

EVALUATION OF ANTIMICROBIAL ACTIVITY AND TOXIC POTENTIAL OF EXTRACTS AND TRITERPENES ISOLATED FROM *Maytenus imbricata*

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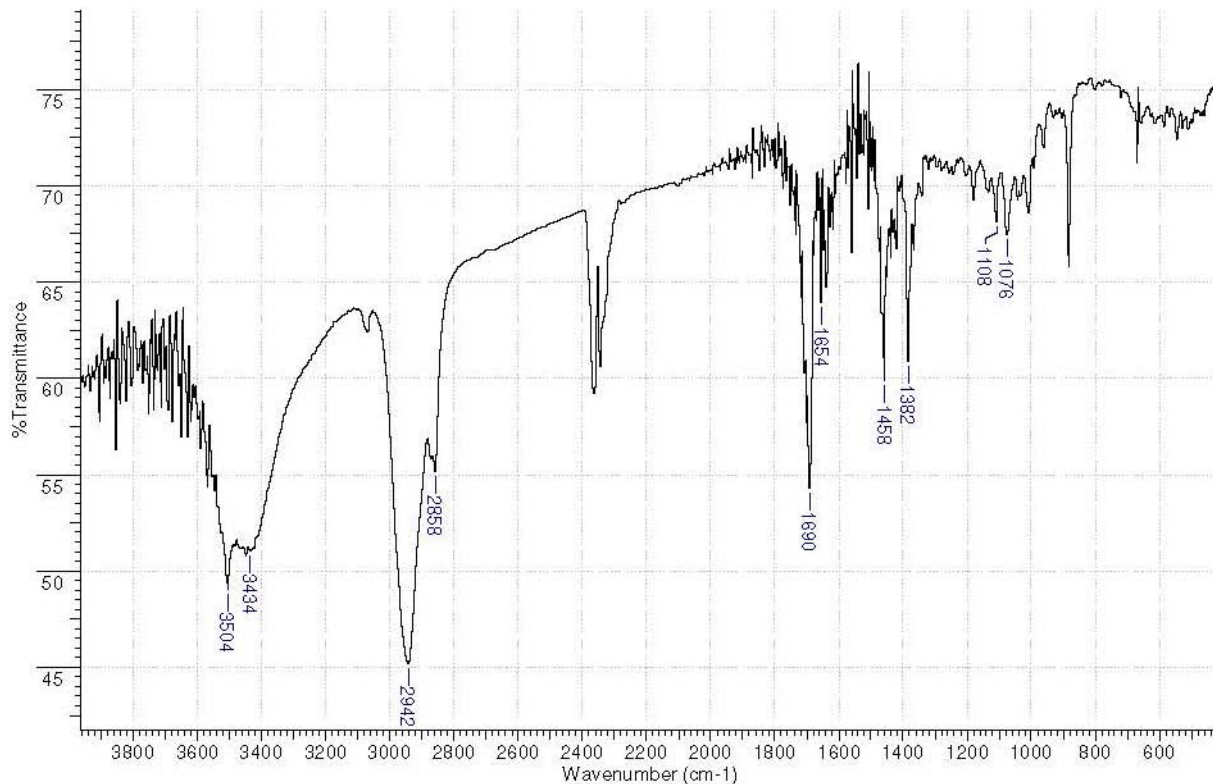


Figure 1S. IR spectrum of compound 1 (KBr,  $\text{cm}^{-1}$ )

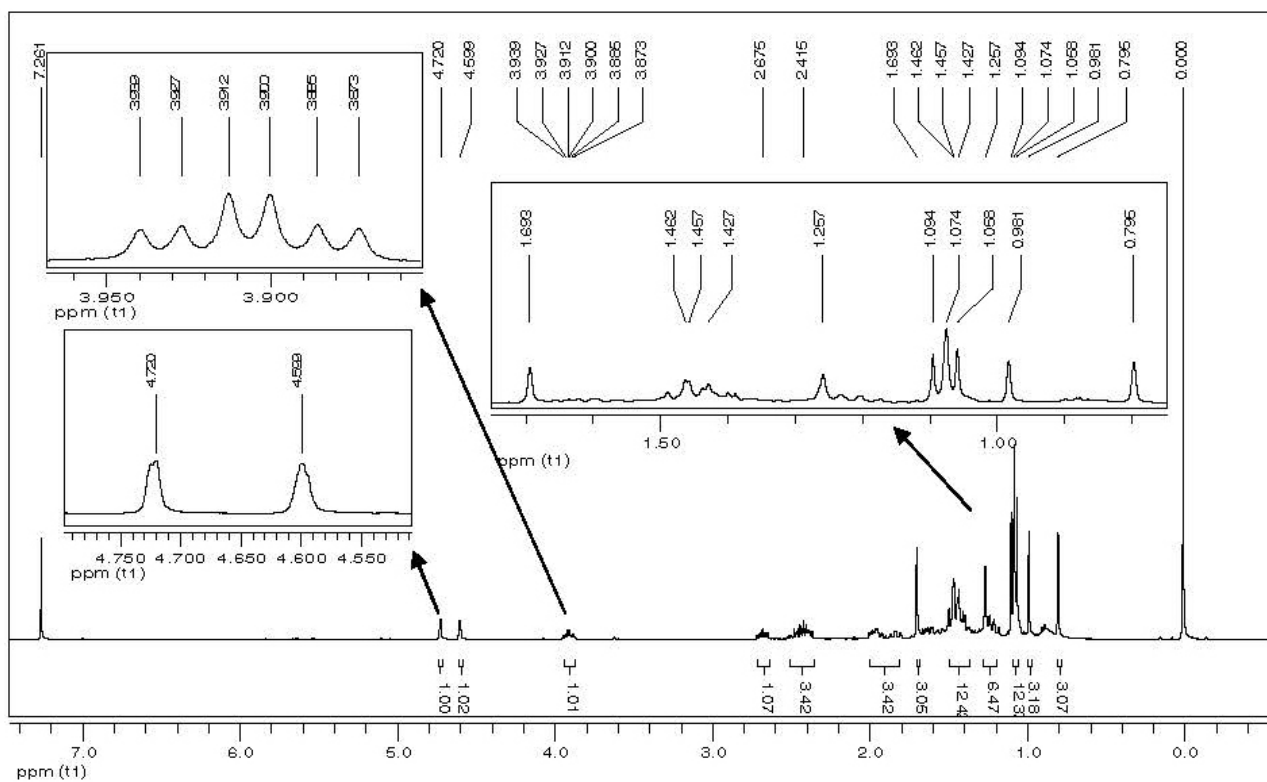


Figure 2S.  $^1\text{H}$  NMR spectrum of compound **1** (400 MHz,  $\text{CDCl}_3$ )

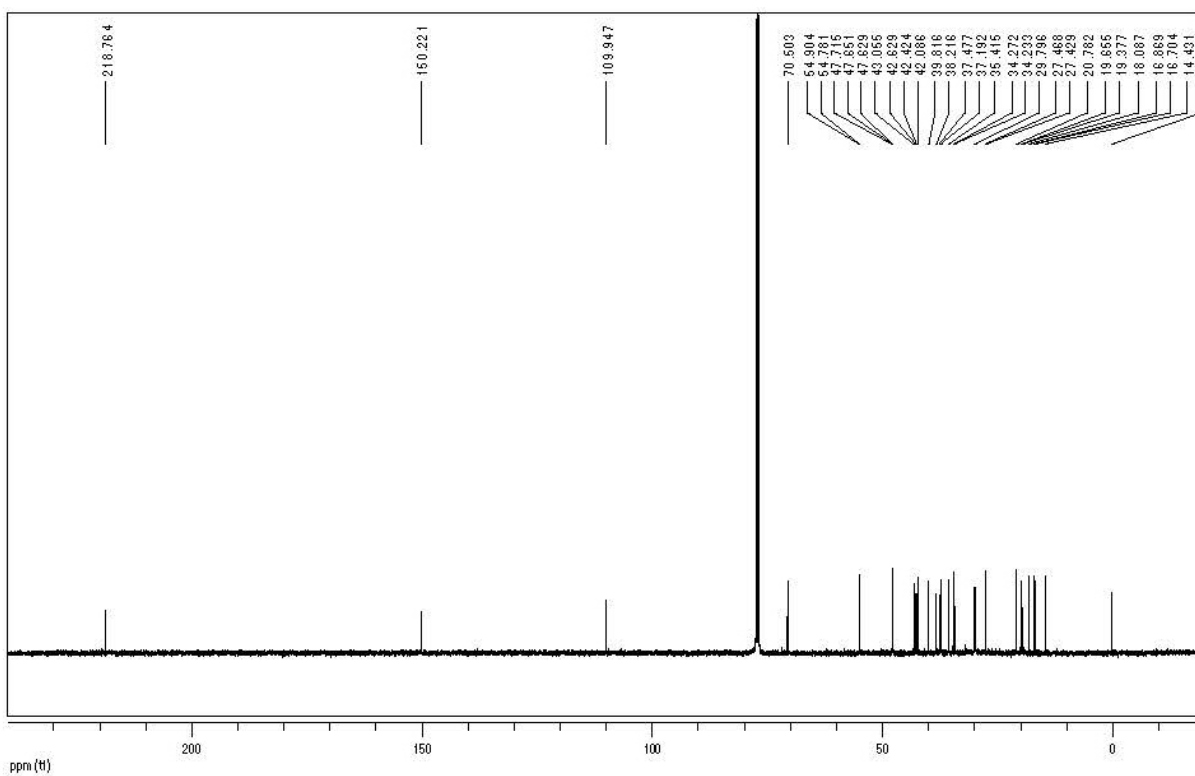


Figure 3S.  $^{13}\text{C}$  NMR spectrum of compound **1** (100 MHz,  $\text{CDCl}_3$ )

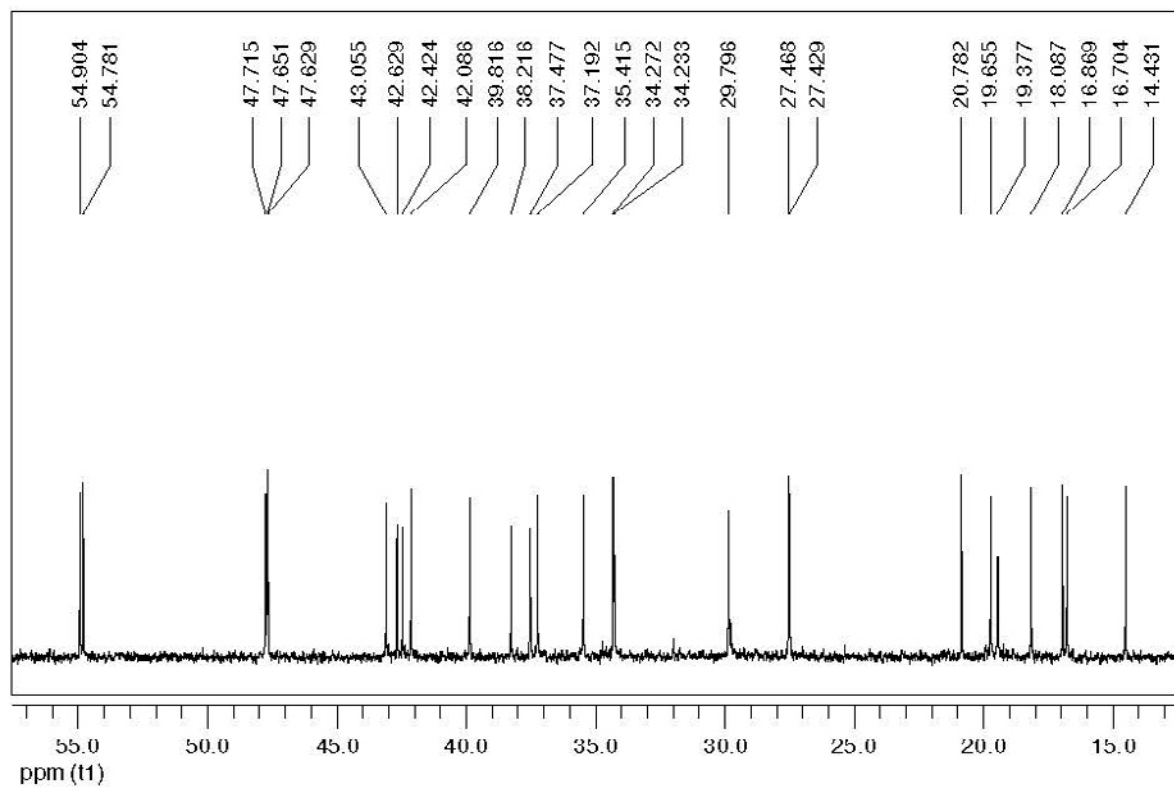


Figure 4S.  $^{13}\text{C}$  NMR spectrum of compound 1 (100 MHz,  $\text{CDCl}_3$ )

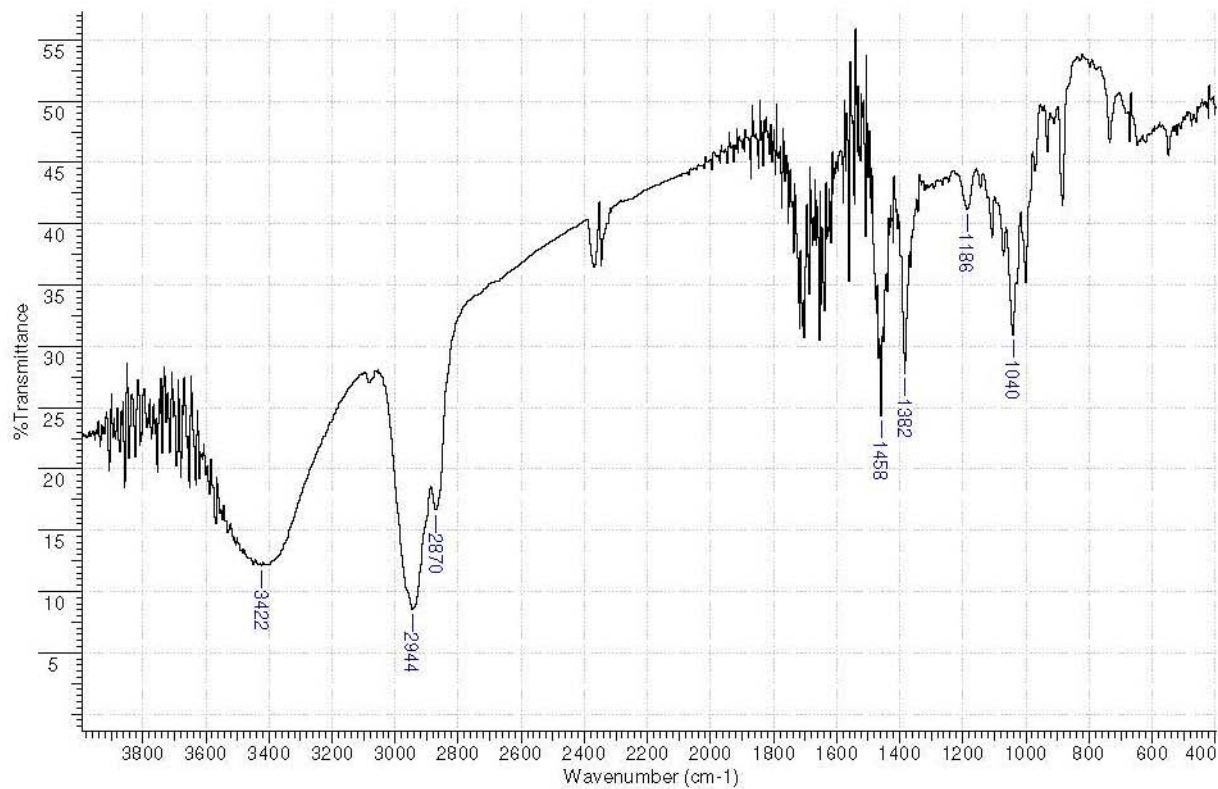


Figure 5S. IR spectrum of compound 2 ( $\text{KBr}$ ,  $\text{cm}^{-1}$ )



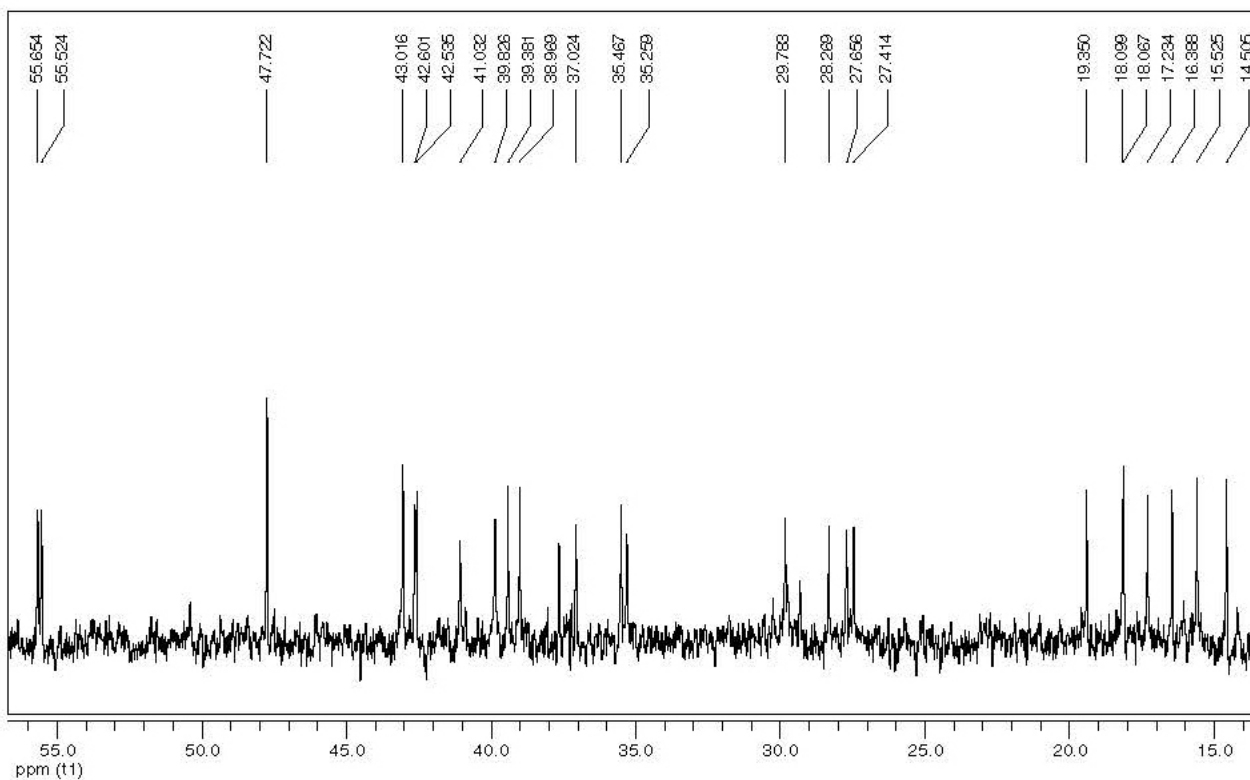


Figure 8S.  $^{13}\text{C}$  NMR spectrum of compound 2 (50 MHz,  $\text{CDCl}_3$ )

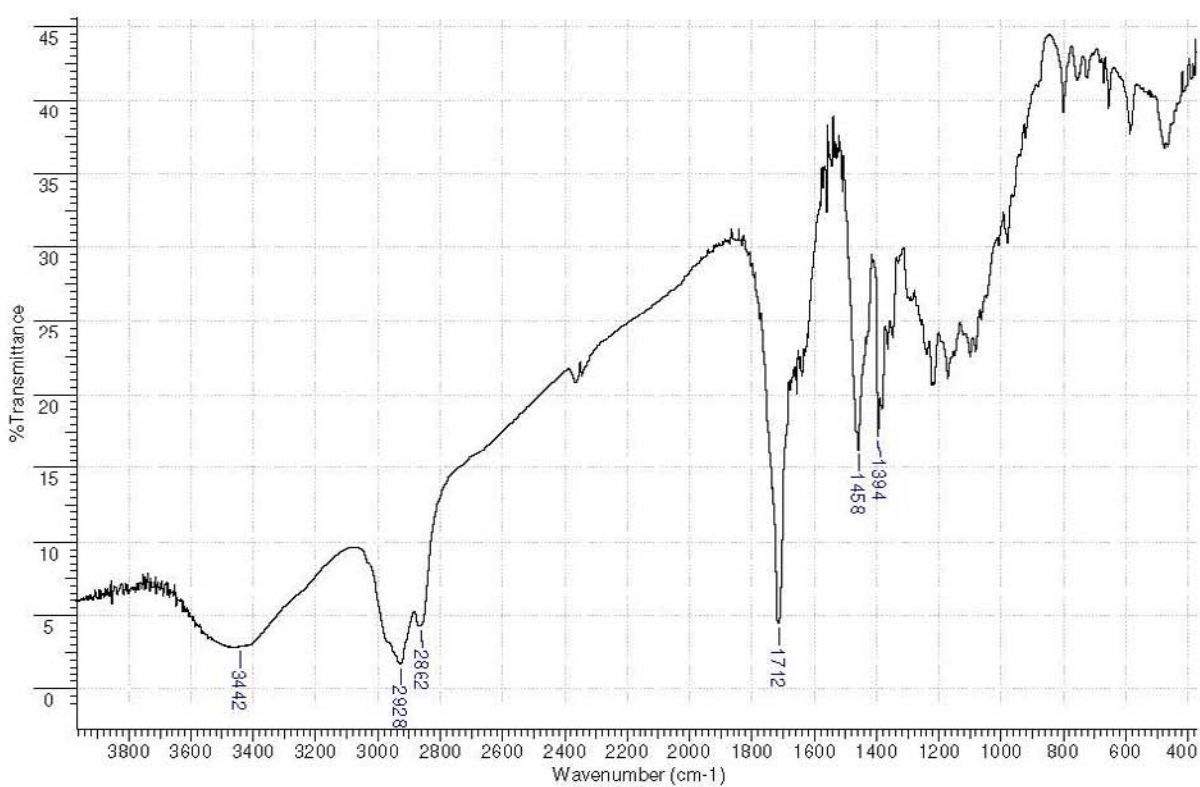


Figure 9S. IR spectrum of compound 3 (KBr,  $\text{cm}^{-1}$ ). The absorption band at  $3442\text{ cm}^{-1}$  was attributed to moisture in the KBr

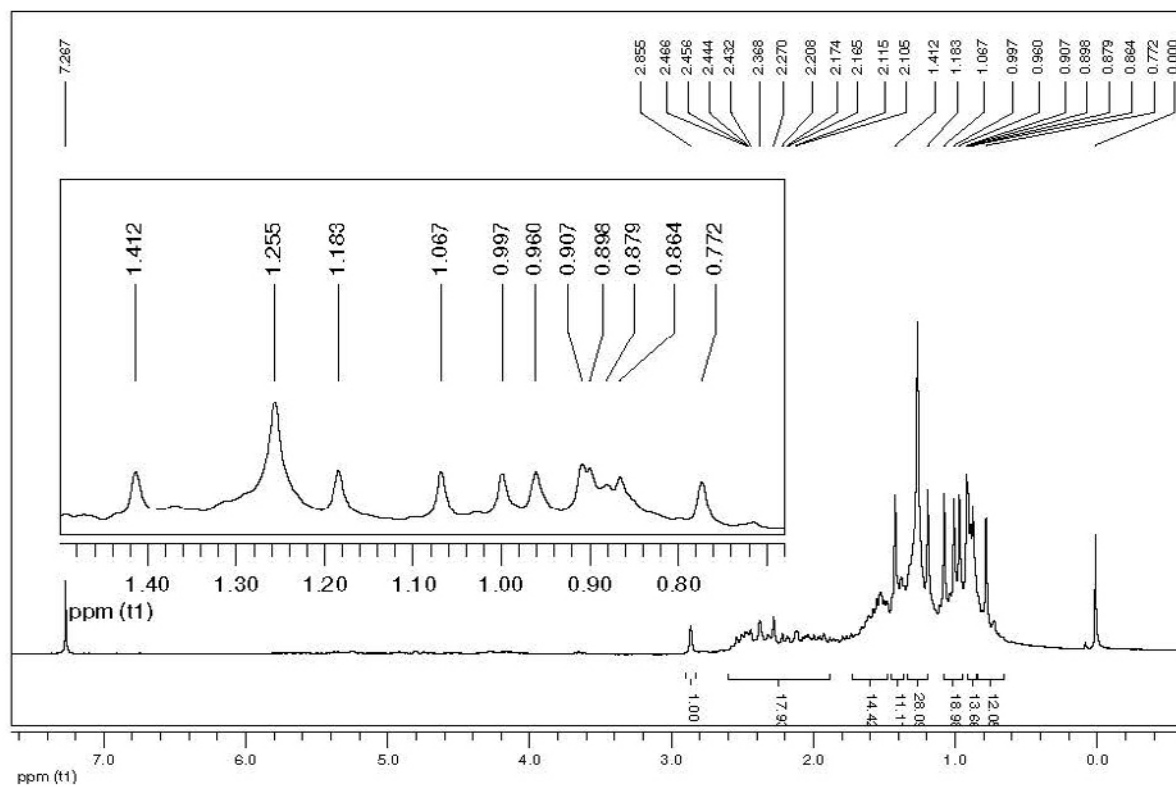


Figure 10S.  $^1\text{H}$  NMR spectrum of compound 3 (200 MHz,  $\text{CDCl}_3$ )

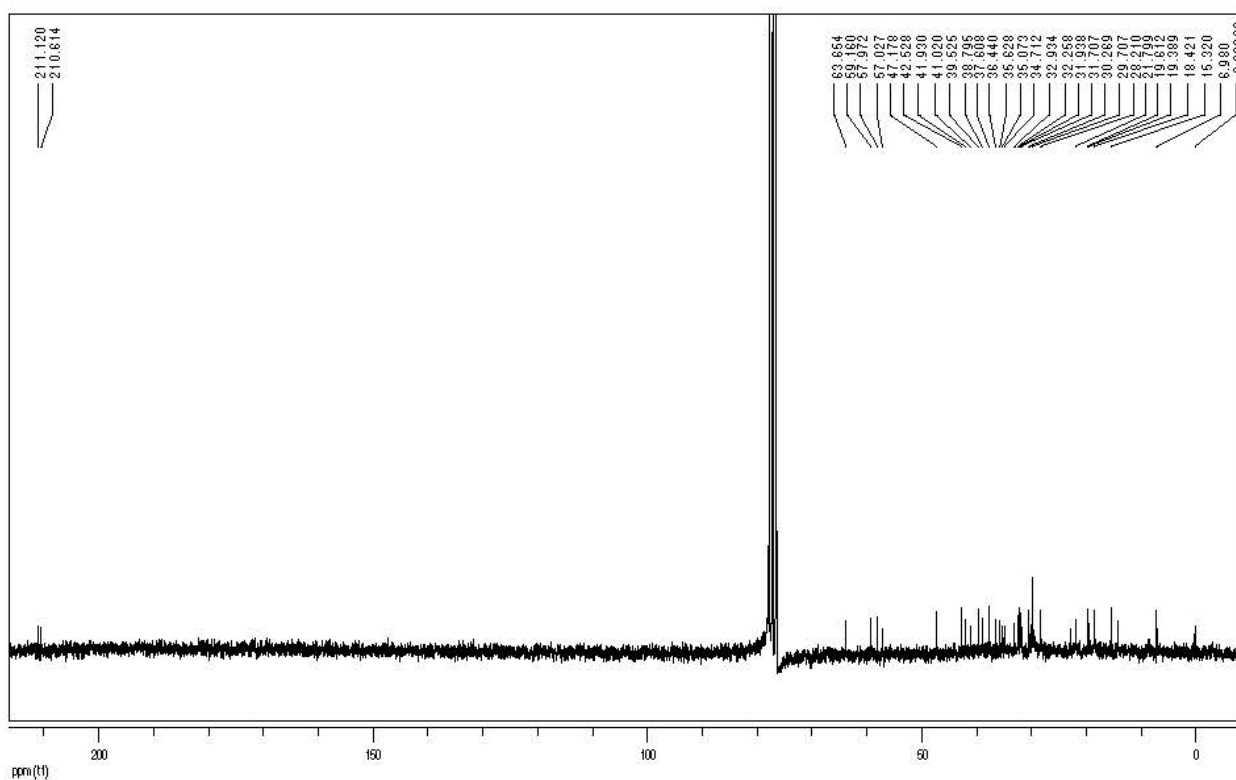


Figure 11S.  $^{13}\text{C}$  NMR spectrum of compound 3 (50 MHz,  $\text{CDCl}_3$ )

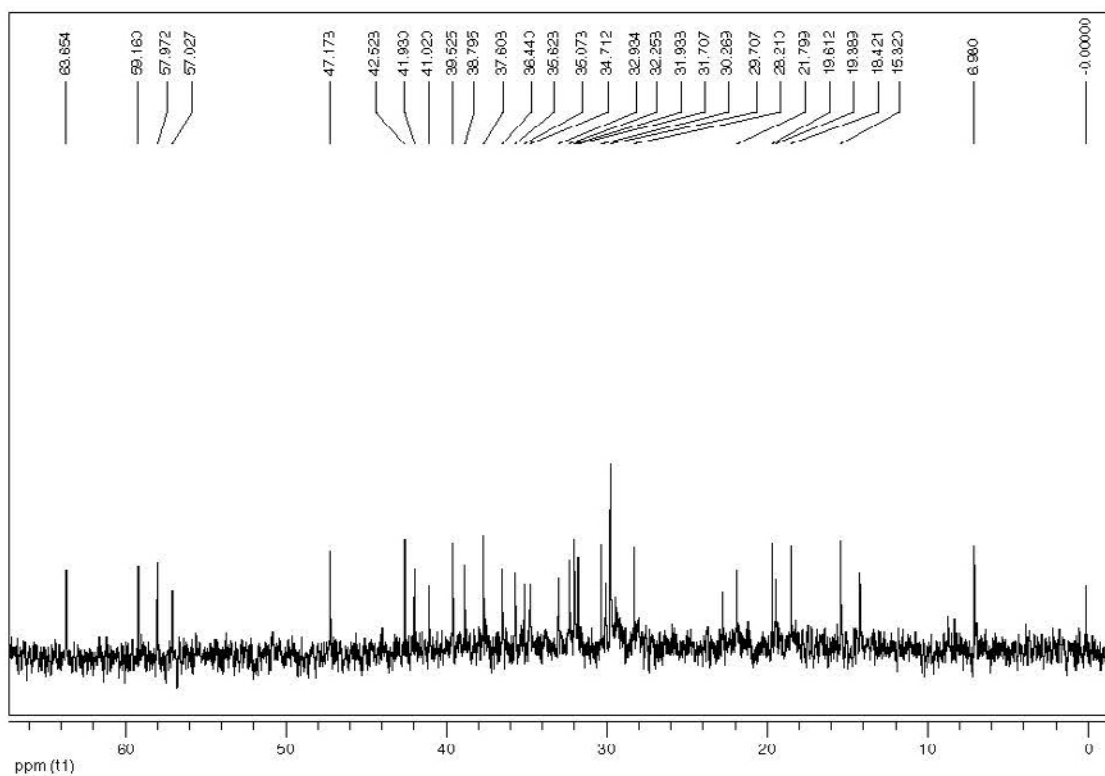


Figure 12S.  $^{13}\text{C}$  NMR spectrum of compound 3 (50 MHz,  $\text{CDCl}_3$ )

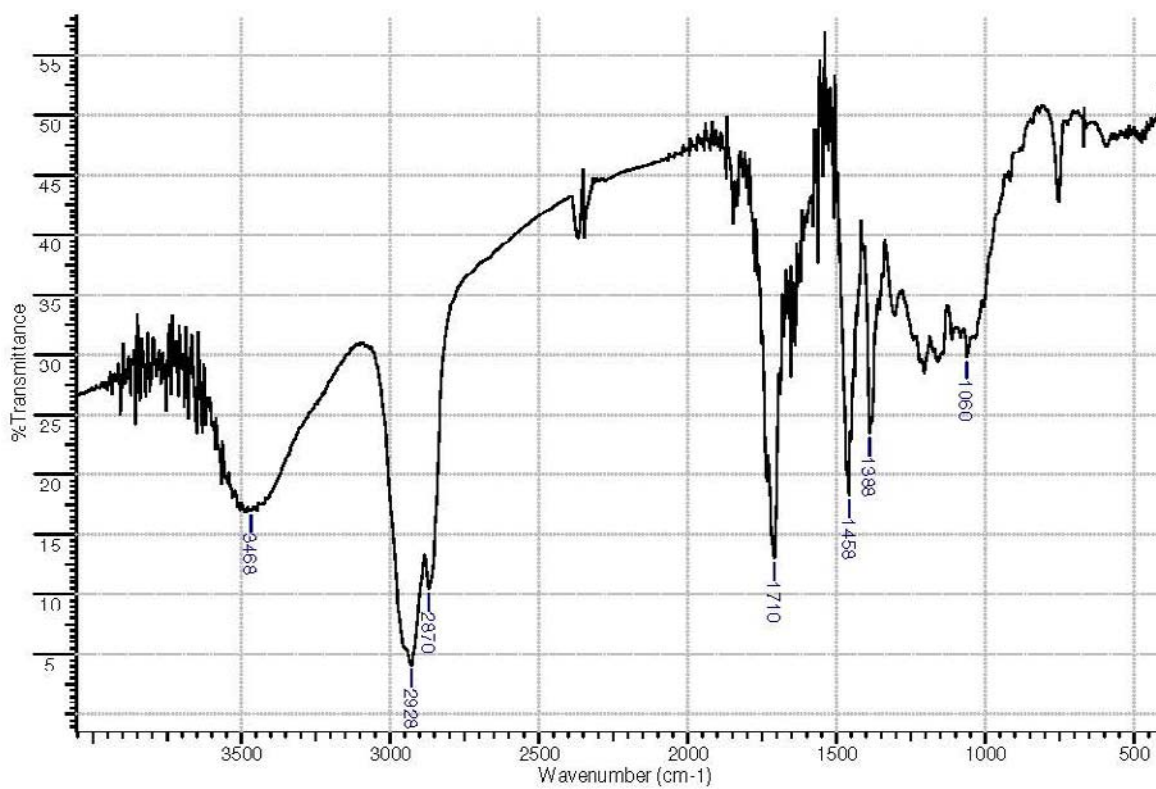
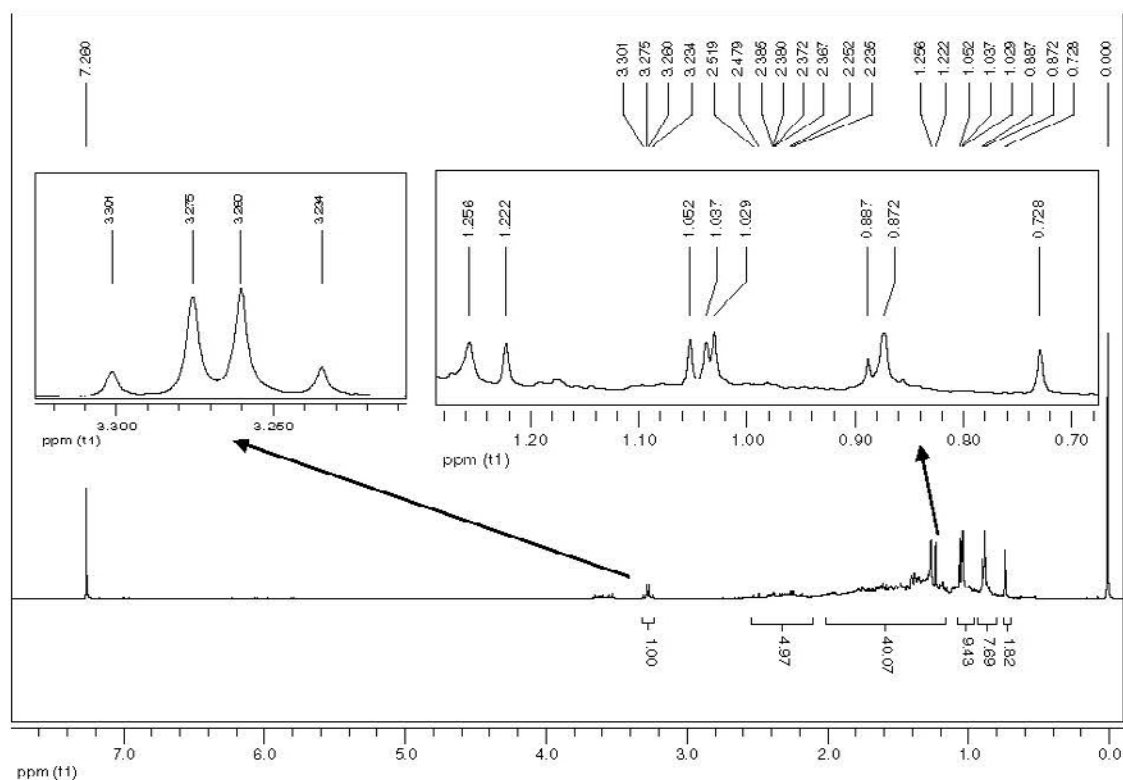
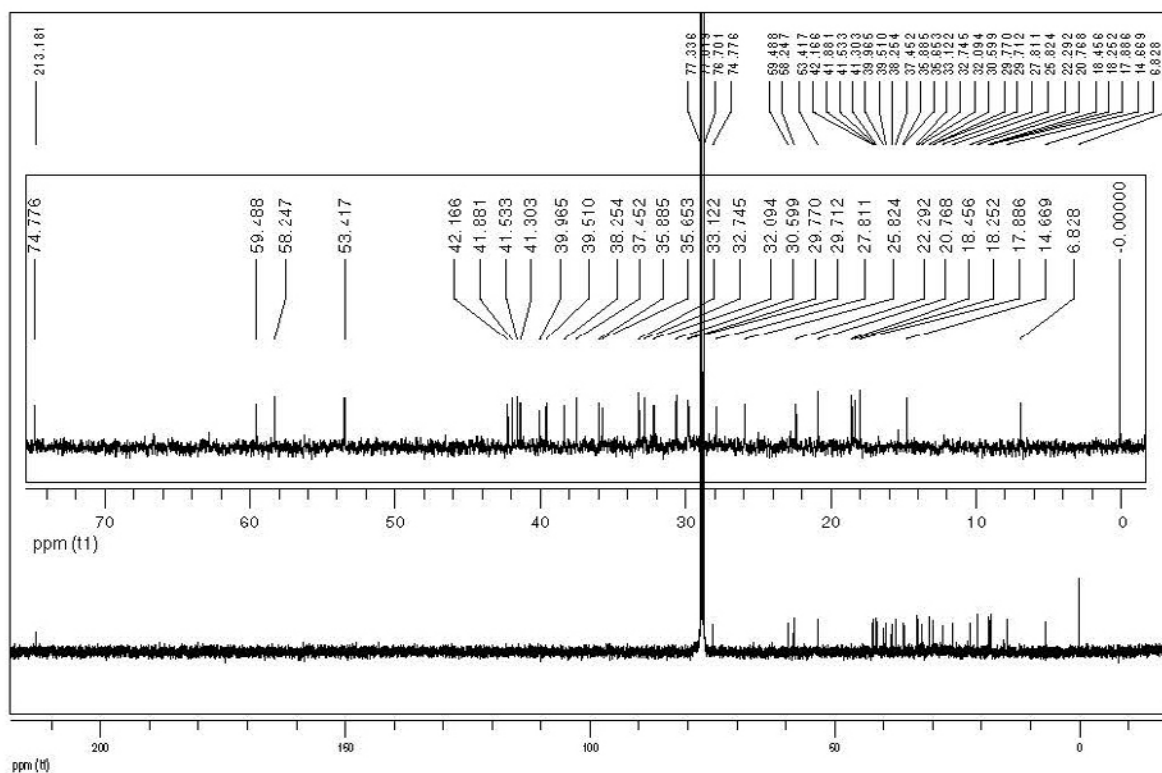


Figure 13S. IR spectrum of compound 4 (KBr,  $\text{cm}^{-1}$ )



**Figure 14S.**  $^1\text{H}$  NMR spectrum of compound 4 (400 MHz,  $\text{CDCl}_3$ )



**Figure 15S.**  $^{13}\text{C}$  NMR spectrum of compound 4 (100 MHz,  $\text{CDCl}_3$ )



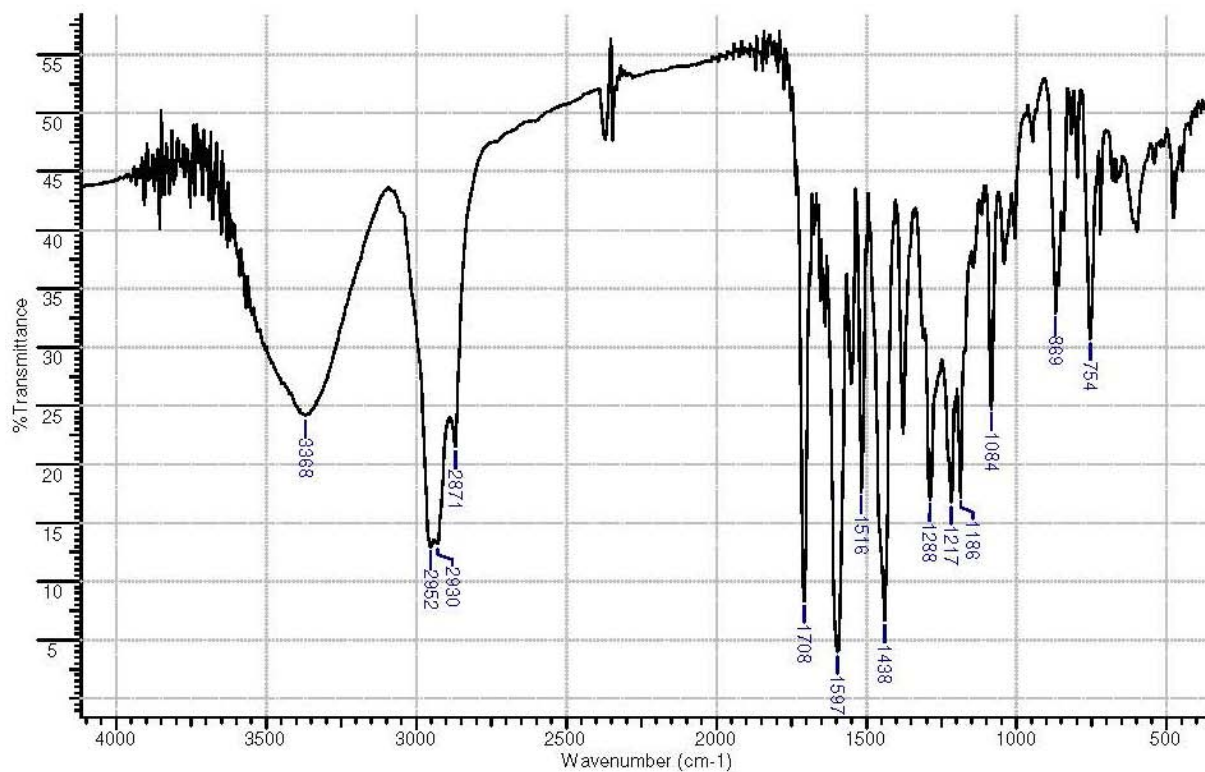


Figure 16S. IR spectrum of compound 5 (KBr, cm<sup>-1</sup>)

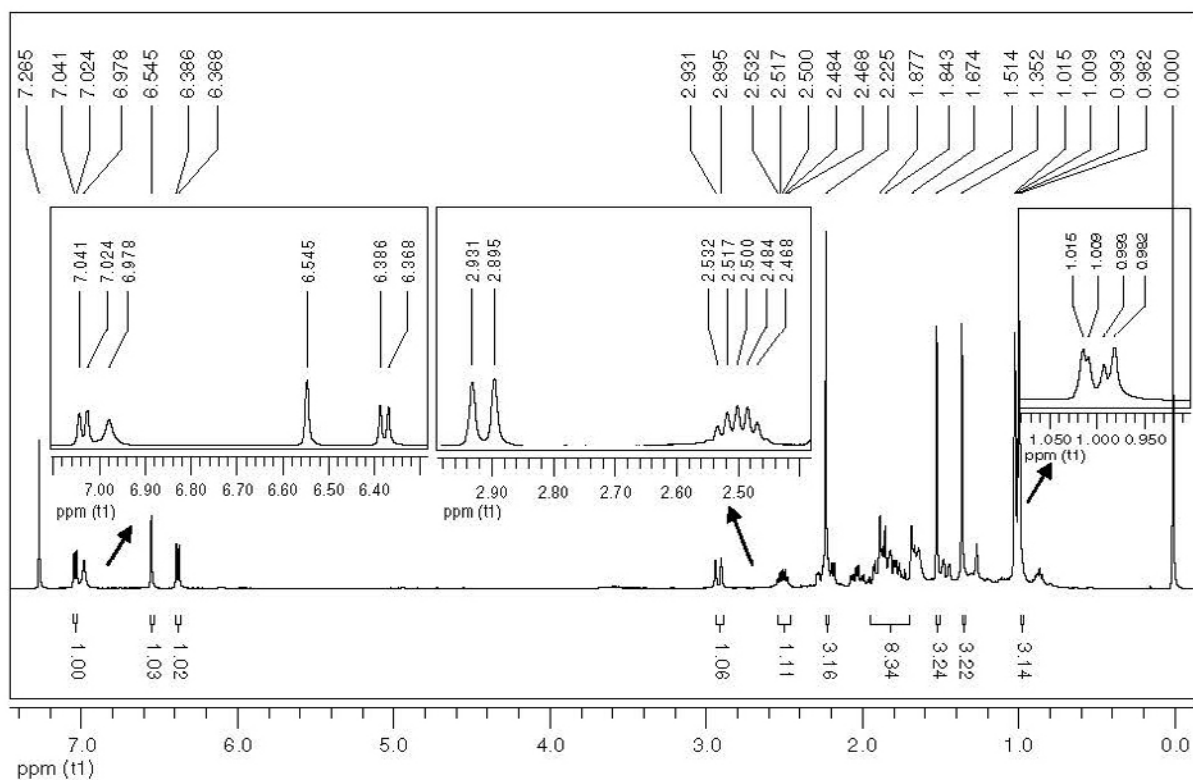


Figure 17S. <sup>1</sup>H NMR spectrum of compound 5 (400 MHz, CDCl<sub>3</sub>)

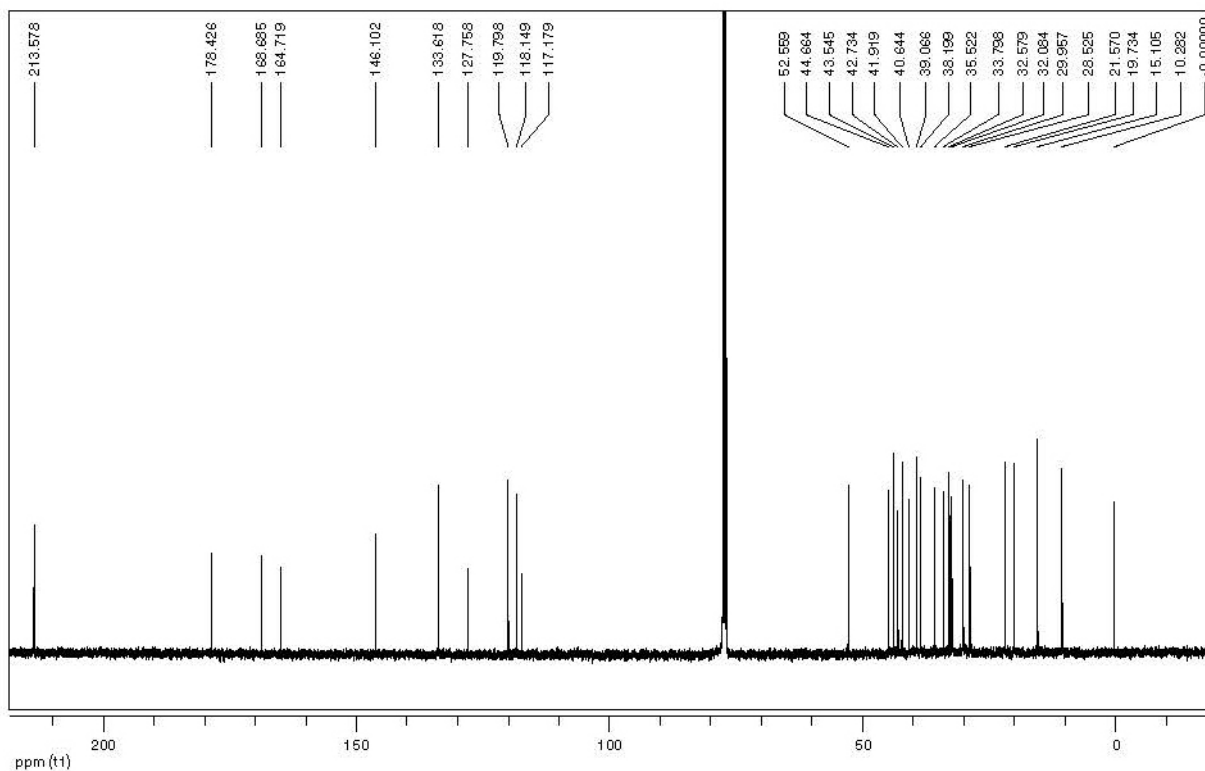


Figure 18S.  $^{13}\text{C}$  NMR spectrum of compound 5 (100 MHz,  $\text{CDCl}_3$ )

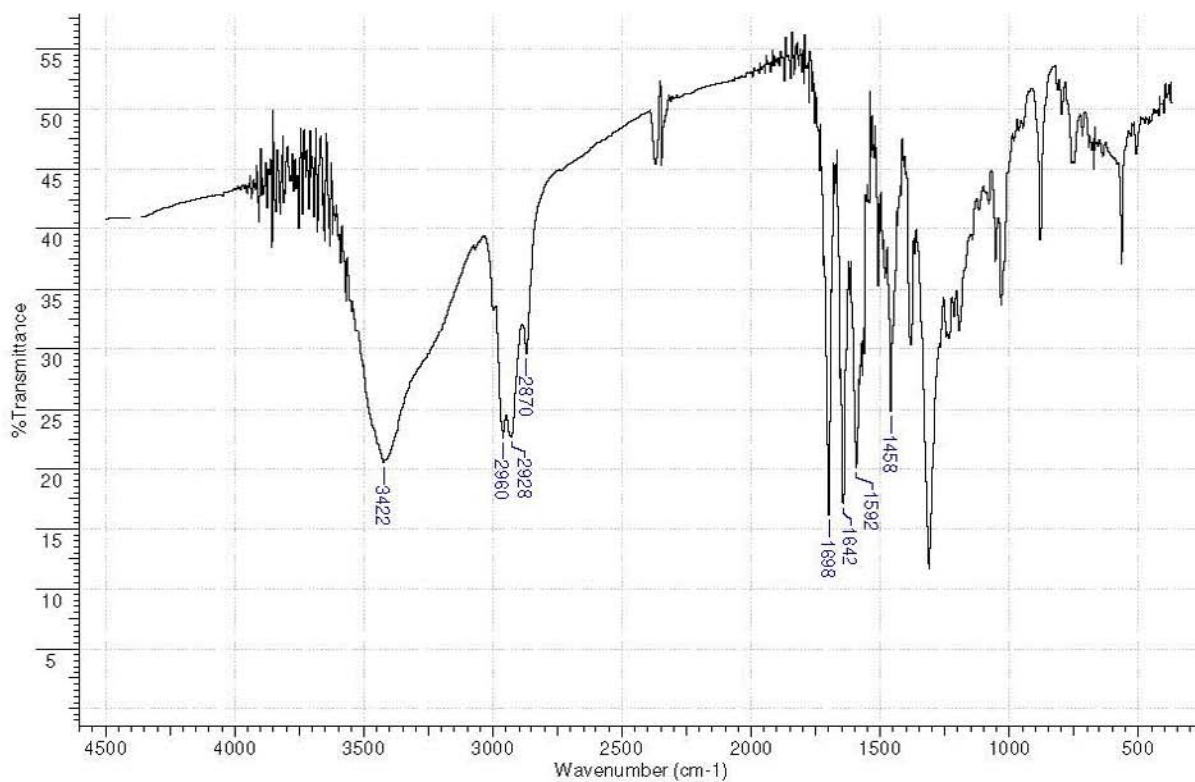


Figure 19S. IR spectrum of compound 6 ( $\text{KBr}$ ,  $\text{cm}^{-1}$ )

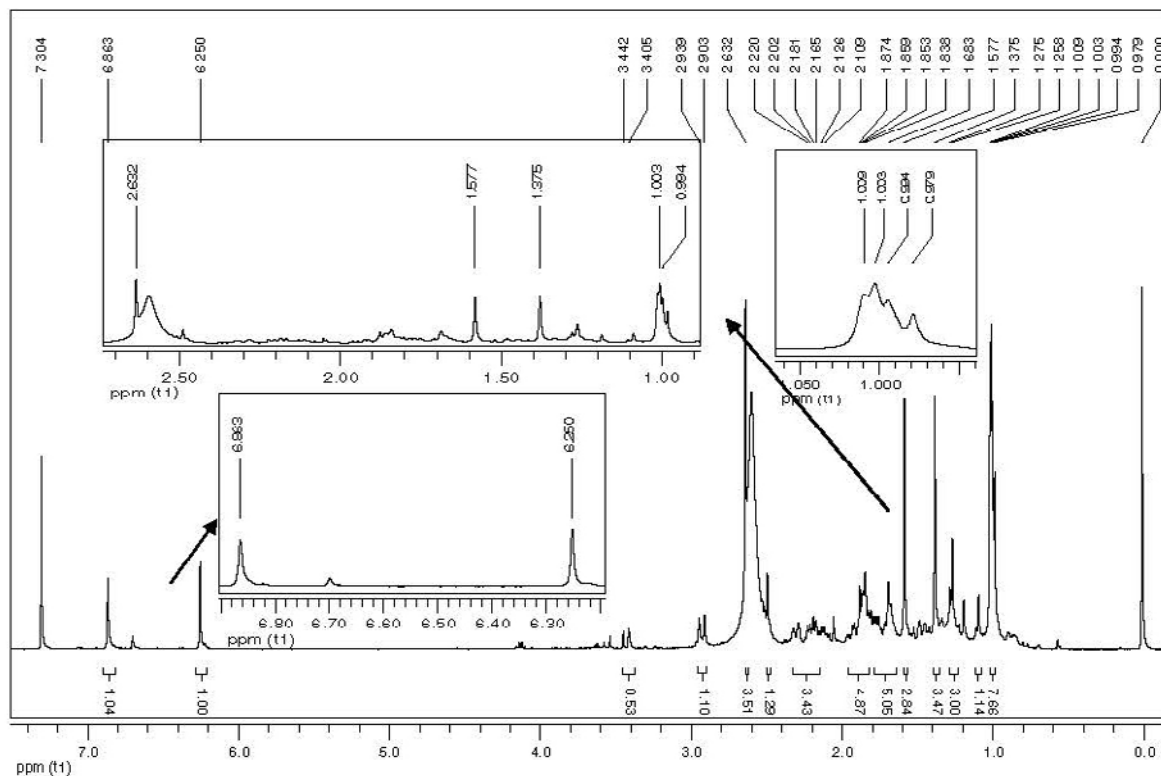


Figure 20S.  $^1\text{H}$  NMR spectrum of compound **6** (400 MHz,  $\text{CDCl}_3 + \text{CD}_3\text{OD}$ )

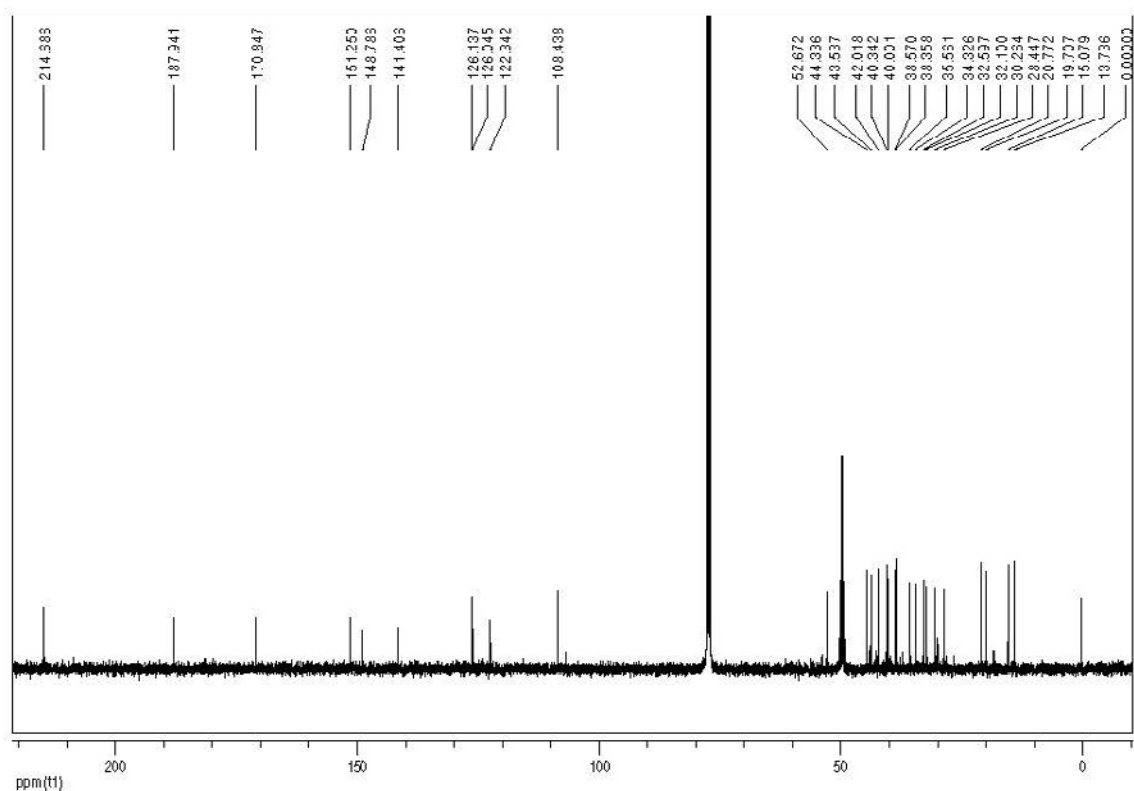


Figure 21S.  $^{13}\text{C}$  NMR spectrum of compound **6** (100 MHz,  $\text{CDCl}_3 + \text{CD}_3\text{OD}$ )

**Table 1S.** Comparison of  $^{13}\text{C}$  NMR data of compound **1** with literature for 11 $\alpha$ -hydroxylup-20(29)-en-3-one

N $^{\circ}$	Type of carbon	$\delta_{\text{c}}$ of compound <b>1</b>	$\delta_{\text{c}}$ ref. 22
1	CH <sub>2</sub>	42.09	42.07
2	CH <sub>2</sub>	34.23	34.21
3	C=O	218.78	218.84
4	C	47.63	47.63
5	CH	54.78	54.76
6	CH <sub>2</sub>	19.66	19.64
7	CH <sub>2</sub>	34.27	34.27
8	C	42.63	42.41
9	CH	54.90	54.87
10	C	38.22	38.20
11	CHOH	70.50	70.49
12	CH <sub>2</sub>	37.48	37.44
13	CH	37.19	37.17
14	C	42.42	42.16
15	CH <sub>2</sub>	27.43	27.41
16	CH <sub>2</sub>	35.42	35.40
17	C	43.06	43.05
18	CH	47.65	47.63
19	CH	47.72	47.70
20	C	150.22	150.20
21	CH <sub>2</sub>	29.80	29.78
22	CH <sub>2</sub>	39.82	39.80
23	CH <sub>3</sub>	27.47	27.46
24	CH <sub>3</sub>	20.78	20.77
25	CH <sub>3</sub>	16.70	16.71
26	CH <sub>3</sub>	16.87	16.86
27	CH <sub>3</sub>	14.43	14.42
28	CH <sub>3</sub>	18.09	18.08
29	=CH <sub>2</sub>	109.95	109.95
30	CH <sub>3</sub>	19.38	19.37

**Table 2S.** Comparison of  $^{13}\text{C}$  NMR data of compound **2** with literature for 3 $\beta$ ,11 $\alpha$ -hydroxylup-20(29)-en-3-one

N $^{\circ}$	Type of carbon	$\delta_{\text{c}}$ of compound <b>2</b>	$\delta_{\text{c}}$ ref. 21
1	CH <sub>2</sub>	39.83	39.00
2	CH <sub>2</sub>	27.41	27.50
3	CH	78.57	78.60
4	C	39.38	39.40
5	CH	55.52	55.60
6	CH <sub>2</sub>	18.10	18.10
7	CH <sub>2</sub>	35.26	35.30
8	C	42.54	41.10
9	CH	55.65	55.70
10	C	38.97	37.70
11	CH	70.52	70.50
12	CH <sub>2</sub>	27.66	27.70
13	CH	37.02	37.70
14	C	42.60	42.60
15	CH <sub>2</sub>	27.41	27.50
16	CH <sub>2</sub>	35.47	35.50
17	C	43.02	43.00
18	CH	47.72	47.70
19	CH	47.72	47.70
20	C	150.26	150.20
21	CH <sub>2</sub>	29.78	29.90
22	CH <sub>2</sub>	41.03	39.90
23	CH <sub>3</sub>	28.27	28.30
24	CH <sub>3</sub>	15.53	15.60
25	CH <sub>3</sub>	16.39	16.10
26	CH <sub>3</sub>	17.23	17.30
27	CH <sub>3</sub>	14.51	14.50
28	CH <sub>3</sub>	18.07	18.10
29	CH <sub>2</sub>	109.91	109.80
30	CH <sub>3</sub>	19.35	19.40

**Table 3S.** Comparison of  $^{13}\text{C}$  NMR data of compound **3** with literature for 3,7-dioxo-friedelane

N°	Type of carbon	$\delta_c$ of compound <b>3</b>	$\delta_c$ ref. 21
1	CH <sub>2</sub>	21.80	21.60
2	CH <sub>2</sub>	41.02	40.80
3	C=O	211.12	210.60
4	CH	57.97	57.80
5	C	47.18	47.00
6	CH <sub>2</sub>	57.03	56.90
7	C=O	210.61	210.20
8	CH	63.65	63.40
9	C	42.53	42.40
10	CH	59.16	59.00
11	CH <sub>2</sub>	35.63	35.50
12	CH <sub>2</sub>	29.71	29.80
13	C	39.53	39.40
14	C	37.61	37.50
15	CH <sub>2</sub>	31.94	31.60
16	CH <sub>2</sub>	36.44	36.30
17	C	30.27	30.10
18	CH	41.93	41.80
19	CH <sub>2</sub>	35.07	34.90
20	C	28.21	28.00
21	CH <sub>2</sub>	32.93	32.80
22	CH <sub>2</sub>	38.80	38.60
23	CH <sub>3</sub>	6.98	6.80
24	CH <sub>3</sub>	15.32	15.10
25	CH <sub>3</sub>	18.42	18.20
26	CH <sub>3</sub>	19.39	19.20
27	CH <sub>3</sub>	19.61	19.40
28	CH <sub>3</sub>	32.26	32.10
29	CH <sub>3</sub>	31.71	31.80
30	CH <sub>3</sub>	34.71	34.60

**Table 4S.** Comparison of  $^{13}\text{C}$  NMR data of compound **4** with literature for 3-oxo-29-hydroxyfriedelane

N°	Type of carbon	$\delta_c$ of compound <b>4</b>	$\delta_c$ ref. 21
1	CH <sub>2</sub>	22.29	22.30
2	CH <sub>2</sub>	41.53	41.60
3	C	213.18	212.20
4	CH	58.25	58.30
5	C	42.17	42.20
6	CH <sub>2</sub>	41.30	41.40
7	CH <sub>2</sub>	18.25	18.30
8	CH	53.42	53.50
9	C	37.45	37.50
10	CH	59.49	59.60
11	CH <sub>2</sub>	35.65	35.70
12	CH <sub>2</sub>	29.71	29.80
13	C	39.97	40.00
14	CH	38.25	38.30
15	CH <sub>2</sub>	32.75	32.80
16	CH <sub>2</sub>	35.89	36.00
17	C	29.77	29.80
18	CH	41.88	42.00
19	CH <sub>2</sub>	30.60	30.60
20	C	33.12	33.20
21	CH <sub>2</sub>	27.81	27.90
22	CH <sub>2</sub>	39.51	39.60
23	CH <sub>3</sub>	6.83	6.80
24	CH <sub>3</sub>	14.67	14.70
25	CH <sub>3</sub>	17.89	17.90
26	CH <sub>3</sub>	18.46	18.40
27	CH <sub>3</sub>	20.77	20.80
28	CH <sub>3</sub>	32.09	32.10
29	CH <sub>2</sub>	74.78	74.80
30	CH <sub>3</sub>	25.82	25.90

**Table 5S.** Comparison of  $^{13}\text{C}$  NMR data of compound **5** with literature for tingenone

N°	Type of carbon	$\delta_{\text{C}}$ of compound <b>5</b>	$\delta_{\text{C}}$ ref. 23
1	CH	119.80	119.80
2	C	178.43	178.40
3	C	146.10	146.00
4	C	117.18	117.10
5	C	127.76	127.70
6	CH	133.62	133.60
7	CH	118.15	118.10
8	C	168.69	168.70
9	C	42.73	42.70
10	C	164.72	164.70
11	CH <sub>2</sub>	33.80	33.80
12	CH <sub>2</sub>	29.96	29.90
13	C	40.64	40.60
14	C	44.66	44.60
15	CH <sub>2</sub>	28.53	28.50
16	CH <sub>2</sub>	35.52	35.50
17	C	38.20	38.20
18	CH	43.55	43.50
19	CH <sub>2</sub>	32.08	32.00
20	CH	41.92	41.80
21	C	213.58	213.60
22	CH <sub>2</sub>	52.56	52.50
23	CH <sub>3</sub>	10.28	10.20
25	CH <sub>3</sub>	39.07	39.00
26	CH <sub>3</sub>	21.57	21.50
27	CH <sub>3</sub>	19.73	19.70
28	CH <sub>3</sub>	32.58	32.50
30	CH <sub>3</sub>	15.11	15.10

**Table 6S.** Comparison of  $^{13}\text{C}$  NMR data of compound **6** with literature for 6-oxo-tingenol

N°	Type of carbon	$\delta_{\text{C}}$ of compound <b>6</b>	$\delta_{\text{C}}$ ref. 24
1	CH	108.44	108.19
2	C	148.79	148.87
3	C	141.41	141.42
4	C	126.14	125.87
5	C	122.34	121.71
6	C=O	187.94	187.90
7	CH	126.05	125.53
8	C	170.85	171.02
9	C	40.34	40.07
10	C	151.25	150.99
11	CH <sub>2</sub>	35.56	35.23
12	CH <sub>2</sub>	30.26	29.93
13	C	40.00	39.75
14	C	44.34	44.02
15	CH <sub>2</sub>	28.45	28.14
16	CH <sub>2</sub>	32.10	31.81
17	C	38.36	38.18
18	CH	43.54	43.23
19	CH <sub>2</sub>	34.33	33.99
20	CH	42.02	41.74
21	C=O	214.69	215.08
22	CH <sub>2</sub>	52.67	52.35
23	CH <sub>3</sub>	13.74	13.23
25	CH <sub>3</sub>	38.57	38.09
26	CH <sub>3</sub>	20.77	20.40
27	CH <sub>3</sub>	19.71	19.30
28	CH <sub>3</sub>	32.60	32.12
30	CH <sub>3</sub>	15.08	14.55