

# I<sub>2</sub>-Mediated Sulfenylation and Na<sub>2</sub>SO<sub>3</sub>-Mediated C-C Deacylation: A General Protocol for the Synthesis of β-Keto sulfones and β-Dicarbonyl sulfones (Supplementary Information)

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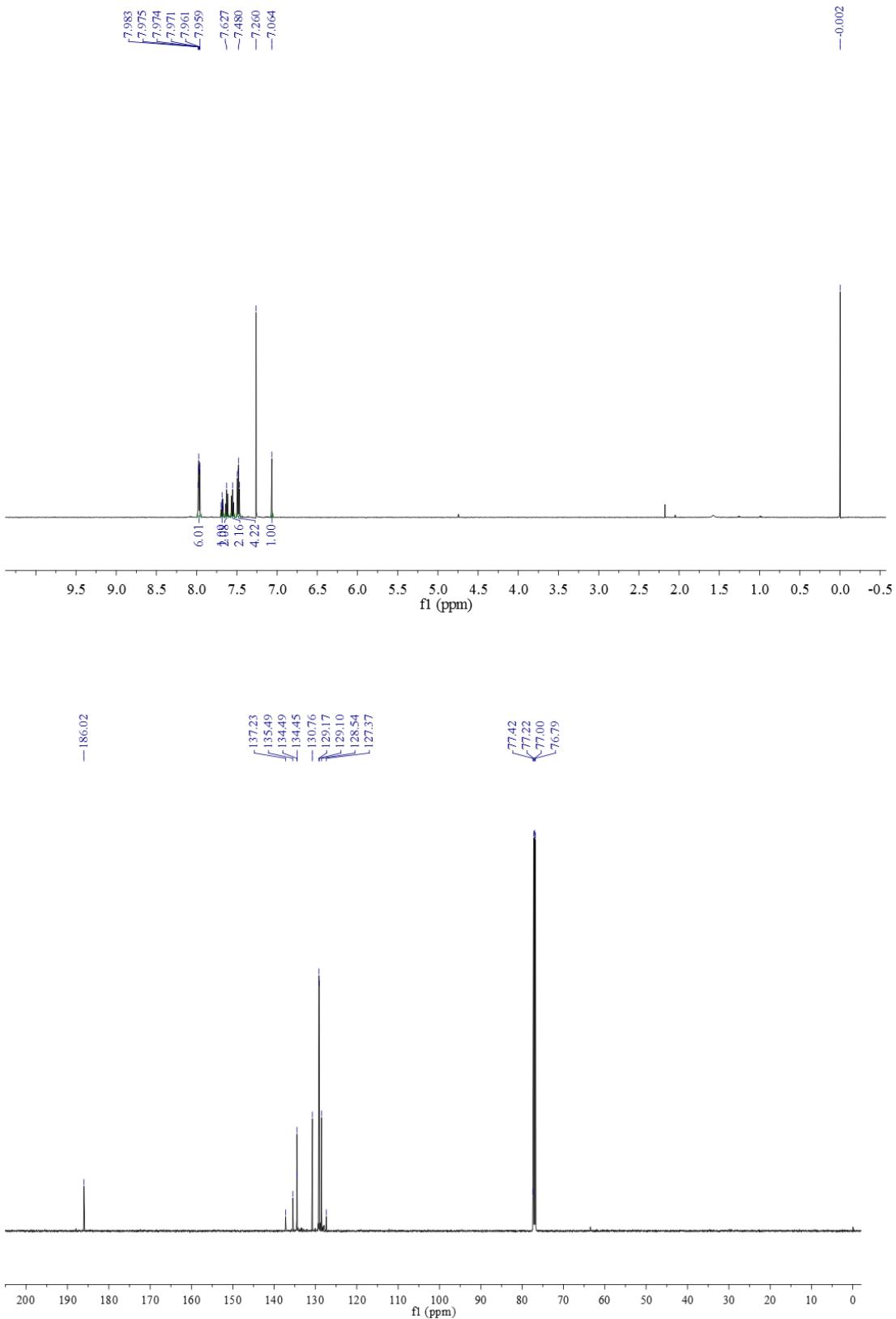
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[changhonghong@tyut.edu.cn](mailto:changhonghong@tyut.edu.cn)

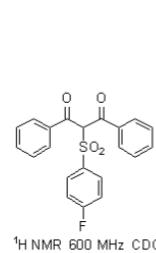
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- S30: <sup>1</sup>H & <sup>13</sup>C NMR spectrum of **8**
- S31: <sup>1</sup>H & <sup>13</sup>C NMR spectrum of **9**

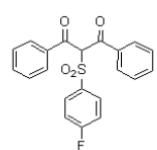
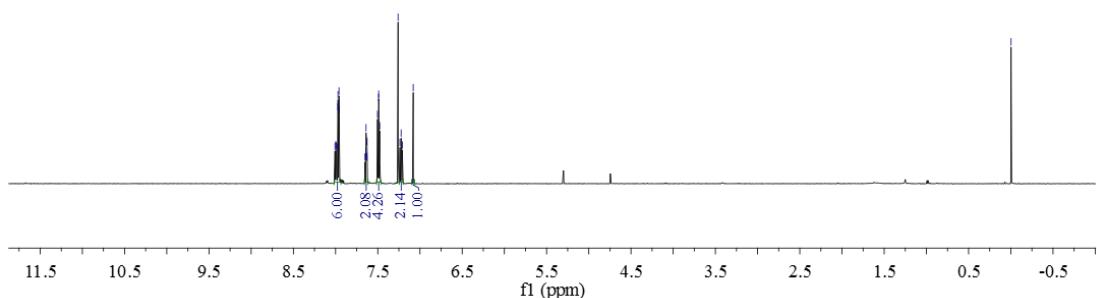
**3a**



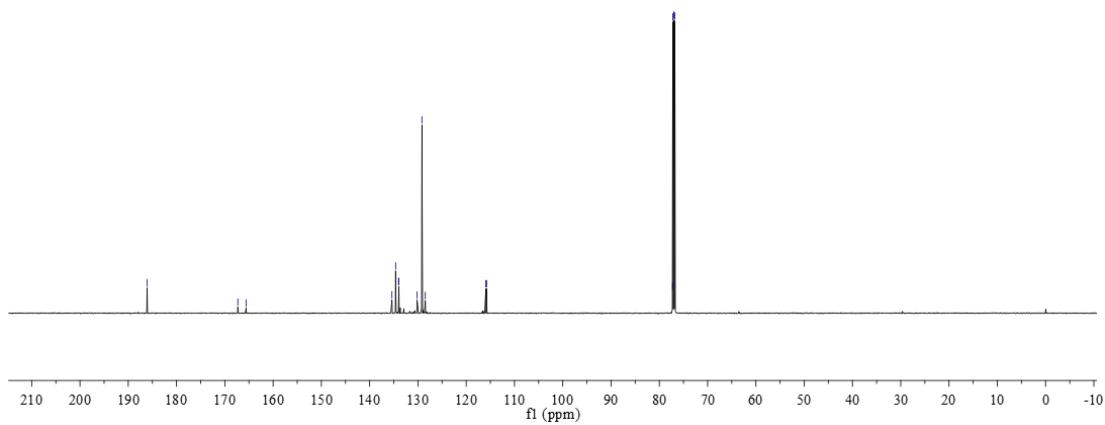
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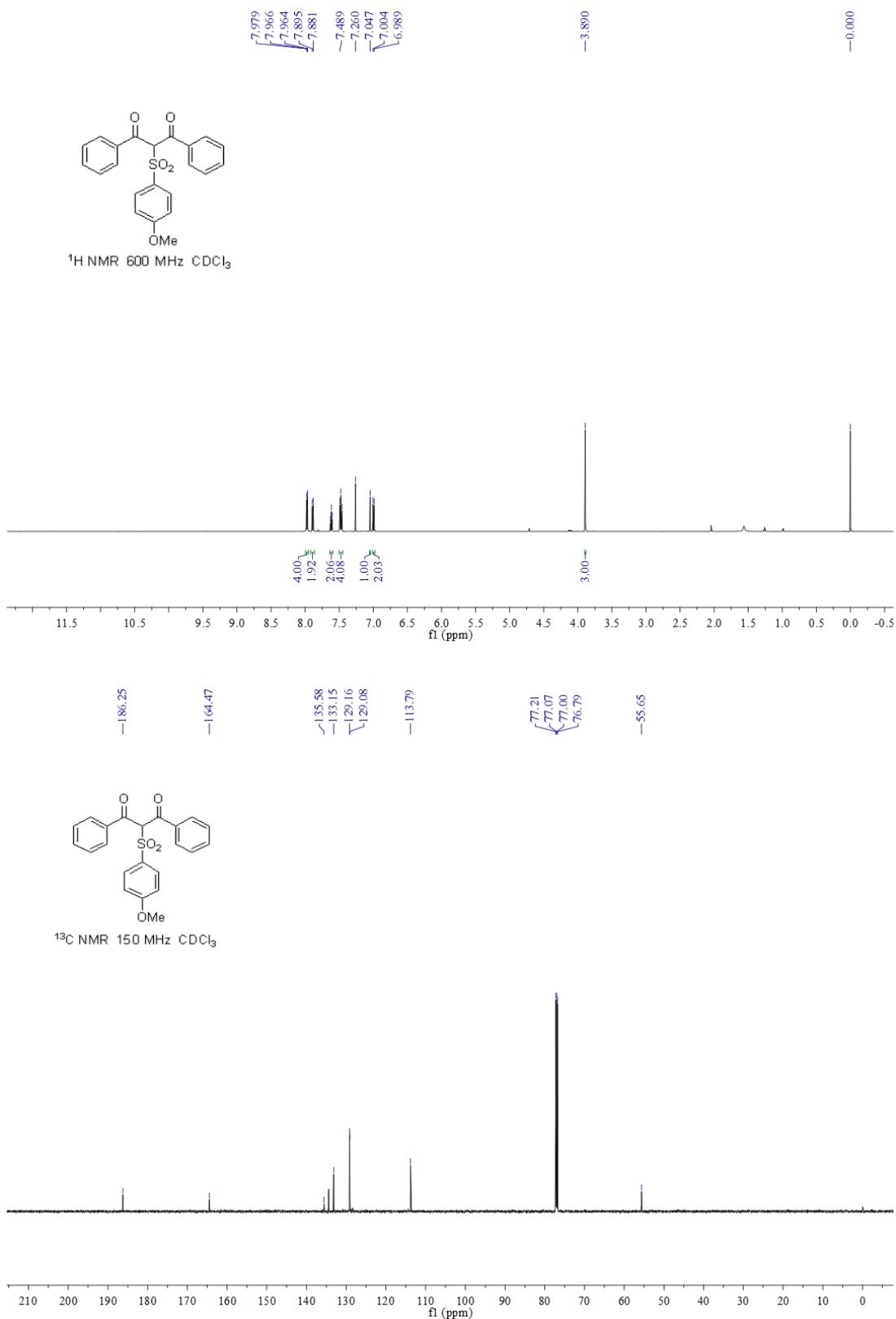
<sup>1</sup>H NMR 600 MHz CDCl<sub>3</sub>



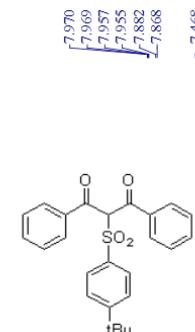
<sup>13</sup>C NMR 150 MHz CDCl<sub>3</sub>



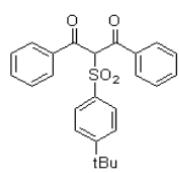
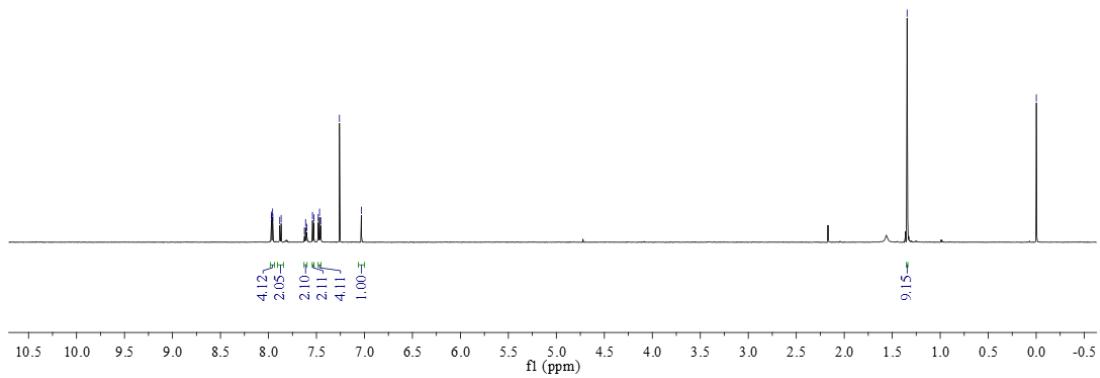
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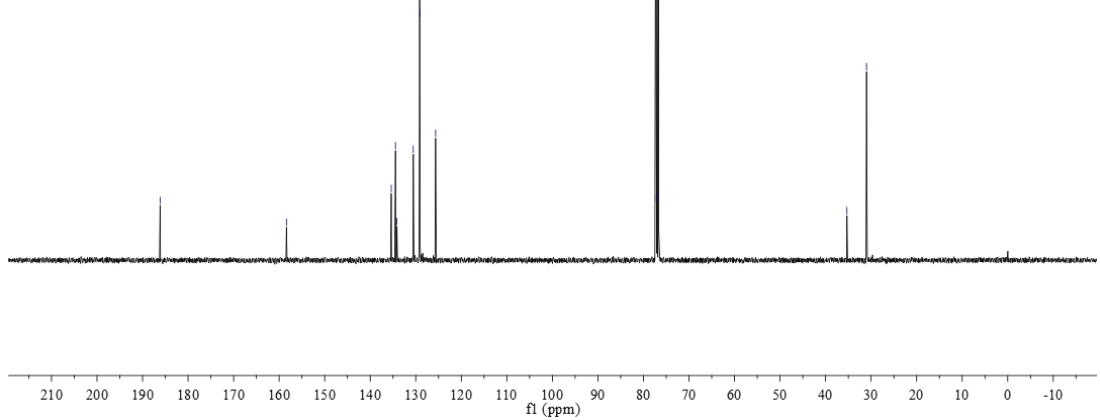
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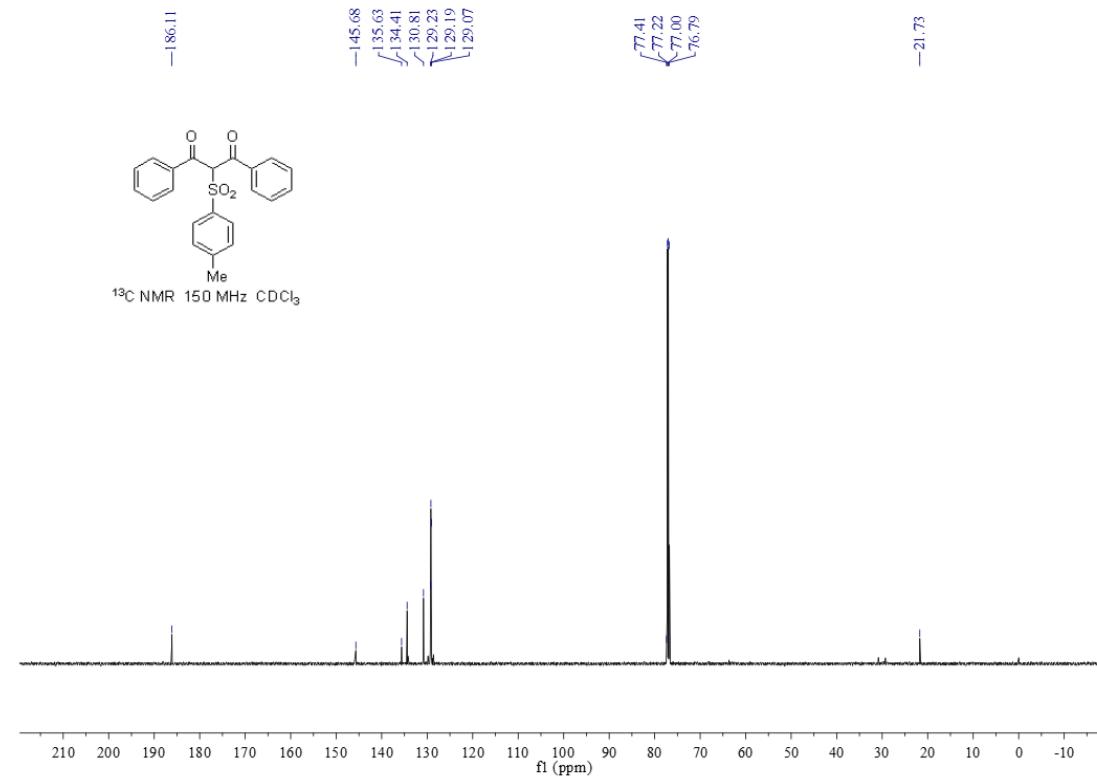
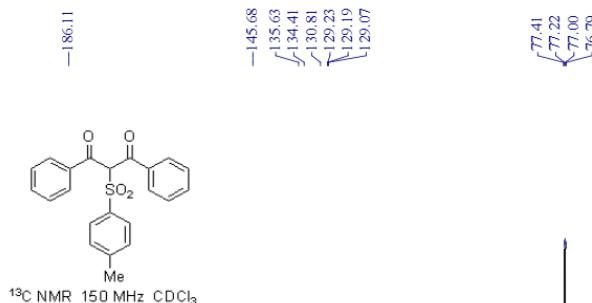
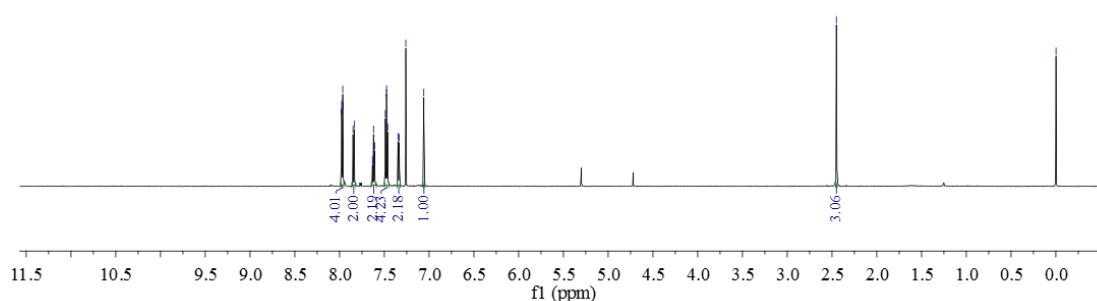
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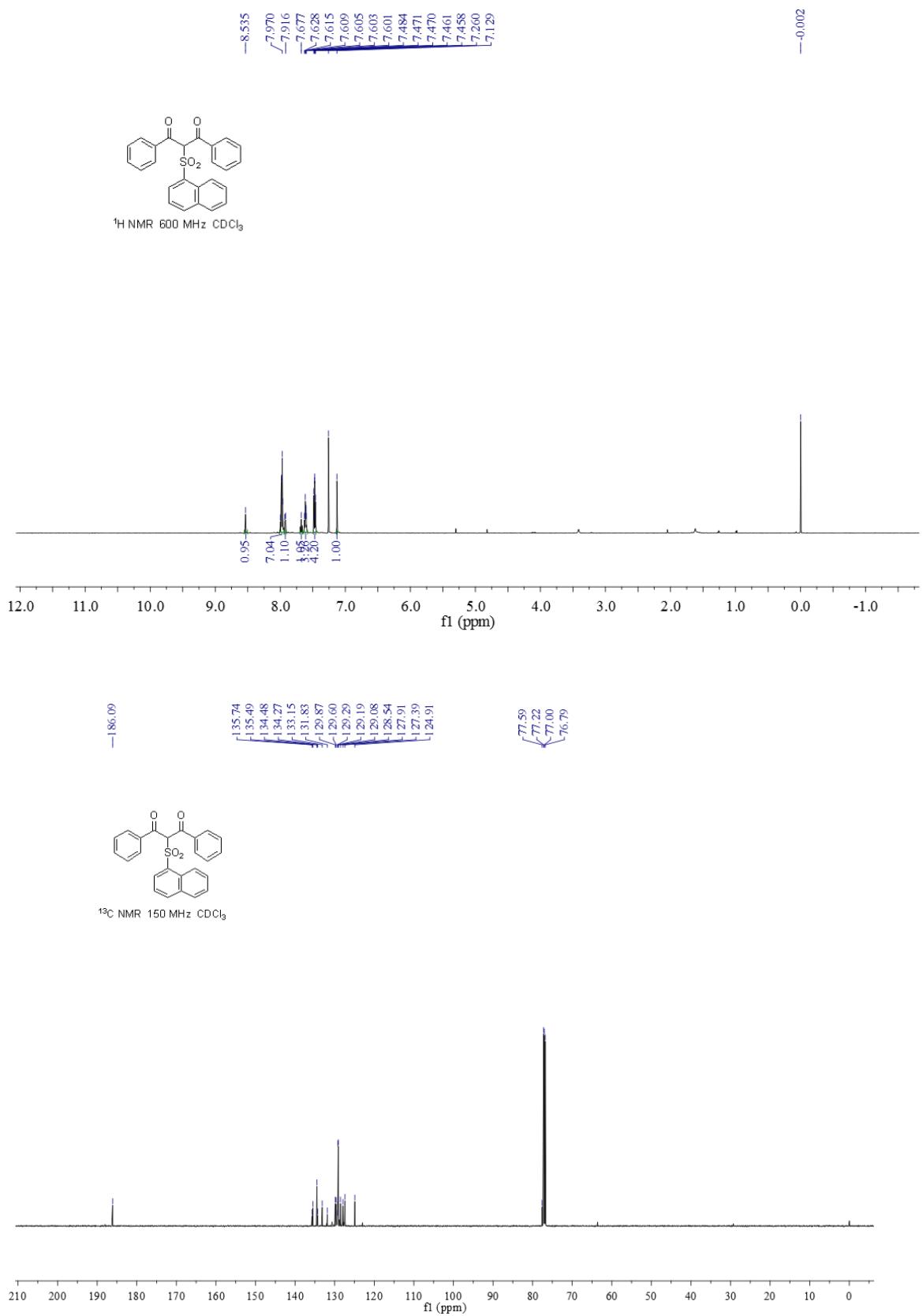
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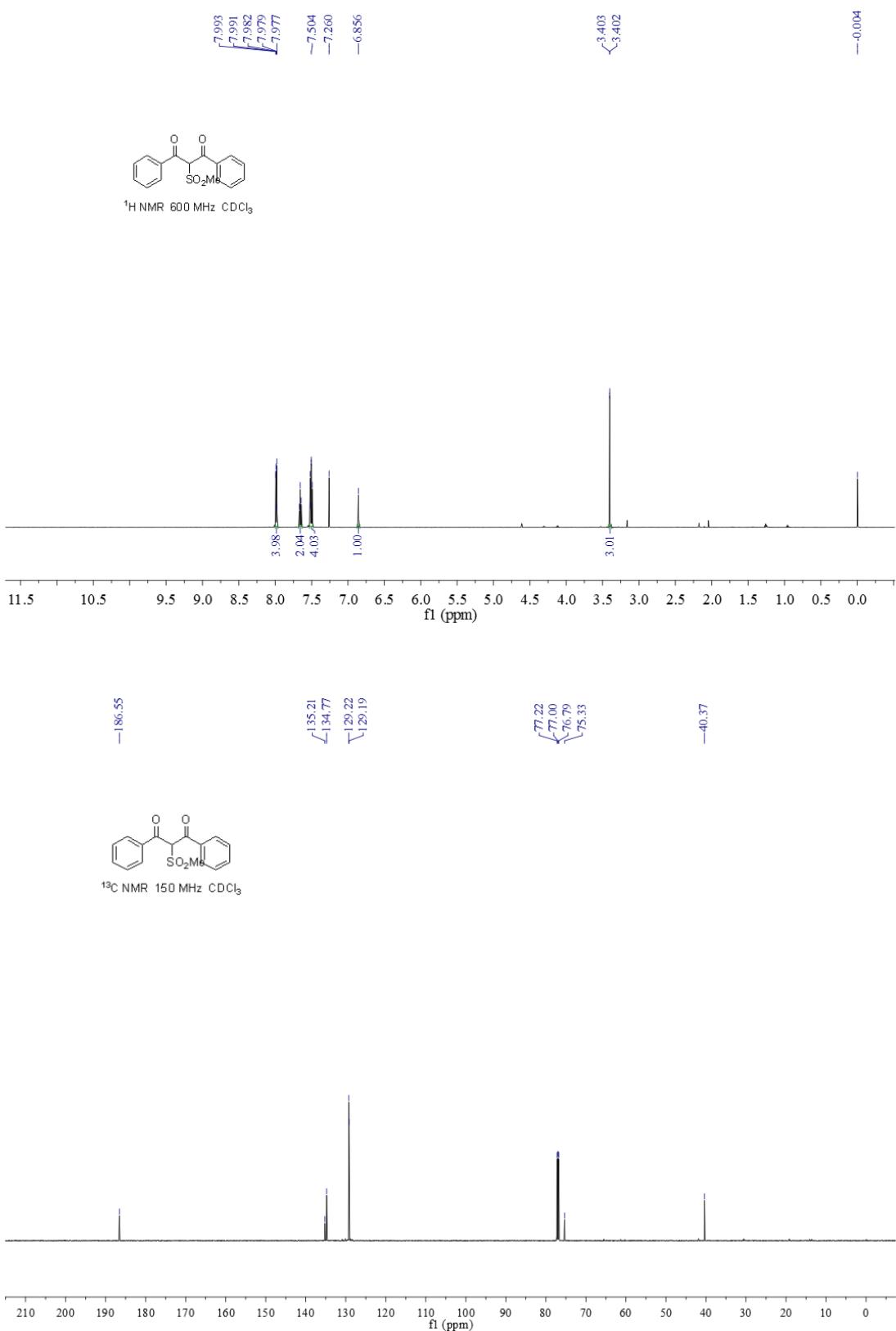
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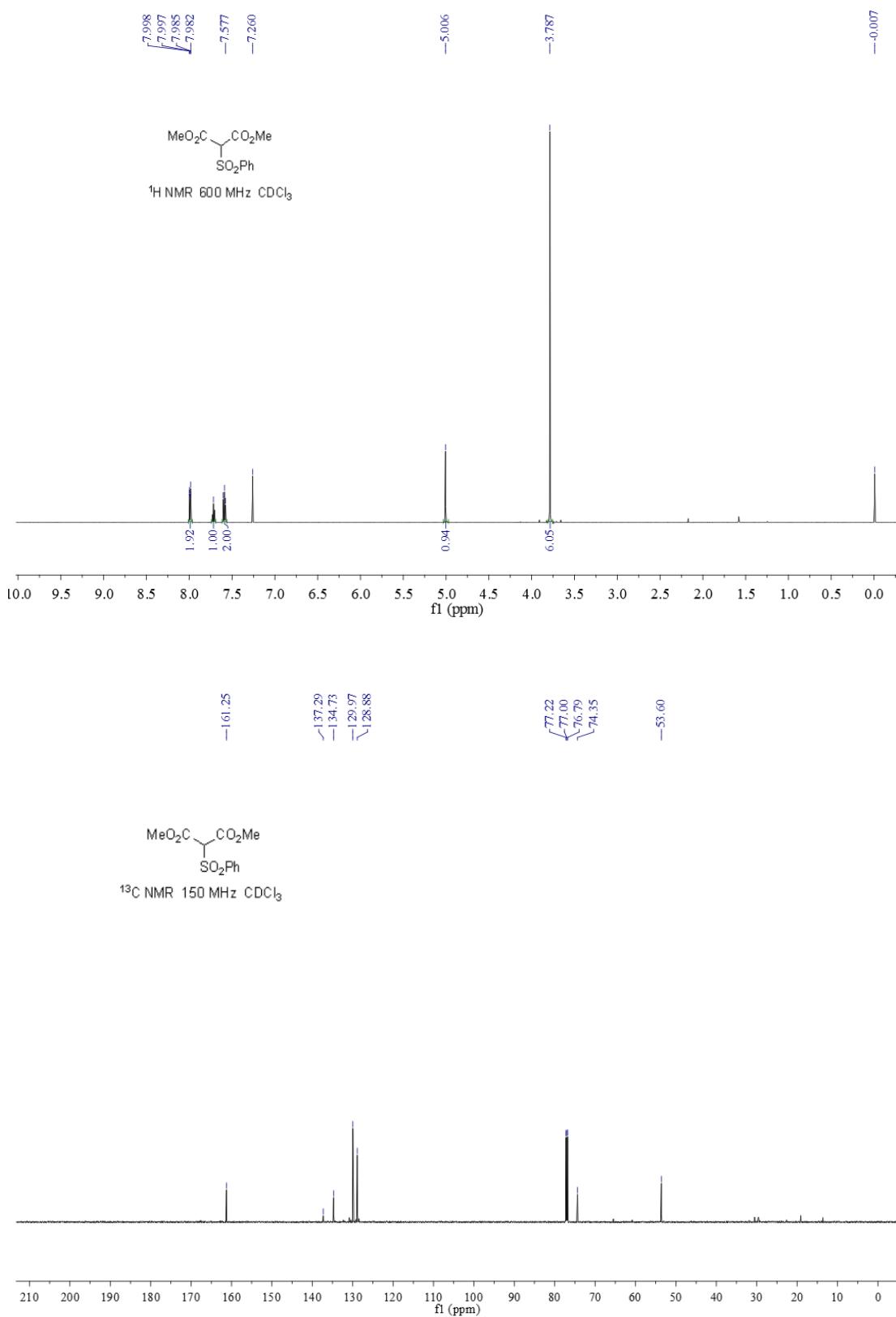
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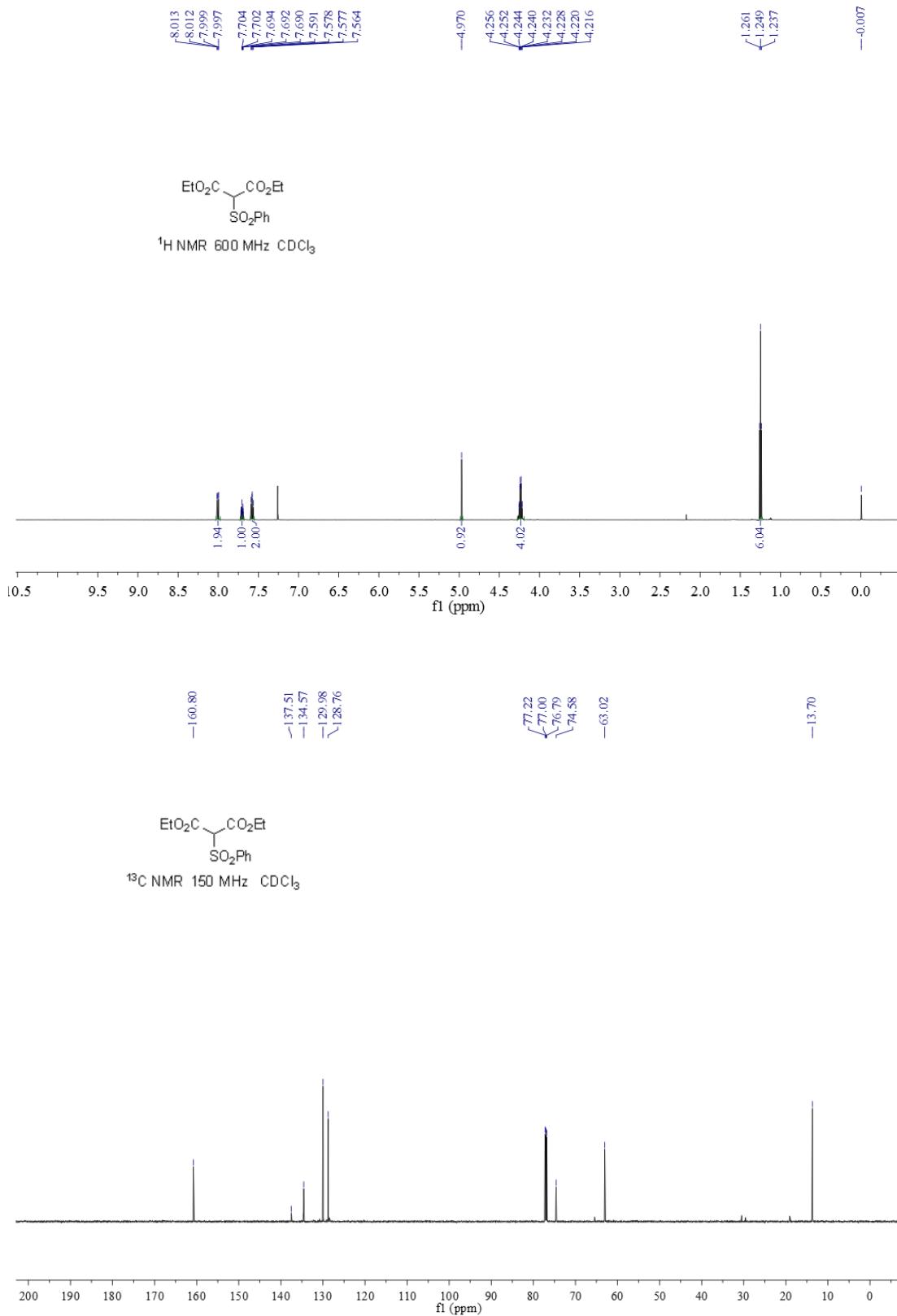
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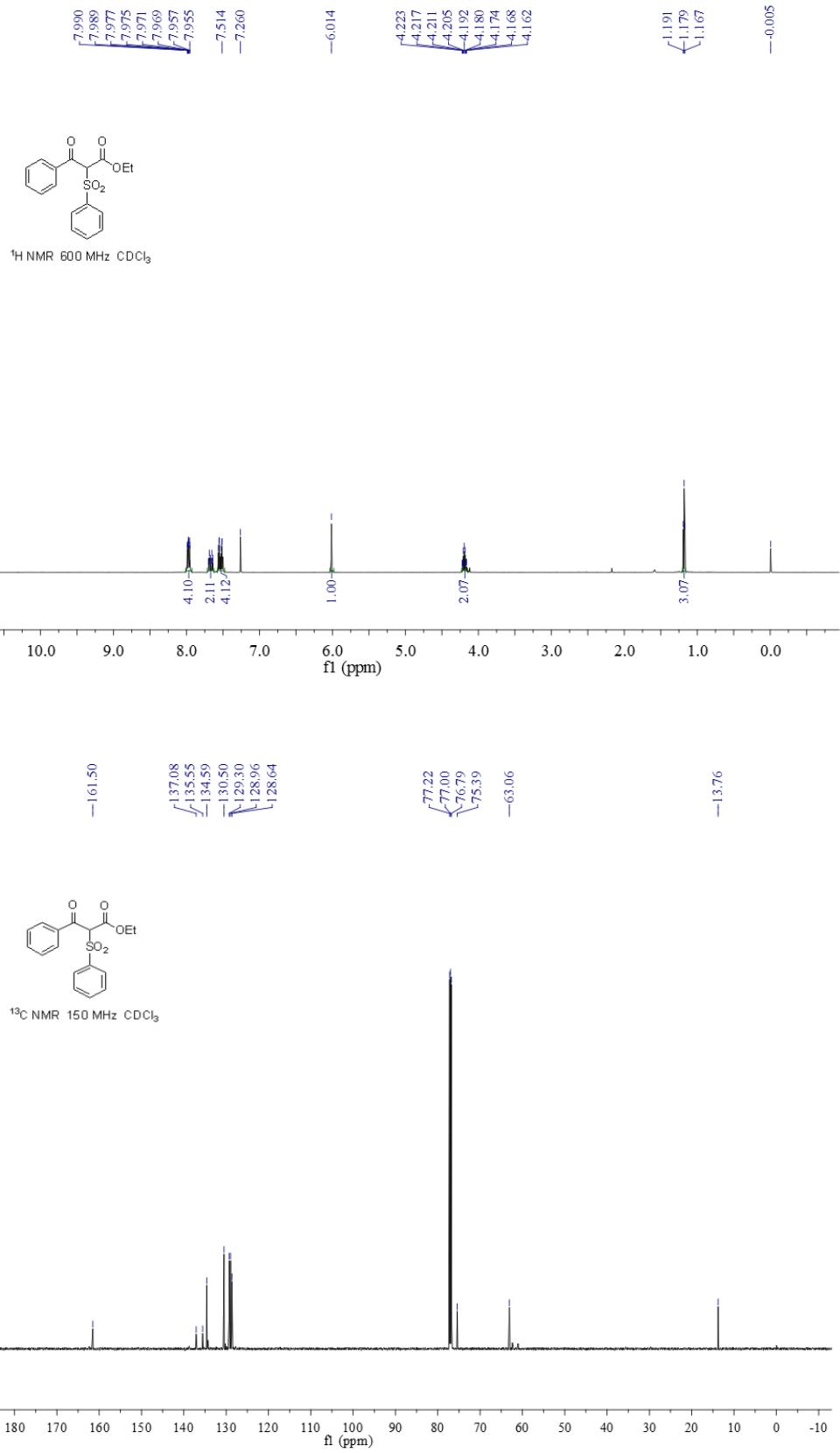
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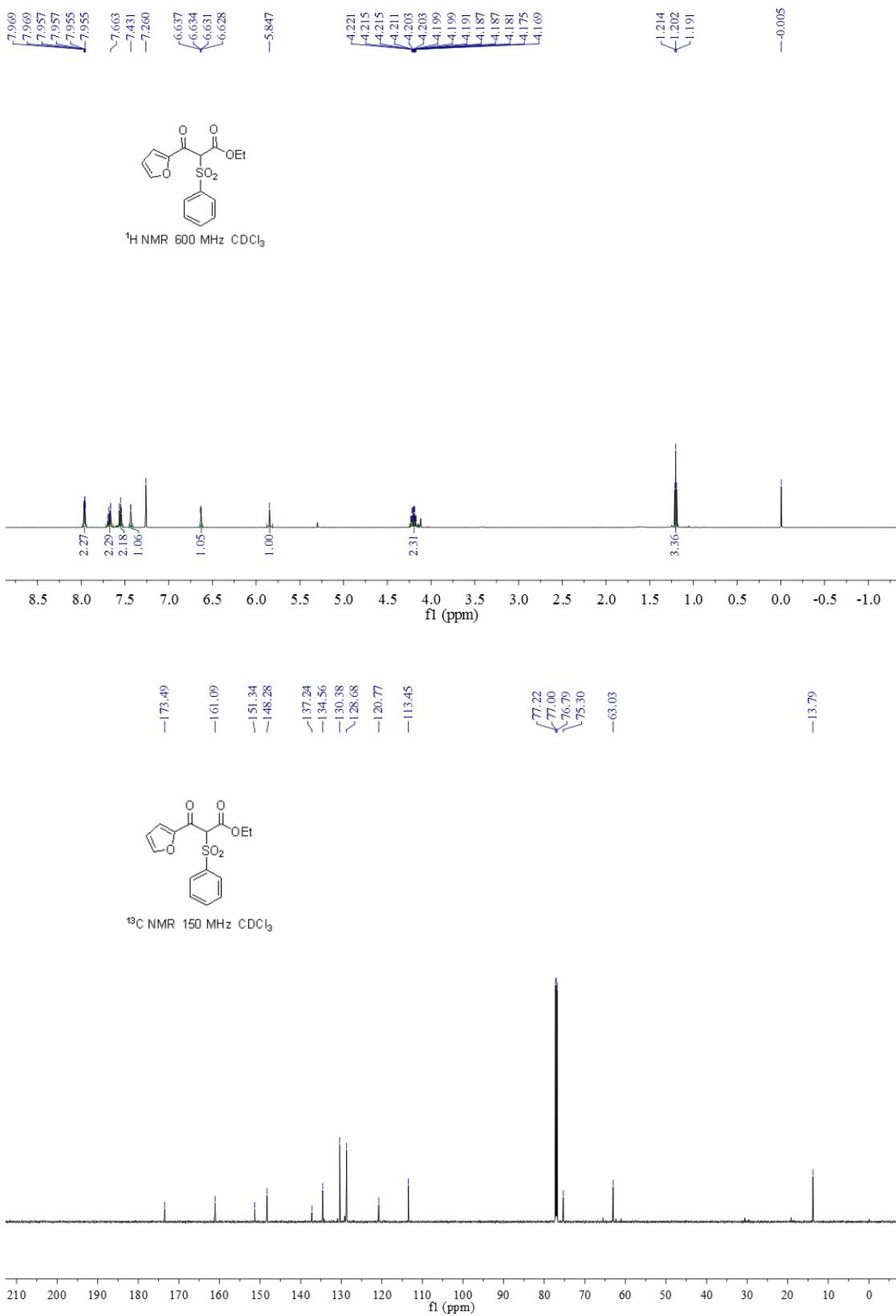
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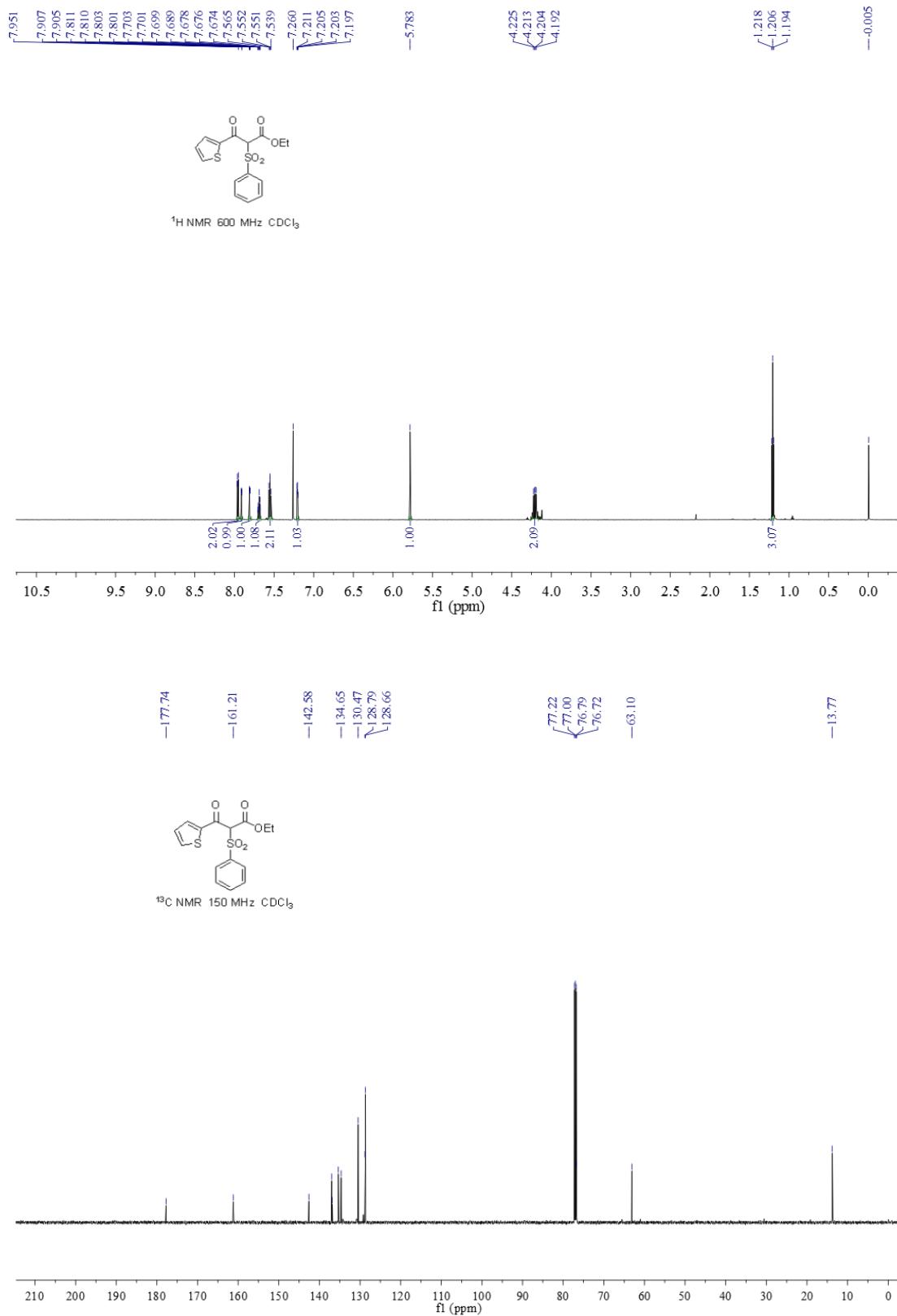
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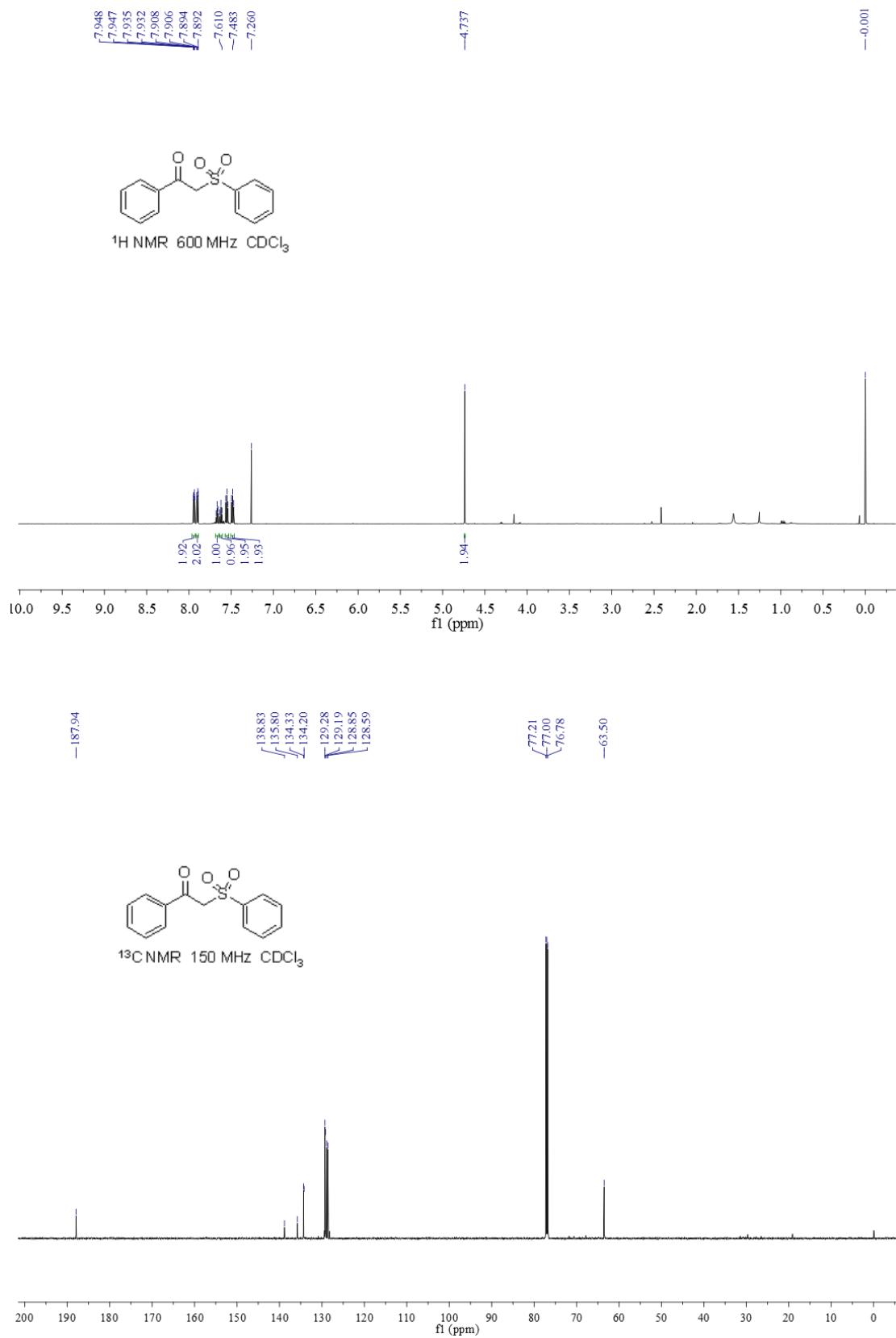
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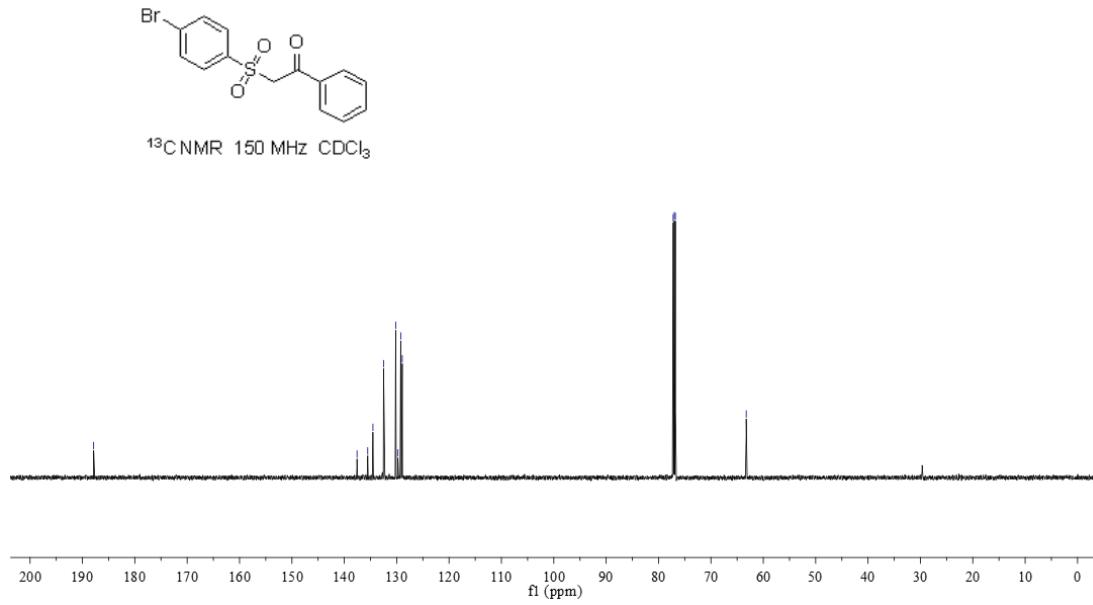
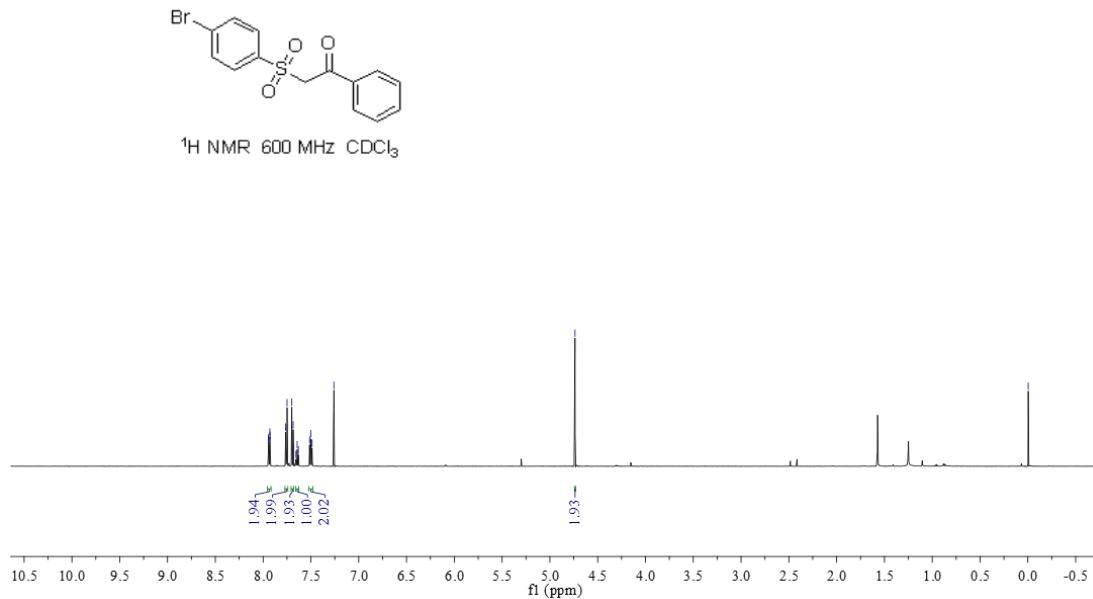
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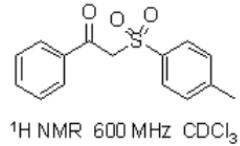
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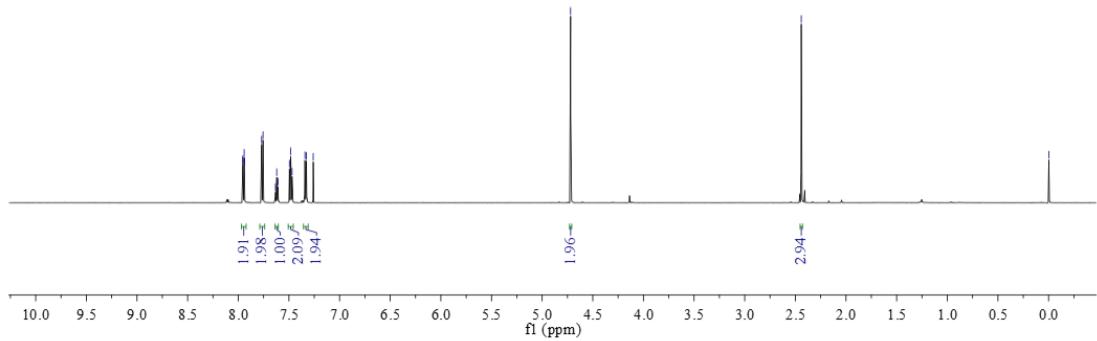
**4b**



**4c**



<sup>1</sup>H NMR 600 MHz CDCl<sub>3</sub>

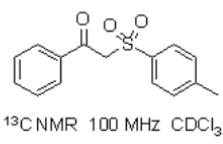


-188.12

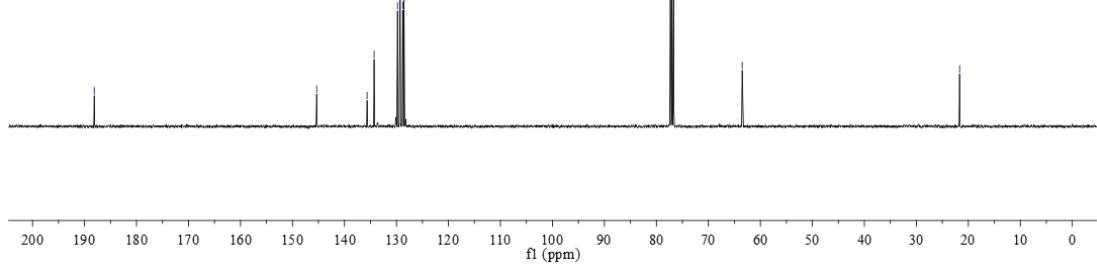
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-135.65  
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-129.79  
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-128.56

77.32  
77.00  
76.68  
63.49

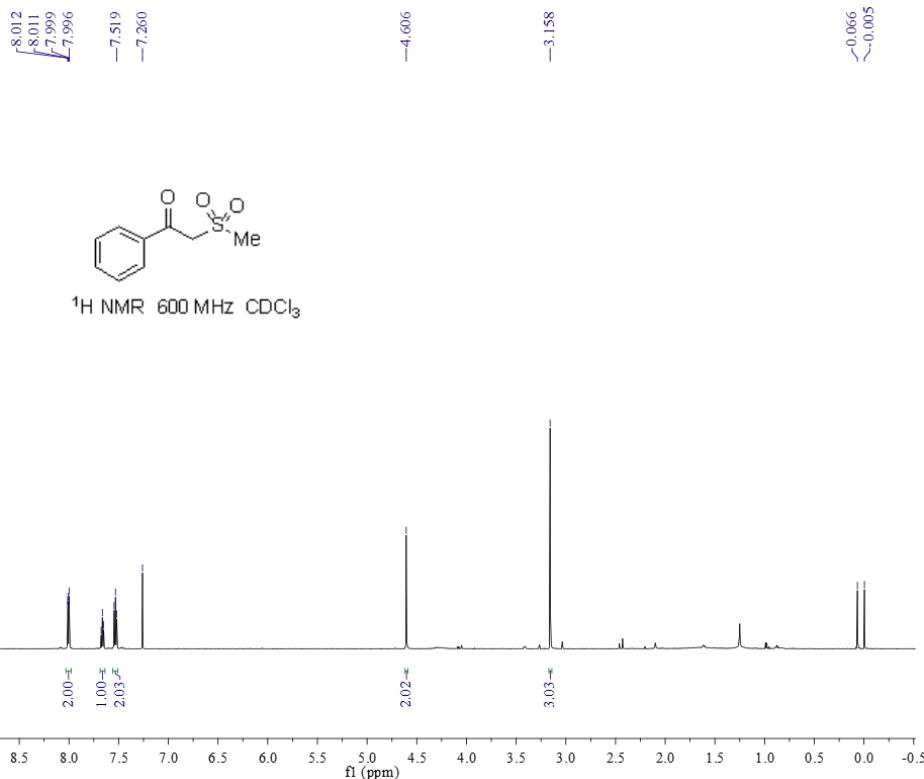
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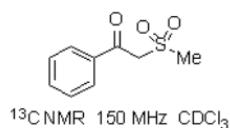
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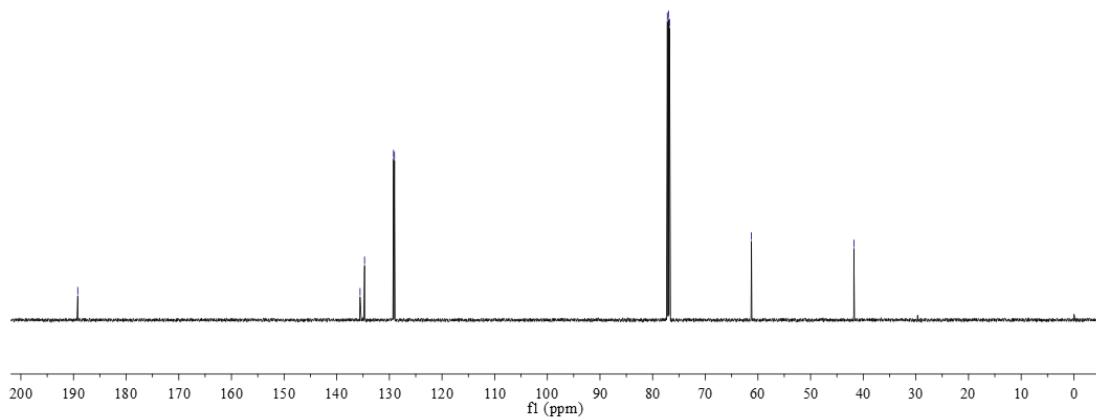
**4d**



-189.19  
—<sup>135.57</sup>  
—<sup>134.71</sup>  
—<sup>129.22</sup>  
—<sup>129.03</sup>

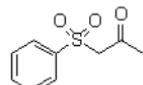


<sup>13</sup>C NMR 150 MHz CDCl<sub>3</sub>

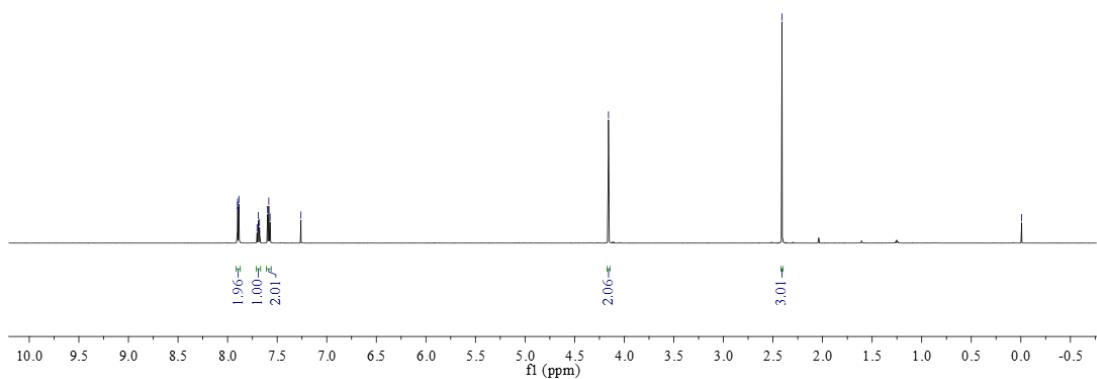


**4e**

7.900  
7.898  
7.886  
7.884  
—7.584  
—7.260  
—4.159  
—2.409  
—0.008



<sup>1</sup>H NMR 600 MHz CDCl<sub>3</sub>

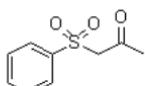


—195.82

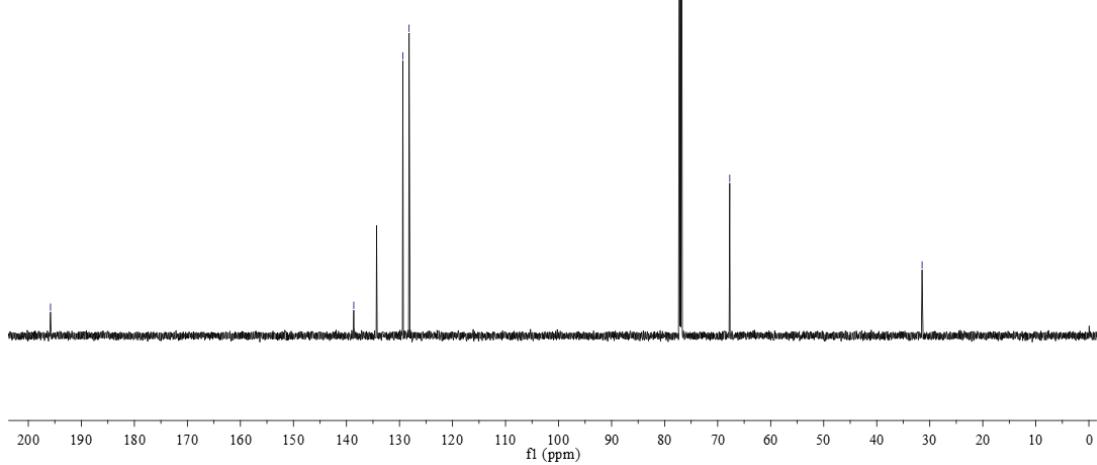
—138.62  
—129.37  
—128.19

77.21  
77.00  
76.78  
—67.72

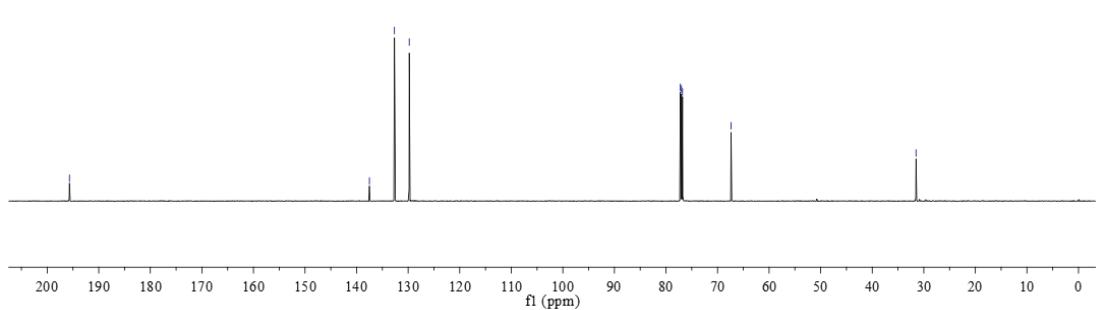
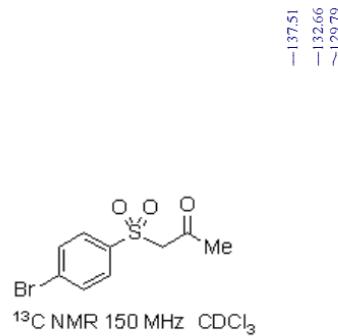
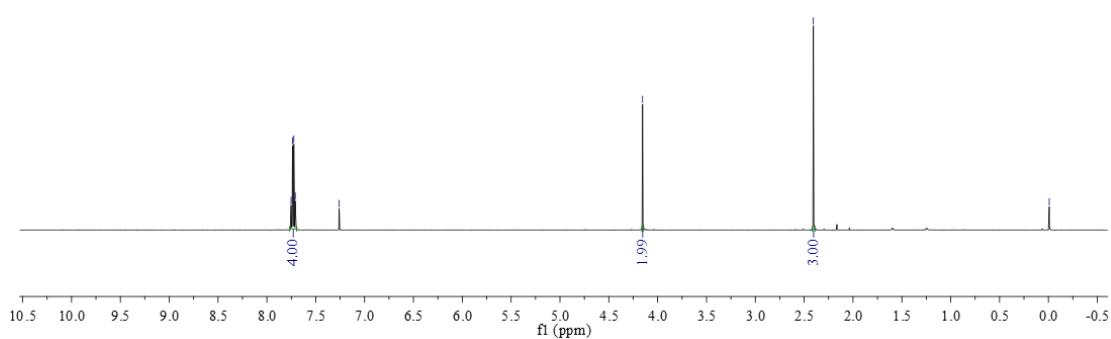
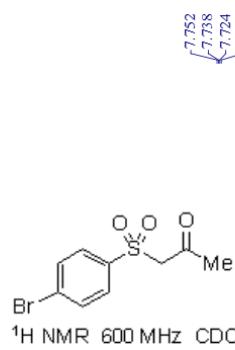
—31.45



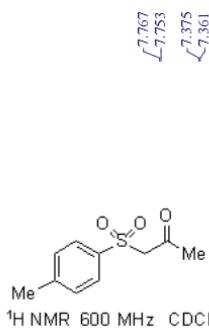
<sup>13</sup>C NMR 150 MHz CDCl<sub>3</sub>



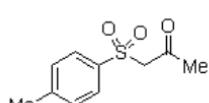
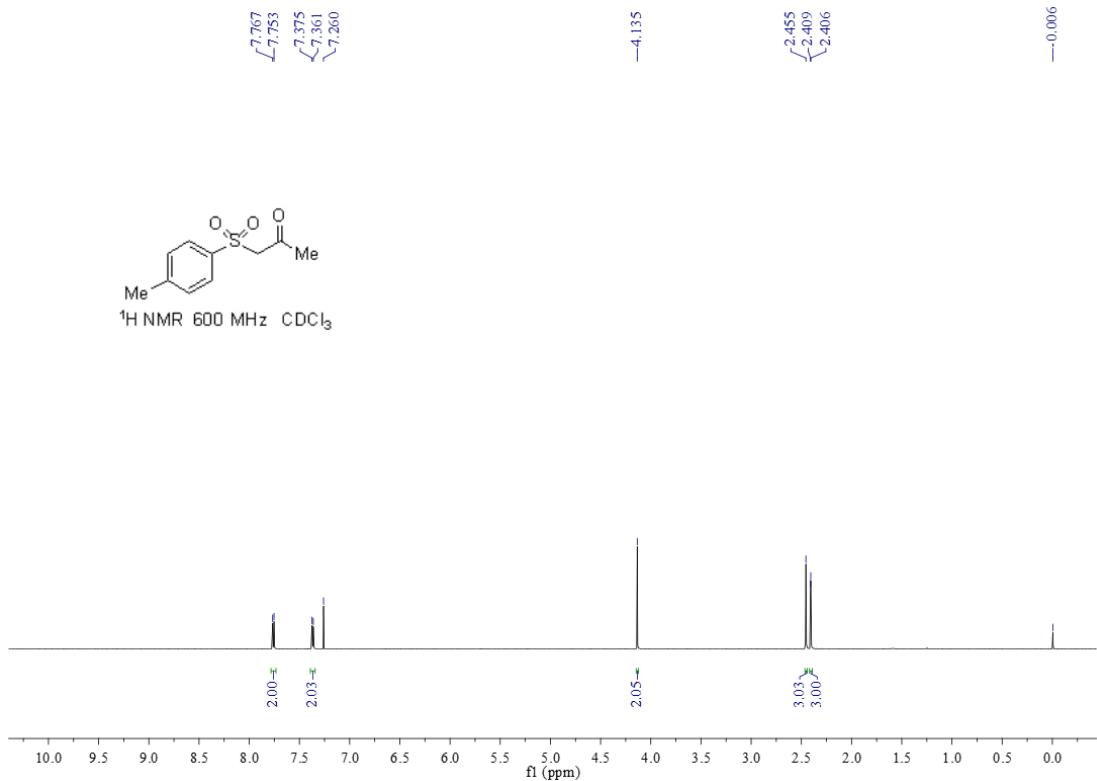
**4f**



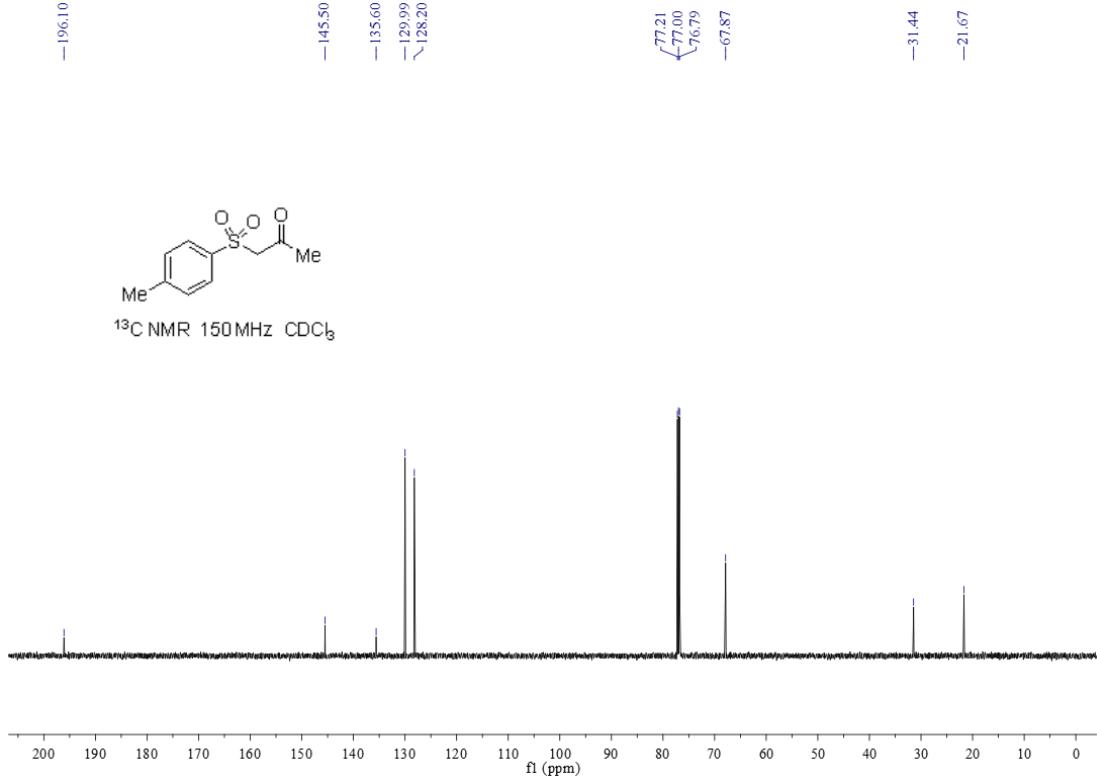
**4g**



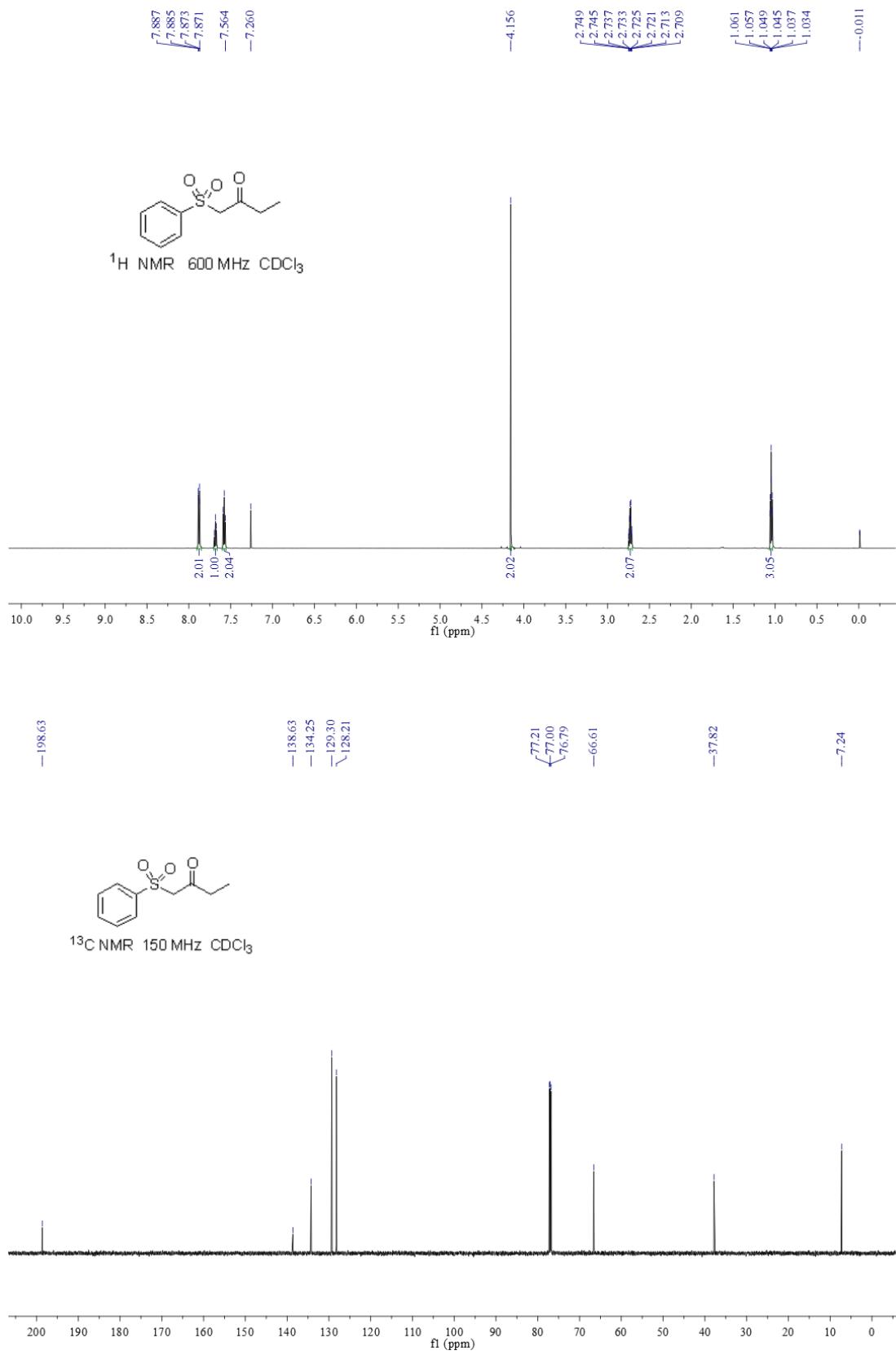
$^1\text{H}$  NMR 600 MHz  $\text{CDCl}_3$



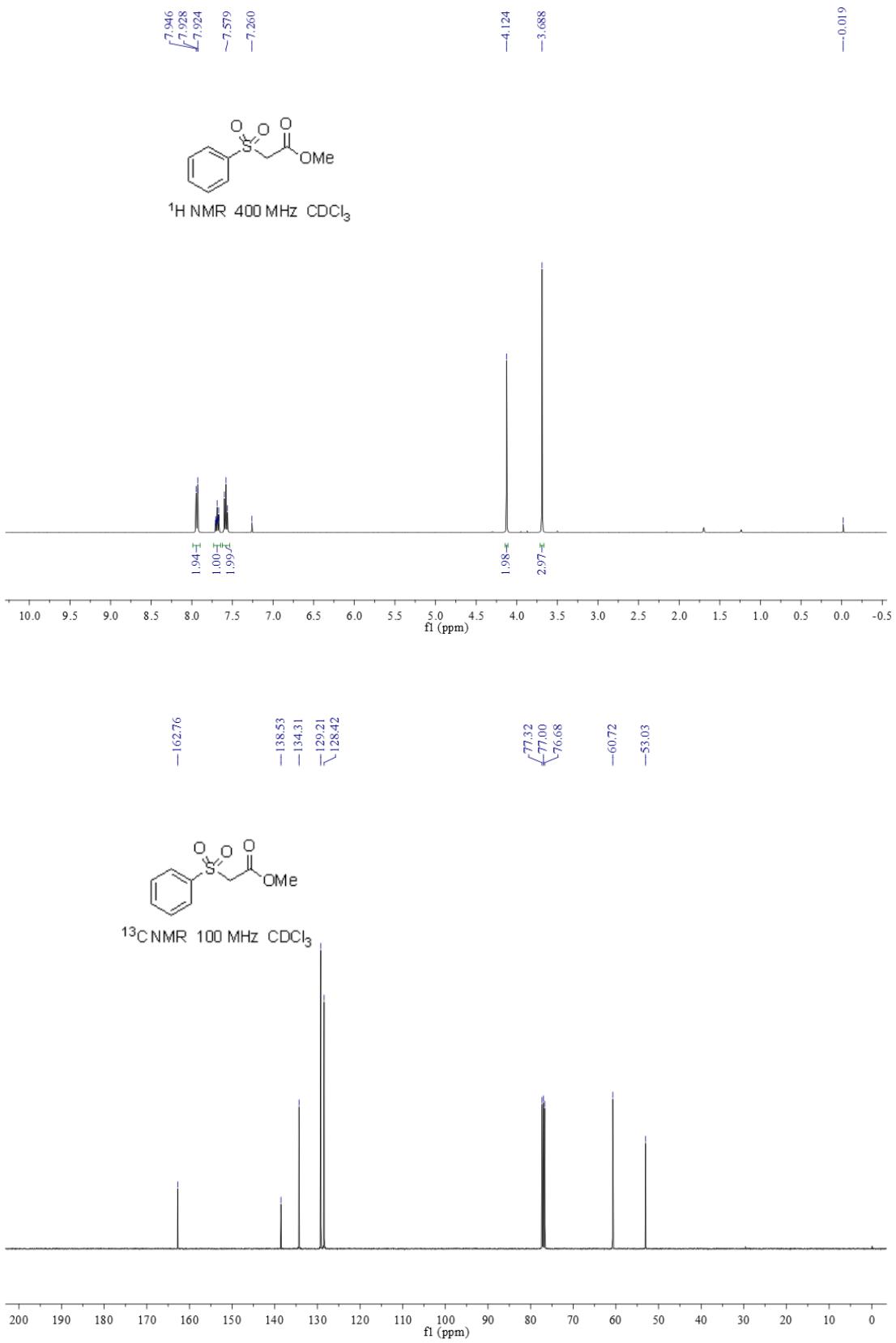
$^{13}\text{C}$  NMR 150 MHz  $\text{CDCl}_3$



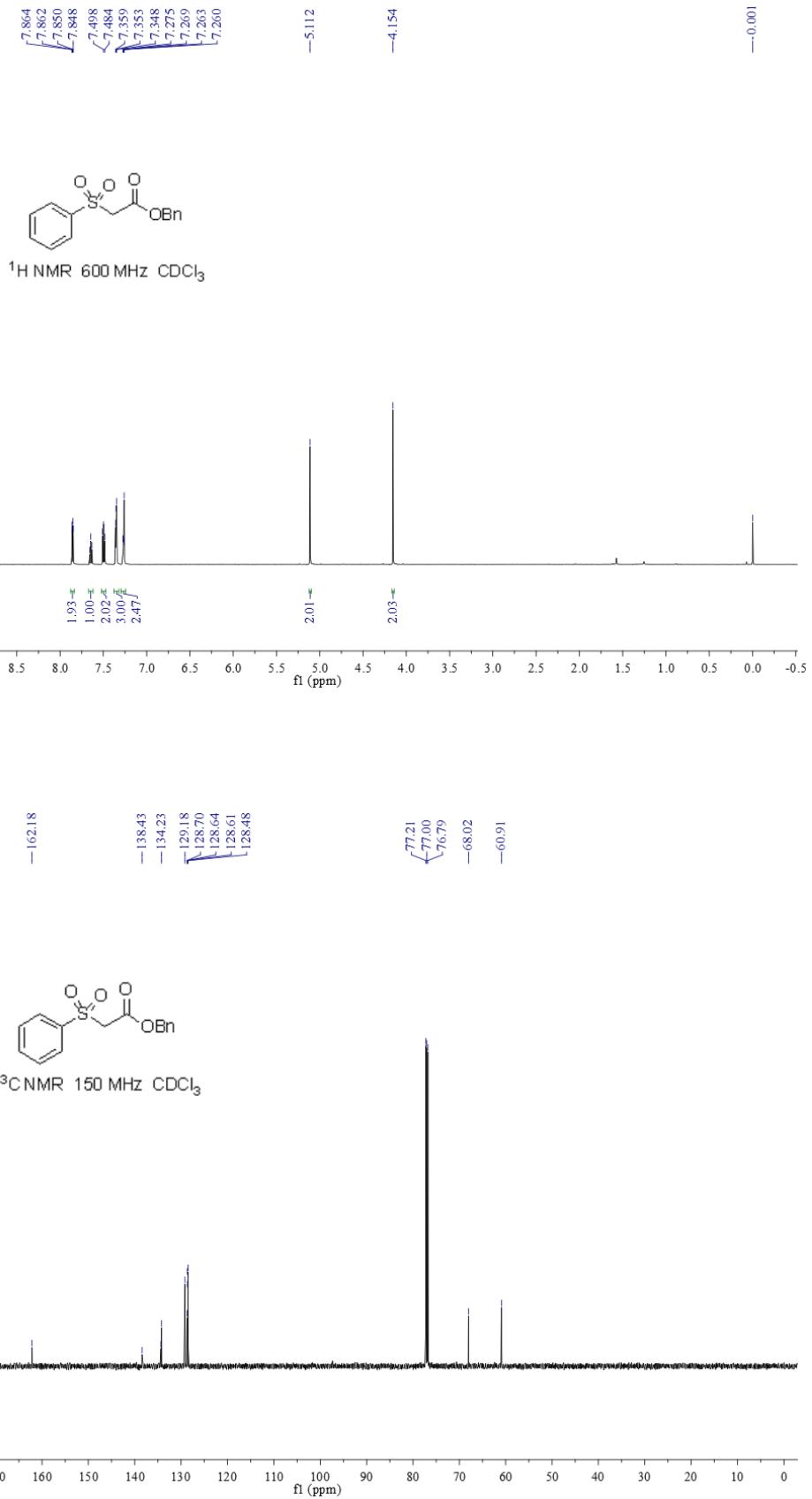
**4h**



**4i**



**4j**



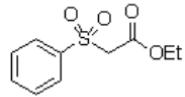
**4k**

7.944  
7.942  
7.930  
7.928  
—7.569  
—7.260

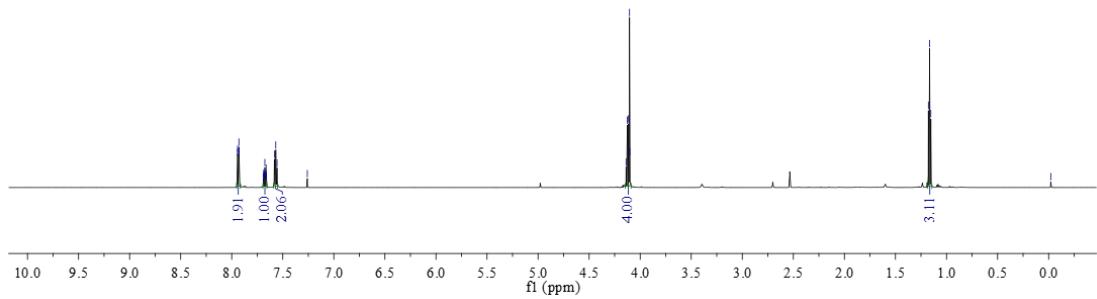
—4.138  
—4.126  
—4.114  
—4.105  
—4.102

—1.178  
—1.166  
—1.154

—0.021



<sup>1</sup>H NMR 600 MHz CDCl<sub>3</sub>

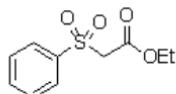


—162.24

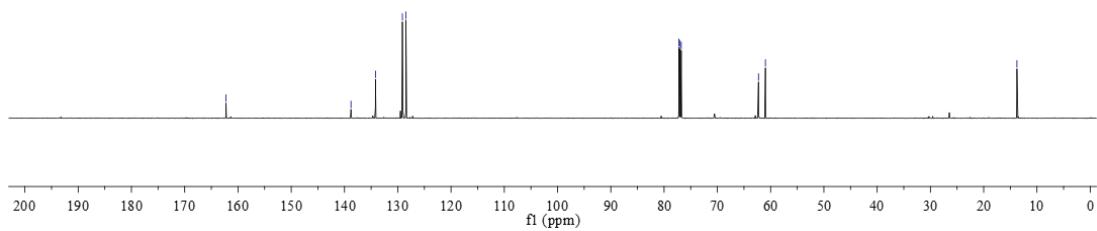
—138.78  
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—128.47

—77.21  
—77.00  
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—62.28  
—60.98

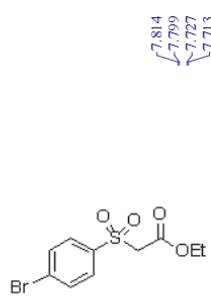
—13.76



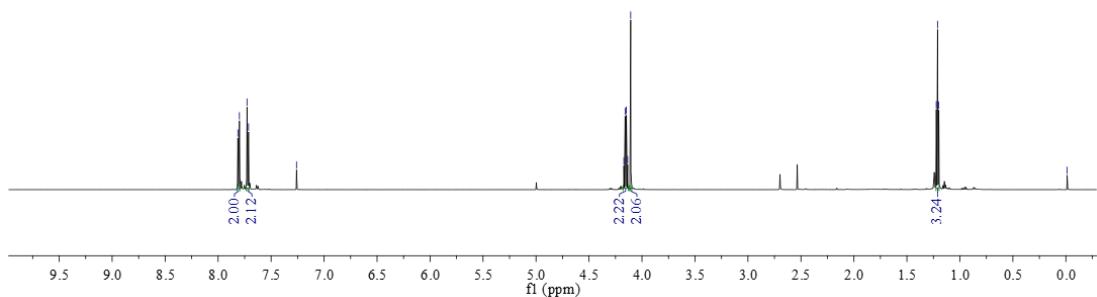
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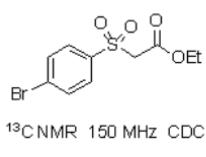
4l



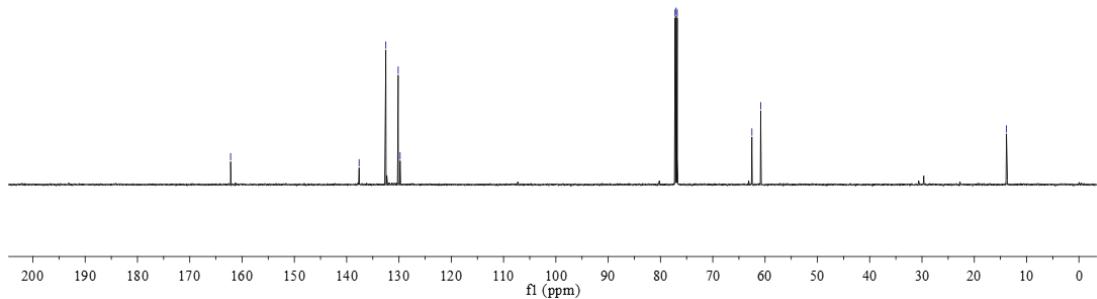
<sup>1</sup>H NMR 600 MHz CDCl<sub>3</sub>



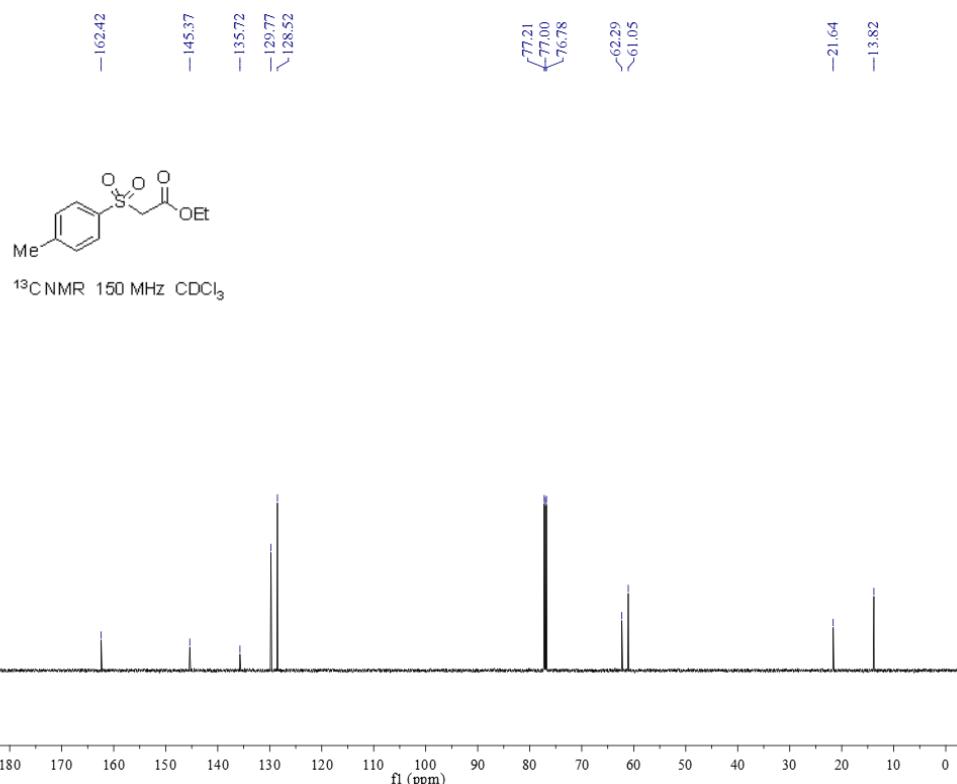
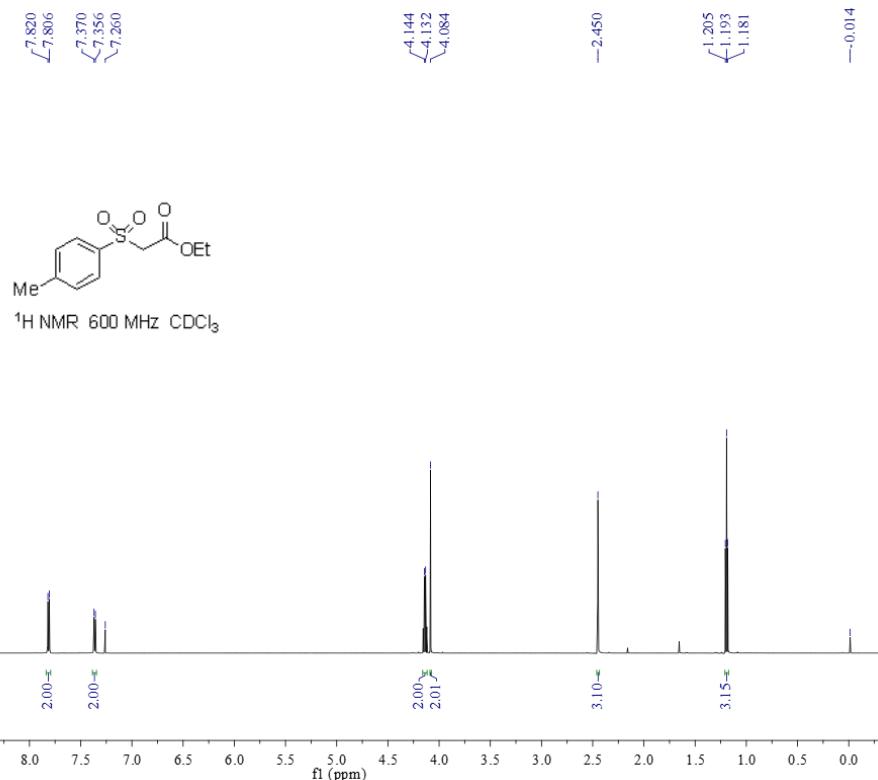
—162.19  
—137.62  
—132.51  
—130.15  
—129.77



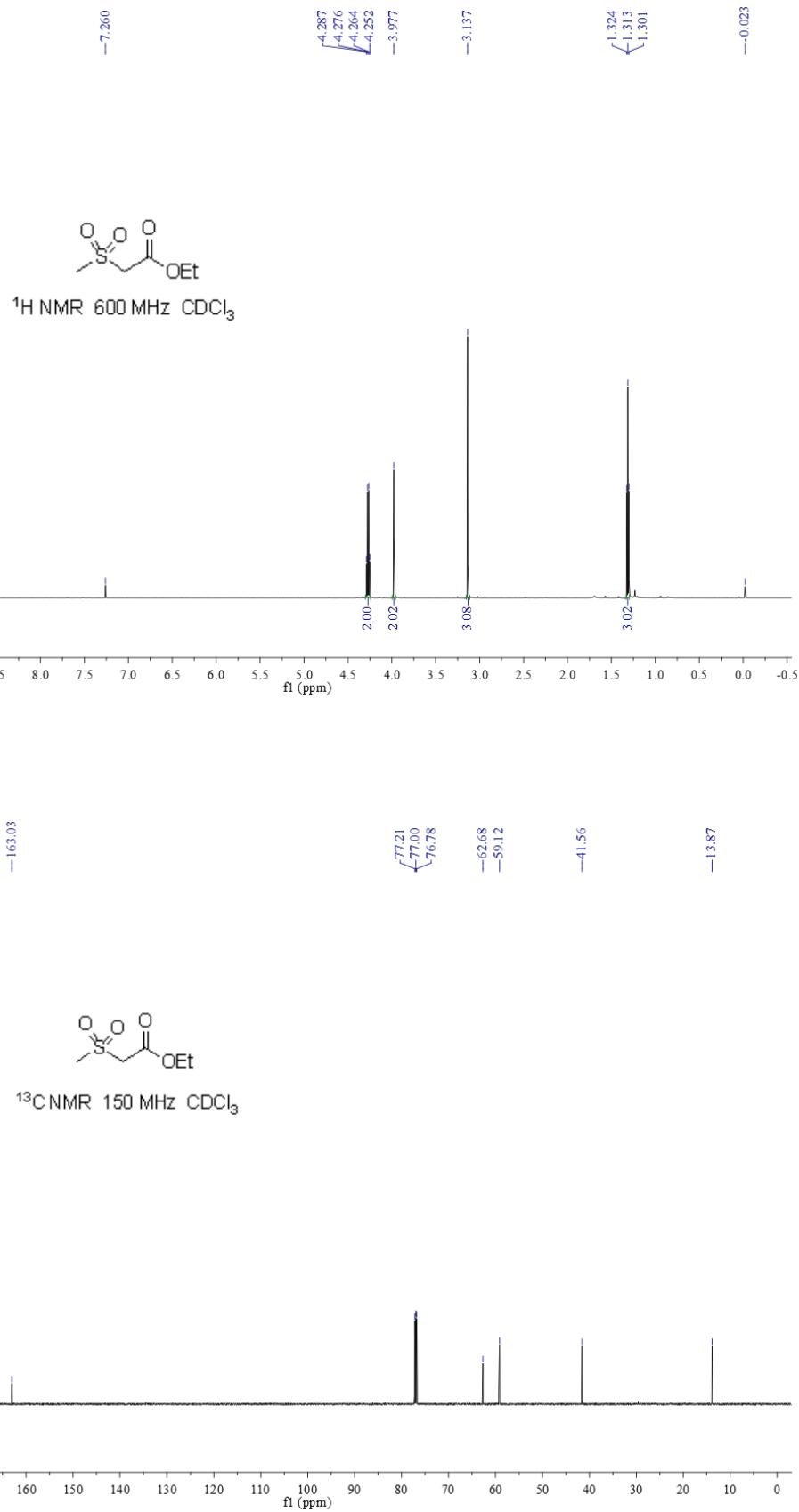
<sup>13</sup>C NMR 150 MHz CDCl<sub>3</sub>

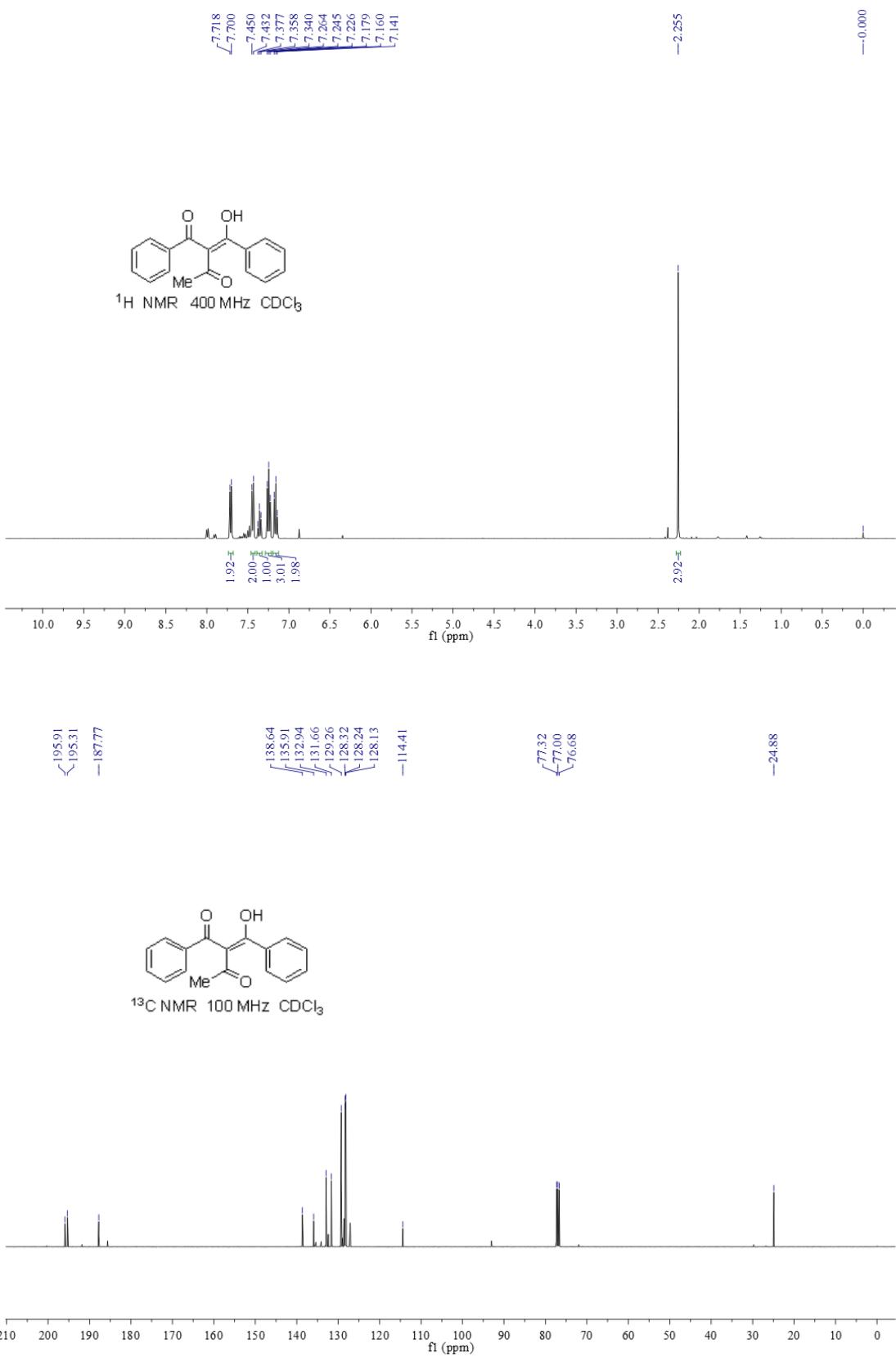


**4m**

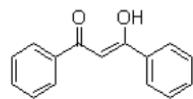


**4n**

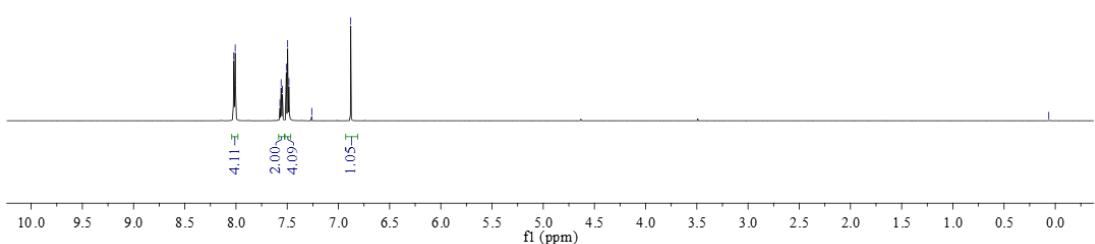




8.022  
 8.008  
 7.547  
 7.483  
 7.260  
 6.880  
 -0.063



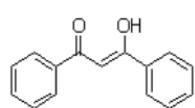
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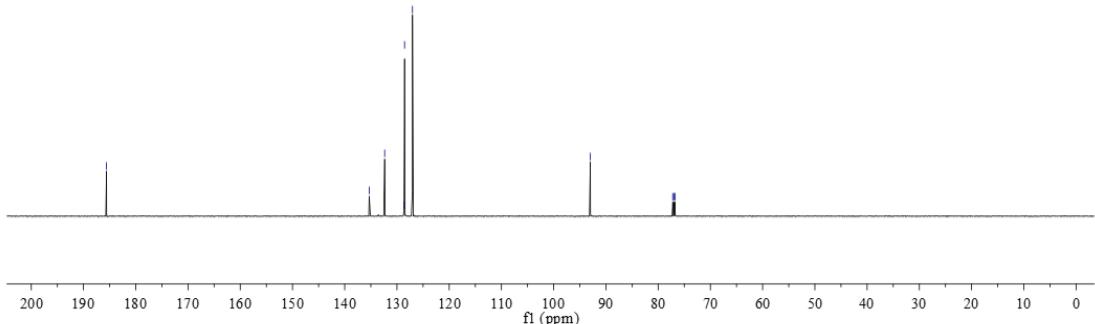
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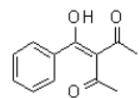
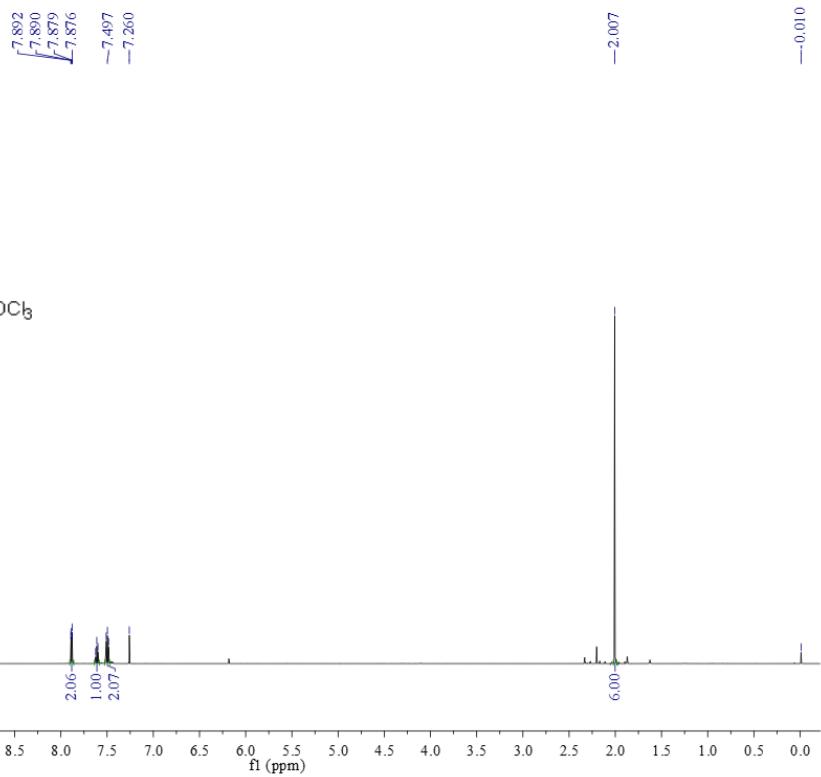
-135.31  
 -132.35  
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 -128.54  
 -127.03

-92.98



<sup>13</sup>C NMR 150 MHz CDCl<sub>3</sub>





<sup>13</sup>C NMR 150 MHz CDCl<sub>3</sub>

