

Supporting information

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Table S1. Experimental and calculated specific rotation data of **1** and **2**

Table S2. The cytotoxicity of compounds **6**, **11**, and **15** isolated from *P. ginseng* in RAW264.7 macrophages

Figure S1. HR-DART-MS spectrum of compound **1**

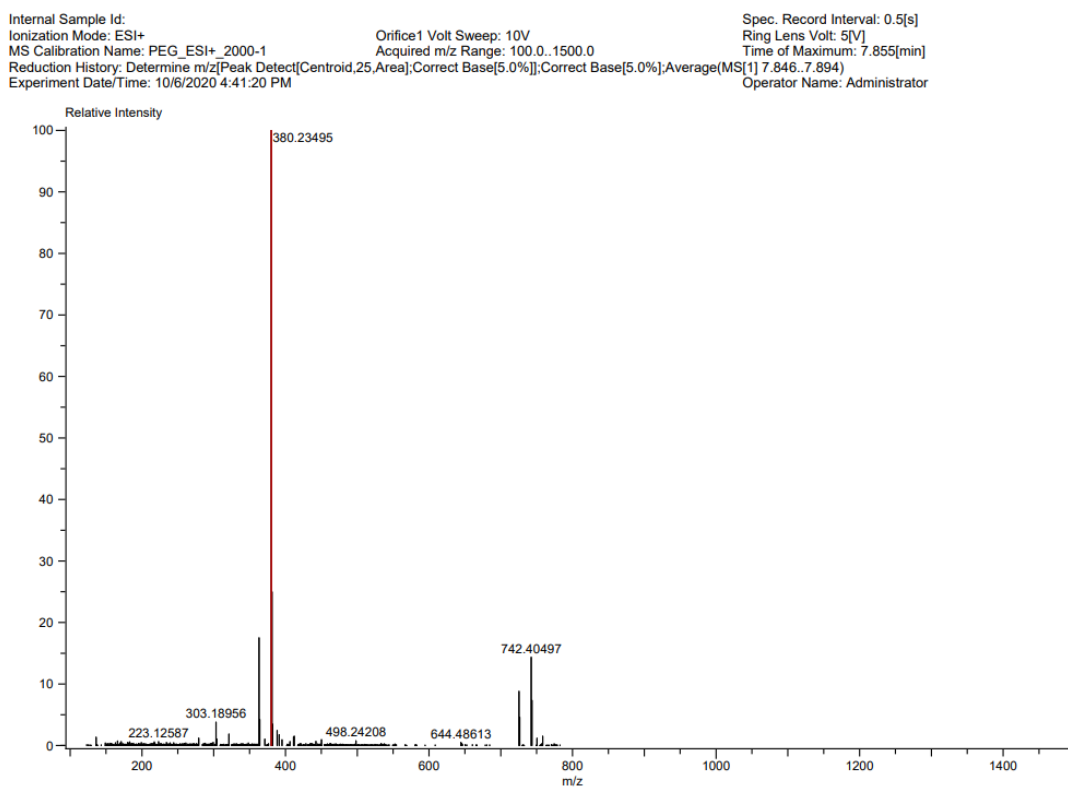


Figure S2. ^1H NMR spectrum of compound **1** (500 MHz, chloroform- d)

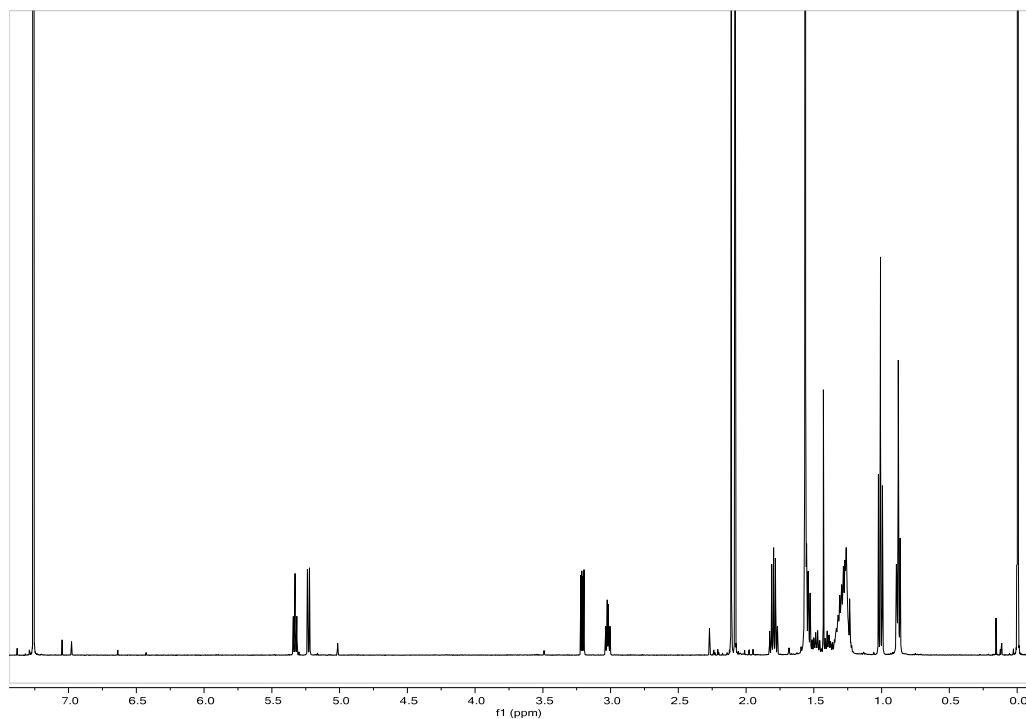


Figure S3. ^{13}C NMR spectrum of compound **1** (200 MHz, chloroform- d)

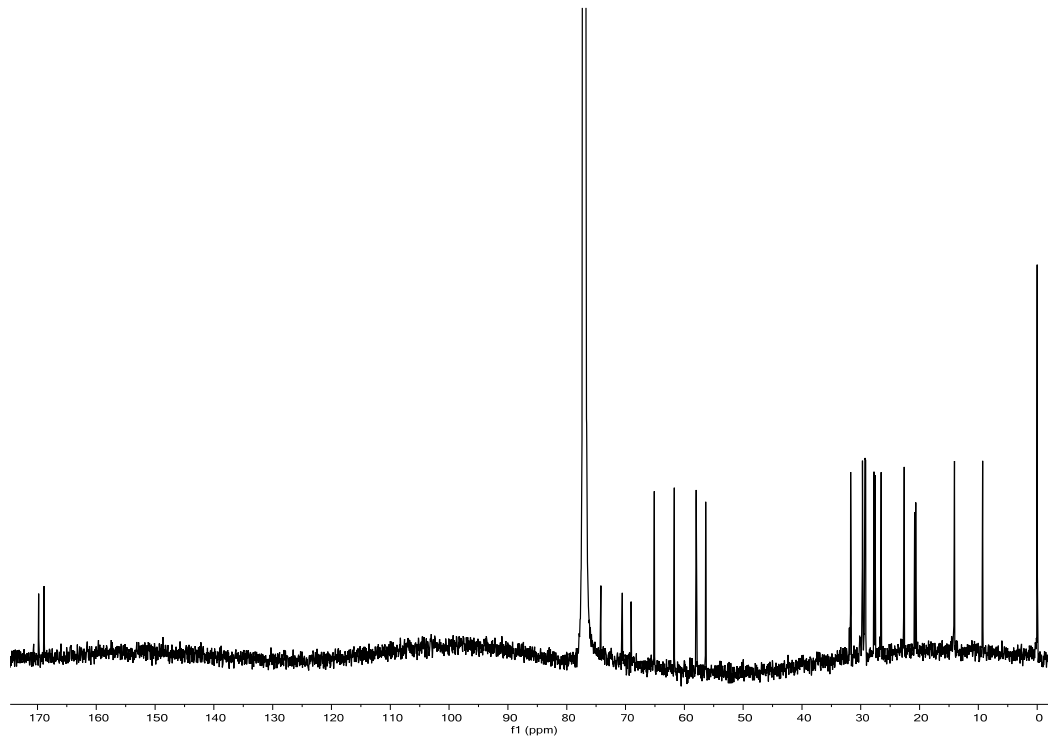


Figure S4 ^1H ^{13}C HSQC spectrum of compound **1**

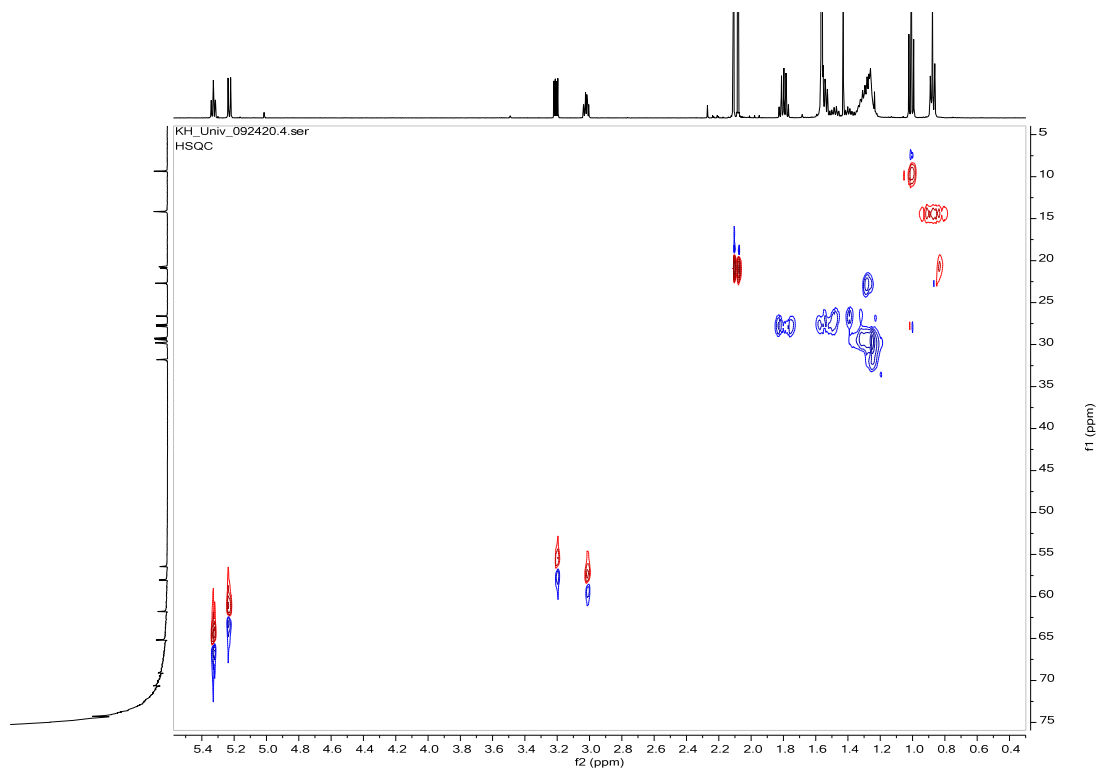


Figure S7. ^1H ^1H NOESY spectrum of compound **1**

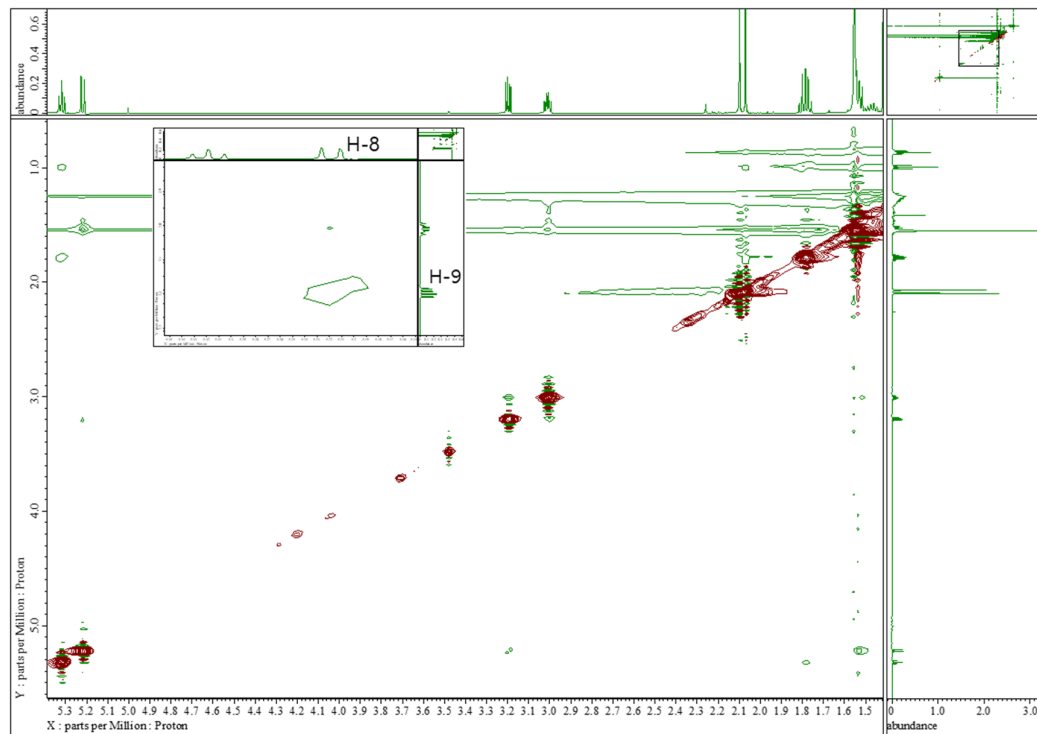


Figure S8. HR-DART-MS spectrum of compound **2**

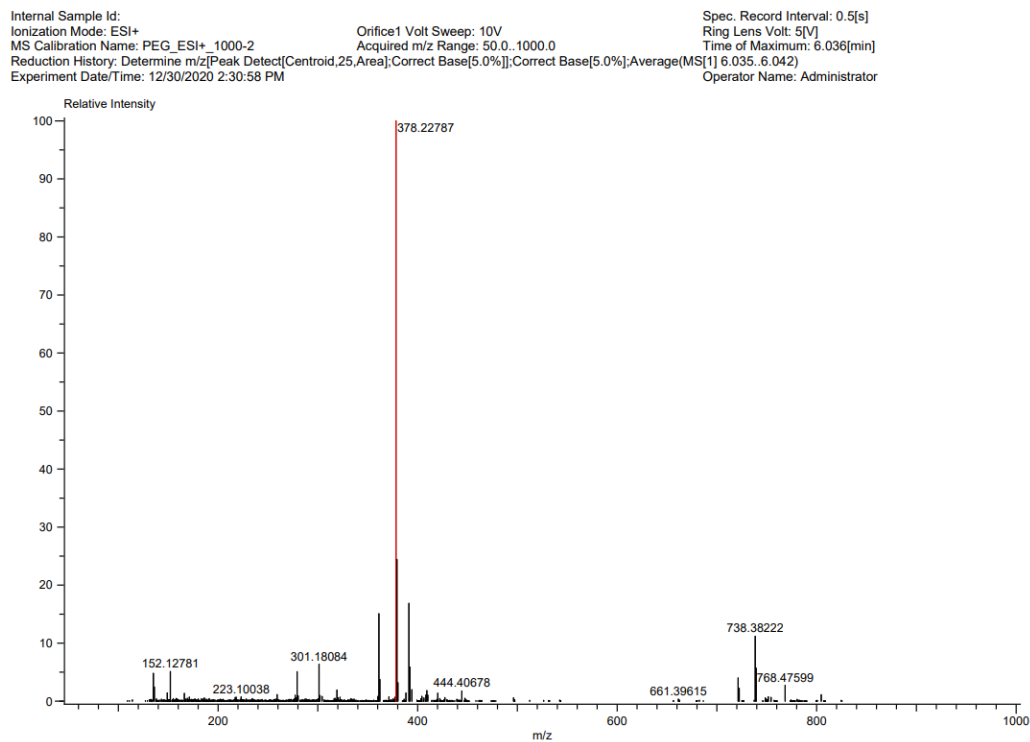


Figure S9. ^1H NMR spectrum of compound **2** (500 MHz, chloroform-*d*)

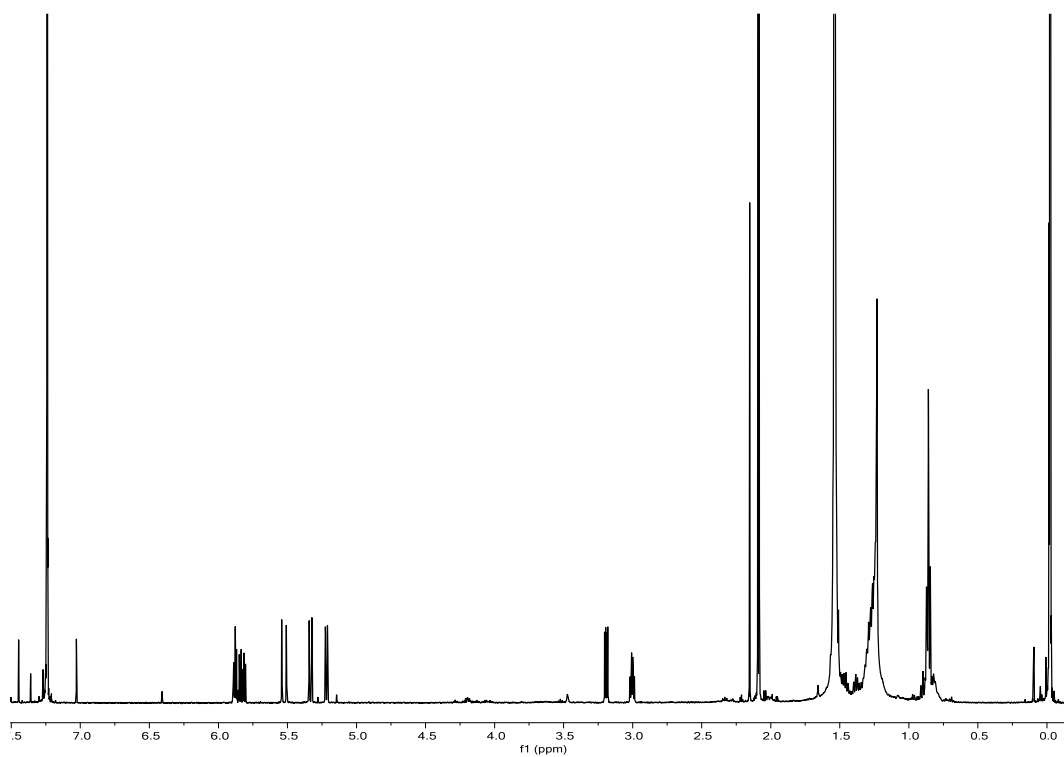


Figure S10. DEPT NMR spectrum of compound **2** (125 MHz, chloroform-*d*)

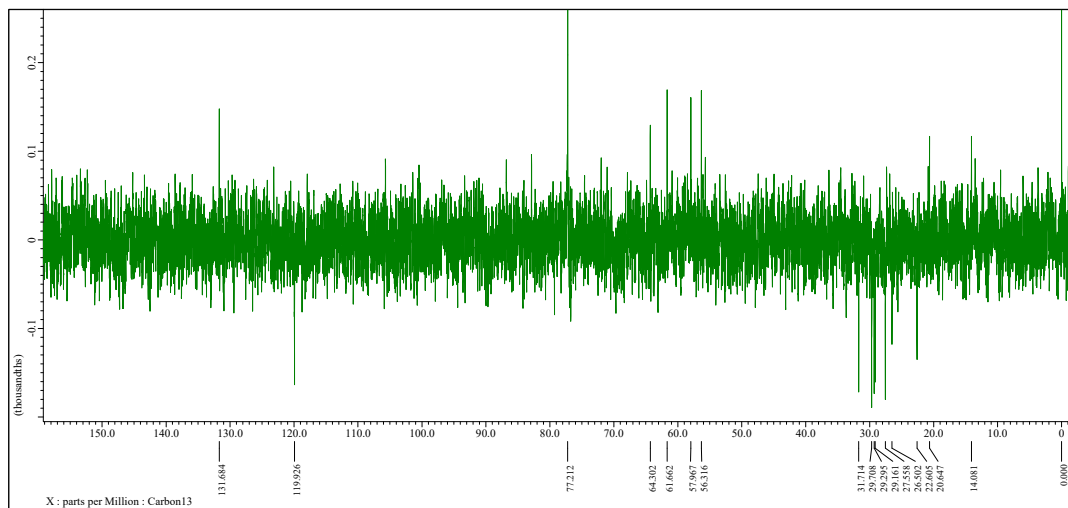


Figure S11. ^1H ^1H COSY spectrum of compound **2**

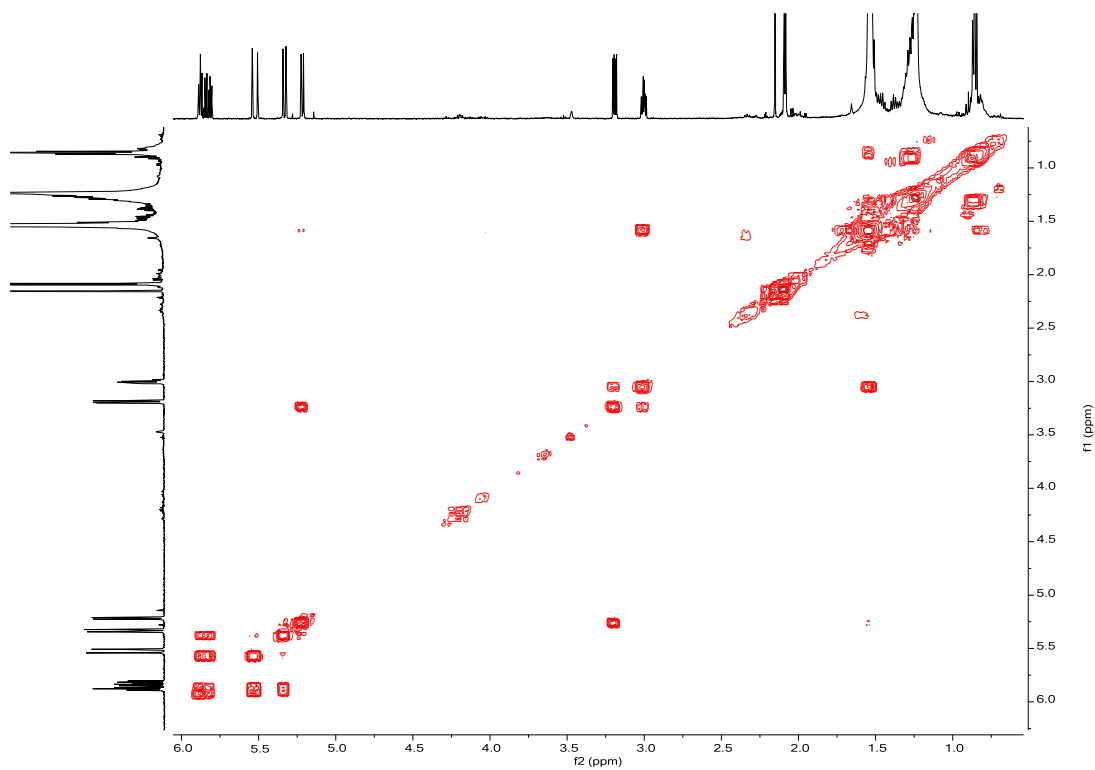


Figure S12. ^1H ^{13}C HMBC spectrum of compound **2**

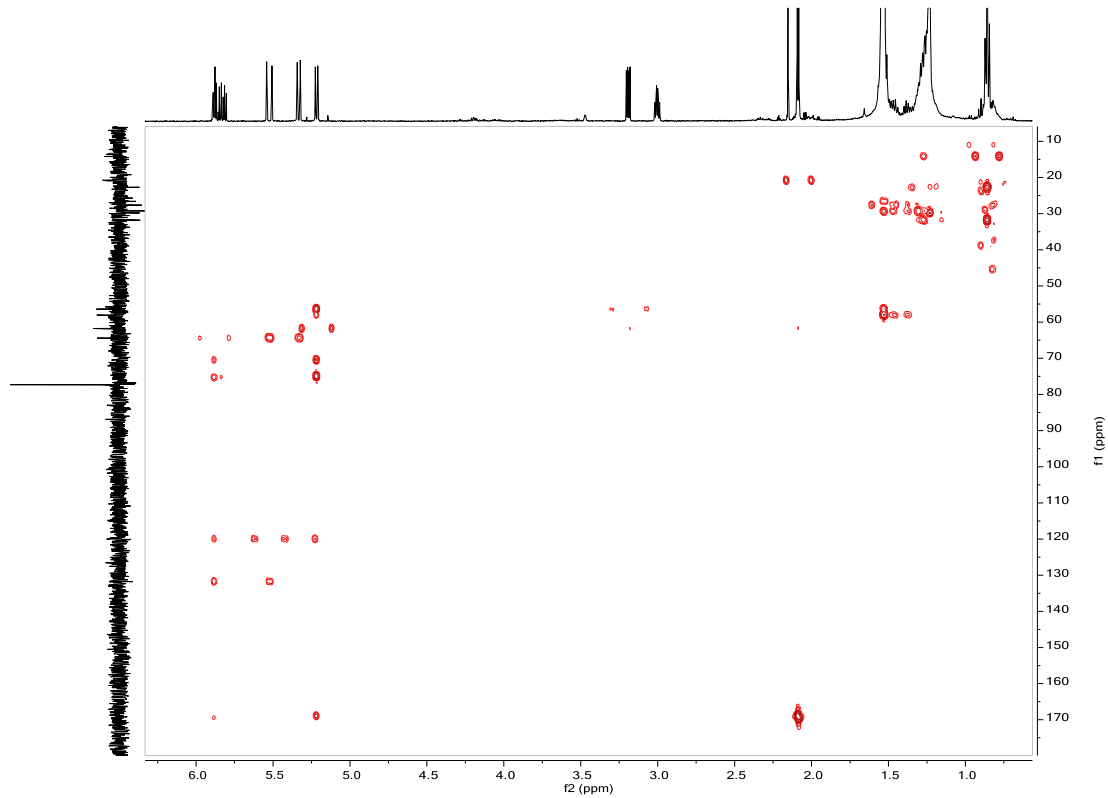


Figure S13. ^1H ^1H NOESY spectrum of compound **2**

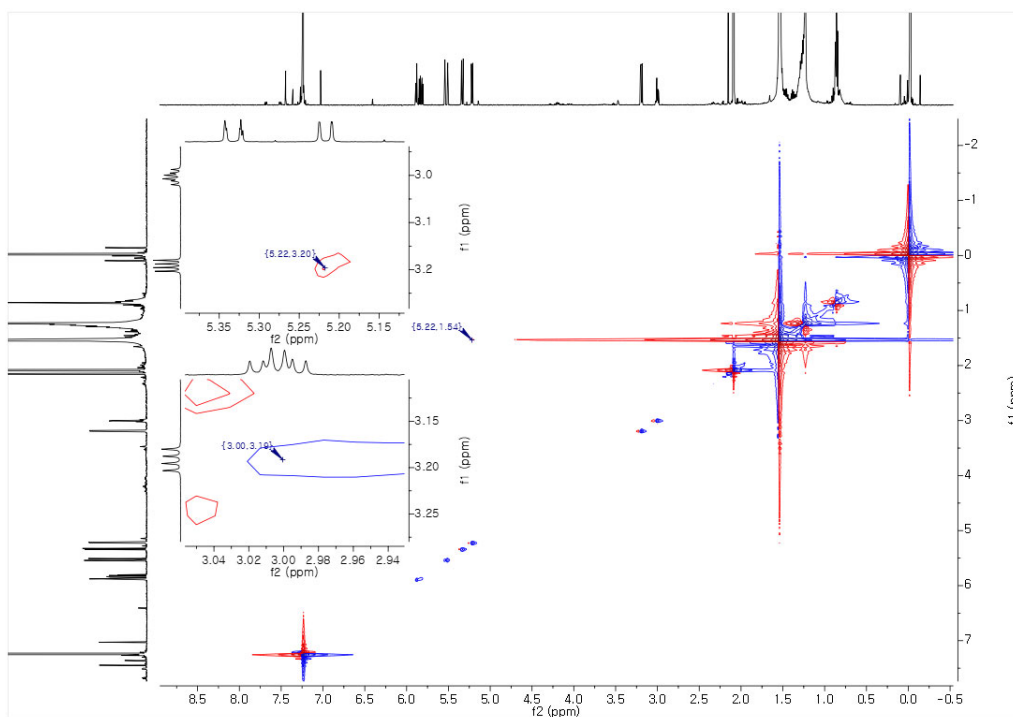


Figure S14. HR-DART-MS spectrum of compound **3**

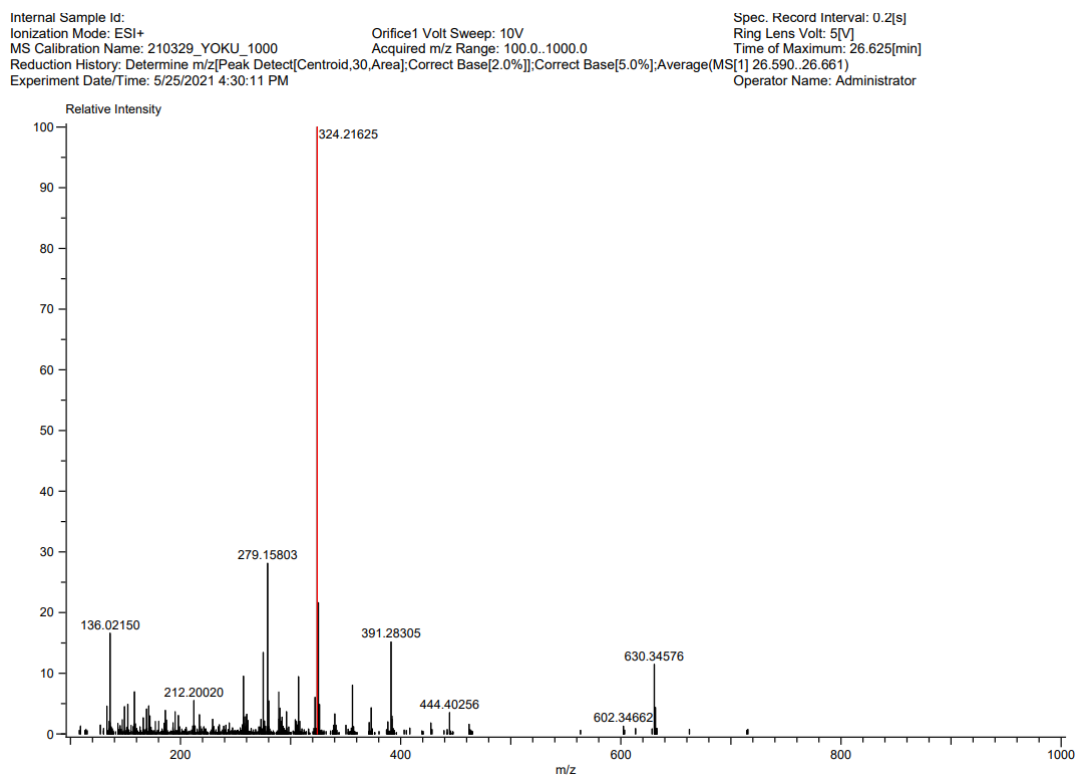


Figure S15. ^1H NMR spectrum of compound **3** (500 MHz, chloroform-*d*)

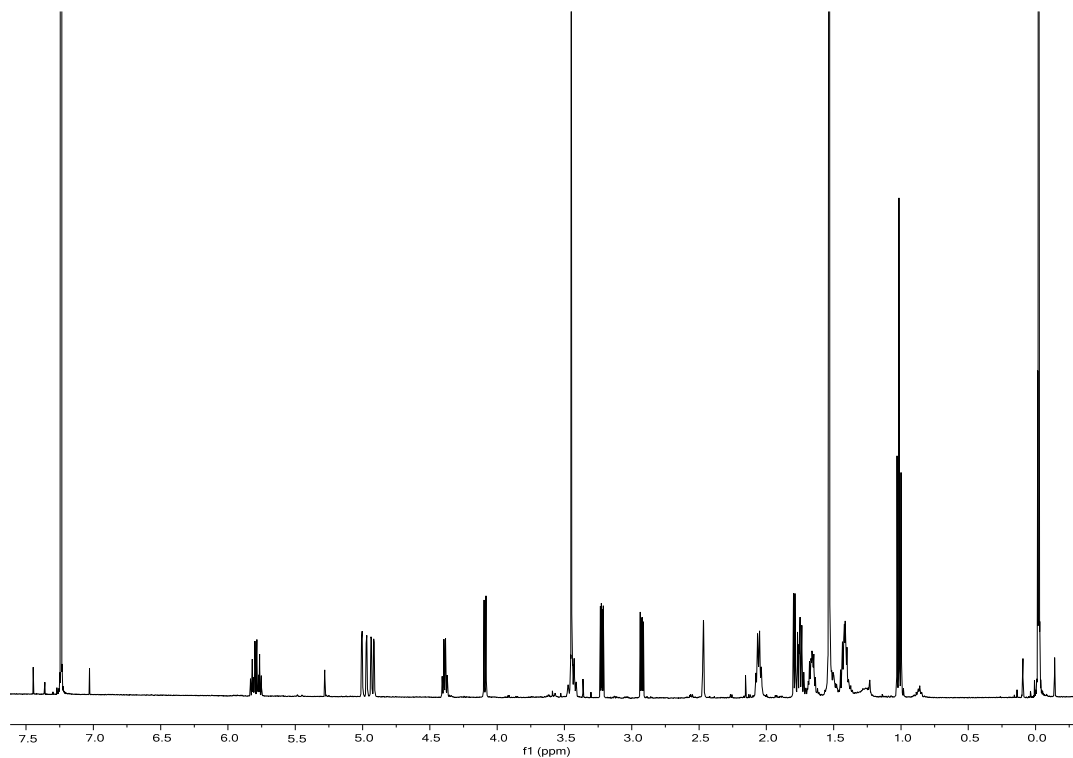


Figure S16. ^{13}C NMR spectrum of compound **3** (125 MHz, chloroform-*d*)

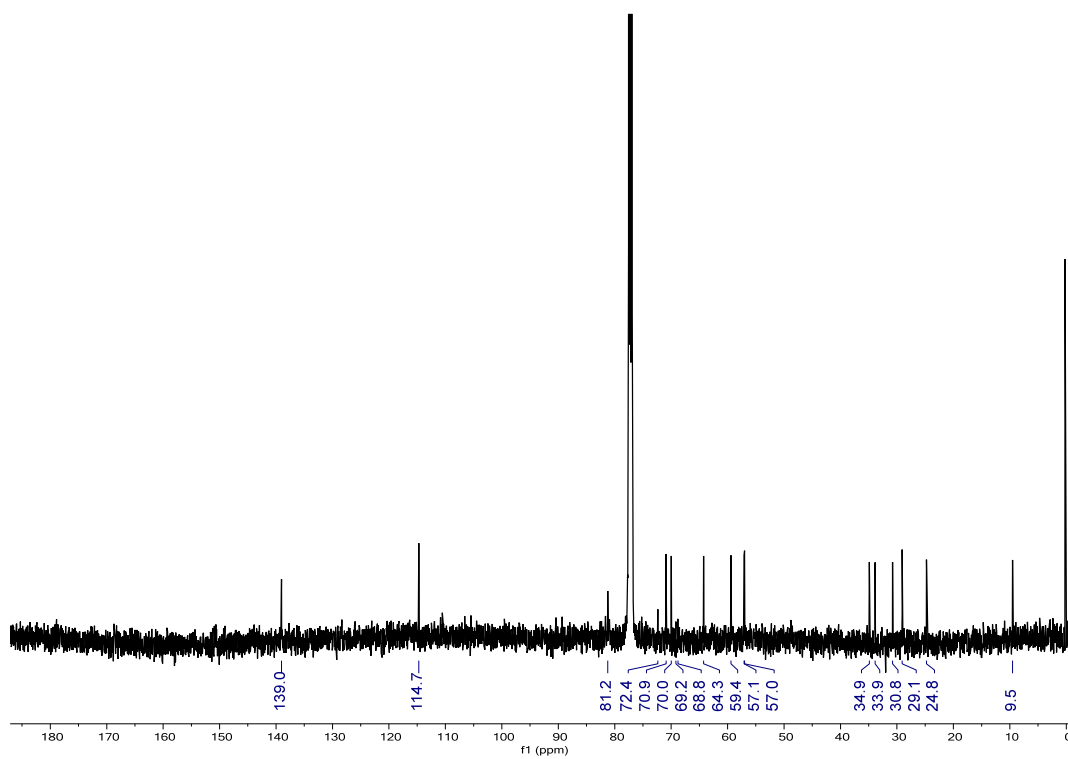


Figure S17. ^1H ^{13}C HSQC spectrum of compound **3**

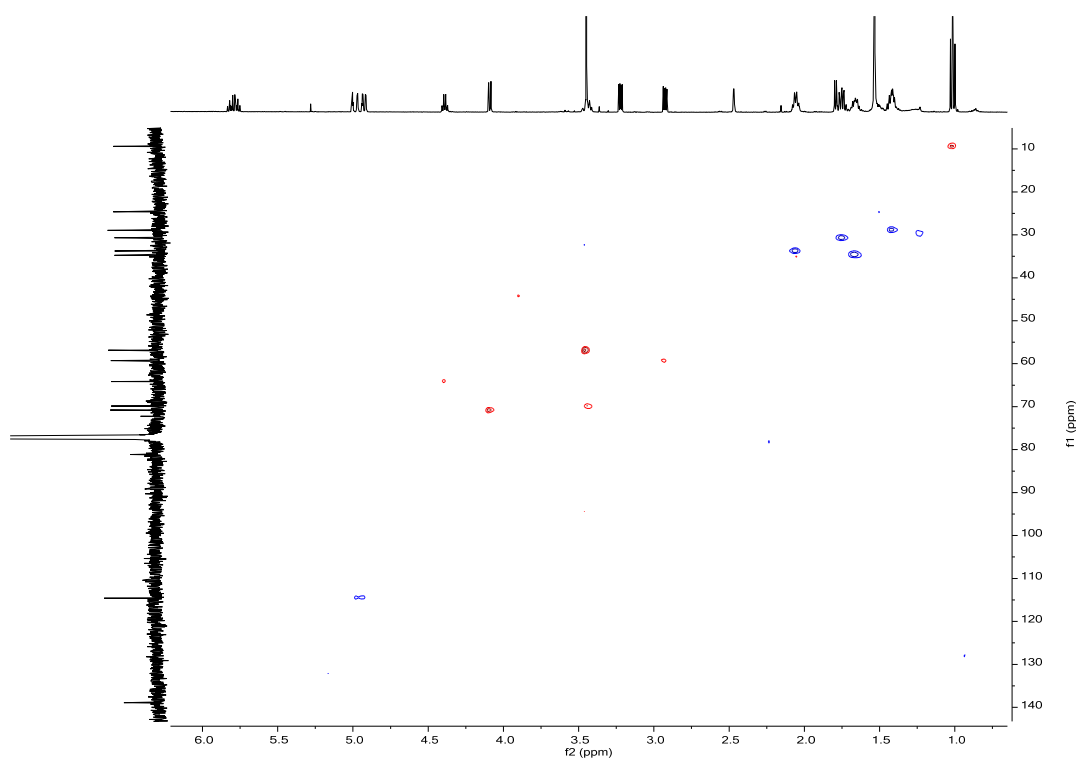


Figure S18. ^1H ^1H COSY spectrum of compound **3**

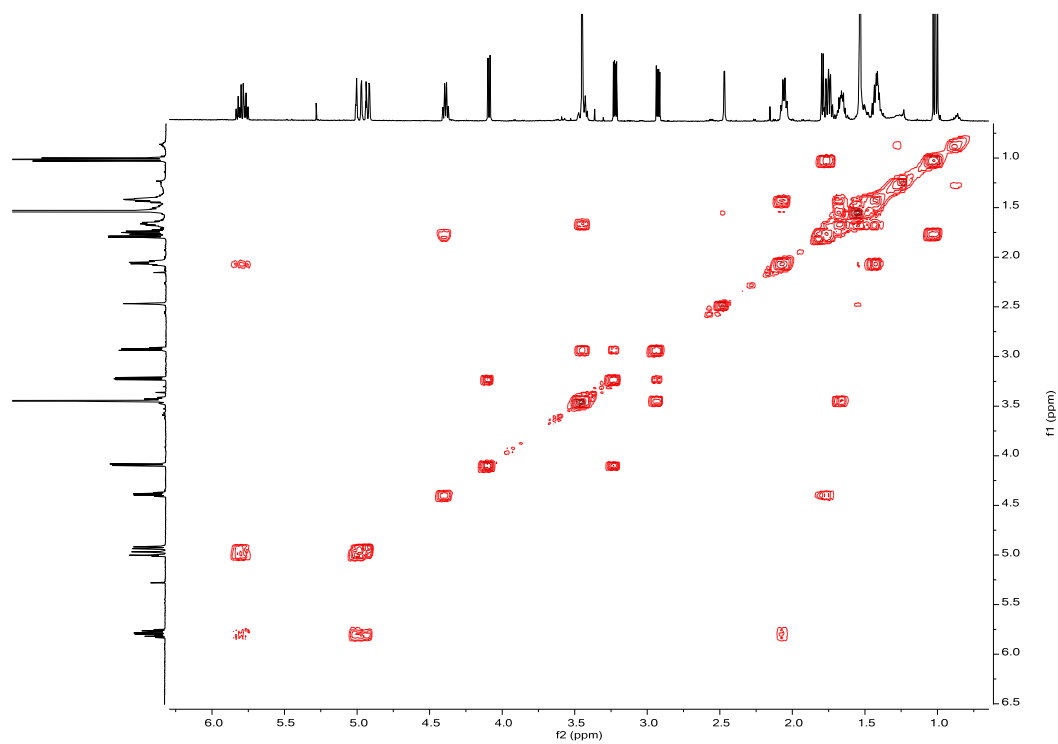


Figure S19. ^1H ^{13}C HMBC spectrum of compound **3**

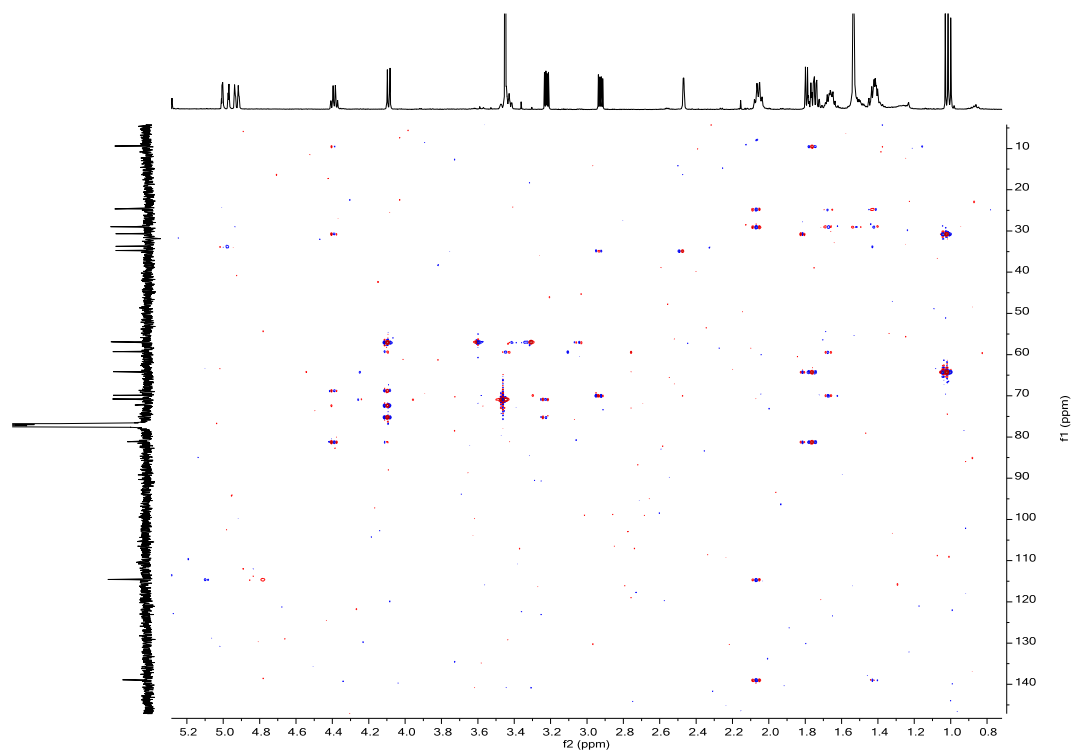


Figure S20. ^1H ^1H NOESY spectrum of compound **3**

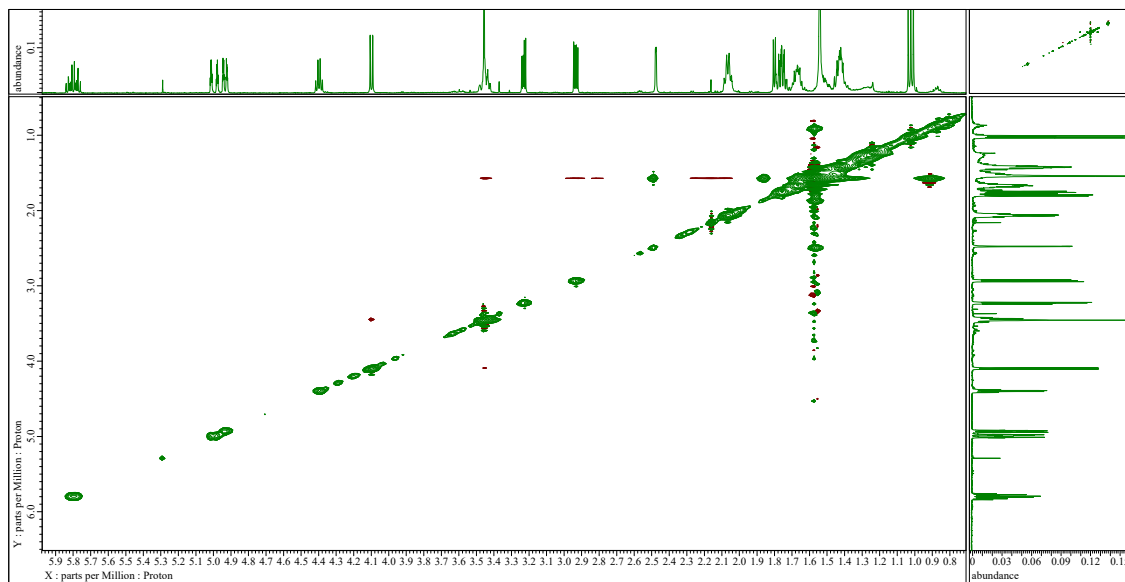


Figure S21. HR-DART-MS spectrum of compound **4**

Internal Sample Id:
Ionization Mode: ESI+
MS Calibration Name: 210329_YOKU_1000
Reduction History: Determine m/z[Peak Detect[Centroid,30,Area];Correct Base[2.0%];Correct Base[5.0%];Average(MS[1] 31.103, 31.134)
Experiment Date/Time: 6/22/2021 10:57:22 AM

Orifice1 Volt Sweep: 10V
Acquired m/z Range: 50.0..1000.0

Spec. Record Interval: 0.2[s]
Ring Lens Volt: 5[V]
Time of Maximum: 31.106[min]
Operator Name: Administrator

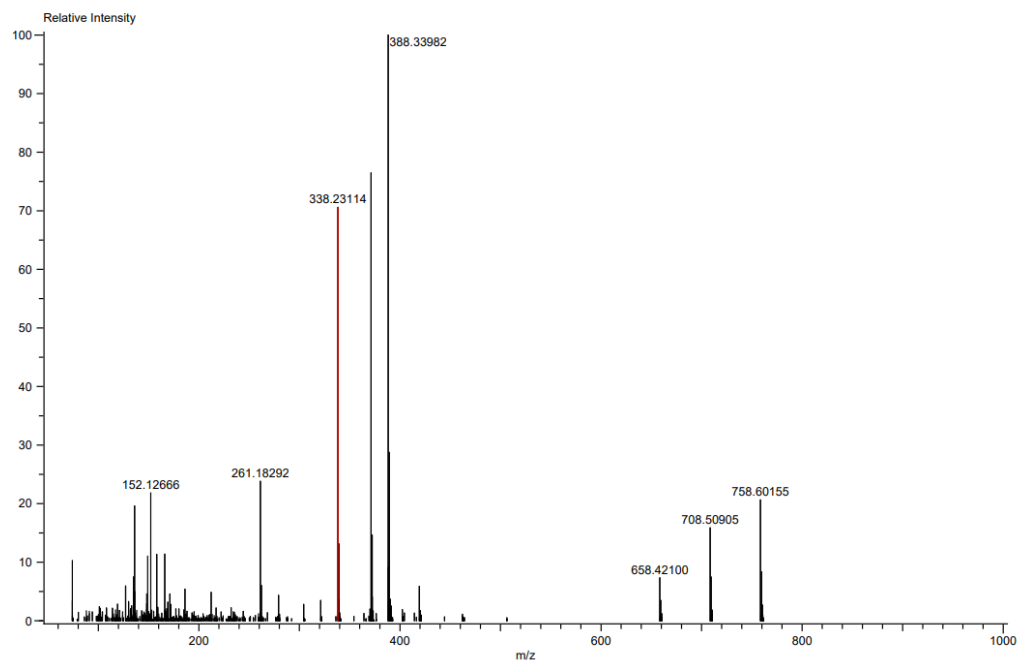


Figure S22. ^1H NMR spectrum of compound **4** (500 MHz, chloroform-*d*)

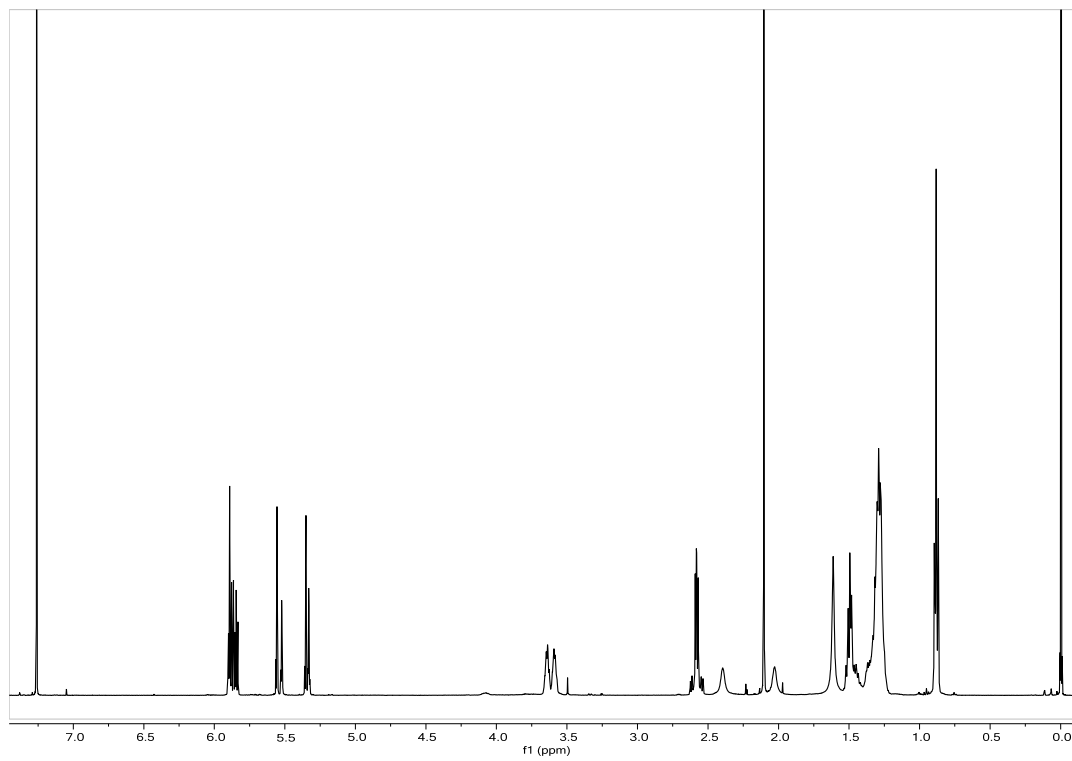


Figure S23. ^{13}C NMR spectrum of compound **4** (125 MHz, chloroform-*d*)

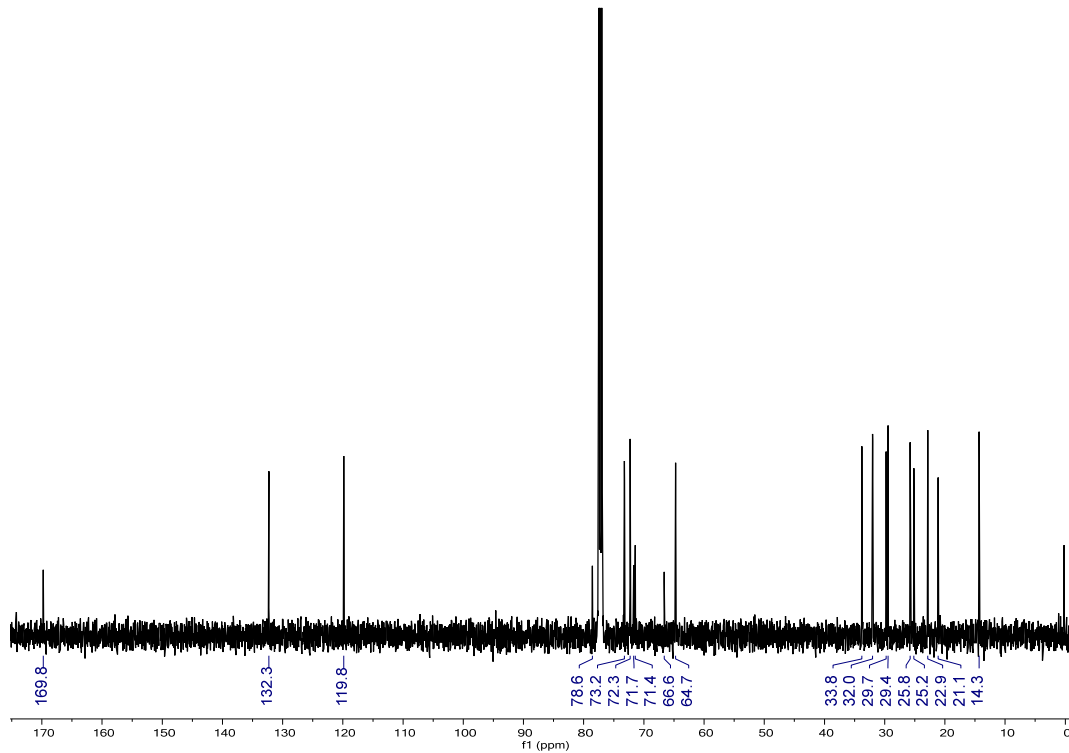


Figure S24. ^1H ^{13}C HSQC spectrum of compound **4**

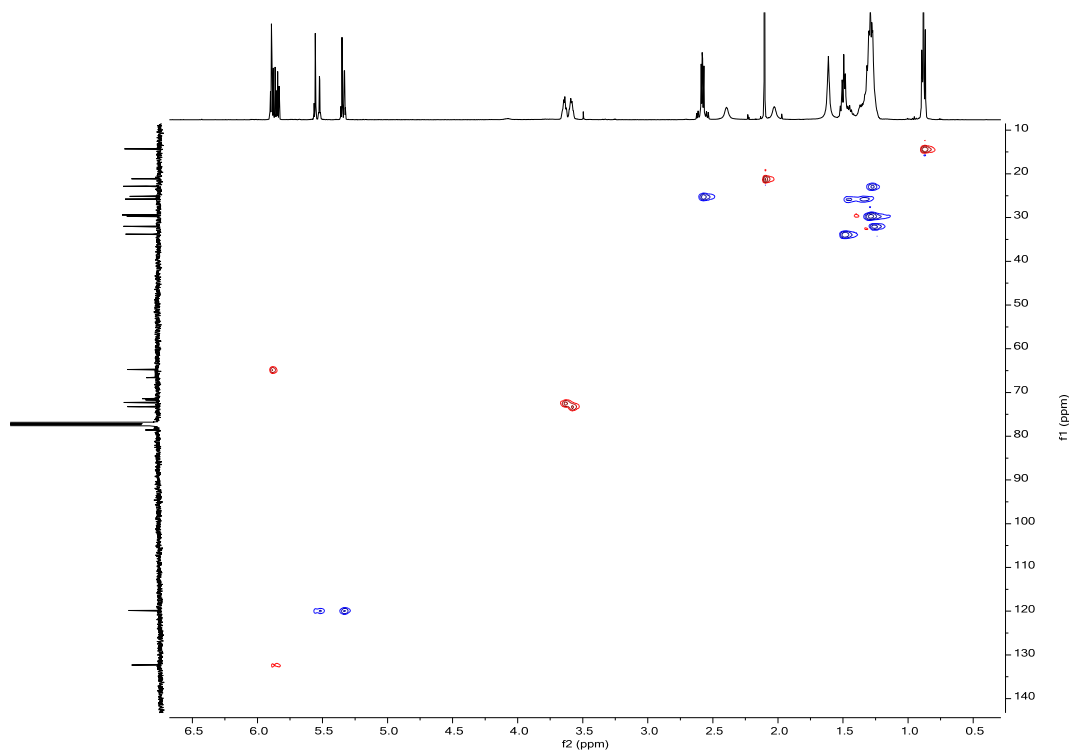


Figure S25. ^1H ^1H COSY spectrum of compound **4**

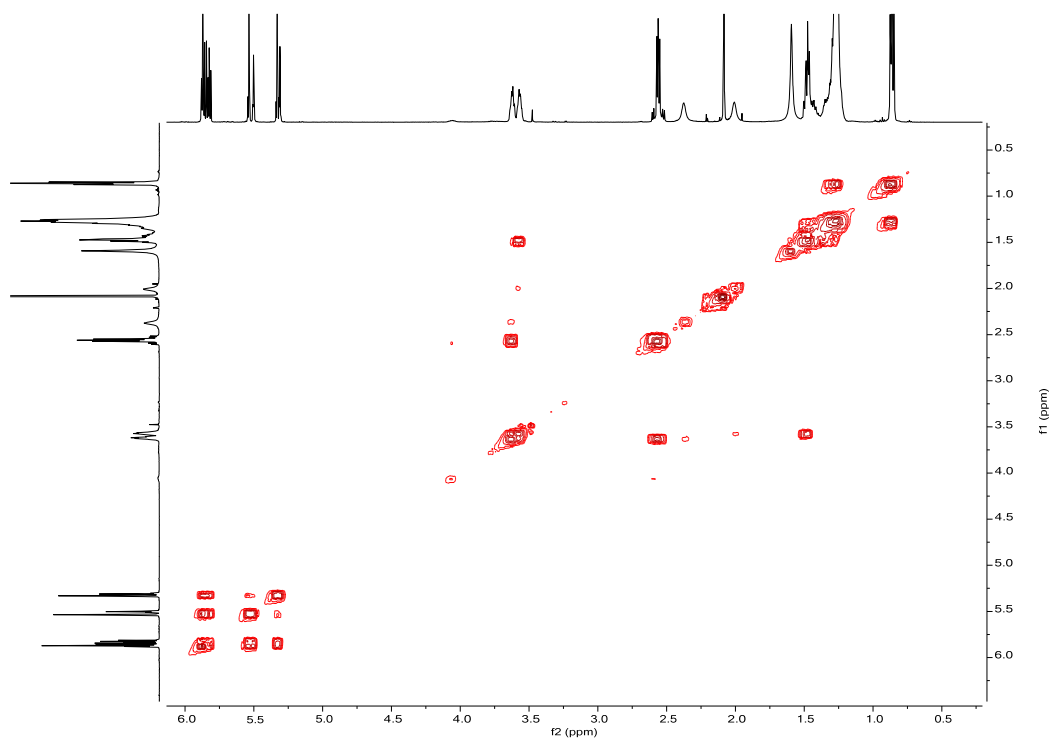


Figure S26. ^1H ^{13}C HMBC spectrum of compound **4**

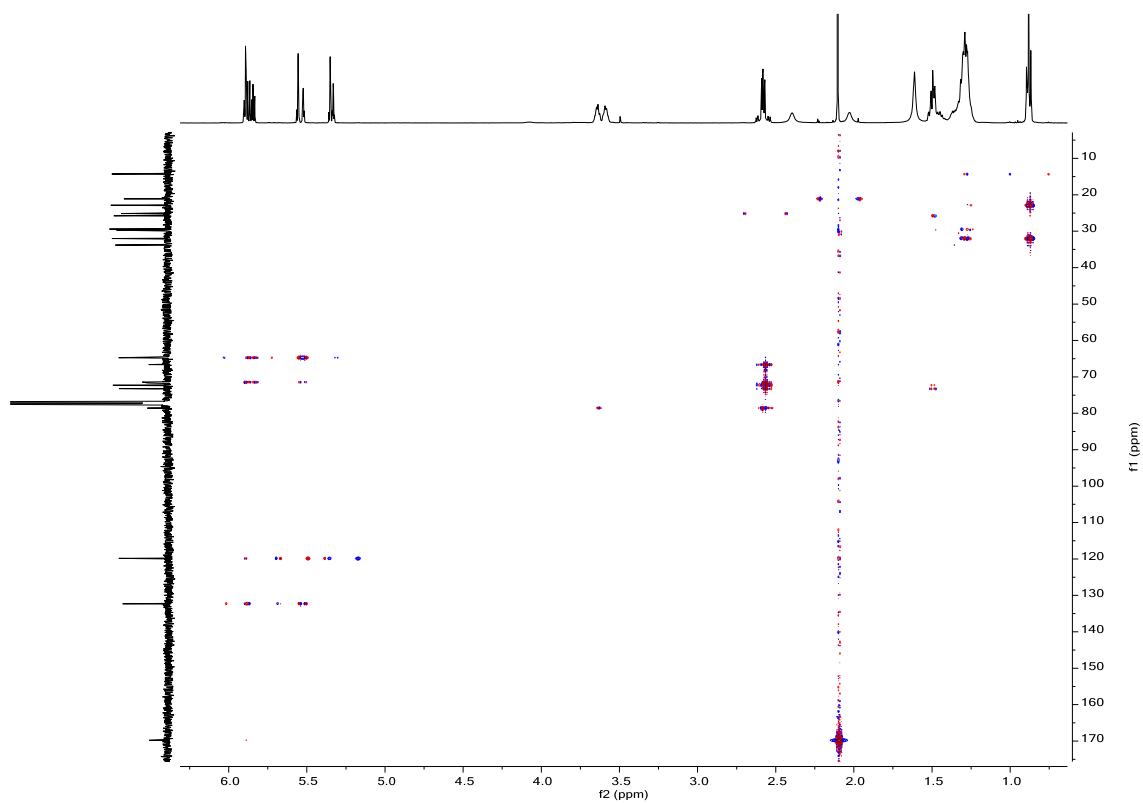


Figure S27. ^1H ^1H NOESY spectrum of compound **4**

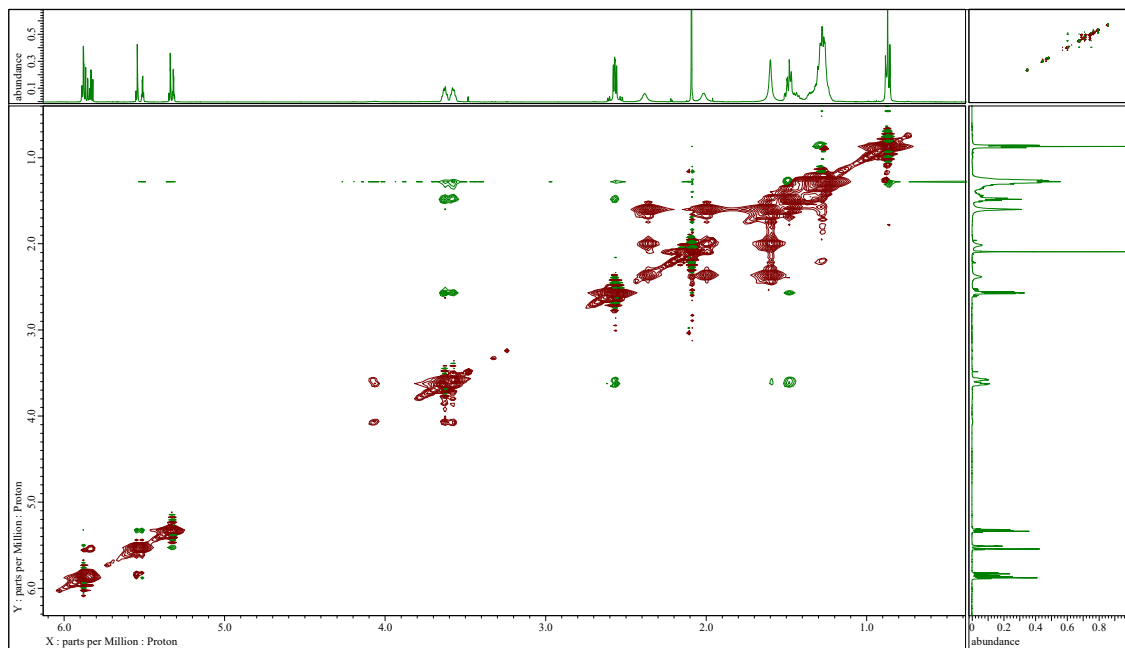


Figure S28. ^1H NMR spectra of compounds **11** and **4a**

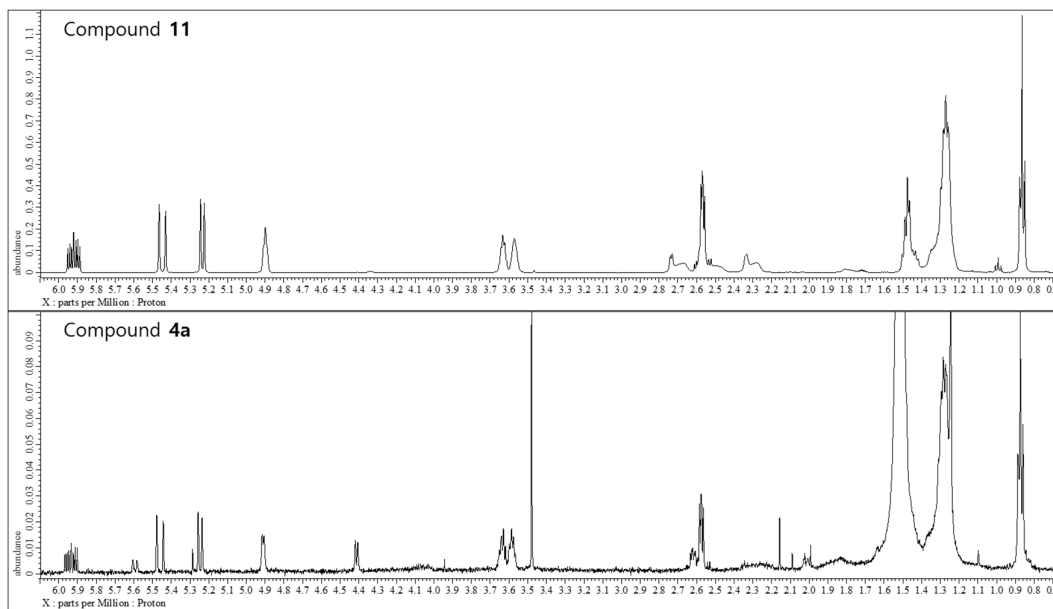


Figure S29. The effects of compounds **1–2**, **4**, **6–7**, **9–13**, and **15–16** on cell viability in epithelial ovarian cancer cells A2780

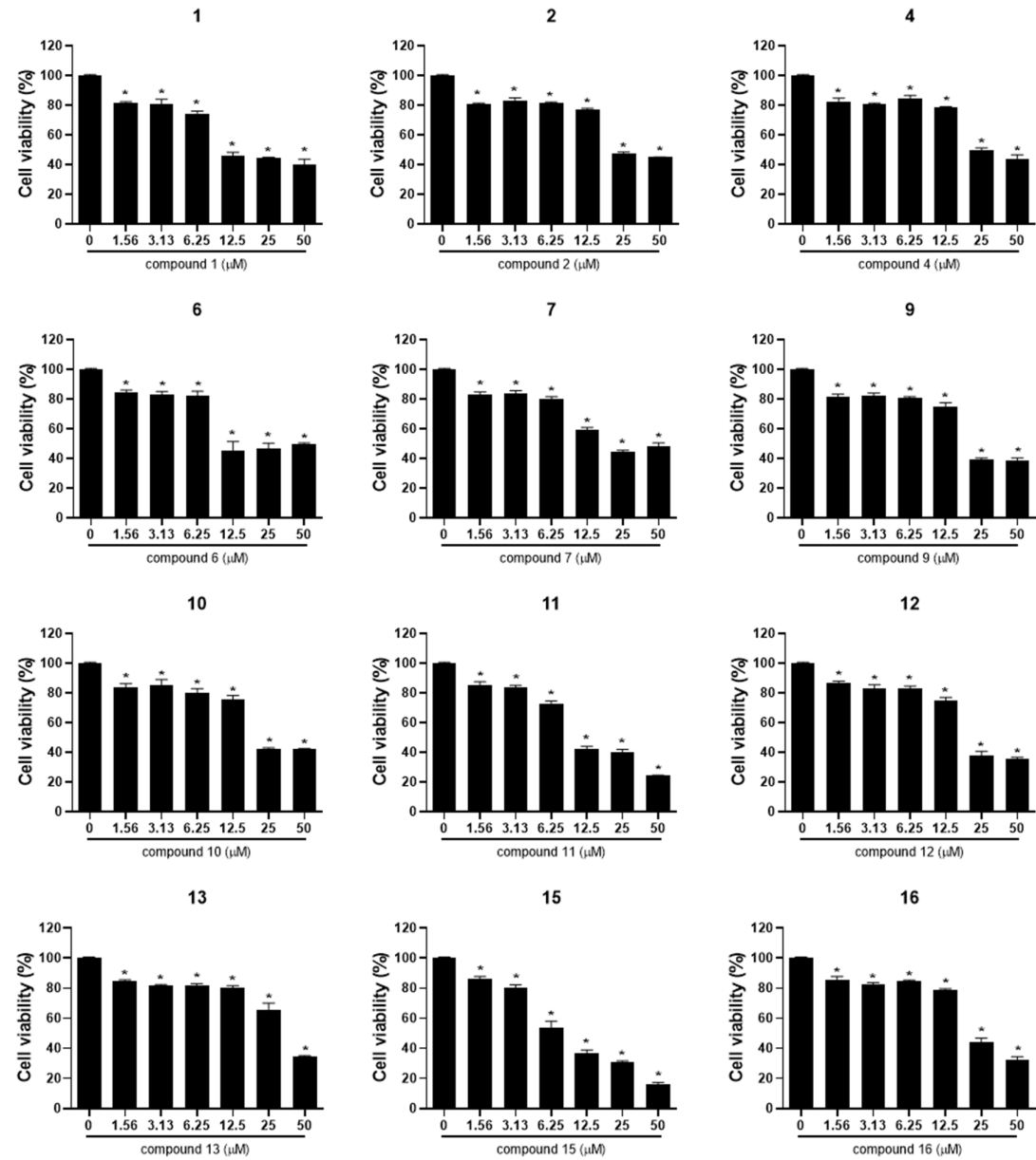


Figure S30. The effects of compounds **6**, **11**, and **15** on cell viability in epithelial ovarian cancer cells SKOV3

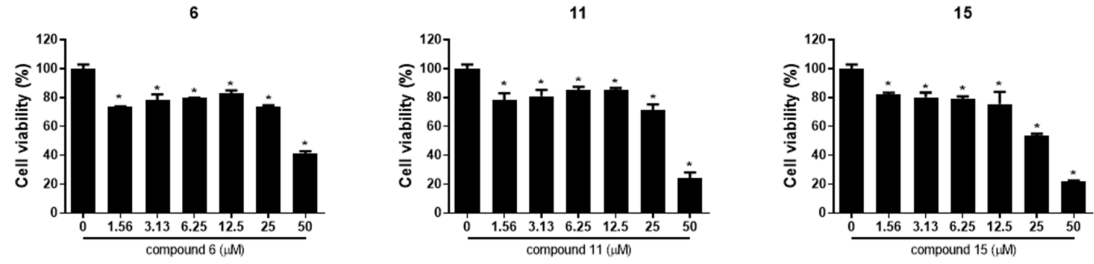


Table S1. Experimental and calculated specific rotation data of **1** and **2**

Ginsenoyne O (1)			Ginsenoyne P (2)		
Configuration	Calculated specific rotation ^a	Experimental specific rotation ^b	Configuration	Calculated specific rotation ^a	Experimental specific rotation ^b
3 <i>S</i> /8 <i>S</i> /9 <i>R</i> /10 <i>R</i>	-12.11	-21.43	3 <i>S</i> /8 <i>S</i> /9 <i>R</i> /10 <i>R</i>	-20.28	-4.90
3 <i>R</i> /8 <i>S</i> /9 <i>R</i> /10 <i>R</i>	-87.11		3 <i>R</i> /8 <i>S</i> /9 <i>R</i> /10 <i>R</i>	-98.10	
3 <i>R</i> /8 <i>R</i> /9 <i>S</i> /10 <i>S</i>	+11.42		3 <i>R</i> /8 <i>R</i> /9 <i>S</i> /10 <i>S</i>	+25.34	
3 <i>S</i> /8 <i>R</i> /9 <i>S</i> /10 <i>S</i>	+89.18		3 <i>S</i> /8 <i>R</i> /9 <i>S</i> /10 <i>S</i>	+102.61	

^a averaged by Boltzmann weight, ^b measured at 589 nm

Table S2. The cytotoxicity of compounds **6**, **11**, and **15** isolated from *P. ginseng* in RAW264.7 macrophages

Compound	IC ₅₀ (μ M) ^a
6	6.28 \pm 0.20
11	20.03 \pm 0.53
15	18.61 \pm 0.75

^a IC₅₀ value is the concentration that results in a 50% reduction in cell number when compared to control cultures.