

Four oxylipins from the brown alga *Eisenia bicyclis*

Gun-Woo Oh^{1,†}, Soo Jeong Lee^{2,†}, Dae-Cheol Choi², Seok-Chun Ko¹, Dongwoo Yang¹, Mi-Jin Yim¹, Dae-Sung Lee¹, Jeong Min Lee^{1,*}, Ji-Yul Kim^{1,*}

¹National Marine Biodiversity Institute of Korea, Seochon, Republic of Korea

²Division of Biotechnology and Advanced Institute of Environmental and Bioscience, College of Environmental and Bioresource Sciences, Jeonbuk National University, Iksan-si, Republic of Korea.

* Authors to whom correspondence should be addressed.

Short title : Four oxylipins from *Eisenia bicyclis*

Corresponding authors:

National Marine Biodiversity Institute of Korea, Seochon, Republic of Korea.

E-mail: jiyul2224@mabik.re.kr, lshjm@mabik.re.kr

Figure S1. ^1H NMR spectrum of **1**.

Figure S2. ^{13}C NMR spectrum of **1**.

Figure S3. ^1H - ^1H COSY spectrum of **1**.

Figure S4. HSQC spectrum of **1**.

Figure S5. HMBC spectrum of **1**.

Figure S6. HR-ESI-MS of **1**.

Figure S7. ^1H NMR spectrum of **2**.

Figure S8. ^{13}C NMR spectrum of **2**.

Figure S9. ^1H - ^1H COSY spectrum of **2**.

Figure S10. HSQC spectrum of **2**.

Figure S11. HMBC spectrum of **2**.

Figure S12. HR-ESI-MS of **2**.

Figure S13. ^1H NMR spectrum of **3**.

Figure S14. ^{13}C NMR spectrum of **3**.

Figure S15. ^1H - ^1H COSY spectrum of **3**.

Figure S16. HSQC spectrum of **3**.

Figure S17. HMBC spectrum of **3**.

Figure S18. HR-ESI-MS of **3**.

Figure S19. ^1H NMR spectrum of **4**.

Figure S20. ^{13}C NMR spectrum of **4**.

Figure S21. ^1H - ^1H COSY spectrum of **4**.

Figure S22. HSQC spectrum of **4**.

Figure S23. HMBC spectrum of **4**.

Figure S24. HR-ESI-MS of **4**.

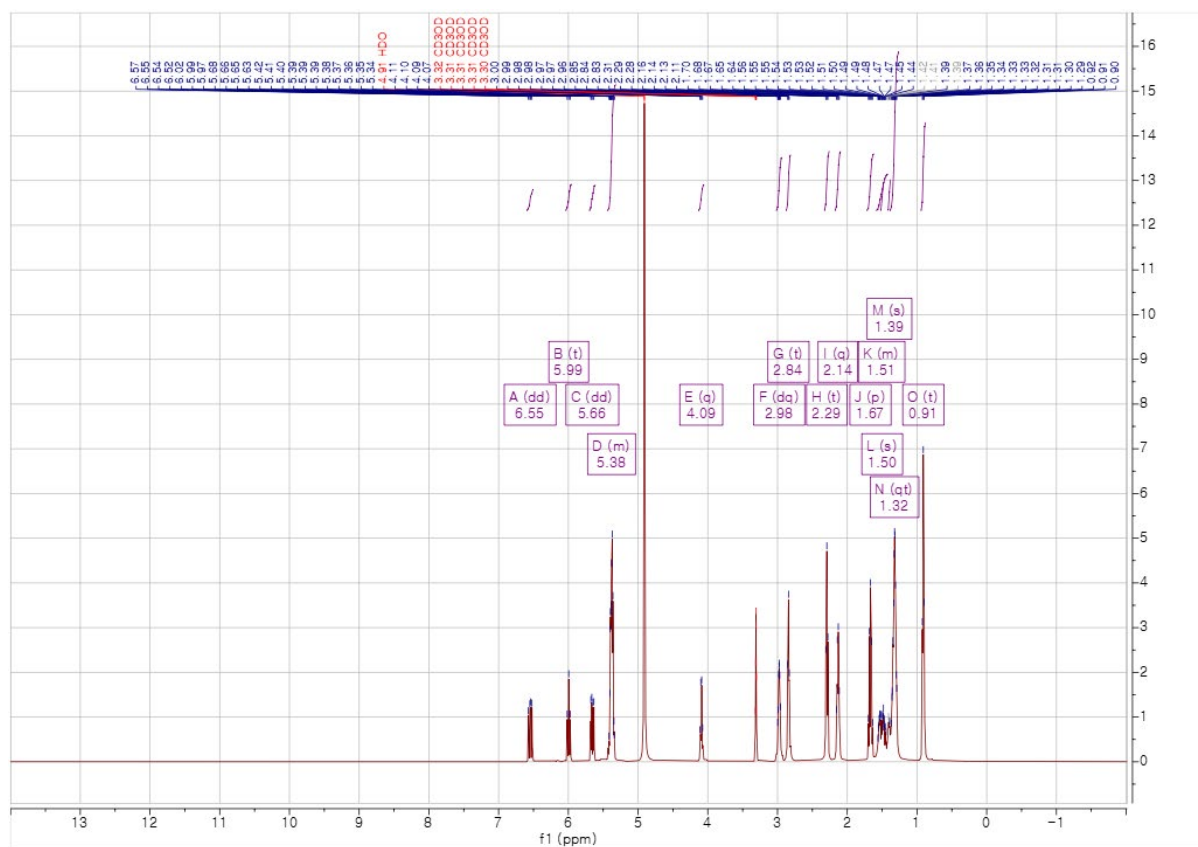


Figure S1. ¹H NMR spectrum of 1.

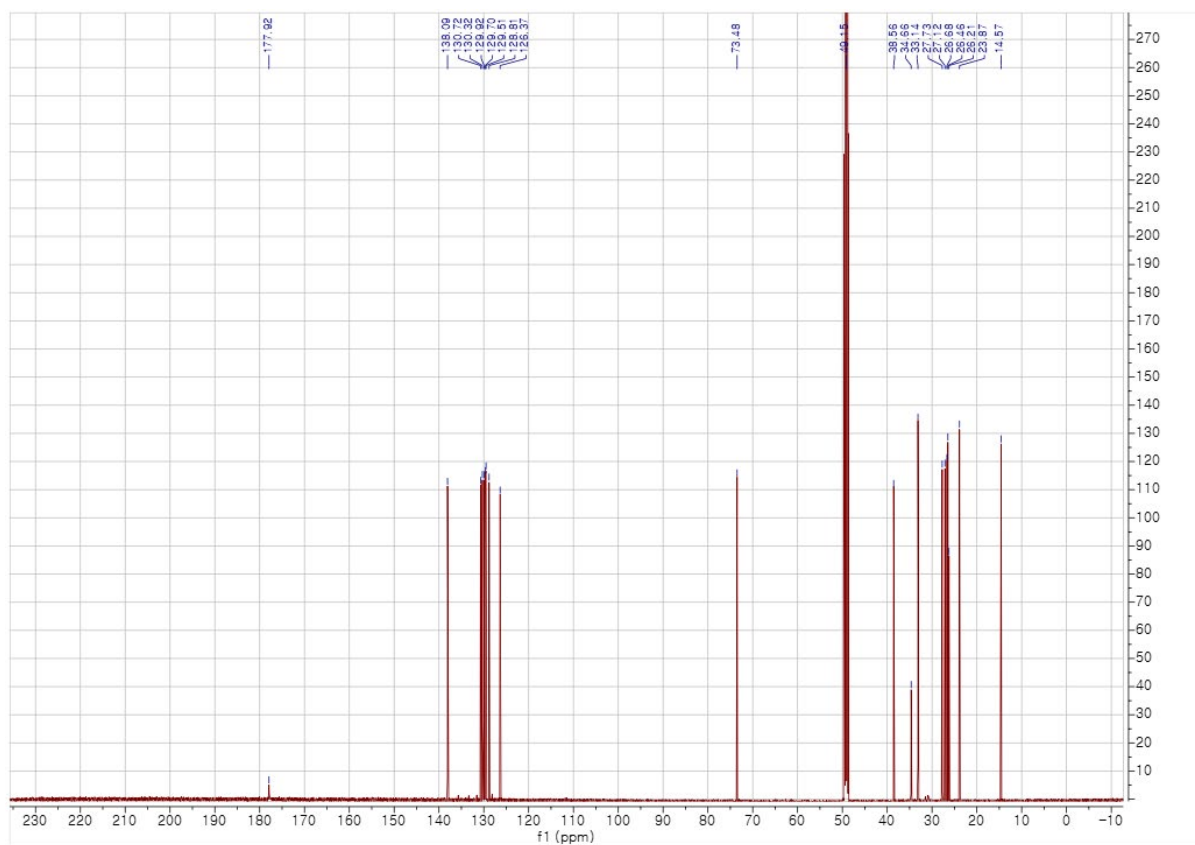


Figure S2. ^{13}C NMR spectrum of 1.

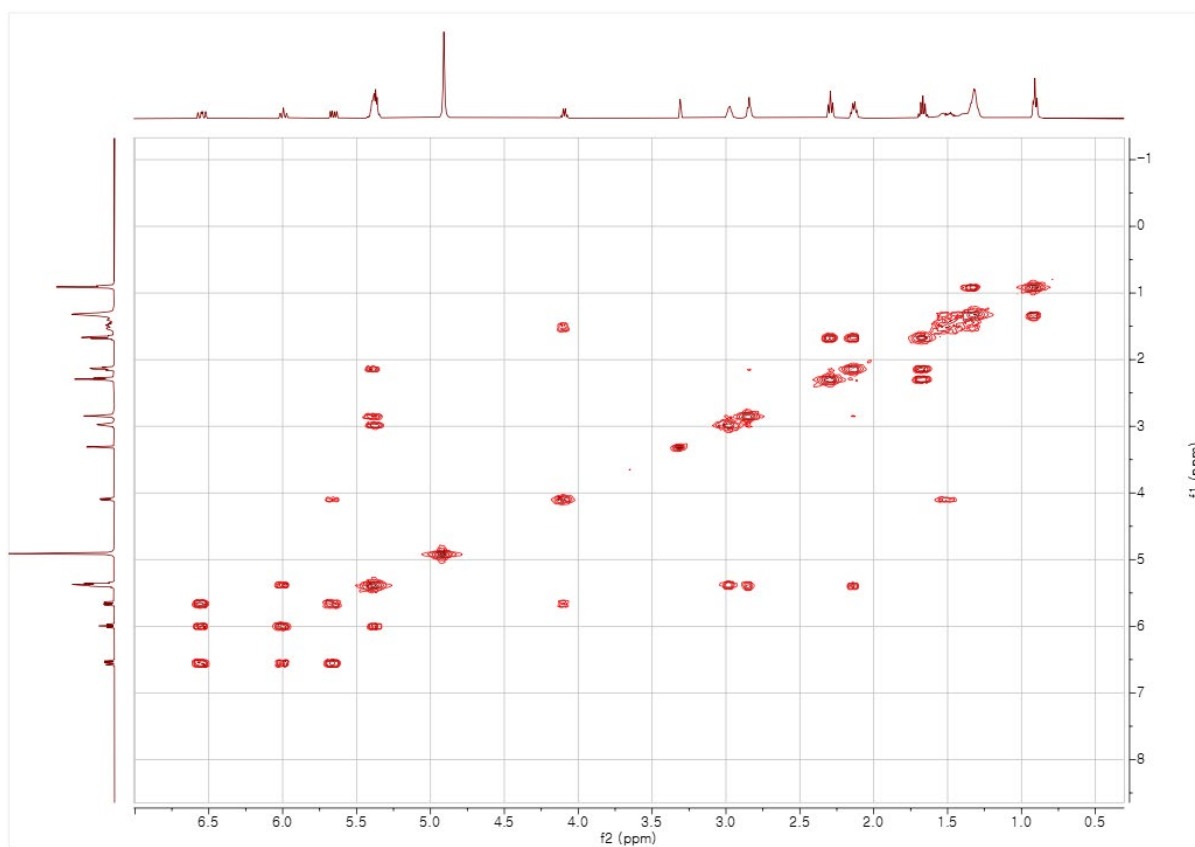


Figure S3. ^1H - ^1H COSY spectrum of **1**.

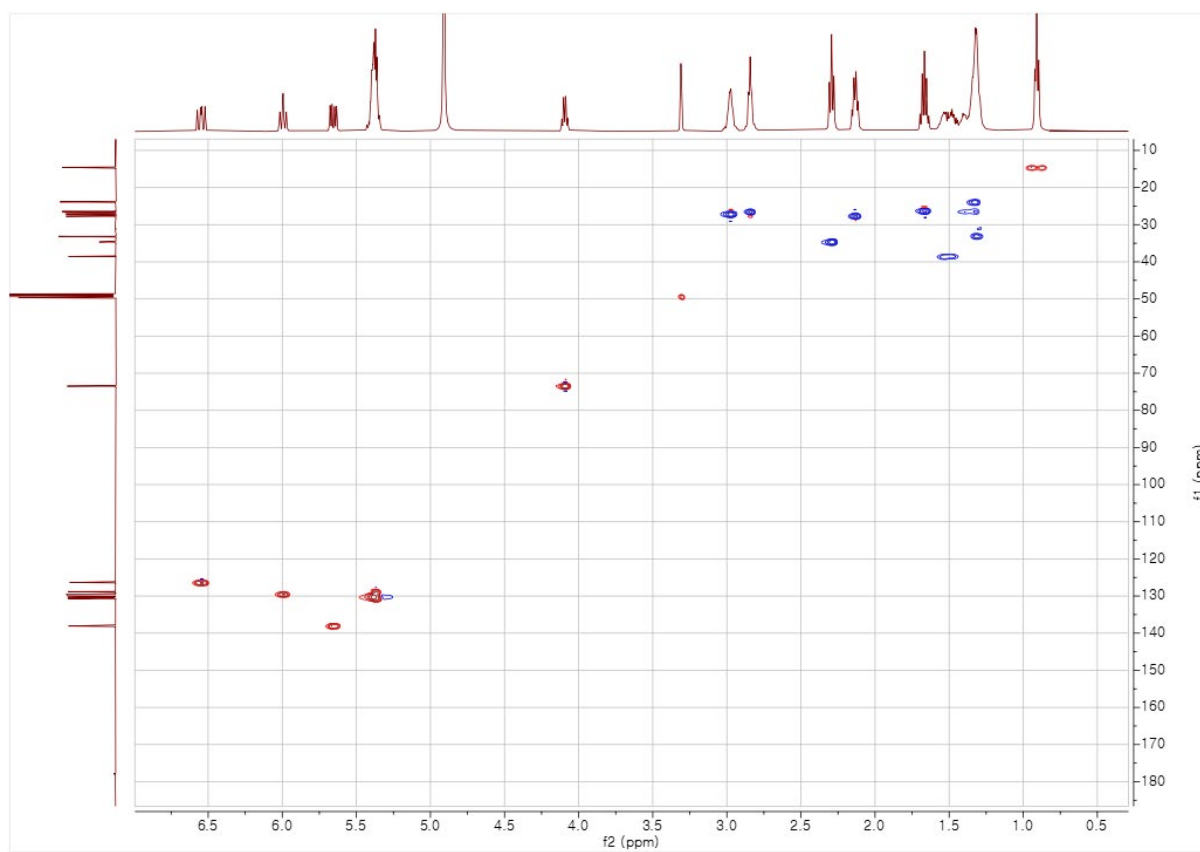


Figure S4. HSQC spectrum of **1**.

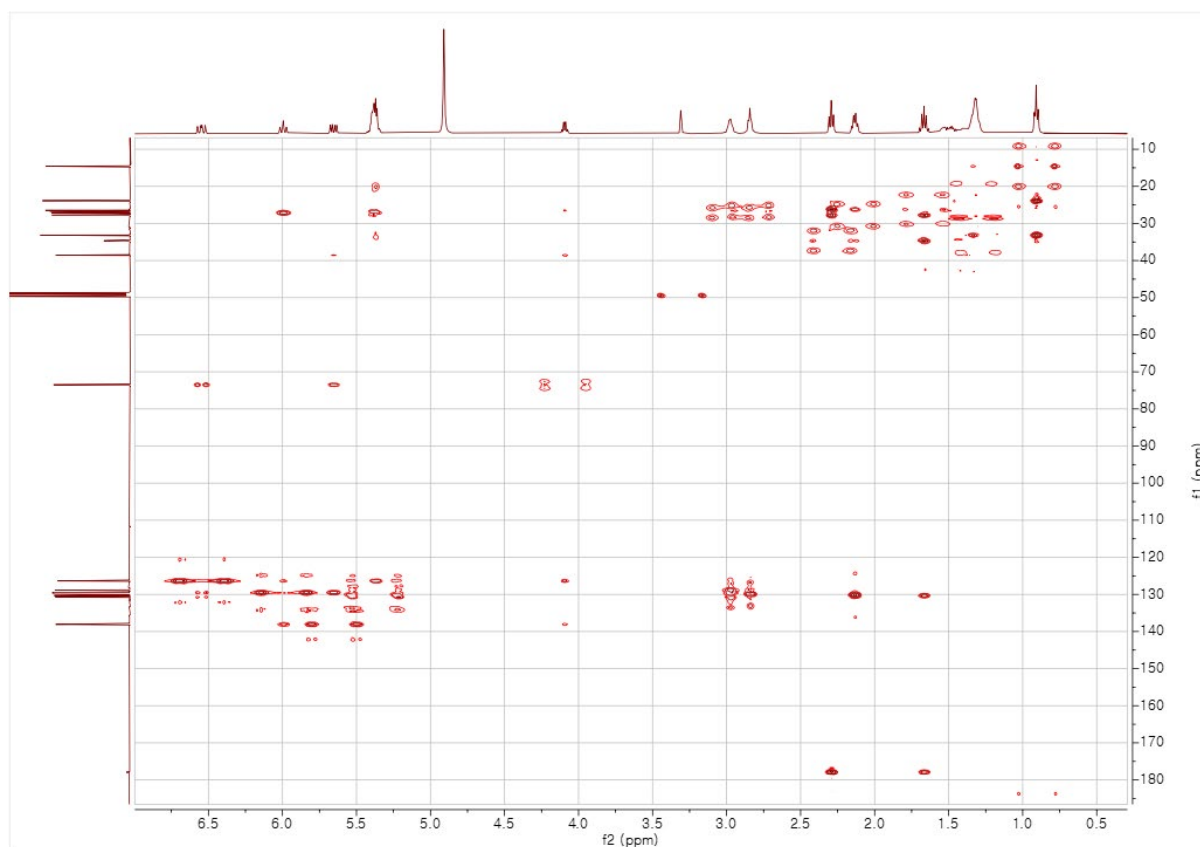


Figure S5. HMBC spectrum of **1**.

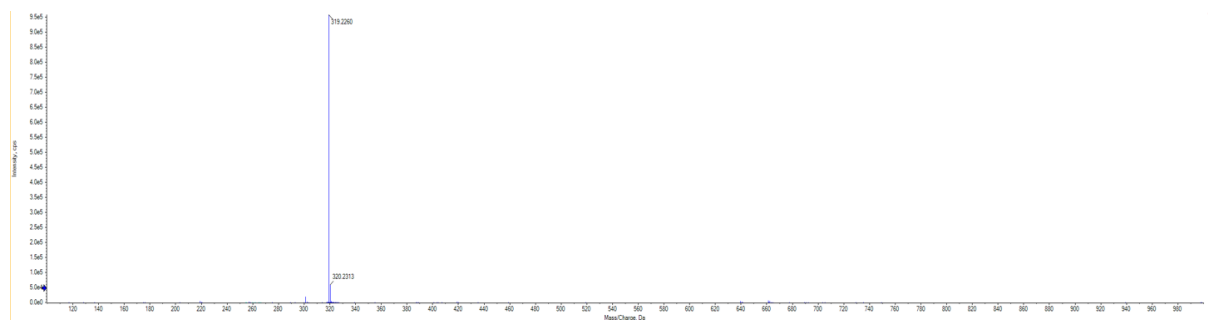


Figure S6. HR-ESI-MS of **1**.

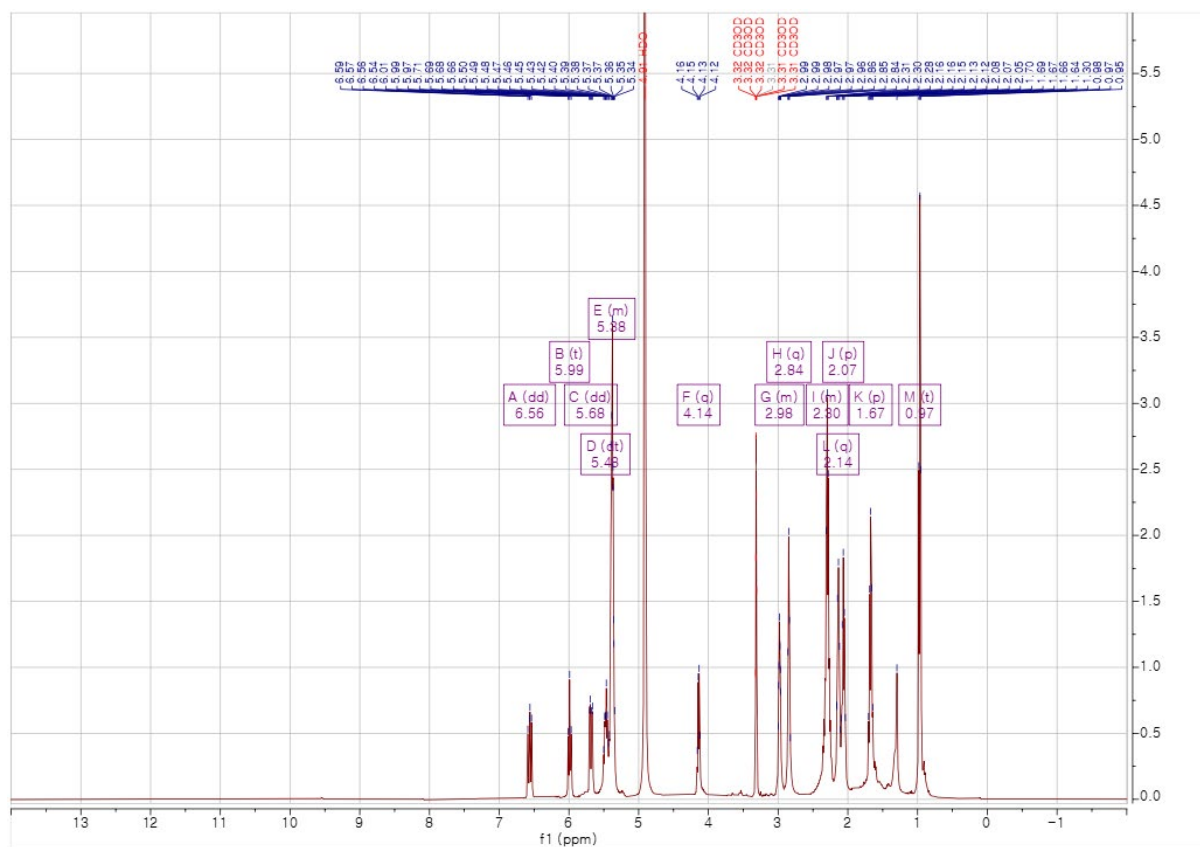


Figure S7. ¹H NMR spectrum of **2**.

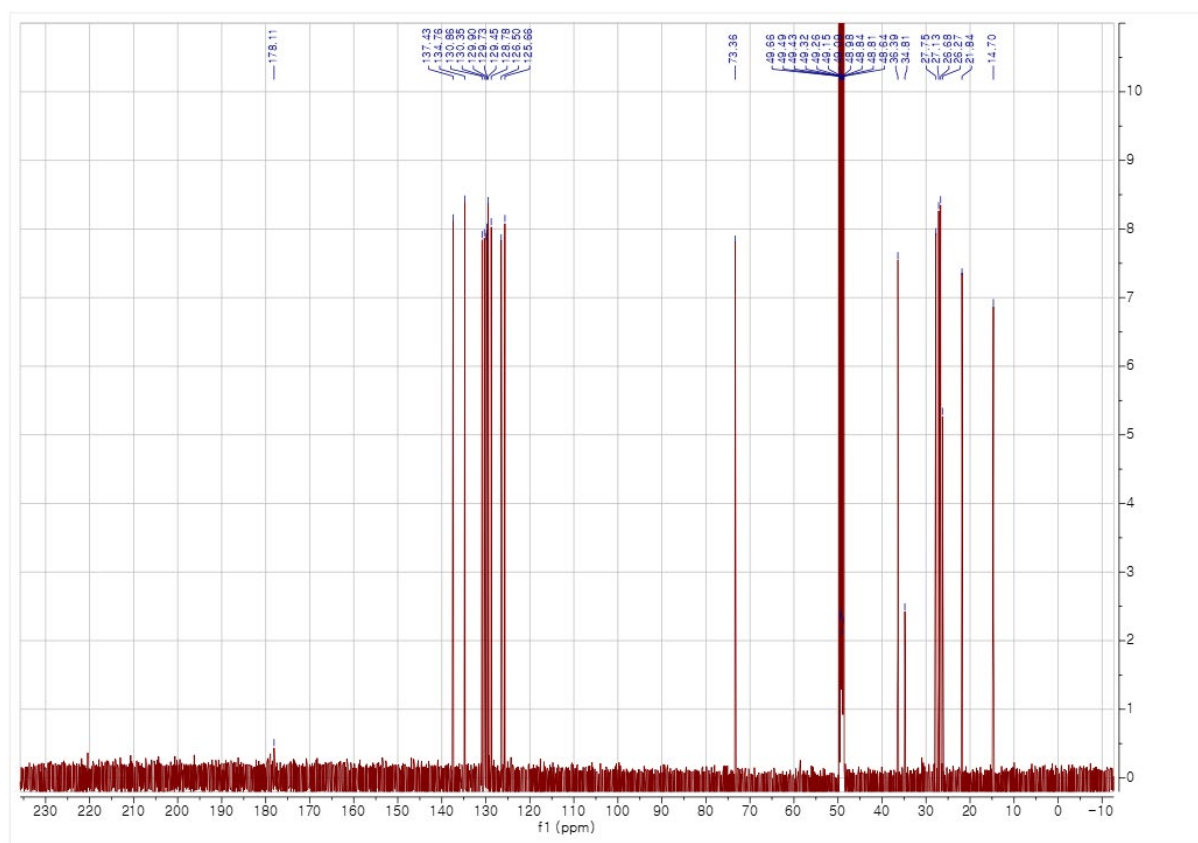


Figure S8. ¹³C NMR spectrum of **2**.



Figure S9. ^1H - ^1H COSY spectrum of **2**.

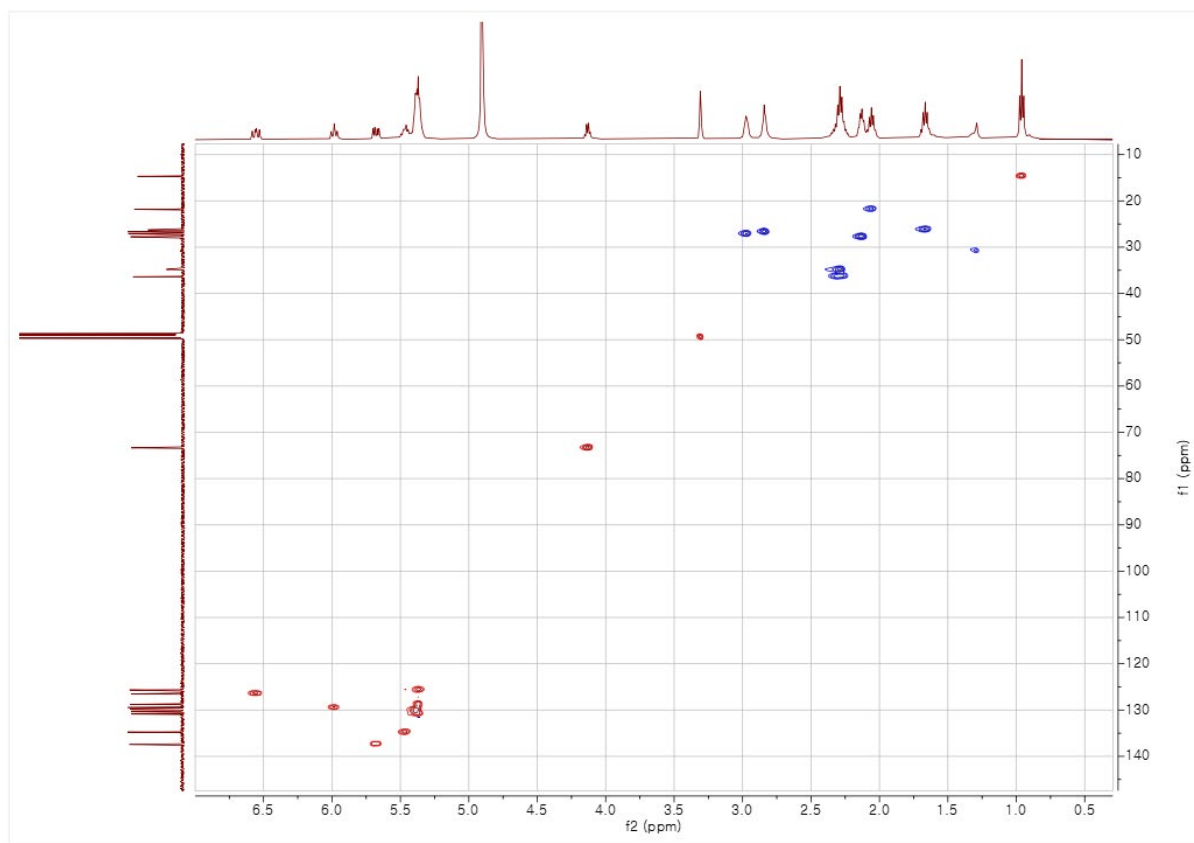


Figure S10. HSQC spectrum of **2**.

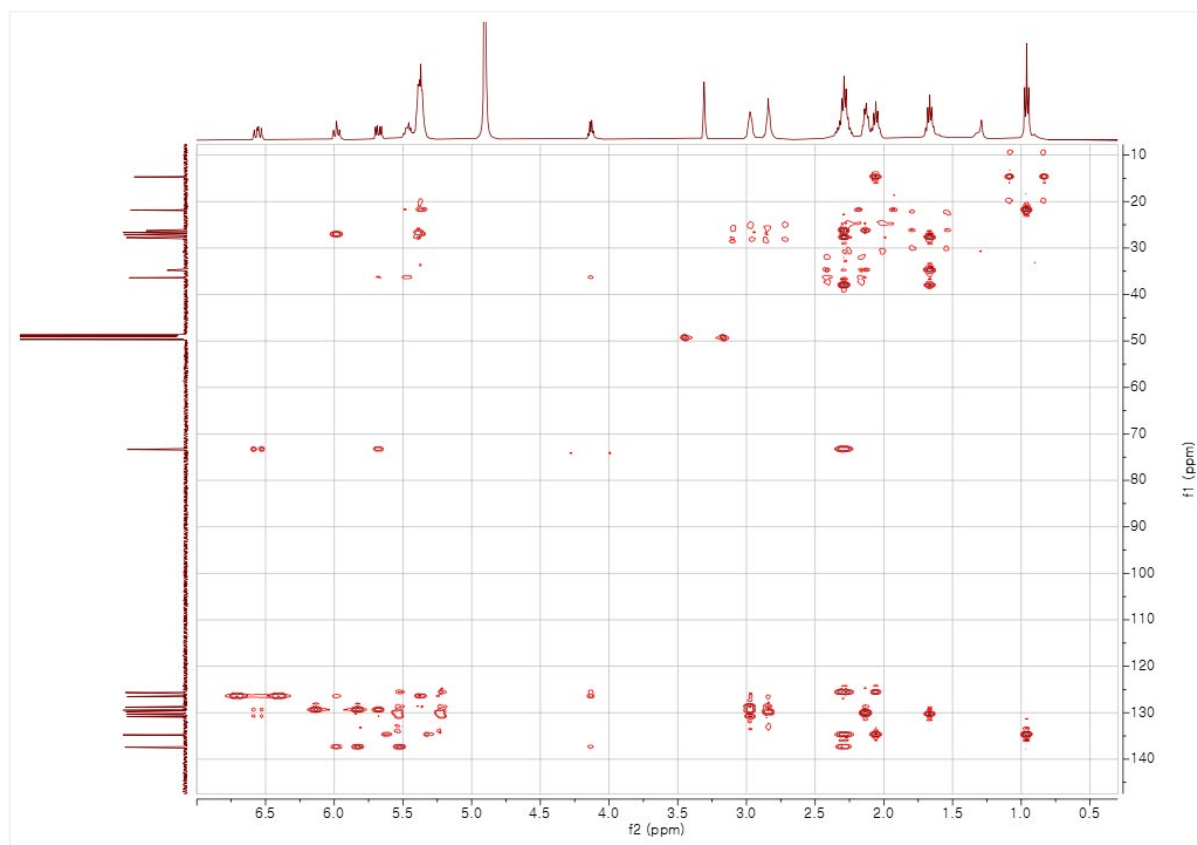


Figure S11. HMBC spectrum of **2**.

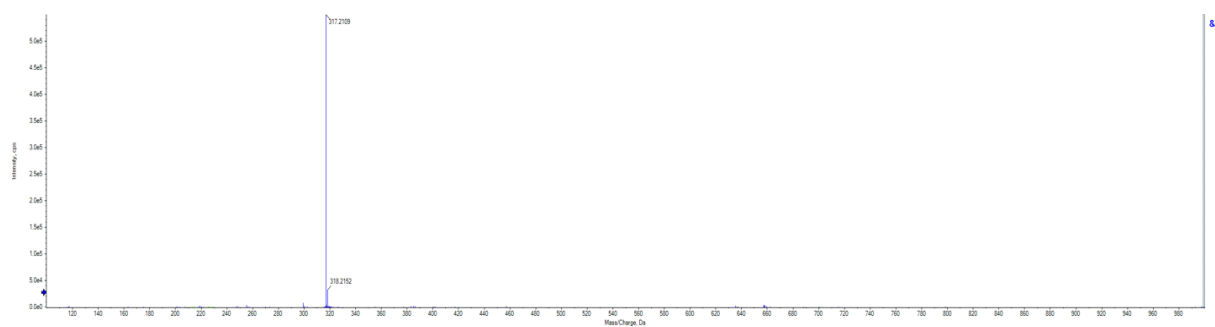


Figure S12. HR-ESI-MS of **2**.

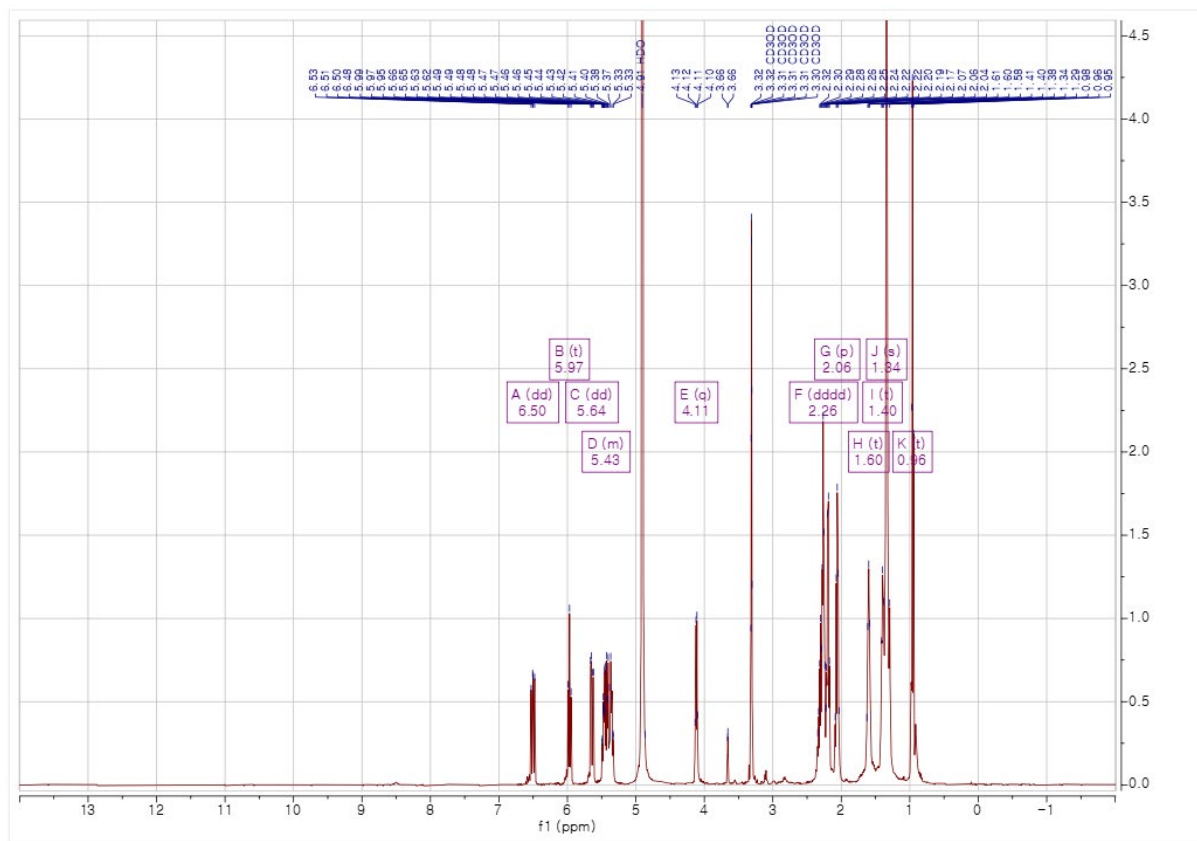


Figure S13. ¹H NMR spectrum of **3**.

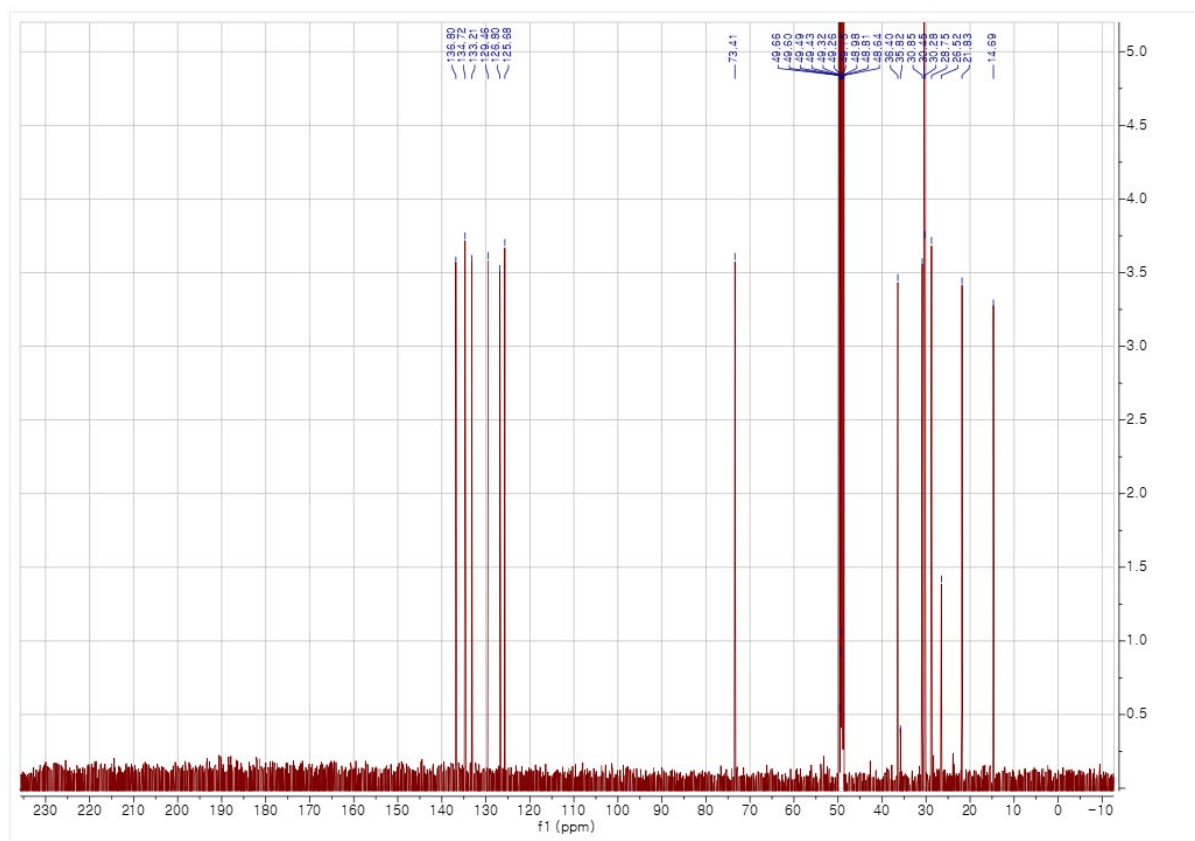


Figure S14. ^{13}C NMR spectrum of **3**.

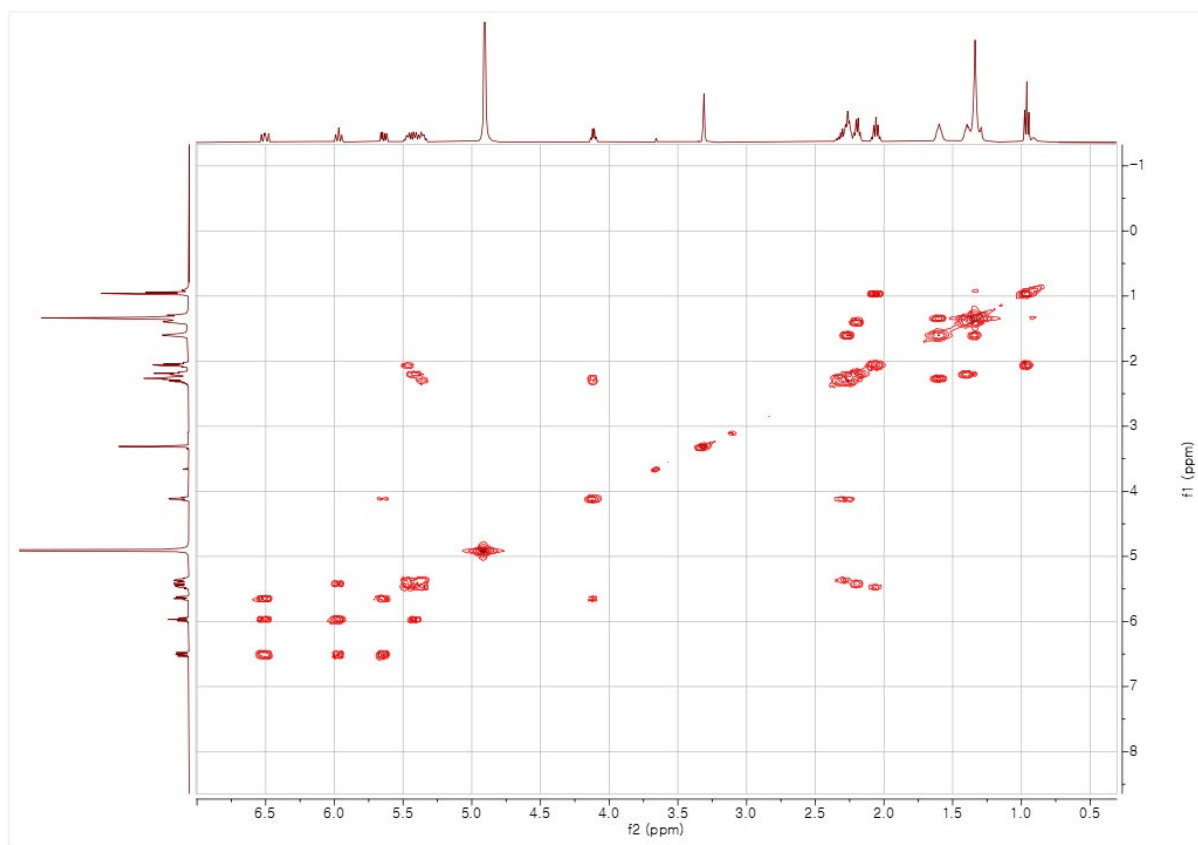


Figure S15. ^1H - ^1H COSY spectrum of **3**.

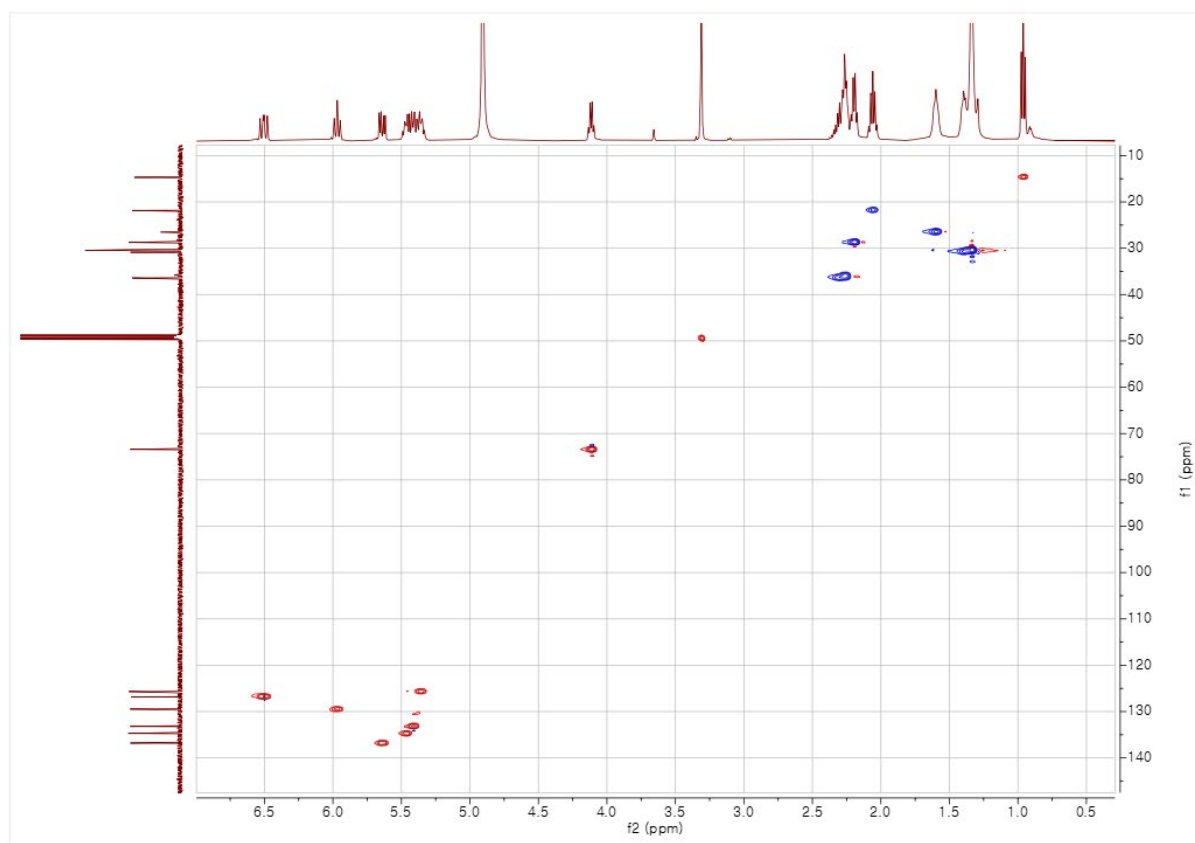


Figure S16. HSQC spectrum of **3**.

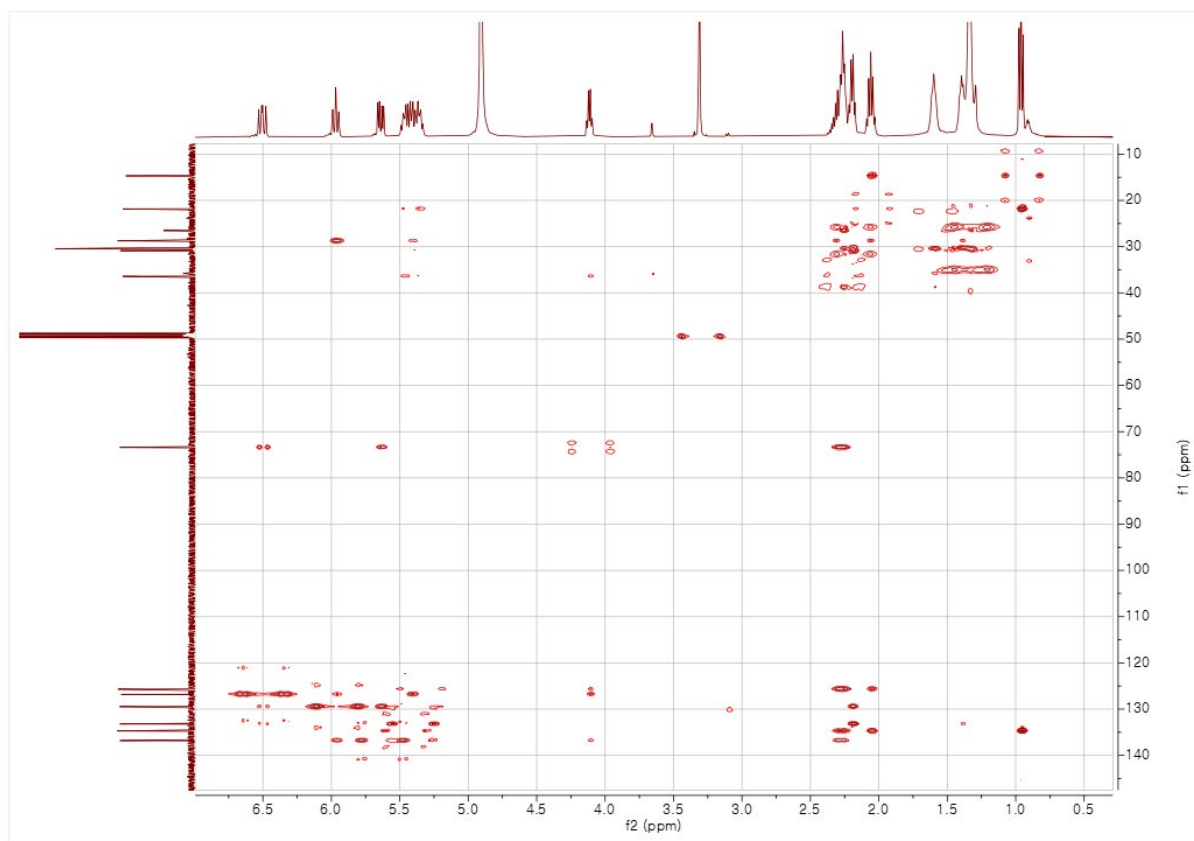


Figure S17. HMBC spectrum of **3**.

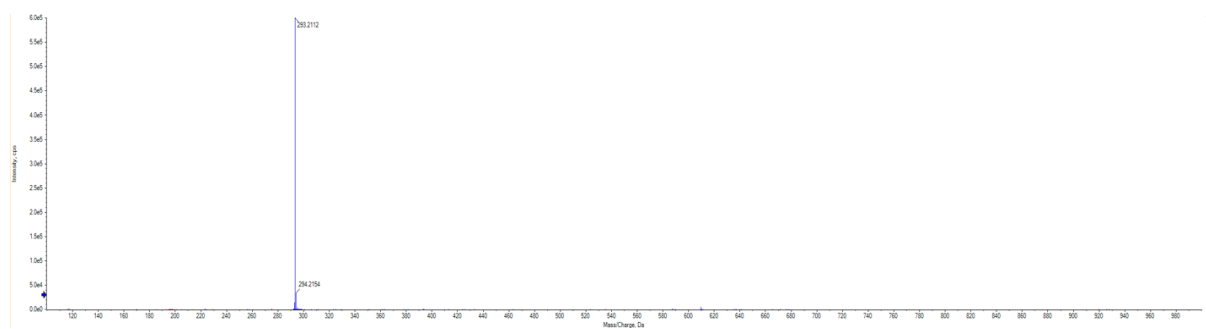


Figure S18. HR-ESI-MS of **3**.

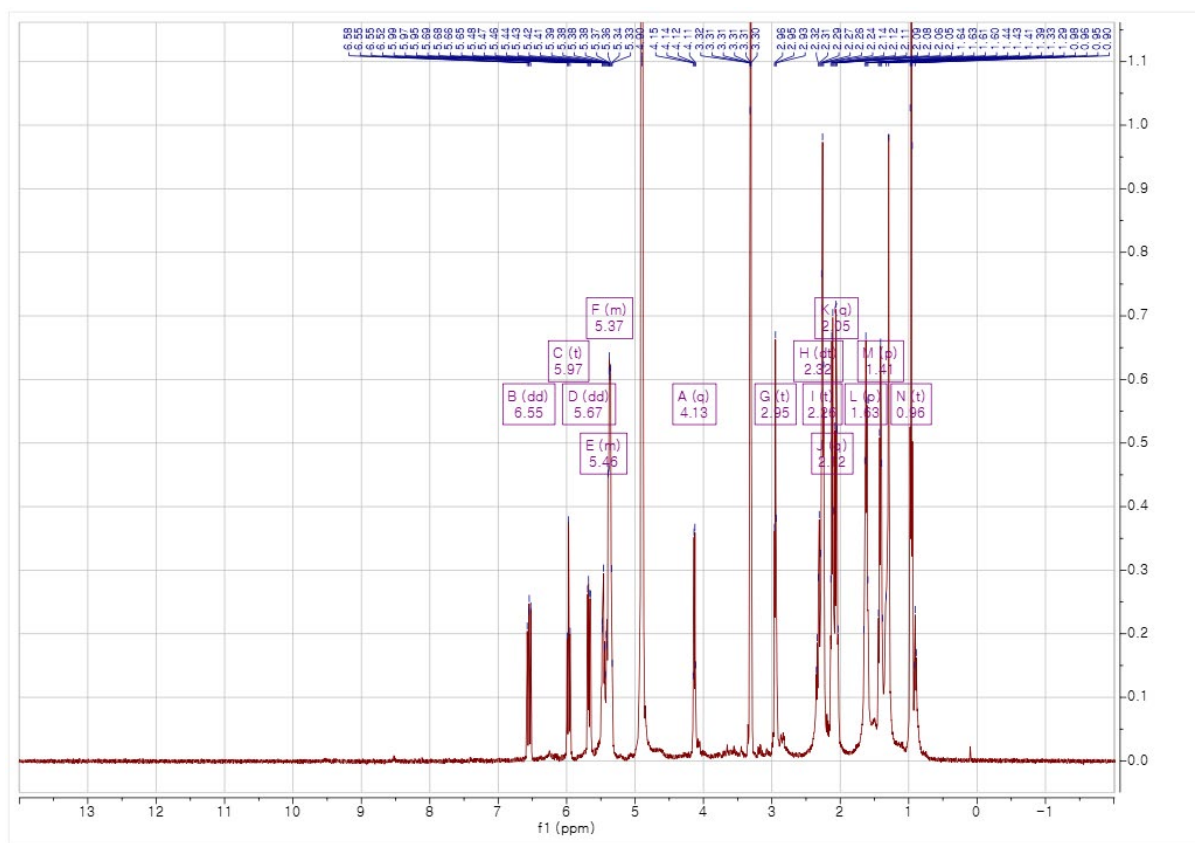


Figure S19. ¹H NMR spectrum of 4.

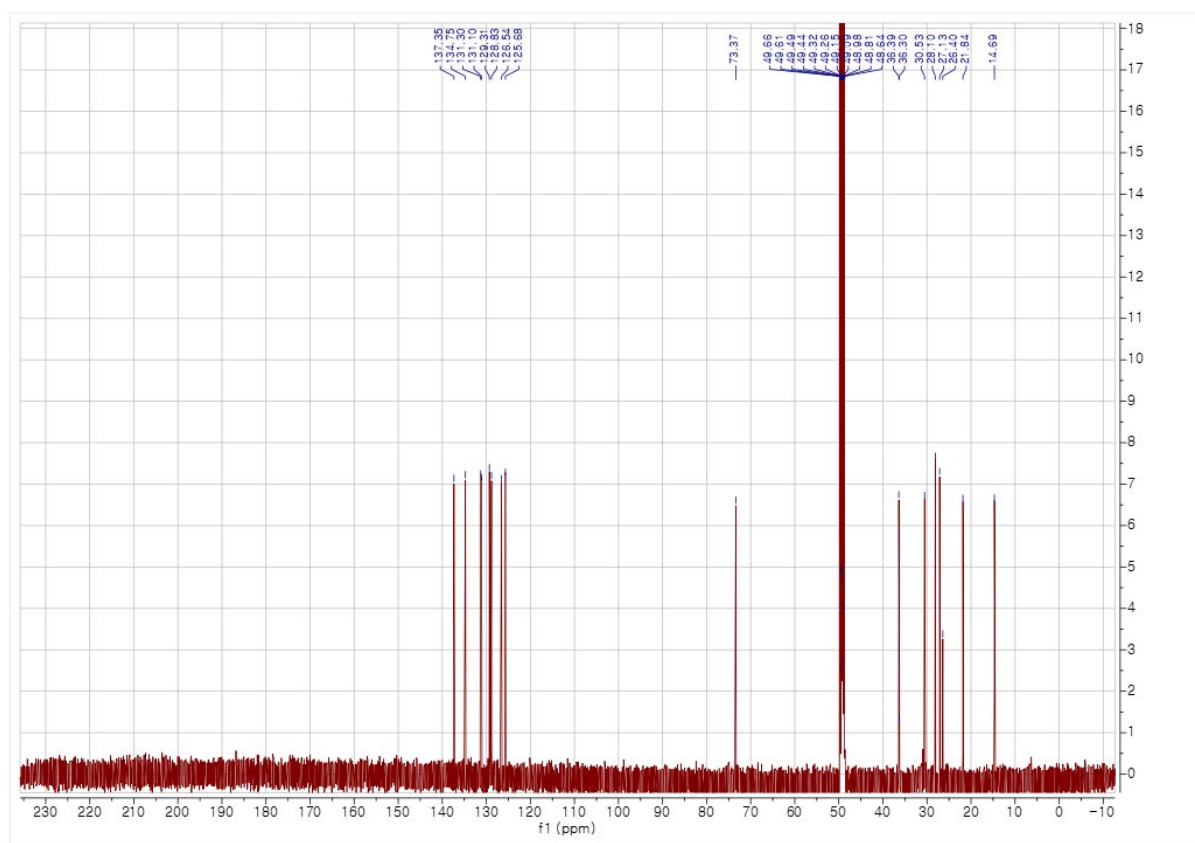


Figure S20. ^{13}C NMR spectrum of **4**.

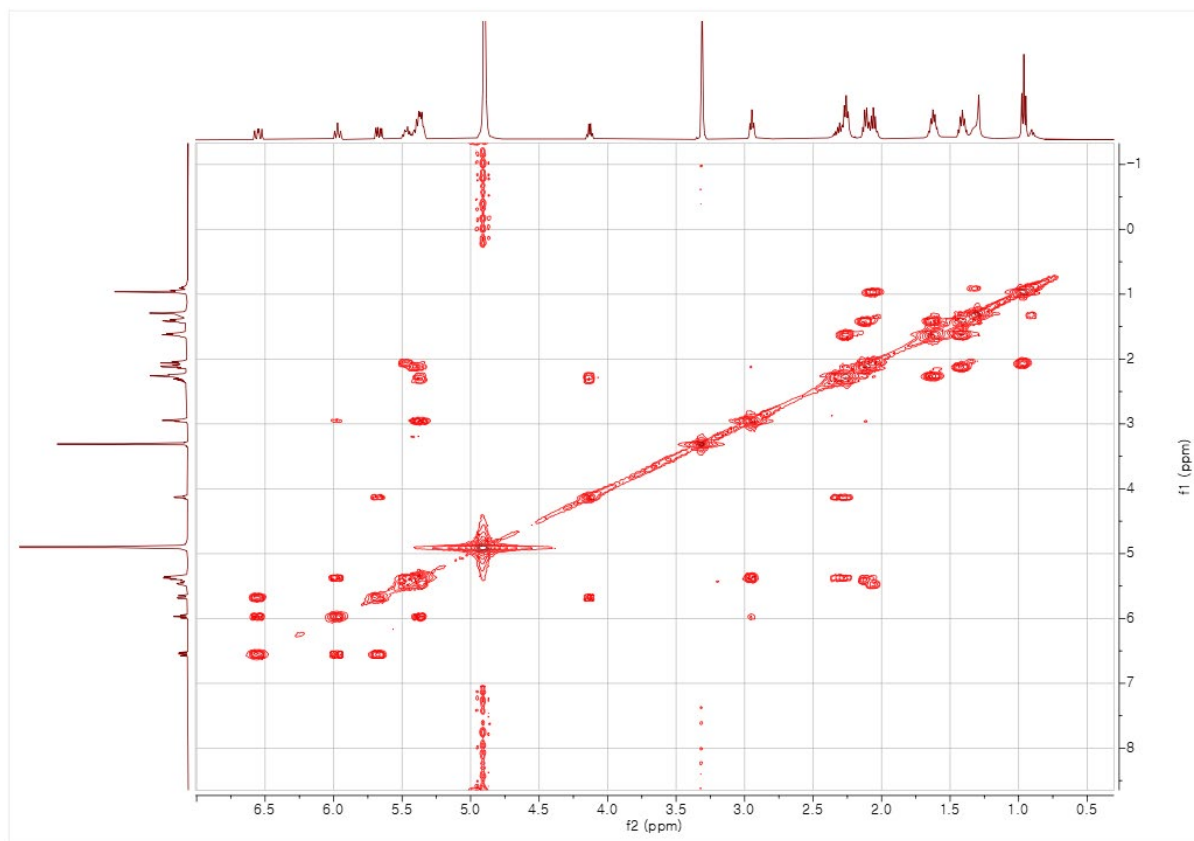


Figure S21. ^1H - ^1H COSY spectrum of **4**.

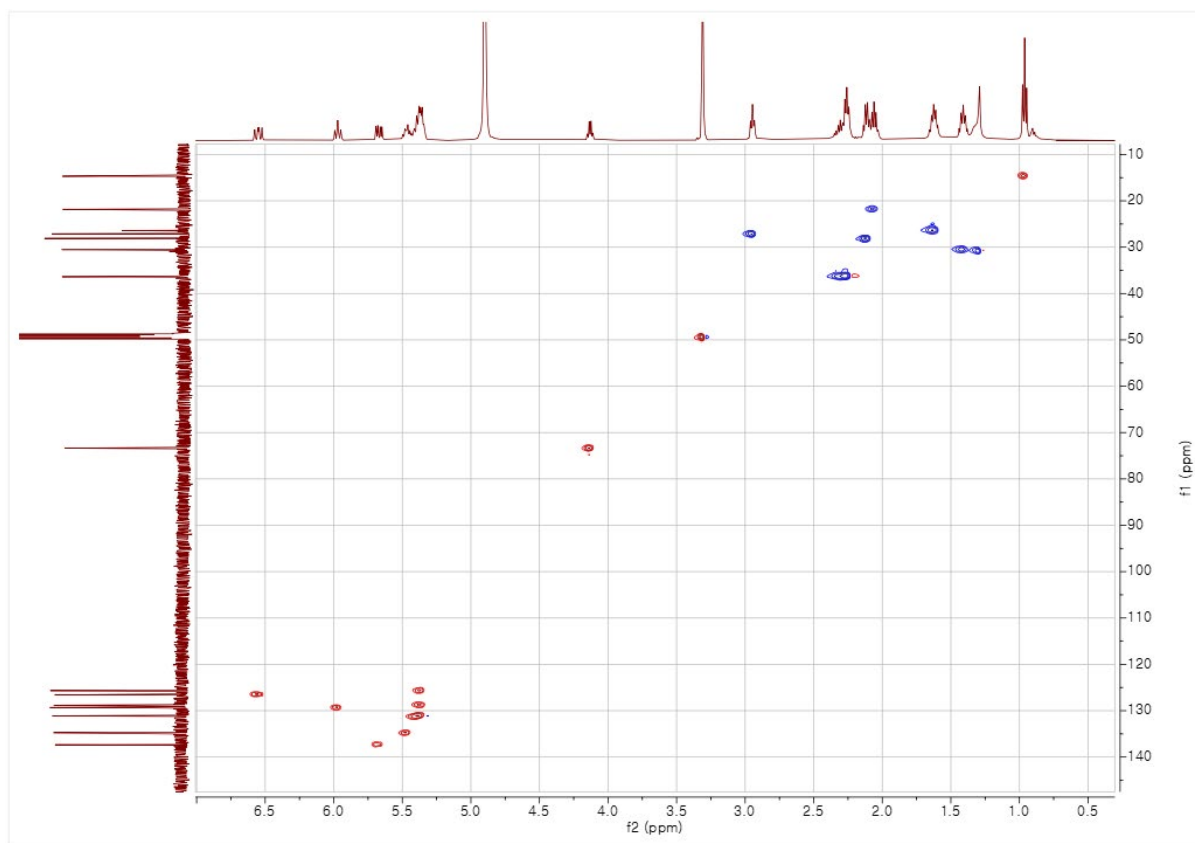


Figure S22. HSQC spectrum of **4**.

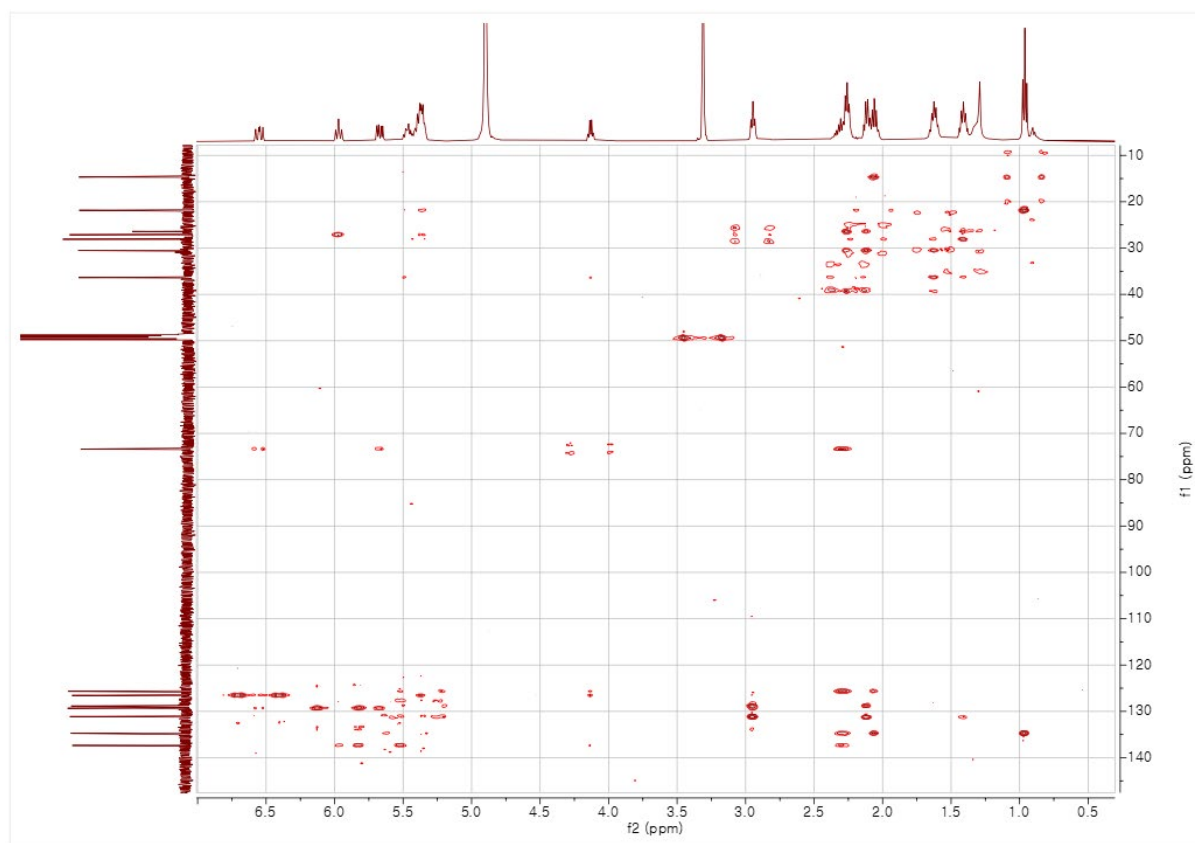


Figure S23. HMBC spectrum of **4**.

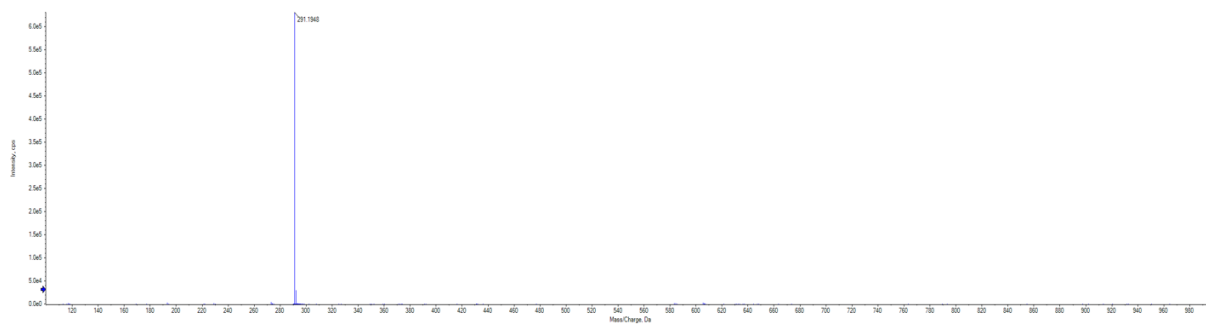


Figure S24. HR-ESI-MS of **4**.