

SAR Studies of 3,14,19-Derivatives of Andrographolide on
Anti-Proliferative Activity to Cancer Cells and Toxicity to Zebrafish: An
In Vitro and *In Vivo* Study

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Ping Wei,^c Pingkai Ouyang,^c Decai Wang,^{a,*} Simon Ming Yuen Lee,^{b,*} Guo-Chun Zhou^{a,*}

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^c College of Biotechnology and Pharmaceutical Engineering, Nanjing Tech University, Nanjing 211816, Jiangsu,
China

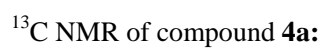
¹ These authors contributed equally to this paper.

* Corresponding Authors: dcwang@njtech.edu.cn (dw); simonlee@umac.mo (sl); gczhou@njtech.edu.cn (gcz)

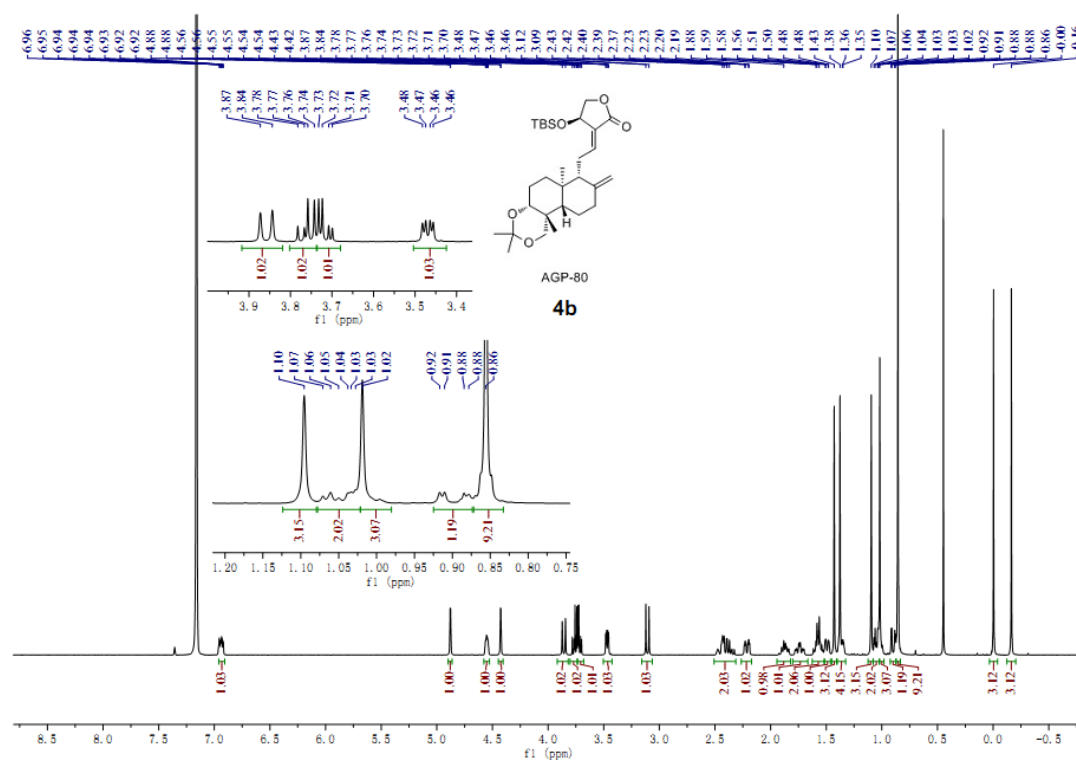
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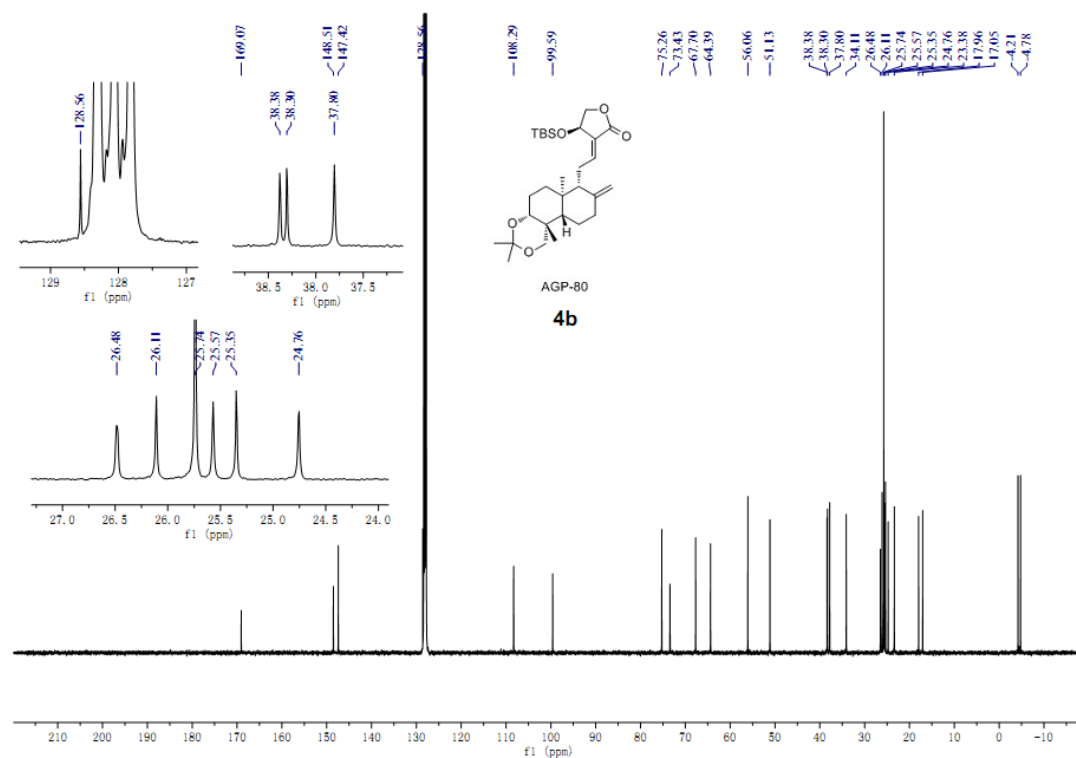
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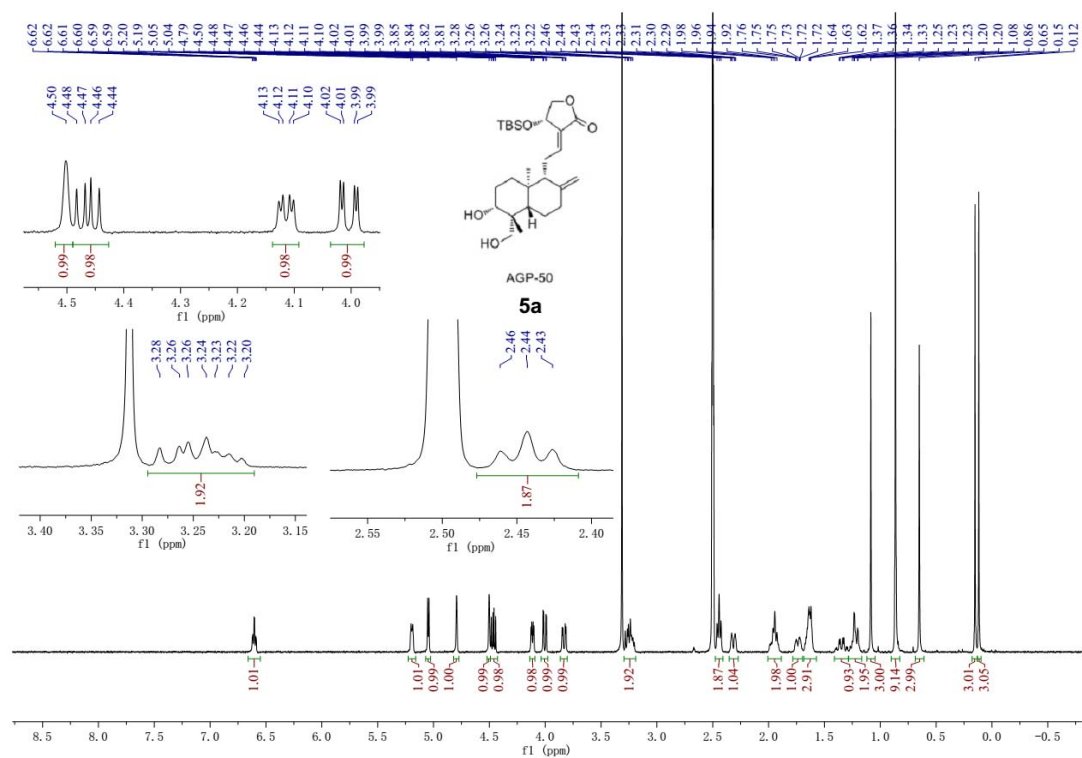
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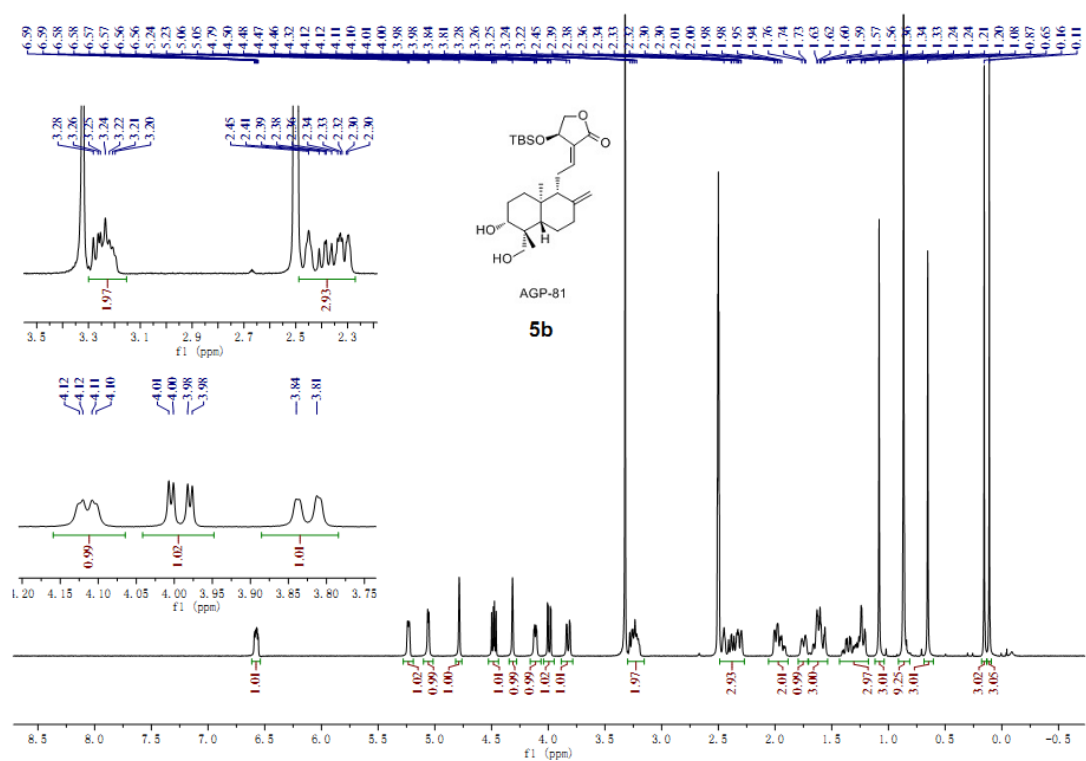
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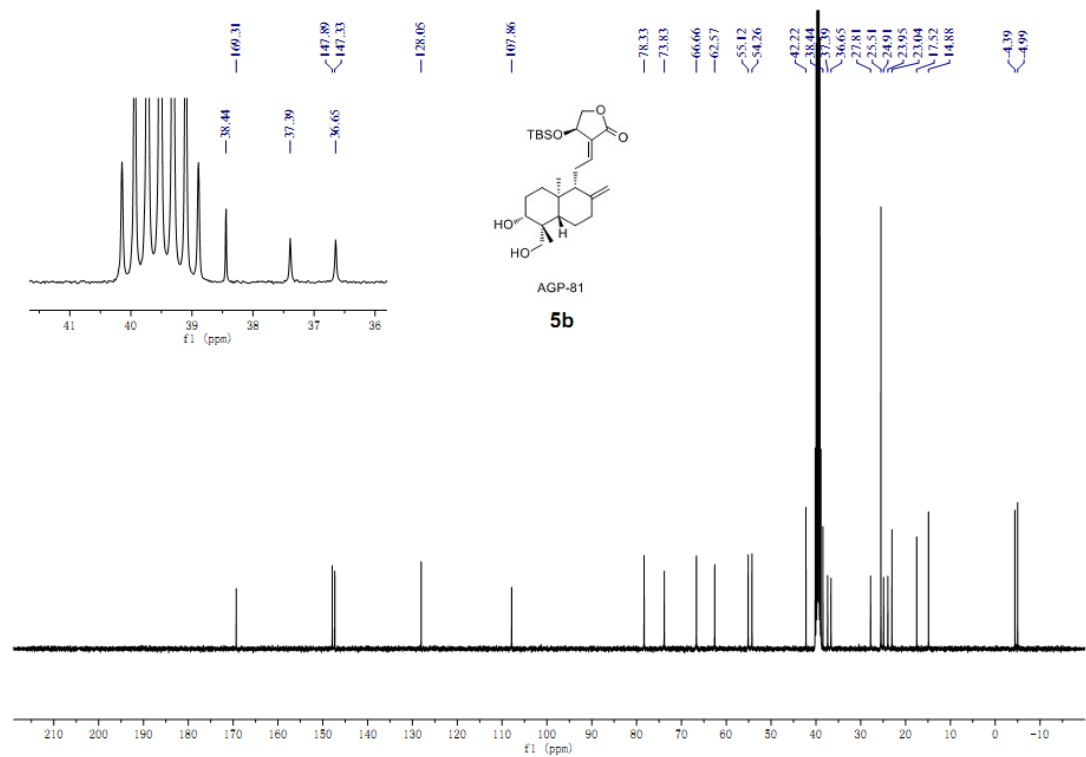
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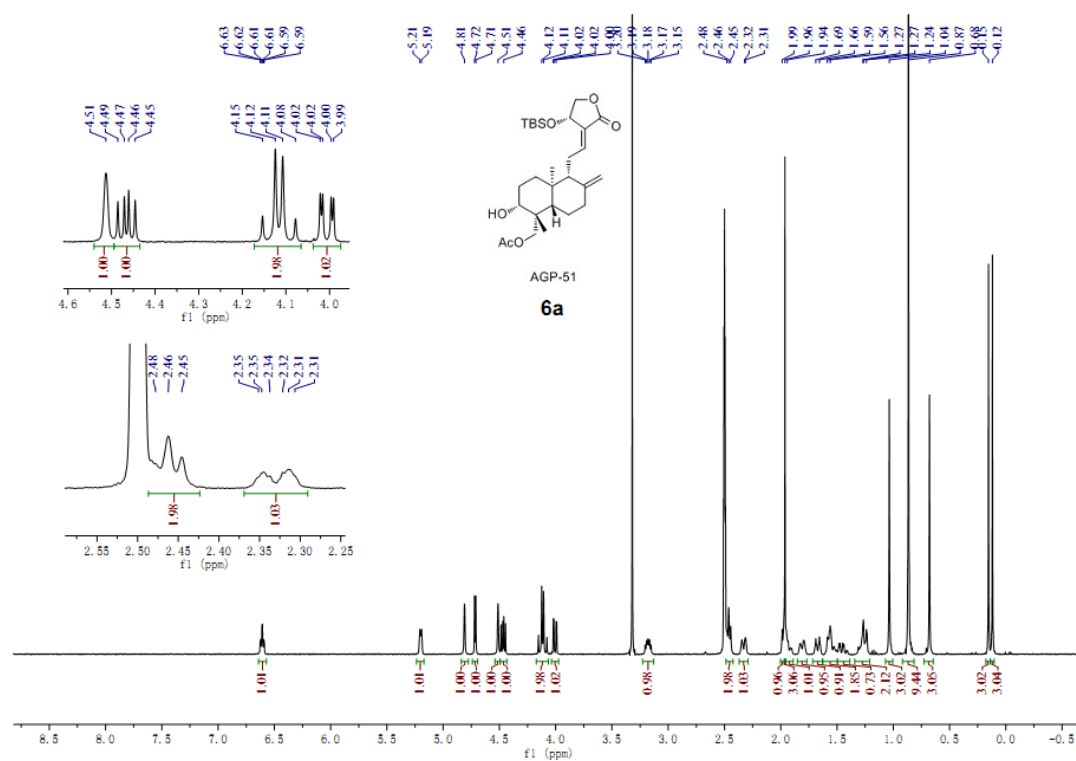
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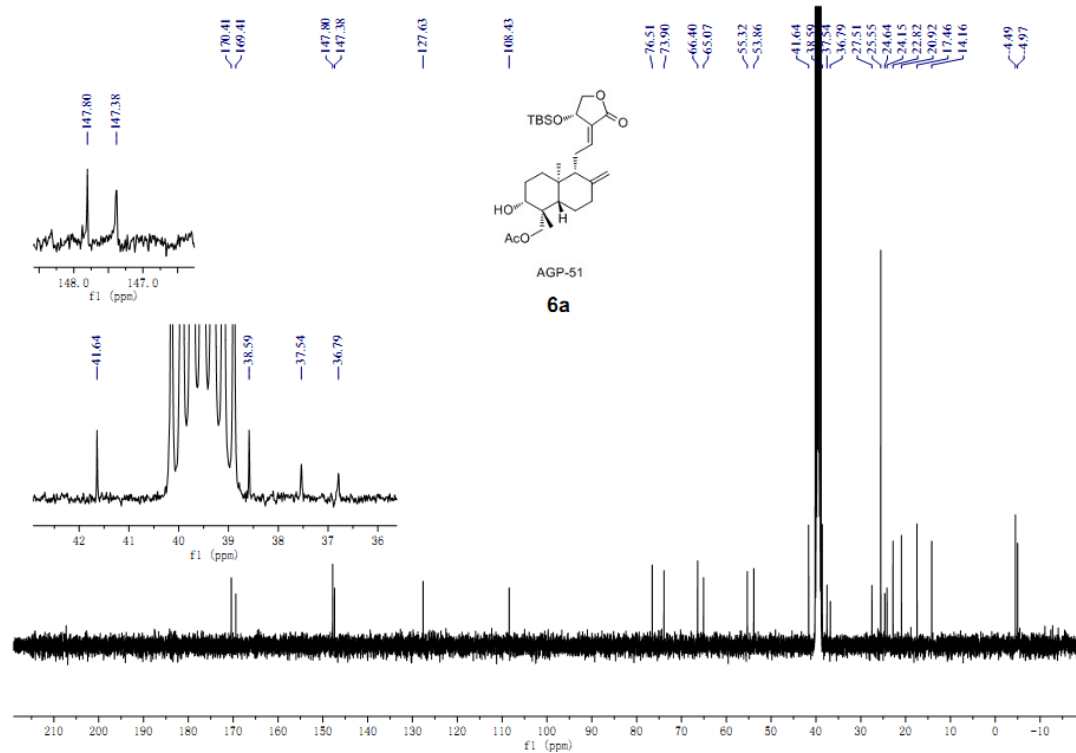
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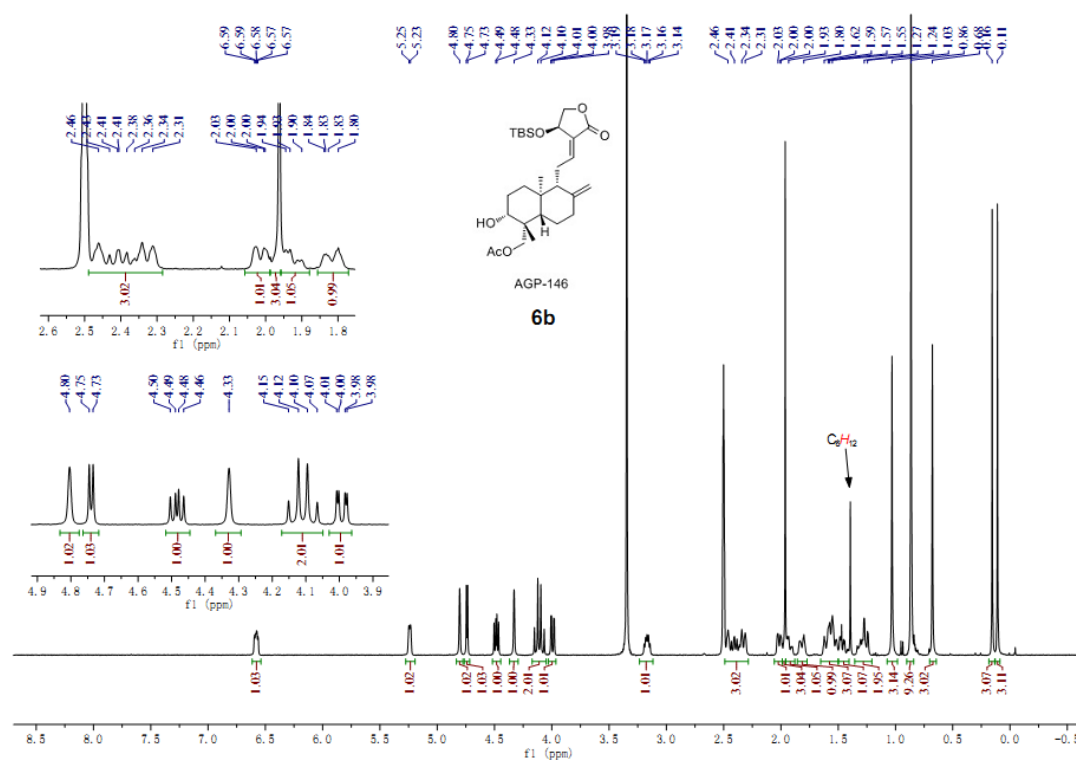
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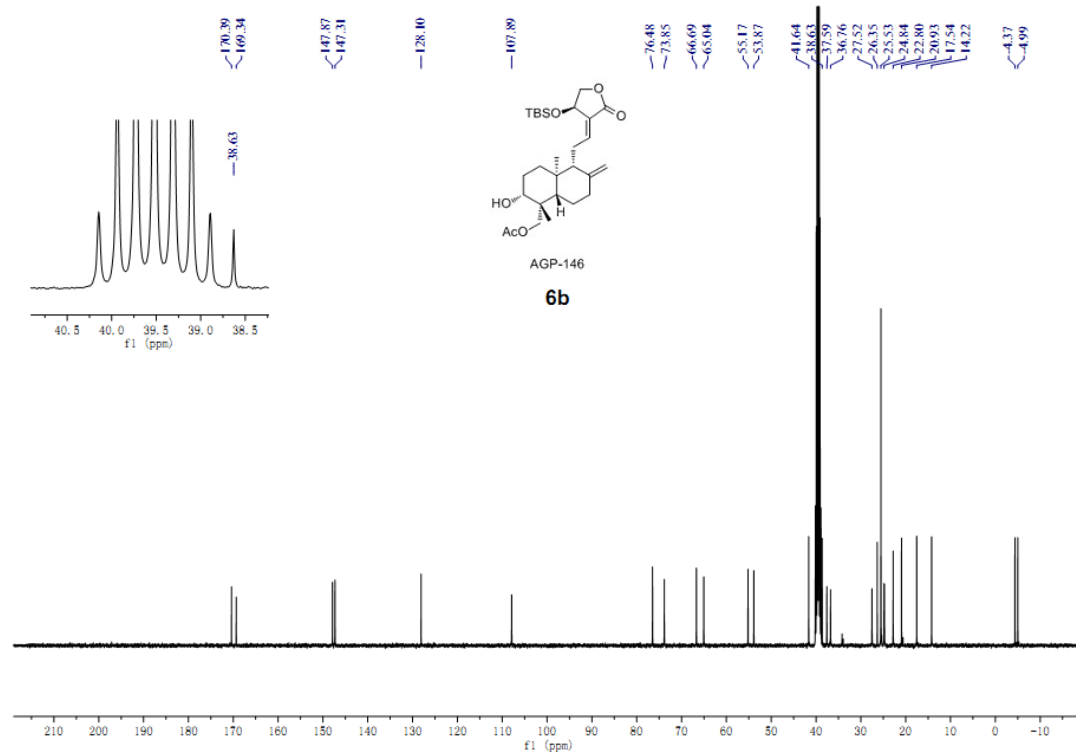
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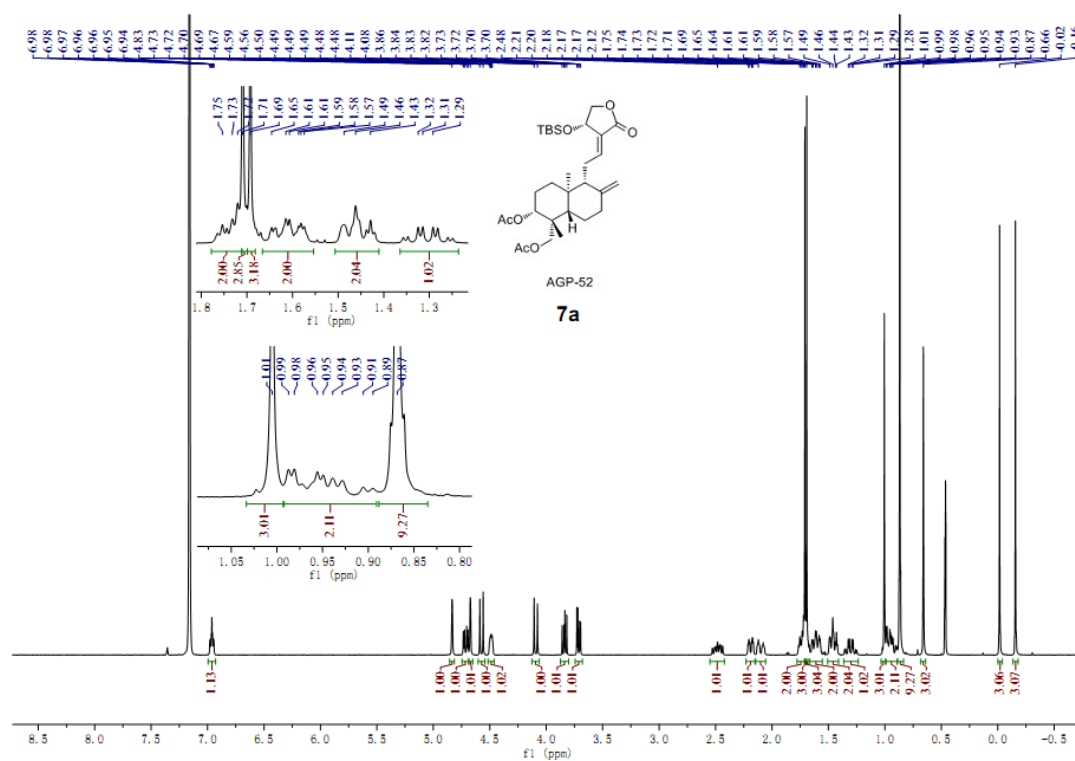
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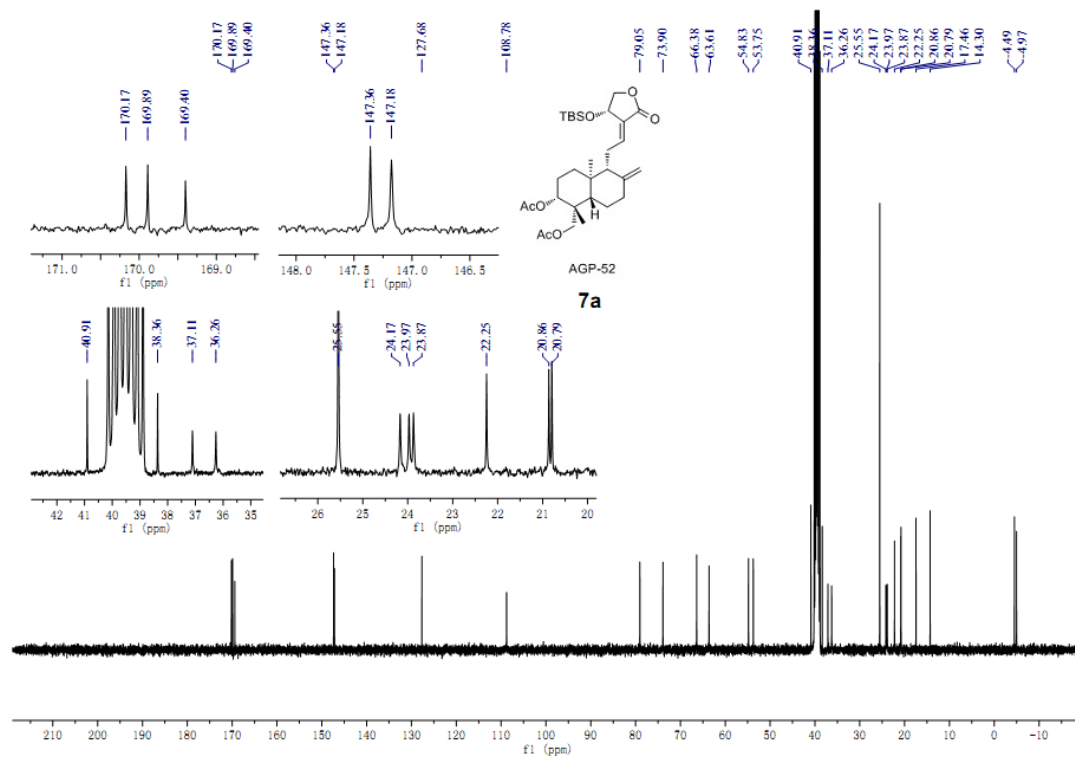
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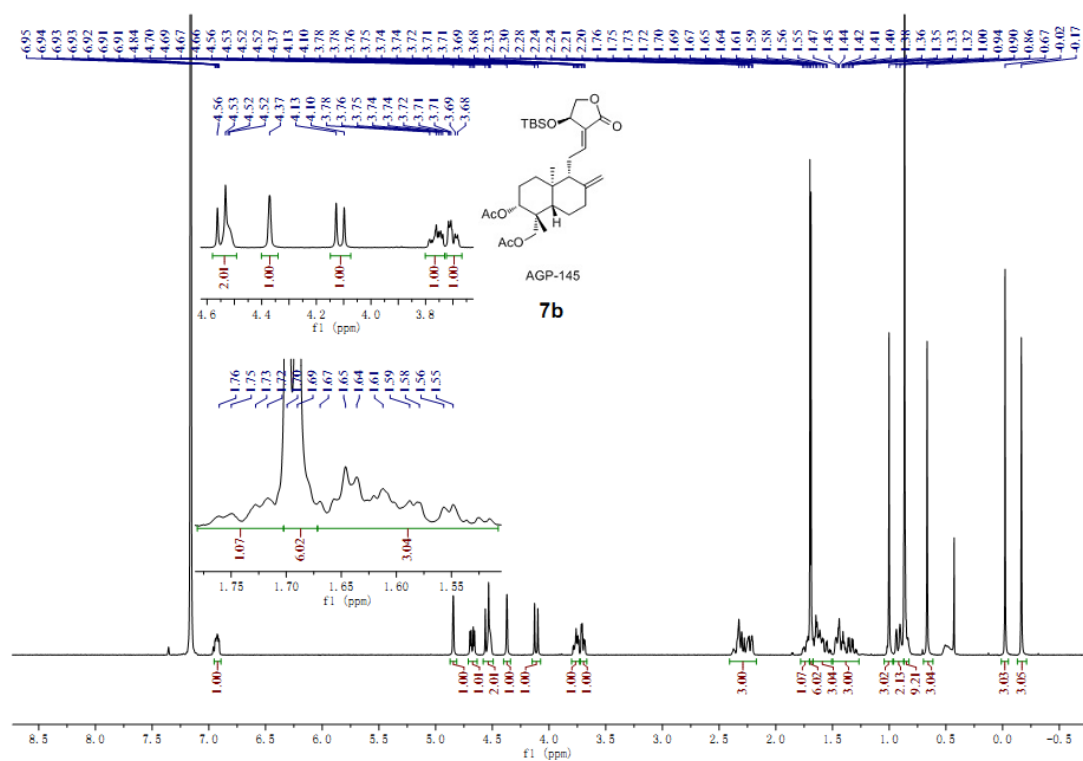
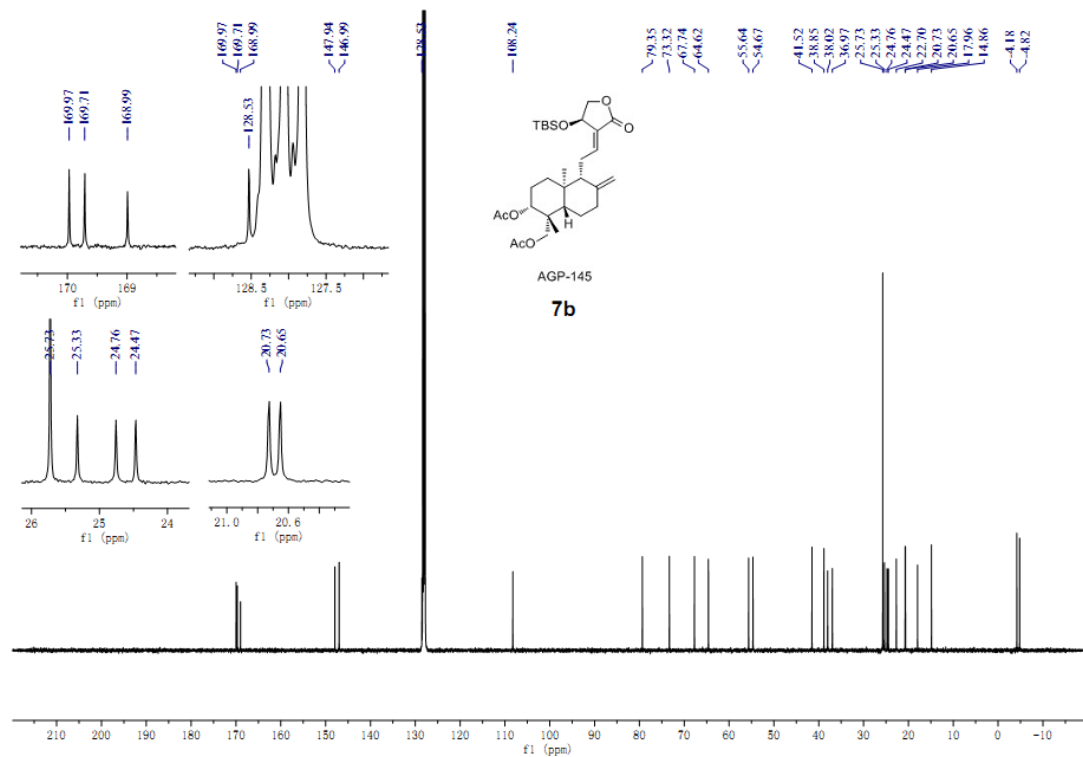
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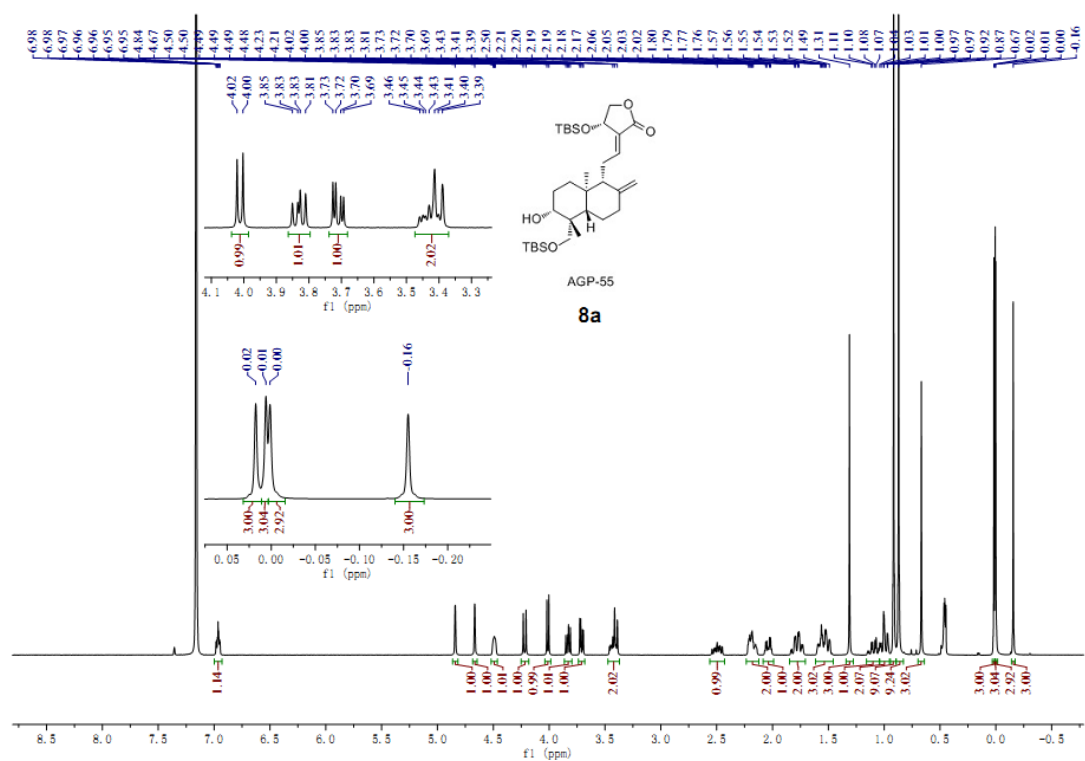
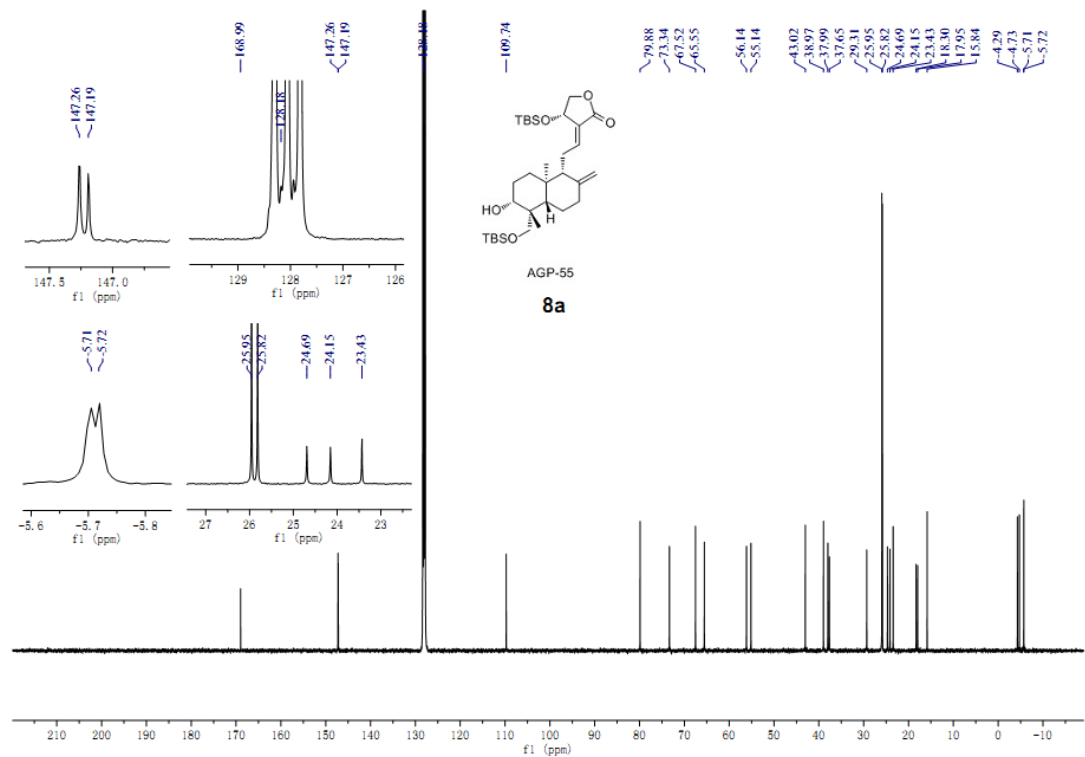
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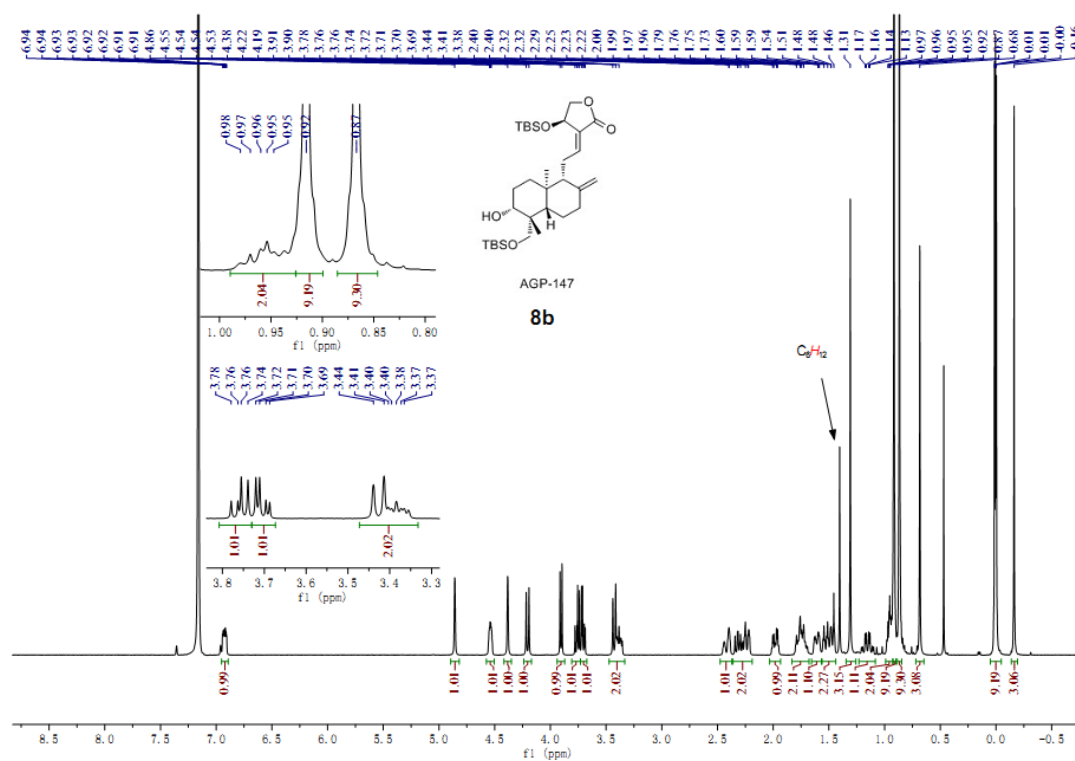
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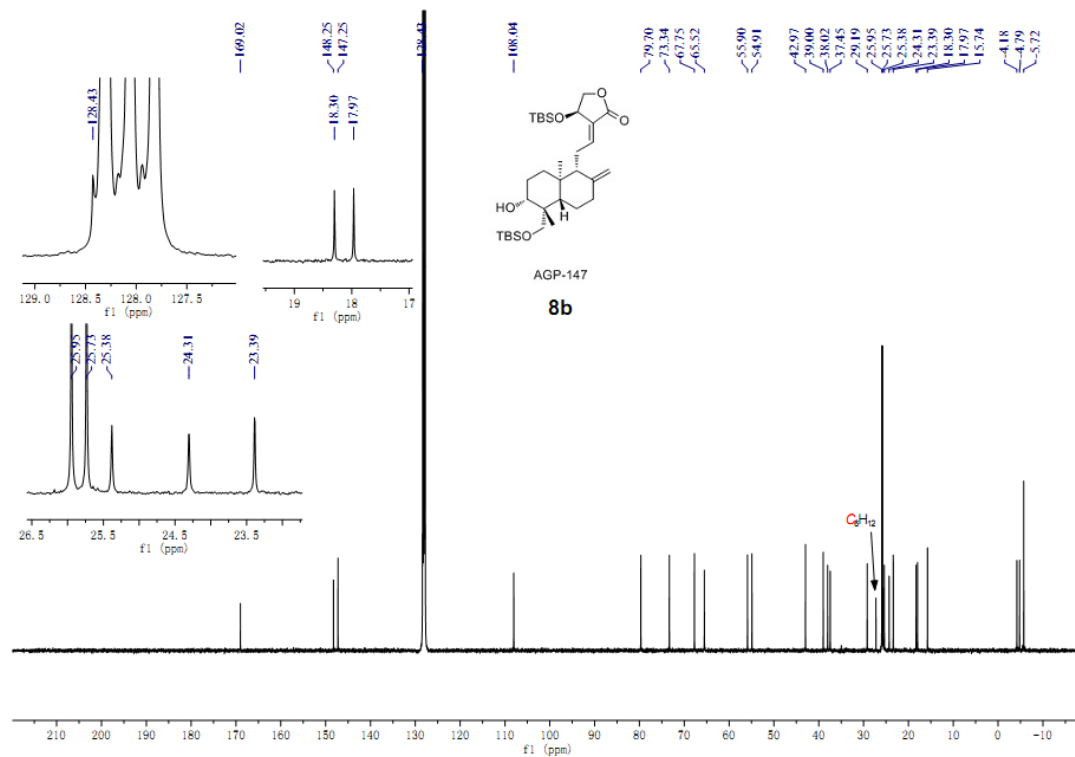
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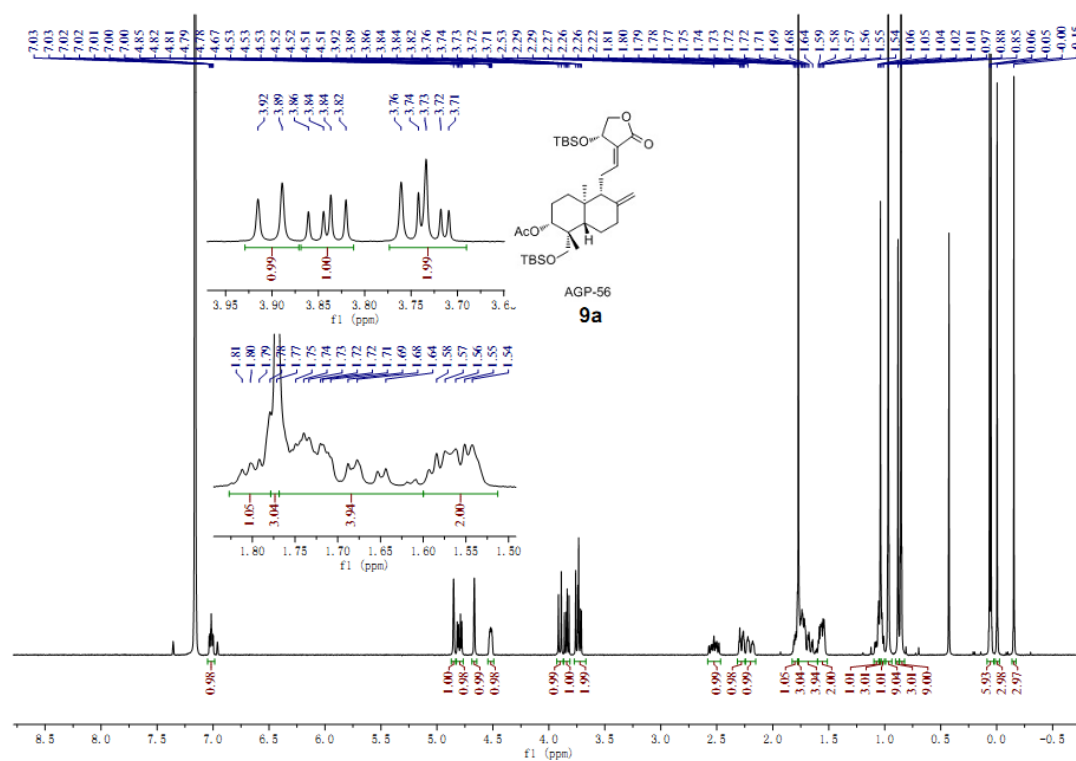
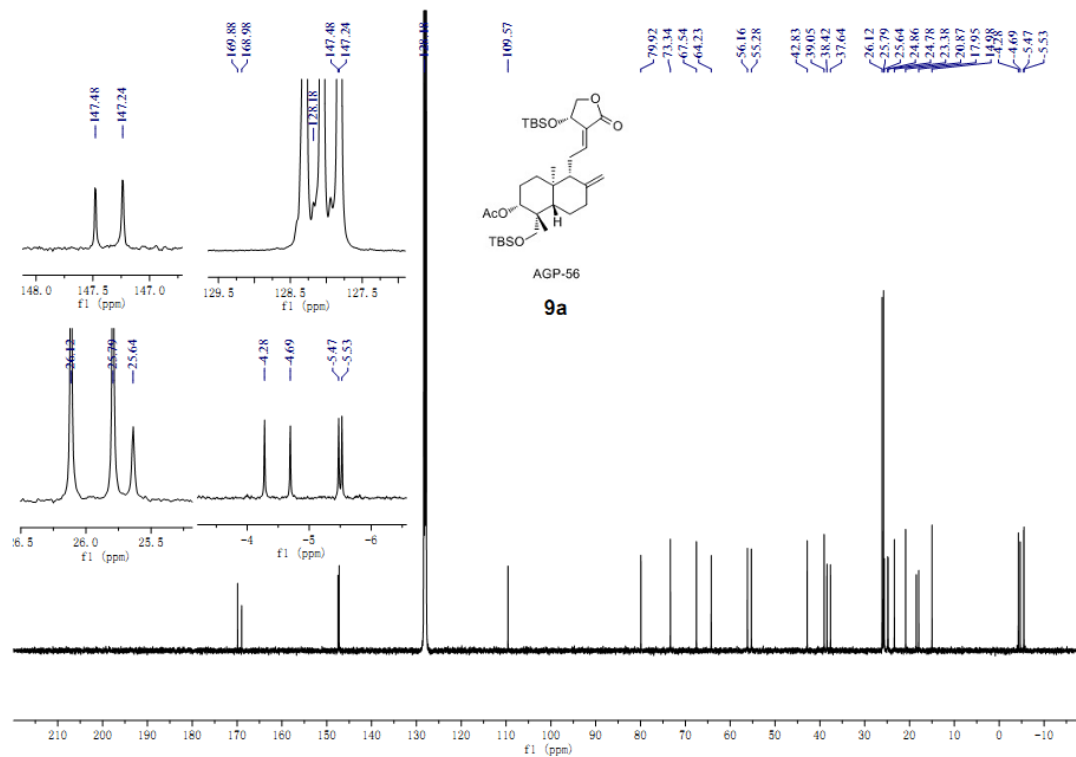
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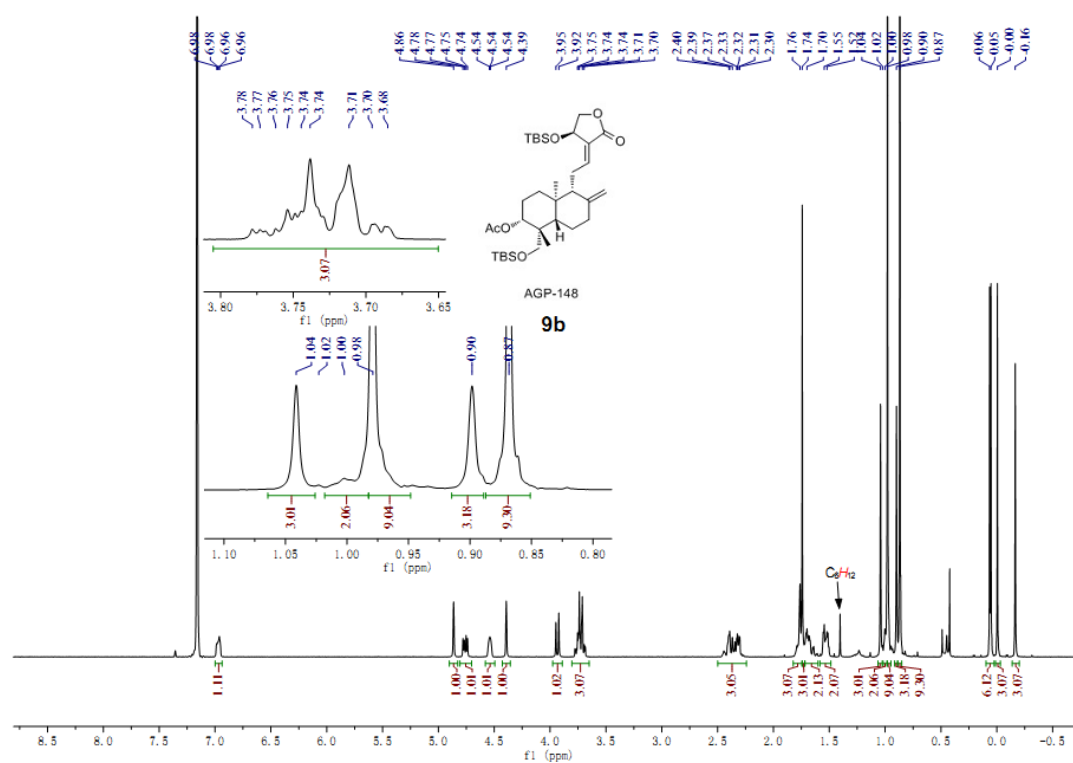


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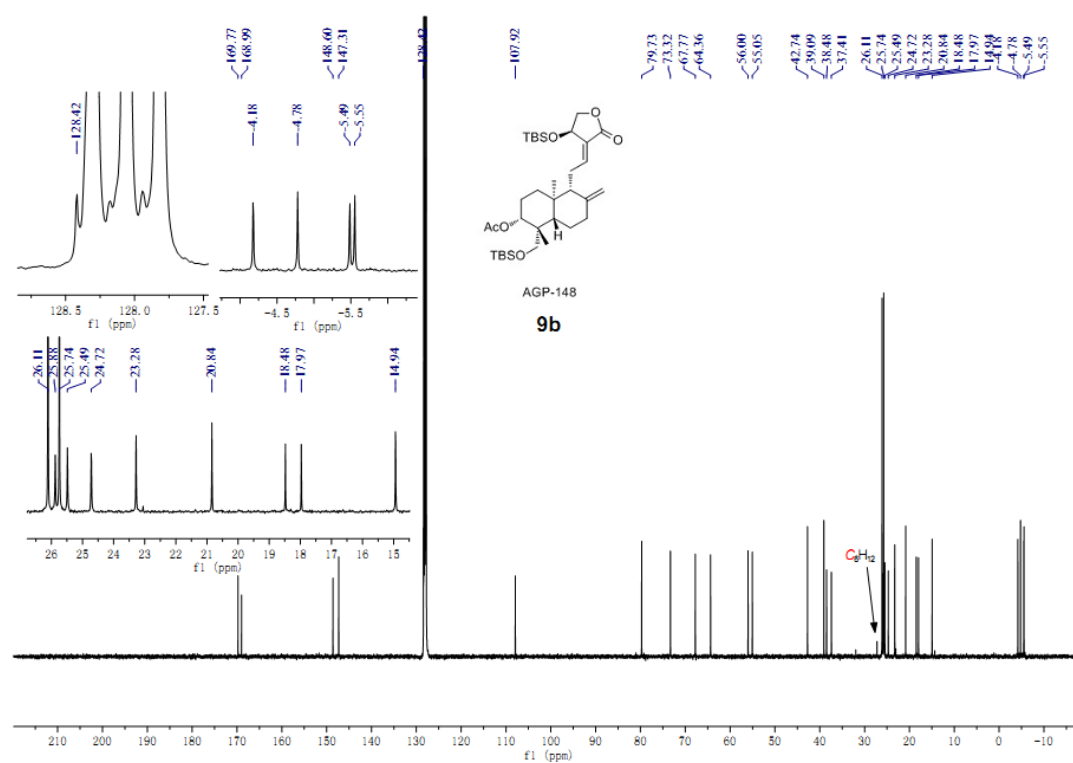


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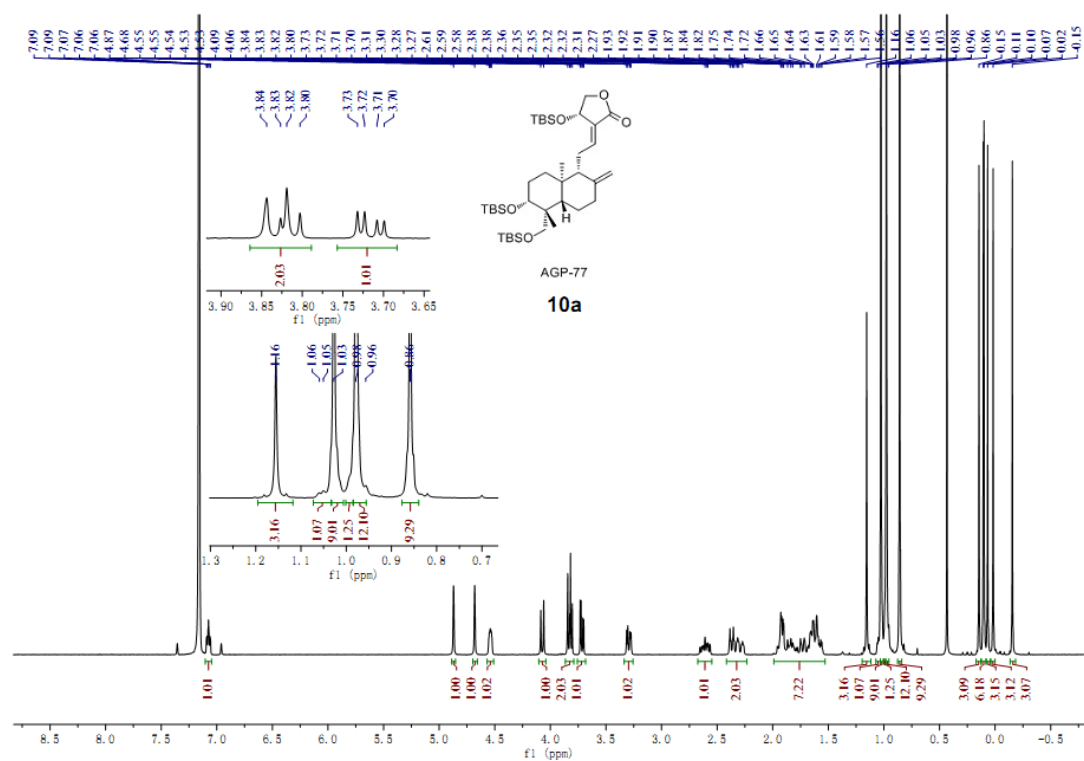
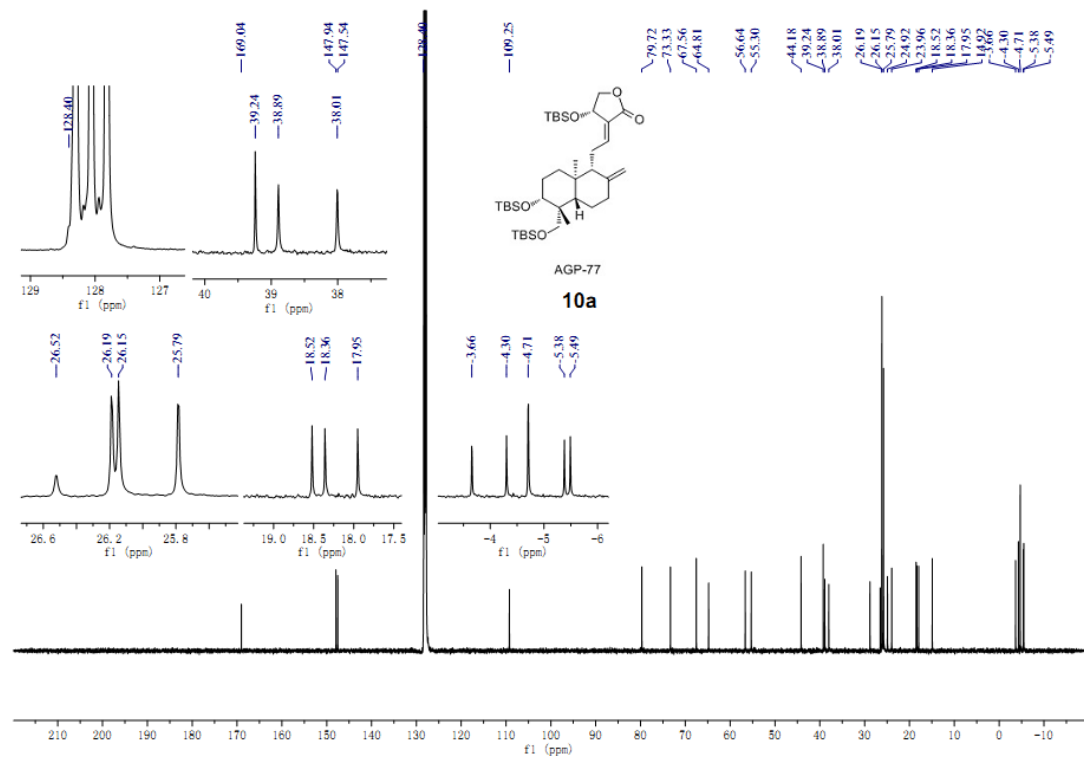
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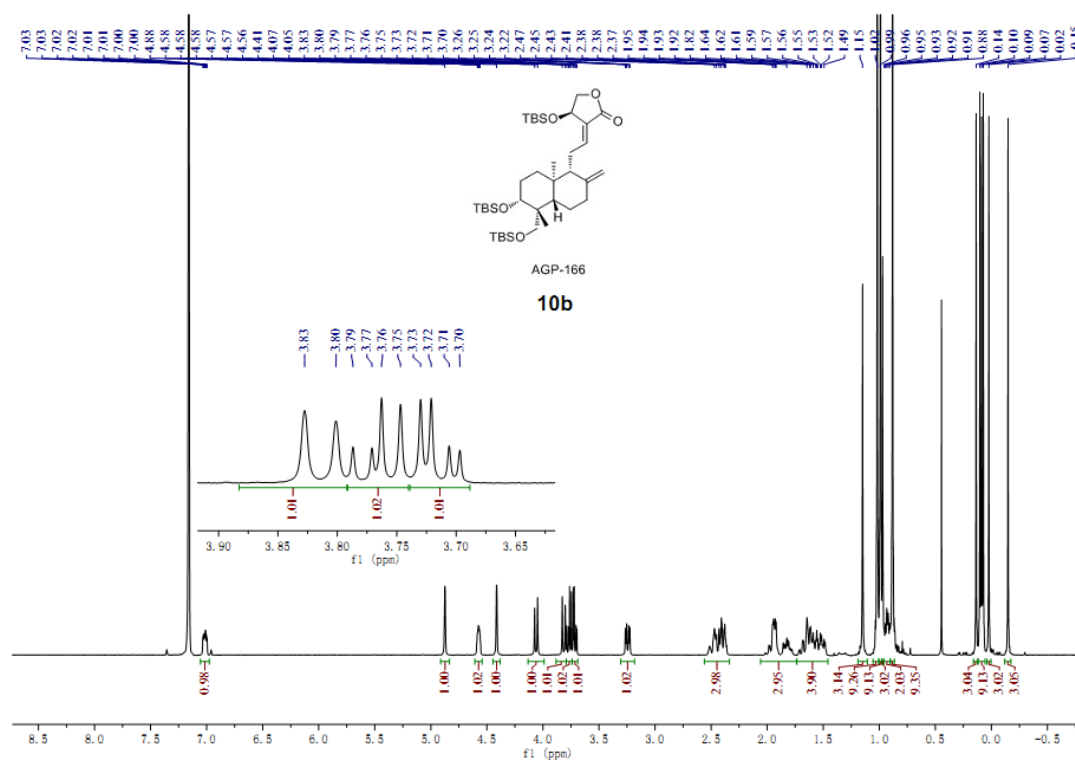
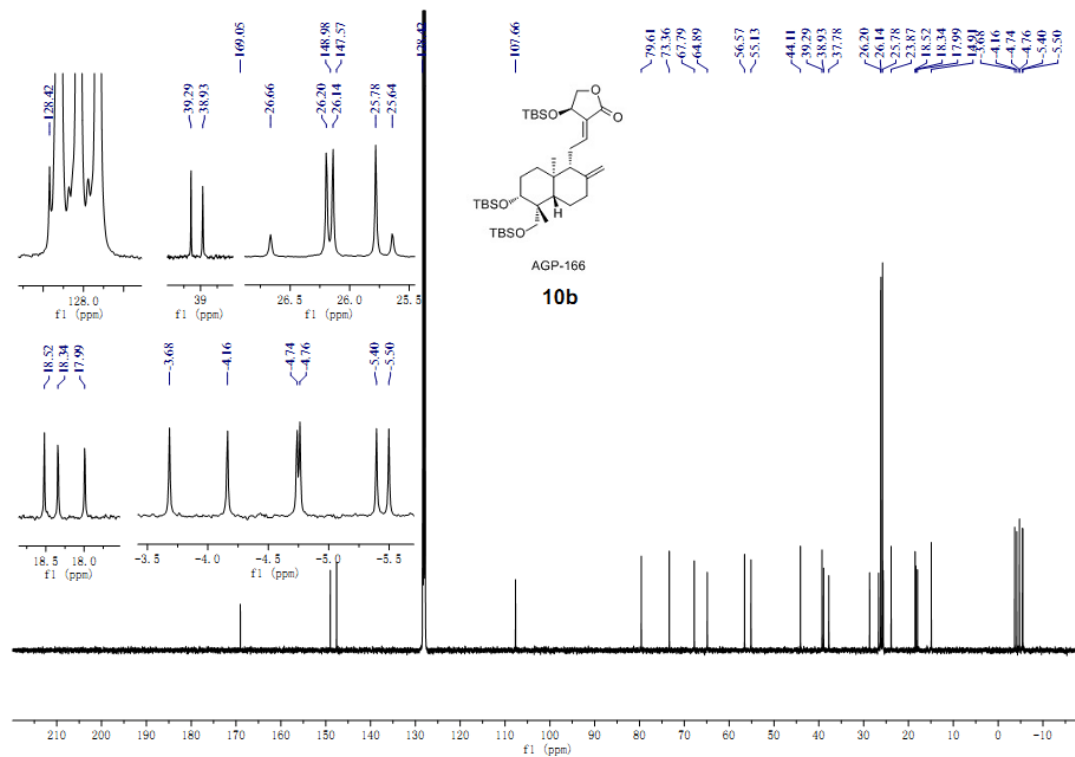
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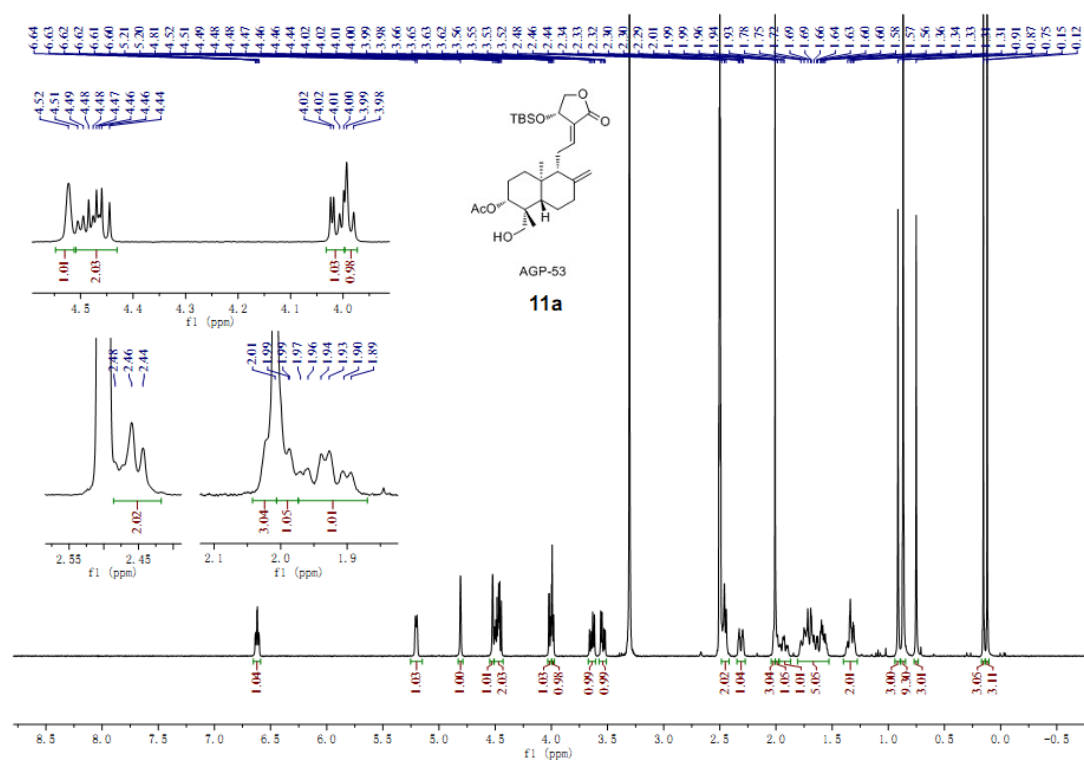
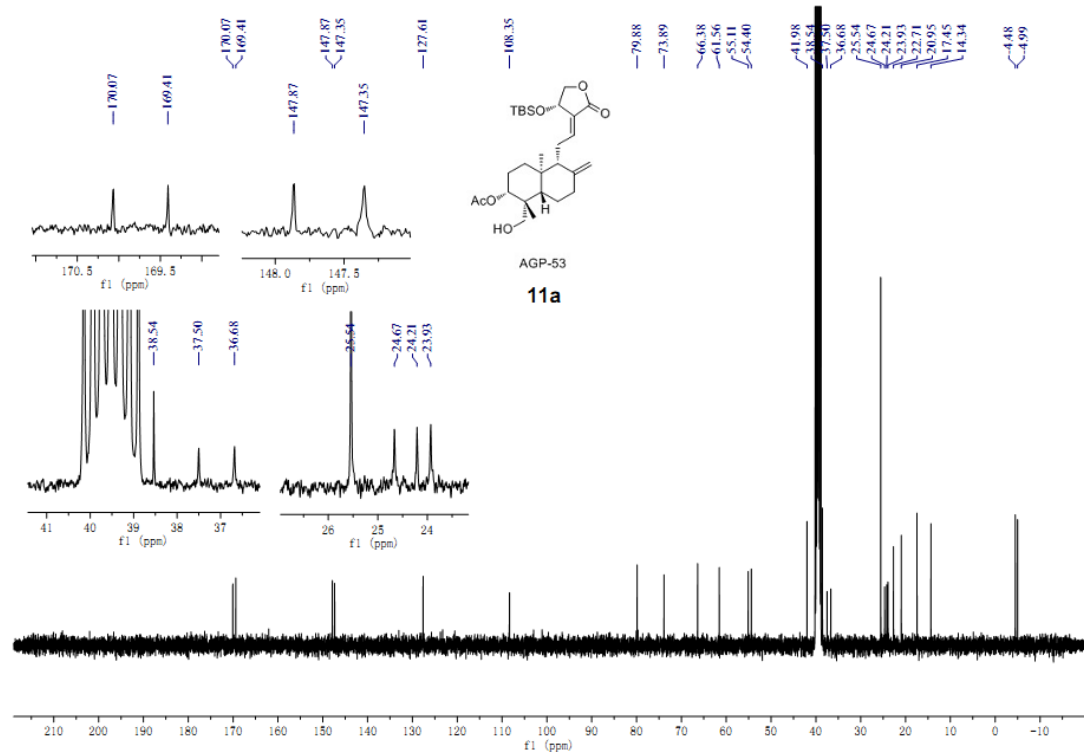
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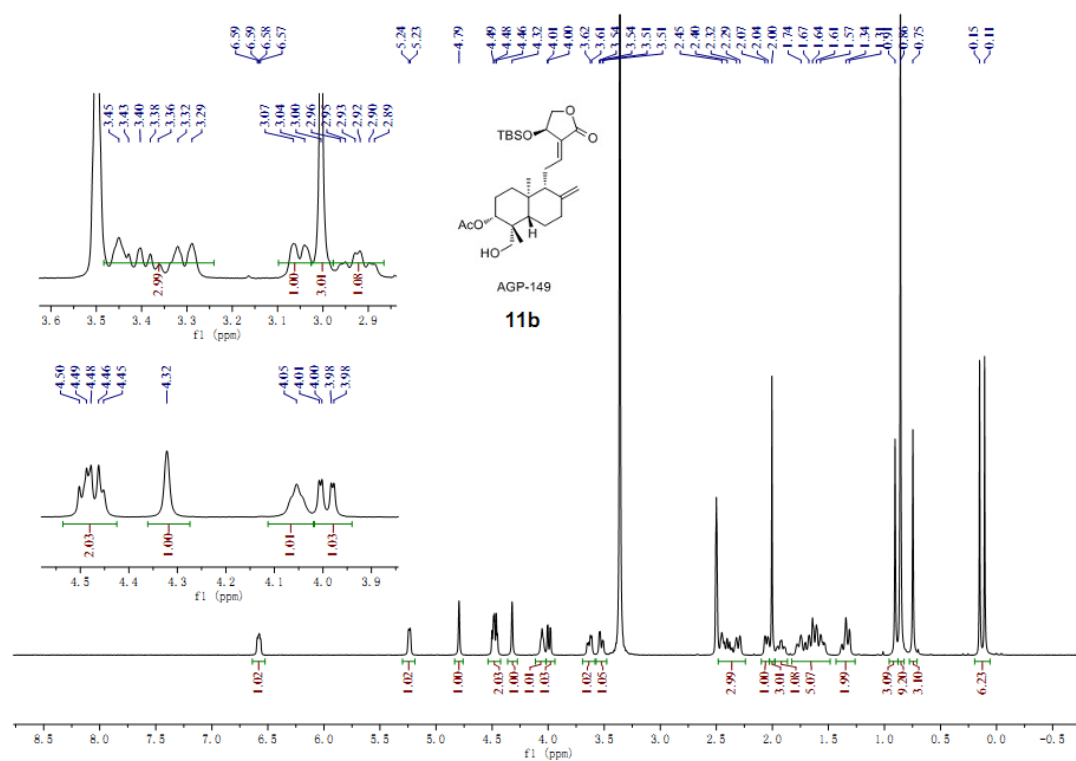
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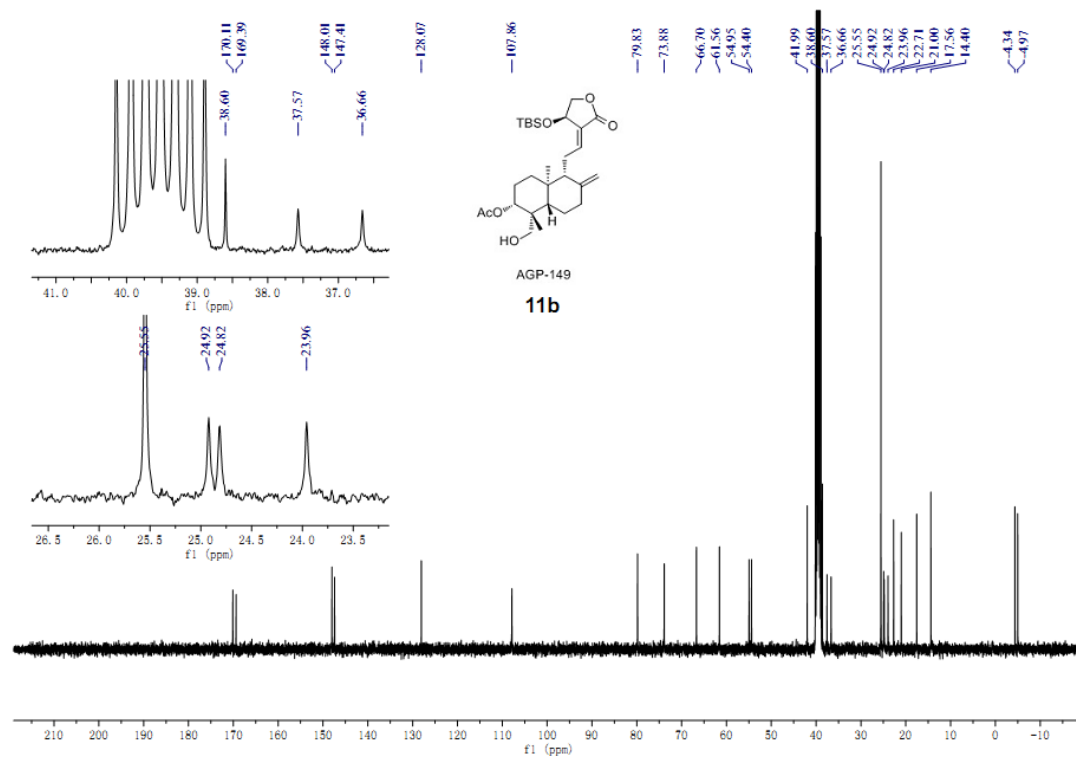
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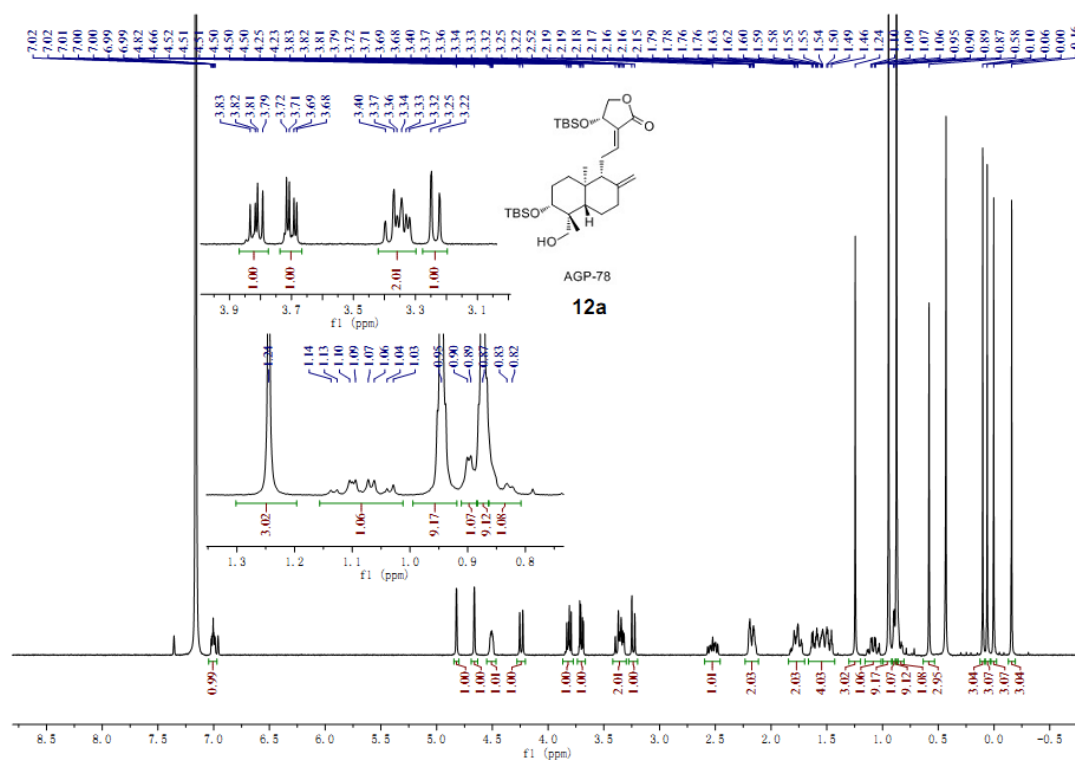
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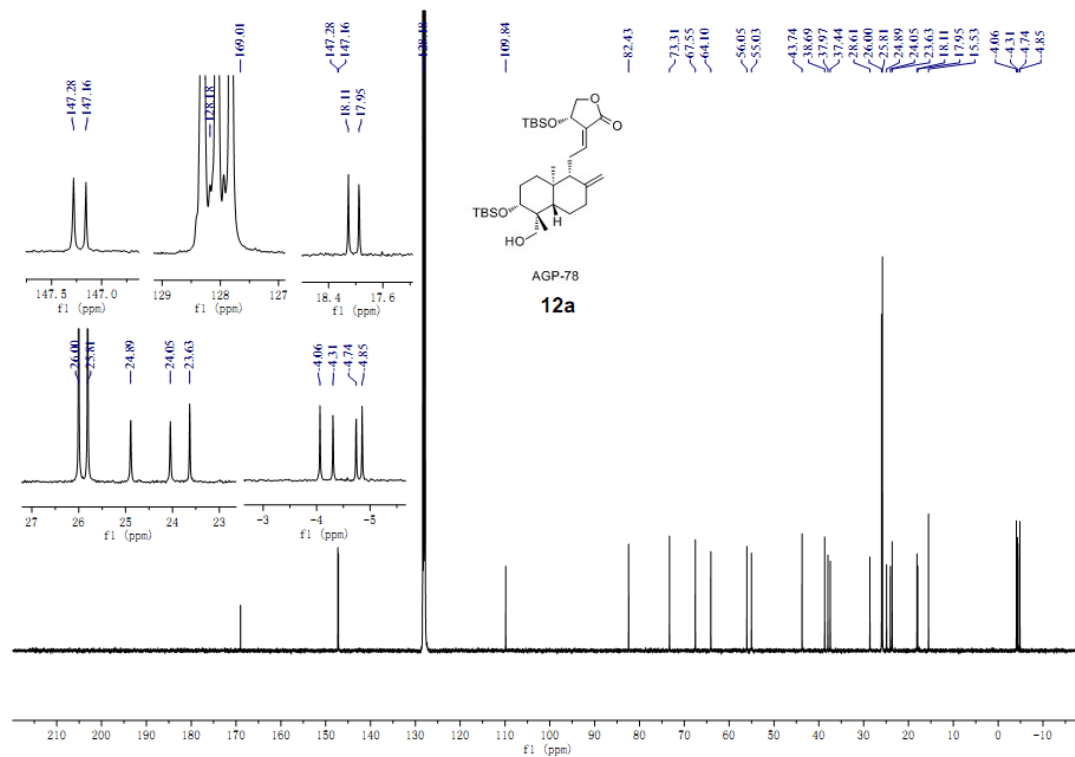
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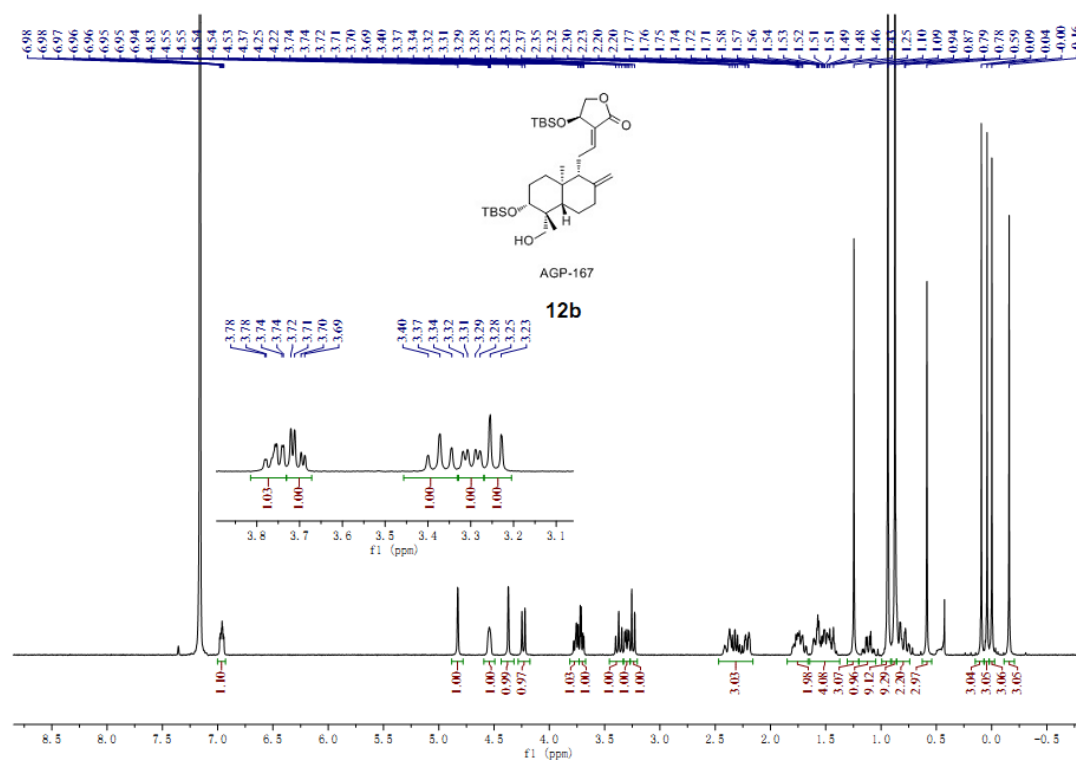
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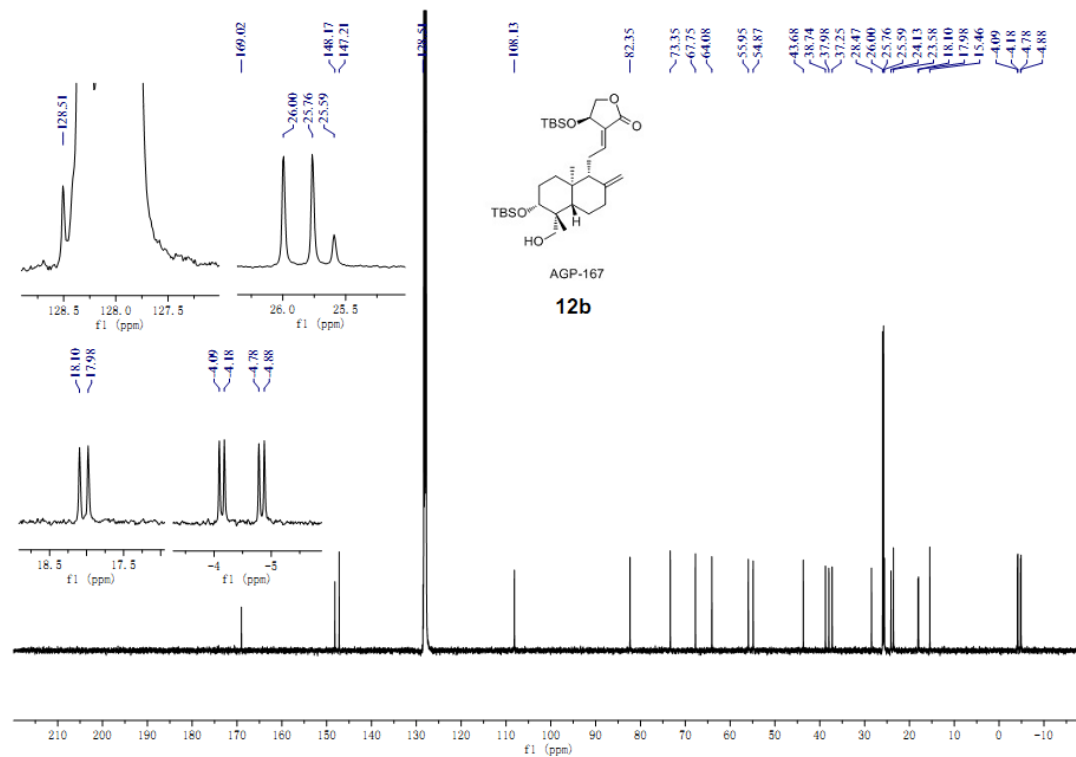
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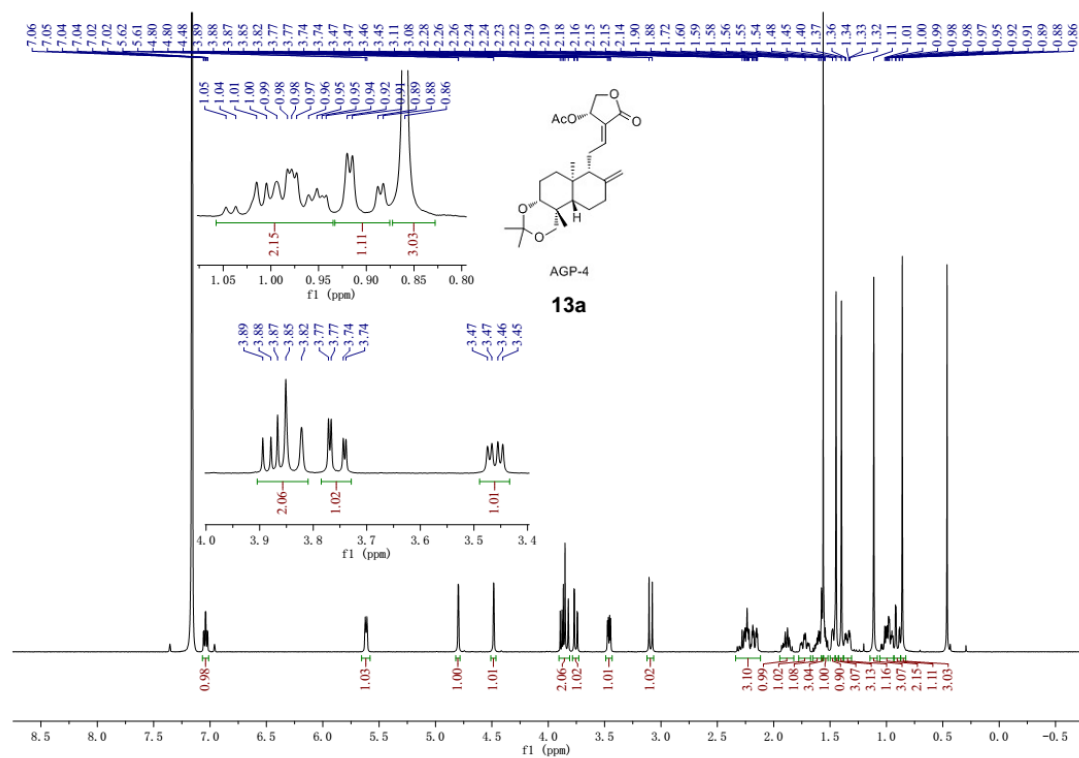
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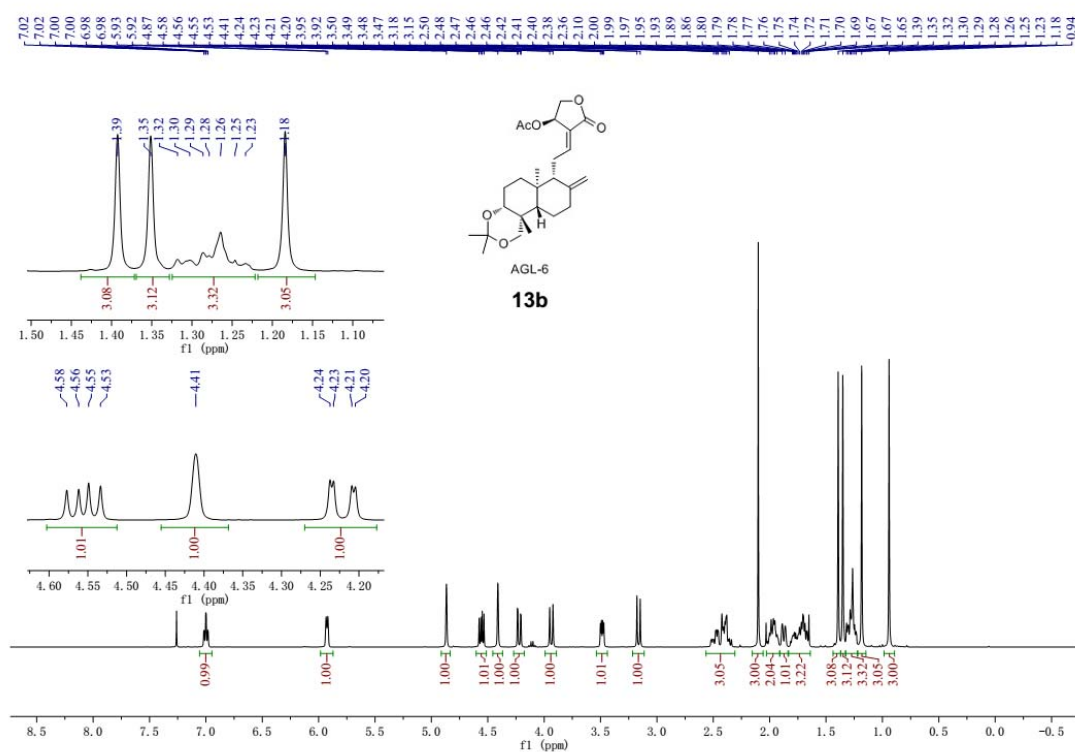
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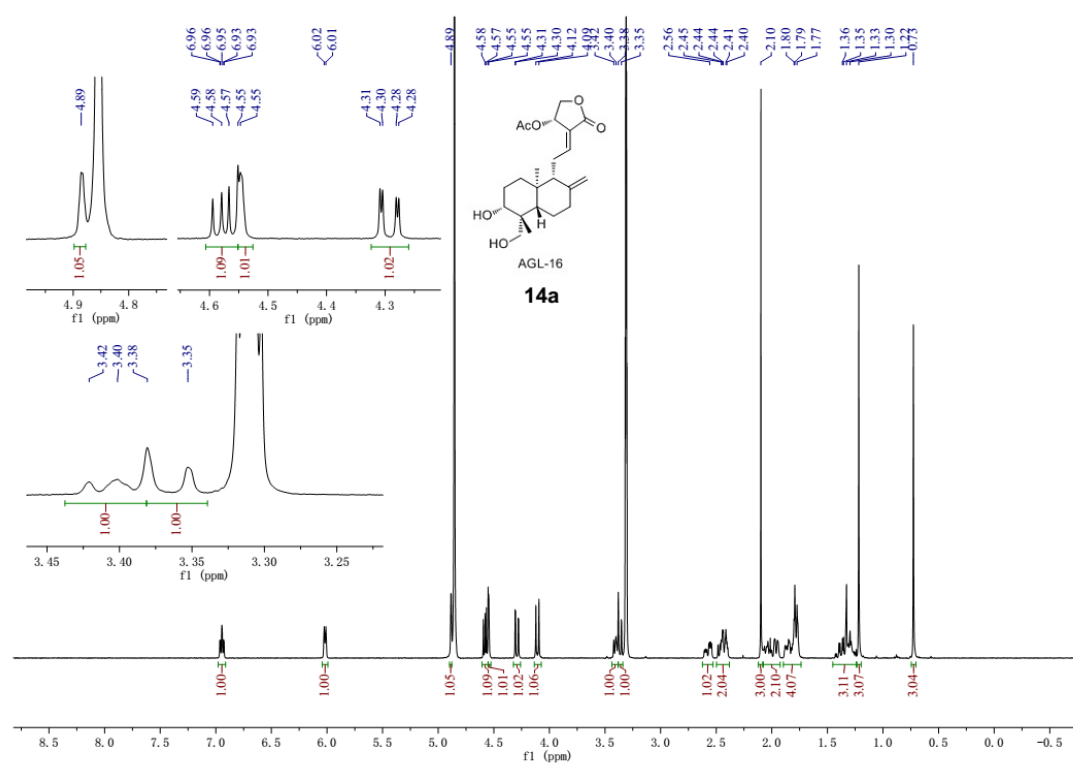
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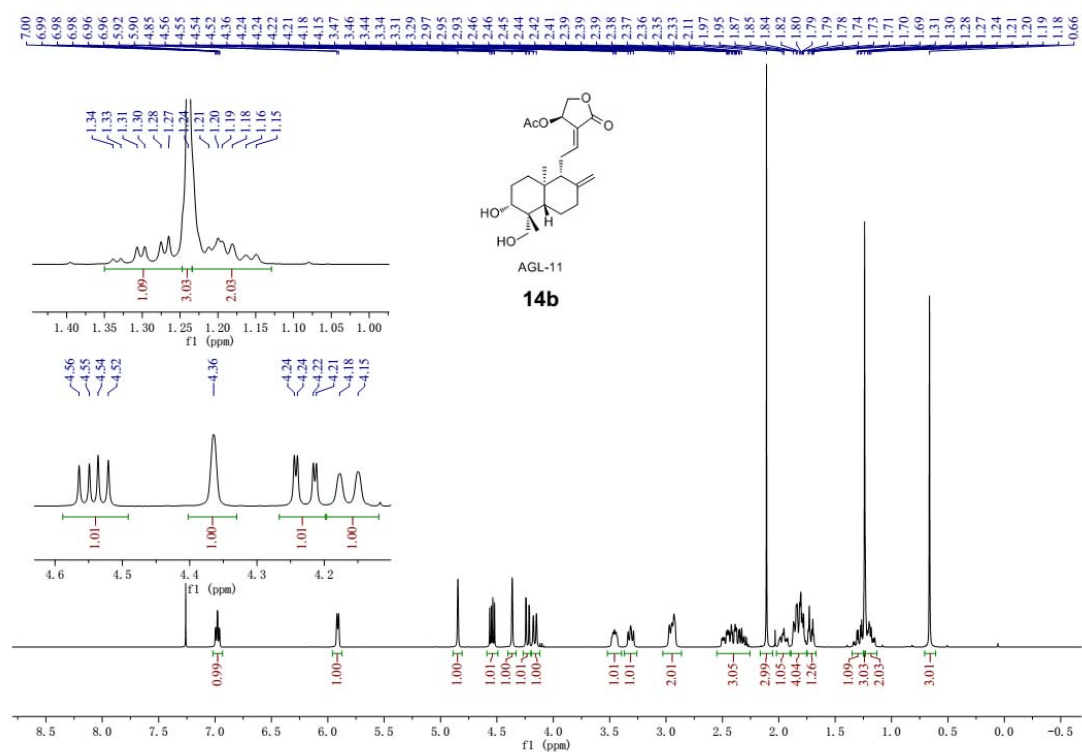
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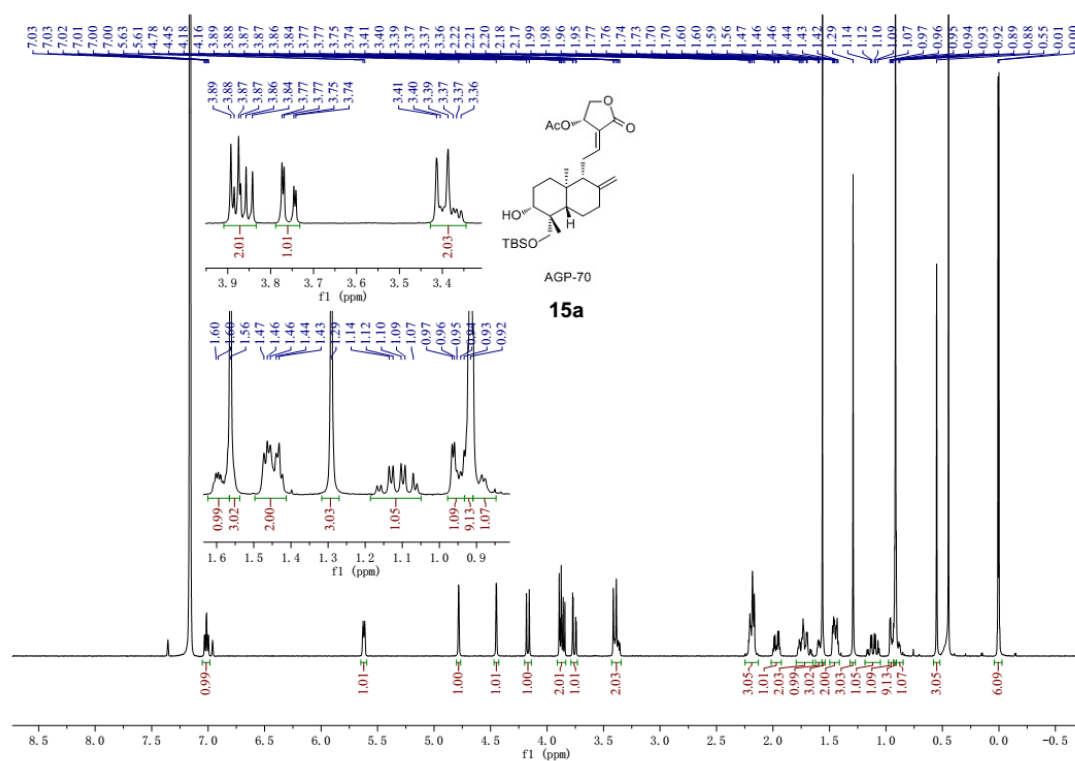
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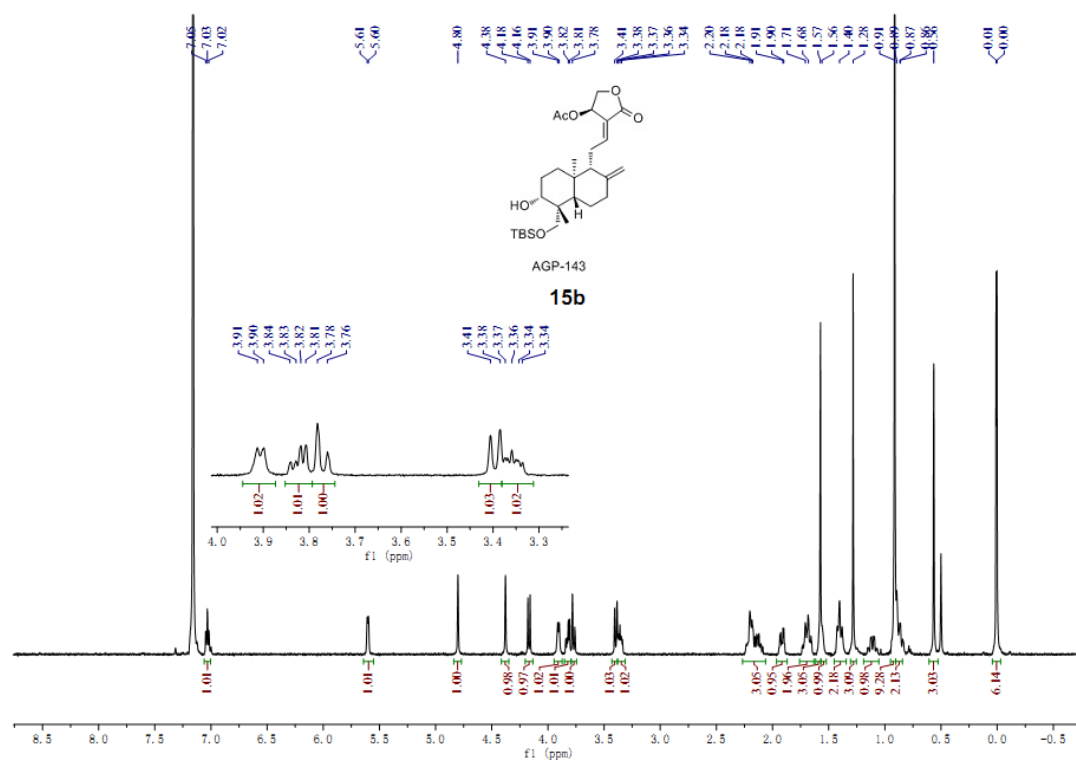
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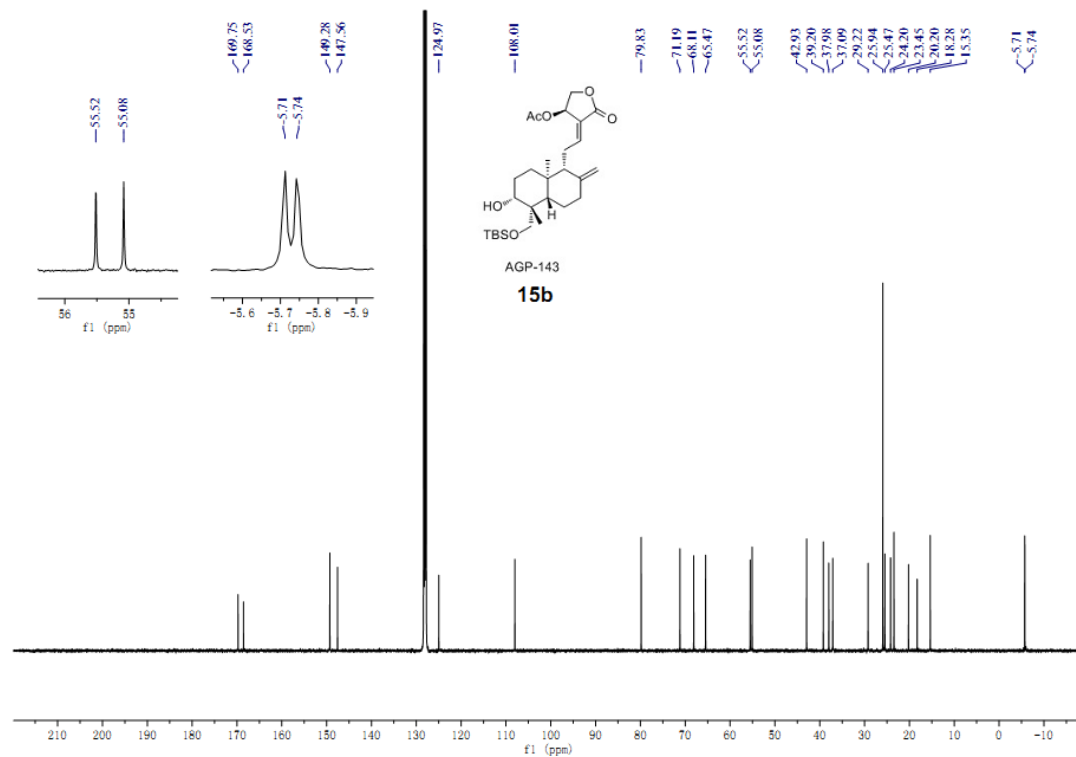
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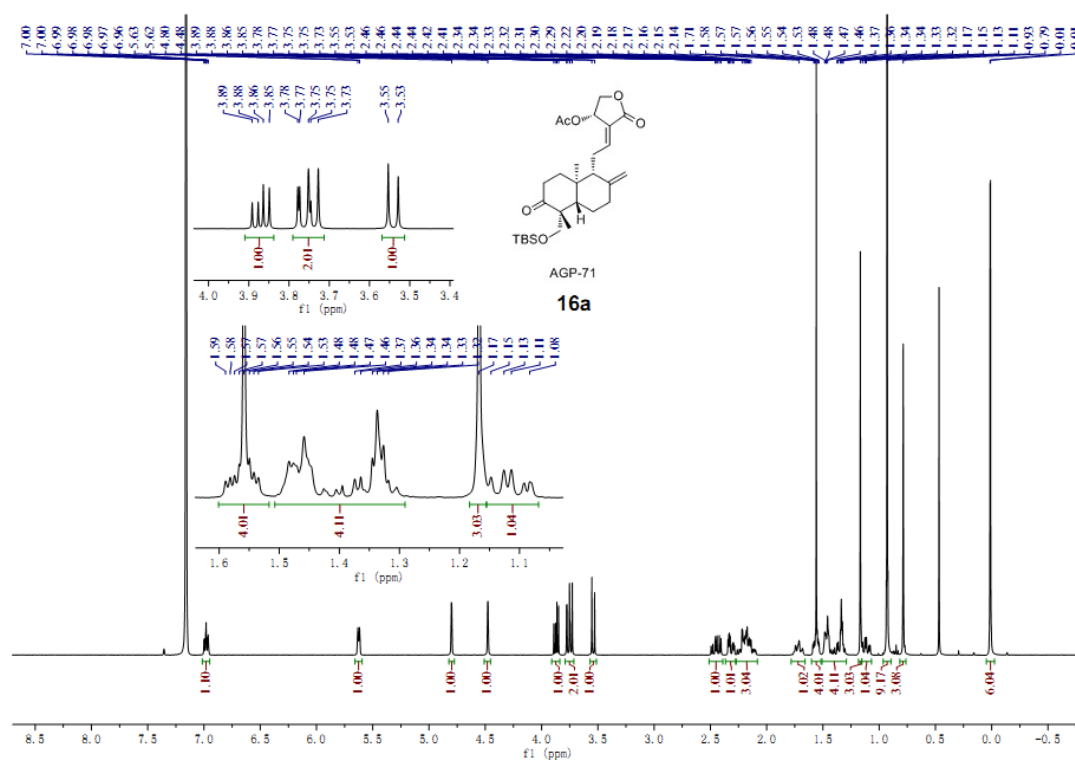
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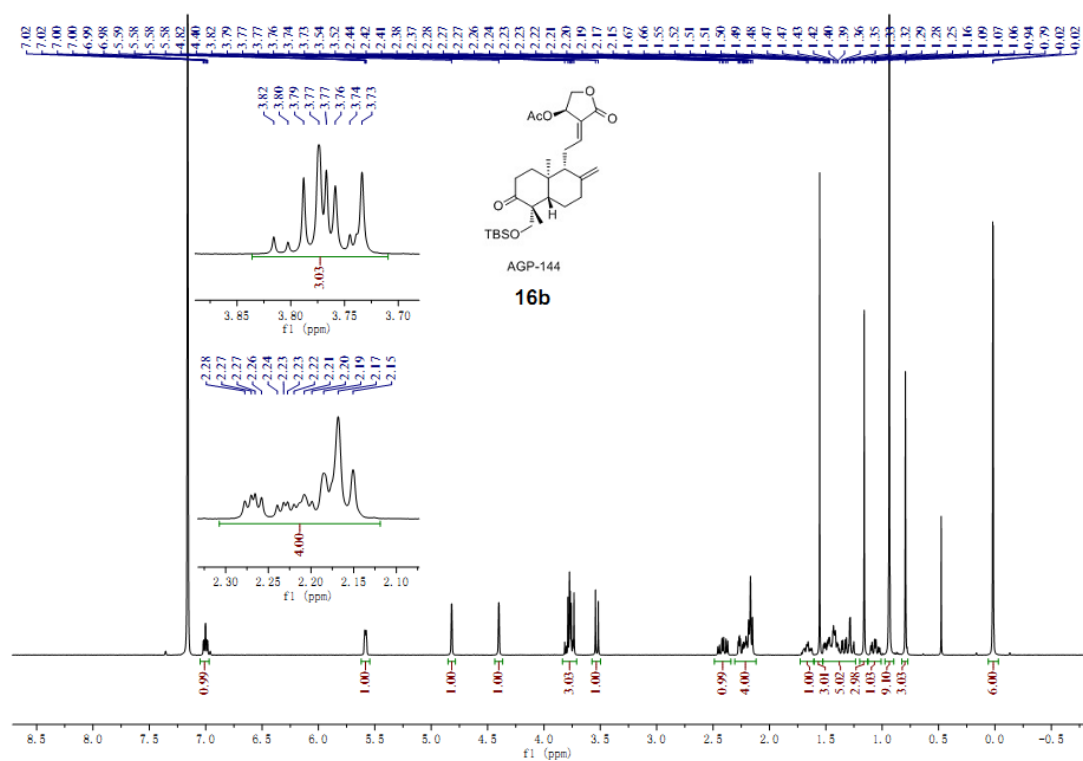
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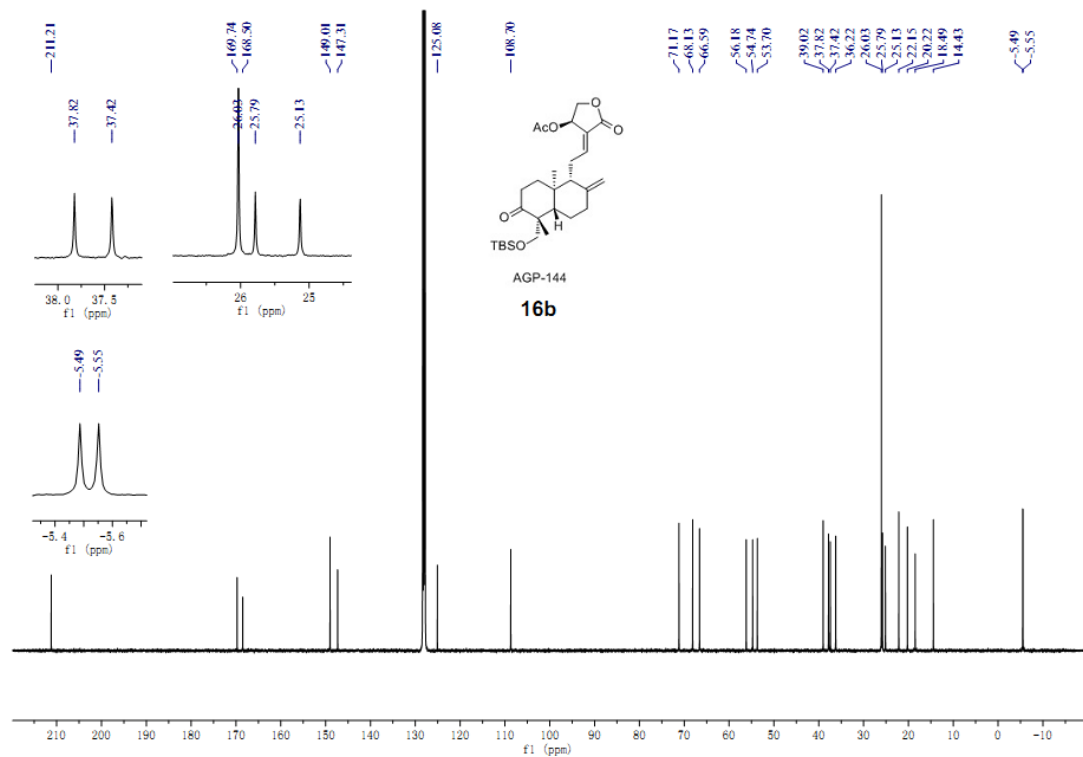
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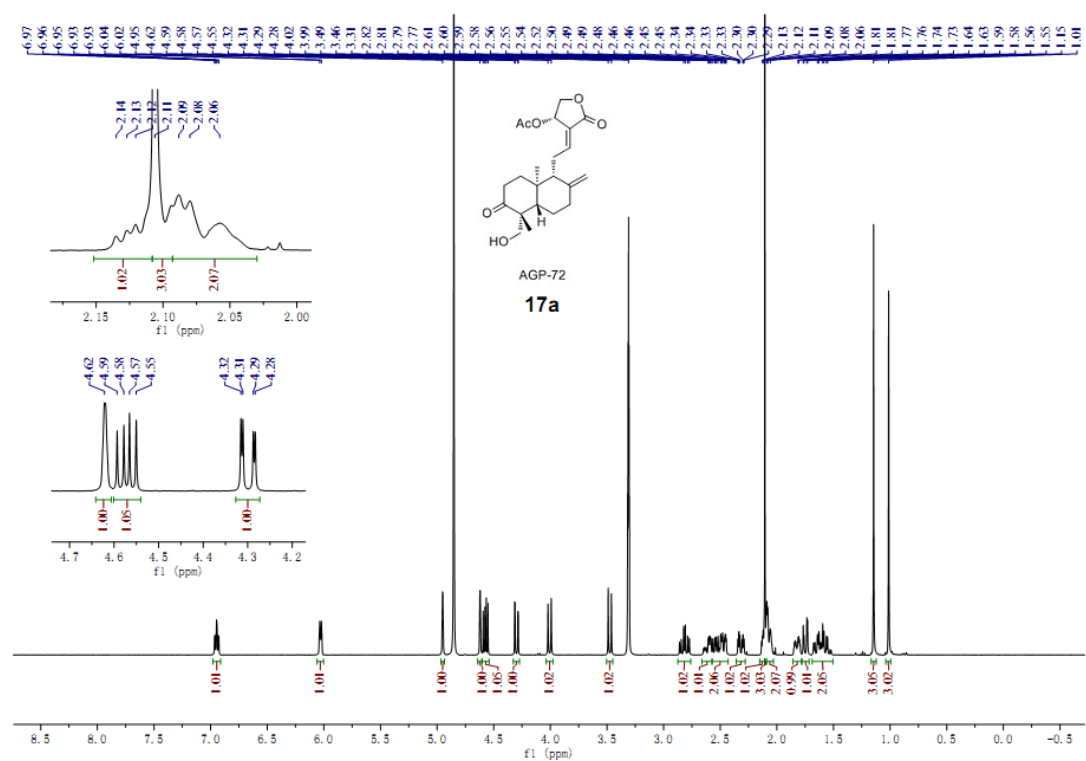
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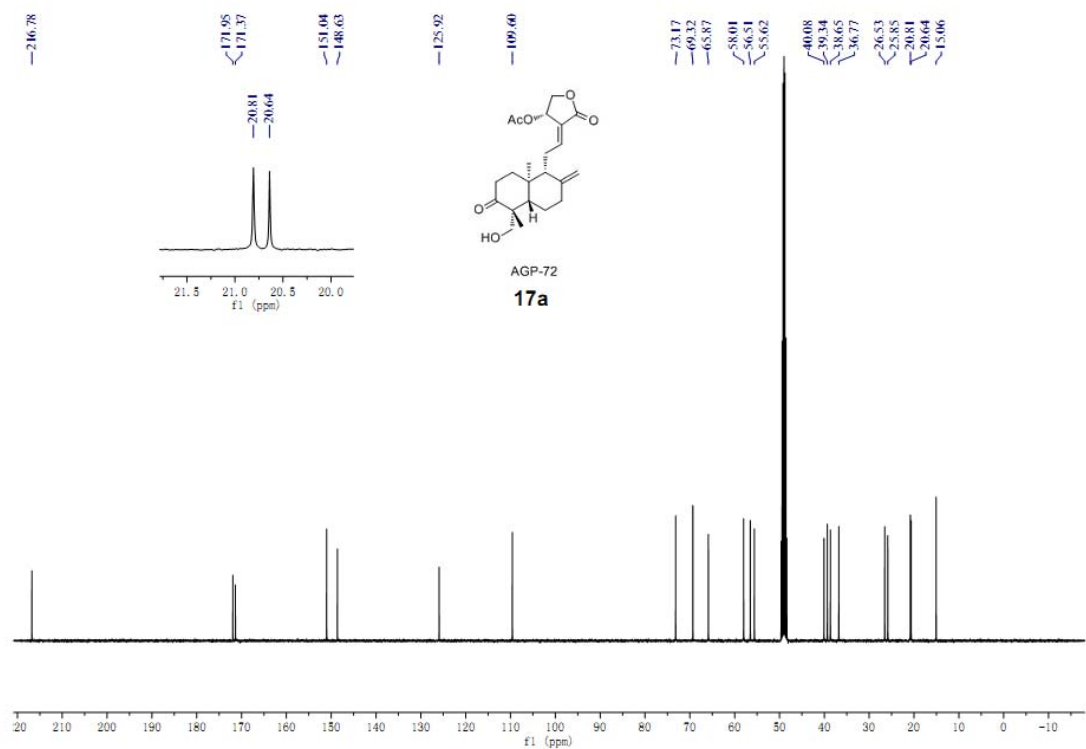
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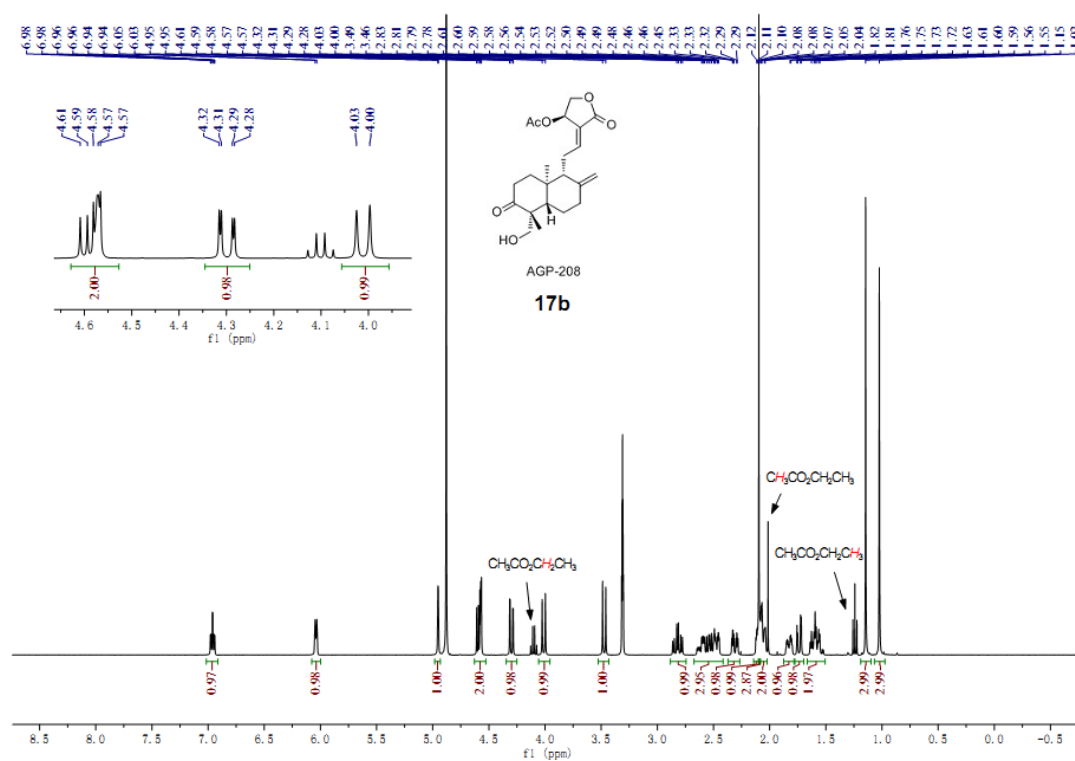
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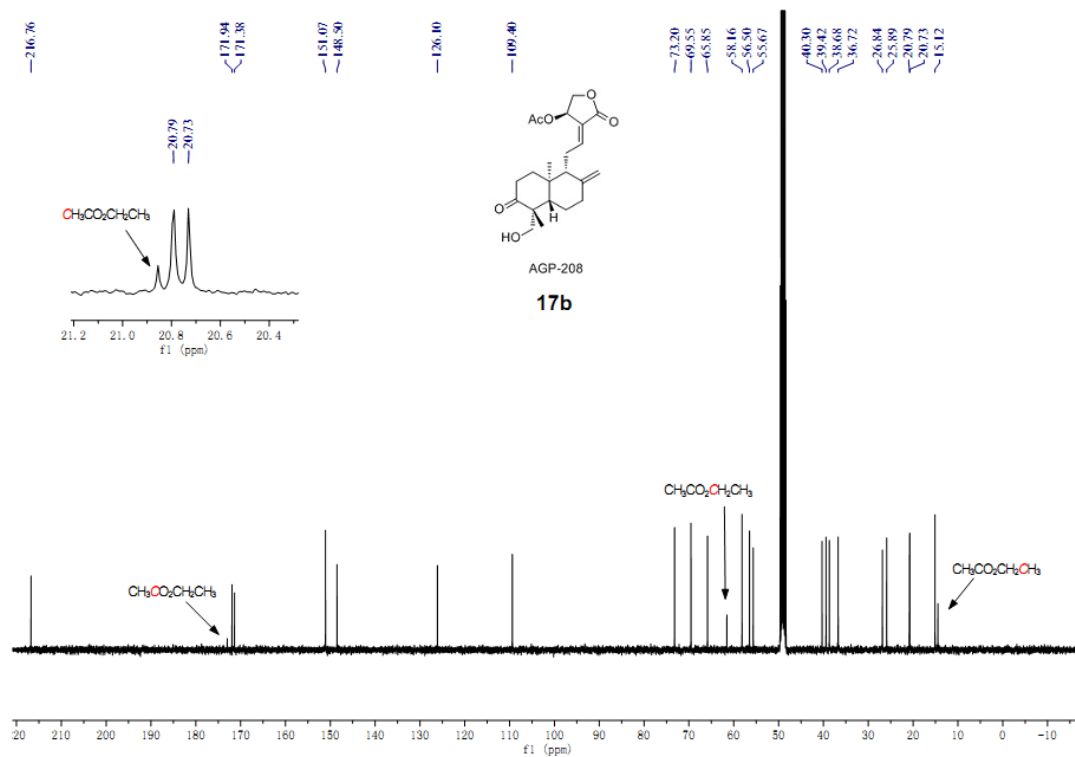
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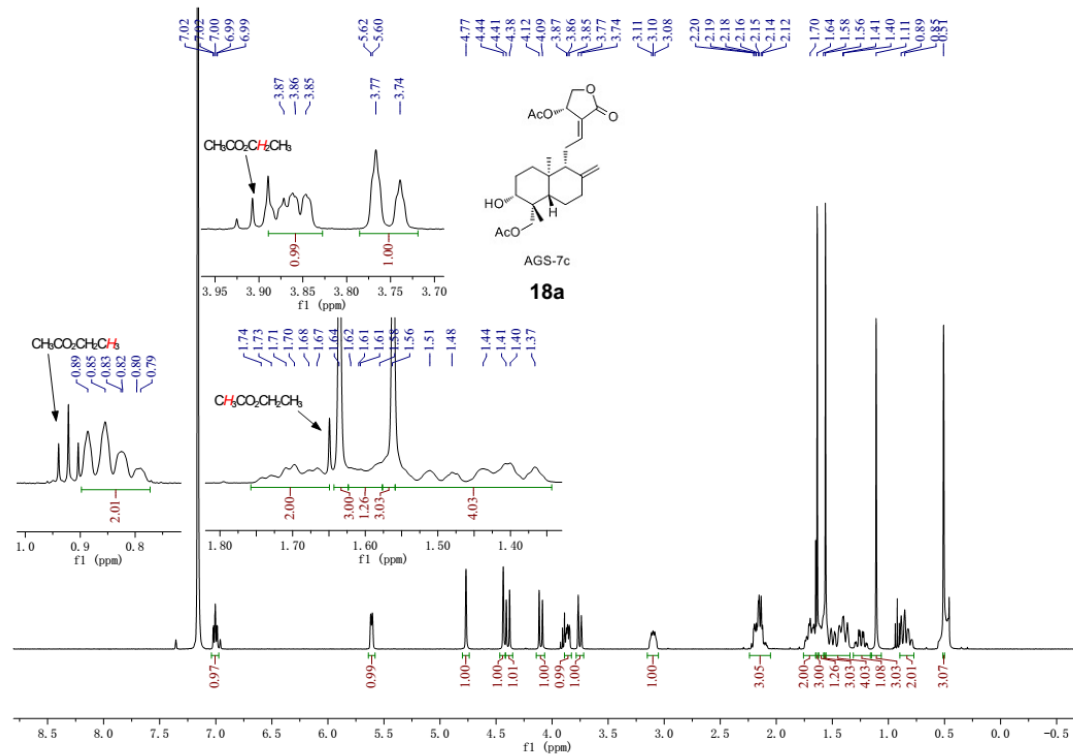
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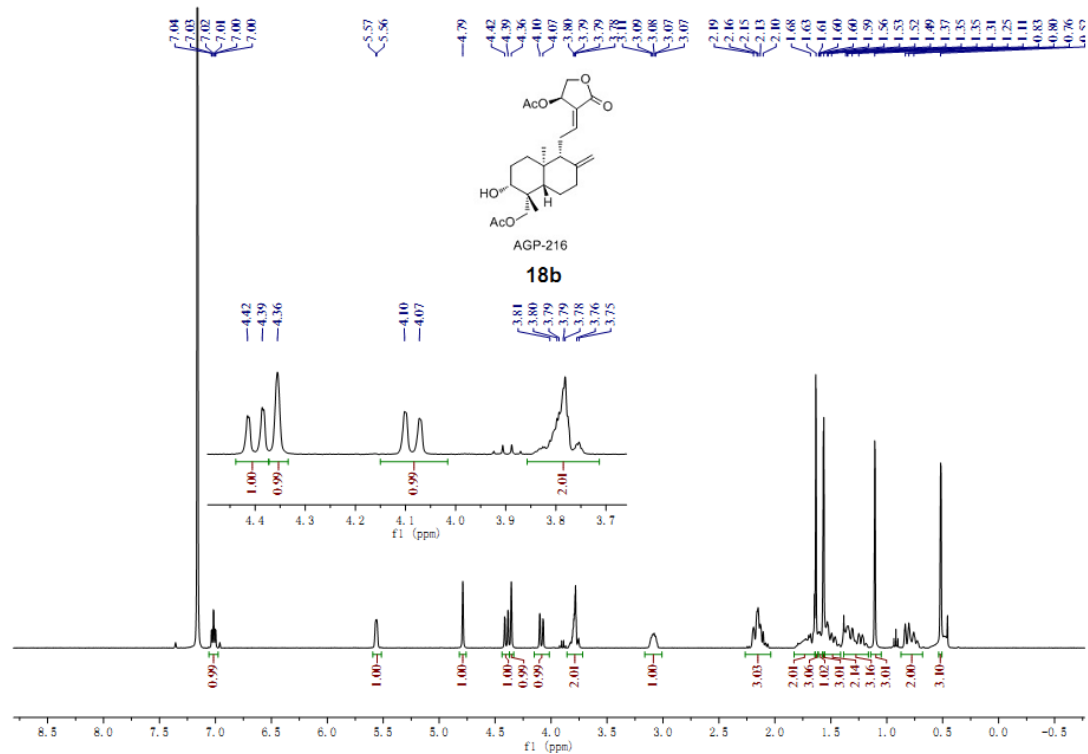
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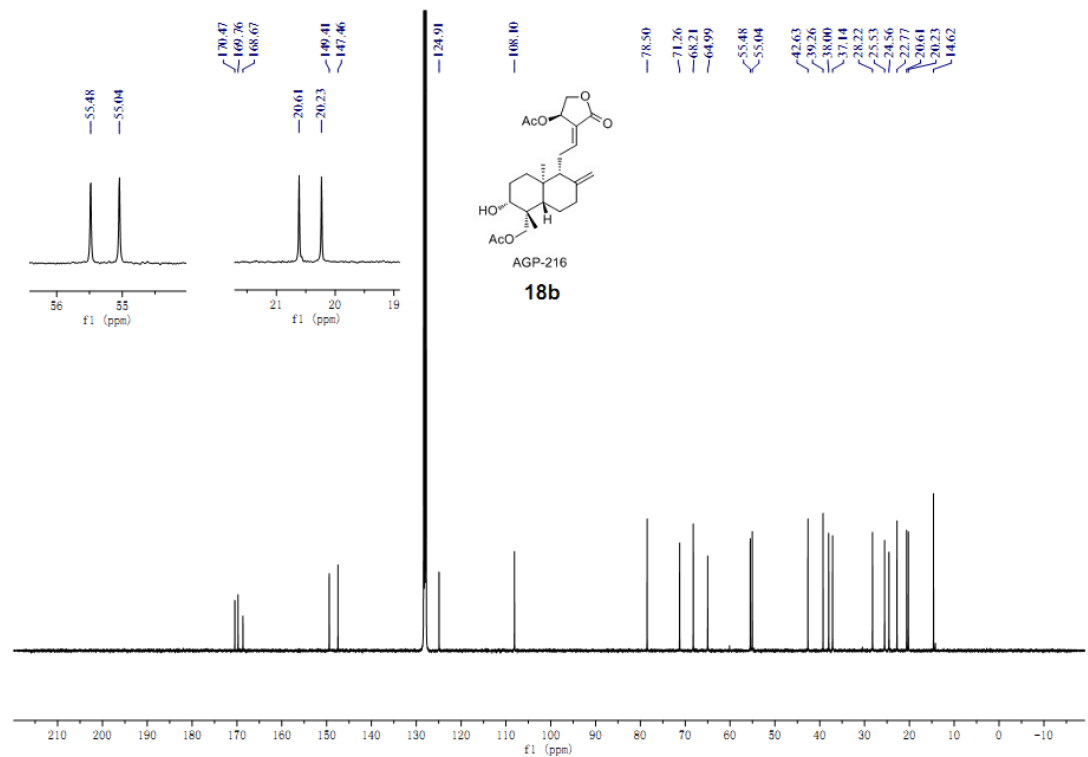
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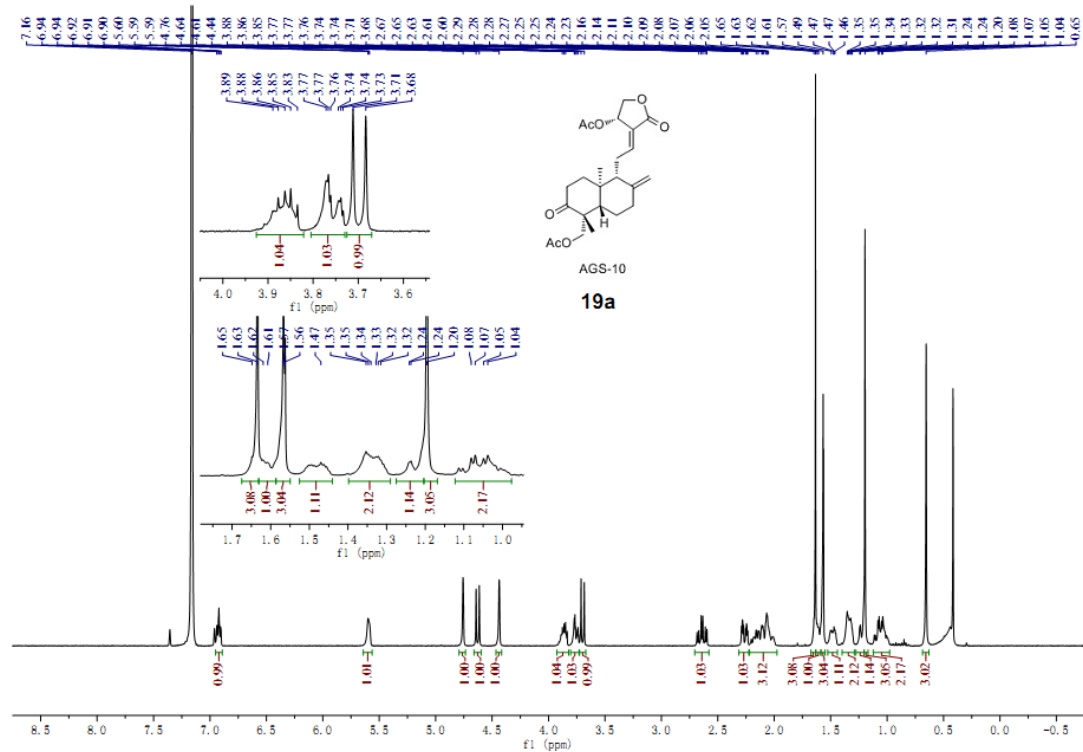
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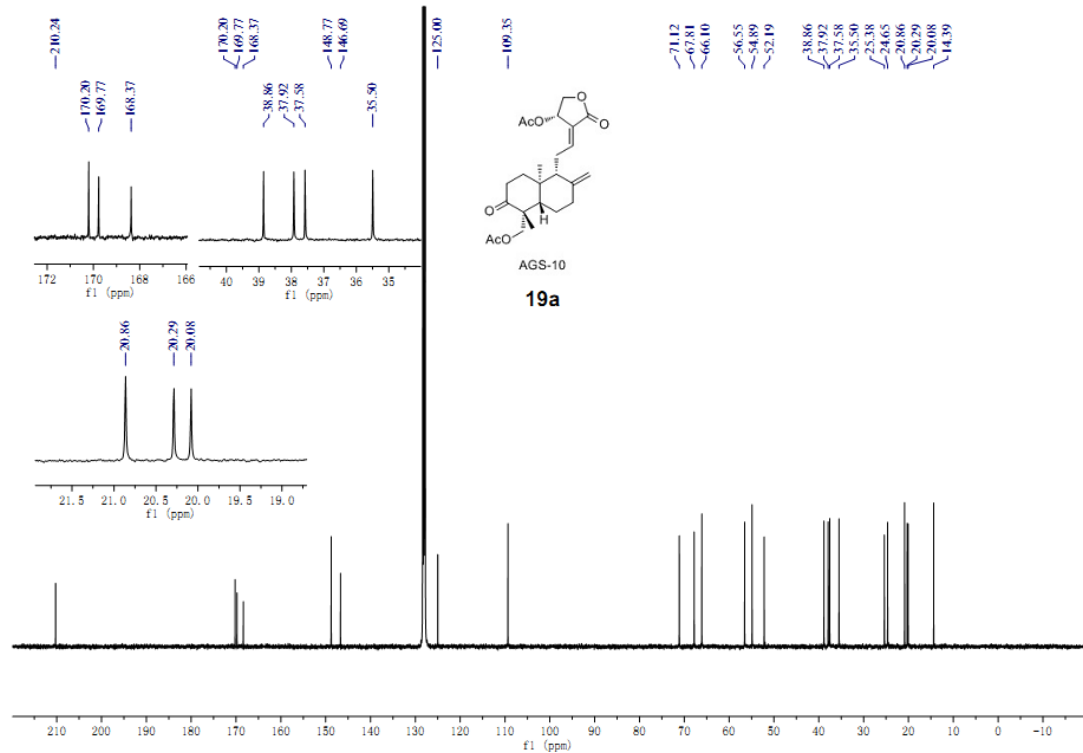
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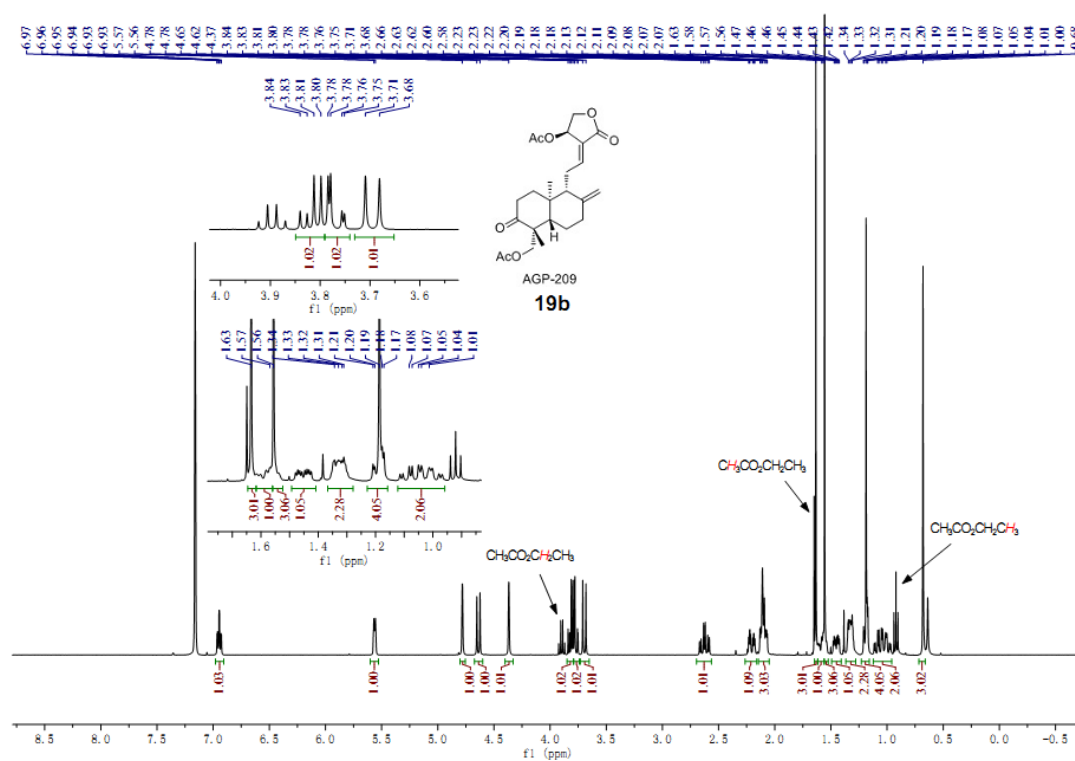
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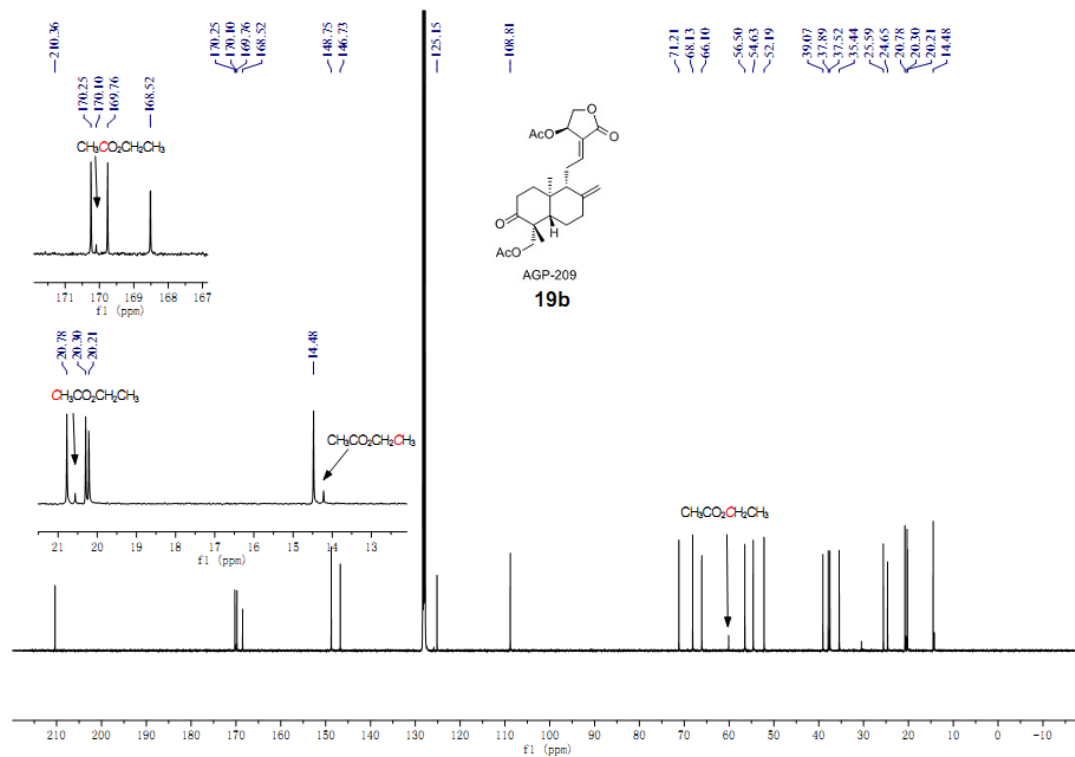
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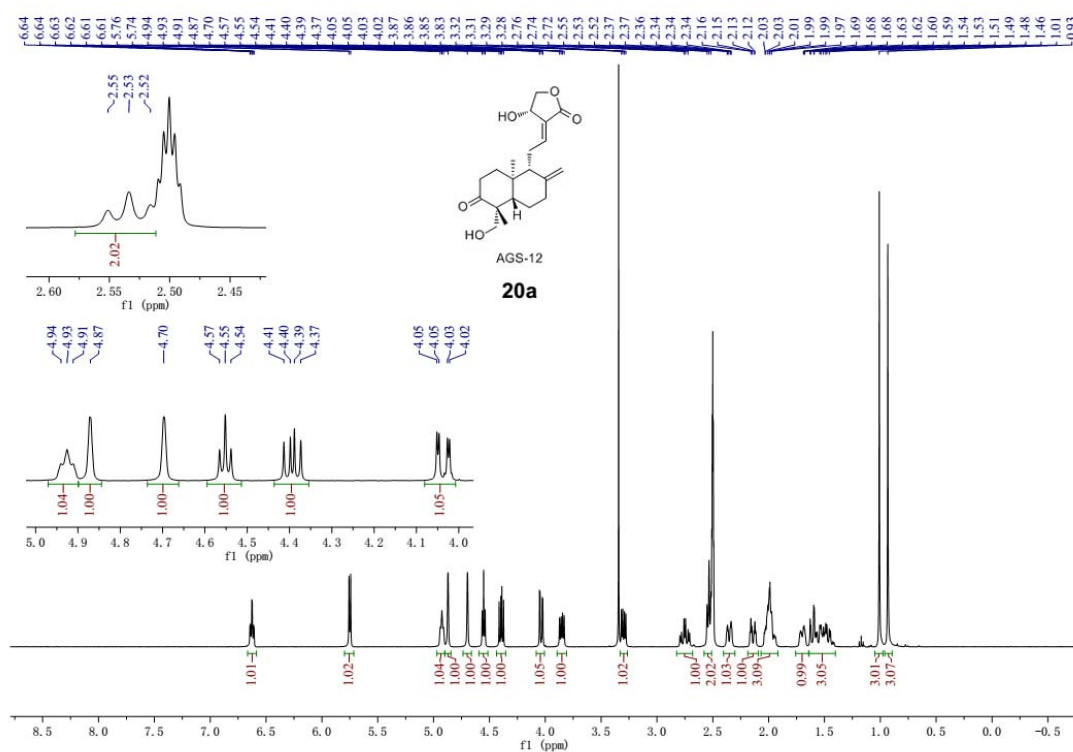
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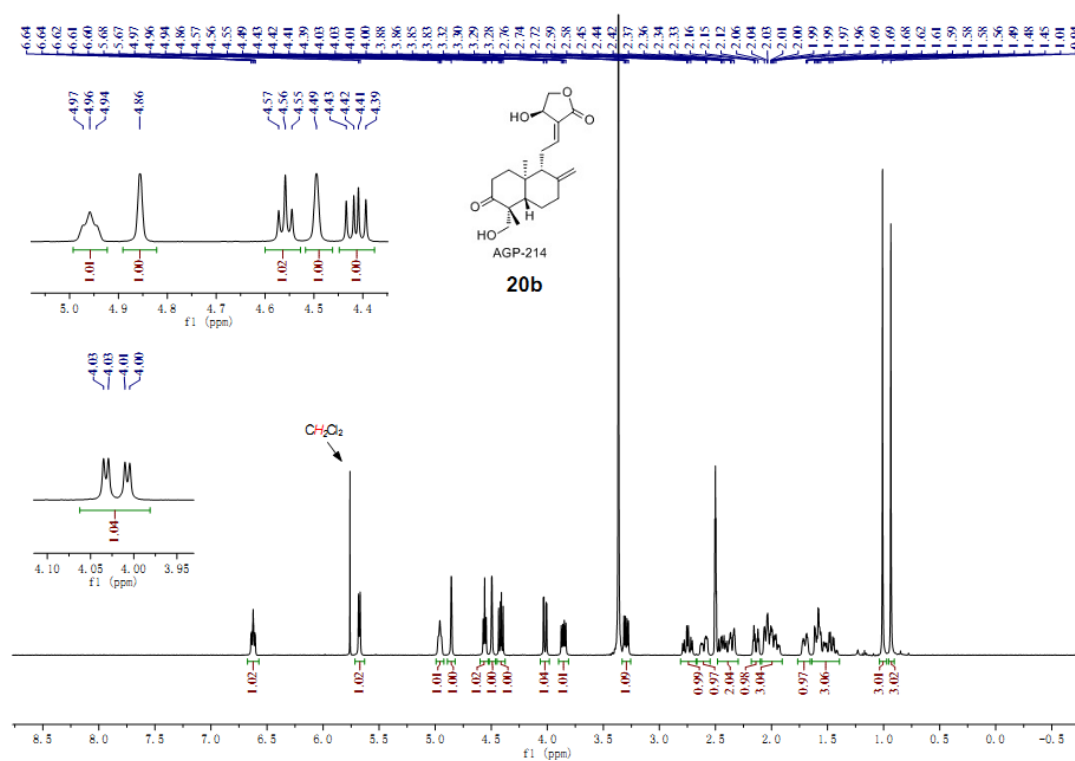
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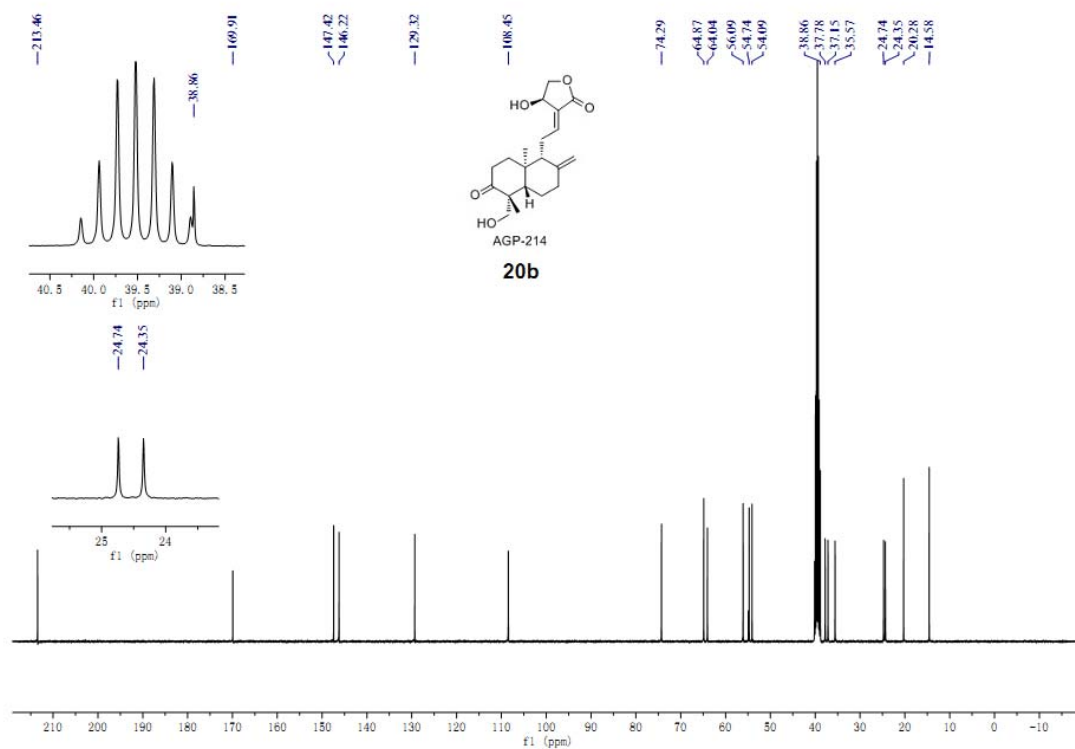
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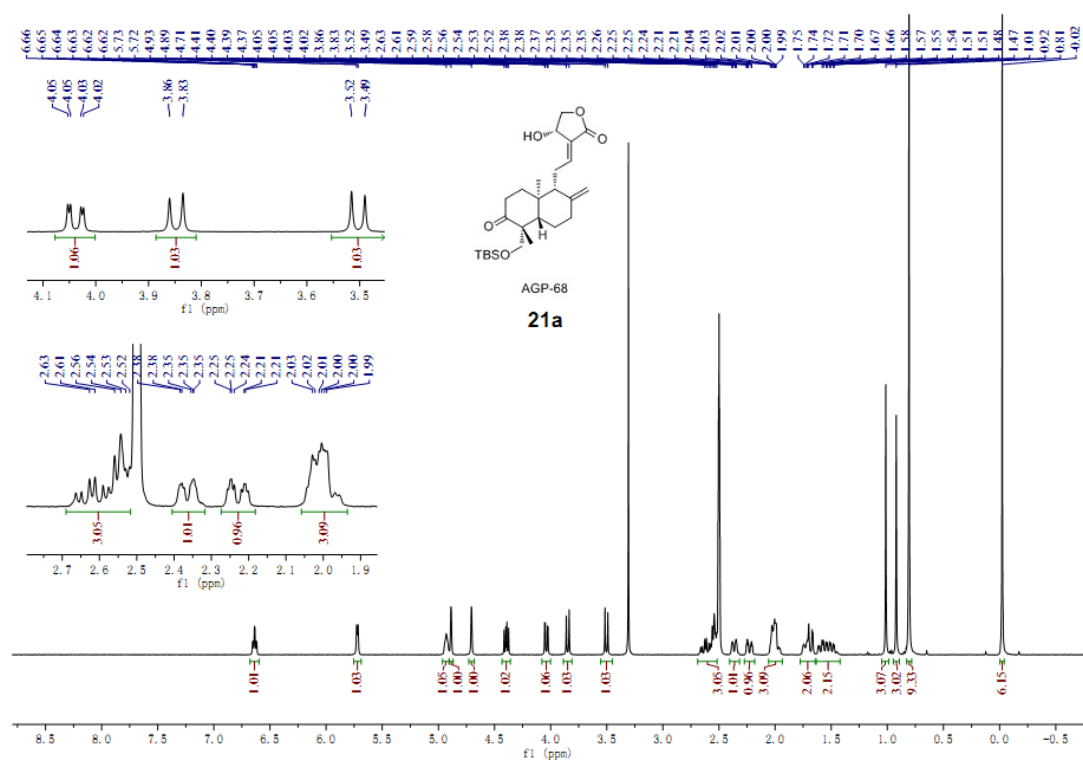
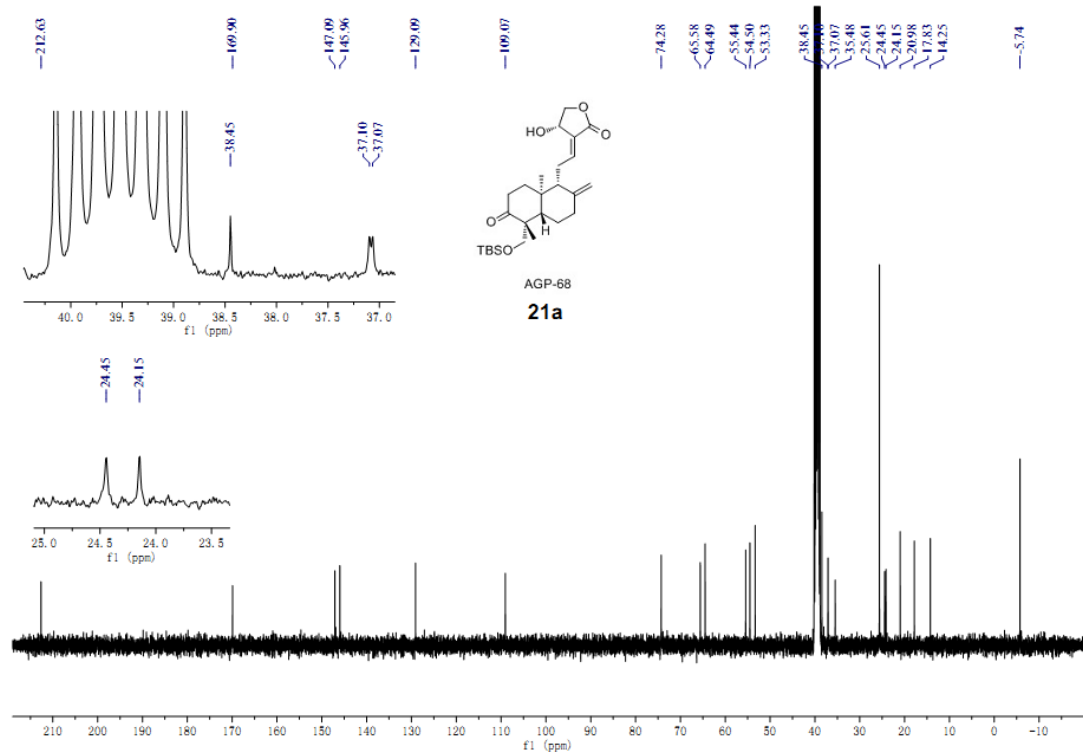
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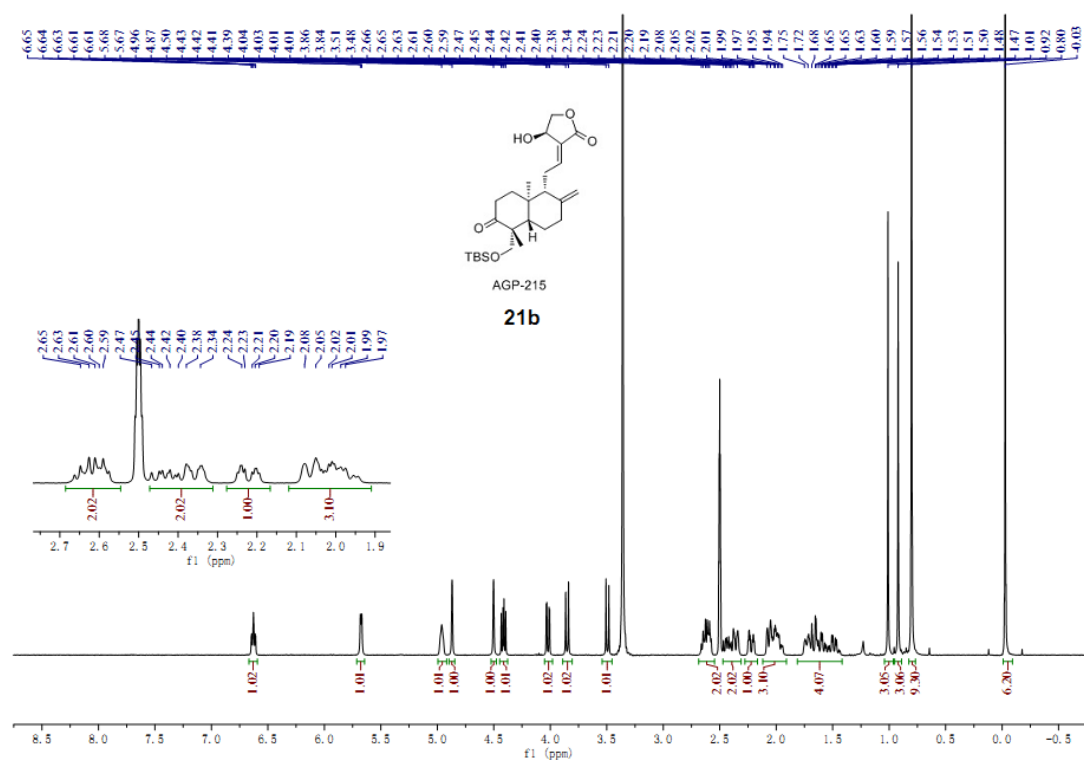
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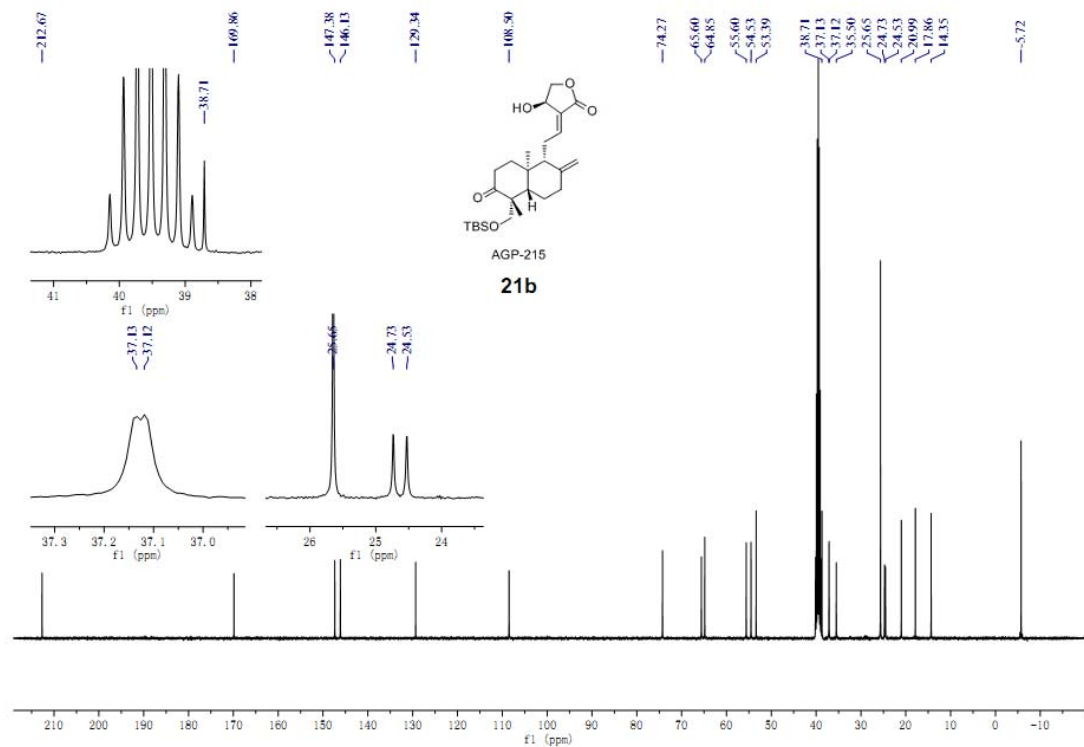
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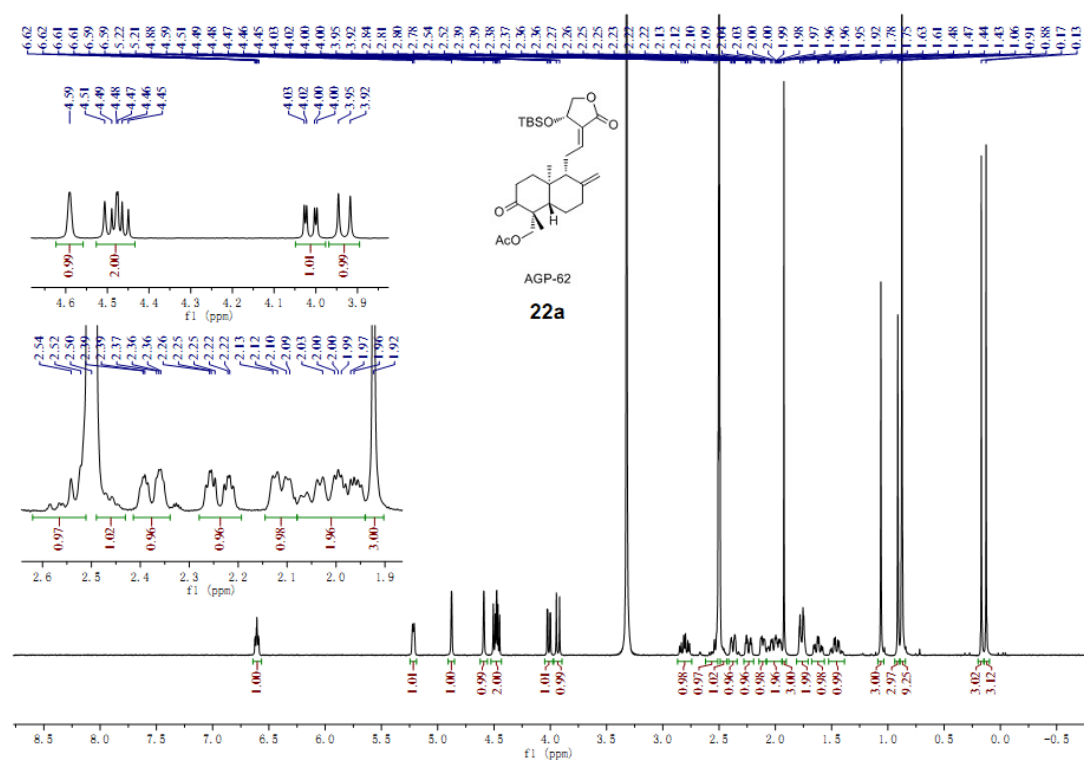
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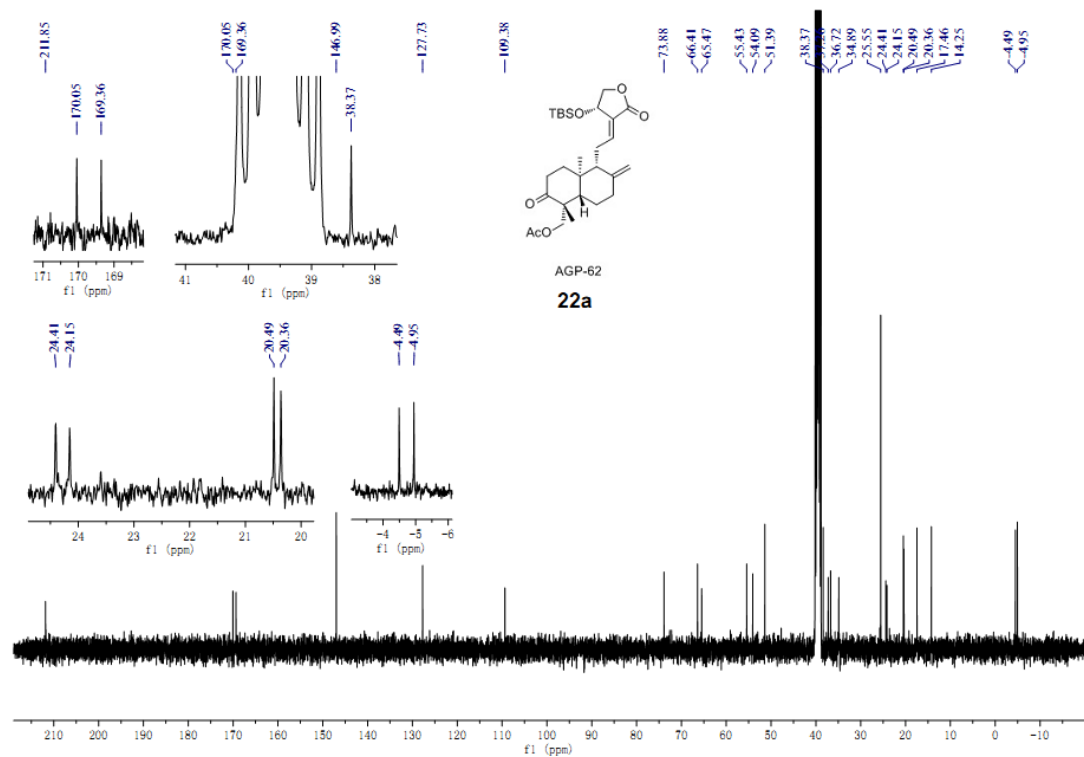
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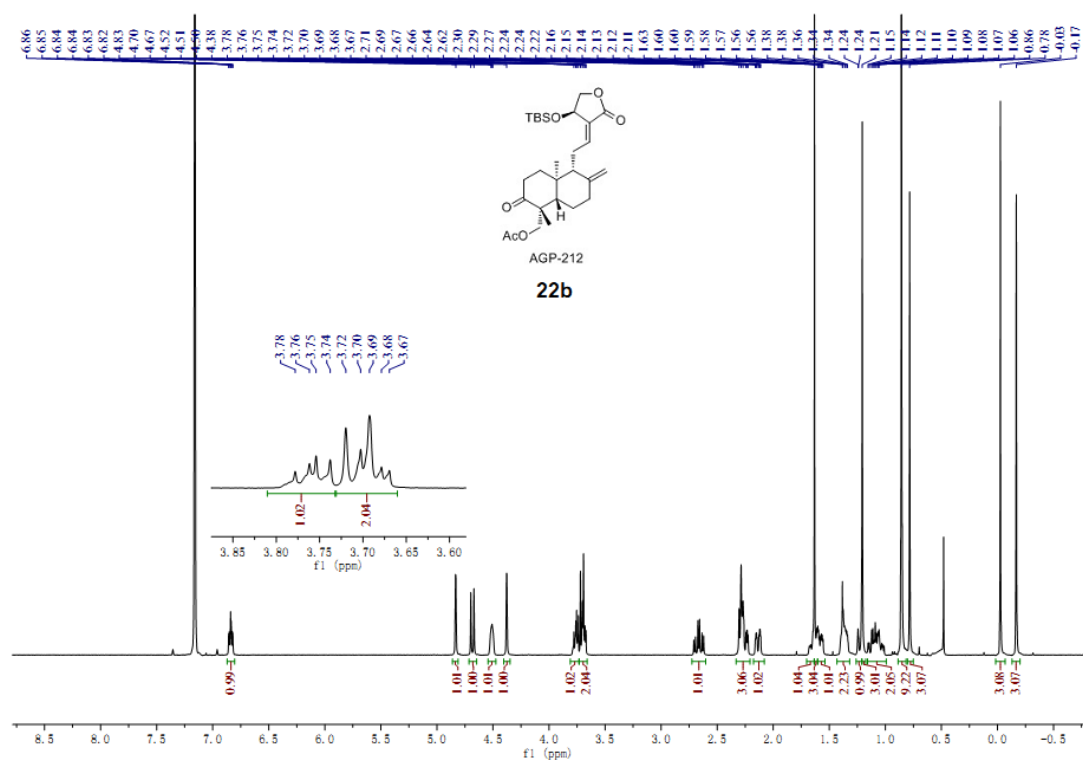
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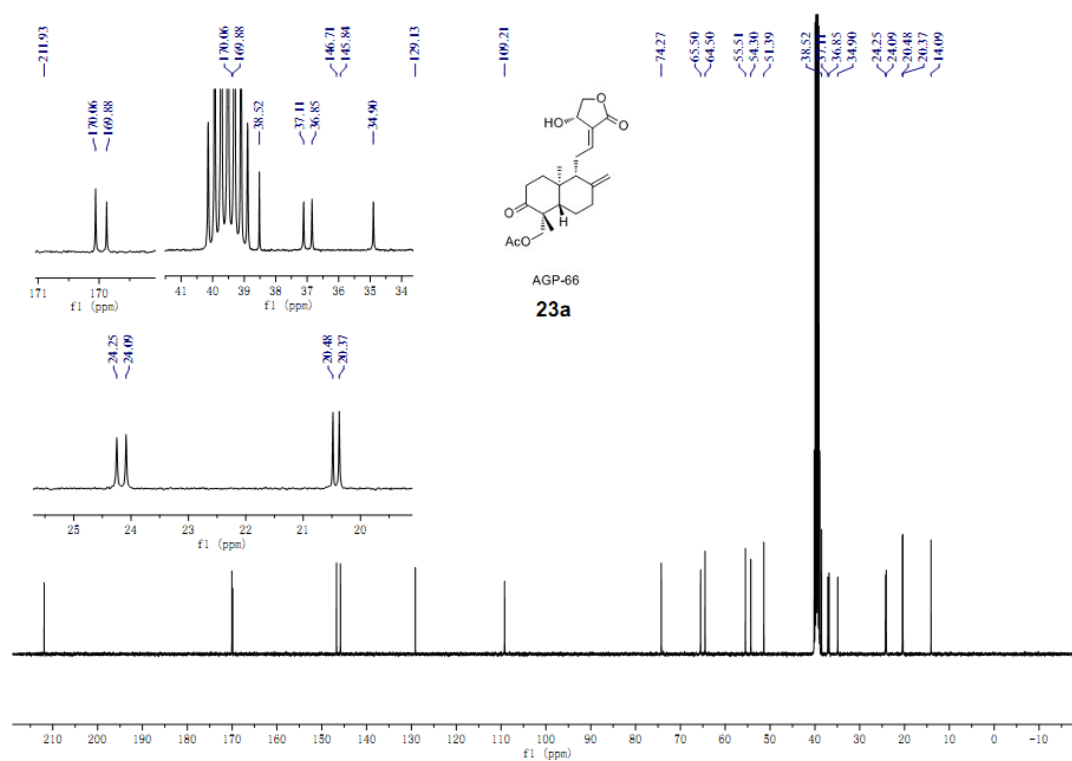
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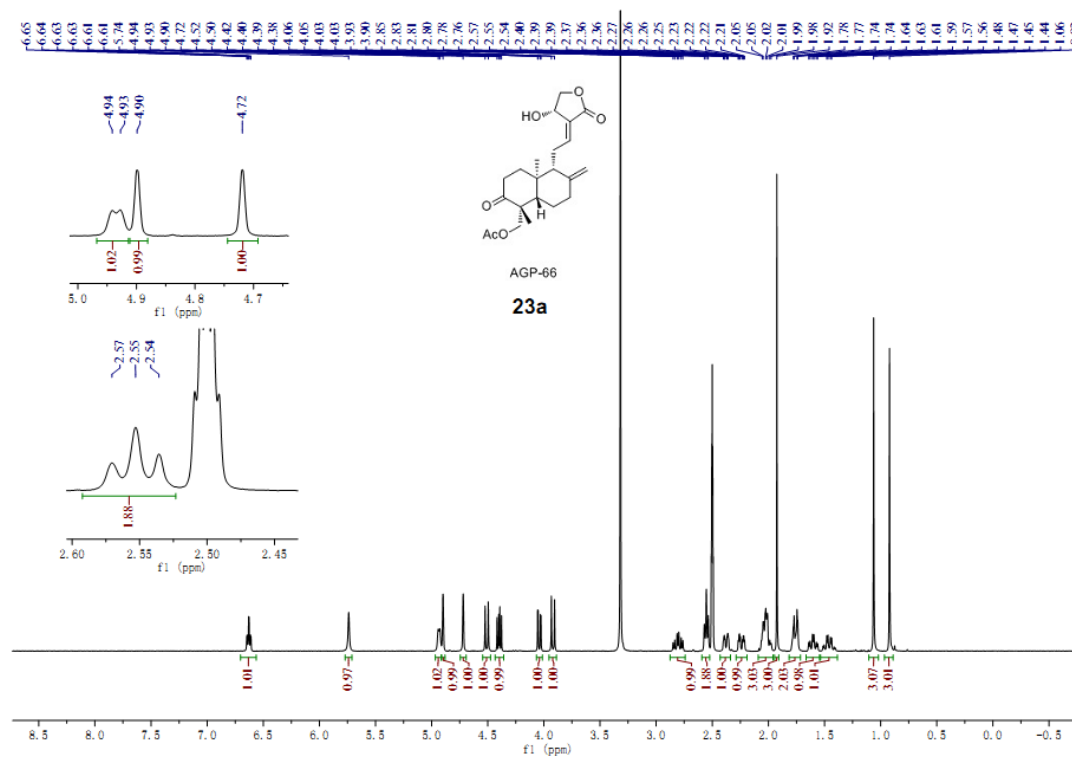
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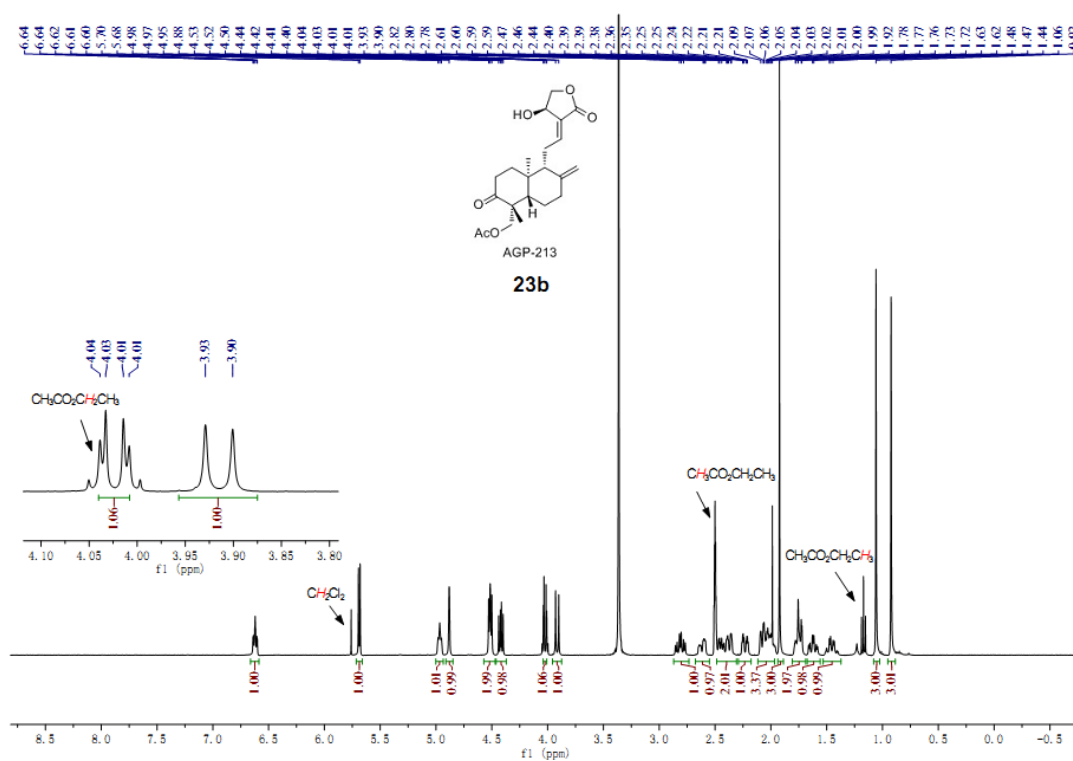
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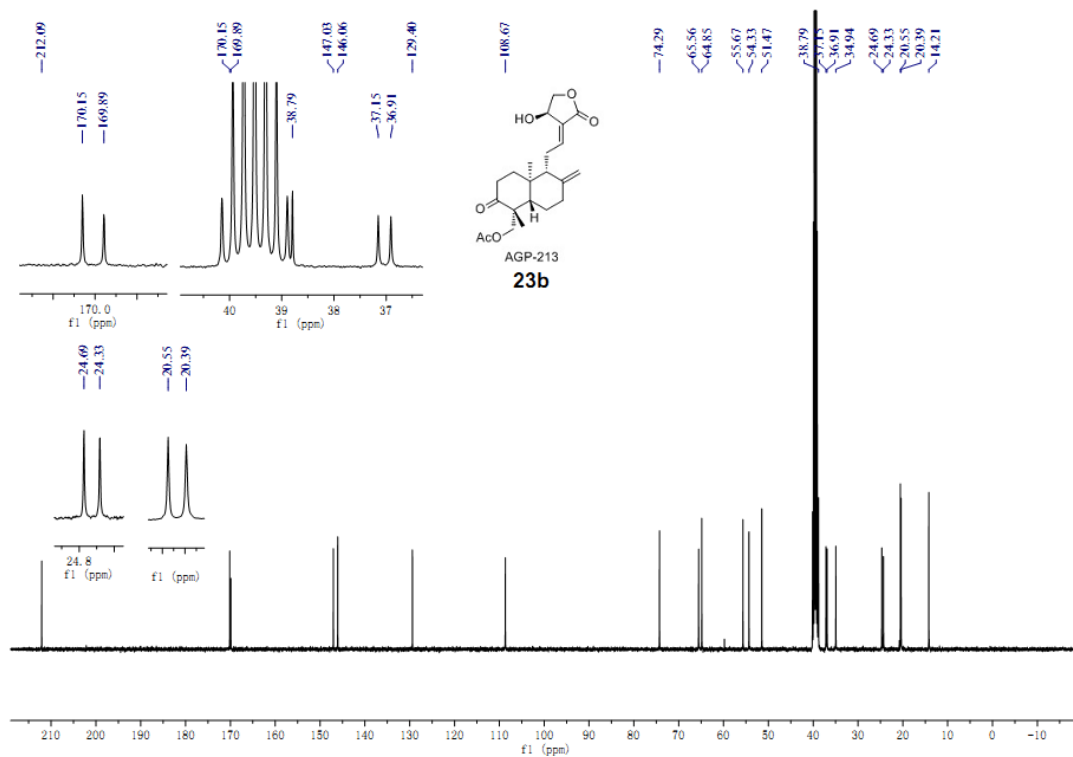
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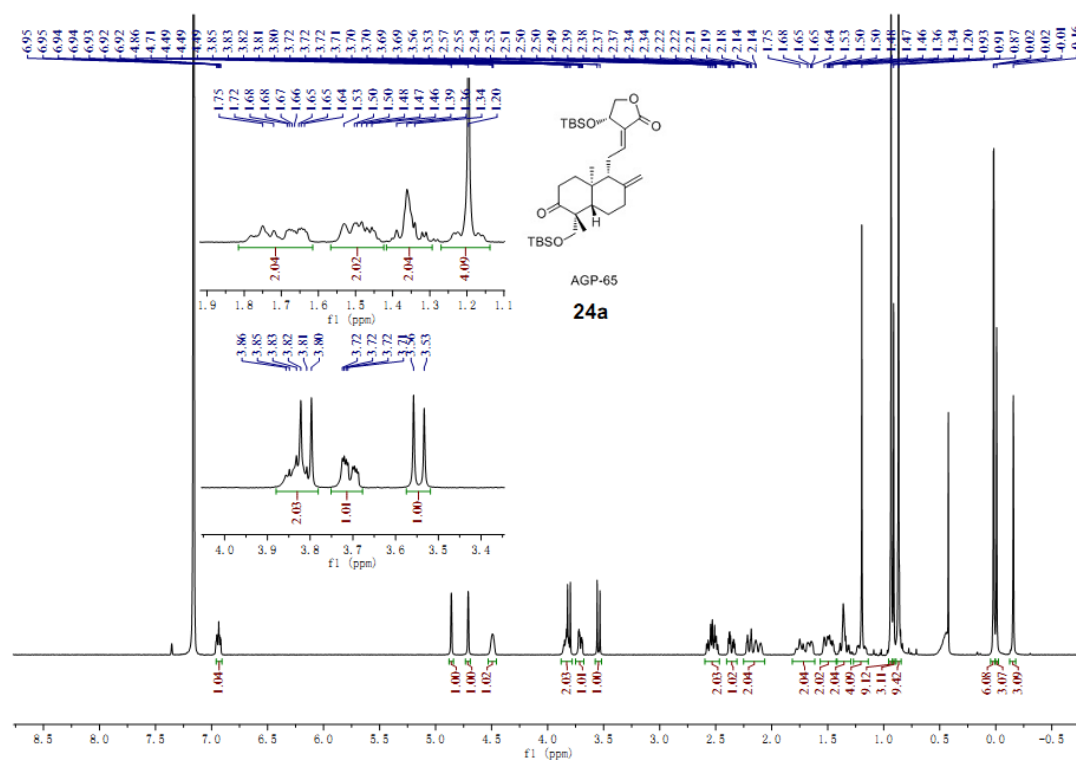
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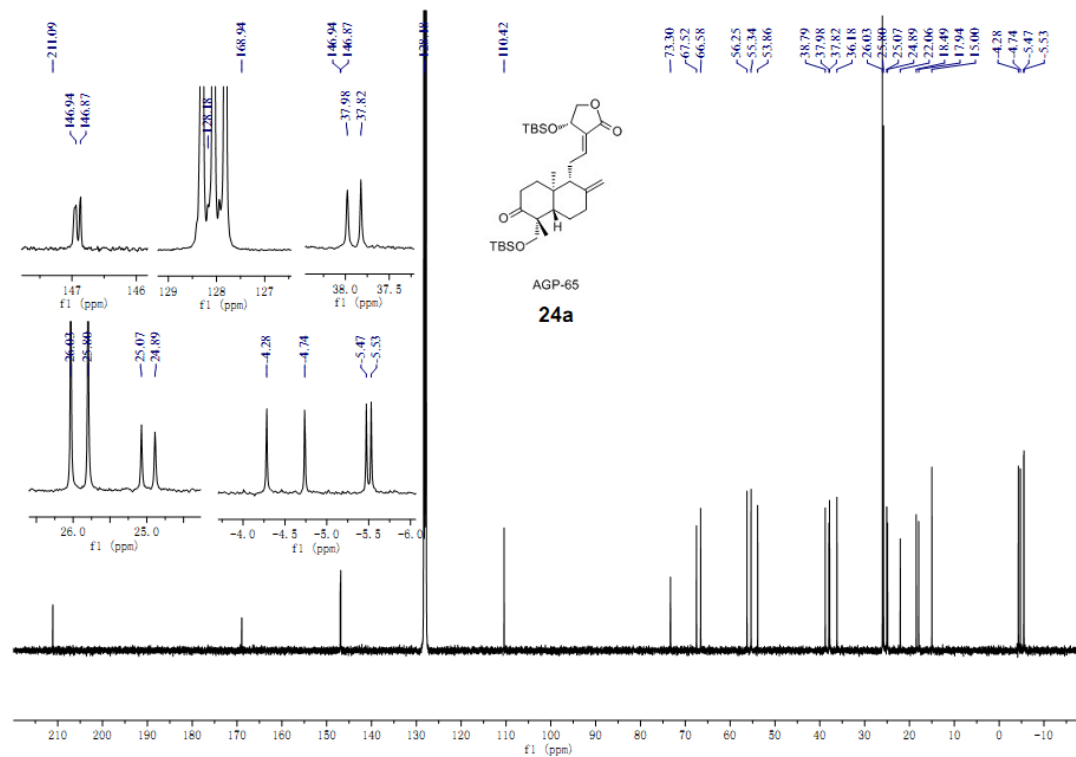
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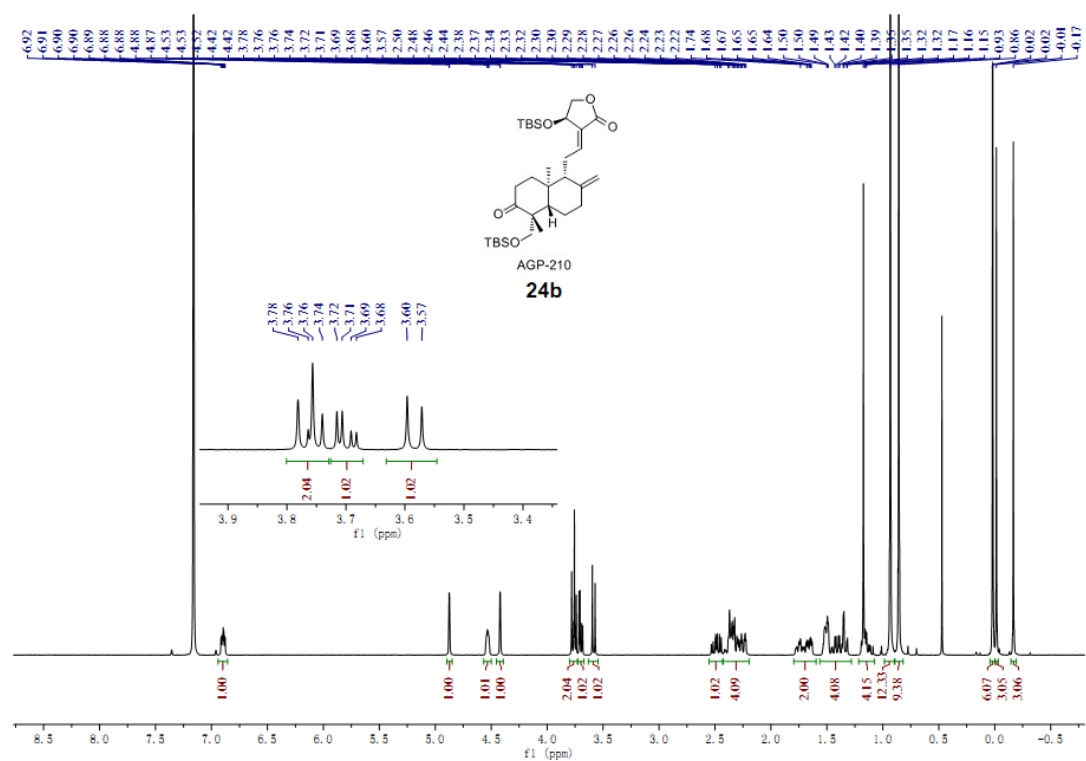
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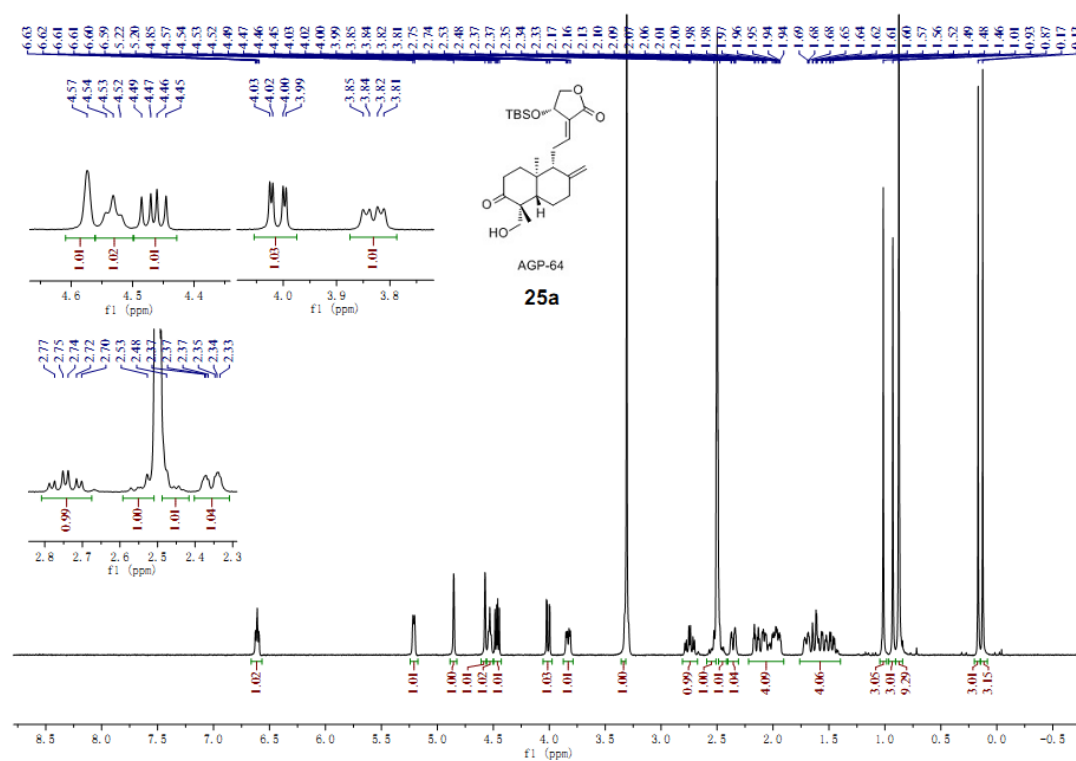
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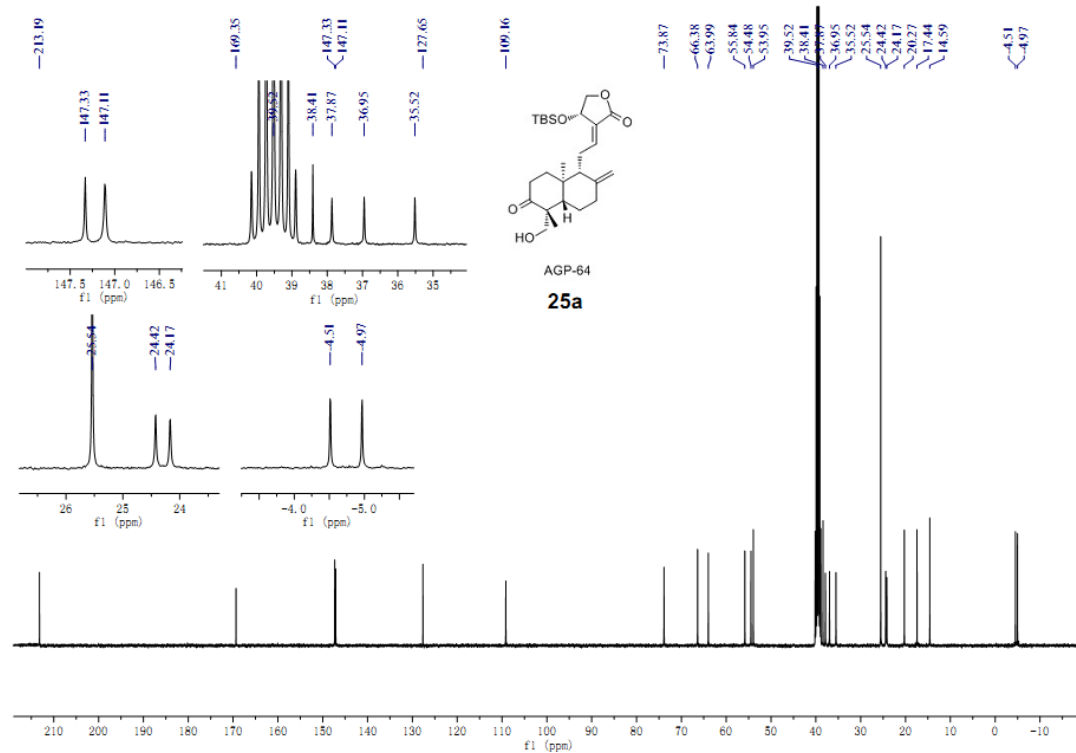
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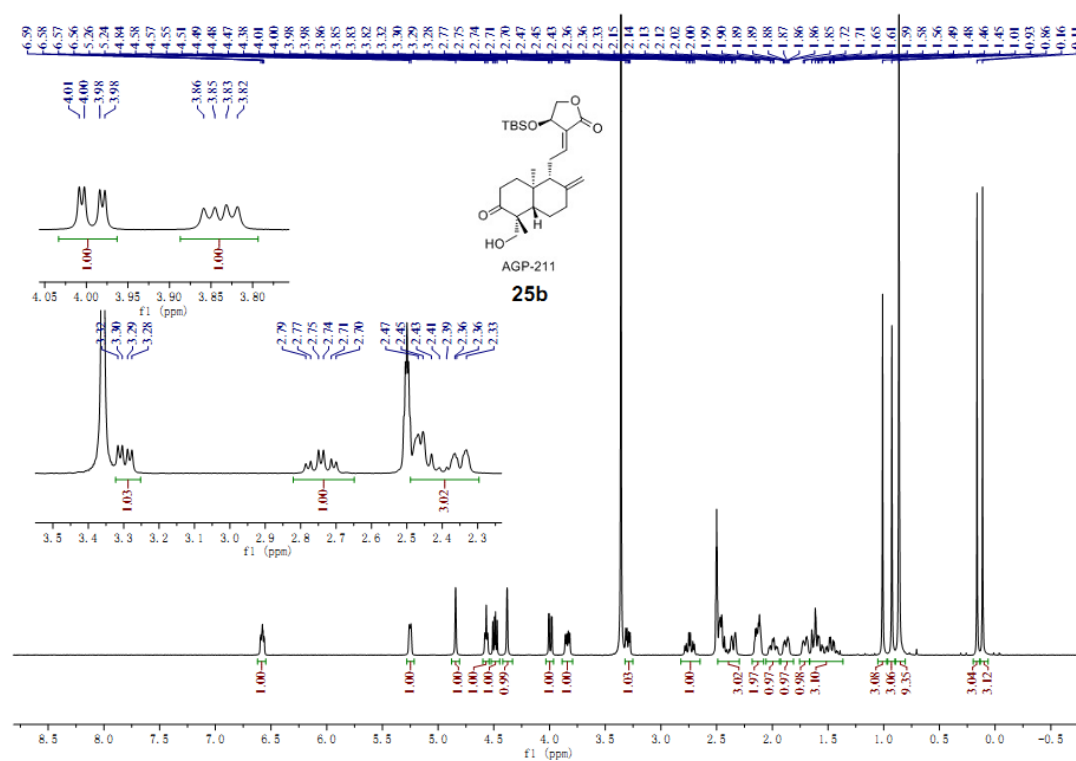
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¹³C NMR of compound **25a**:



¹H NMR of compound **25b**:



¹³C NMR of compound **25b**:

