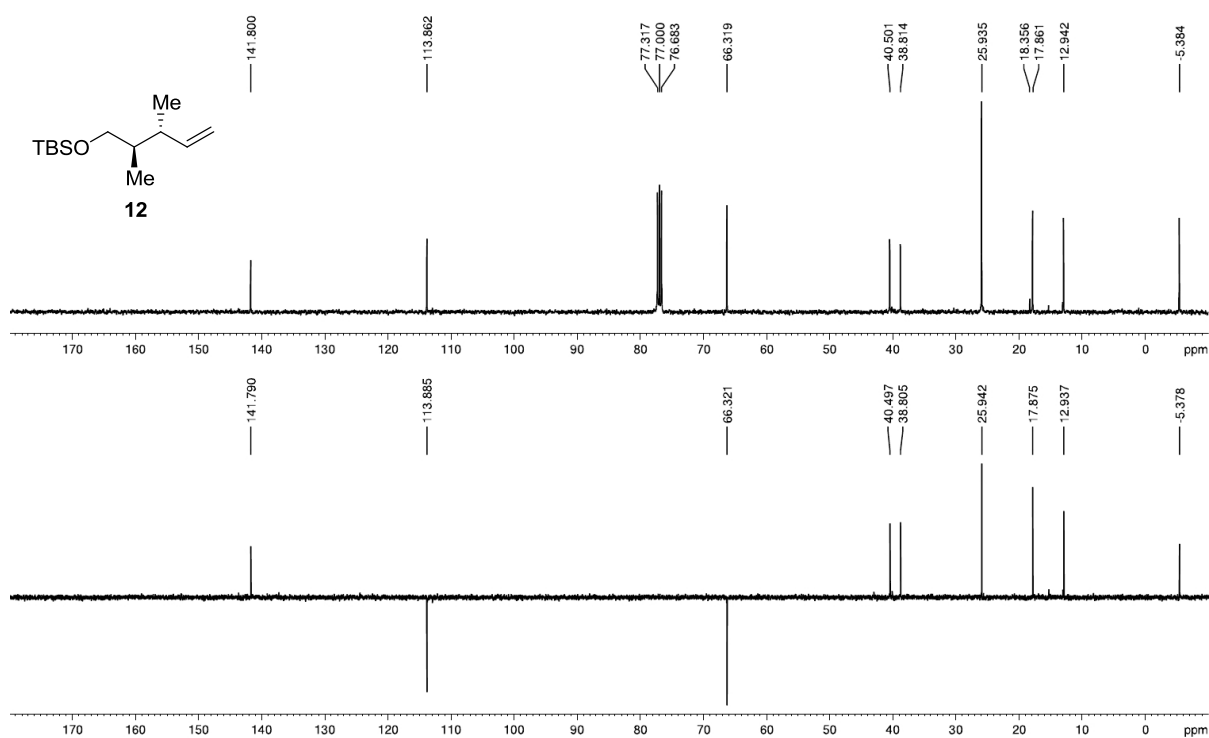


<sup>13</sup>C NMR spectrum of **11** (100 MHz, CDCl<sub>3</sub>)



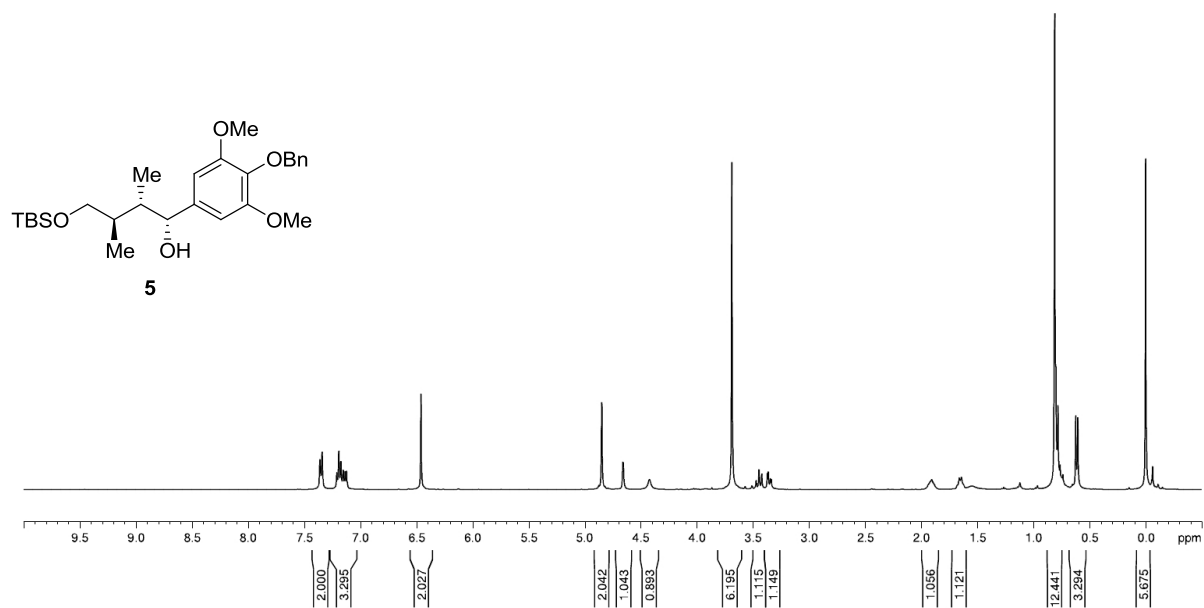
<sup>1</sup>H NMR spectrum of **12** (400 MHz, CDCl<sub>3</sub>)

<sup>13</sup>C NMR spectrum of **12** (100 MHz, CDCl<sub>3</sub>)

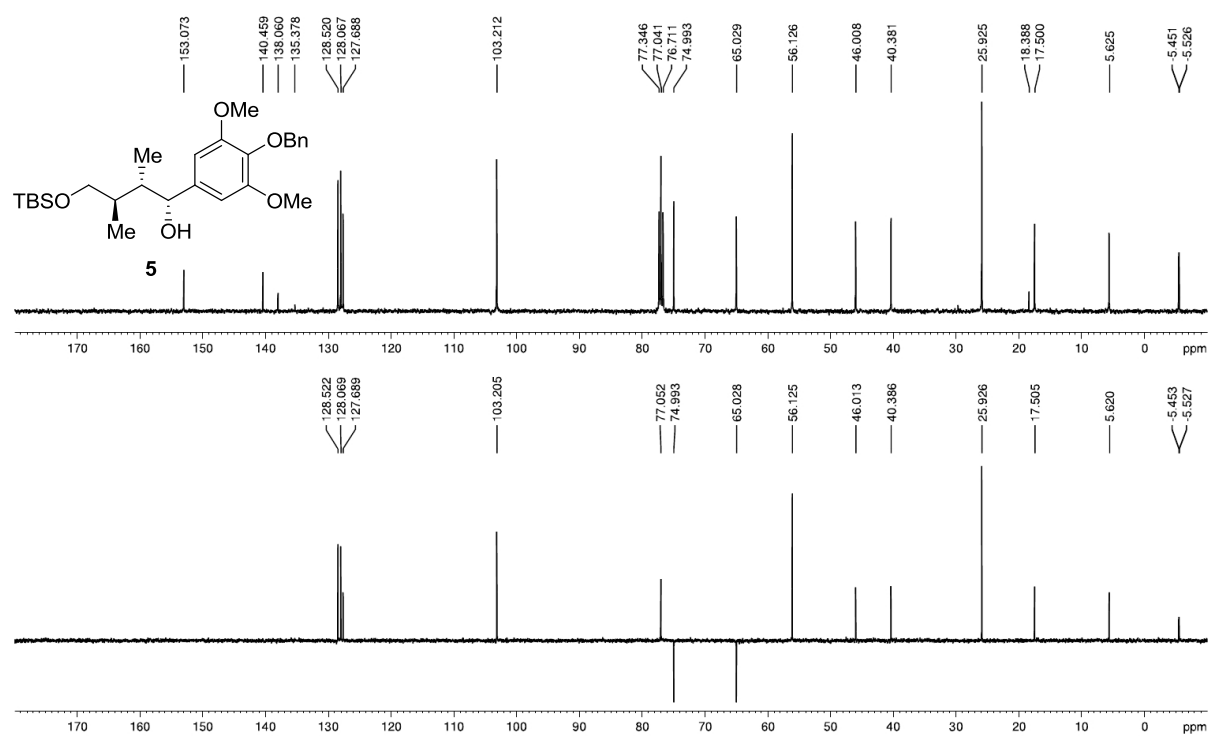




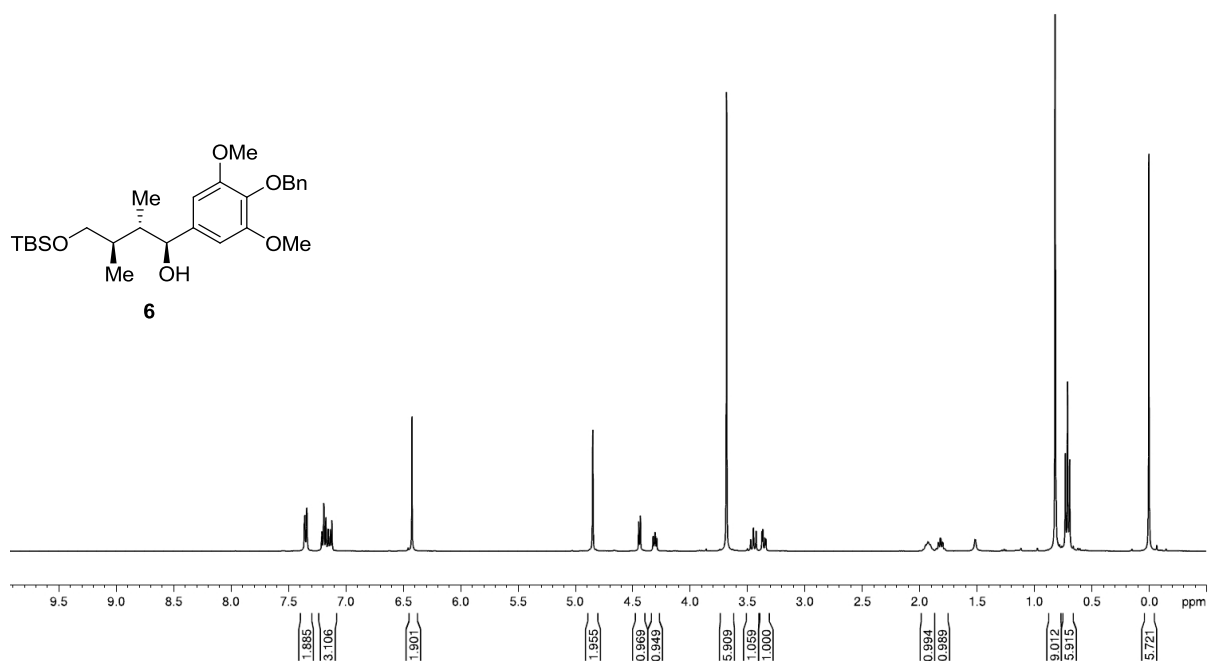
$^1\text{H}$  NMR spectrum of **5** (400 MHz,  $\text{CDCl}_3$ )



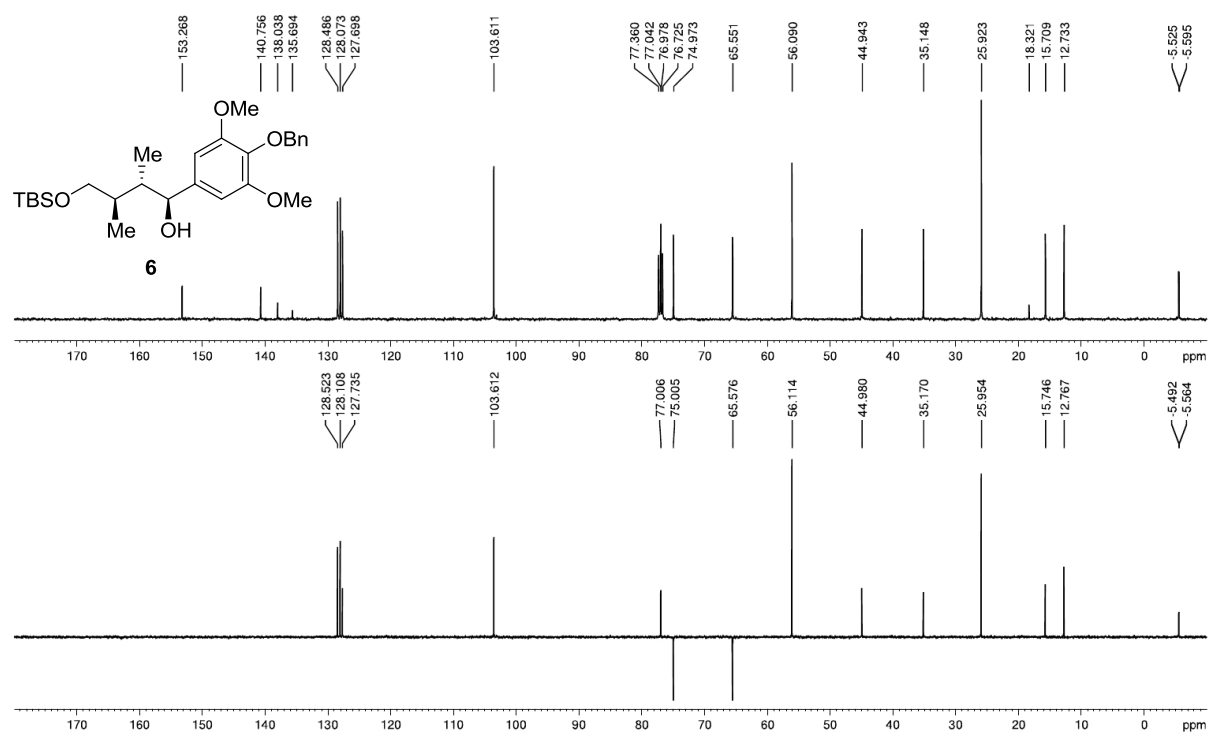
$^{13}\text{C}$  NMR spectrum of **5** (100 MHz,  $\text{CDCl}_3$ )



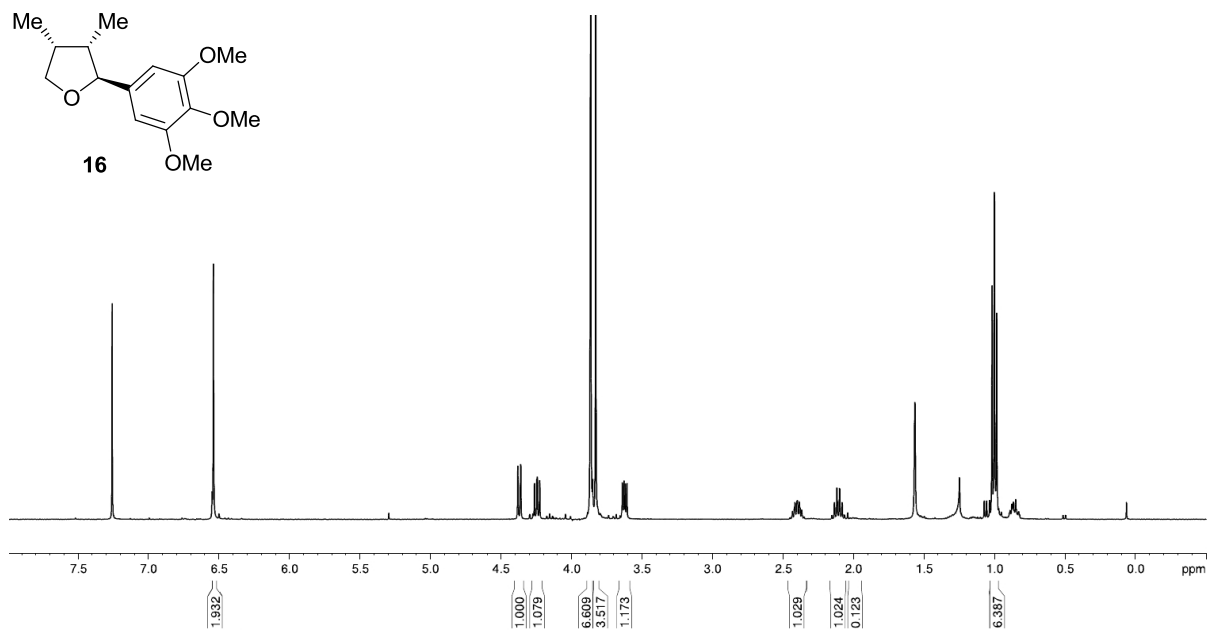
$^1\text{H}$  NMR spectrum of **6** (400 MHz,  $\text{CDCl}_3$ )



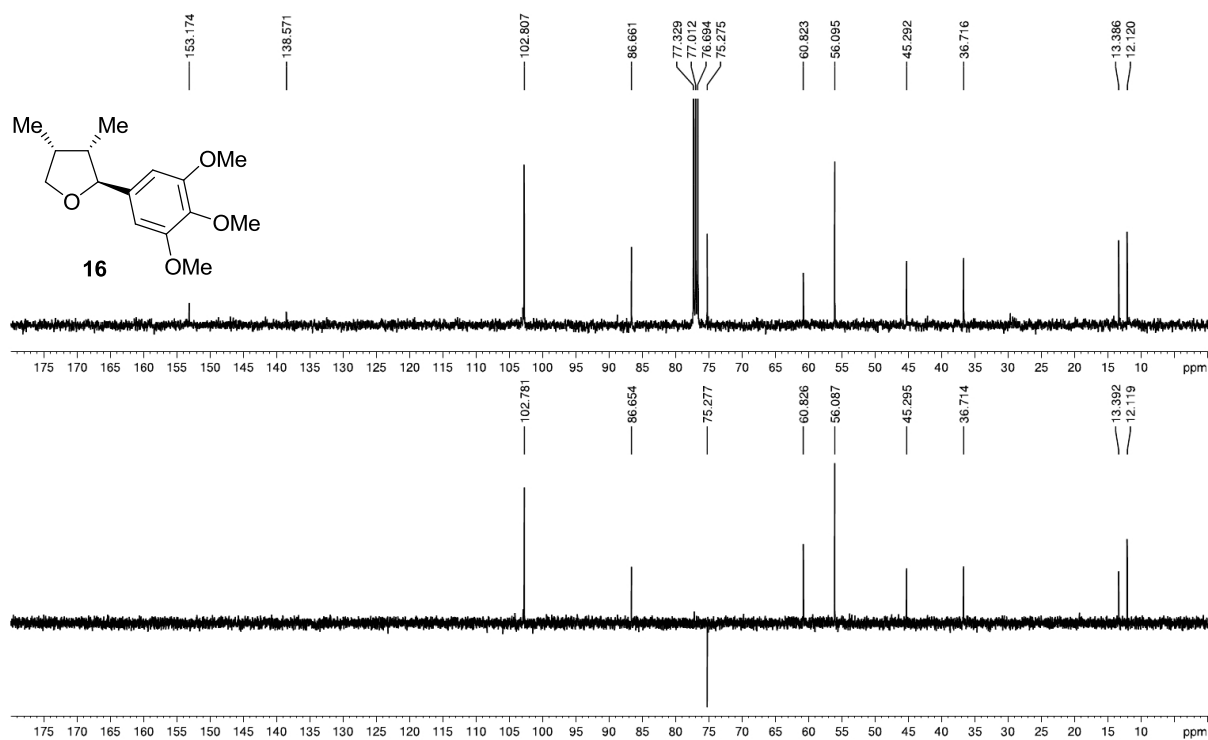
$^{13}\text{C}$  NMR spectrum of **6** (100 MHz,  $\text{CDCl}_3$ )



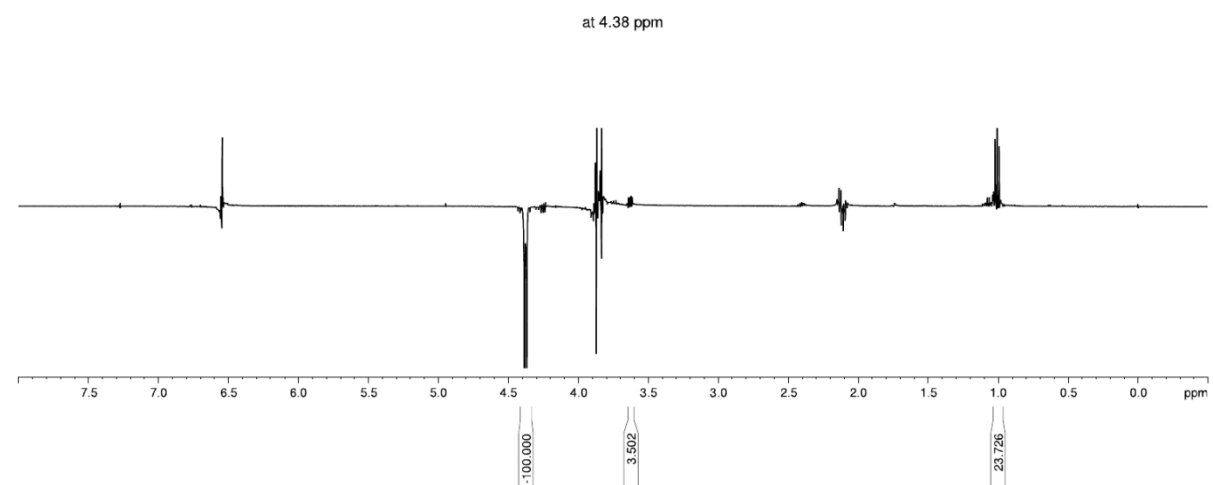
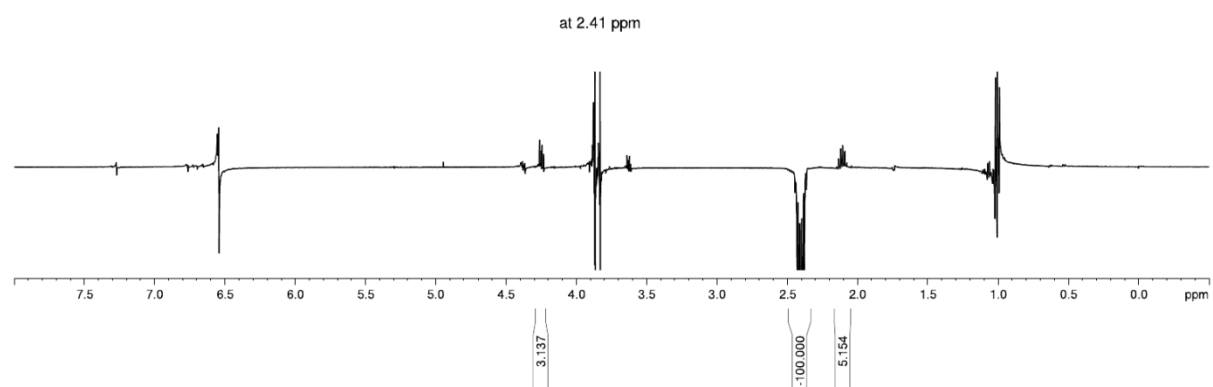
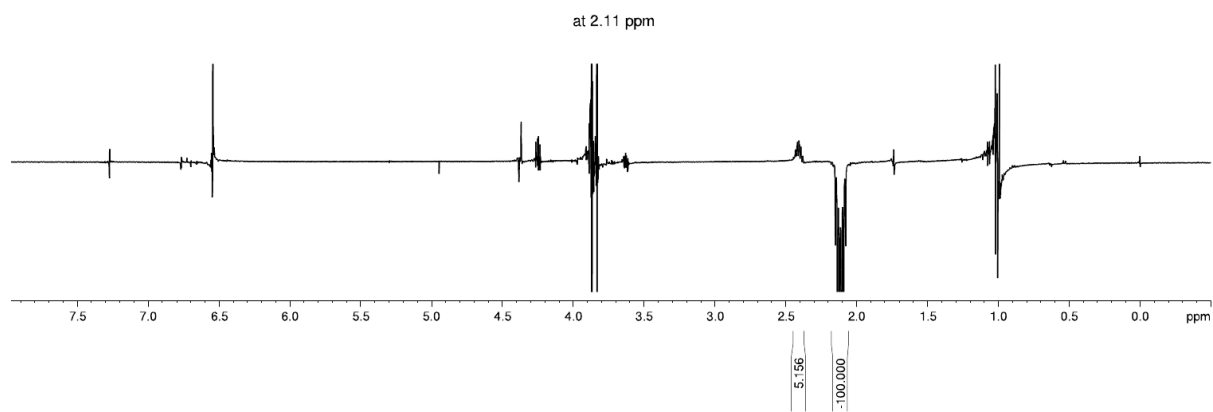
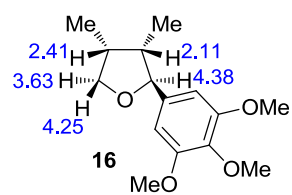
$^1\text{H}$  NMR spectrum of **16** (400 MHz,  $\text{CDCl}_3$ )



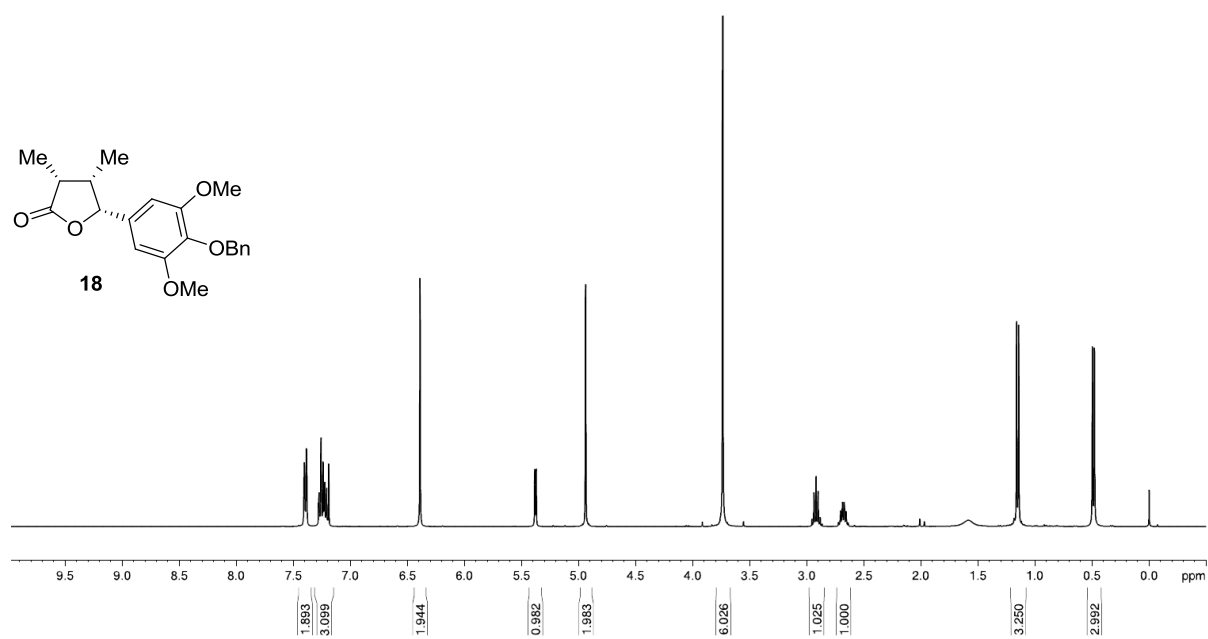
$^{13}\text{C}$  NMR spectrum of **16** (100 MHz,  $\text{CDCl}_3$ )



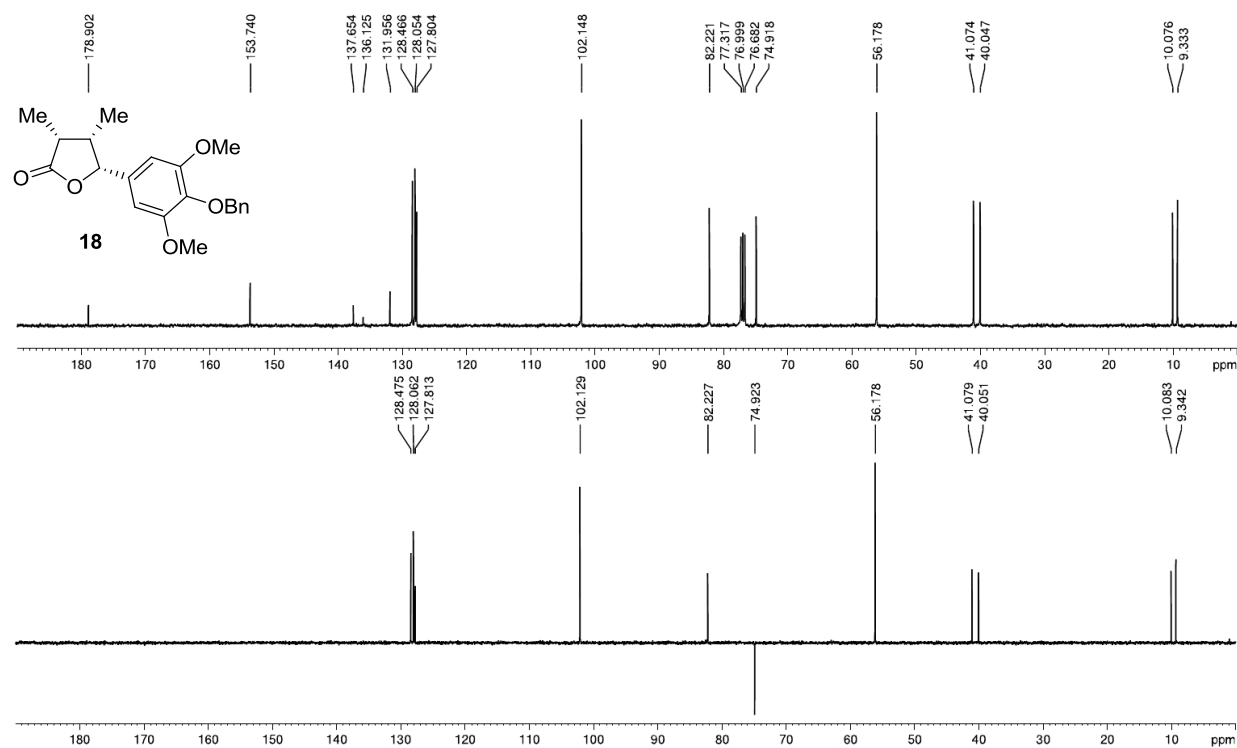
# NOE spectrum of **16** (500 MHz, CDCl<sub>3</sub>)



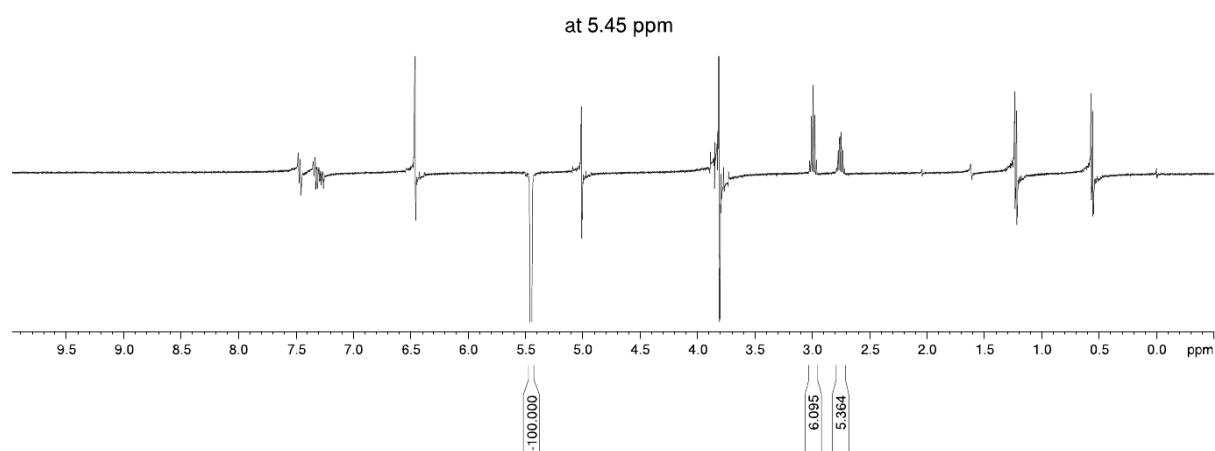
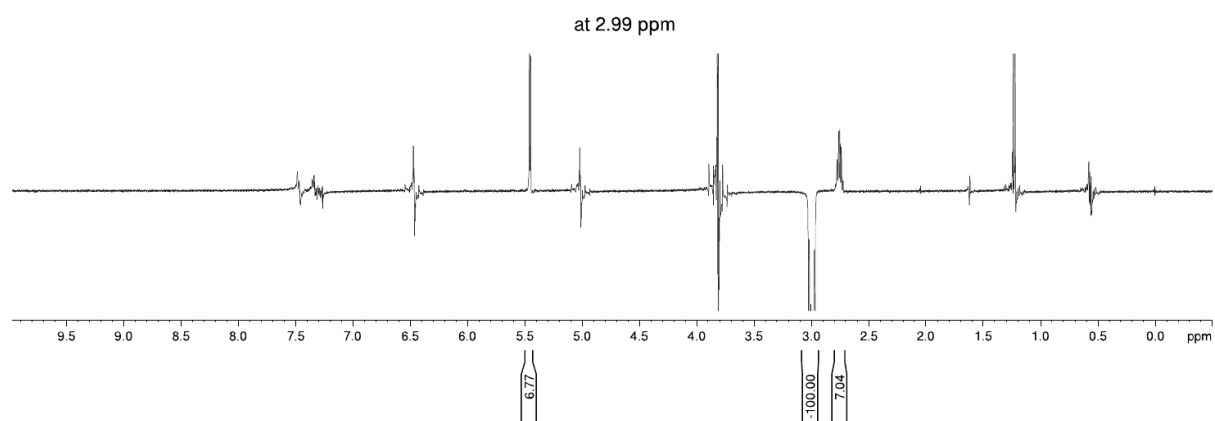
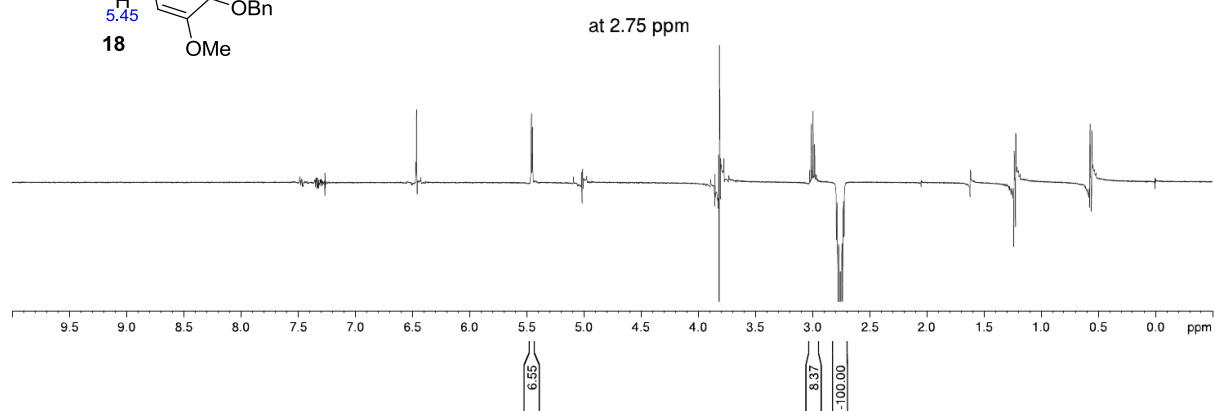
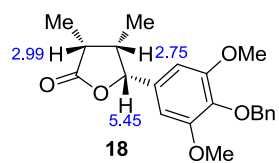
$^1\text{H}$  NMR spectrum of **18** (400 MHz,  $\text{CDCl}_3$ )



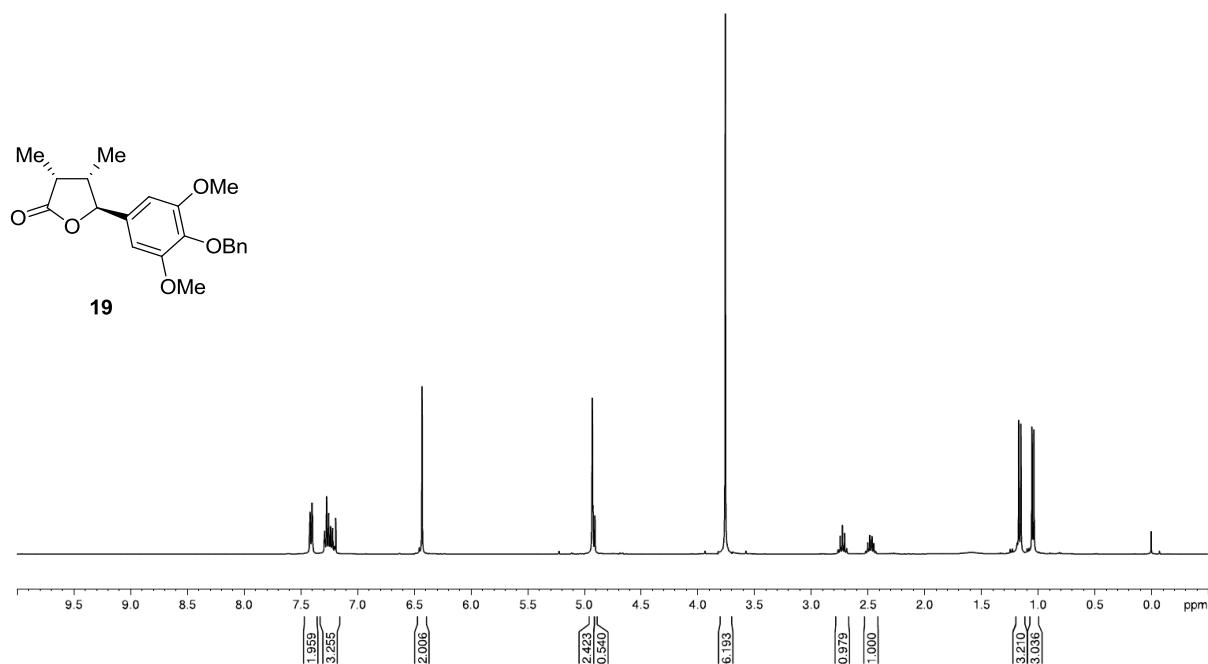
$^{13}\text{C}$  NMR spectrum of **18** (100 MHz,  $\text{CDCl}_3$ )



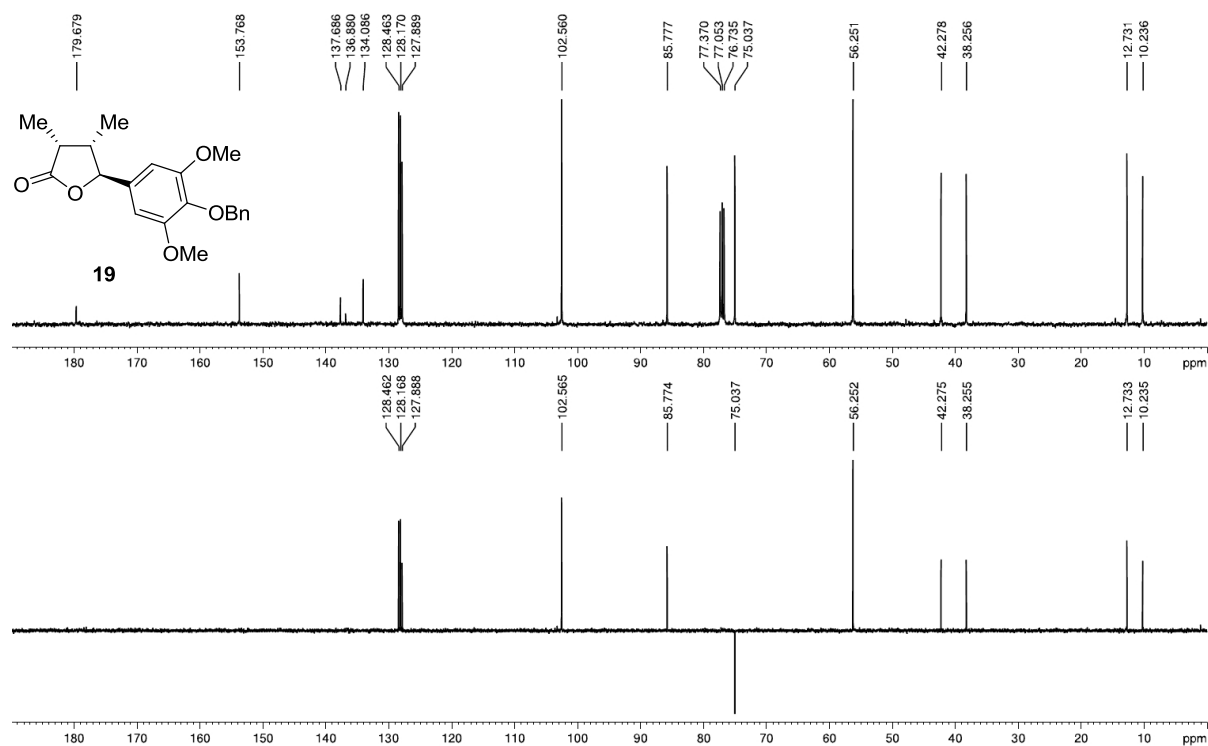
# NOE spectrum of **18** (500 MHz, CDCl<sub>3</sub>)



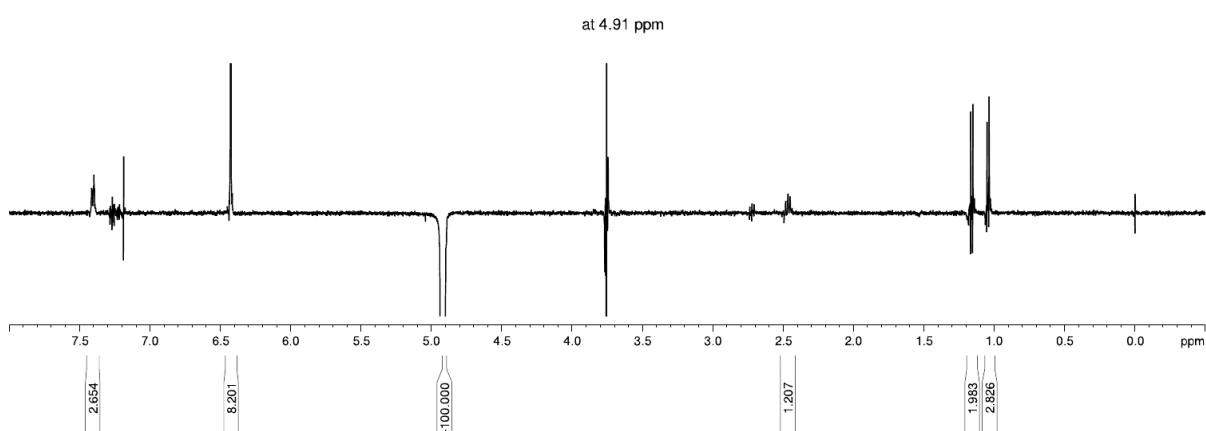
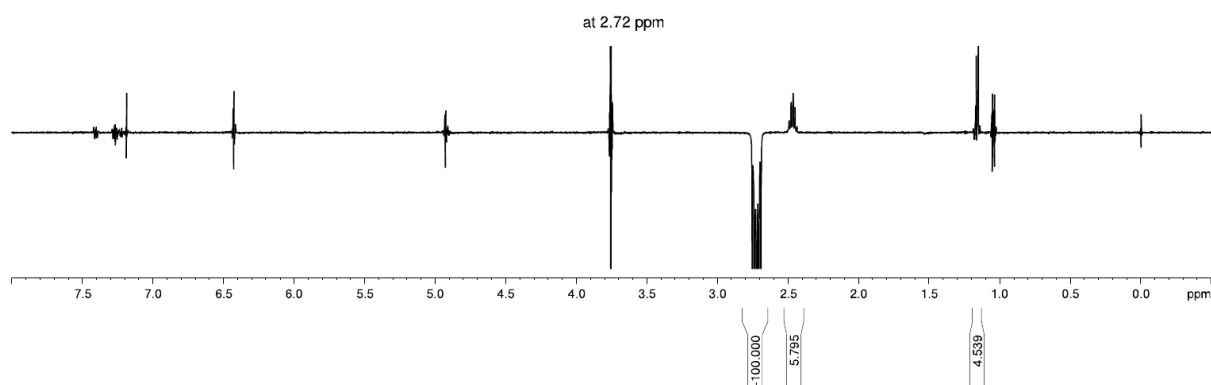
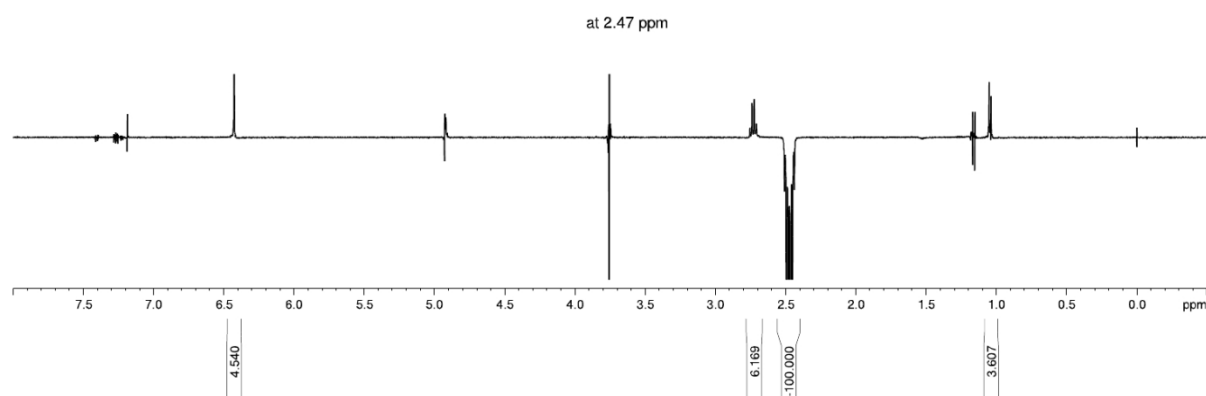
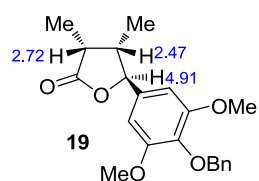
$^1\text{H}$  NMR spectrum of **19** (400 MHz,  $\text{CDCl}_3$ )



$^{13}\text{C}$  NMR spectrum of **19** (100 MHz,  $\text{CDCl}_3$ )

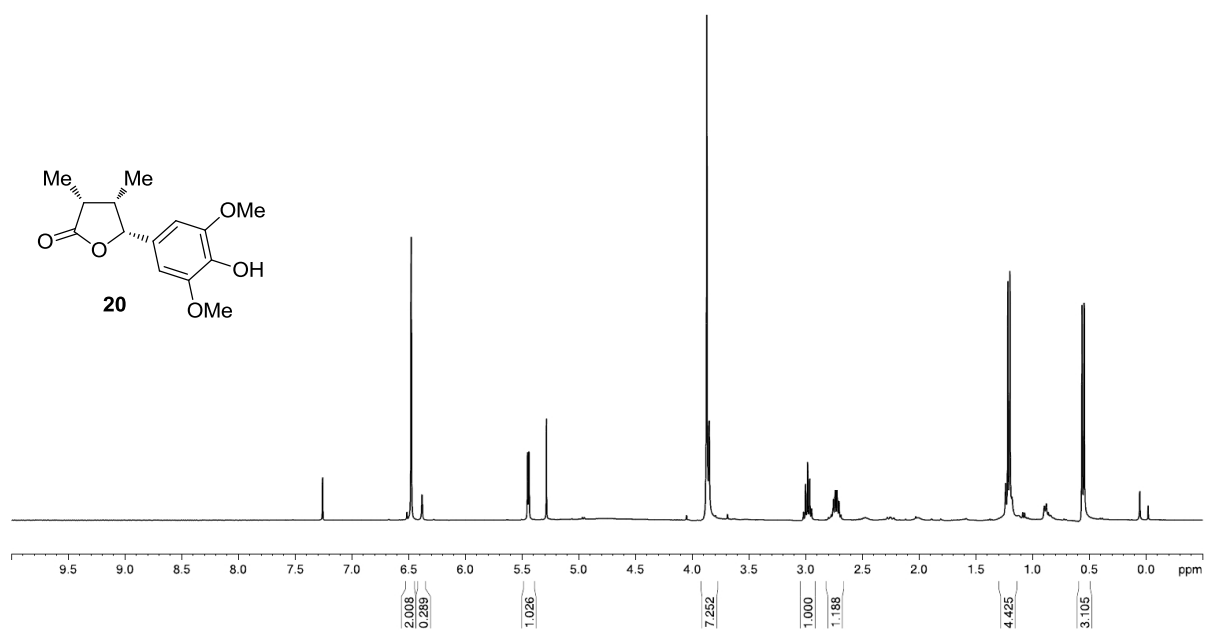


# NOE spectrum of **19** (500 MHz, CDCl<sub>3</sub>)

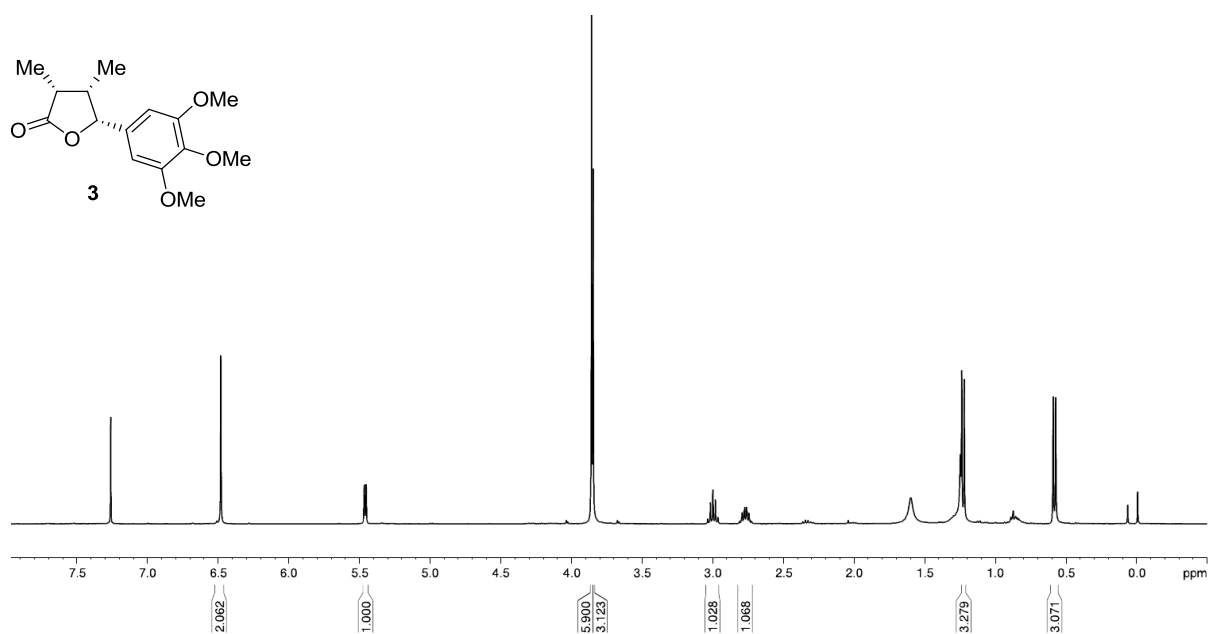




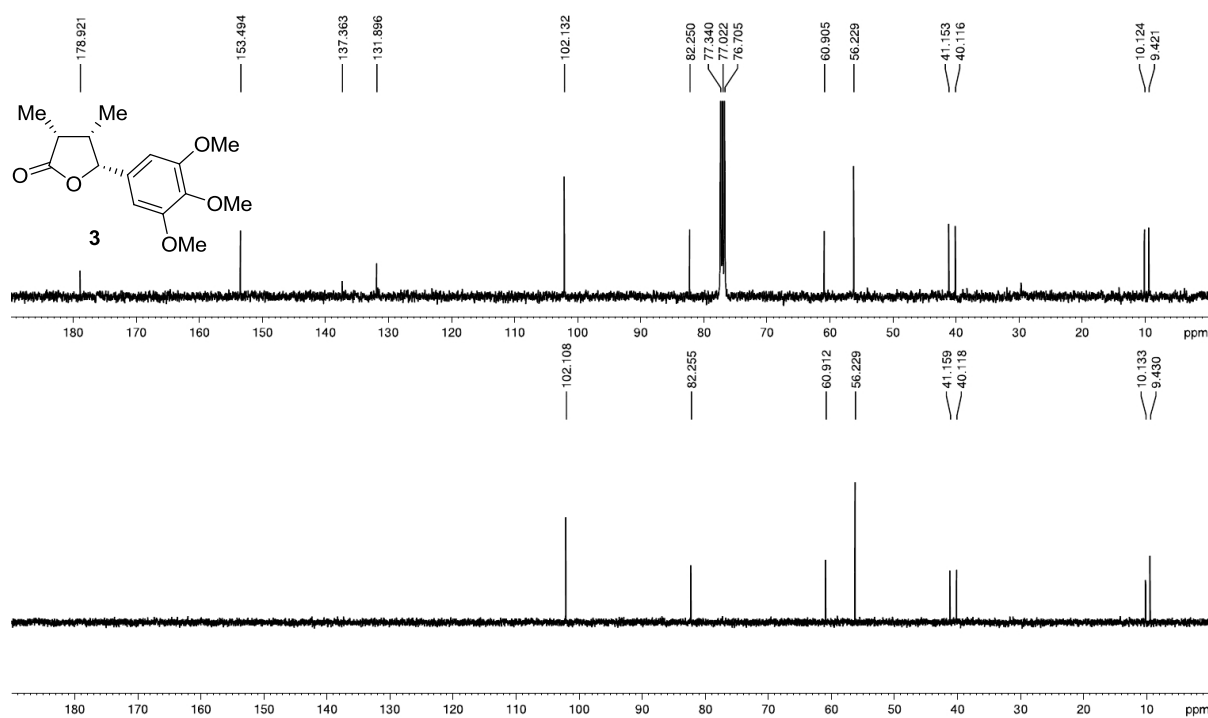
$^1\text{H}$  NMR spectrum of the crude compound **20** (400 MHz,  $\text{CDCl}_3$ )



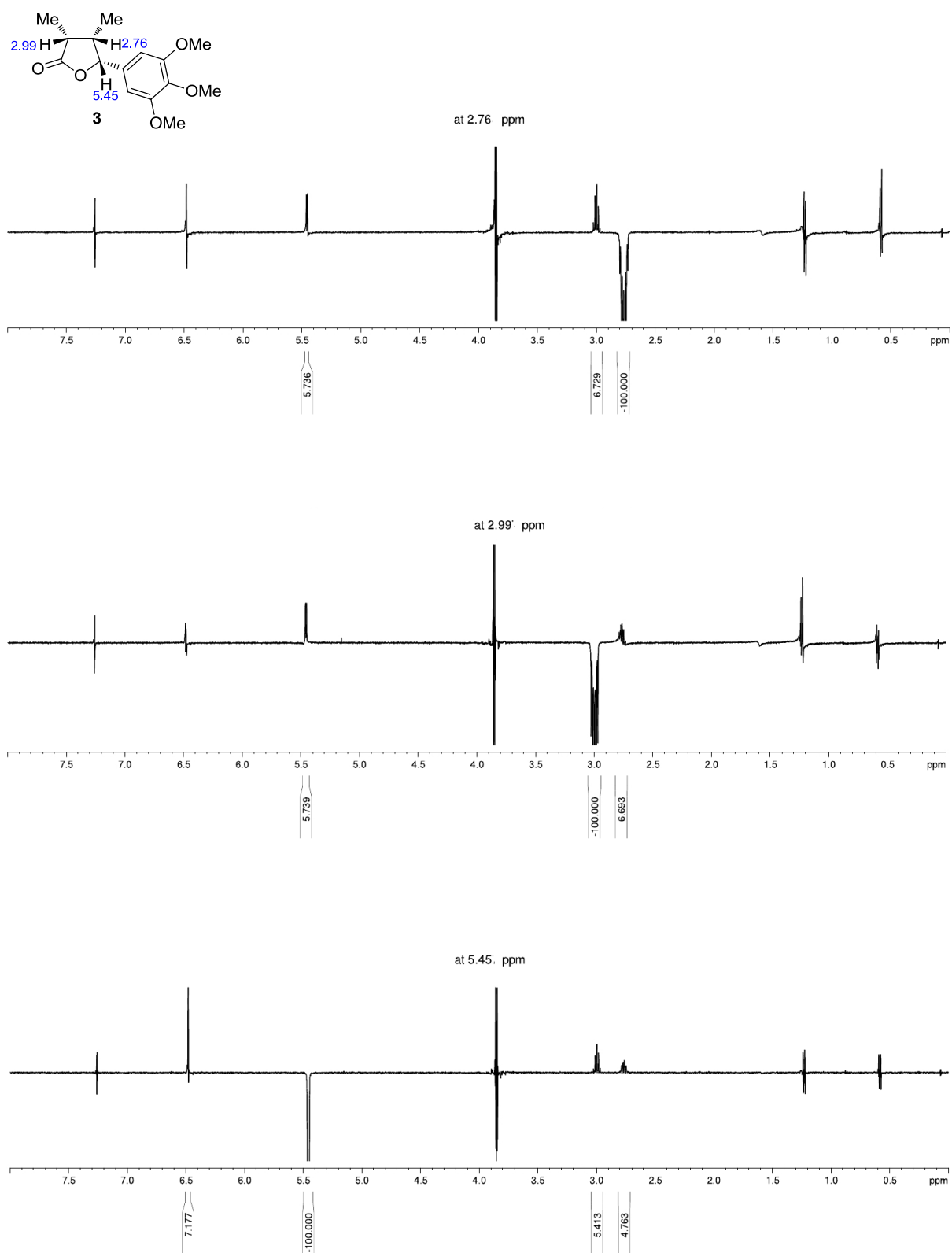
<sup>1</sup>H NMR spectrum of **3** (400 MHz, CDCl<sub>3</sub>)



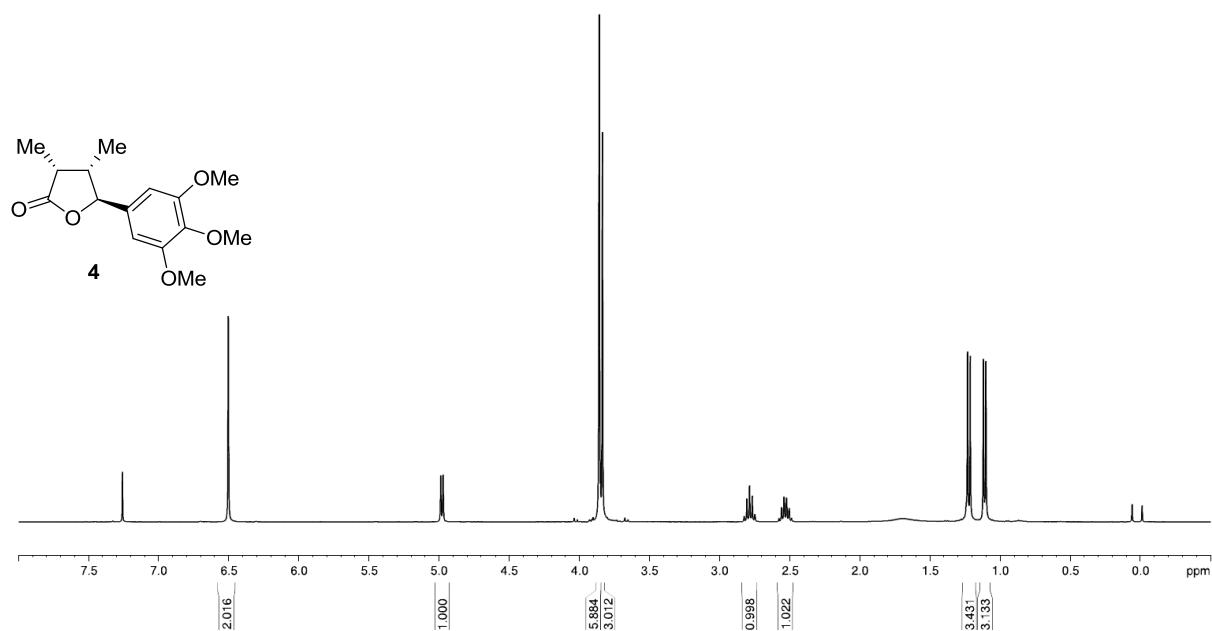
<sup>13</sup>C NMR spectrum of **3** (100 MHz, CDCl<sub>3</sub>)



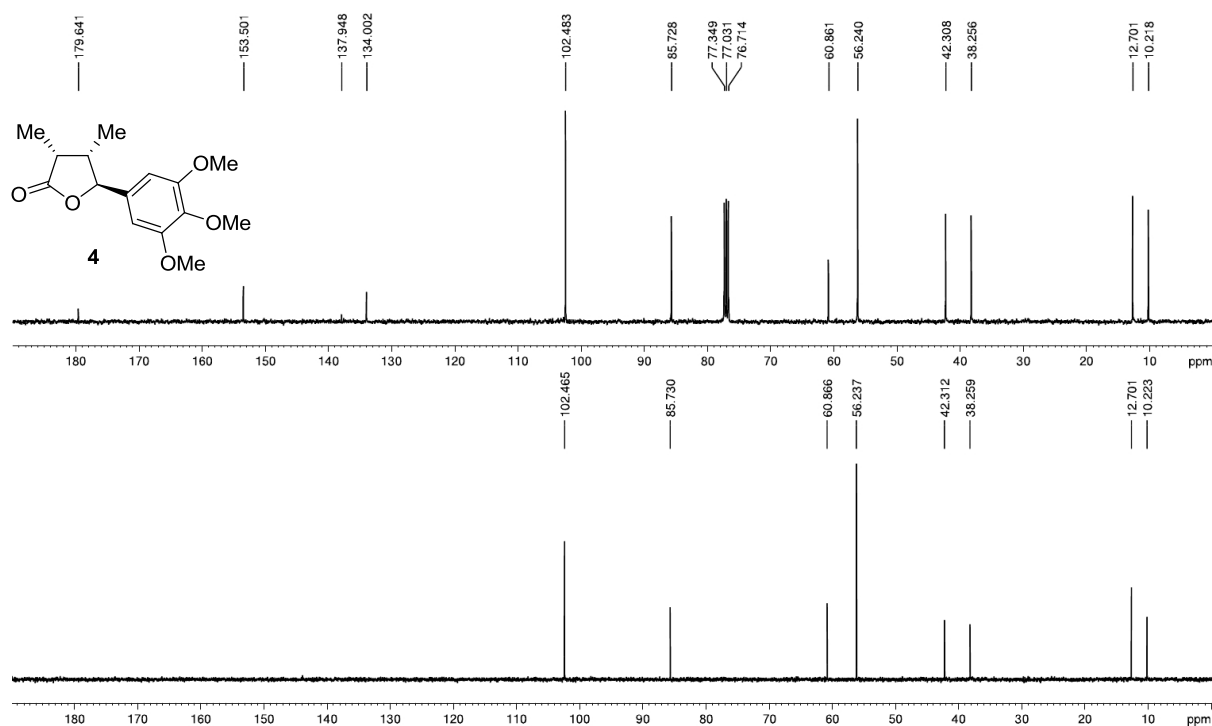
# NOE spectrum of **3** (500 MHz, CDCl<sub>3</sub>)



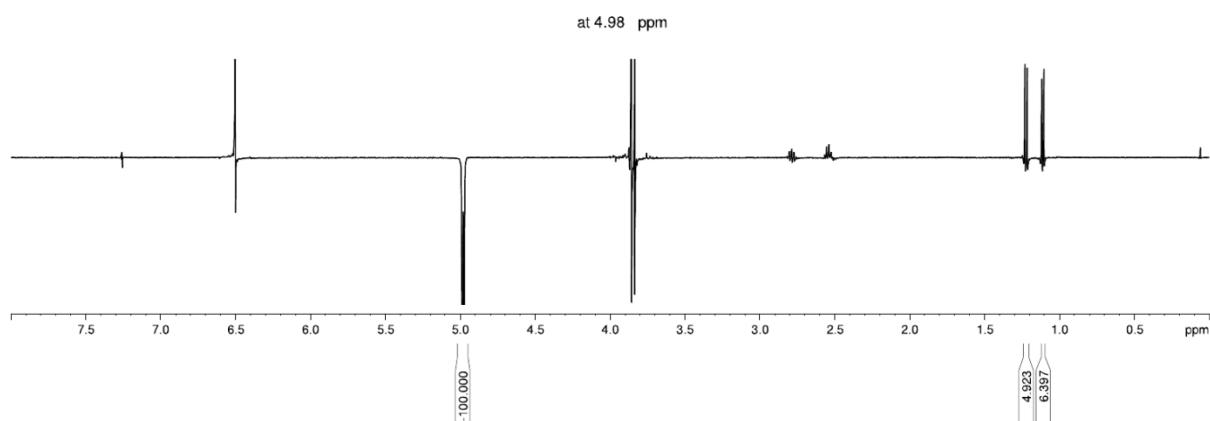
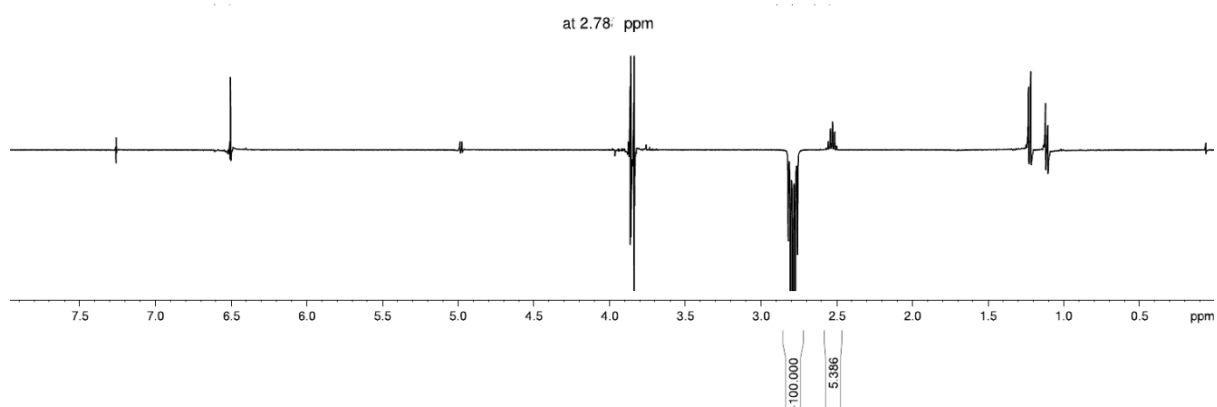
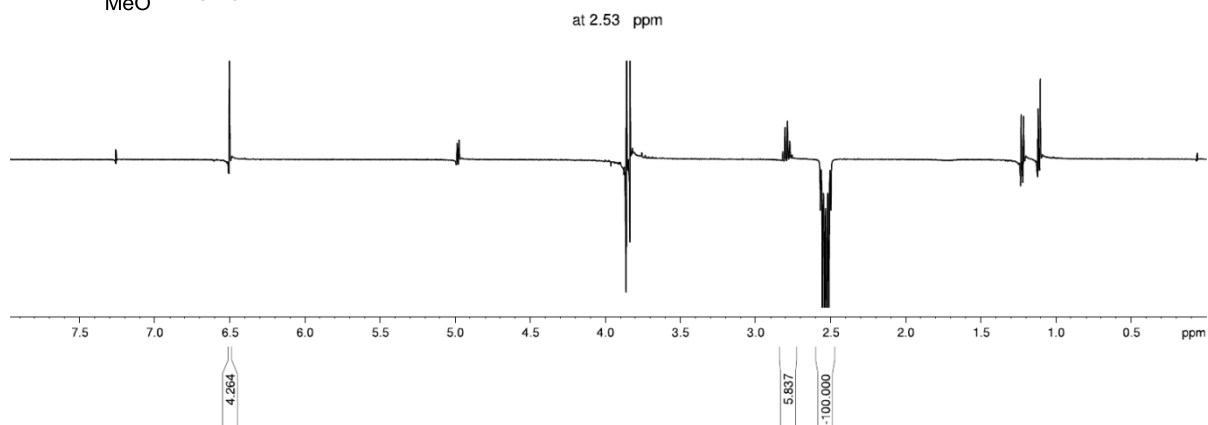
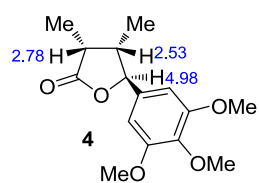
$^1\text{H}$  NMR spectrum of **4** (400 MHz,  $\text{CDCl}_3$ )



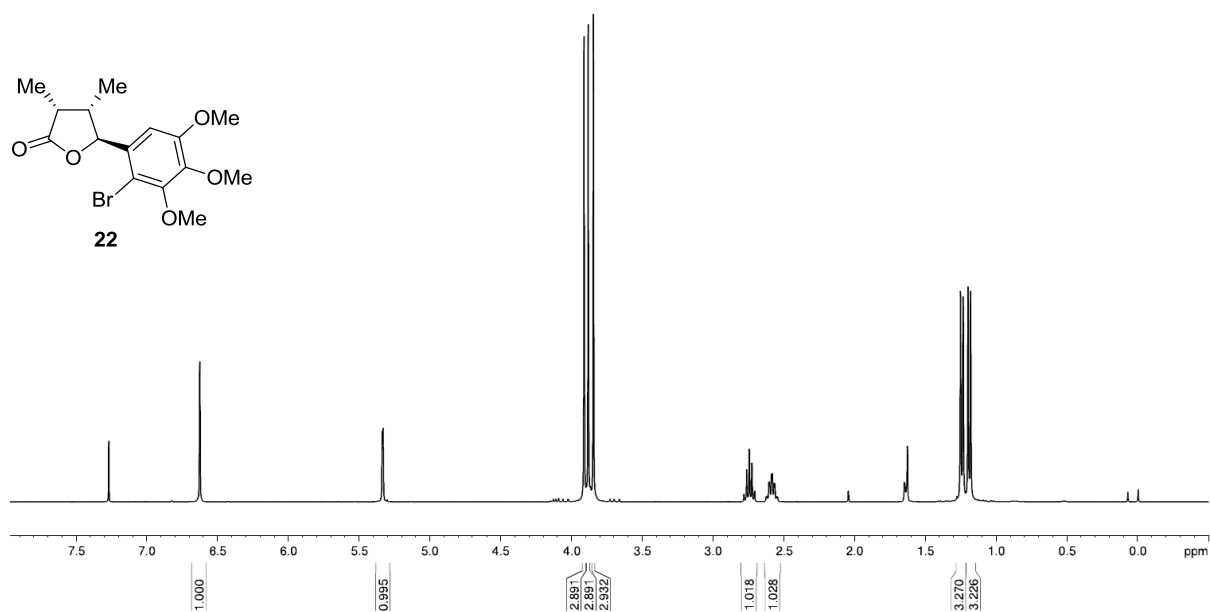
$^{13}\text{C}$  NMR spectrum of **4** (100 MHz,  $\text{CDCl}_3$ )



# NOE spectrum of **4** (500 MHz, CDCl<sub>3</sub>)



$^1\text{H}$  NMR spectrum of **22** (400 MHz,  $\text{CDCl}_3$ )



$^{13}\text{C}$  NMR spectrum of **22** (100 MHz,  $\text{CDCl}_3$ )

