Supporting Information

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Protective Effect of *Syzygium jambos* L. Leaf Extract and Its Constituents Against LPS-induced Oxidative Stress

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Table S1: List of primers and primer sequences.

No.	Gene name	Primer probes	Sequence
1	*iNOS*	Forward	5′- GGAGCCTTTAGACCTCAACAGA-3′
		Reverse	5′-AAGGTGAGCTGAACGAGGAG-3′
2	*COX-2*	Forward	5′-GATGCTCTTCCGAGCTGTG-3′
		Reverse	5′-GGATTGGAACAGCAAGGATTT-3′
3	*HO-1*	Forward	5′-AGGGTCAGGTGTCCAGAGAA-3′
		Reverse	5′-CTTCCAGGGCCGTGTAGATA-3′
4	*β-actin*	Forward	5′-CCTGAGCGCAAGTACTCTGTGT-3′
		Reverse	5′-GCTGATCCACATCTGCTGGAA-3′

iNOS; inducible nitric oxide synthase, *COX-2;* c*yclooxygenase-2*, *HO-1; heme oxygenase-1*

1. Supplementary spectroscopic data of compound 1

Table S2: The comparison of NMR data of compound **1** with a similar compound (Gallic acid).

Position	Compound 1 (CD_3OD)		Gallic acid (DMSO-d_6) [1]	
	^{13}C-NMR (150 MHz) δ_C ppm	**^{1}H-NMR** (600 MHz) δ_H ppm	**^{13}C-NMR** (75 MHz) δ_C ppm	**^{1}H-NMR** (300 MHz) δ_H ppm
1	122.0	-	121.0	-
2, 6	110.3	7.08 (2H, s)	109.0	6.91 (2H, s)
3, 5	146.4	-	145.9	-
4	139.6	-	138.3	-
7	170.4	-	168.0	-

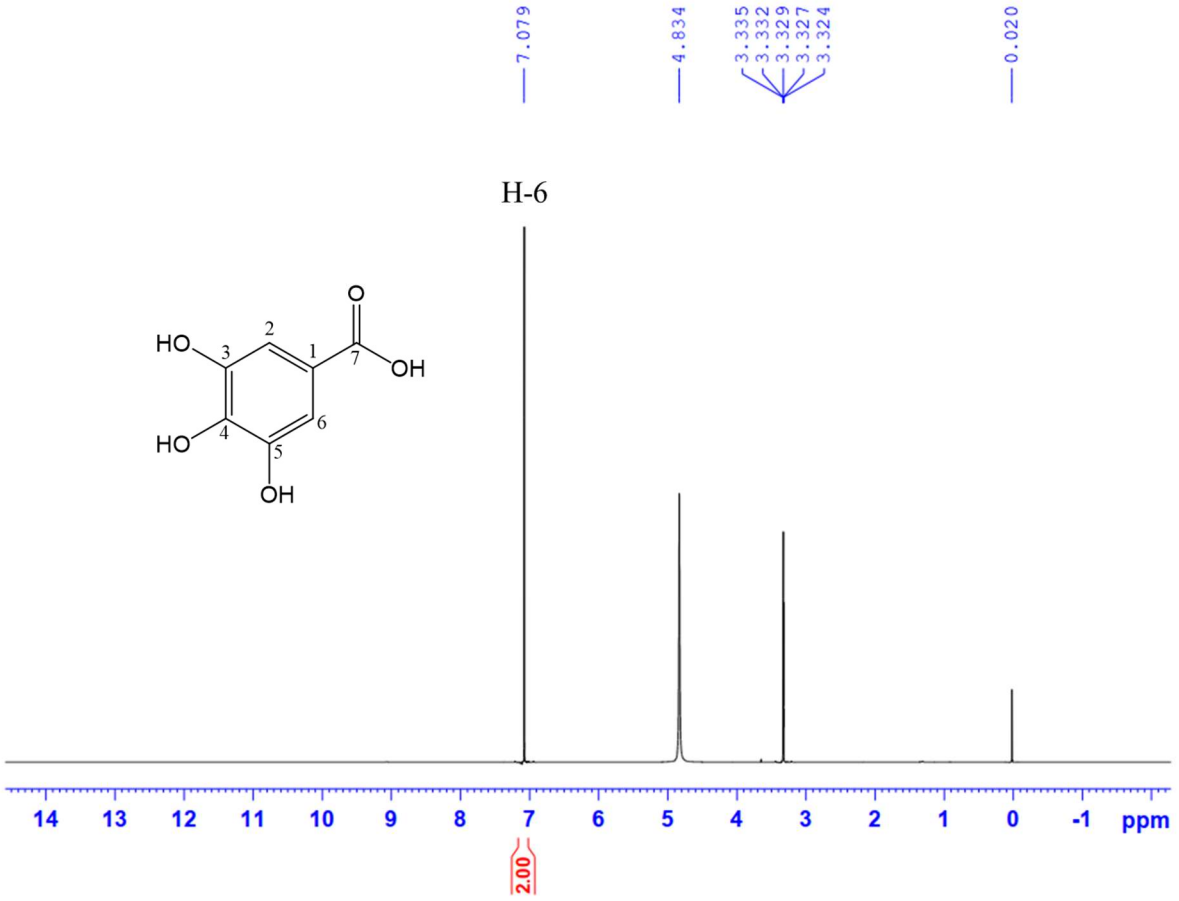

Figure S1: Complete assignment ^{1}H-NMR spectrum of compound **1**

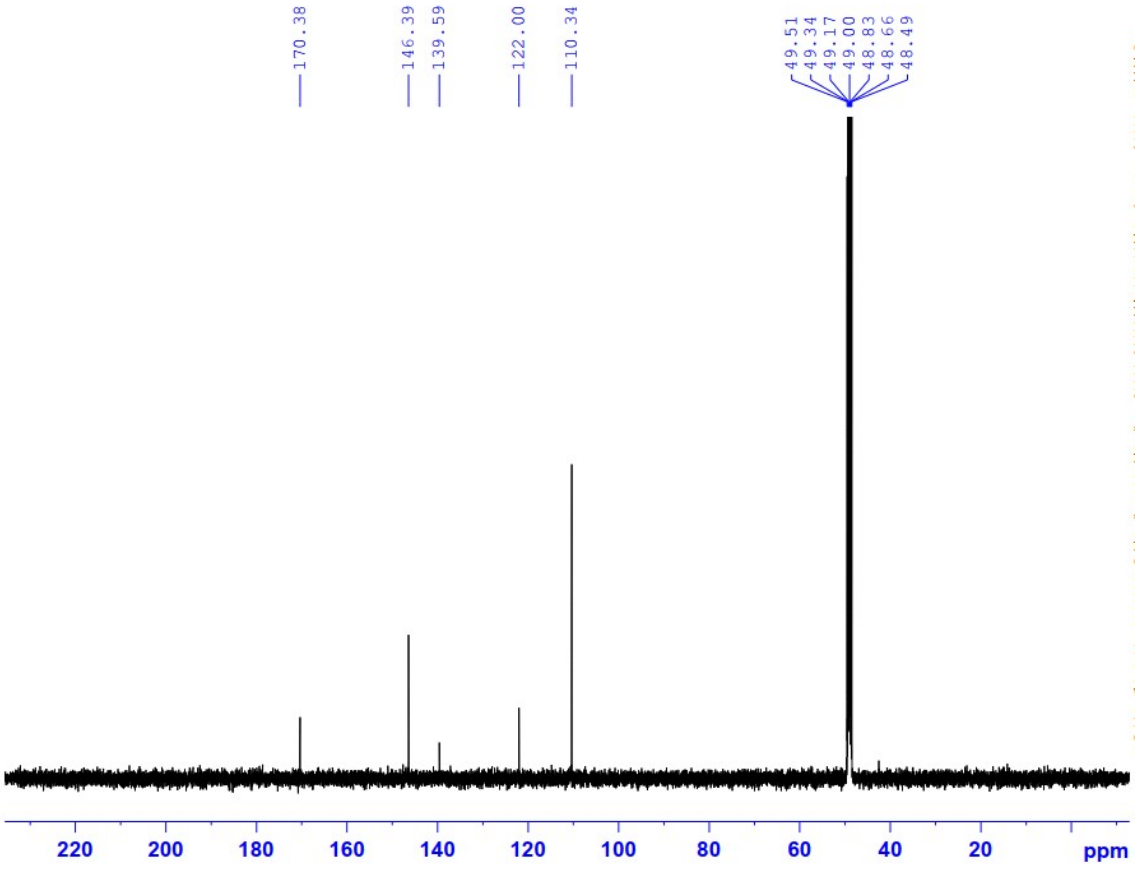

Figure S2: Complete assignment ^{13}C-NMR spectrum of compound **1**

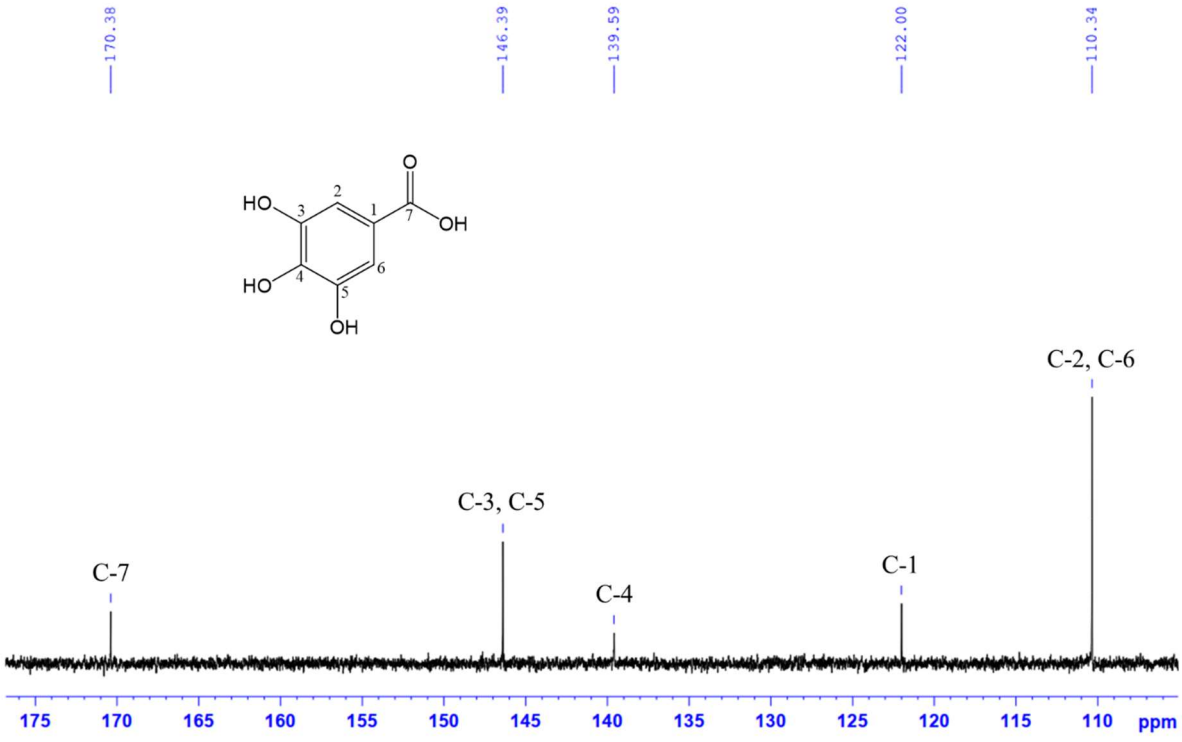

Figure S3: Expanded ^{13}C-NMR spectrum of compound **1**

2. Supplementary spectroscopic data of compound 2.

Table S3: The comparison of NMR data of compound 2 with a similar compound (Quercetin).

Position	Compound 2 (Acetone-d_6)		Quercetin (DMSO-d_6) [2]	
	^{13}C-NMR (150 MHz) δ_C ppm	**^{1}H-NMR** (600 MHz) δ_H ppm	**^{13}C-NMR** (125 MHz) δ_C ppm	**^{1}H-NMR** (500 MHz) δ_H ppm
2	148.4	-	147.9	-
3	136.7	-	135.9	-
4	176.6	-	176.0	-
5	162.3	-	160.9	-
6	99.2	6.26 (1H, d, 1.8 Hz)	98.4	6.17 (1H, d, 2.0 Hz)
7	165.1	-	164.1	-
8	94.4	6.51 (1H, d, 1.8 Hz)	93.5	6.39 (1H, d, 2.0 Hz)
9	157.8	-	156.3	-
10	104.1	-	103.2	-
1'	123.7	-	122.1	-
2'	115.7	7.81 (1H, d, 1.8 Hz)	115.2	7.66 (1H, d, 2.0 Hz)
3'	145.9	-	145.2	-
4'	147.0	-	147.0	-
5'	116.2	6.98 (1H, d, 8.4 Hz)	115.8	6.87 (1H, d, 8.5 Hz)
6'	121.4	7.68 (1H, dd, 1.8, 8.4 Hz)	120.2	7.53 (1H, dd, 2.0, 8.0 Hz)

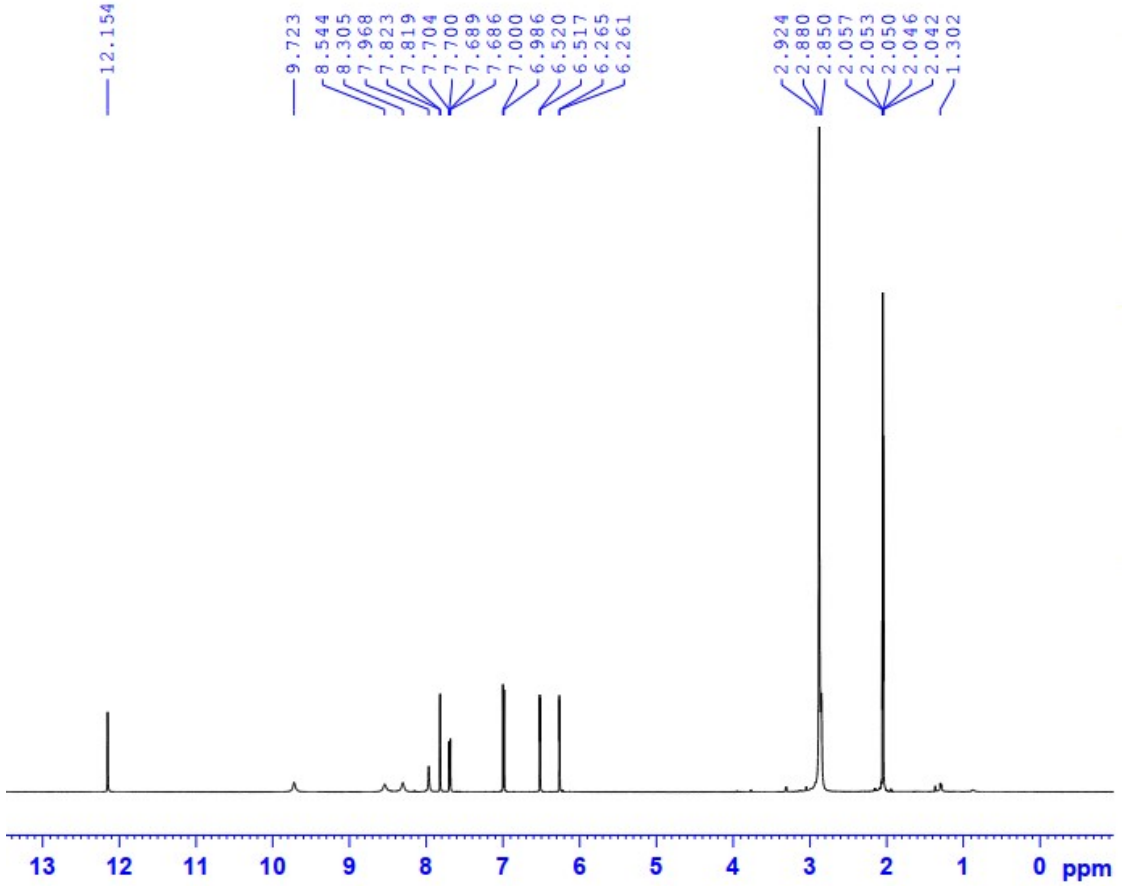

Figure S4: Complete assignment ^{1}H-NMR spectrum of compound **2**

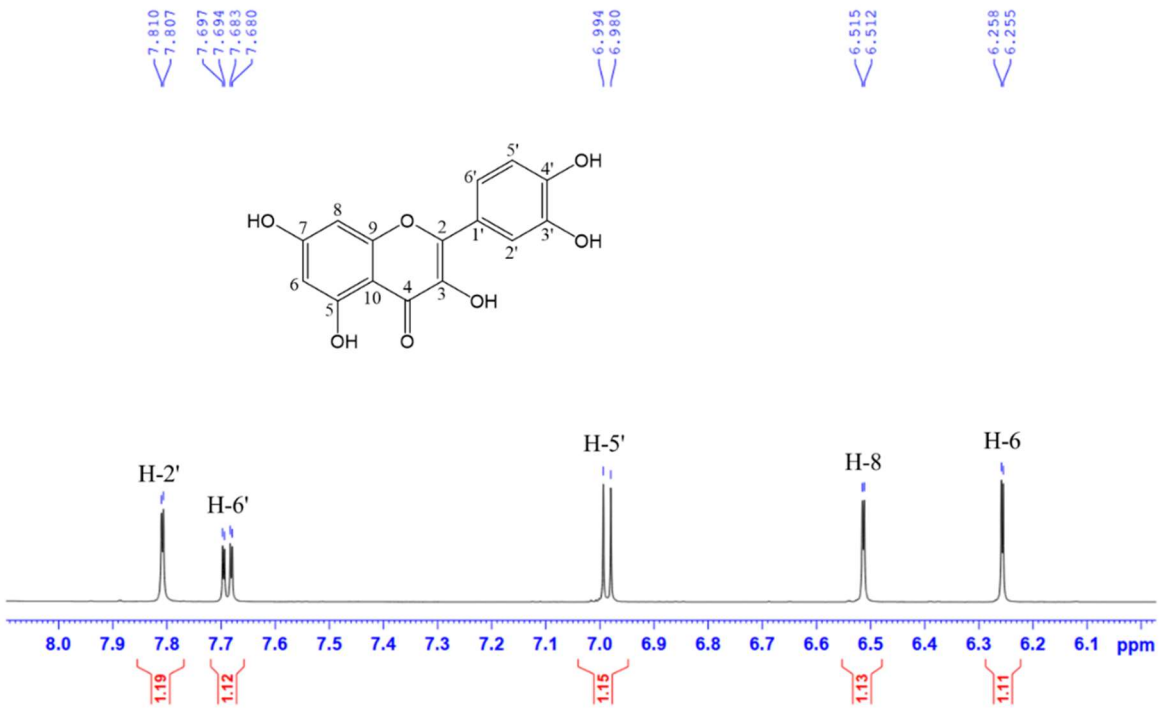

Figure S5: Expanded [1]H-NMR spectrum of compound **2**

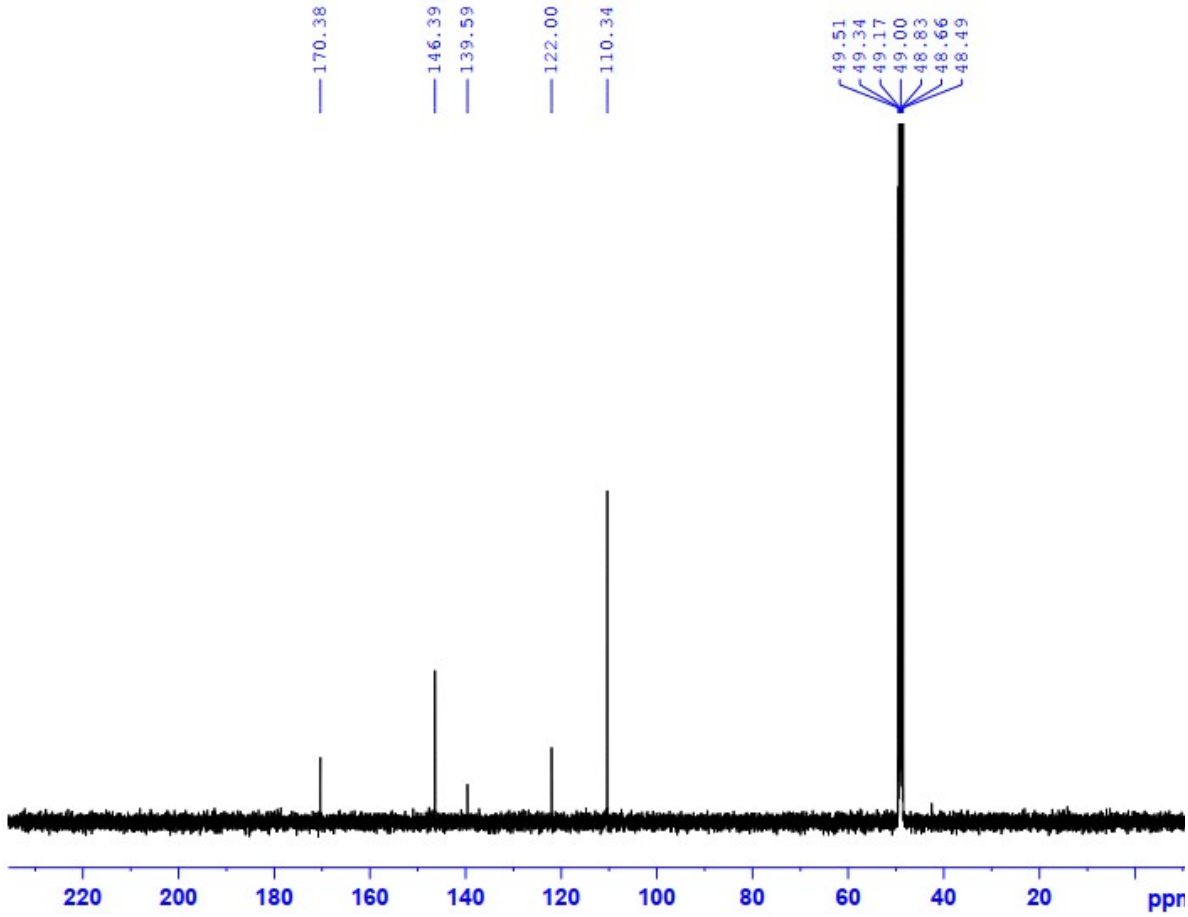

Figure S6: Complete assignment [13]C-NMR spectrum of compound **2**

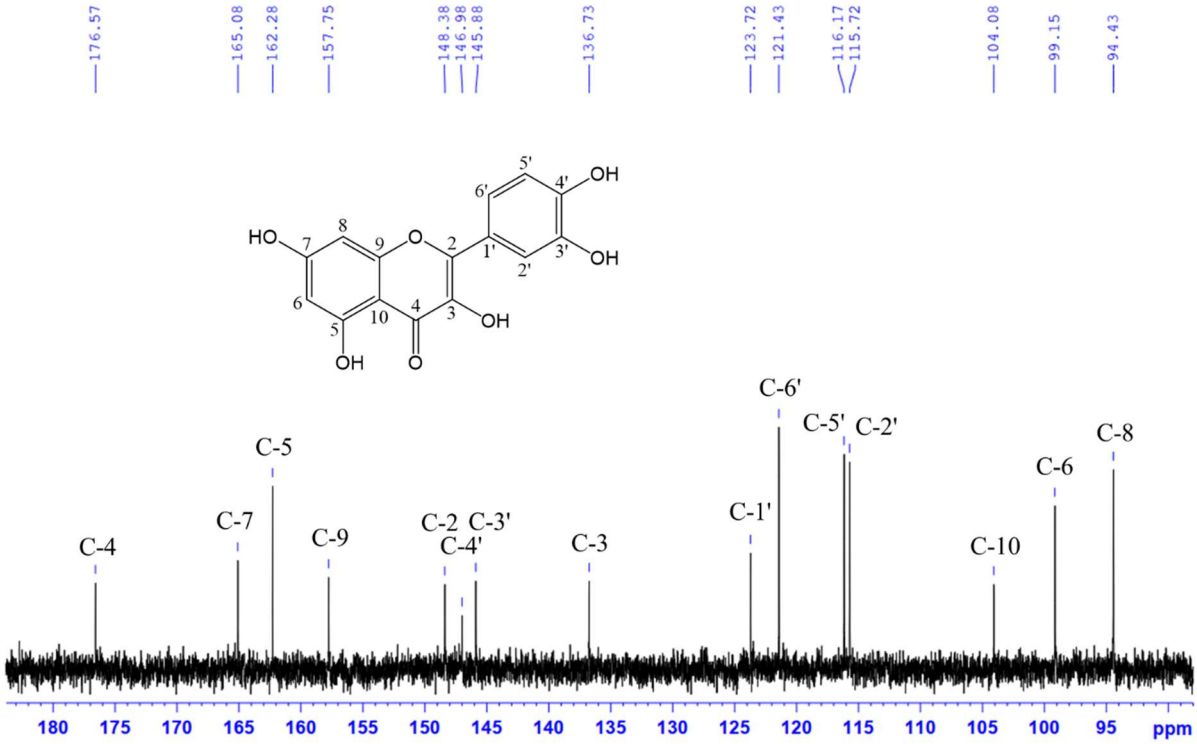

Figure S7: Expanded ^{13}C-NMR spectrum of compound **2**

3. Supplementary spectroscopic data of compound 3.

Table S4: The comparison of NMR data of compound 3 with a similar compound (Myricetin)

Position	Compound 3 (CD_3OD)		Myricetin (DMSO-d_6) [3]	
	^{13}C-NMR (150 MHz) δ_C ppm	**^{1}H-NMR** (600 MHz) δ_H ppm	**^{13}C-NMR** (150 MHz) δ_C ppm	**^{1}H-NMR** (600 MHz) δ_H ppm
2	148.0	-	146.8	-
3	136.9	-	135.9	-
4	177.3	-	175.7	-
5	162.5	-	160.7	-
6	99.2	6.20 (1H, d, 1.8 Hz)	98.2	6.18 (1H, d, 1.8 Hz)
7	165.6	-	164.1	-
8	94.4	6.40 (1H, d, 1.8 Hz)	93.2	6.37 (1H, d, 1.8 Hz)
9	158.2	-	156.1	-
10	104.5	-	102.9	-
1'	123.1	-	120.7	-
2', 6'	108.5	7.36 (1H, s)	107.1	7.24 (2H, s)
3', 5'	146.7	-	145.7	-
4'	137.3	-	135.8	-

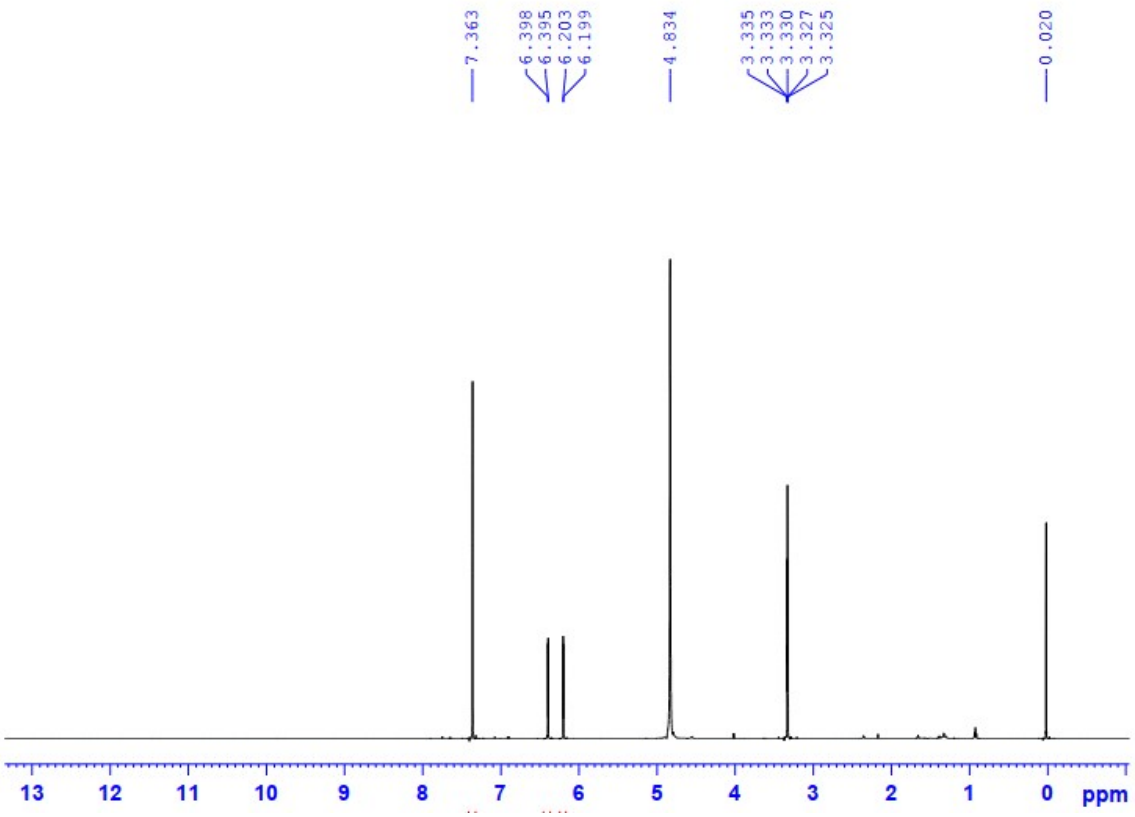

Figure S8: Complete assignment [1]H-NMR spectrum of compound 3

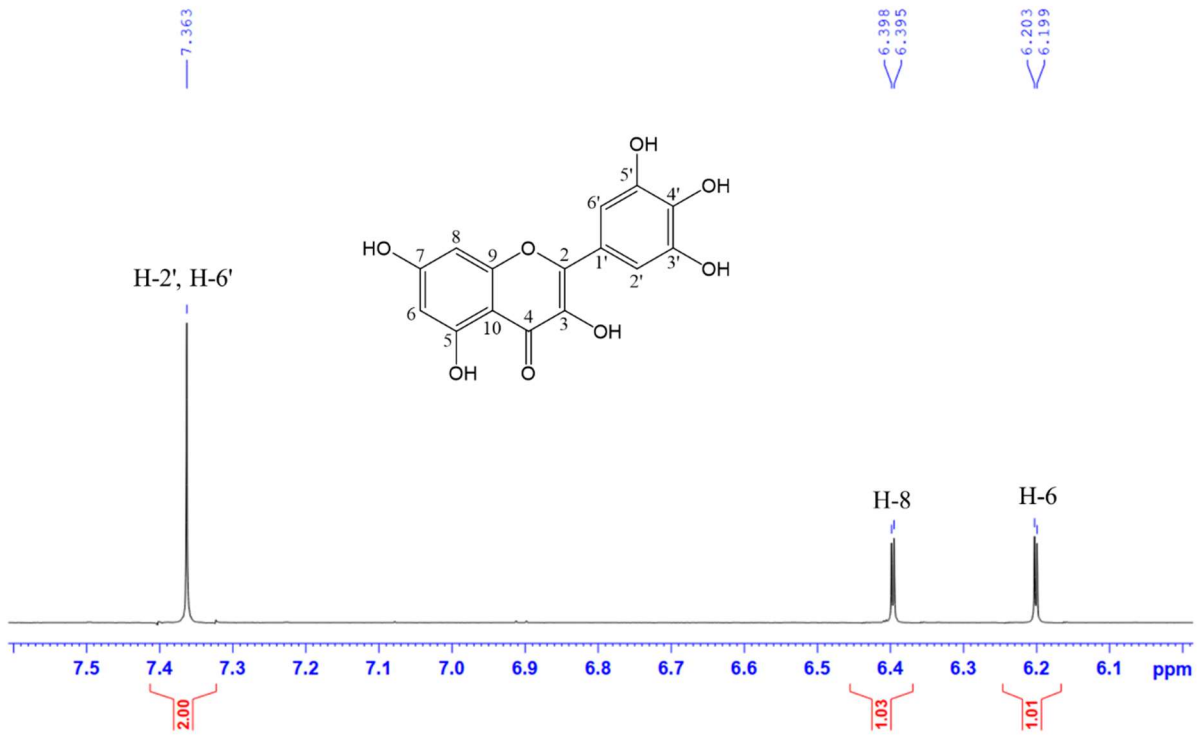

Figure S9: Expanded [1]H-NMR spectrum of compound **3**

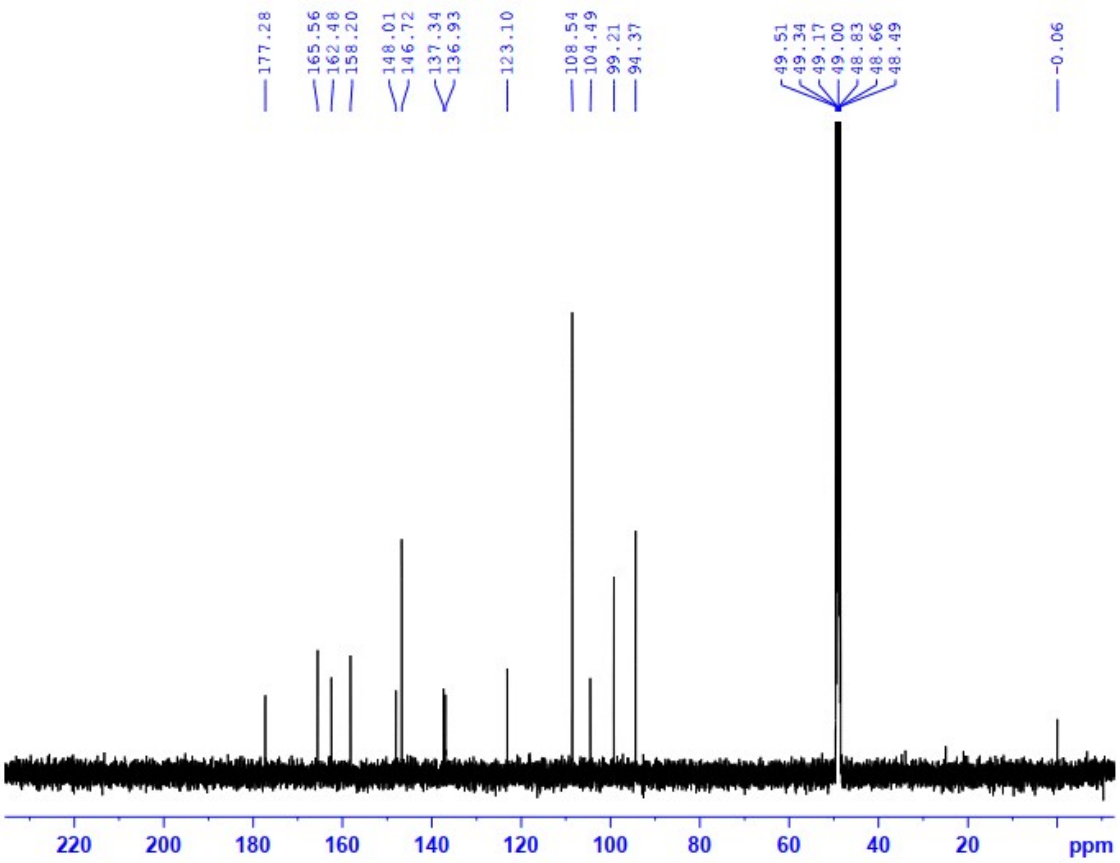

Figure S10: Complete assignment ^{13}C-NMR spectrum of compound **3**

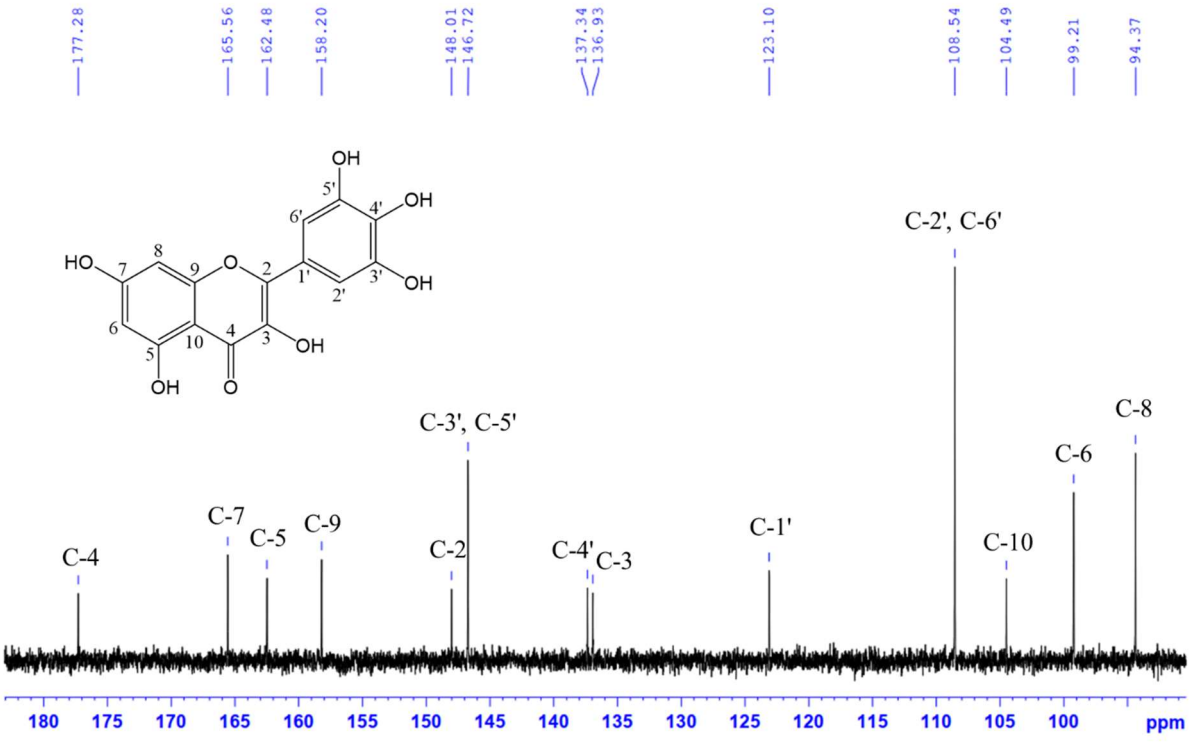

Figure S11: Expanded ^{13}C-NMR spectrum of compound **3**

4. Supplementary spectroscopic data of compound 4.

Table S5: The comparison of NMR data of compound **4** with a similar compound (Caffeic acid).

Position	Compound 3 (CD_3OD)		Caffeic acid (CD_3OD) [4]	
	^{13}C-NMR (150 MHz) δ_C ppm	**^{1}H-NMR** (600 MHz) δ_H ppm	**^{13}C-NMR** (125 MHz) δ_C ppm	**^{1}H-NMR** (500 MHz) δ_H ppm
1	127.8	-	128.3	-
2	115.1	7.05 (1H, d, 2.4 Hz)	115.7	7.07 (1H, d, 2.0 Hz)
3	147.0	-	147.2	-
4	149.5	-	149.8	-
5	116.5	6.79 (1H, d, 8.4 Hz)	117.0	6.81 (1H, d, 8.2 Hz)
6	122.8	6.94 (1H, dd, 2.4, 8.4 Hz)	123.4	6.95 (1H, dd, 8.2, 2.0 Hz)
7	146.8	7.54 (1H, d, 16.2 Hz)	147.6	7.55 (1H, d, 15.9 Hz)
8	115.6	6.22 (1H, d, 16.2 Hz)	116.0	6.24 (1H, d, 15.9 Hz)
9	171.0	-	171.6	-

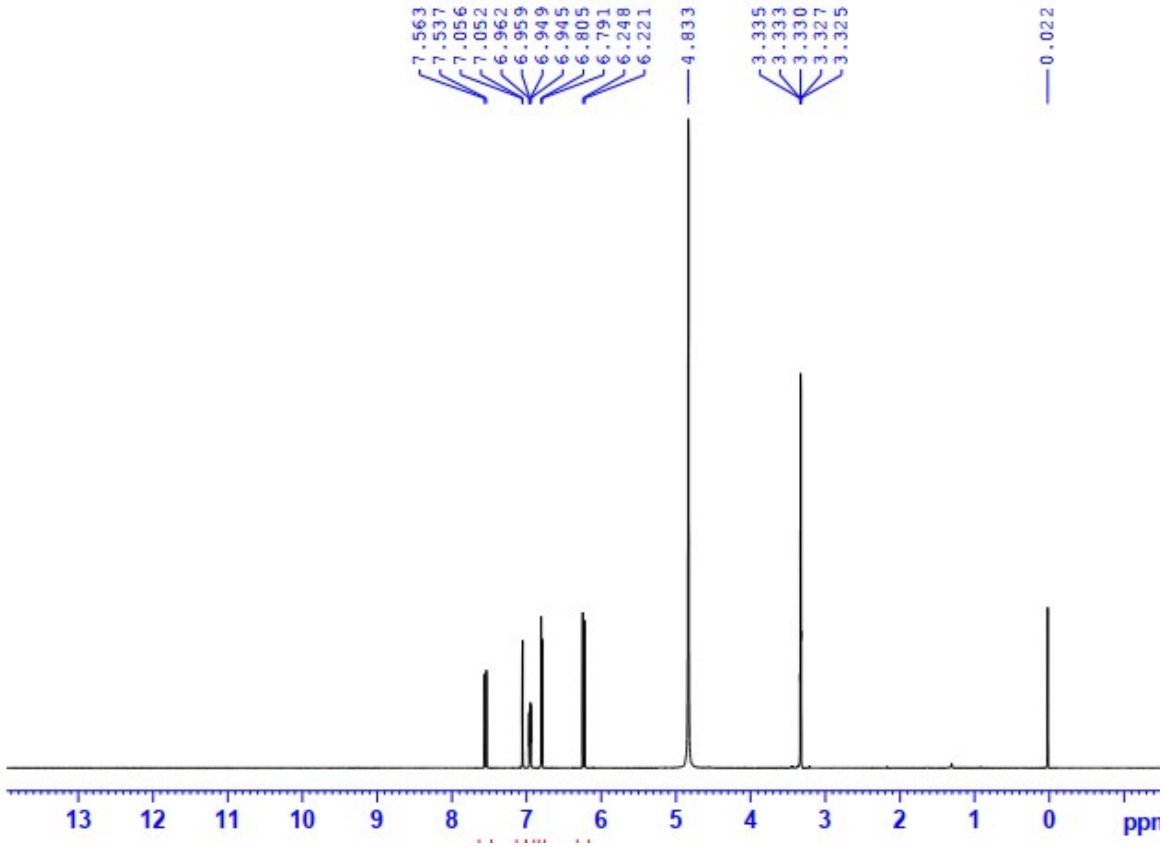

Figure S12: Complete assignment ^{1}H-NMR spectrum of compound **4**

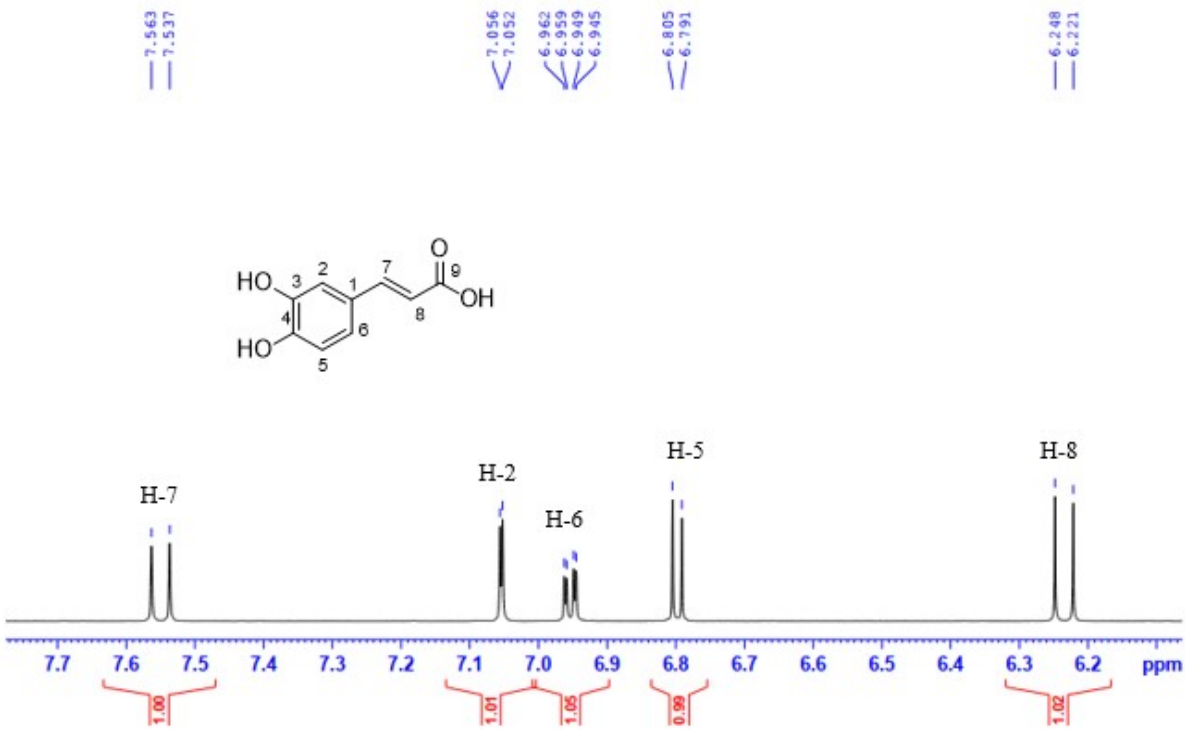

Figure S13: Expanded [1]H-NMR spectrum of compound **4**

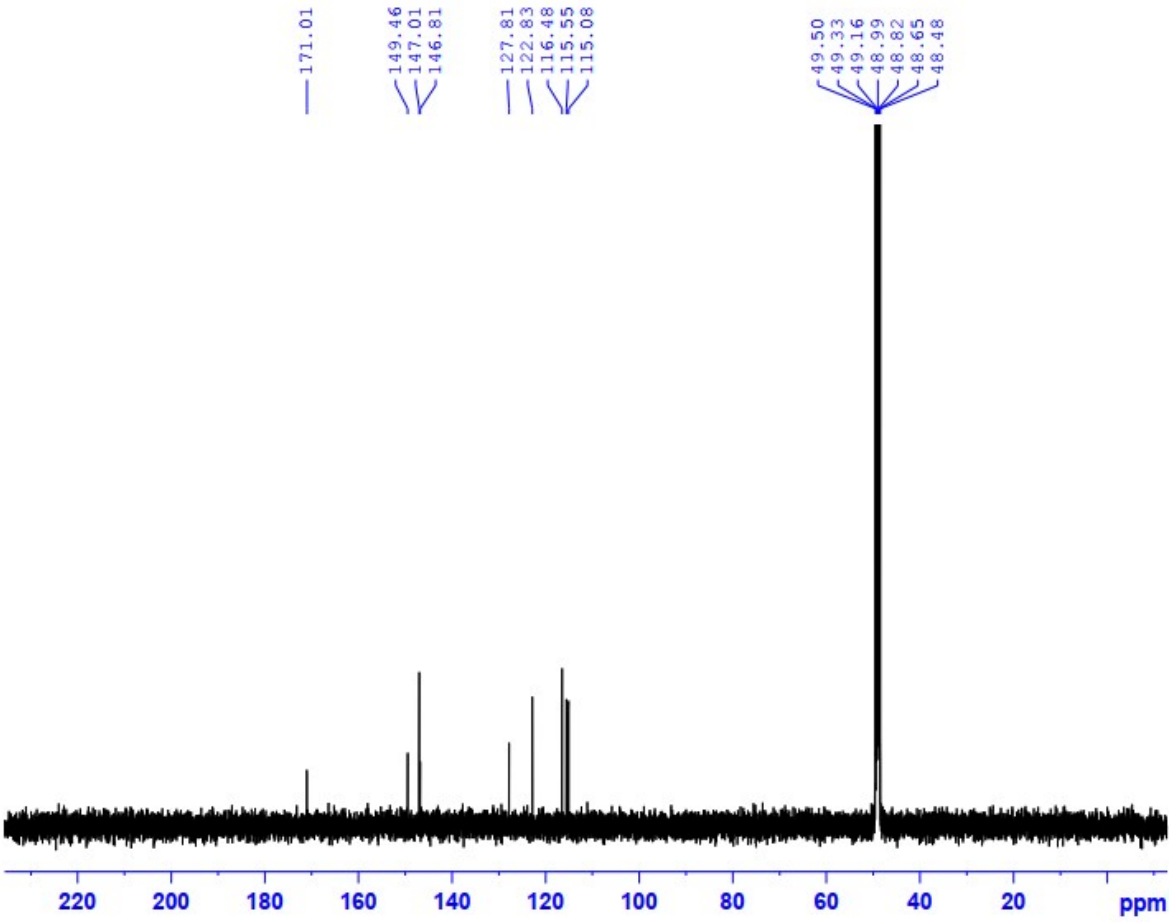

Figure S14: Complete assignment [13]C-NMR spectrum of compound **4**

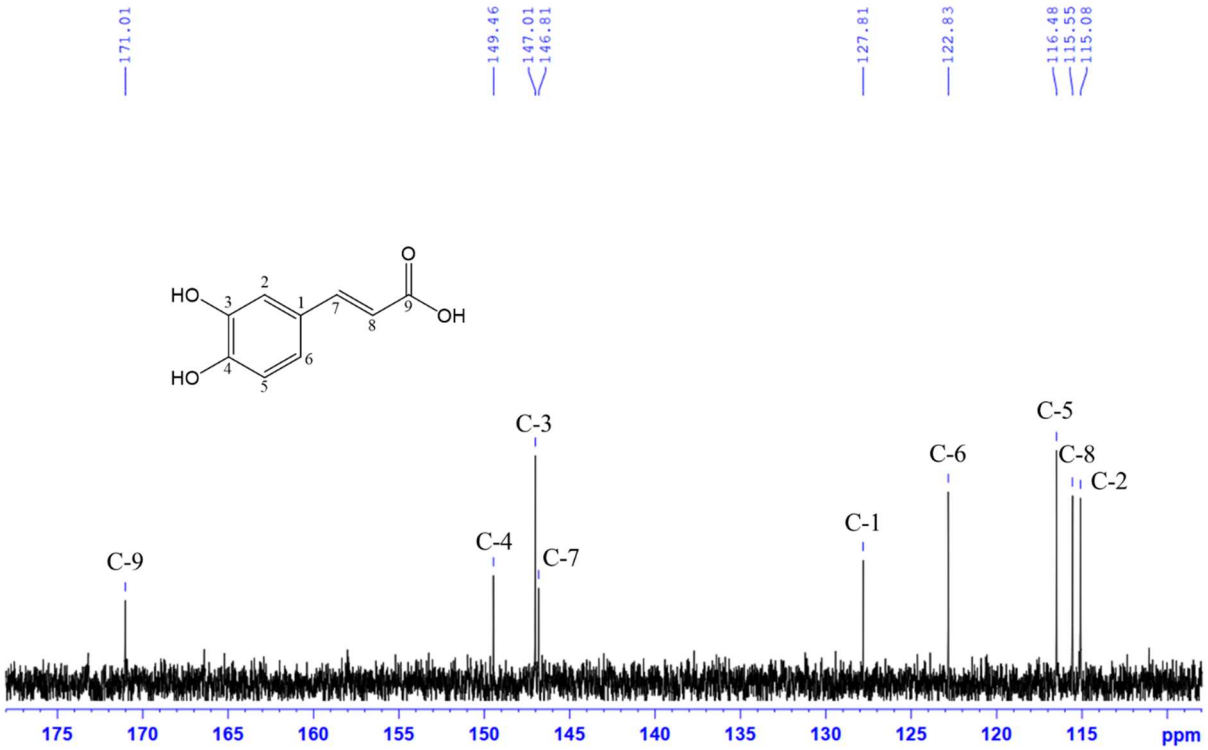

Figure S15: Expanded ^{13}C-NMR spectrum of compound **4**

References

[1] O. Eldahshan (2011). Isolation and structure elucidation of phenolic compounds of *Carob* leaves grown in Egypt, *Curr. Res. J. Biol. Sci.* **3**, 52-55

[2] H. Liu, Y. Mou, J. Zhao, J. Wang, L. Zhou, M. Wang, D. Wang, J. Han, Z. Yu and F. Yang (2010). Flavonoids from *Halostachys caspica* and their antimicrobial and antioxidant activities, *Molecules* **15**, 7933–7945.

[3] D. He, D. Gu, Y. Huang, A. Ayupbek, Y. Yang, H. A. Aisa and Y. Ito (2009). Separation and purification of phenolic acids and myricetin from *Black currant* by high speed countercurrent chromatography, *J. Liq. Chromatogr. Relat. Technol.* **32**, 3077–3088.

[4] C. Jeong, H. R. Jeong, G. N. Choi, D. Kim, U. Lee and H. J. Heo (2011). Neuroprotective and anti-oxidant effects of caffeic acid isolated from *Erigeron annuus* leaf, *Chin. Med.* **6**, 25.