

## *Supplementary Materials*

### **Semi-synthesis of C-ring Cyclopropyl Analogues of Fraxinellone and Their Insecticidal Activity against *Mythimna separata* Walker**

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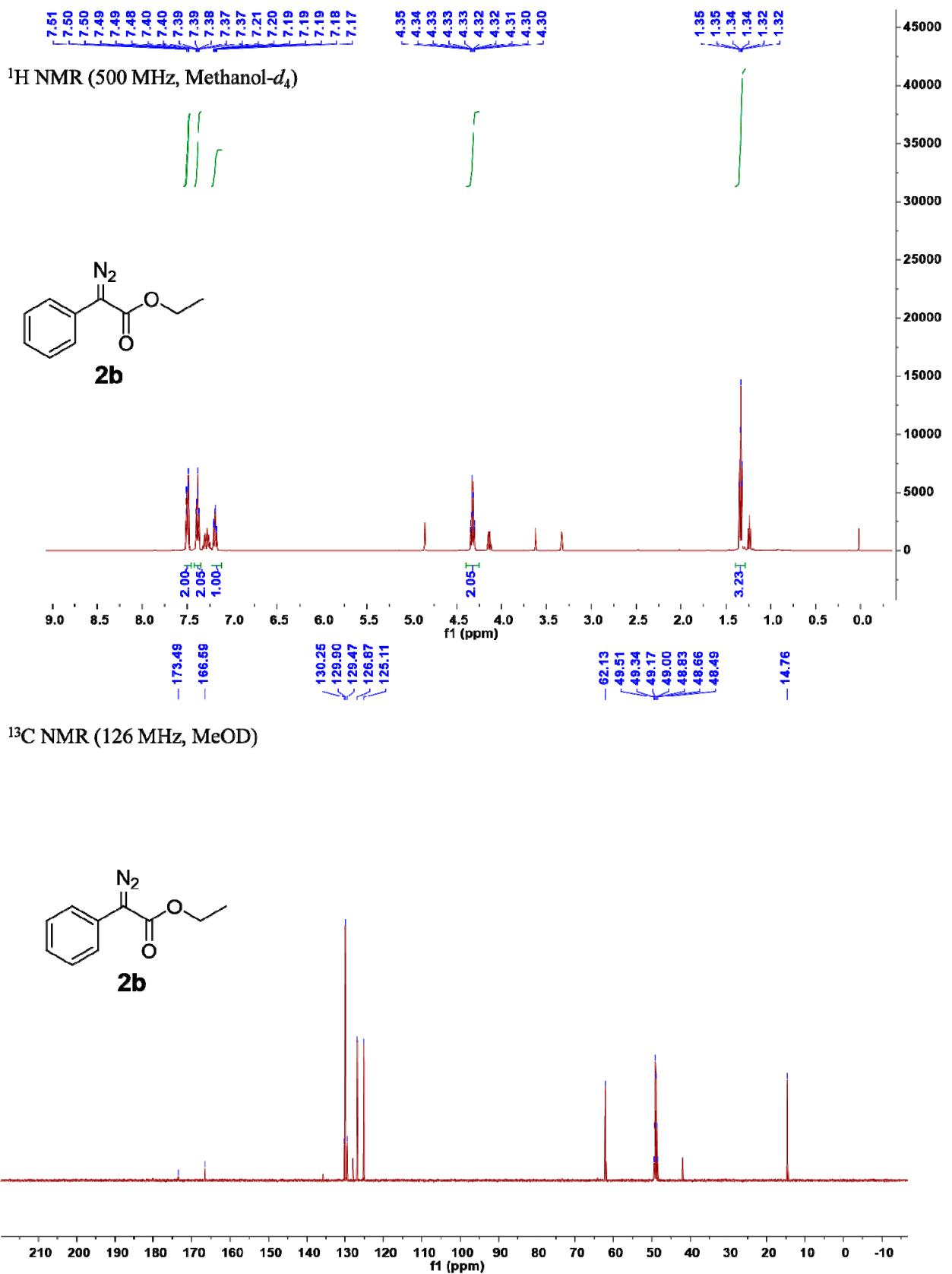
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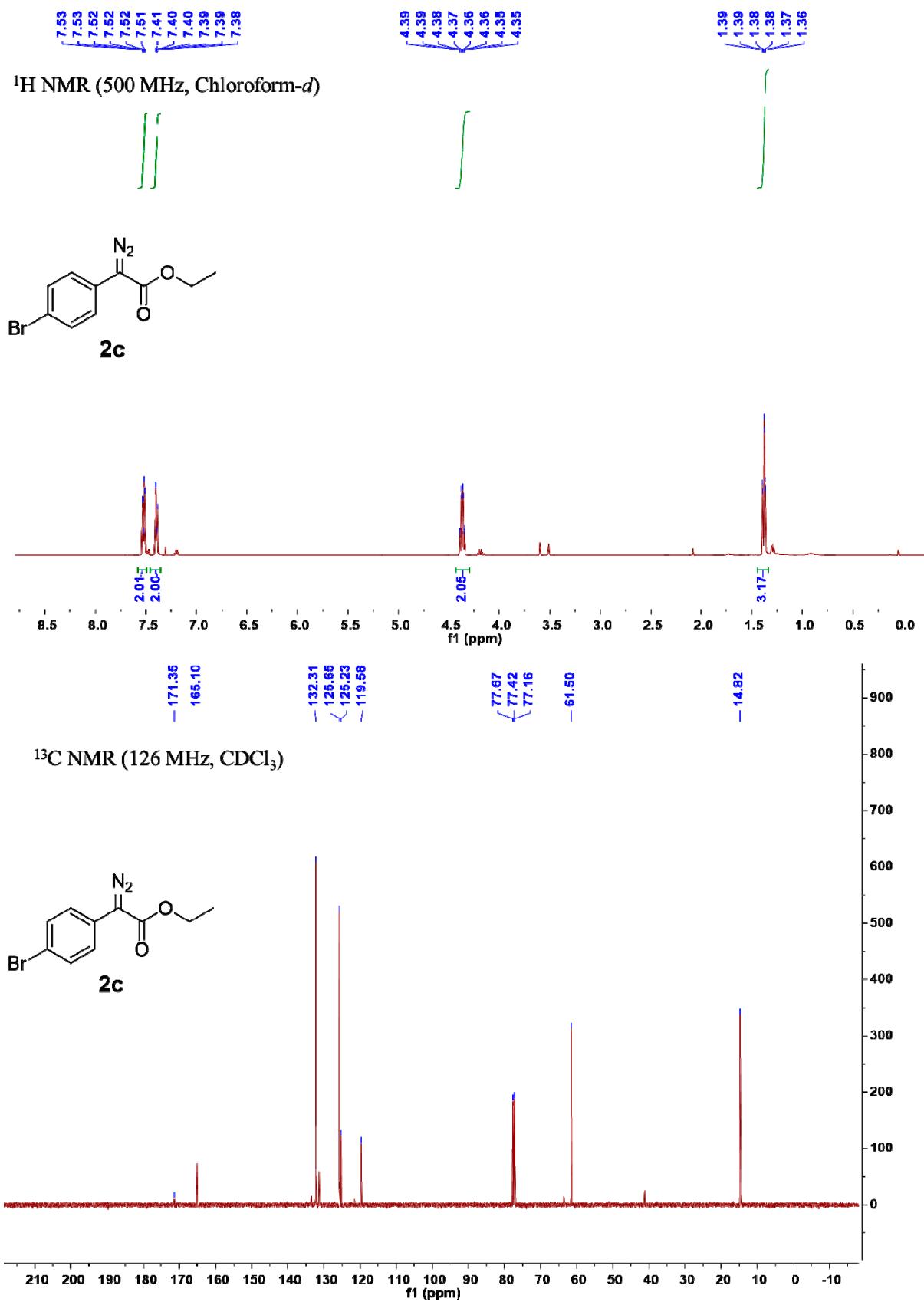
**Table 1.** Crystal data and structure refinement for **3a**.

Identification code	<b>3a</b>
Empirical formula	C <sub>23</sub> H <sub>24</sub> O <sub>5</sub>
Formula weight	380.42
Temperature/K	293(2)
Space group	P2 <sub>1</sub> 2 <sub>1</sub> 2 <sub>1</sub>
a/Å	8.2081(4)
b/Å	14.3113(8)
c/Å	16.7802(9)
α/°	90.00
β/°	90.00
γ/°	90.00
Volume/Å <sup>3</sup>	1971.15(18)
Z	4
ρ <sub>calc</sub> g/cm <sup>3</sup>	1.282
μ/mm <sup>-1</sup>	0.731
F(000)	808.0
Crystal size/mm <sup>3</sup>	0.35 × 0.13 × 0.10
Radiation	CuKα ( $\lambda$ = 1.54178)
2Θ range for data collection/°	8.12 to 132.04
Index ranges	-9 ≤ h ≤ 4, -15 ≤ k ≤ 16, -19 ≤ l ≤ 13
Reflections collected	4353
Independent reflections	2992 [R <sub>int</sub> = 0.0224, R <sub>sigma</sub> = N/A]
Data/restraints/parameters	2992/0/257
Goodness-of-fit on F <sup>2</sup>	1.081
Final R indexes [I>=2σ (I)]	R <sub>1</sub> = 0.0434, wR <sub>2</sub> = 0.1001
Final R indexes [all data]	R <sub>1</sub> = 0.0568, wR <sub>2</sub> = 0.1097
Largest diff. peak/hole / e Å <sup>-3</sup>	0.10/-0.12
Flack parameter	0.0(3)

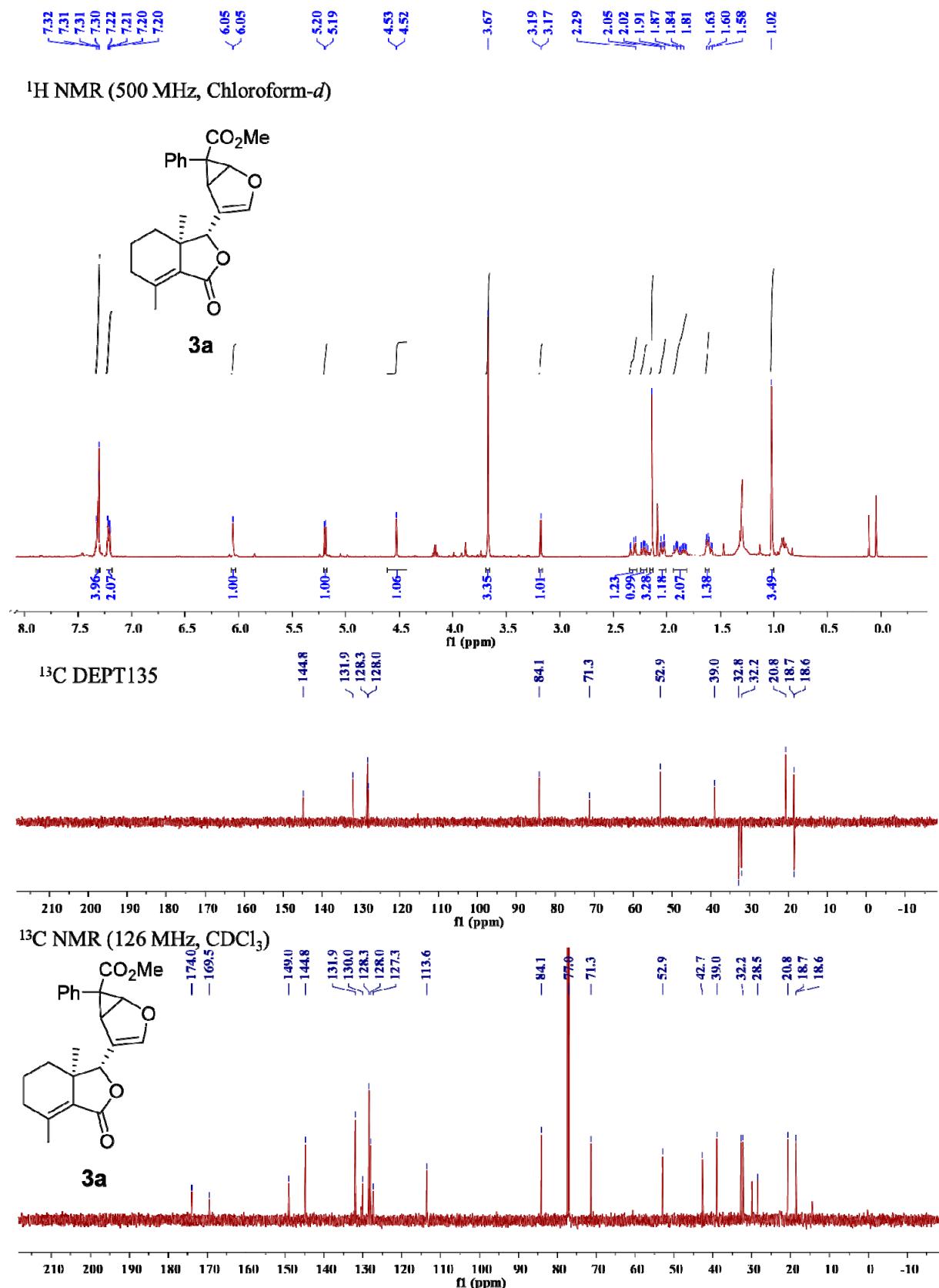
**Figure S1.**  $^1\text{H}$  and  $^{13}\text{C}$  NMR (MeOD) spectra of compound **2b**.



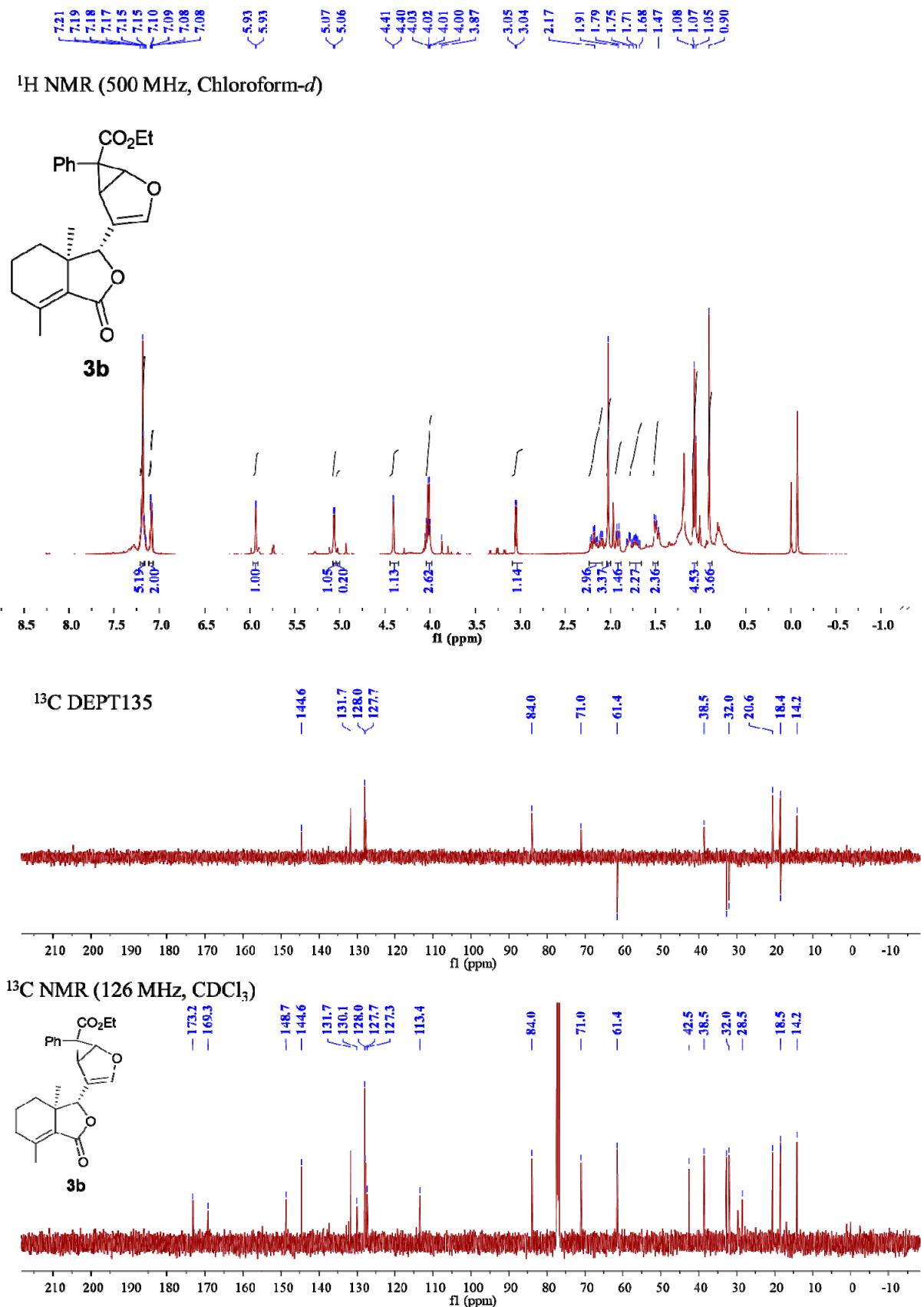
**Figure S2.**  $^1\text{H}$  and  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ ) spectra of compound **2c**.



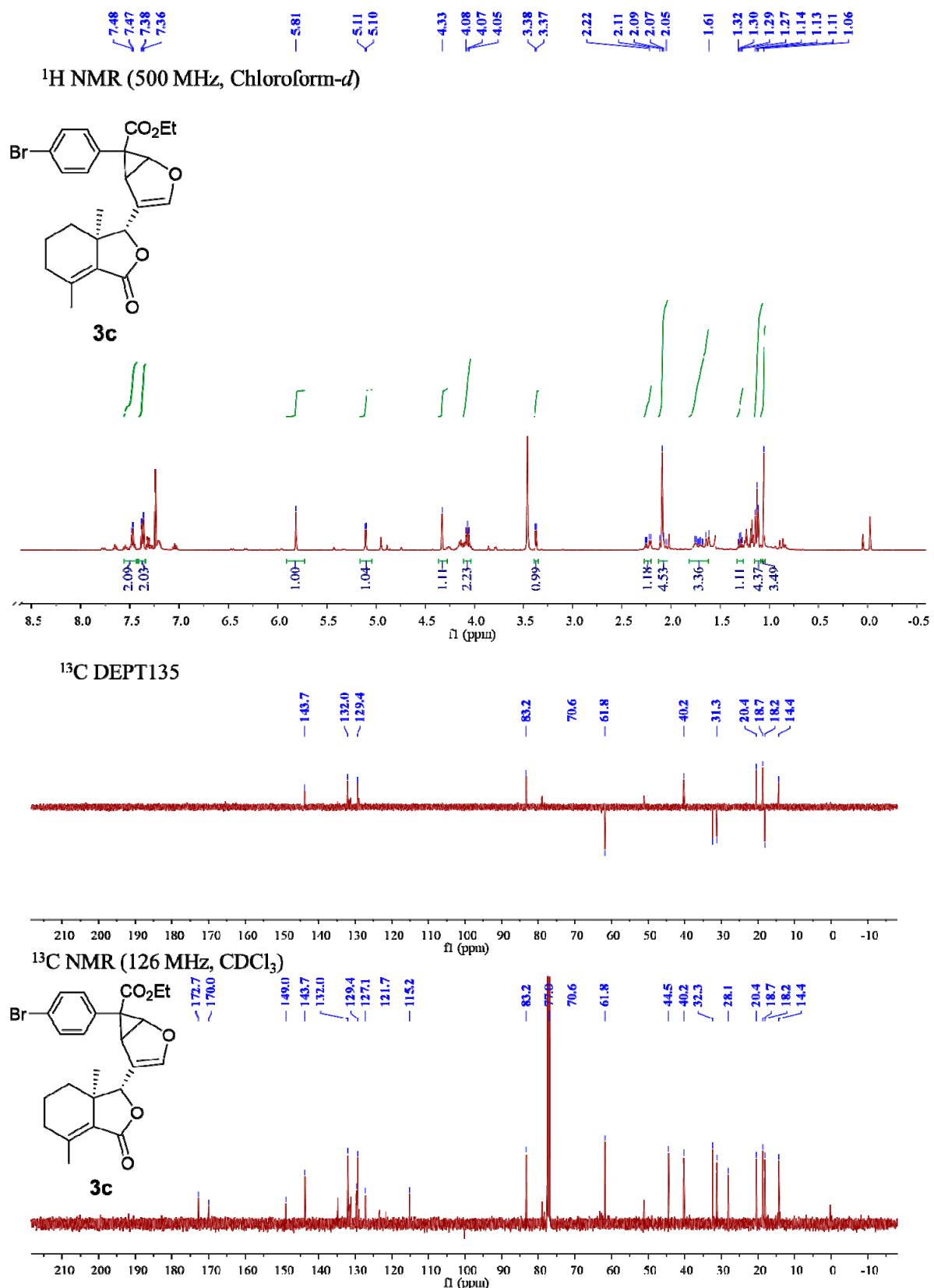
**Figure S3.**  $^1\text{H}$ , DEPT135 and  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ ) spectra of compound **3a**.



**Figure S4.**  $^1\text{H}$ , DEPT135 and  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ ) spectra of compound **3b**.

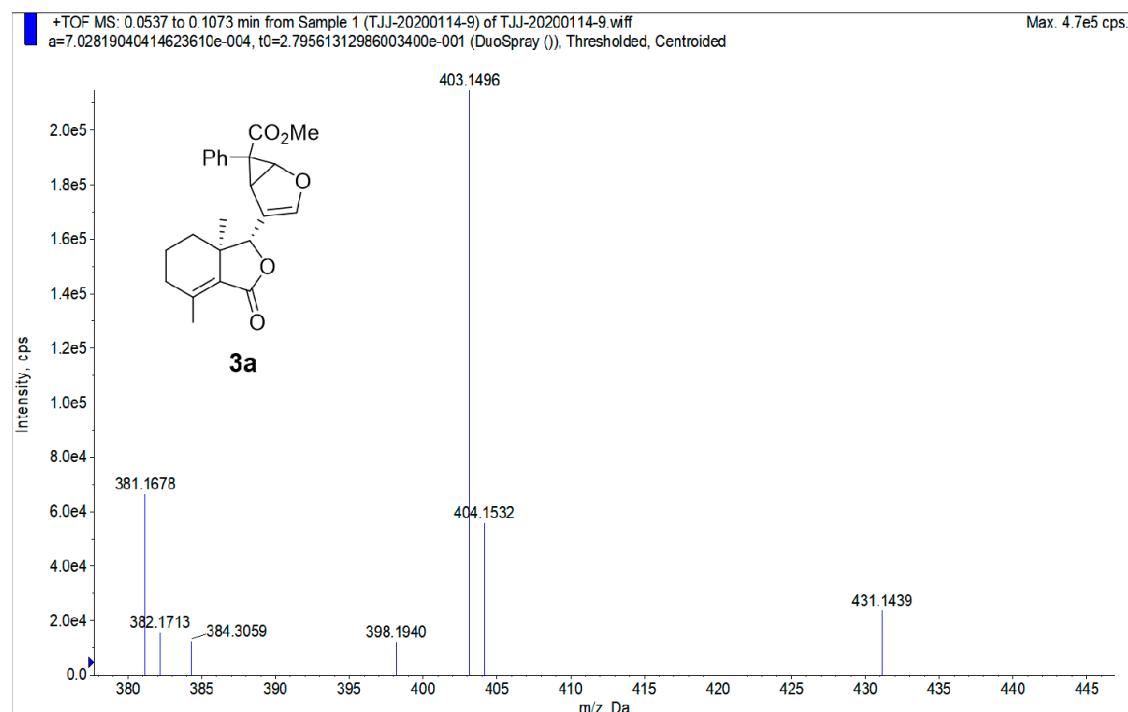


**Figure S5.**  $^1\text{H}$ , DEPT135 and  $^{13}\text{C}$  NMR ( $\text{CDCl}_3$ ) spectra of compound **3c**.



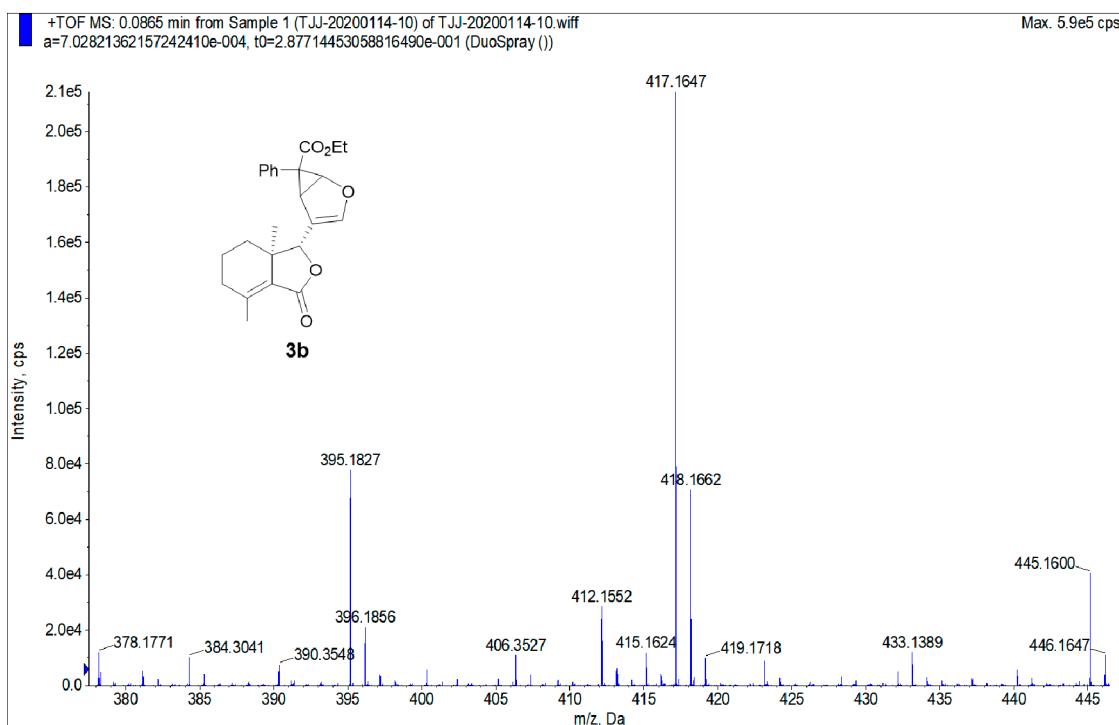
**Figure S6.** HR-ESI-MS spectra of compound 3a.

+TOF MS  $m/z$ : Found 403.1496 [M+Na]<sup>+</sup> (calcd for C<sub>23</sub>H<sub>24</sub>NaO<sub>5</sub>, 403.1521).



**Figure S7.** HR-ESI-MS spectra of compound 3b.

+TOF MS  $m/z$ : Found 417.1647 [M+Na]<sup>+</sup> (calcd for C<sub>24</sub>H<sub>26</sub>NaO<sub>5</sub>, 417.1678).



**Figure S8.** HR-ESI-MS spectra of compound **3c**.

+TOF MS  $m/z$ : Found 495.0762 [ $M+Na$ ]<sup>+</sup> (calcd for  $C_{24}H_{25}BrNaO_5$ , 495.0783).

