Anti-inflammatory Butenolides from marine-deriverd *Streptomyces* sp 13G036

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Table S1: Comparison of Chemical Shifts in ^{13}C NMR data and Specific Rotation of Synthesized Butenolides with **4** and **7.**

No	synthetic 4*S*,10*S*,11*R*	synthetic 4*S*,10*R*,11*S*	4	synthetic 4*S*,10*S*,11*S*	synthetic 4*S*,10*R*,11*R*	7
1	173.19	173.19	173.13	173.17	173.15	173.20
2	121.55	121.54	121.59	121.58	121.57	121.60
3	126.30	156.30	156.22	156.26	156.23	156.20
4	83.41	83.41	83.39	83.39	83.38	83.40
5	33.16	33.15	33.19	33.17	33.16	33.21
6	24.97	24.95	24.97	24.97	24.97	25.00
7	29.60	29.60	29.63	29.61	29.60	29.65
8	26.99	26.98	27.01	27.13	27.12	27.16
9	32.35	32.34	32.36	32.42	32.42	32.48
10	39.99	39.97	40.01	39.69	39.67	39.73
11	71.72	71.70	71.74	71.33	71.31	71.34
12	19.51	19.49	19.54	20.27	20.26	20.32
13	14.58	14.57	14.61	14.11	14.11	14.15

	4*S*,10*S*,11*R*	4*S*,10*R*,11*S*	4	4*S*,10*S*,11*S*	4*S*,10*R*,11*R*	7
Specific rotation	+42.9	+70.9	+65.8	+33.6	+64.3	+35.6

Same symbol means same configurations.

Figure S1: The picture of *Streptomyces* sp 13G036.

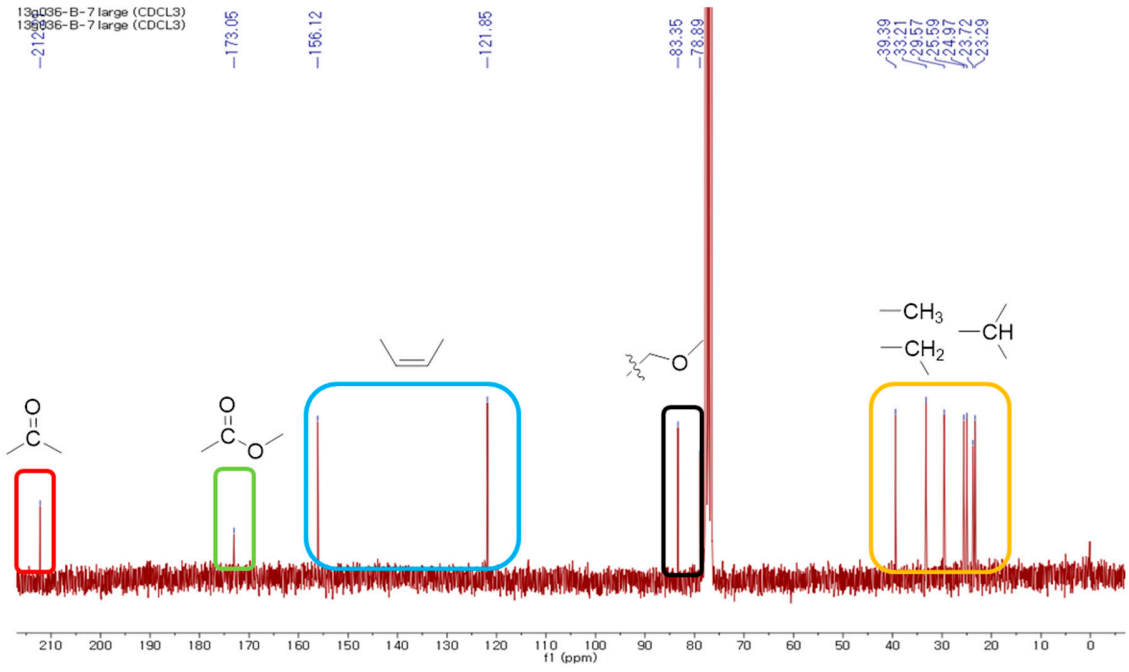

Figure S2: The assignment of functional group of compound **1**.

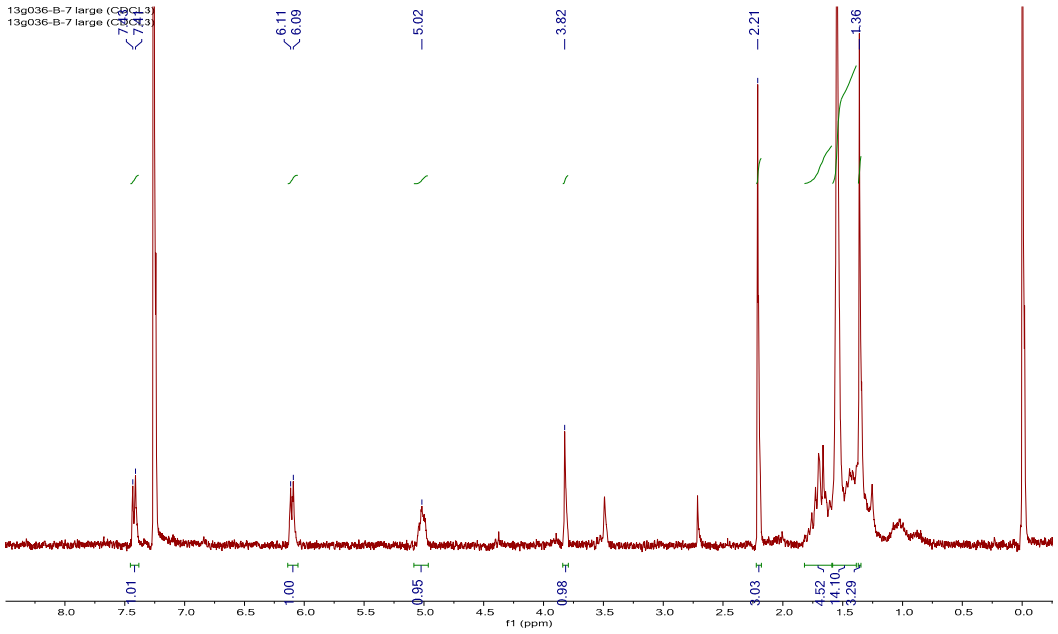

Figure S3: ^{1}H NMR Spectrum of Compound **1** ($CDCl_3$, 250 MHz)

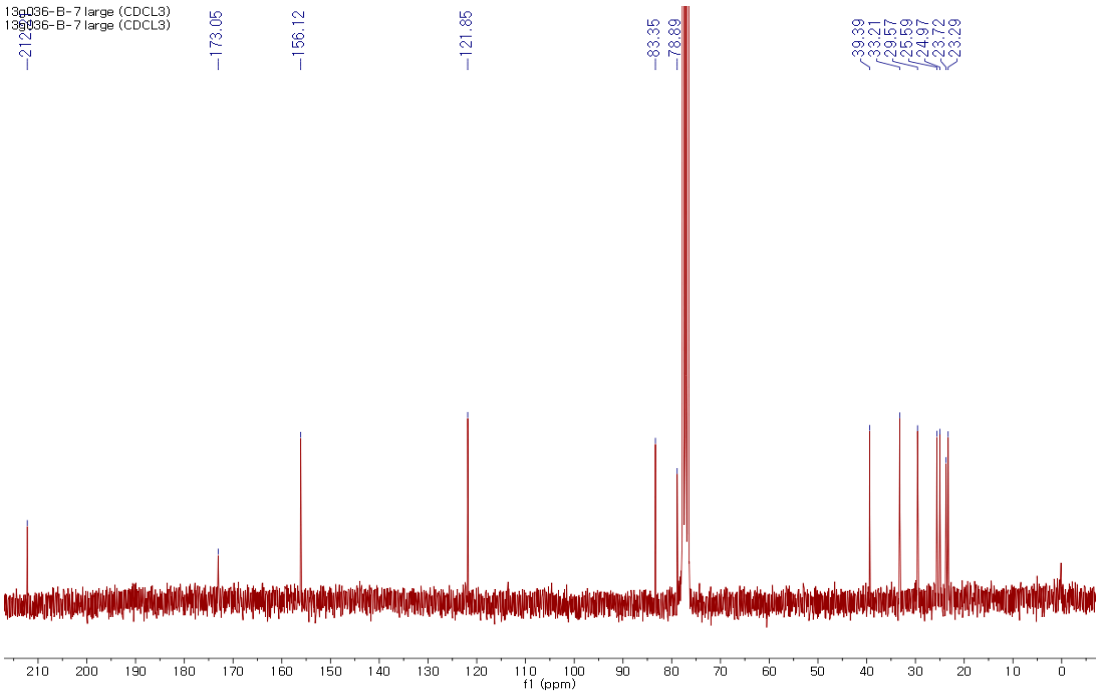

Figure S4: ^{13}C NMR Spectrum of Compound **1** ($CDCl_3$, 62.5 MHz)

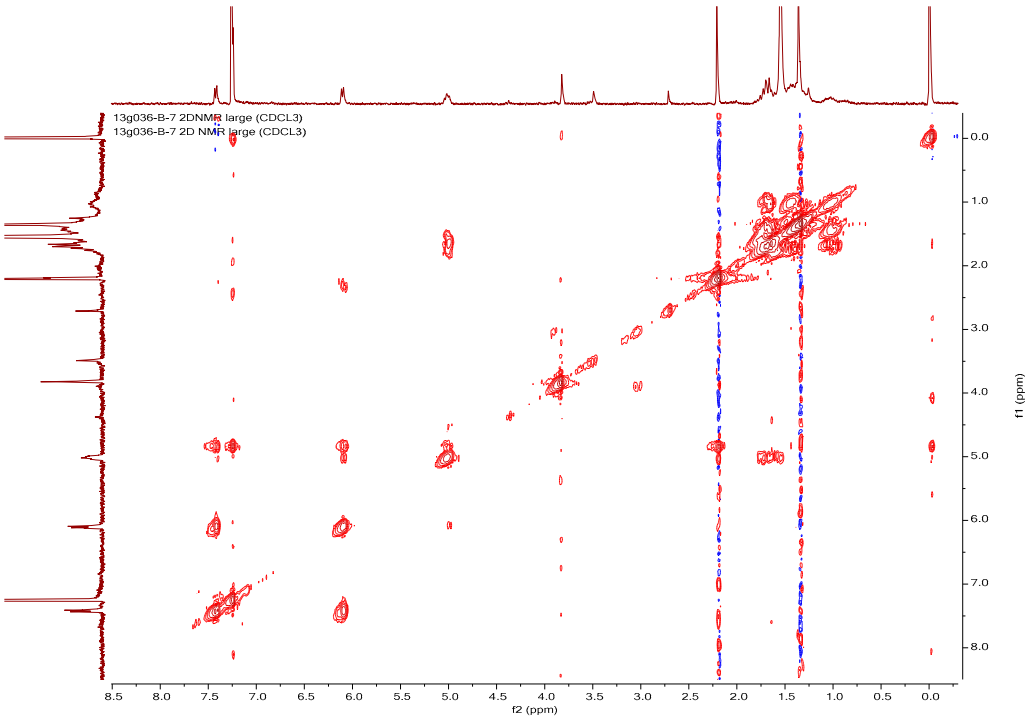

Figure S5: COSY Spectrum of Compound **1** ($CDCl_3$, 250 MHz)

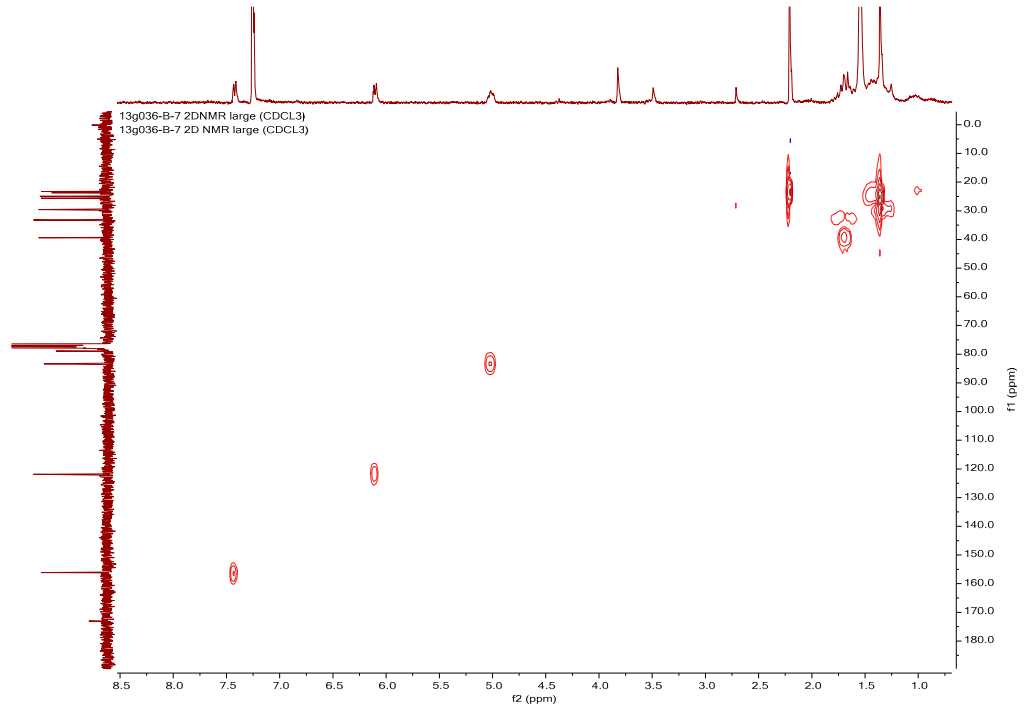

Figure S6: HMQC Spectrum of Compound **1** ($CDCl_3$, 250 MHz)

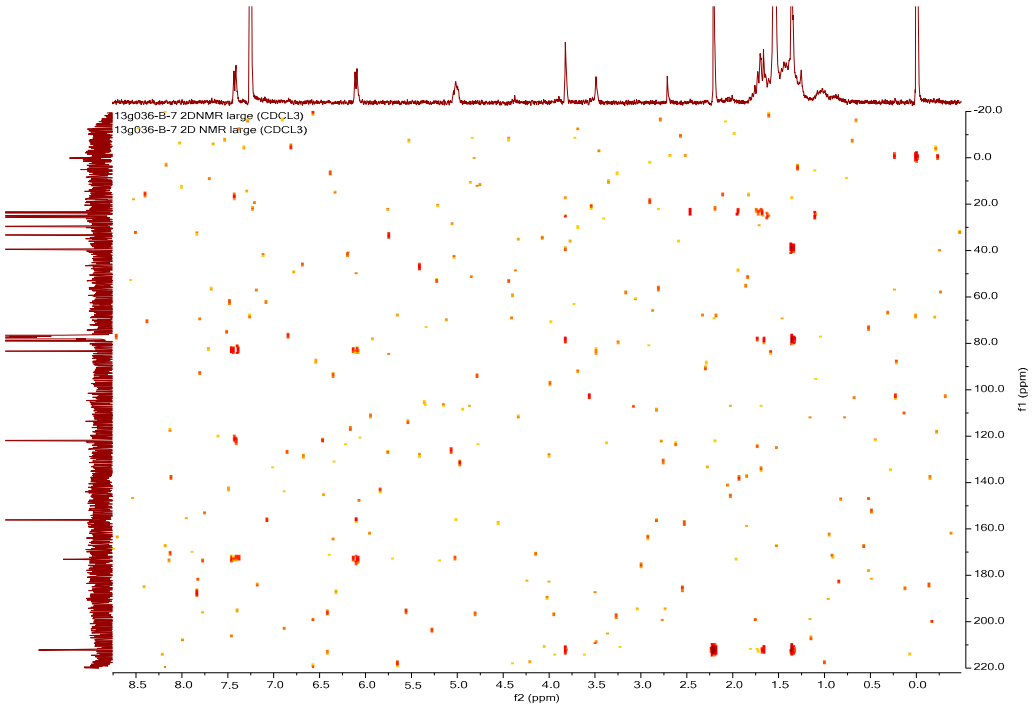

Figure S7: HMBC Spectrum of Compound **1** ($CDCl_3$, 250 MHz)

[Elemental Composition]
Data : FAB-R084 Date : 19-Jul-2018 11:23
Sample: 13G036-B-7
Note : m-NBA
Inlet : Direct Ion Mode : FAB+
RT : 0.18 min Scan#: (3,15)
Elements : C 100/0, H 100/0, N 10/0, O 10/0
Mass Tolerance : 20ppm, 5mmu if m/z < 250, 10mmu if m/z > 500
Unsaturation (U.S.) : -0.5 - 50.0

[Theoretical Ion Distribution]
Molecular Formula : C13 H21 O4
(m/z 241.1440, MW 241.3073, U.S. 3.5)
Base Peak : 241.1440, Averaged MW : 241.3050(a), 241.3058(w)

m/z	INT.	
241.1440	100.0000	**********
242.1473	14.6114	********
243.1496	1.7889	*
244.1522	0.1577	
245.1547	0.0114	
246.1572	0.0007	

Figure S8: HR-FAB-MS Data of Compound **1**

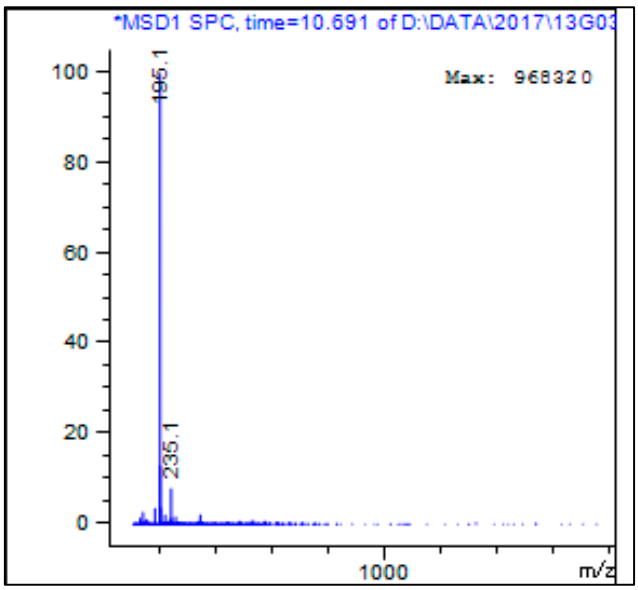

Figure S9: LR-ESI-MS Data of Compound **2**

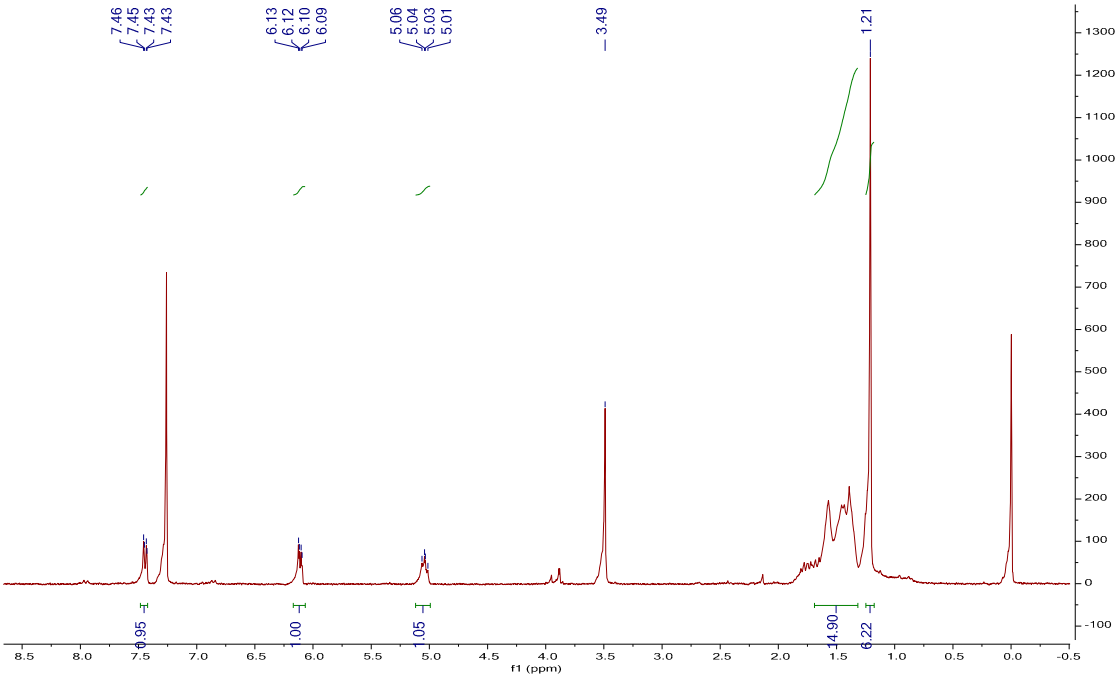

Figure S10: ^{1}H NMR Spectrum of Compound **2** ($CDCl_3$, 250 MHz)

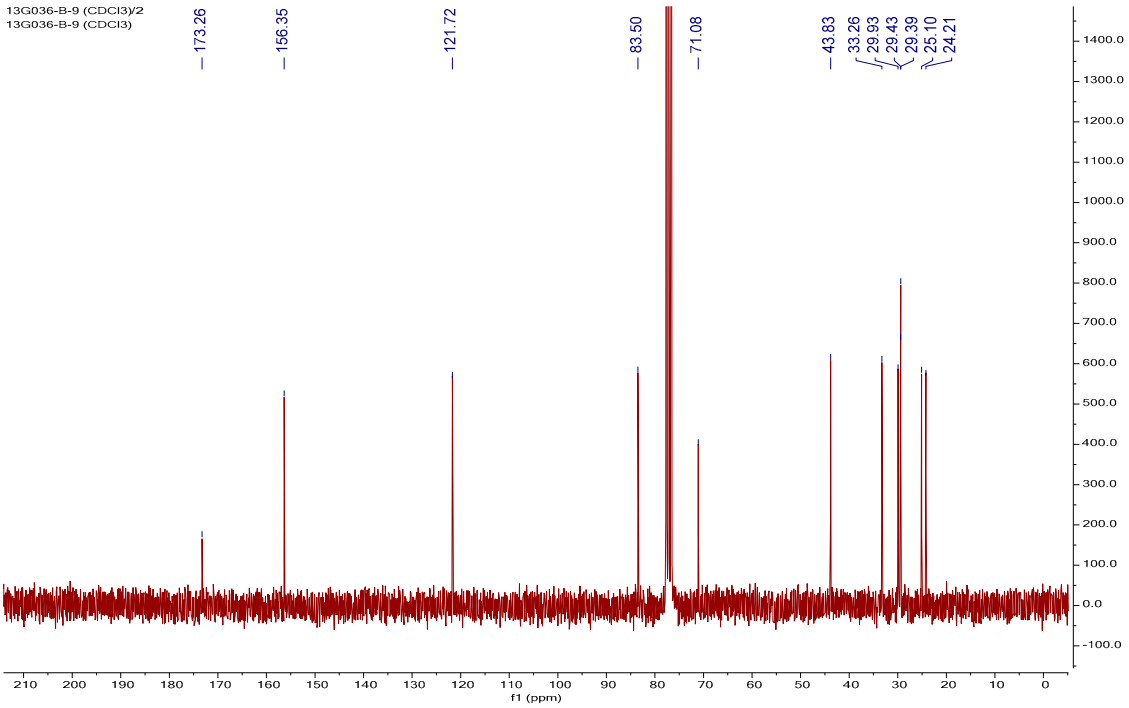

Figure S11: ^{13}C NMR Spectrum of Compound **2** ($CDCl_3$, 62.5 MHz)

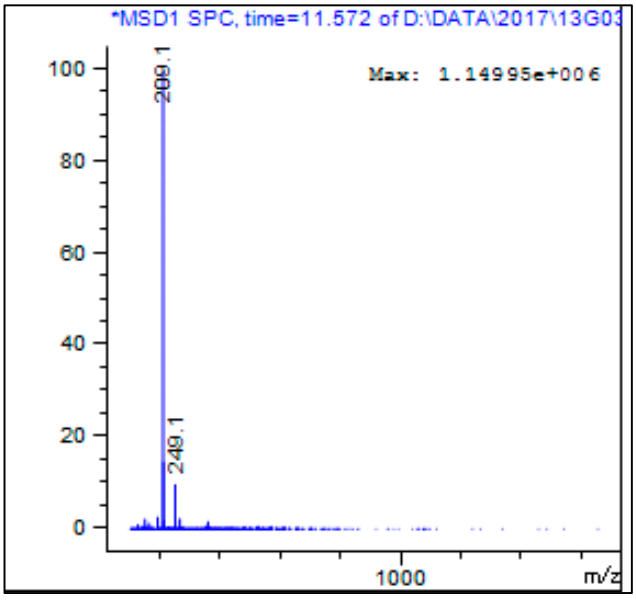

Figure S12: LR-ESI-MS Data of Compound **3**

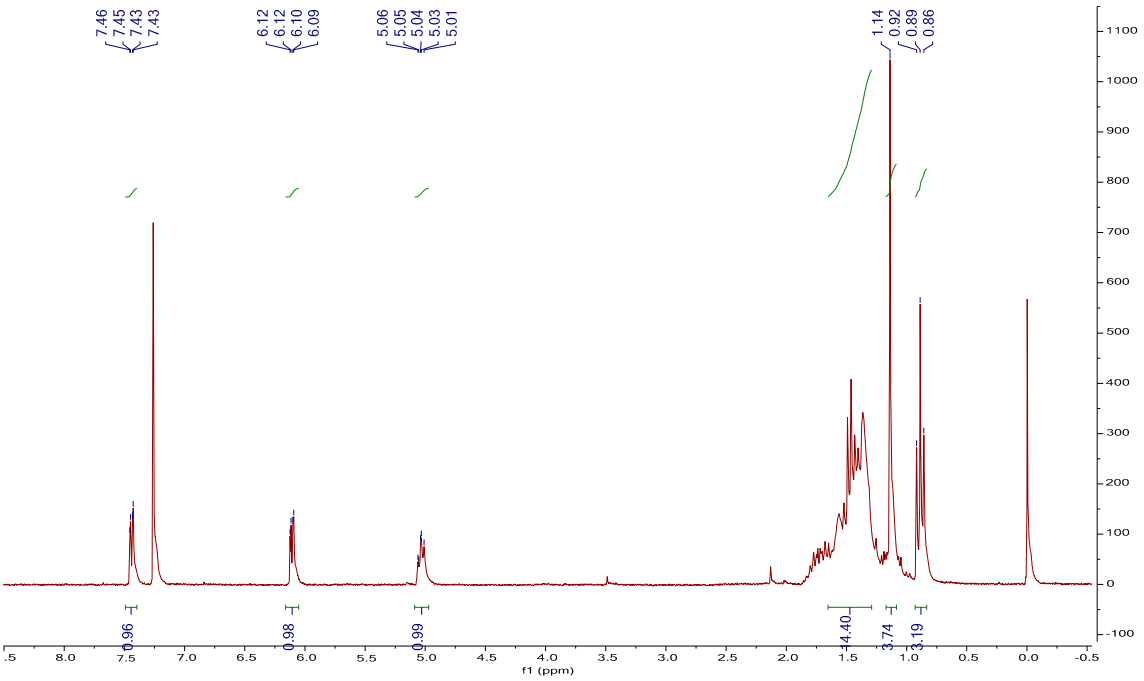

Figure S13: ^{1}H NMR Spectrum of Compound **3** ($CDCl_3$, 250 MHz)

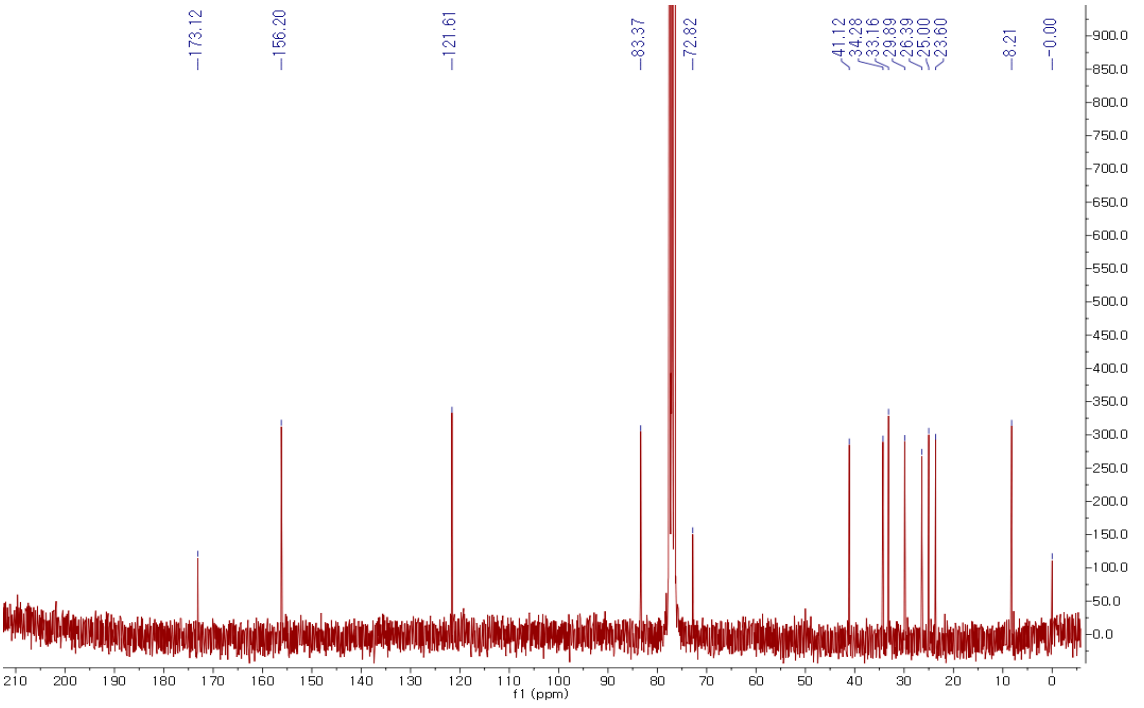

Figure S14: ^{13}C NMR Spectrum of Compound **3** ($CDCl_3$, 62.5 MHz)

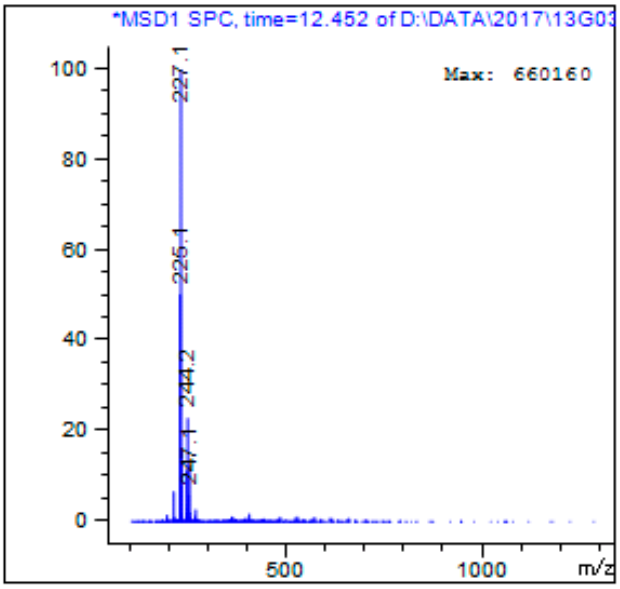

Figure S15: LR-ESI-MS Data of Compound **4**

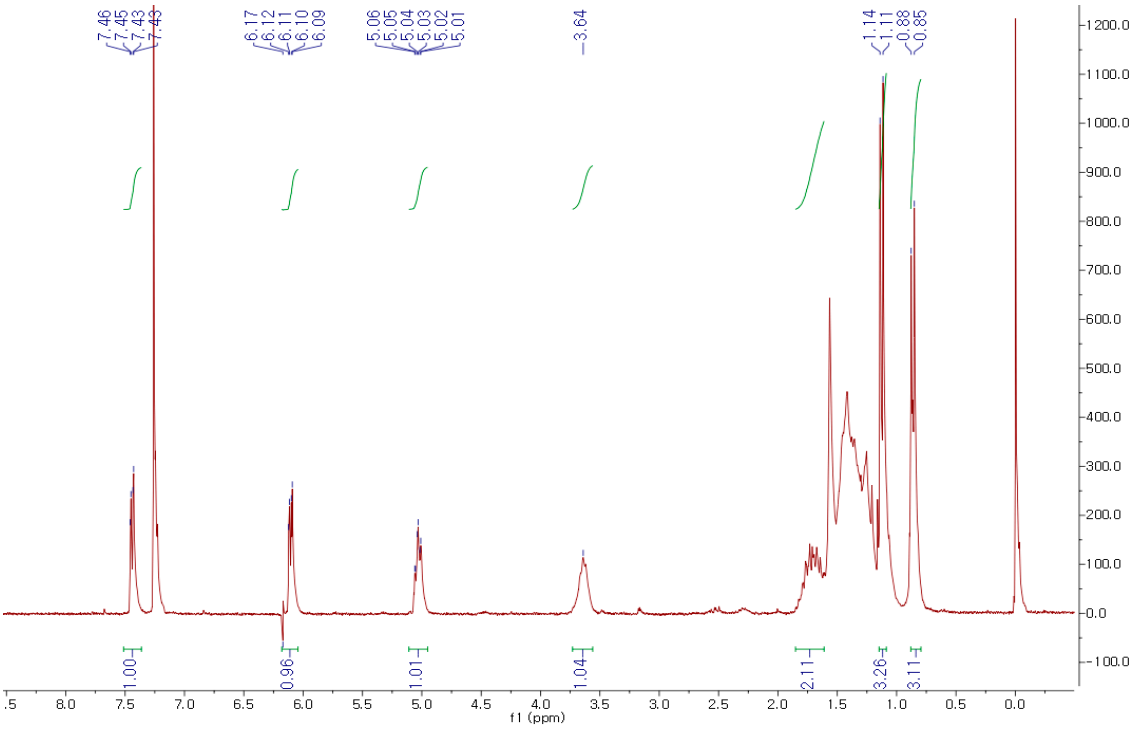

Figure S16: ^{1}H NMR Spectrum of Compound **4** ($CDCl_3$, 250 MHz)

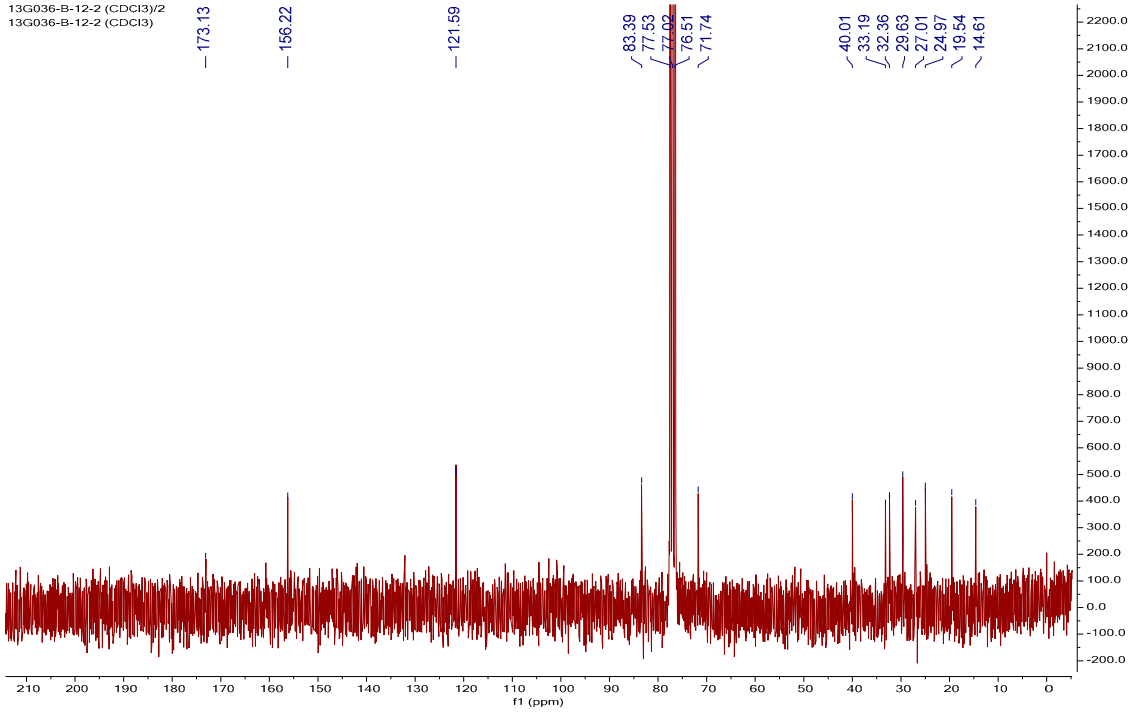

Figure S17: ^{13}C NMR Spectrum of Compound **4** ($CDCl_3$, 62.5 MHz)

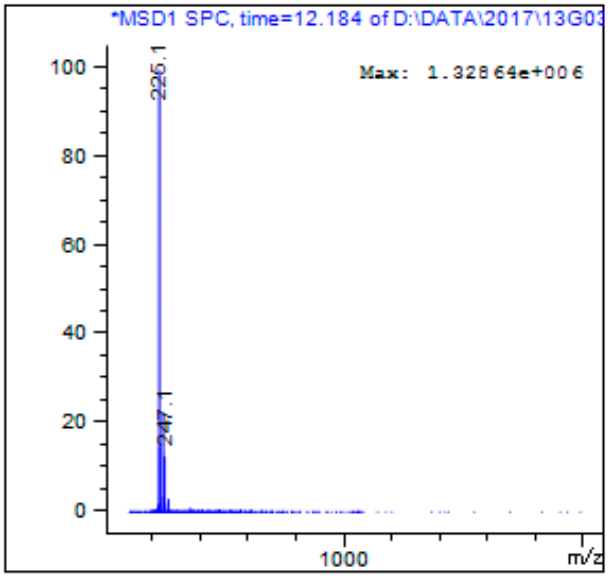

Figure S18: LR-ESI-MS Data of Compound **5**

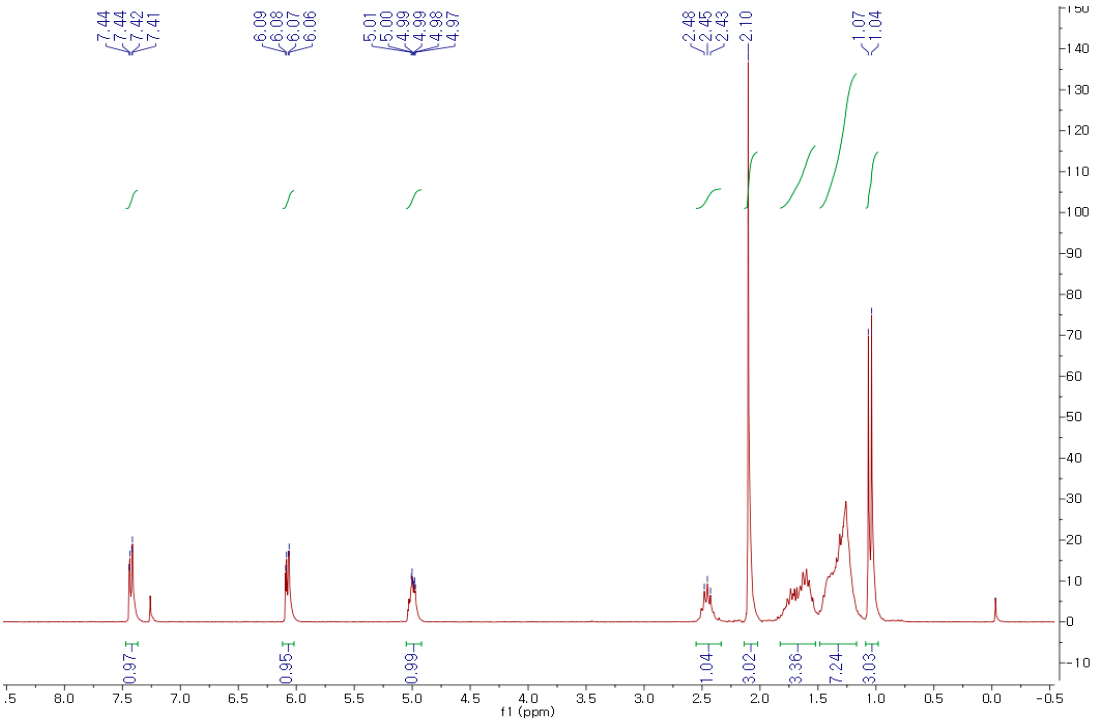

Figure S19: ^{1}H NMR Spectrum of Compound **5** ($CDCl_3$, 250 MHz)

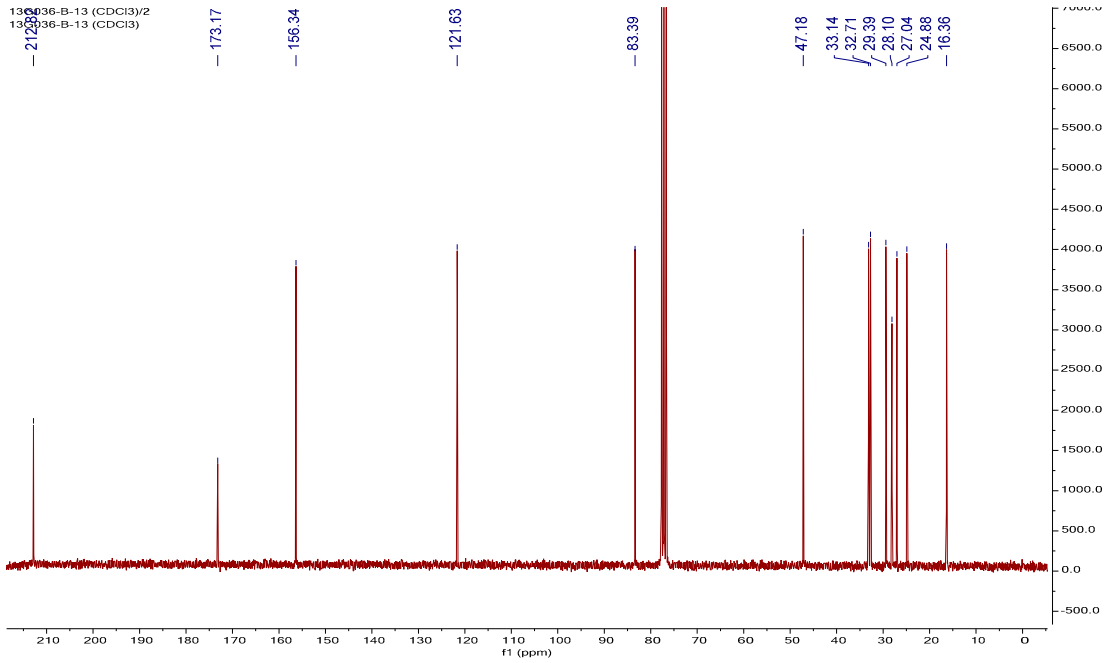

Figure S20: ^{13}C NMR Spectrum of Compound **5** ($CDCl_3$, 62.5 MHz)

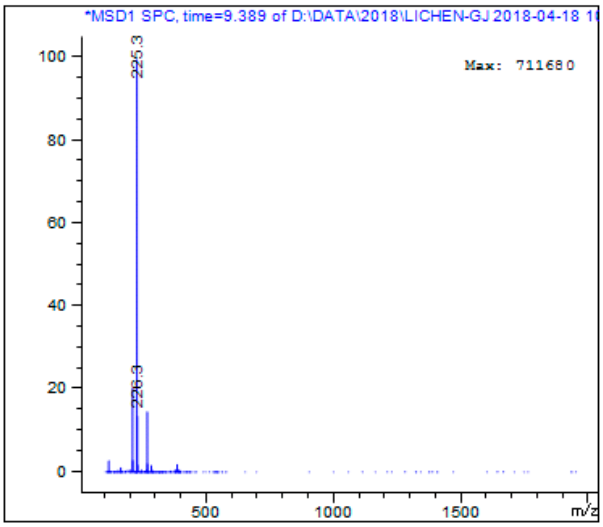

Figure S21: LR-ESI-MS Data of Compound **6**

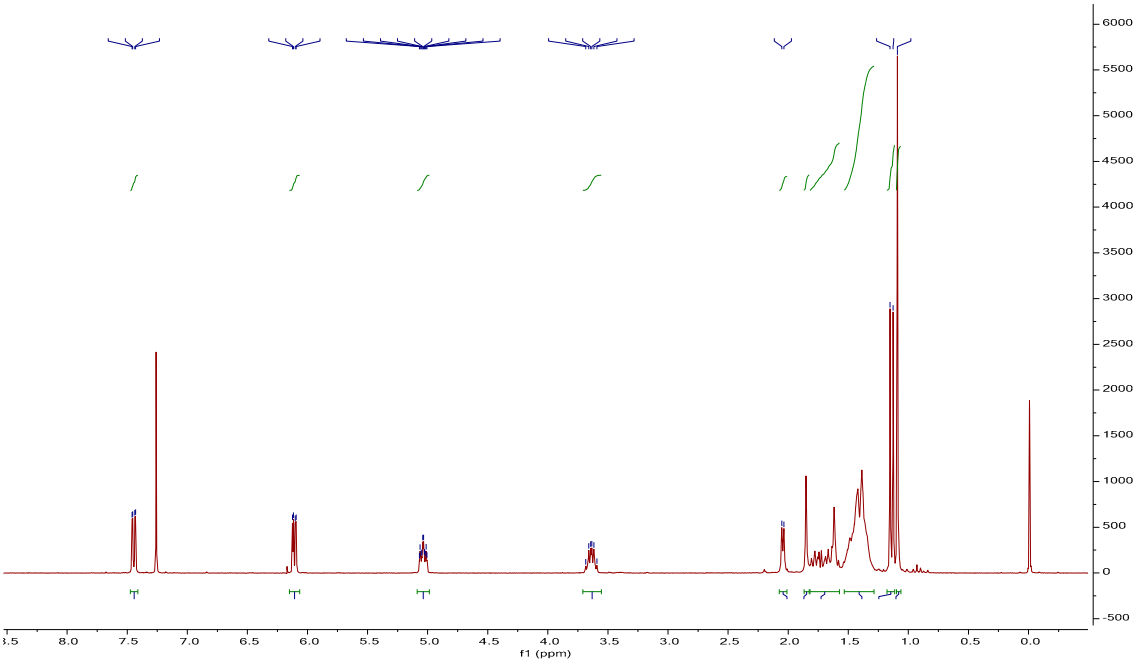

Figure S22: ^{1}H NMR Spectrum of Compound **6** ($CDCl_3$, 250 MHz)

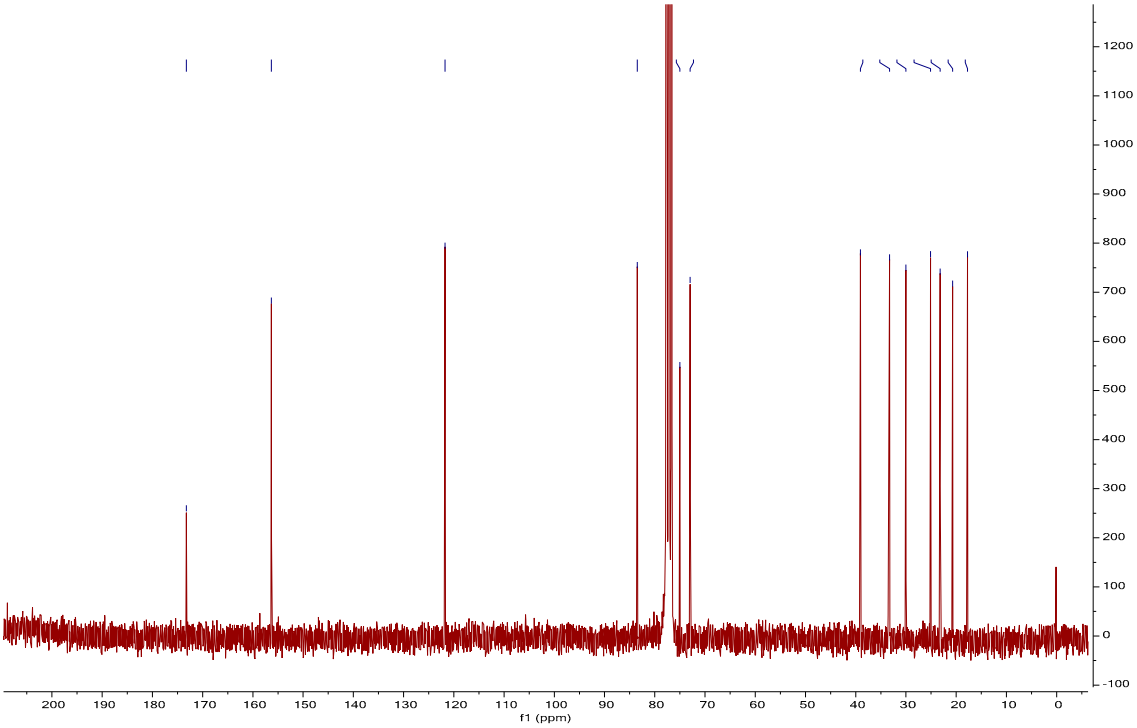

Figure S23: ^{13}C NMR Spectrum of Compound **6** ($CDCl_3$, 62.5 MHz)

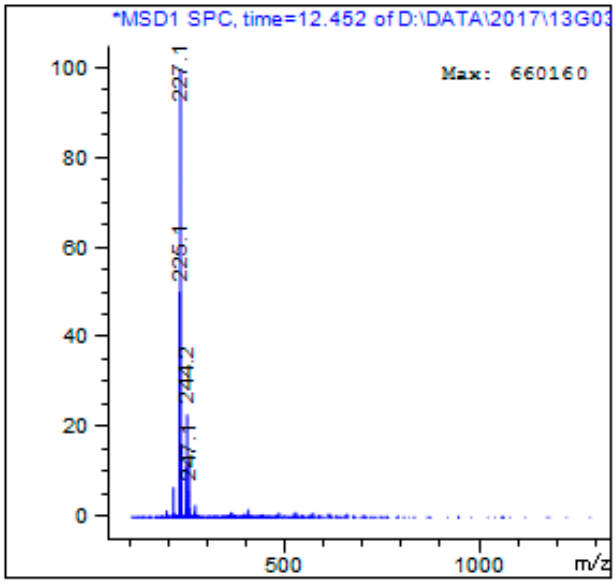

Figure S24: LR-ESI-MS data of Compound **7**

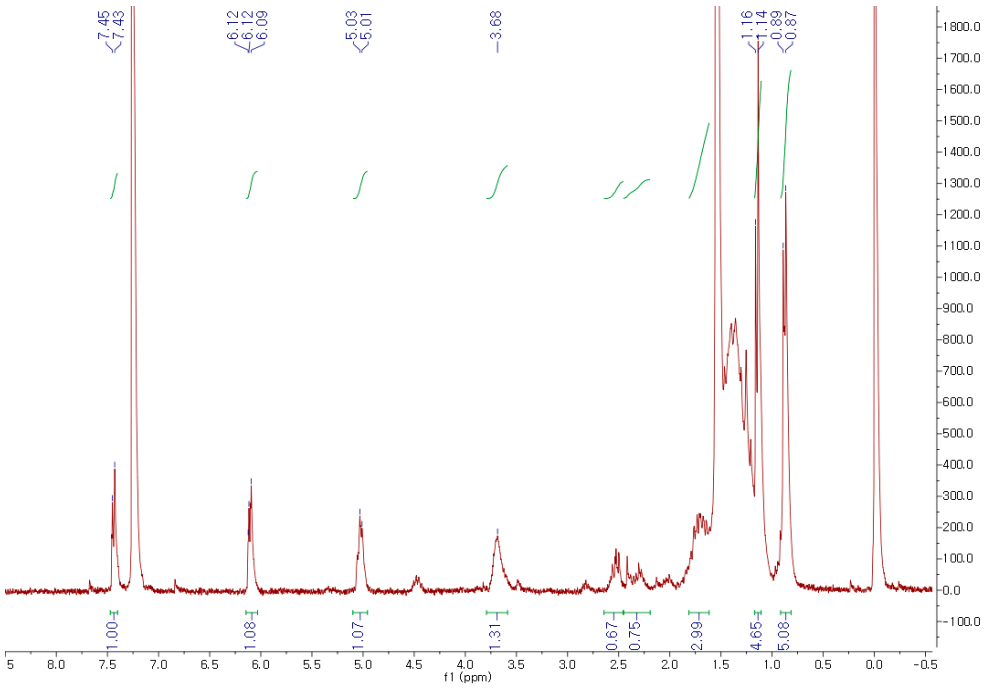

Figure S25: ^{1}H NMR Spectrum of Compound **7** ($CDCl_3$, 250 MHz)

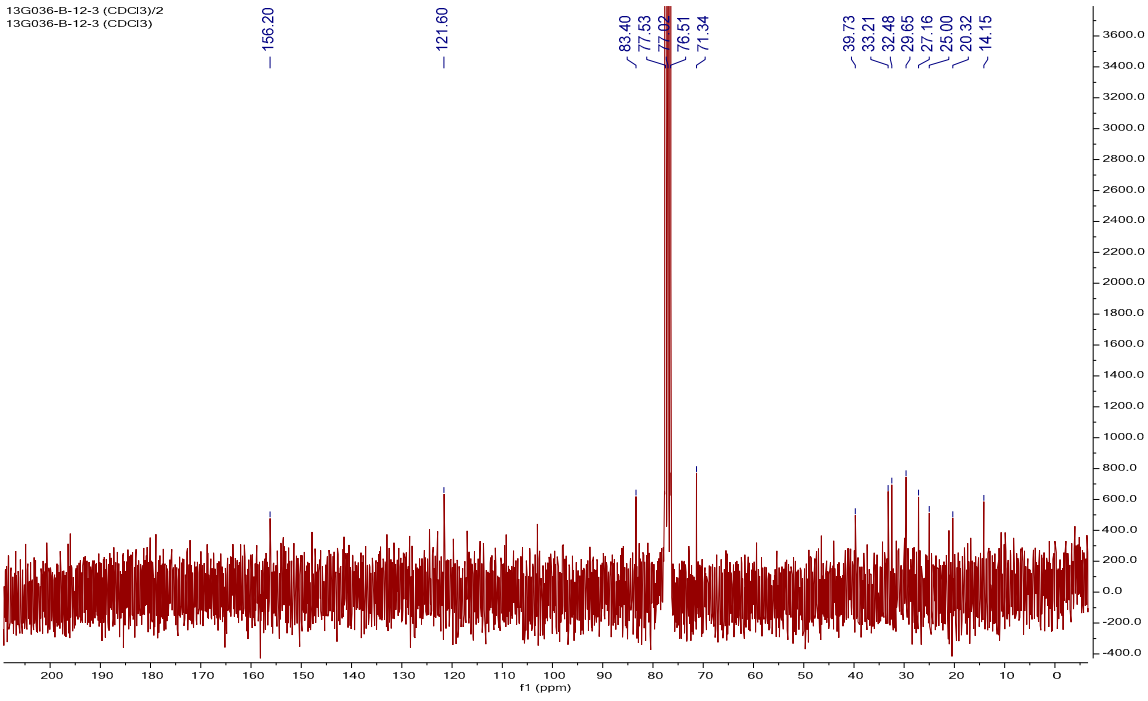

Figure S26: ^{13}C NMR Spectrum of Compound **7** ($CDCl_3$, 62.5 MHz)