SUPPLEMENTARY MATERIAL

A new secoiridoid glycoside from the fruits of *Cornus officinalis* (Cornaceae)

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A new secoiridoid glycoside, 7β-*O*-dimethyl butanedioate morroniside (**1**) was isolated from the fruits of *Cornus officinalis* (Cornaceae) along with the known compound, caffeoyltartaric acid dimethyl ester (**2**) which was isolated from the family Cornaceae for the first time. Their structures were elucidated by physical and spectroscopic data analysis, including 1D and 2D NMR, ESI-MS, and CD experiments.

Keywords: *Cornus officinalis*; Cornaceae; secoiridoid glycoside

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We provided the original NMR spectra for 7β-*O*-dimethyl butanedioate morroniside (**1**) and experimental data for caffeoyltartaric acid dimethyl ester (**2**).

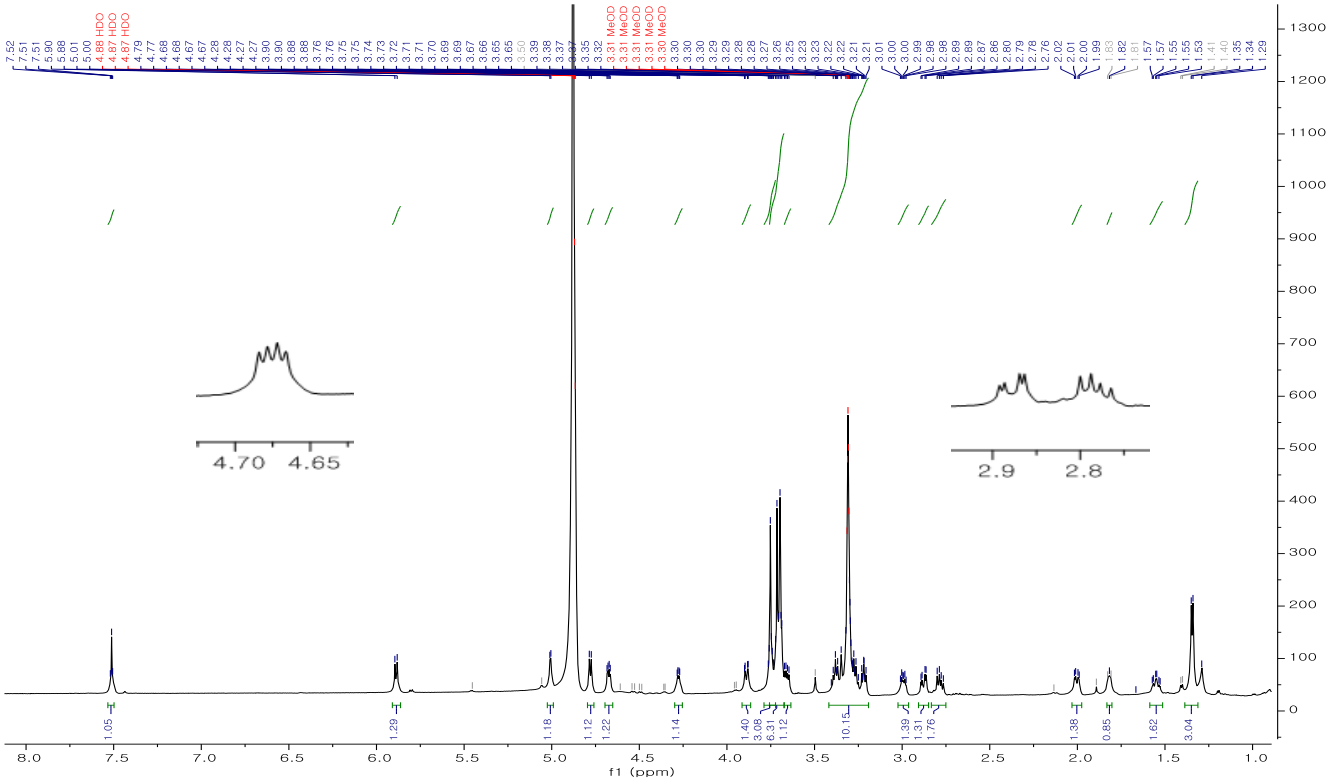

Figure S1. ^{1}H-NMR (700 MHz, CD_3OD) spectrum of compound **1**.

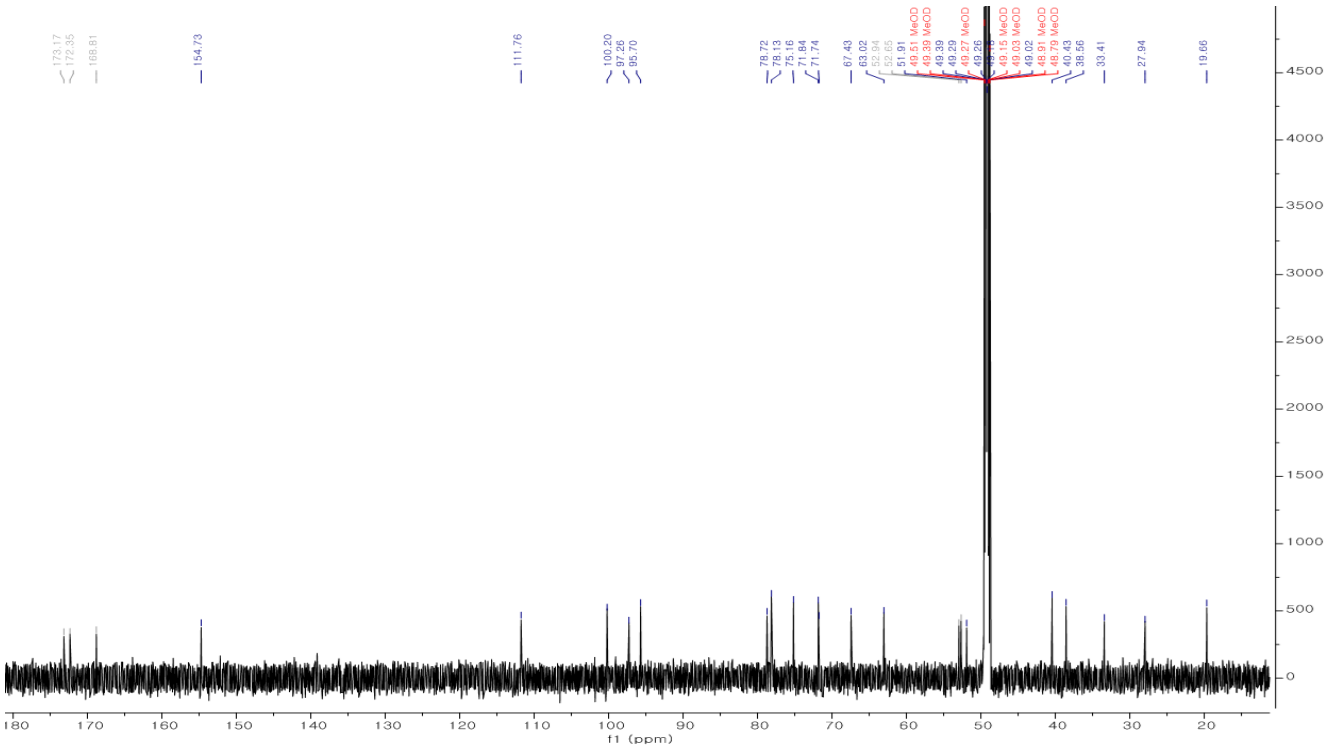

Figure S2. ^{13}C-NMR (175 MHz, CD_3OD) spectrum of compound **1**.

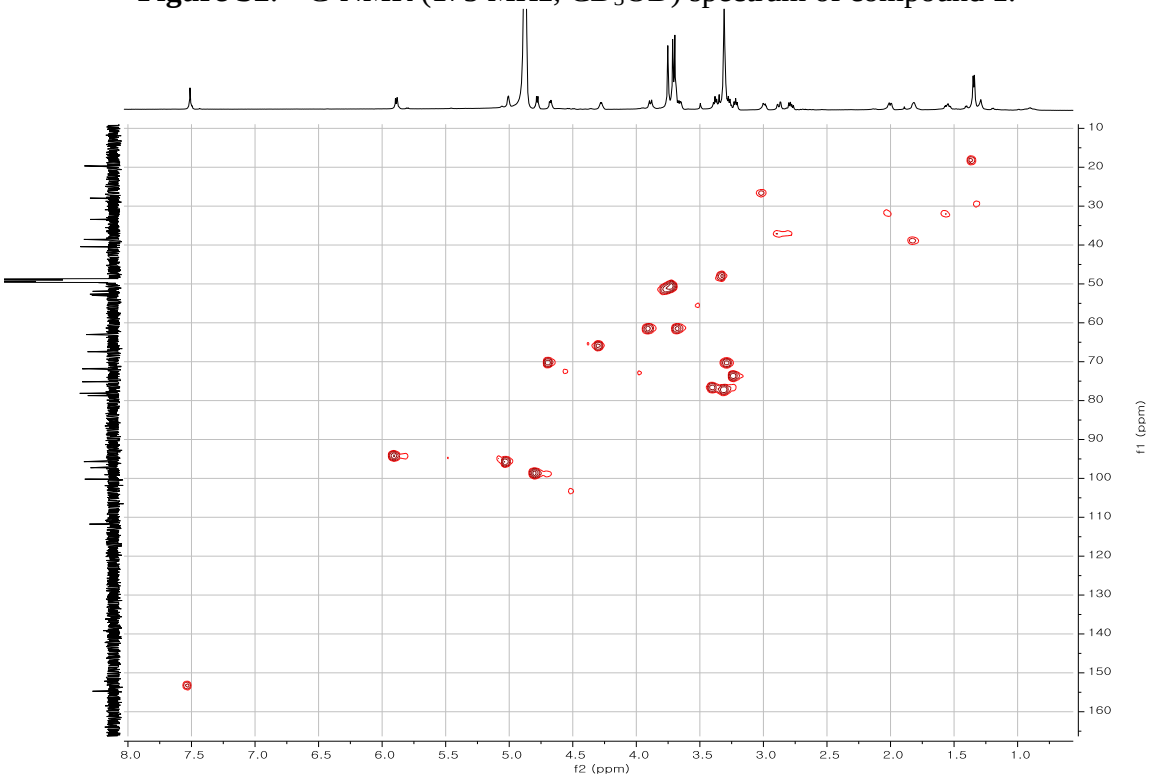

Figure S3. HSQC NMR spectrum of compound **1**.

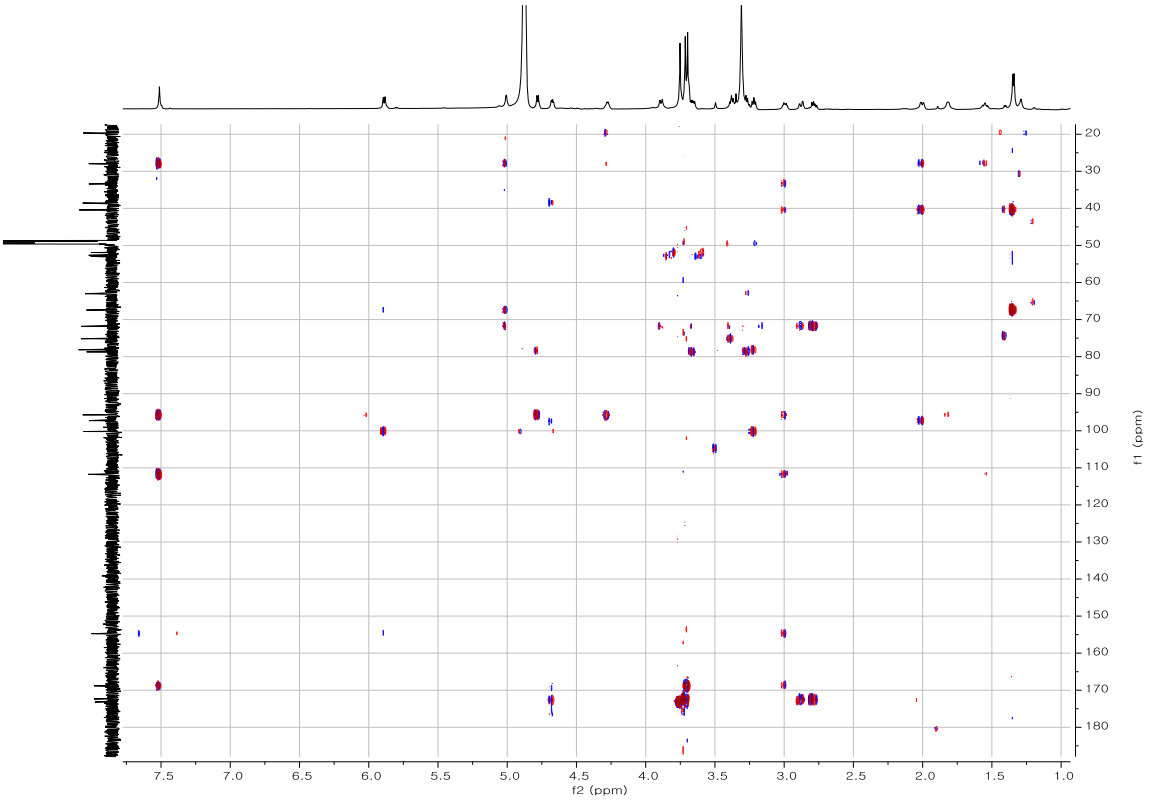

Figure S4. HMBC NMR spectrum of compound **1**.

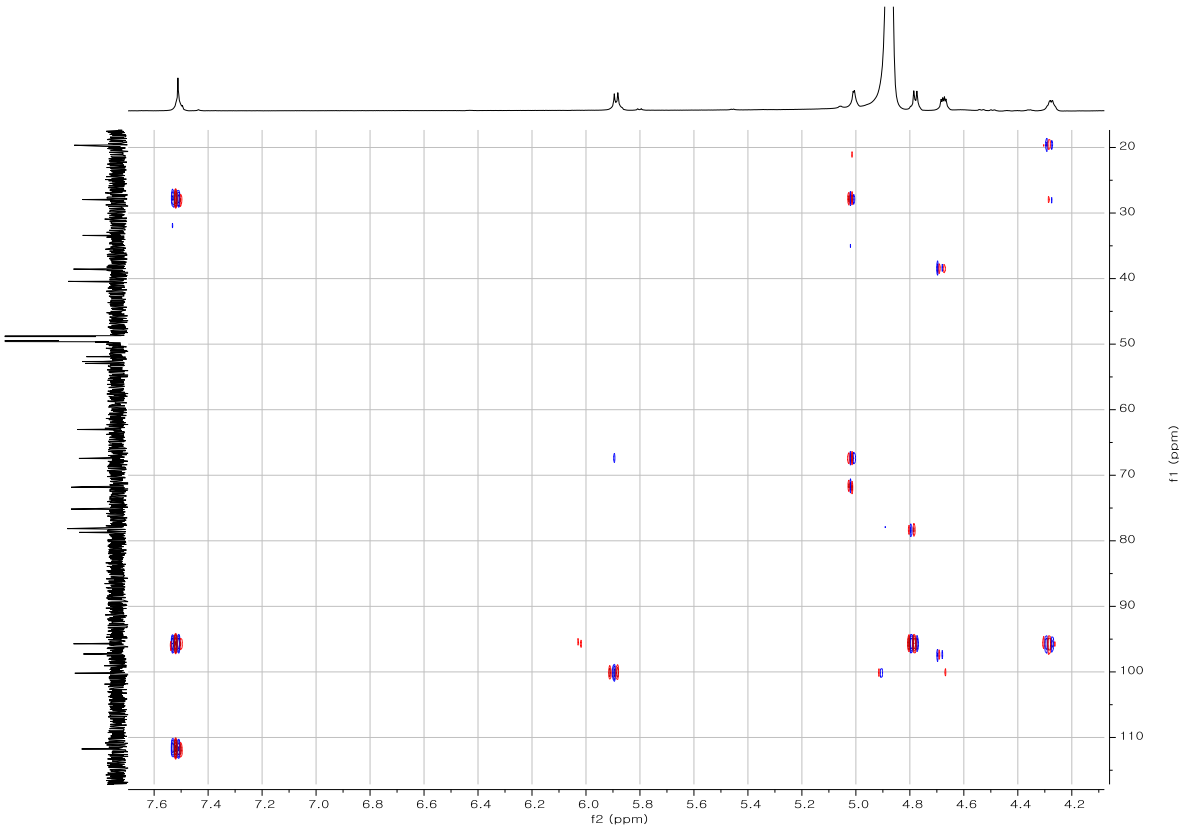

Figure S5. Expansion of the HMBC NMR spectrum of compound **1**.

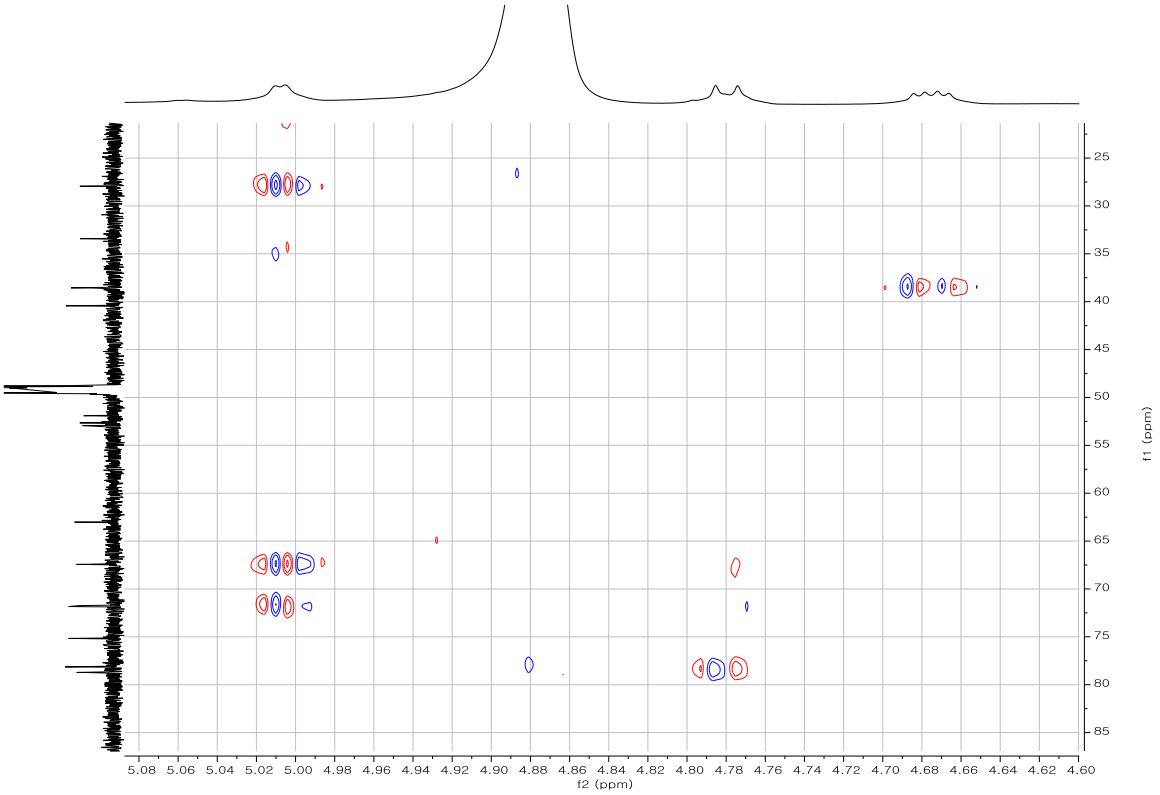

Figure S5. Expansion of the HMBC NMR spectrum of compound **1** (continued).

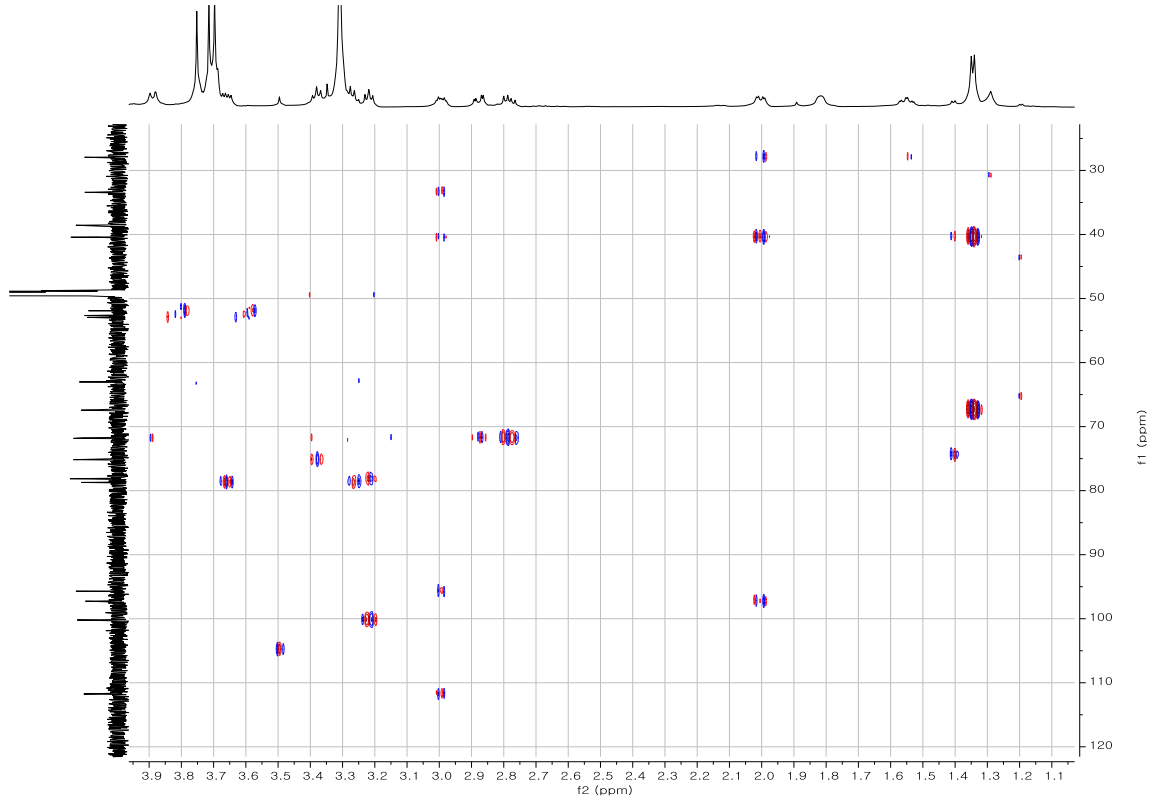

Figure S5. Expansion of the HMBC NMR spectrum of compound **1** (continued).

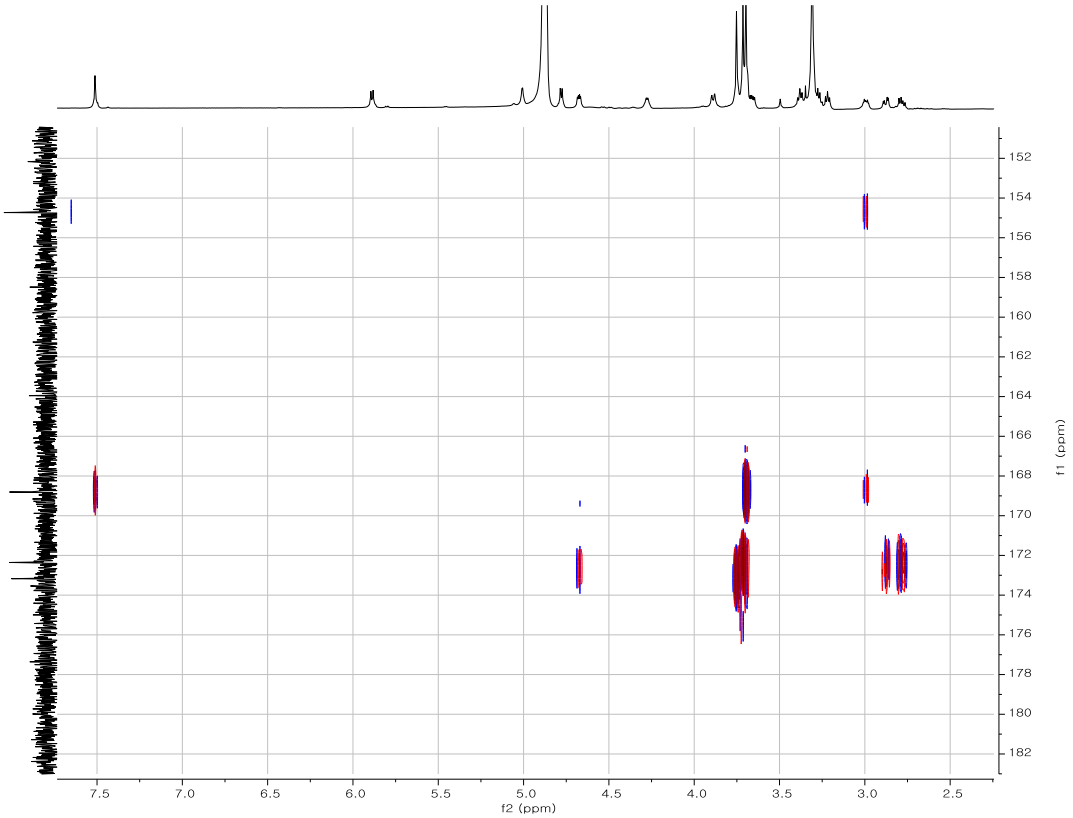

Figure S5. Expansion of the HMBC NMR spectrum of compound **1** (continued).

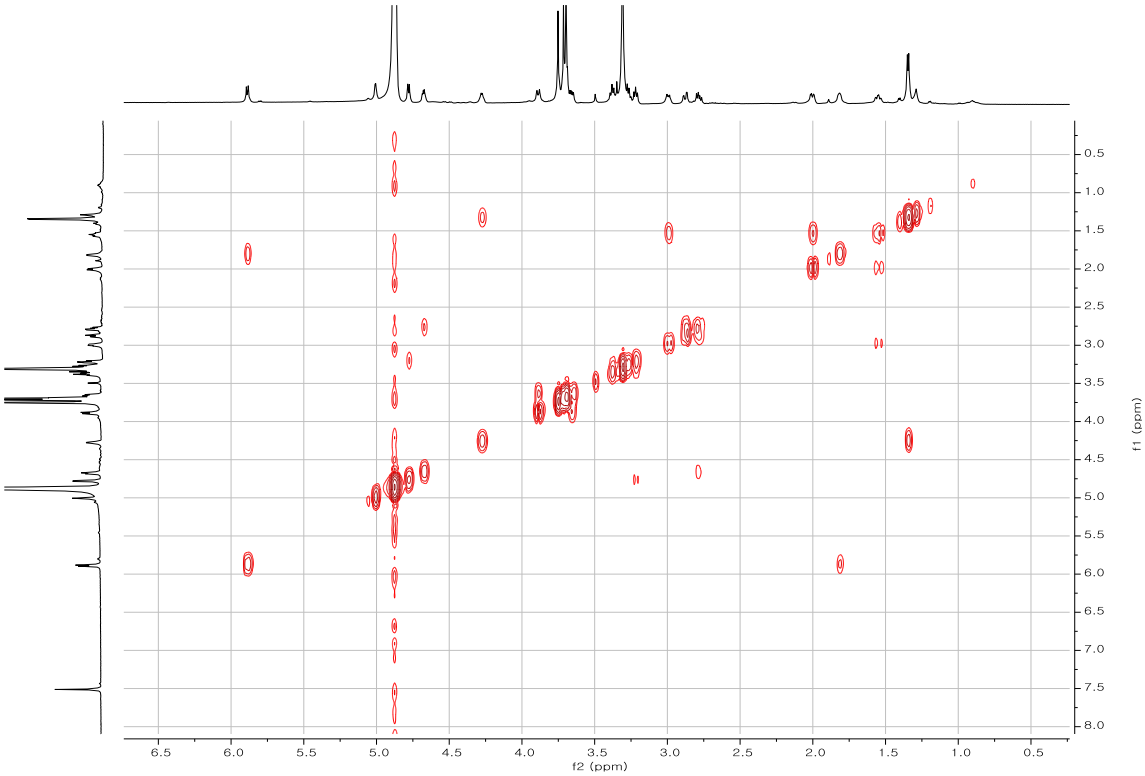

Figure S6. COSY NMR spectrum of compound **1**.

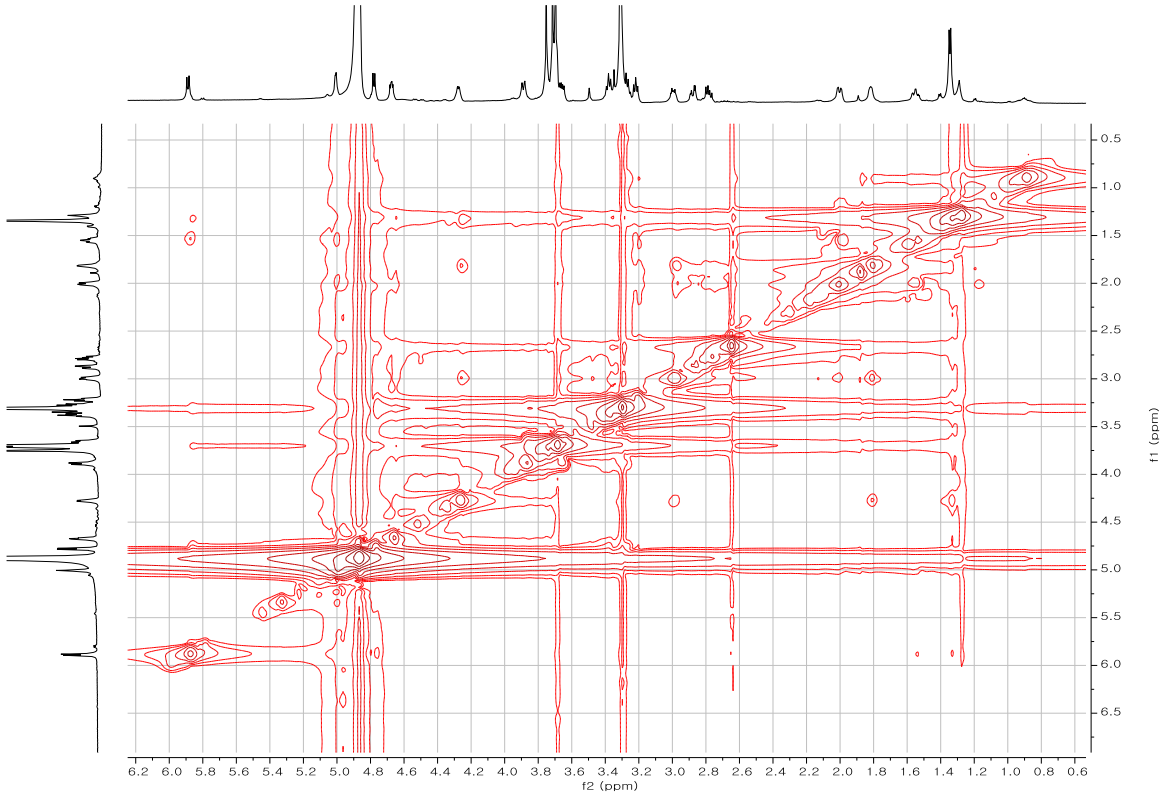

Figure S7. NOESY NMR spectrum of compound **1**.

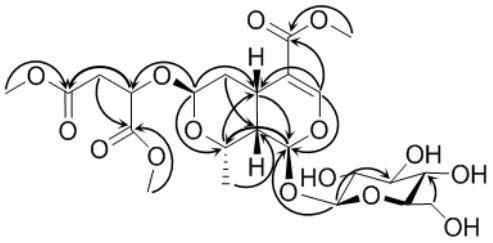

Figure S8. Key HMBC correlations ($^{1}H \rightarrow ^{13}C$) of compound **1**.

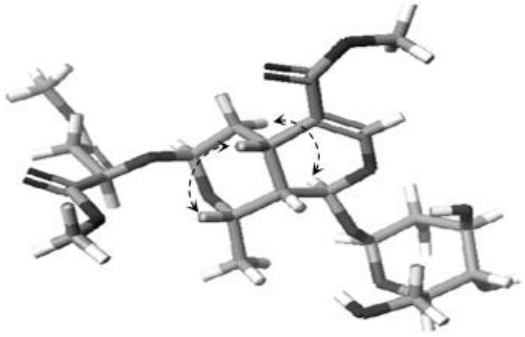

Figure S9. Key NOESY correlations of compound **1**.

Table S1. ^{1}H- (400 MHz) and ^{13}C-NMR (100 MHz) data of compound **2** in CD_3OD (δ in ppm).

Positions	δ_H	δ_C	HMBC (^{1}H→^{13}C)
1	-	127.5	
2	7.22 (1H, d, *J* = 1.9 Hz)	111.8	1, 3, 4, 6, 7
3	-	149.6	
4	-	151.3	
5	6.82 (1H, d, *J* = 8.3 Hz)	116.6	1, 3, 4
6	7.10 (1H, dd, *J* = 8.3, 1.9 Hz)	124.6	2, 4, 7
7	7.71 (1H, d, *J* = 16 Hz)	148.4	2, 6, 8, 9
8	6.43 (1H, d, *J* = 16 Hz)	114.1	1, 9
9	-	167.9	
1'	-	172.2	
2'	5.56 (1H, d, *J* = 3.0 Hz)	75.3	9, 1', 3', 4'
3'	4.71 (1H, d, *J* = 3.0 Hz)	72.1	1', 2', 4'
4'	-	169.1	
1'-OCH_3	3.80 (3H, s)	53.0	1'
4'-OCH_3	3.76 (3H, s)	53.0	4'

Spectral data of compound **2**.

Caffeoyltartaric acid dimethyl ester (**2**): yellowish white powder; $[\alpha]^{25}_{D}$ +6.0 (*c* = 0.1, MeOH); CD (*c* = 0.16 mM, MeOH) $\Delta\varepsilon_{185}$ +9.20, $\Delta\varepsilon_{216}$ – 21.2; UV (MeOH) λ_{max} nm (log ε): 328.5 (4.58), 235 (4.37); IR (KBr) ν_{max} cm^{-1}: 3457, 2919, 1742, 1593, 1515, 1151; ^{1}H-NMR (CD_3OD, 400 MHz) and ^{13}C-NMR (CD_3OD, 100 MHz), see Table 1; Key COSY correlations: H-7/H-8, H-2'/H-3'; Key NOESY correlations: H-2/H-7; H-6/H-8; Key HMBC correlations: H-2/C-1, C-3, C-4, C-6, C-7; H-5/C-1, C-3, C-4; H-6/C-2, C-4, C-7; H-7/C-2, C-6, C-8, C-9; H-8/C-1, C-9; H-2'/C-9, C-1', C-3', C-4'; H-3'/C-1', C-2', C-4'; OC$\underline{H}_3$-1'/C-1'; OC$\underline{H}_3$-4'/C-4''; HRESIMS *m/z* 340.0795 $[M]^+$ (calcd for $C_{15}H_{16}O_9$, 340.0794).