

## Supporting Information

### Total Synthesis of ( $\pm$ ) Commiphoranes C-D and their Epimers

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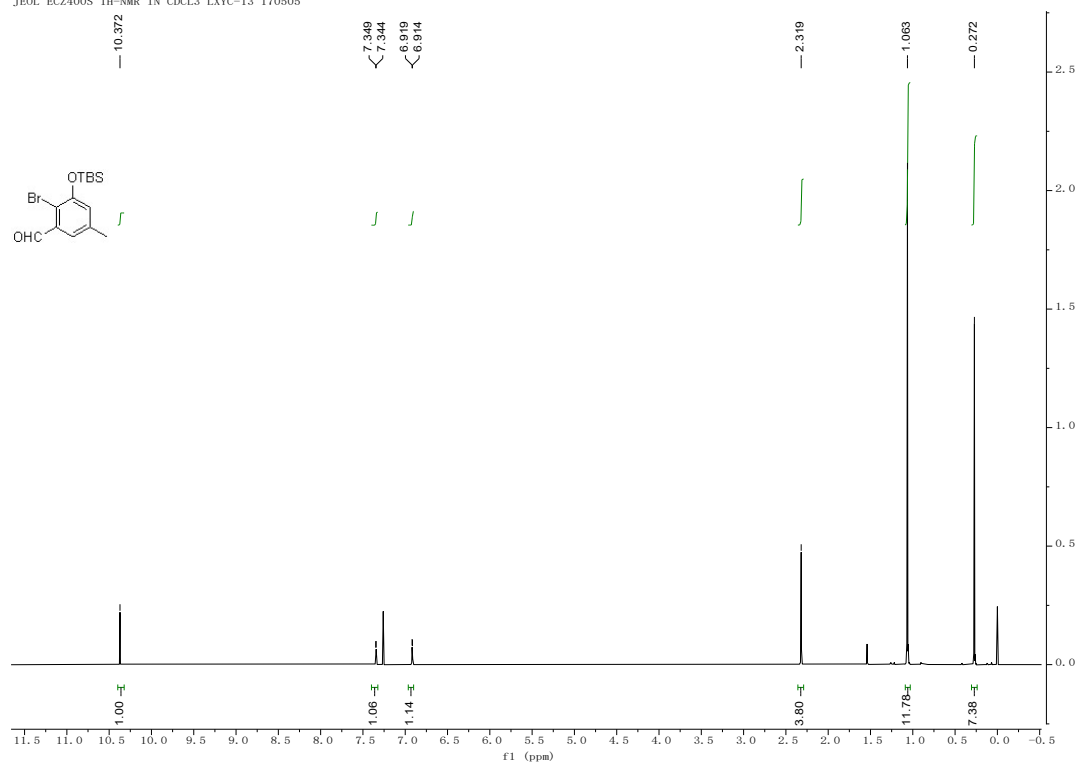
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## 1. General Information

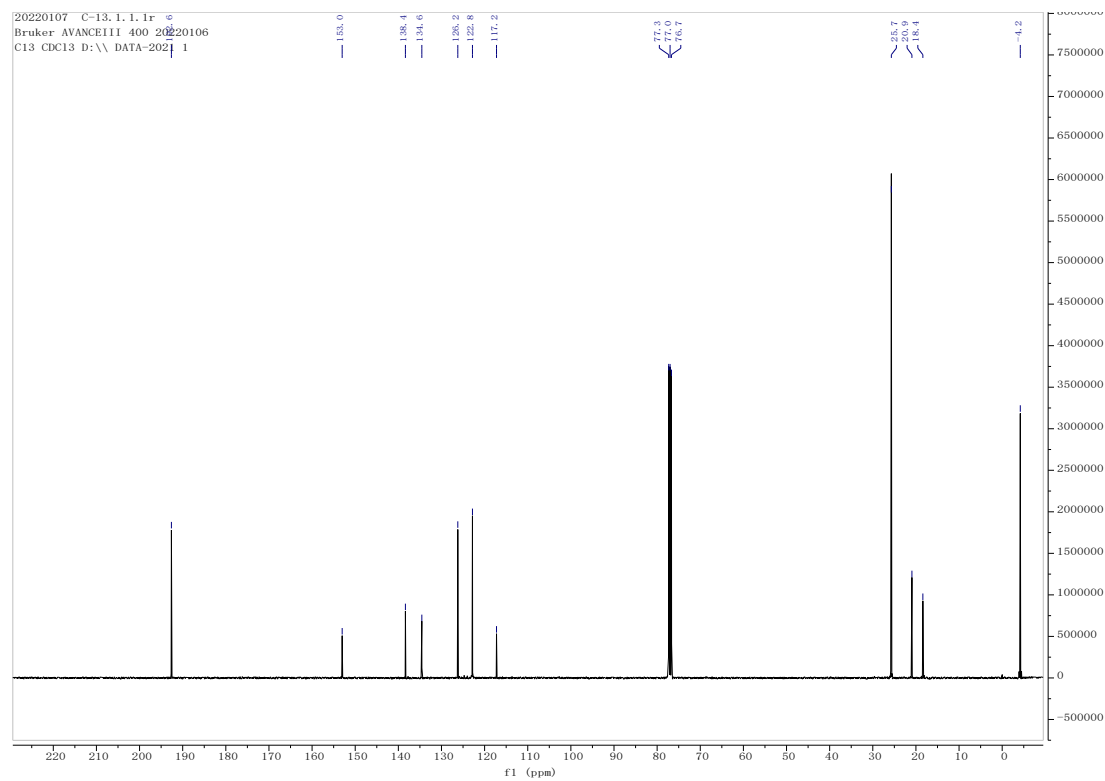
<sup>1</sup>H NMR and <sup>13</sup>C NMR were recorded on Mercury 400, Bruker AV500, AV600, JEOL ECZ400S spectrometer. Coupling constants are given in Hz and chemical shifts are expressed as  $\delta$  values in ppm. The following multiplicity abbreviations are used: (s) singlet, (d) doublet, (t) triplet, (q) quartet, (m) multiplet. ESI-HRMS data were measured on Thermo Exactive Orbitrap plus spectrometer. All the chemicals were purchased from commercial sources: Sigma-Aldrich Chemical Co., Arcos Chemical Co., and J&K Chemical Co. with the purity of more than 95%. Solvents were dried according to standard procedures when needed. Flash column chromatography was performed on Biotage Isolera one or carried out on silica gel (200–300 mesh). IR spectra were recorded on a Thermo Nicolet 5700 FT-IR microscope Centaurus spectrophotometer.

## 2. $^1\text{H}$ , $^{13}\text{C}$ , NOE and 2D-NMR Spectral Copies

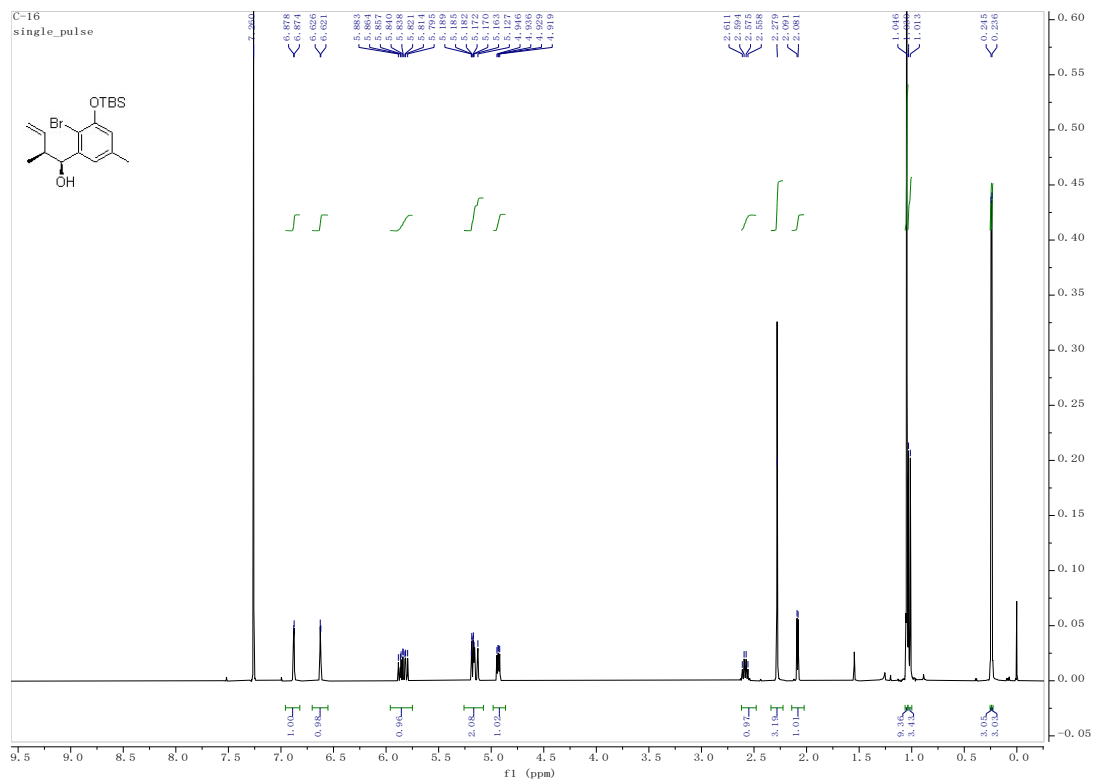
JEOL ECZ400S  $^1\text{H}$ -NMR IN  $\text{CDCl}_3$  LXVC-13 170505



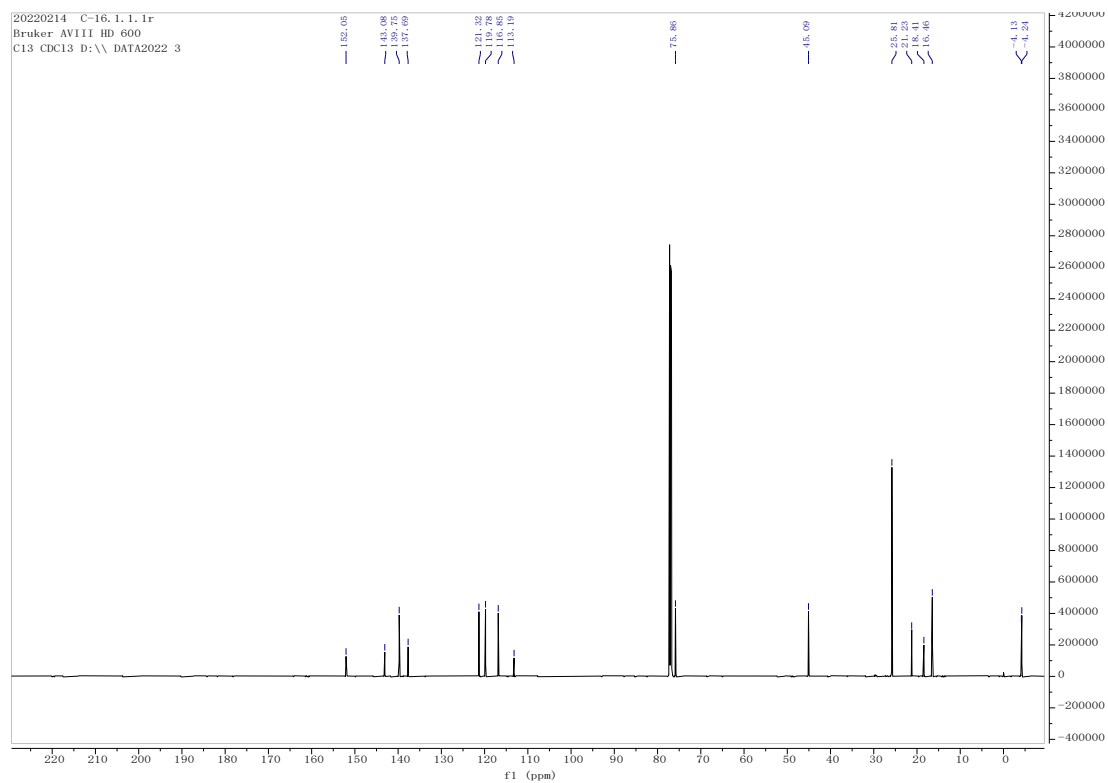
$^1\text{H}$  NMR spectra of compound **8**



$^{13}\text{C}$  NMR spectra of compound **8**

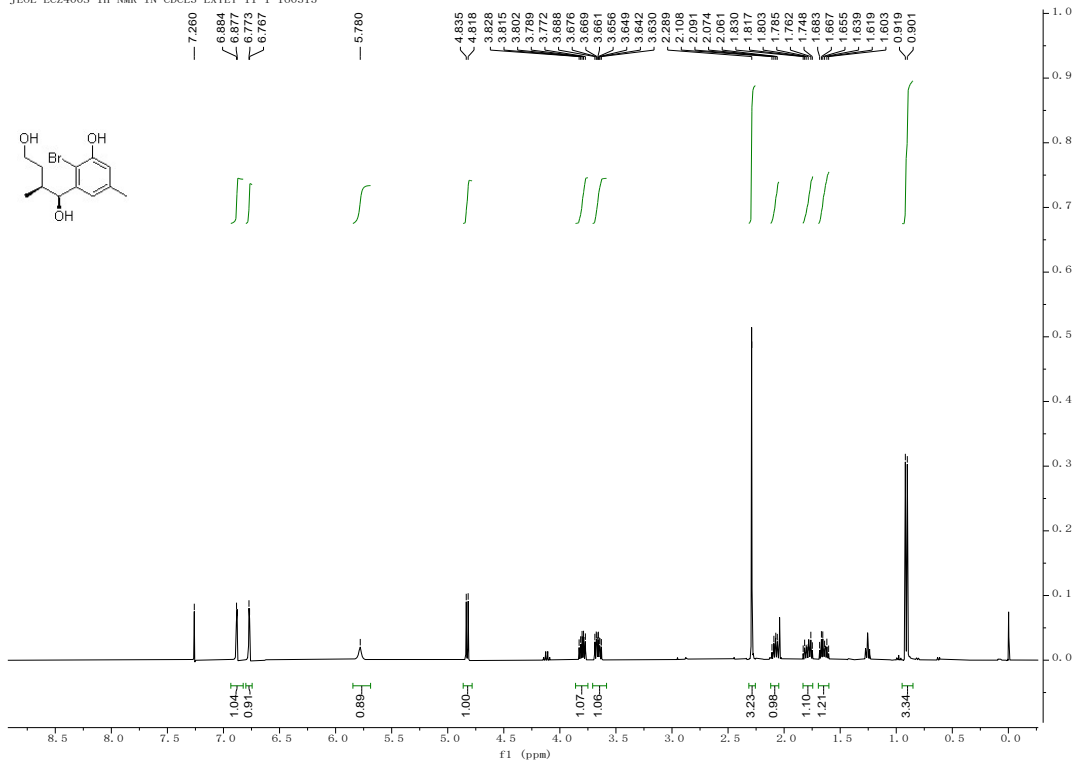


$^1\text{H}$  NMR spectra of compound ( $\pm$ ) 5



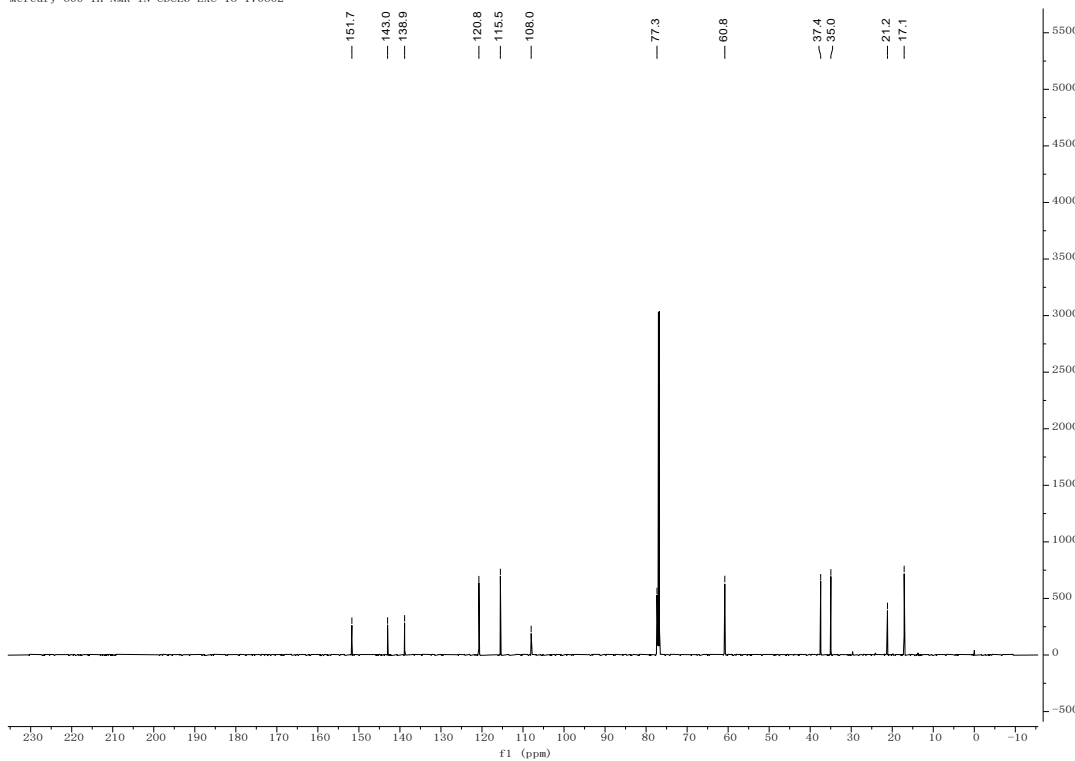
$^{13}\text{C}$  NMR spectra of compound ( $\pm$ ) 5

JEOL ECZ400S 1H-NMR IN CDCL3 LXJET-11-1 160315

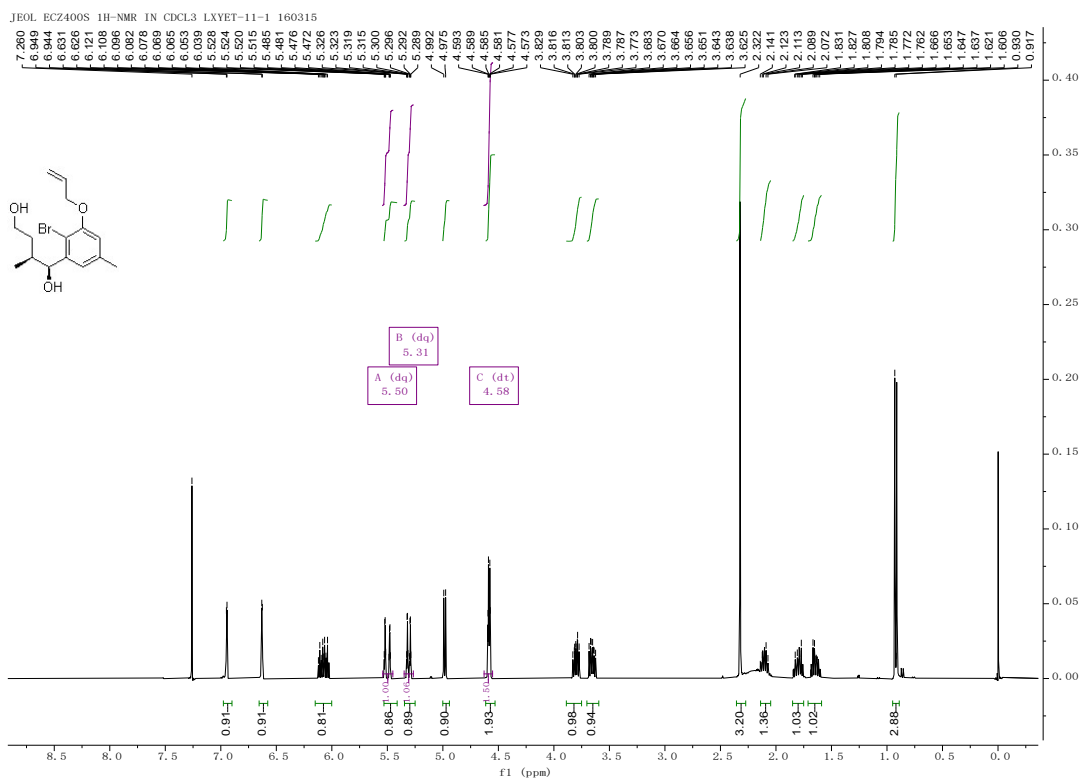


<sup>1</sup>H NMR spectra of compound (±) 4

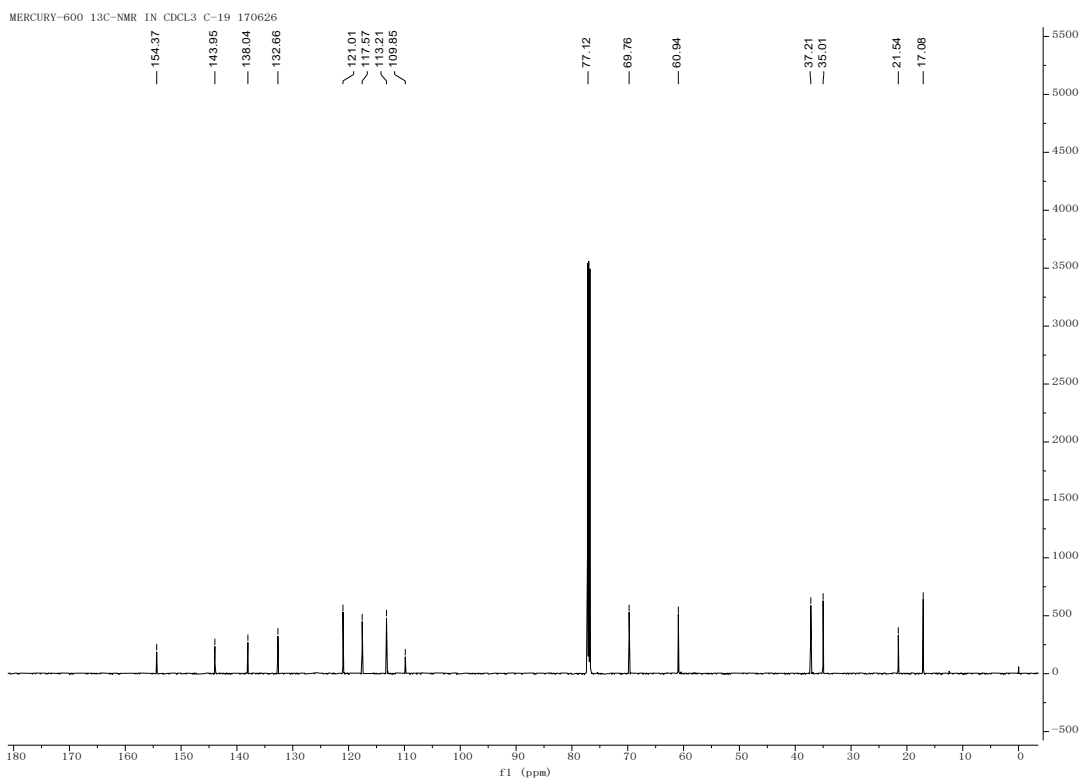
Mercury-600 1H-NMR IN CDCL3 LXC-18 170602



<sup>13</sup>C NMR spectra of compound (±) 4

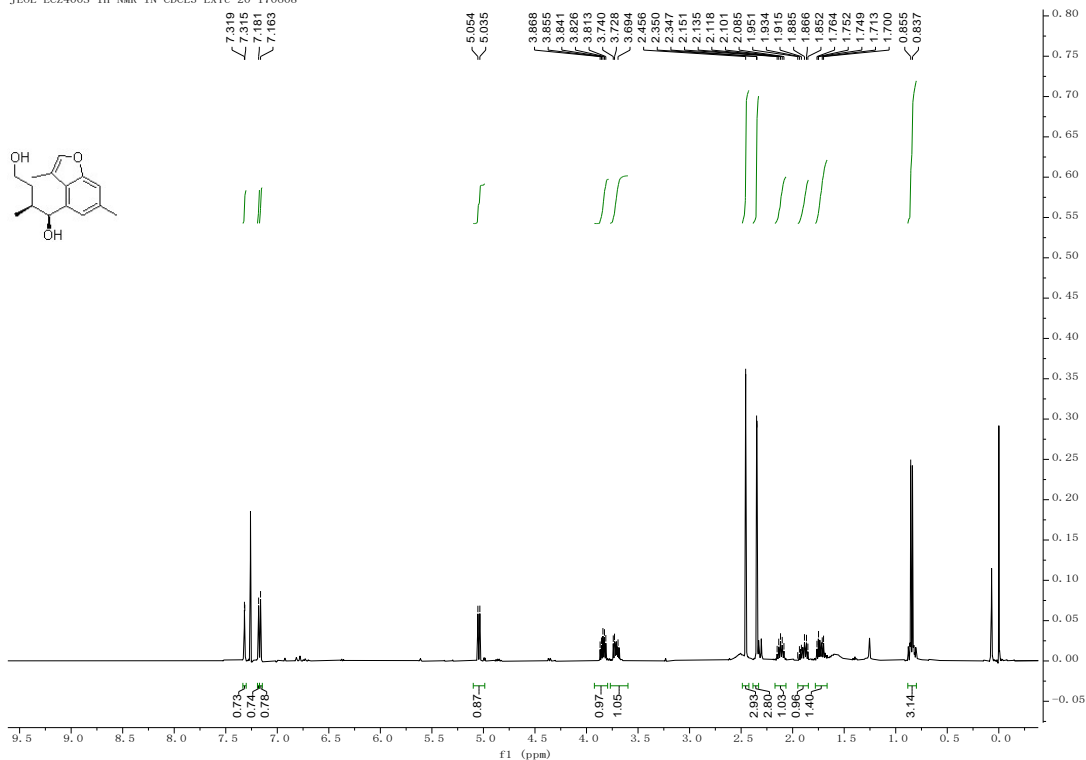


<sup>1</sup>H NMR spectra of compound (±) 10



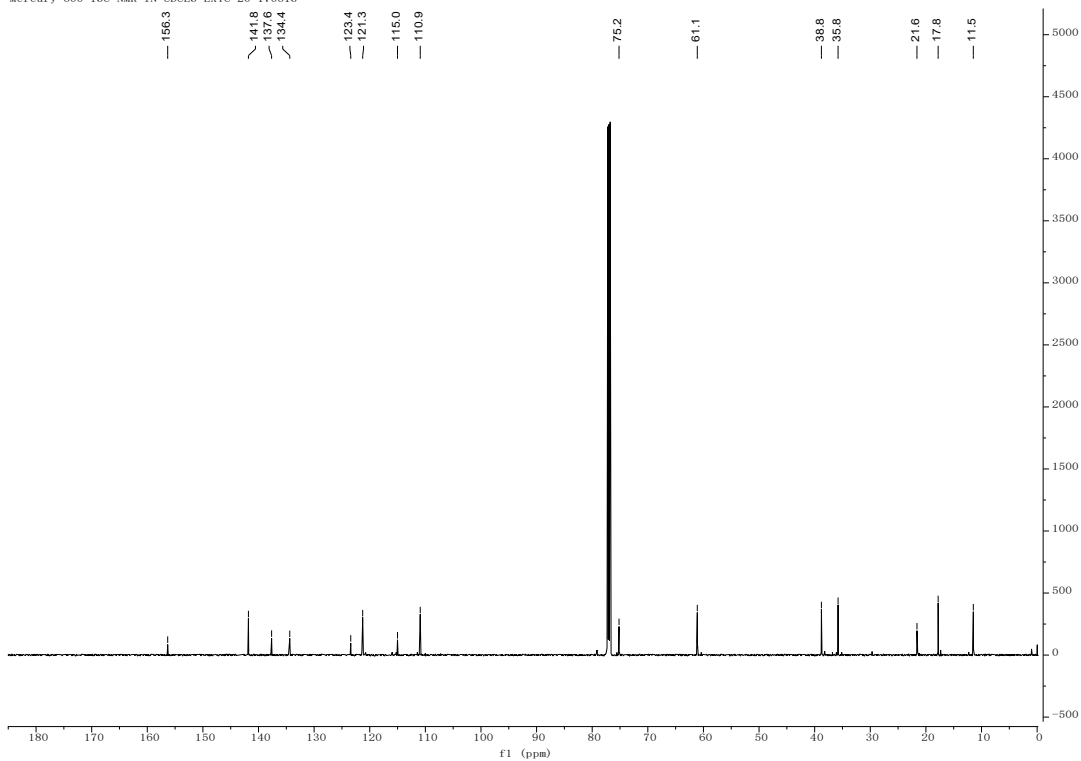
<sup>13</sup>C NMR spectra of compound (±) 10

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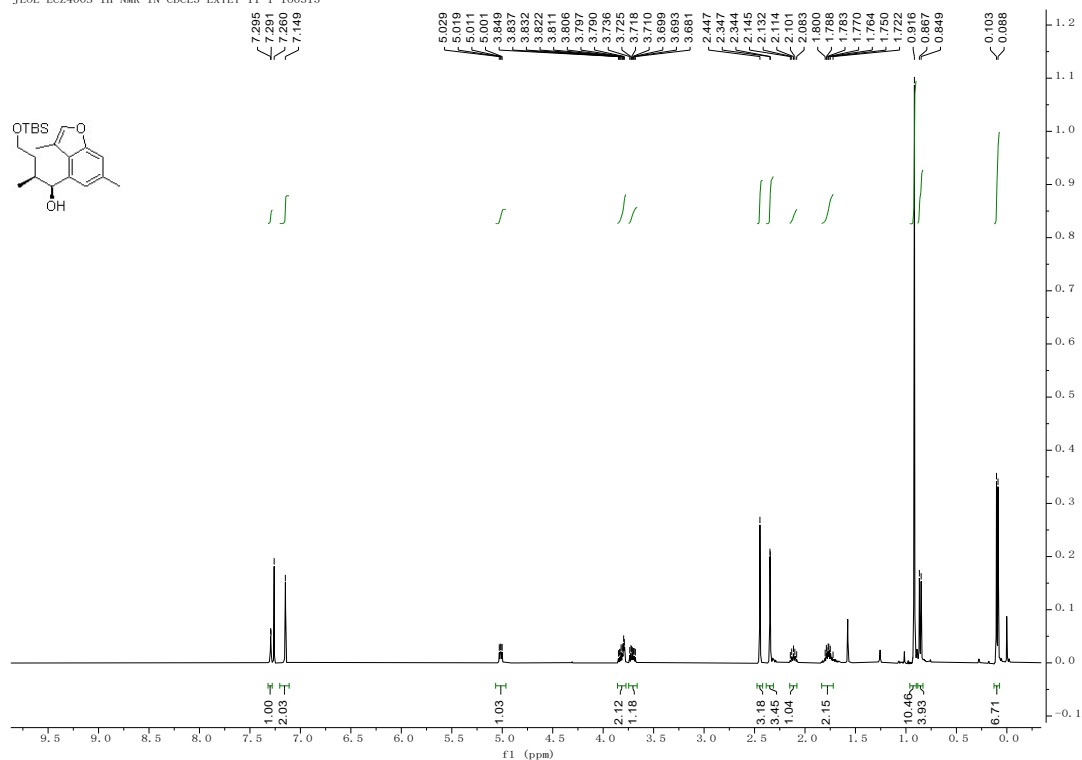
<sup>1</sup>H NMR spectra of compound (±) 11

Mercury-600 13C-NMR IN CDCL3 LXVC-20 170615



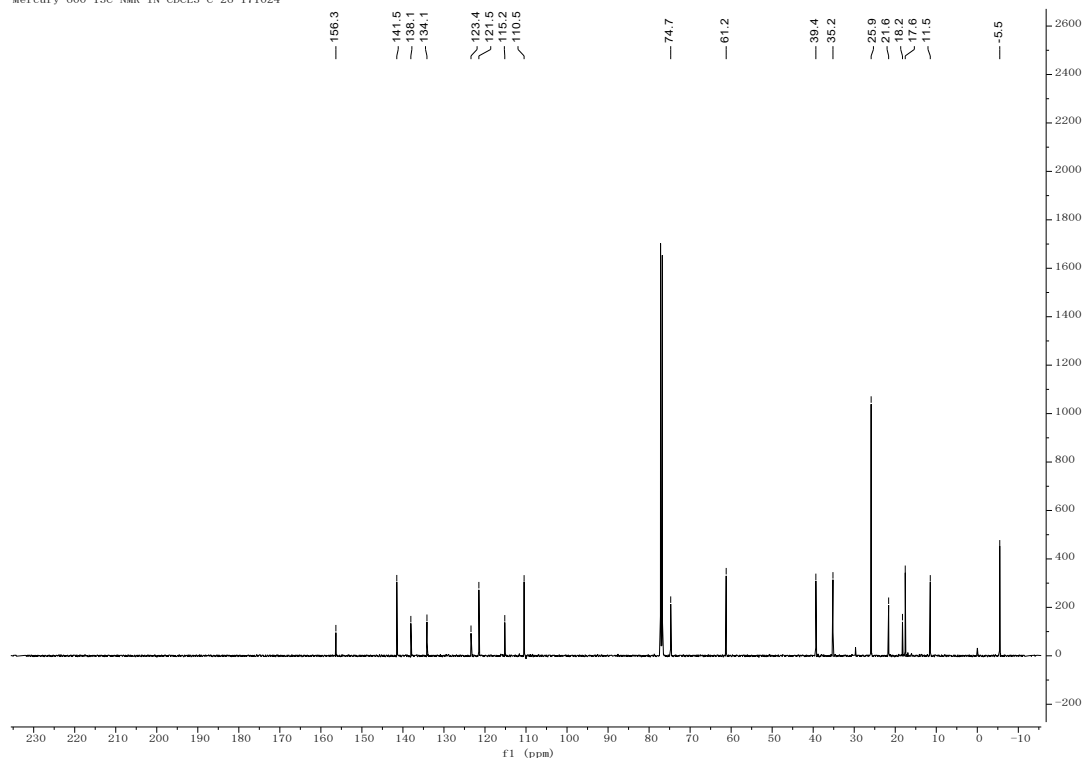
<sup>13</sup>C NMR spectra of compound (±) 11

JEOL ECZ400S 1H-NMR IN CDCl3 LXVET-11-1 160315



### <sup>1</sup>H NMR spectra of compound (±) 12

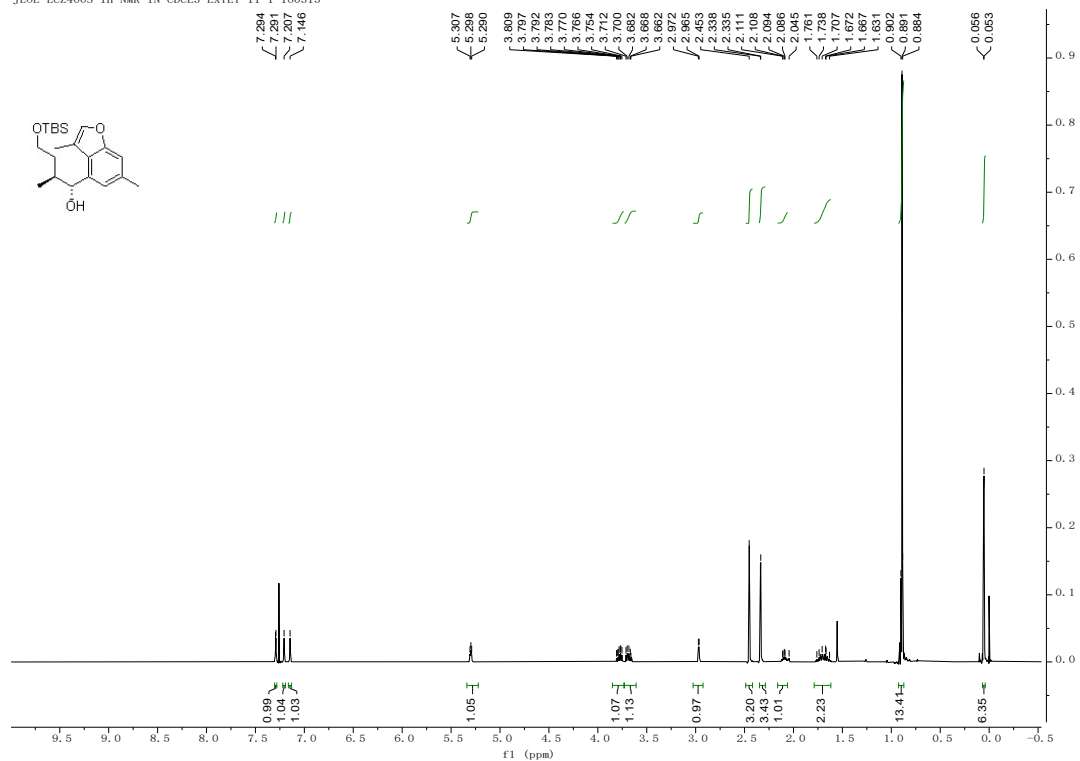
Mercury-600 13C-NMR IN CDCl3 C-26 171024



### <sup>13</sup>C NMR spectra of compound (±) 12

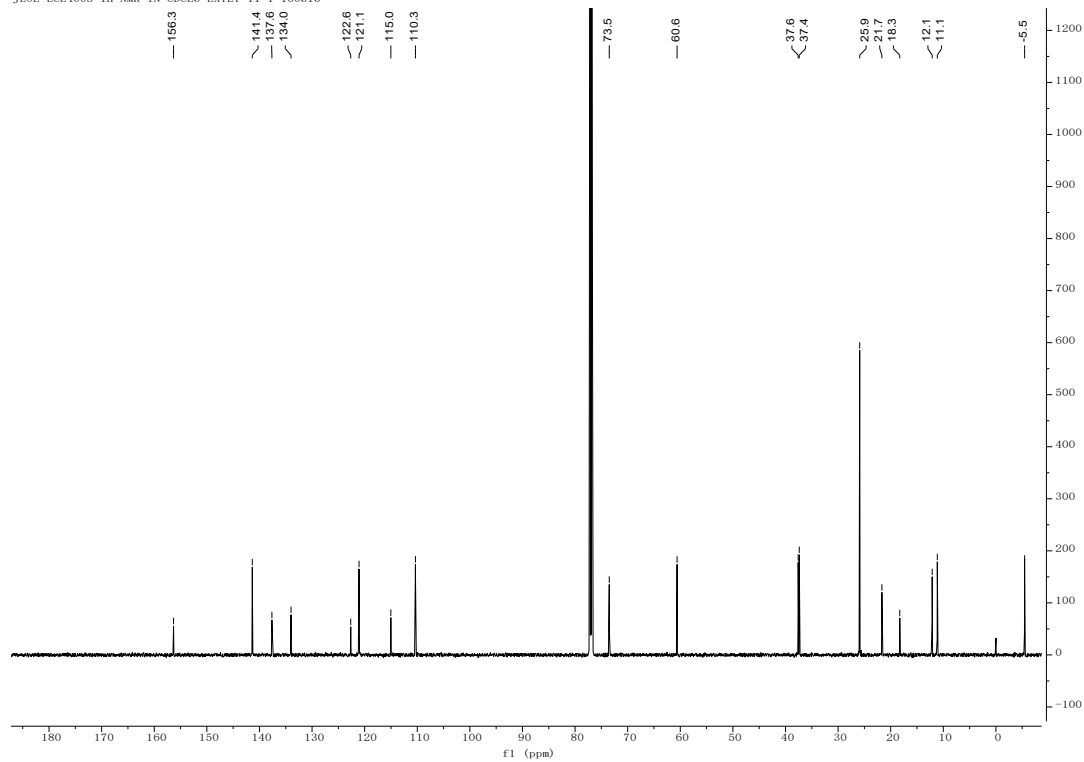


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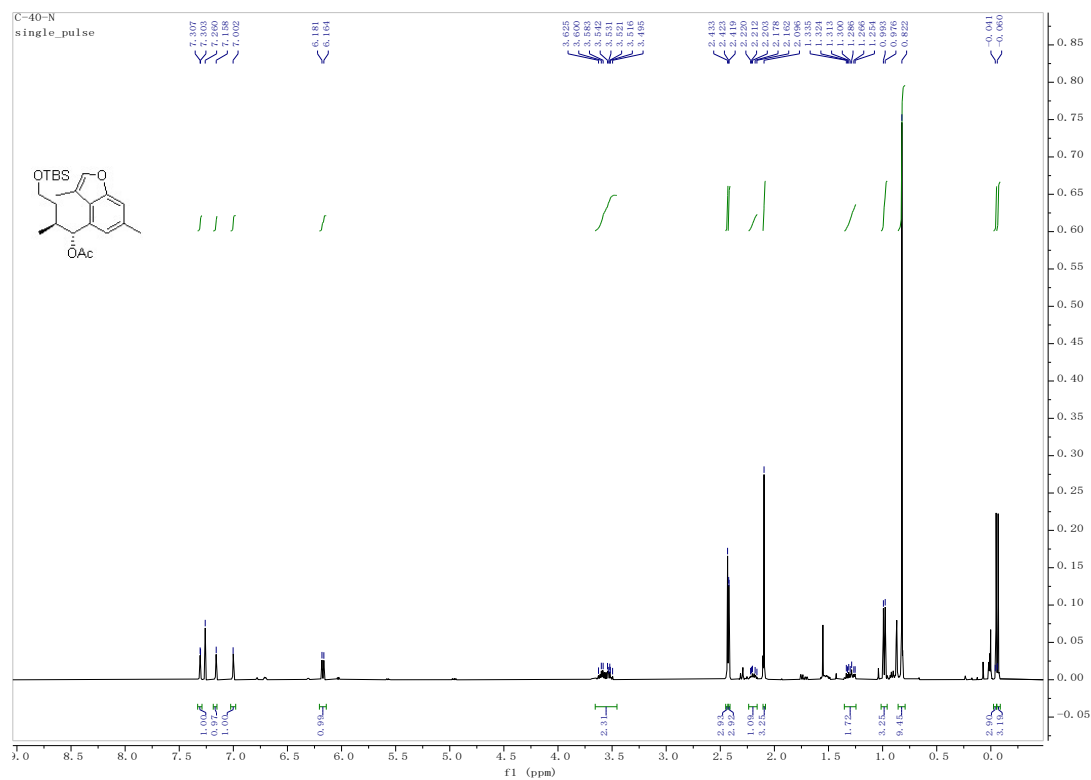


<sup>1</sup>H NMR spectra of compound (±) **14**

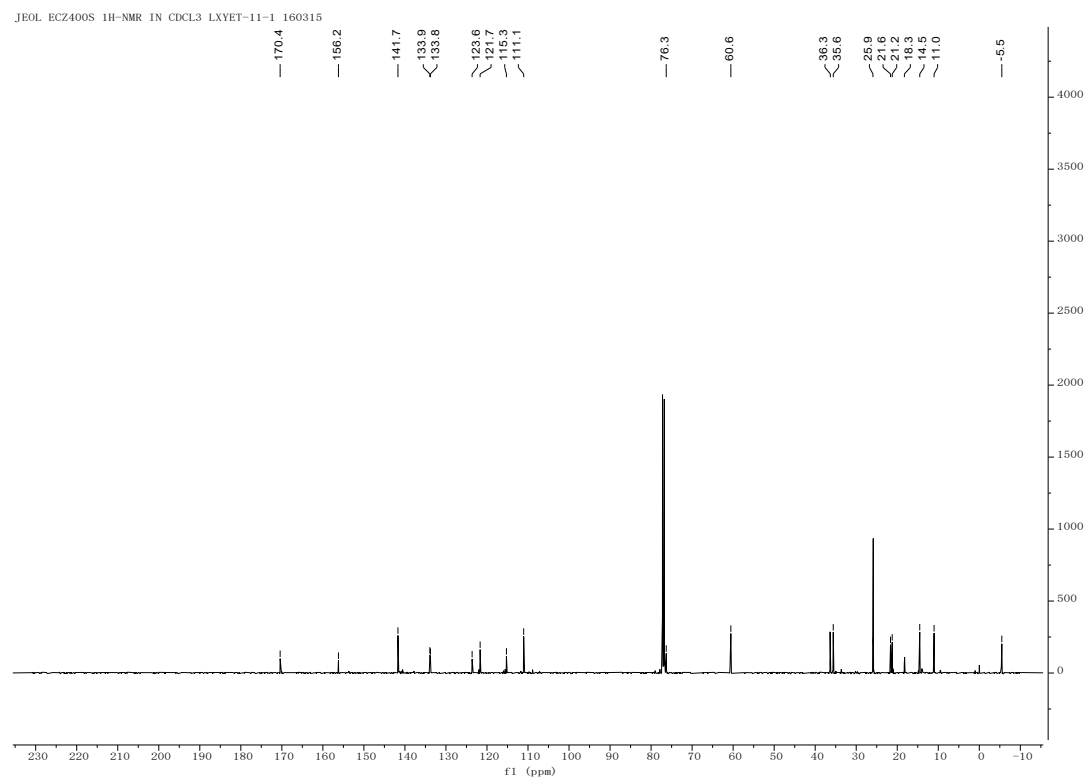
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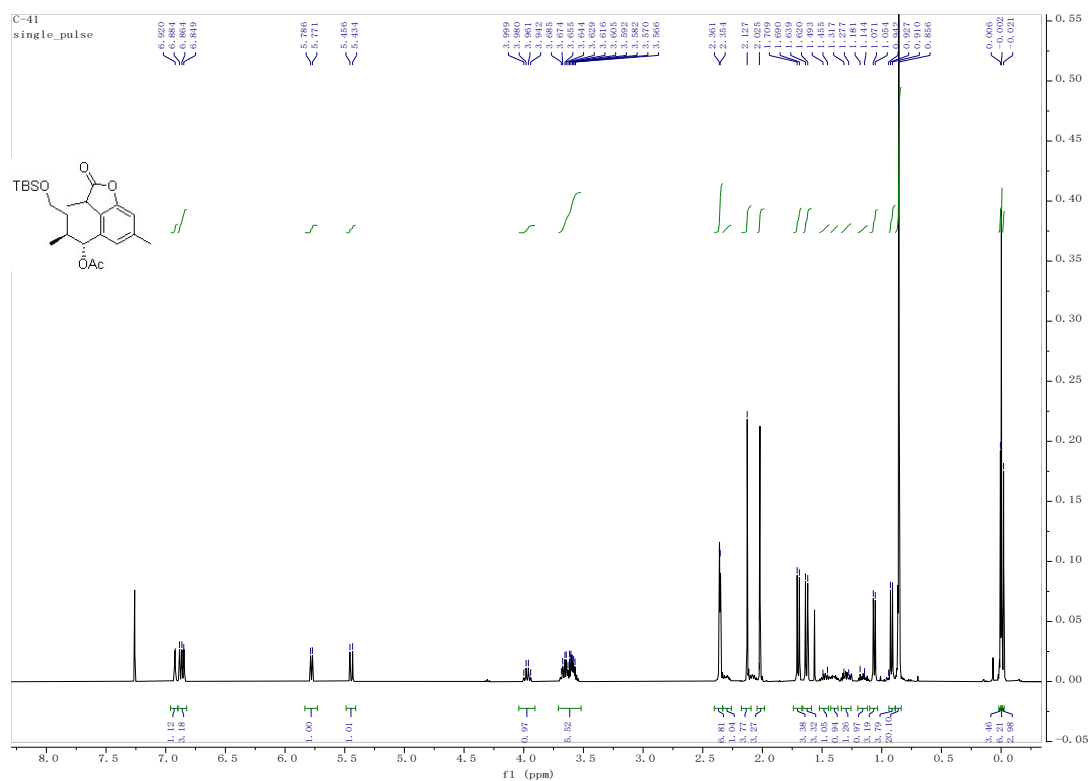
<sup>13</sup>C NMR spectra of compound (±) **14**



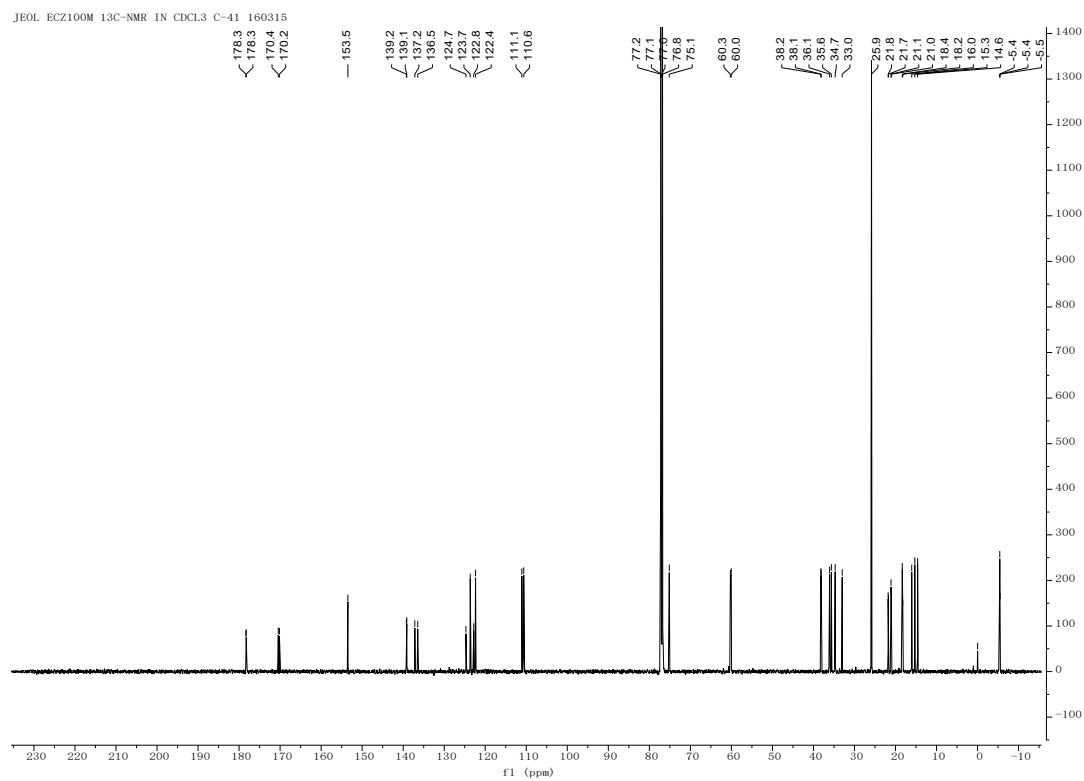
<sup>1</sup>H NMR spectra of compound (±) **3**



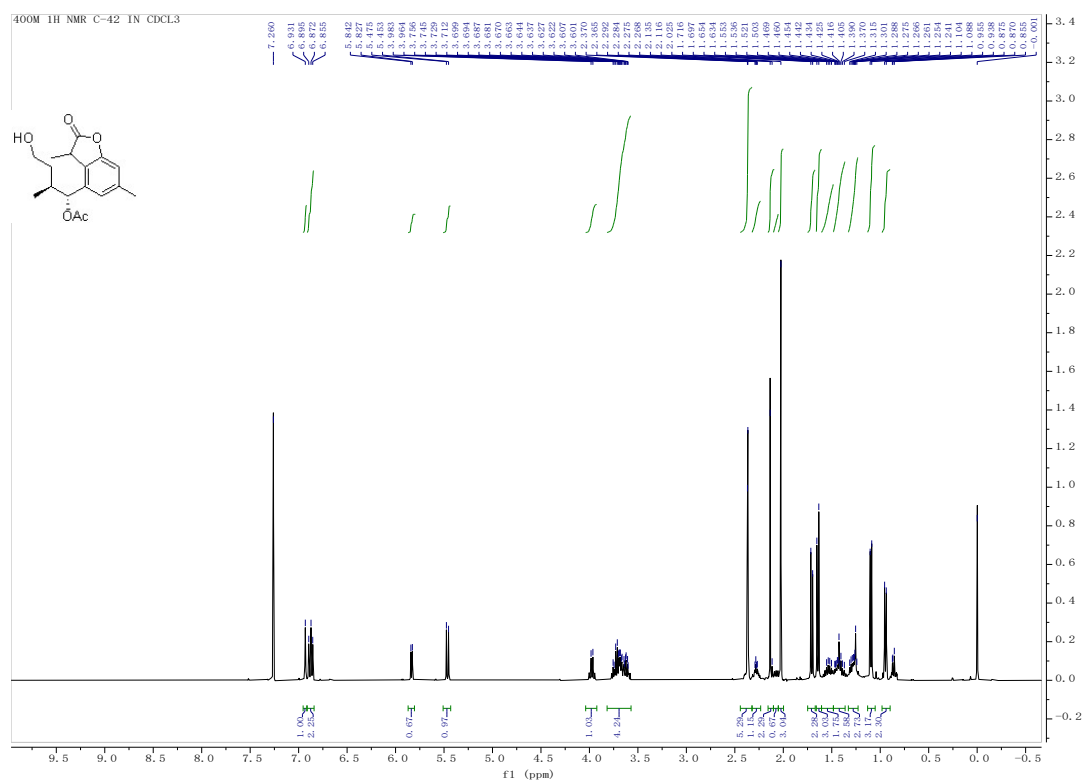
<sup>13</sup>C NMR spectra of compound (±) **3**



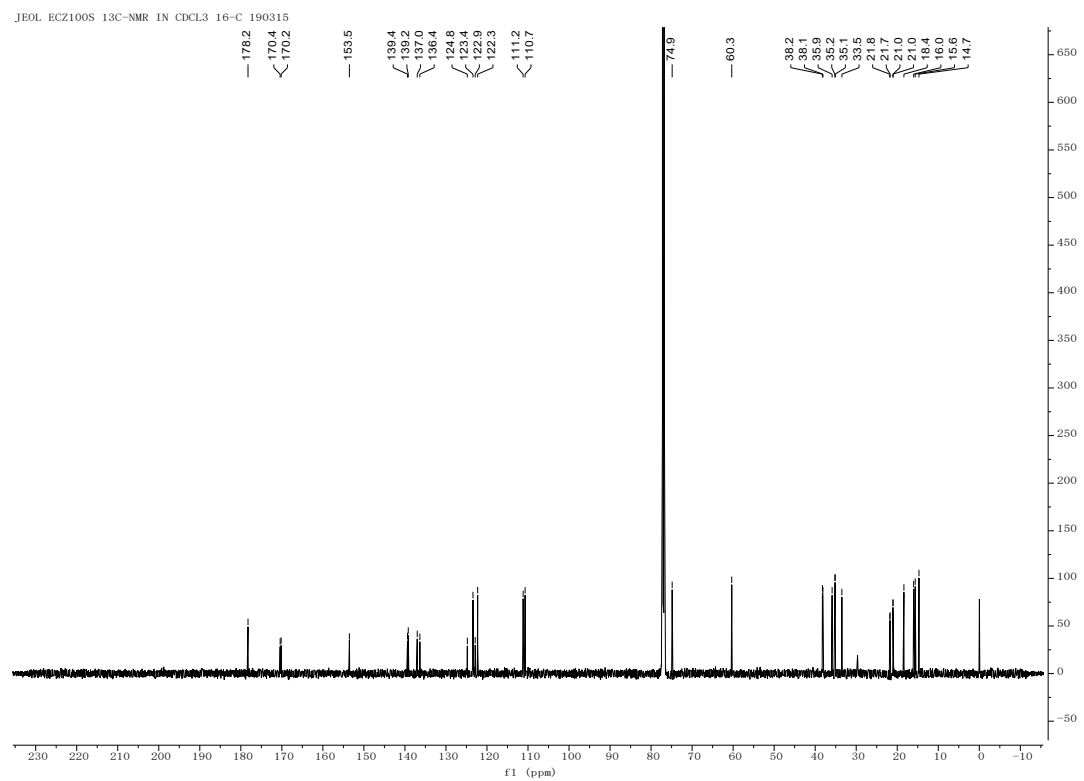
<sup>1</sup>H NMR spectra of compound (±) 15



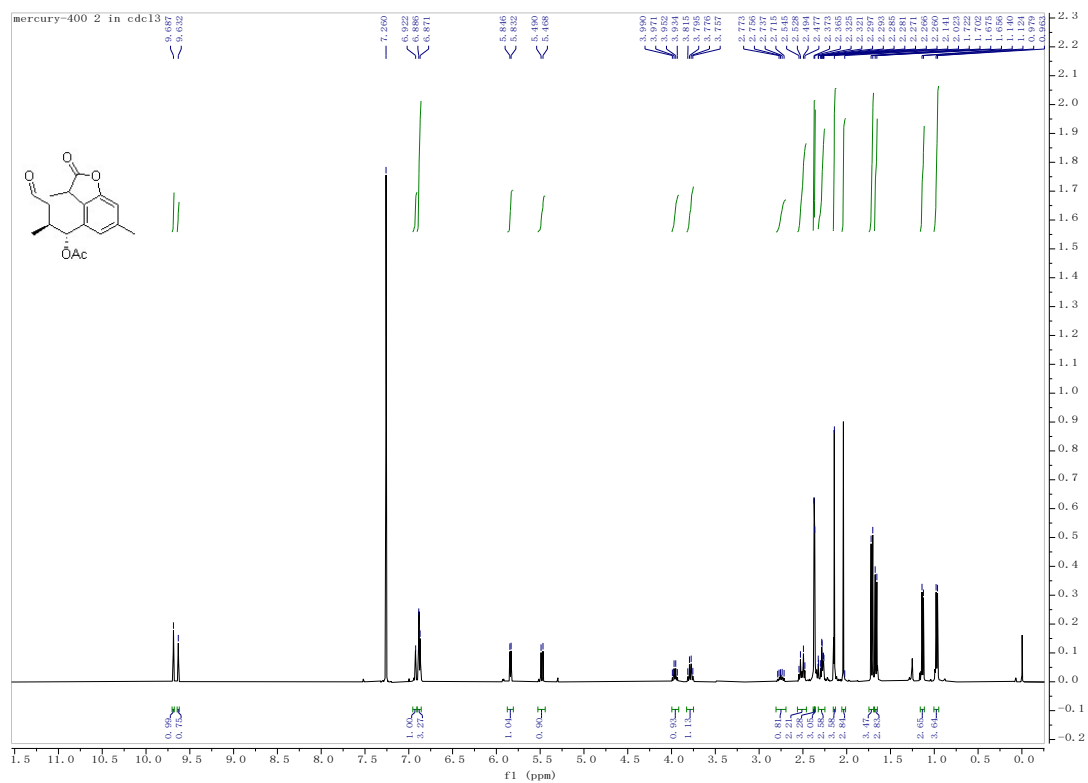
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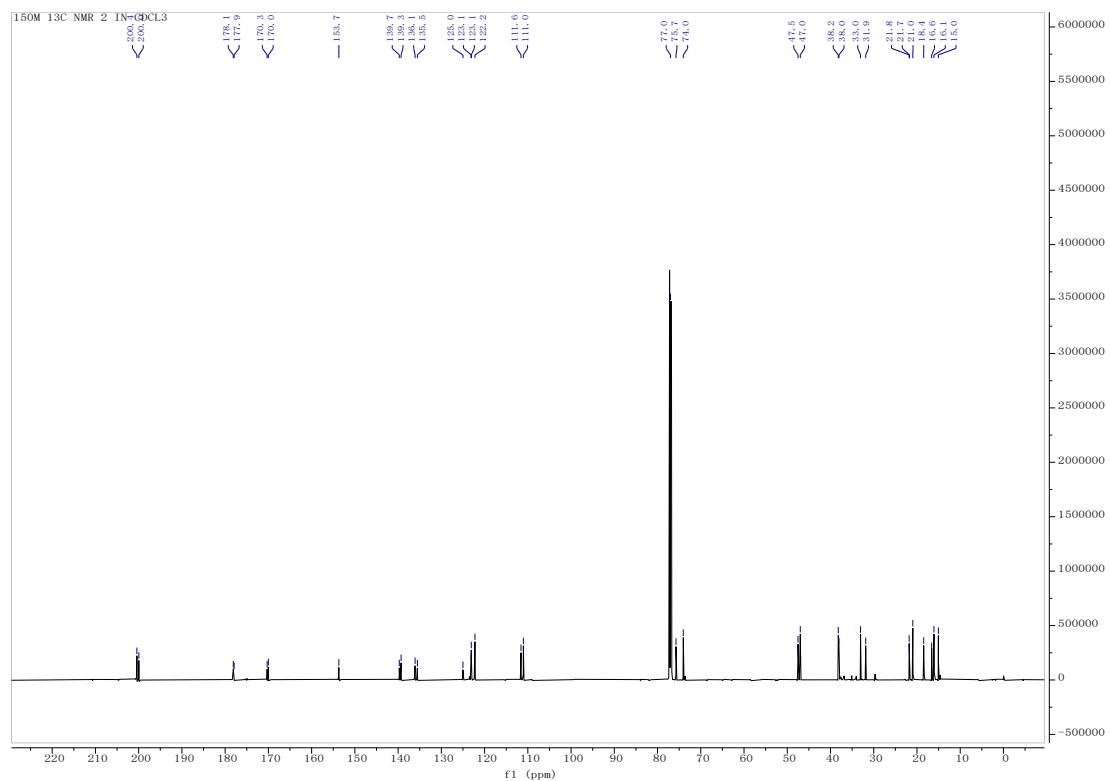
<sup>1</sup>H NMR spectra of compound (±) 16



<sup>13</sup>C NMR spectra of compound (±) 16

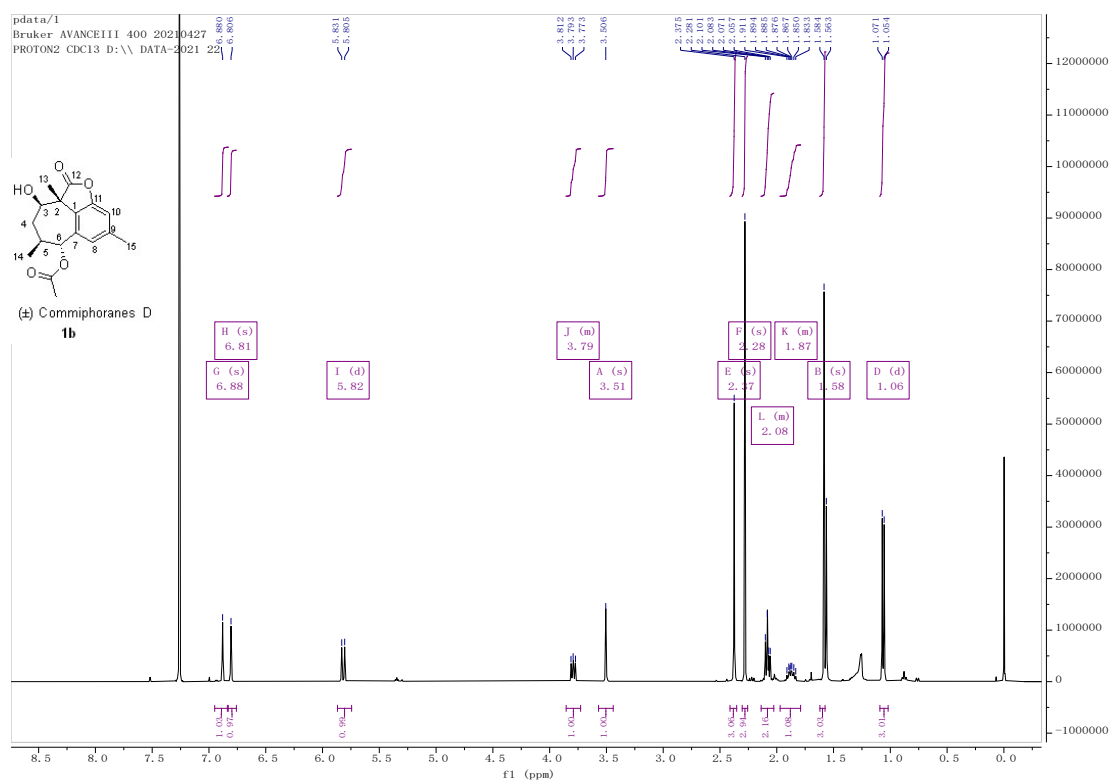


<sup>1</sup>H NMR spectra of compound (±) 2

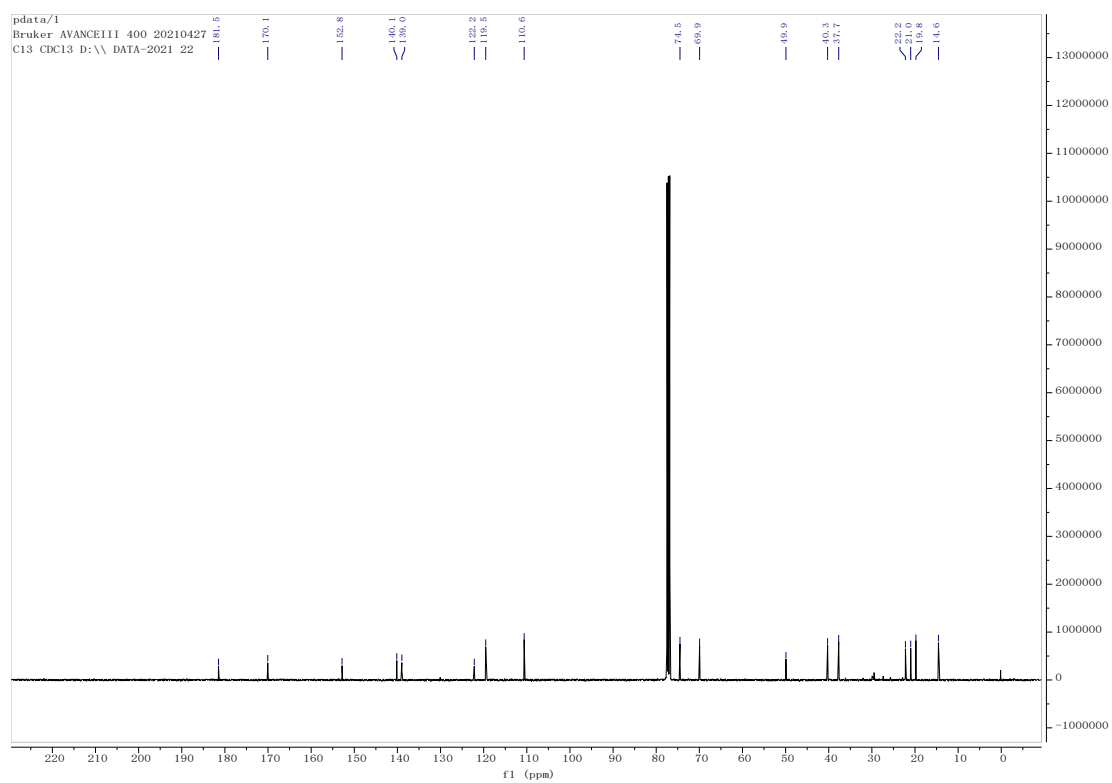


<sup>13</sup>C NMR spectra of compound (±) 2

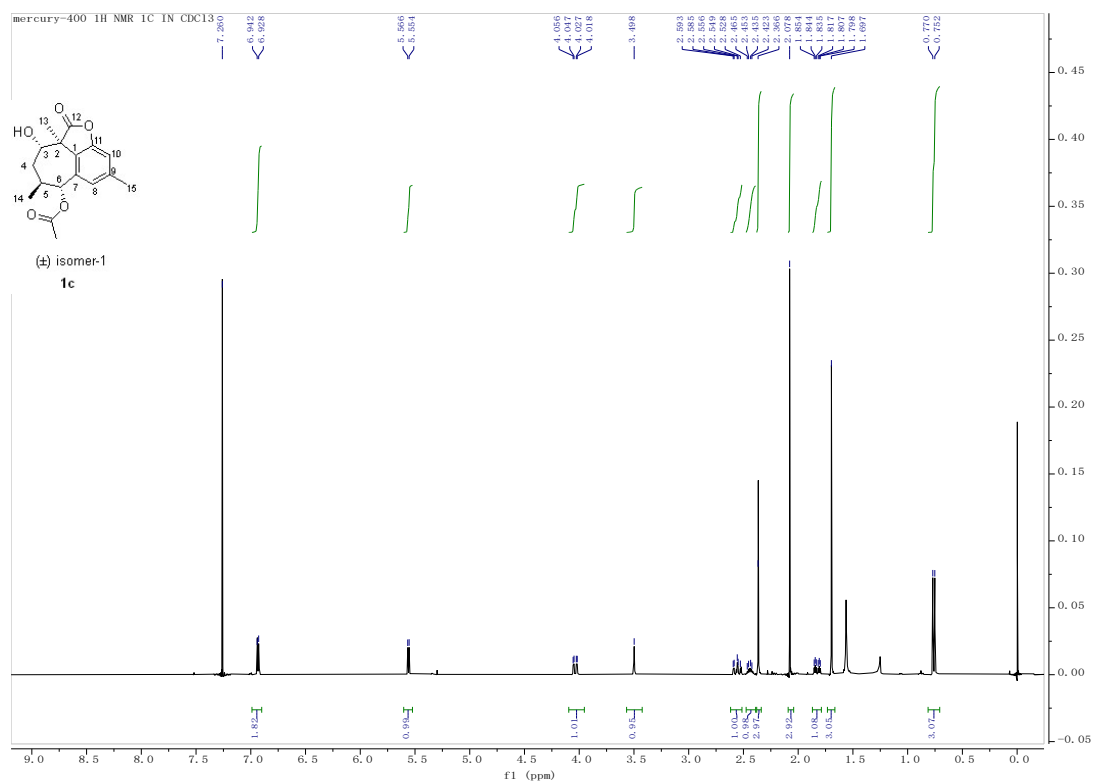




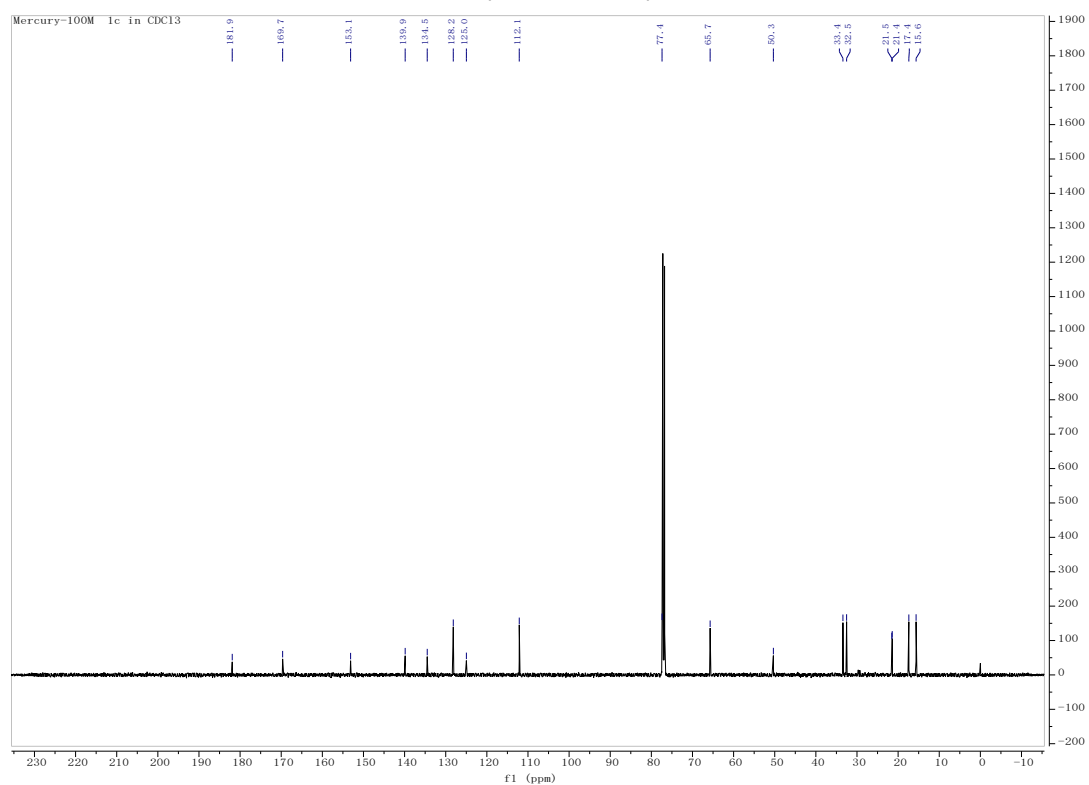
<sup>1</sup>H NMR spectra of compound **1b**



<sup>13</sup>C NMR spectra of compound **1b**

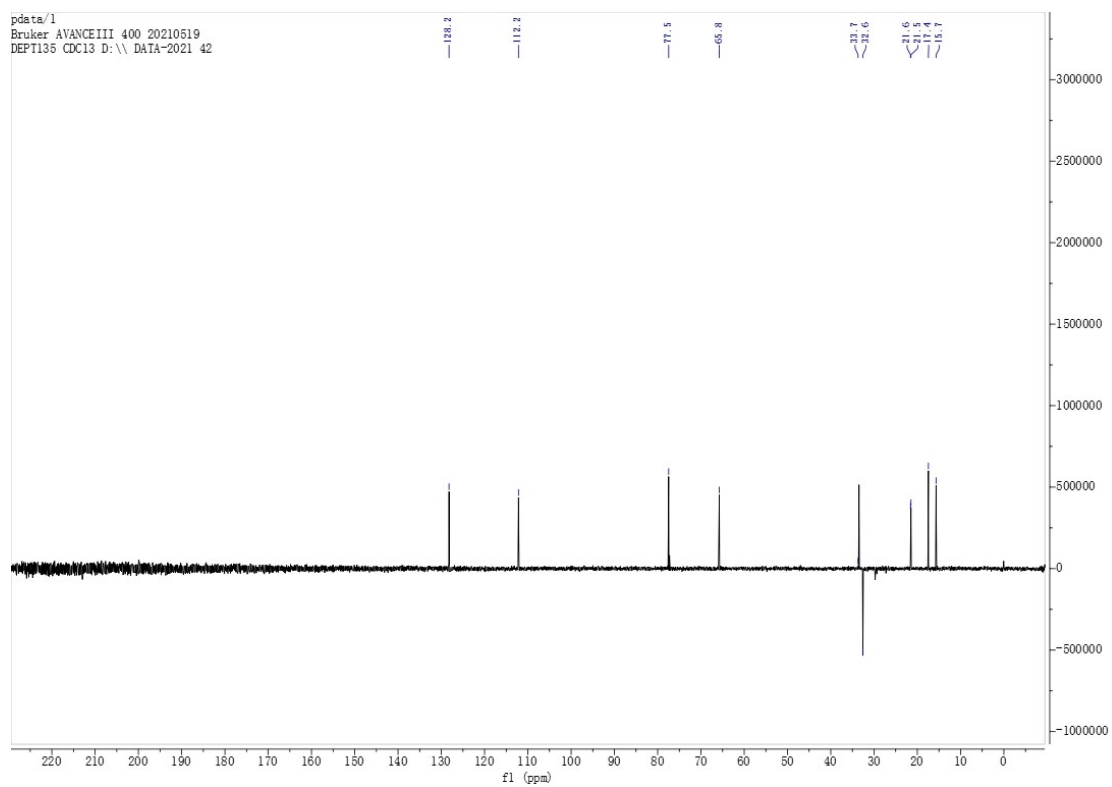


<sup>1</sup>H NMR spectra of compound **1c**

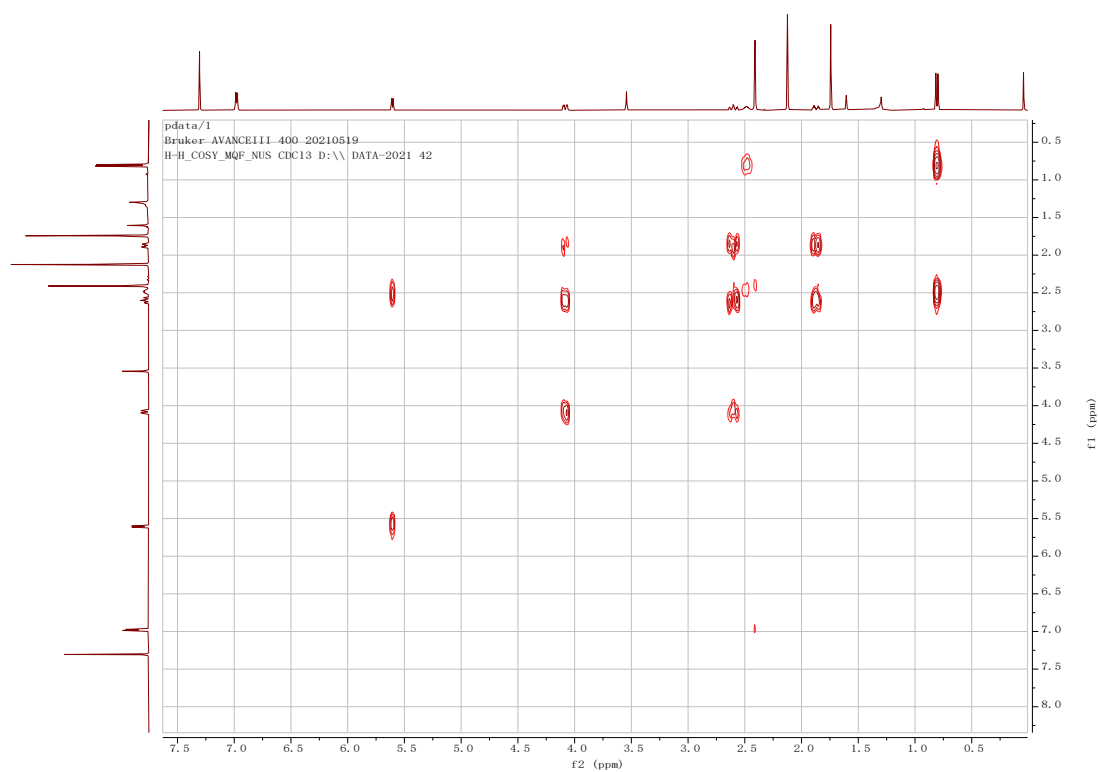


<sup>13</sup>C NMR spectra of compound **1c**

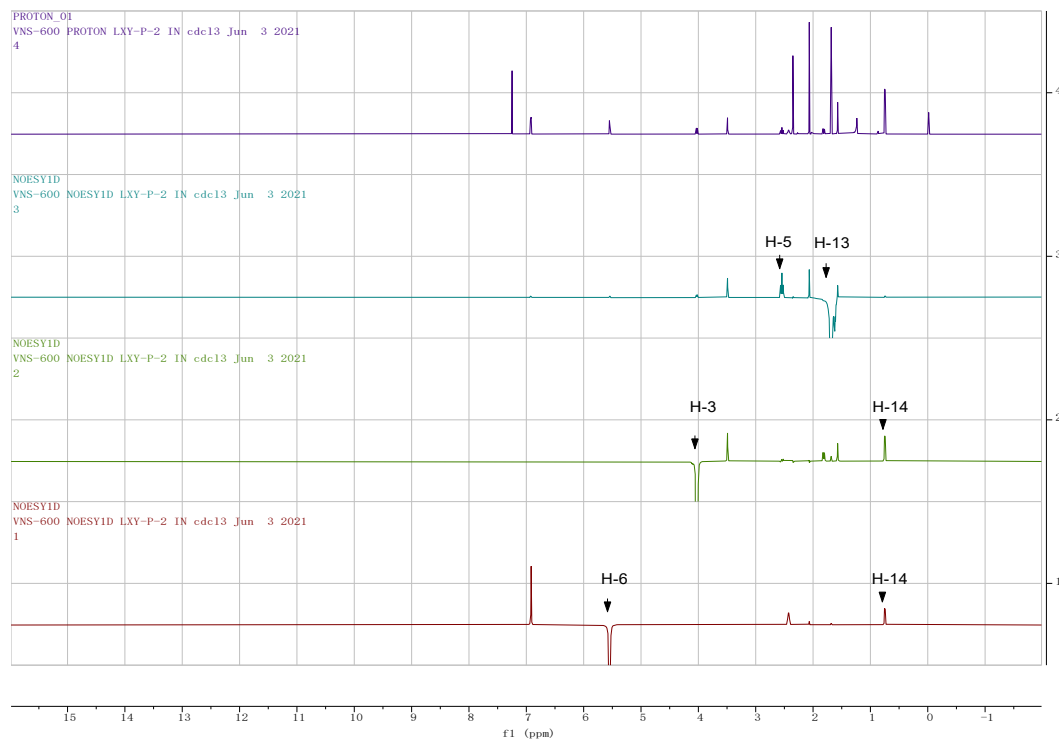
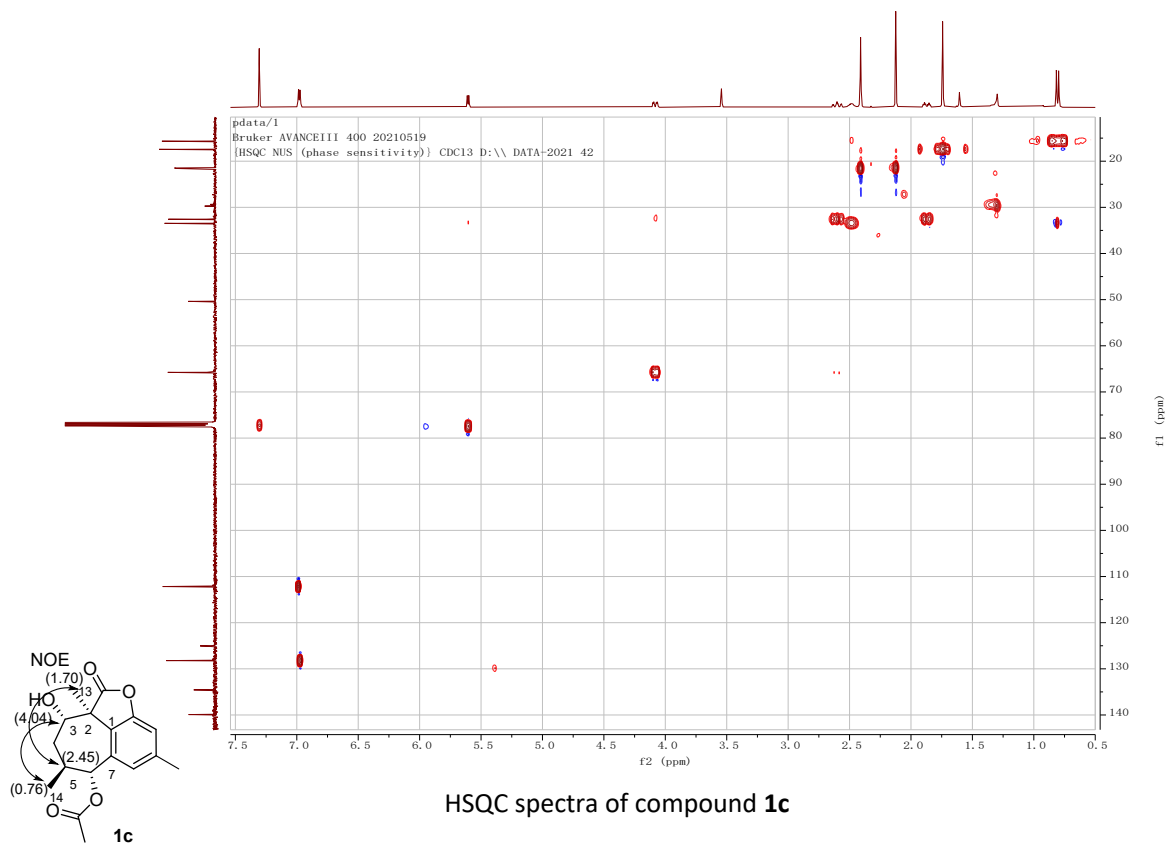


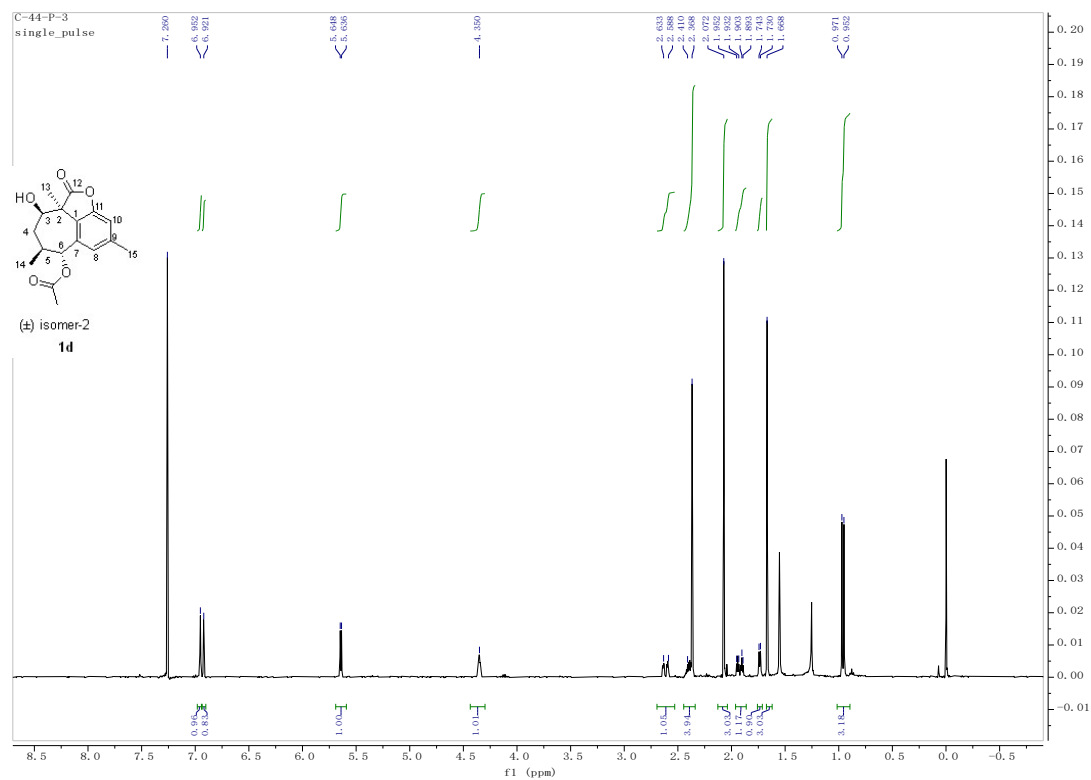


DEPT 135 spectra of compound **1c**

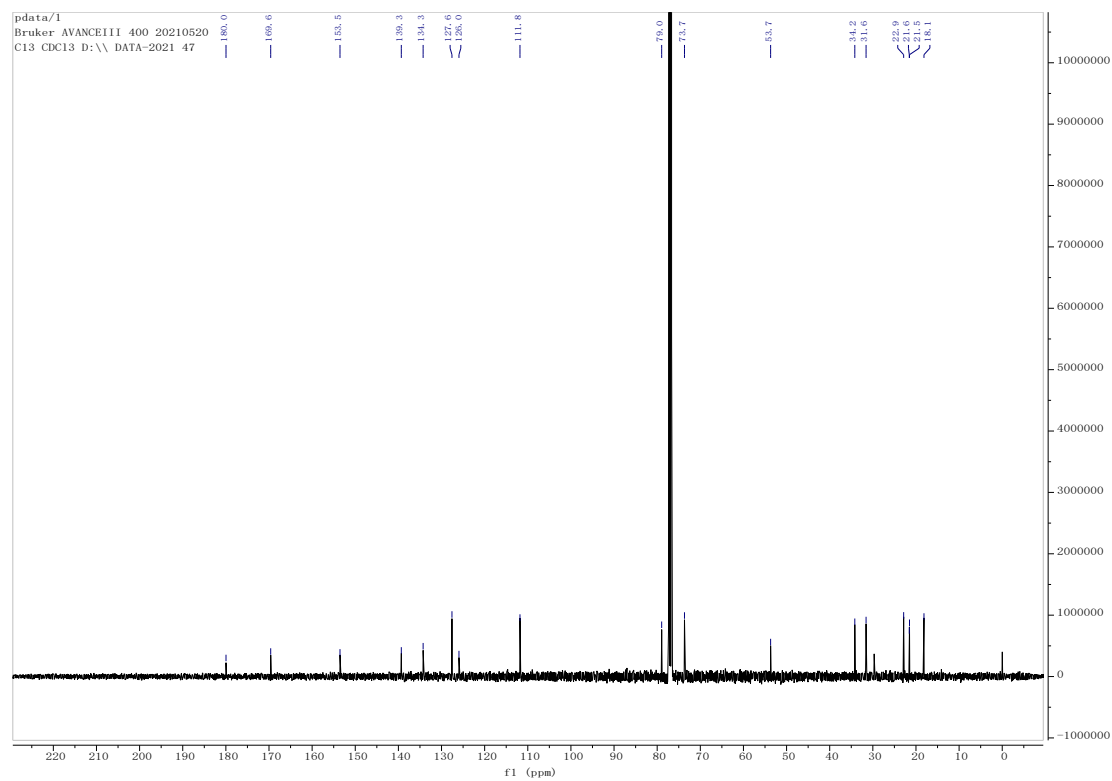


H-H cosy spectra of compound **1c**

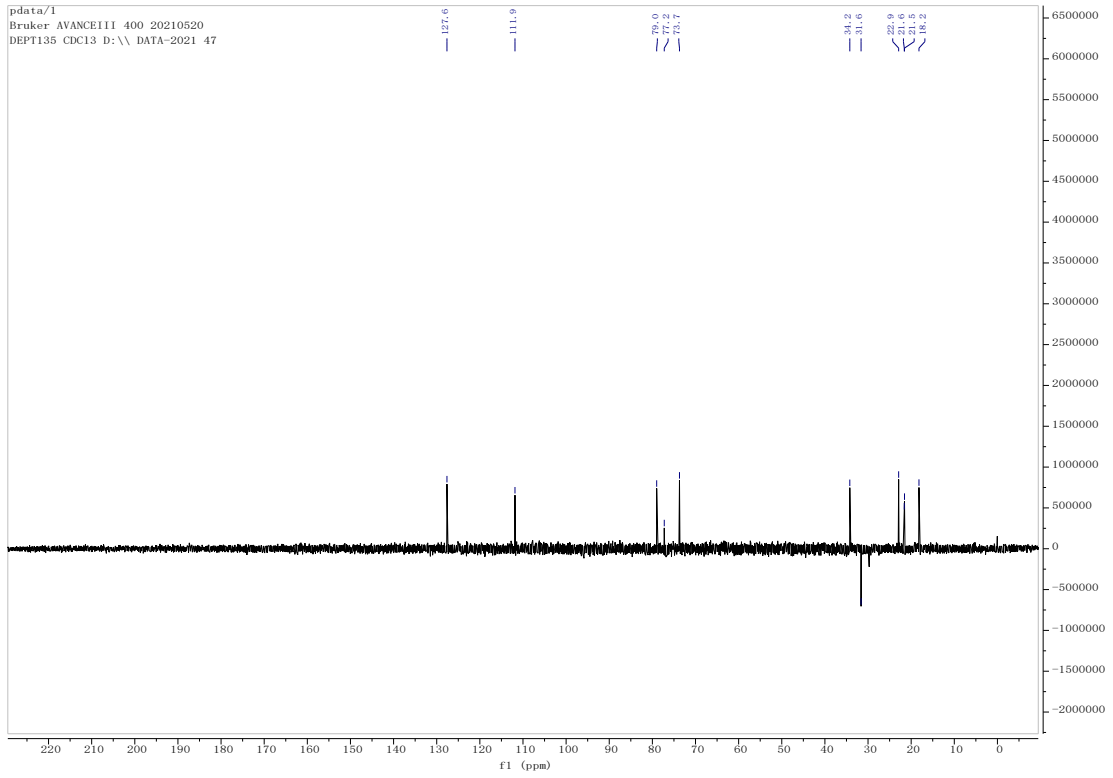




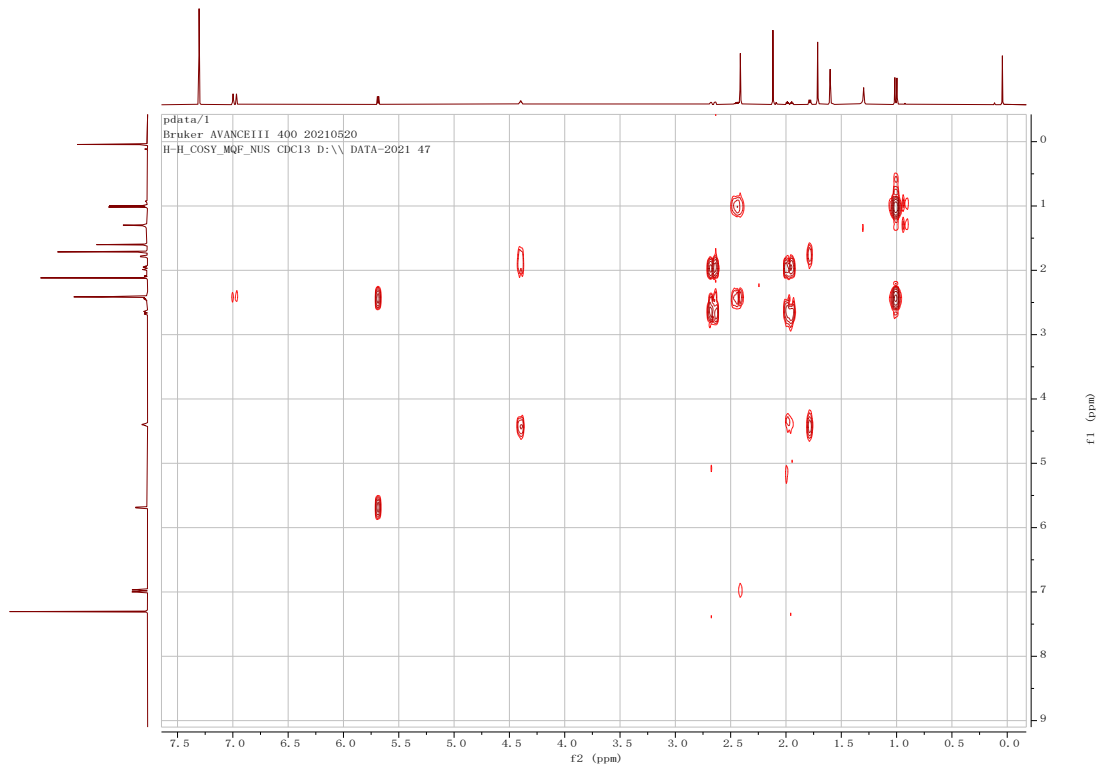
<sup>1</sup>H NMR spectra of compound **1d**



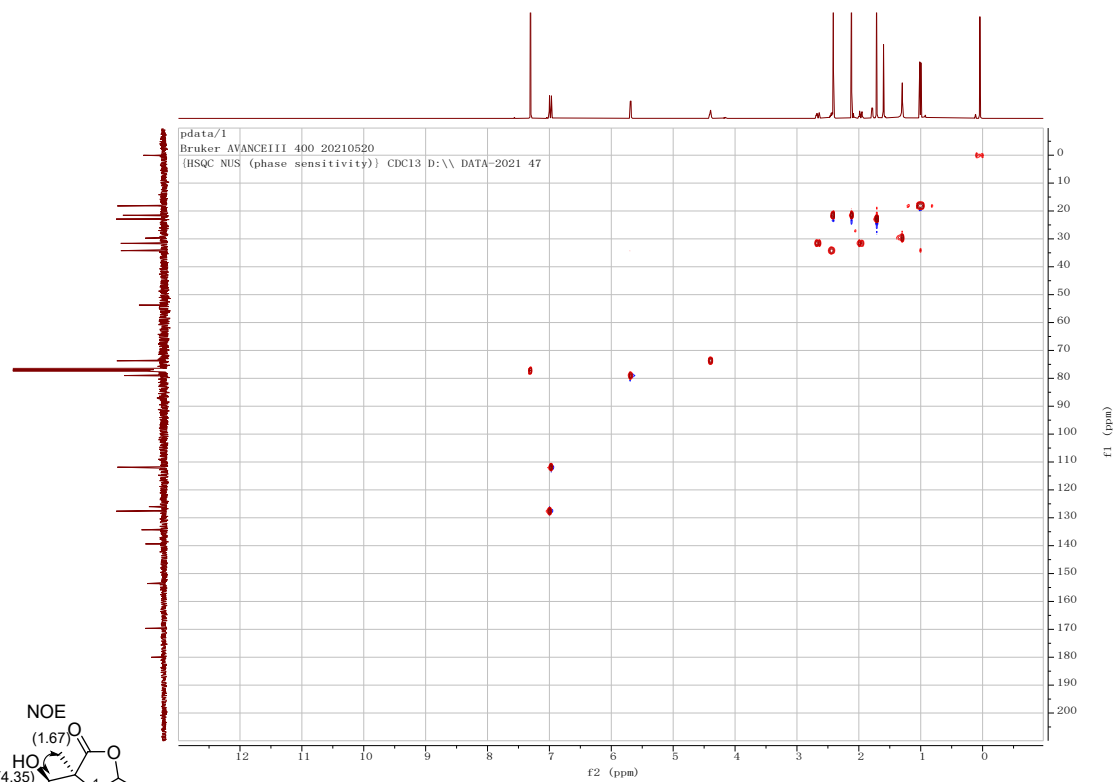
<sup>13</sup>C NMR spectra of compound **1d**



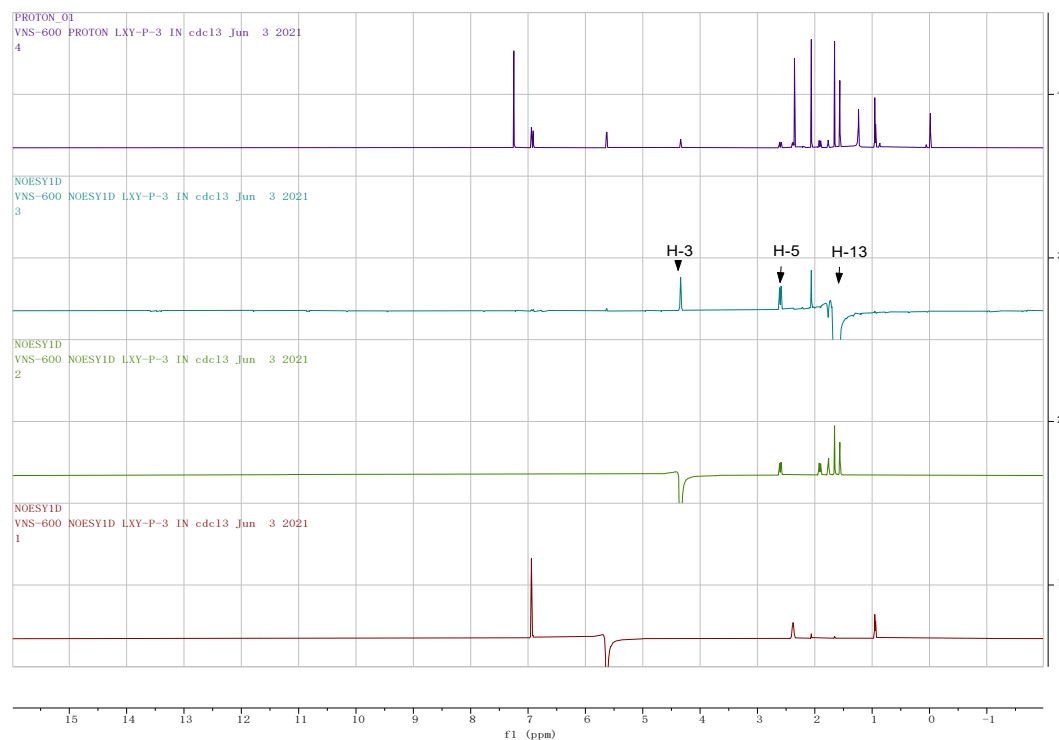
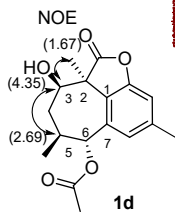
DEPT 135 spectra of compound **1d**



H-H cosy spectra of compound **1d**



HSQC spectra of compound **1d**



NOE spectra of compound **1d**

Table 1 The comparison of  $^1\text{H}$  and  $^{13}\text{C}$  NMR data of compound **1a** and reported natural commiphorane C

position	natural commiphorane C		<b>1a</b>	
	$\delta_{\text{H}}$ (600M)	$\delta_{\text{C}}$ (150M)	$\delta_{\text{H}}$ (400M)	$\delta_{\text{C}}$ (100M)
1		121.2		121.0
2		53.2		53.1
3	4.24 (t-like, 4.8)	71.1	4.24 (t, 5.1)	70.9
4	a 2.20 (dd, 1.4, 13.1), b 2.10 (dd, 4.8, 13.1)	39.8	a 2.19 (dd, 1.6, 12.0), b 2.09 (dd, 4.8, 12.6)	39.6
5	2.18 (m)	32.3	2.18 (m)	32.1
6	5.91 (d, 10.0)	74.7	5.91 (d, 9.7)	74.5
7		138.6		138.4
8	6.81 (s)	119.1	6.81 (s)	119.0
9		140.0		139.8
10	6.86 (s)	110.5	6.86 (s)	110.4
11		153.5		153.4
12		179.7		179.5
13	1.53 (s)	19.6	1.53 (s)	19.5
14	1.03 (d, 6.4)	19.6	1.03 (d, 6.2)	19.4
15	2.38 (s)	22.3	2.38 (s)	22.1
-OAc		170.1		170.0
-OAc	2.29 (s)	21.0	2.29 (s)	20.8
-OH				

Table 2: the comparison of  $^1\text{H}$  and  $^{13}\text{C}$  NMR data of compound **1b** and reported natural commiphorane D

position	natural commiphorane D		<b>1b</b>	
	$\delta_{\text{H}}$ (600M)	$\delta_{\text{C}}$ (150M)	$\delta_{\text{H}}$ (400M)	$\delta_{\text{C}}$ (100M)
1		122.2		122.2
2		49.9		49.9
3	3.79 (t, 7.4)	69.9	3.73-3.85 (m)	69.9
4	2.08 (dd, 7.4, 9.9, 2H)	40.2	2.03-2.14 (m)	40.3
5	1.87 (m)	37.7	1.79-1.97 (m)	37.7
6	5.82 (d, 10.5)	74.5	5.82 (d, 10.4)	74.5
7		139.0		139.0
8	6.81 (s)	119.5	6.81 (s)	119.5
9		140.1		140.2
10	6.88 (s)	110.6	6.88 (s)	110.6
11		152.8		152.8
12		181.5		181.5
13	1.58 (s)	14.6	1.58 (s)	14.6
14	1.06 (d, 6.7)	19.8	1.06 (d, 6.7)	19.8
15	2.38 (s)	22.2	2.37 (s)	22.2
-OAc		170.1		170.1
-OAc	2.28 (s)	21.0	2.28 (s)	21.0
-OH	3.51(s)		3.51(s)	

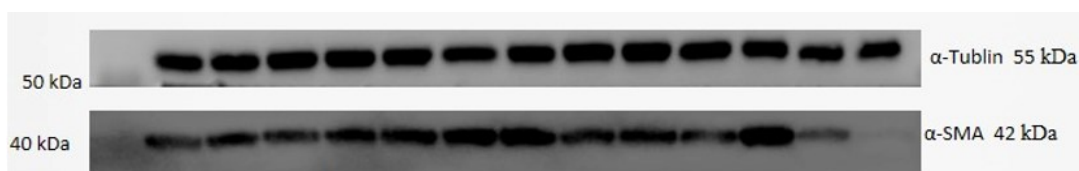
**Compounds 1a-1d and (±) 11 inhibited the fibrogenic action of TGF- $\beta$ 1 in rat renal proximal tubular cells.**



Cell lysates were immunoblotted with antibodies against fibronectin as indicated. After marker, the compounds were **1b**, **1c**, **1d**, **1a** and (±) **11** (25  $\mu$ M), and **1b**, **1c**, **1d**, **1a** and (±) **11** (50  $\mu$ M), DMSO with TGF- $\beta$ , DMSO without TGF- $\beta$ , GW: GW788388 in turn.



Cell lysates were immunoblotted with antibodies against collagen I as indicated. After marker, the compounds were **1b**, **1c**, **1d**, **1a** and (±) **11** (25  $\mu$ M), and **1b**, **1c**, **1d**, **1a** and (±) **11** (50  $\mu$ M), DMSO with TGF- $\beta$ , DMSO without TGF- $\beta$ , GW: GW788388 in turn.



Cell lysates were immunoblotted with antibodies against  $\alpha$ -SMA, and  $\alpha$ -tubulin as indicated. After marker, the compounds were **1b**, **1c**, **1d**, **1a** and (±) **11** (25  $\mu$ M), and **1b**, **1c**, **1d**, **1a** and (±) **11** (50  $\mu$ M), DMSO with TGF- $\beta$ , DMSO without TGF- $\beta$ , GW: GW788388 in turn.