

## Supplemental material

# New Andrastin-type Meroterpenoids from the Marine-Derived Fungus *Penicillium* sp.

Jinwei Ren <sup>1,2,†</sup>, Ruiyun Huo <sup>1,2,†</sup>, Gaoran Liu <sup>1,2</sup>, and Ling Liu <sup>1,2,\*</sup>

1 State Key Laboratory of Mycology, Institute of Microbiology, Chinese Academy of Sciences, Beijing 100101, China; [renjw@im.ac.cn](mailto:renjw@im.ac.cn) (J.R.), [ruiyunhuo@163.com](mailto:ruiyunhuo@163.com) (R.H.), [liugaoran@163.com](mailto:liugaoran@163.com) (G.L.)

2 University of Chinese Academy of Sciences, Beijing 100039, China

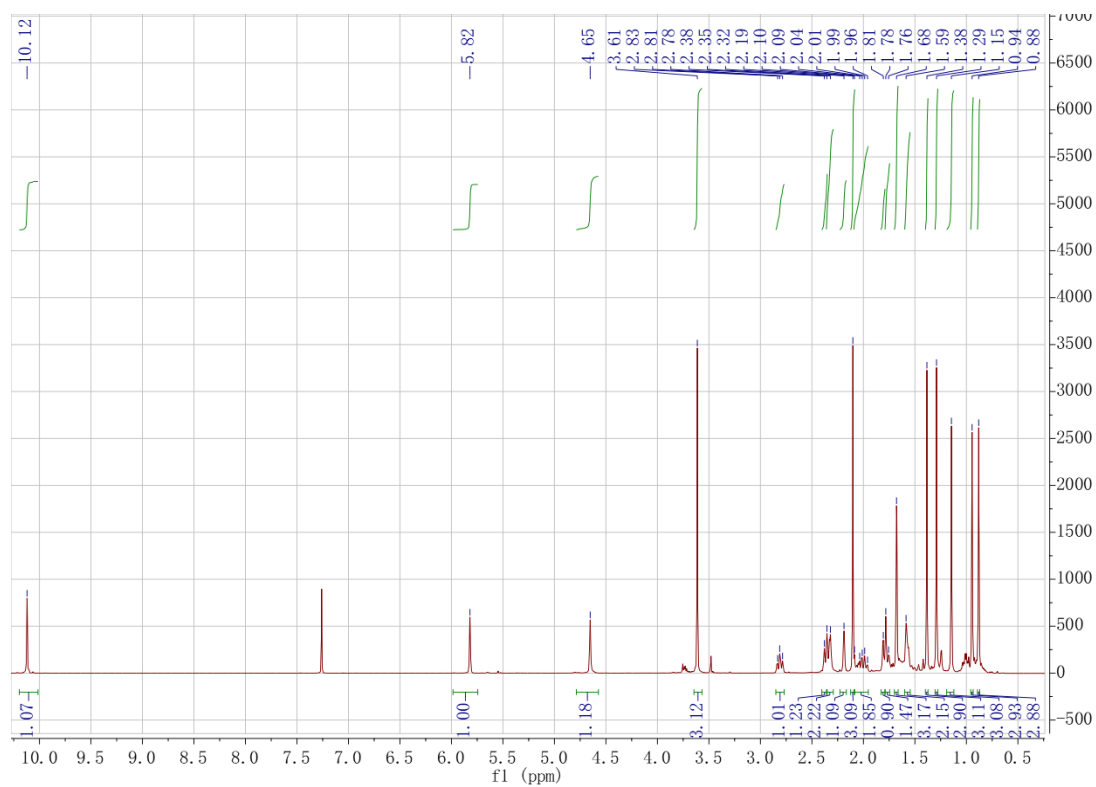
\* Correspondence: [liul@im.ac.cn](mailto:liul@im.ac.cn) (L.L.), Tel.: +86-10-64806153

† These authors contributed equally to this work.

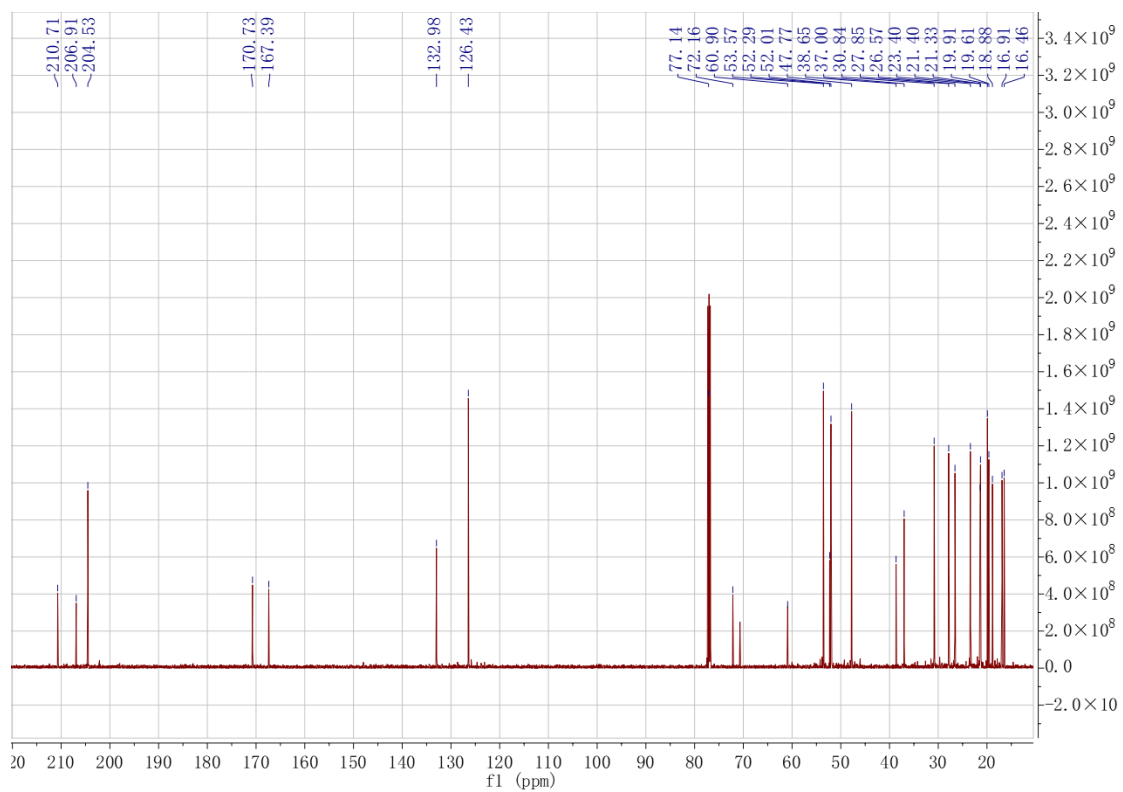
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\* Author to whom correspondence should be addressed; E-mail: liul@im.ac.cn; Tel: 86-10-64806153.



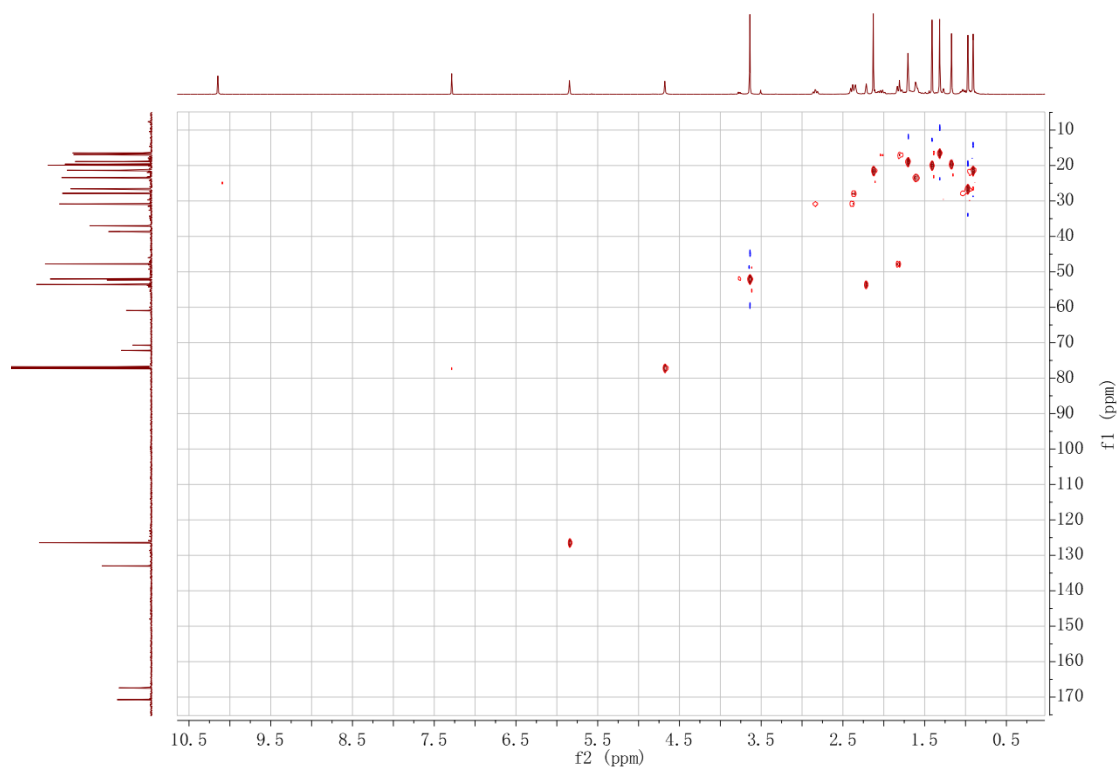
**Figure S1.**  $^1\text{H}$  NMR spectrum of penimeroterpenoid A (1; 500 MHz,  $\text{CDCl}_3$ )



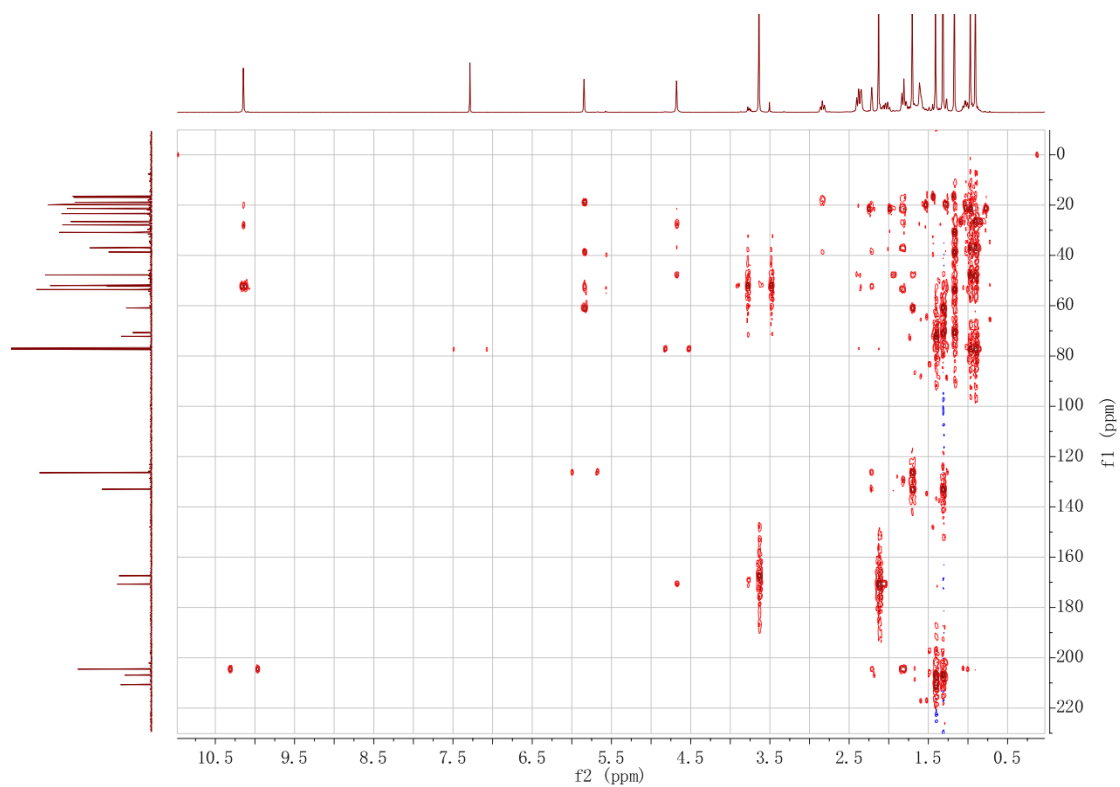
**Figure S2.**  $^{13}\text{C}$  NMR spectrum of penimeroterpenoid A (1; 125 MHz,  $\text{CDCl}_3$ )



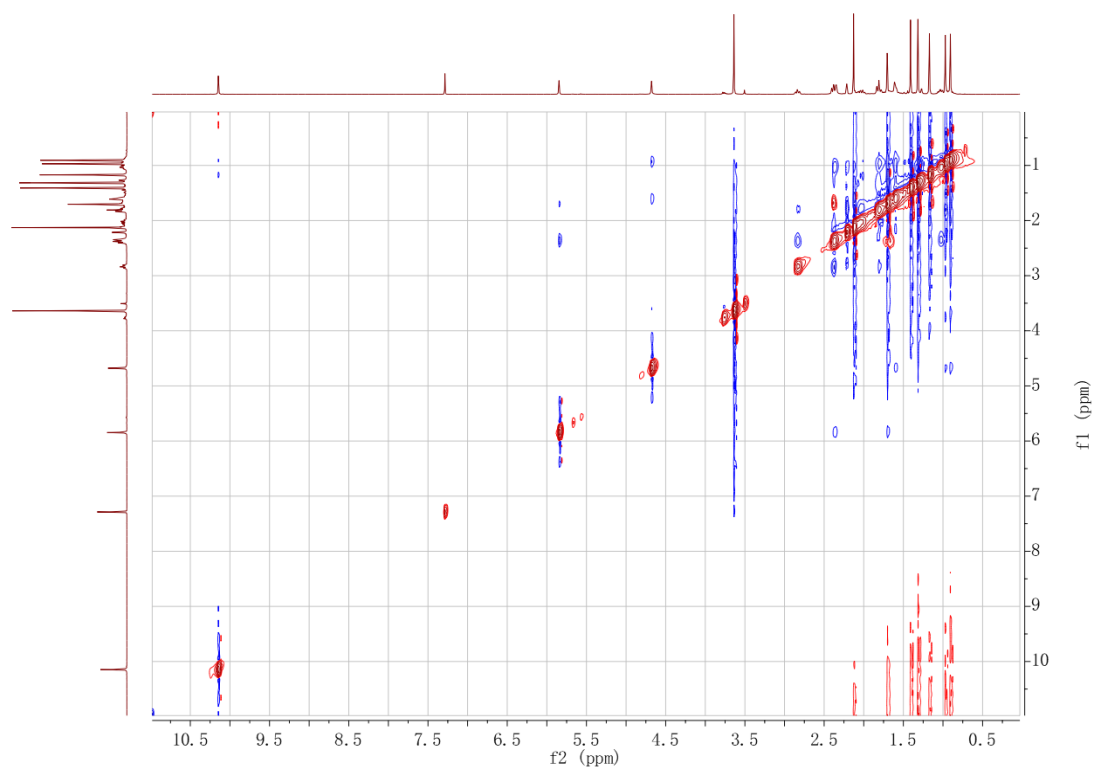
**Figure S3.**  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of penimeroterpenoid A (**1**; 500 MHz,  $\text{CDCl}_3$ )



**Figure S4.** HSQC spectrum of penimeroterpenoid A (**1**; 500 MHz, CDCl<sub>3</sub>)

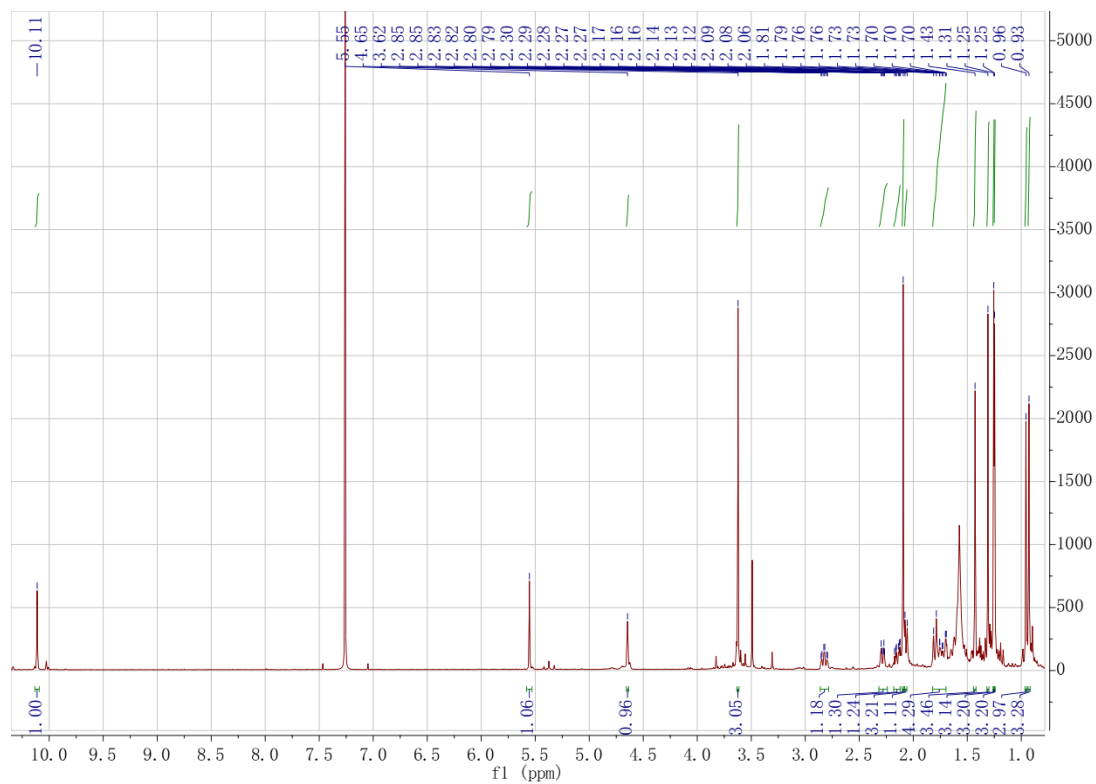


**Figure S5.** HMBC spectrum of penimeroterpenoid A (**1**; 500 MHz, CDCl<sub>3</sub>)

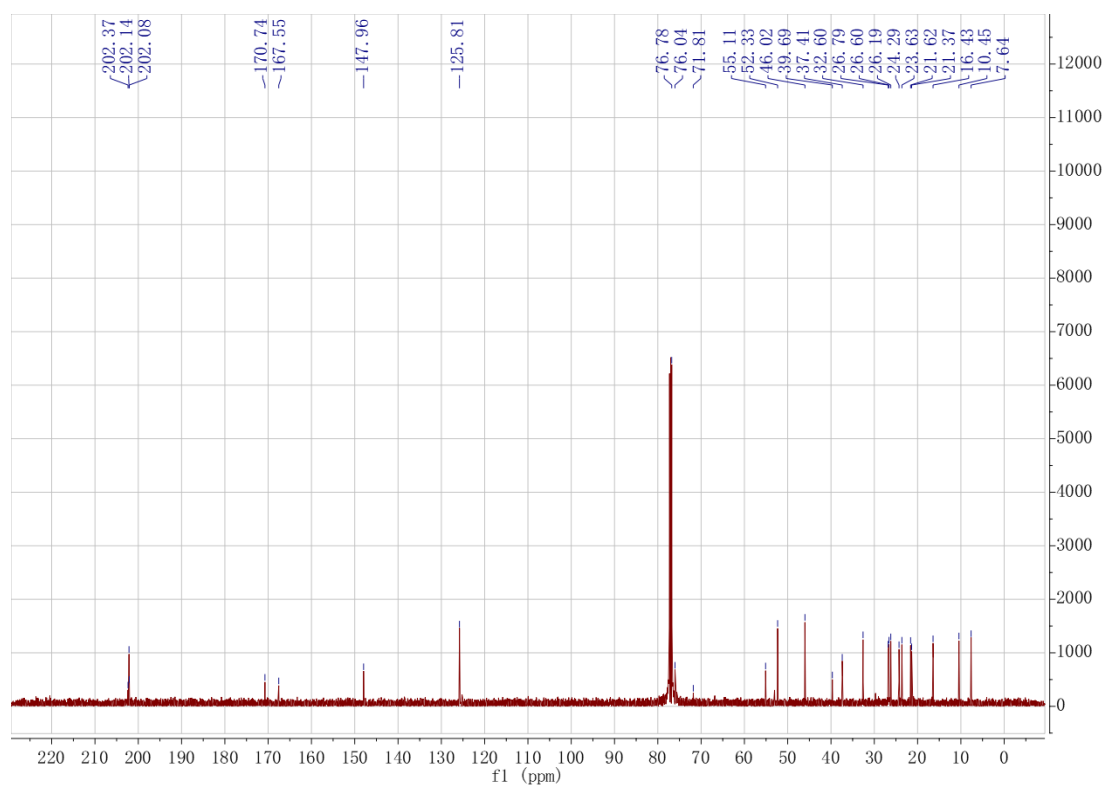


**Figure S6.** NOESY spectrum of penimeroterpenoid A (**1**; 500 MHz, CDCl<sub>3</sub>)

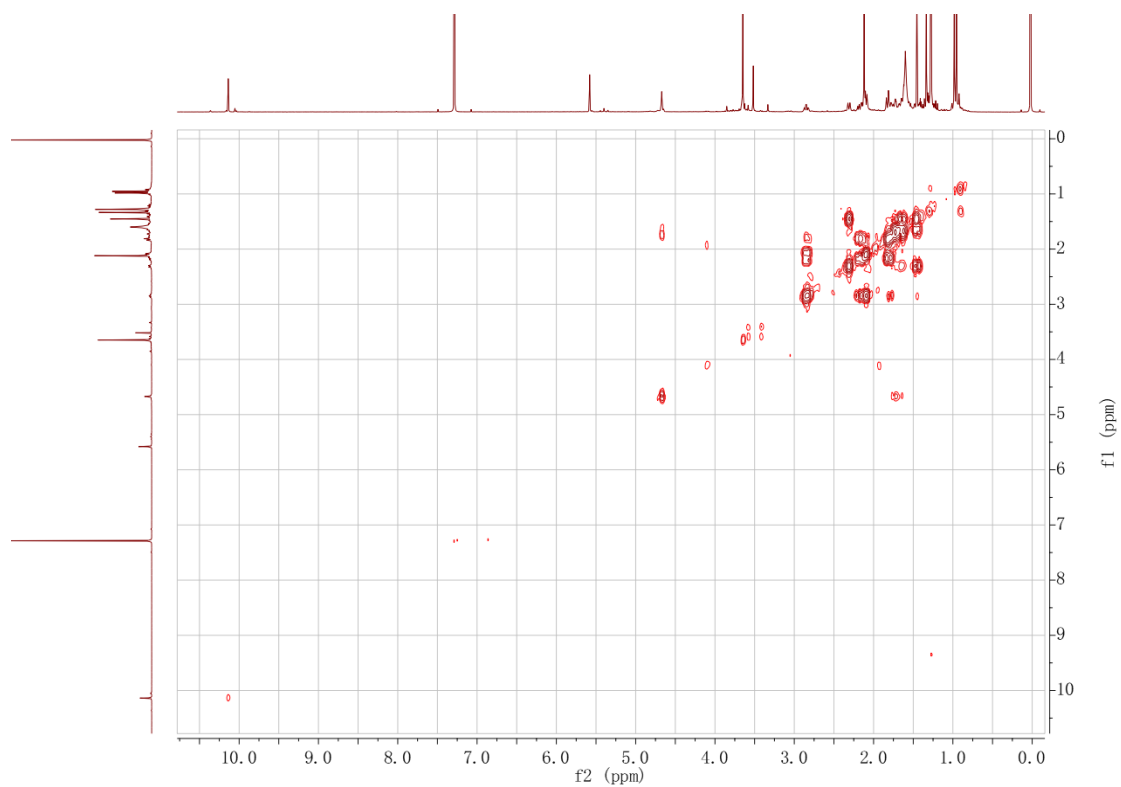




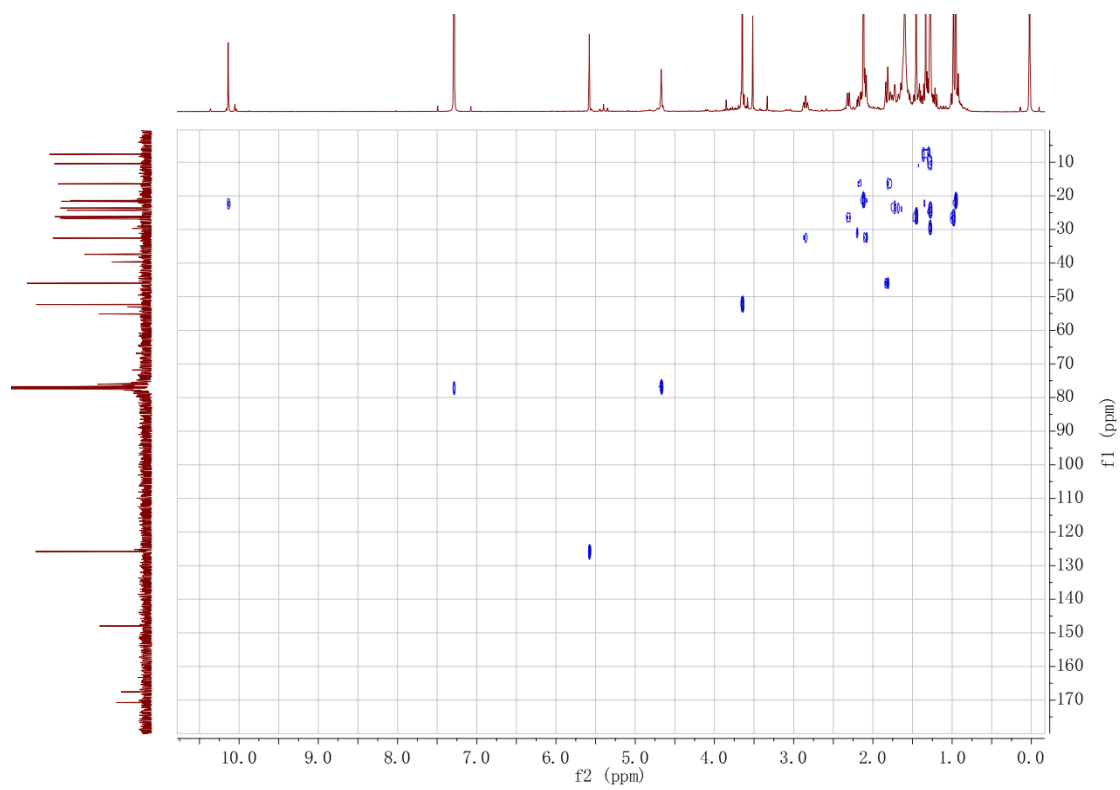
**Figure S7.**  $^1\text{H}$  NMR spectrum of penimeroterpenoid B (**2**; 500 MHz,  $\text{CDCl}_3$ )



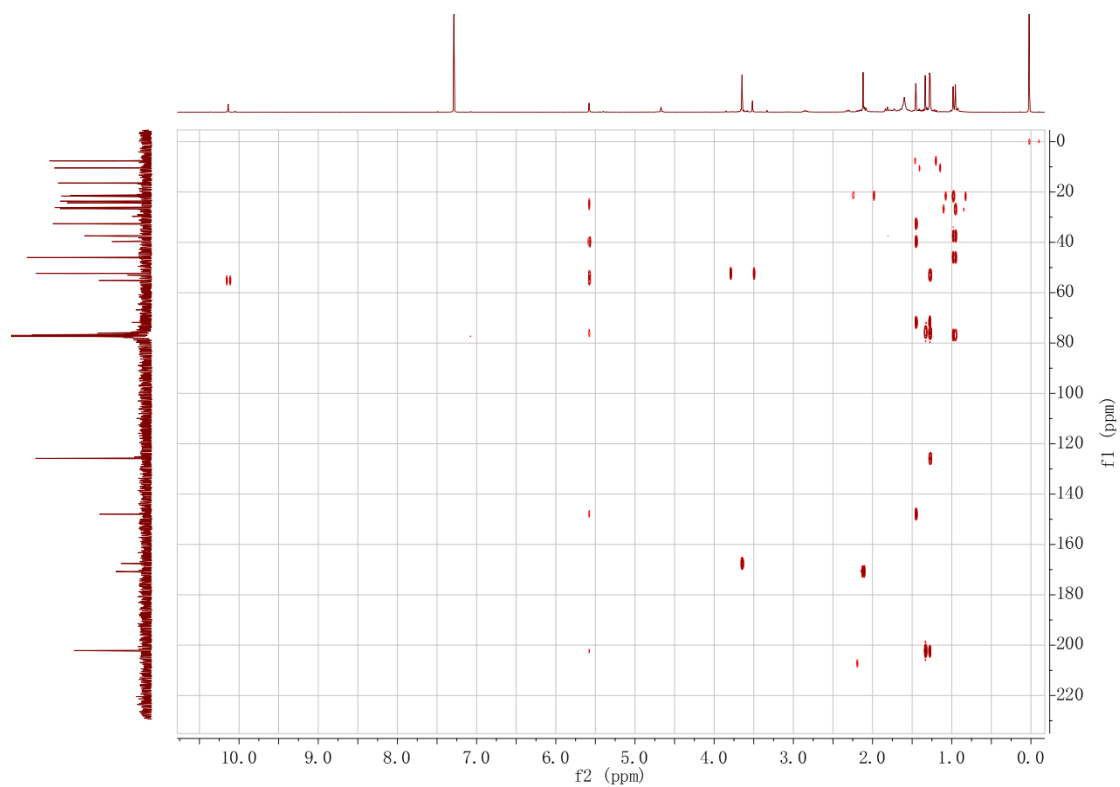
**Figure S8.**  $^{13}\text{C}$  NMR spectrum of penimeroterpenoid B (**2**; 125 MHz,  $\text{CDCl}_3$ )



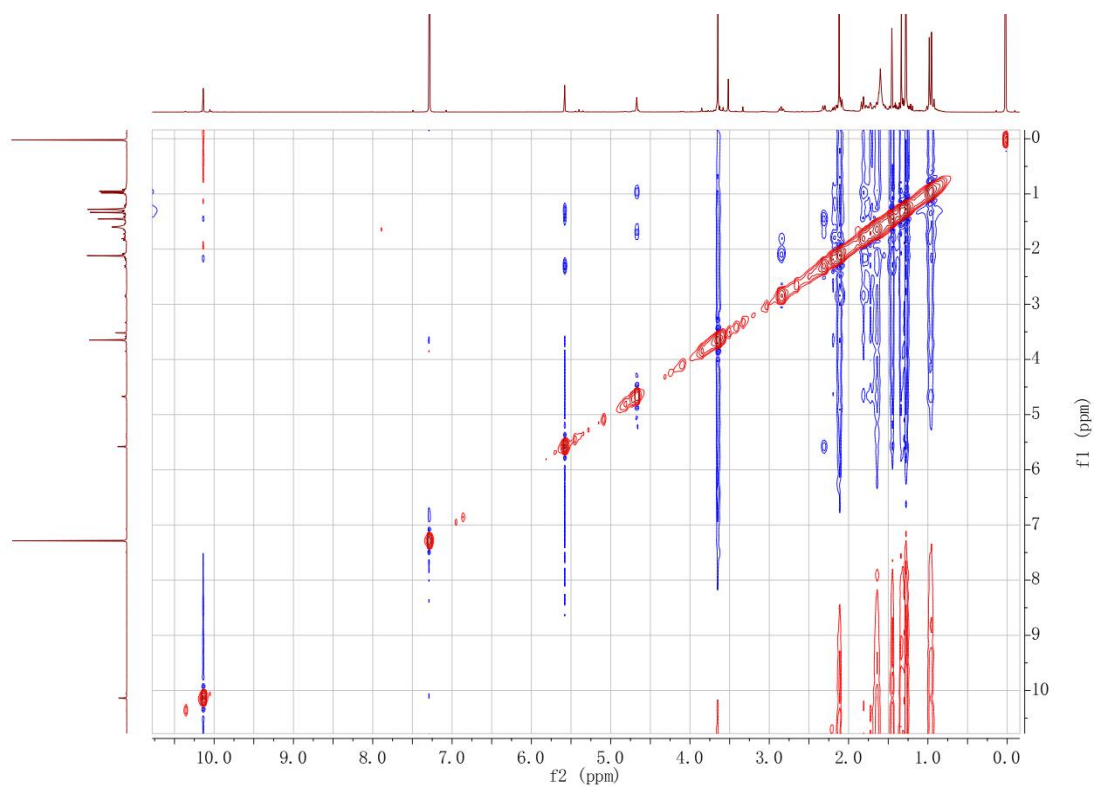
**Figure S9.**  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of penimeroterpenoid B (**2**; 500 MHz,  $\text{CDCl}_3$ )



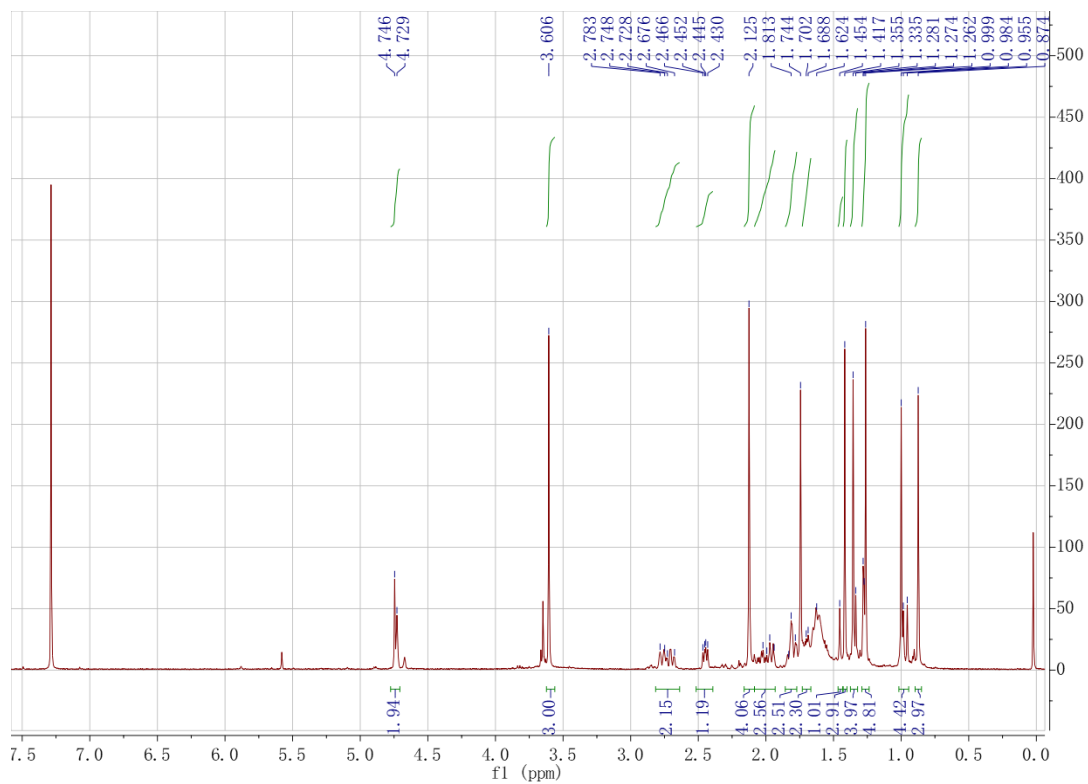
**Figure S10.** HSQC spectrum of penimeroterpenoid B (**2**; 500 MHz, CDCl<sub>3</sub>)



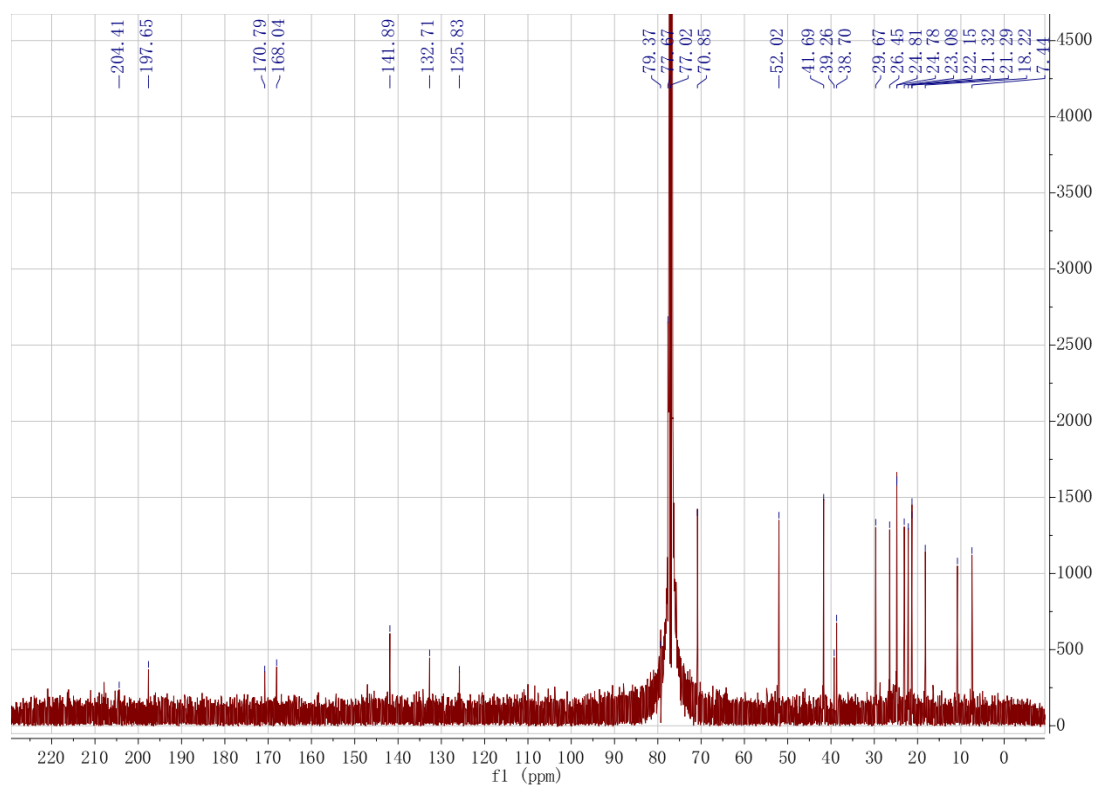
**Figure S11.** HMBC spectrum of penimeroterpenoid B (**2**; 500 MHz, CDCl<sub>3</sub>)



**Figure S12.** NOESY spectrum of penimeroterpenoid B (**2**; 500 MHz, CDCl<sub>3</sub>)



**Figure S13.**  $^1\text{H}$  NMR spectrum of penimeroterpenoid C (**3**; 500 MHz,  $\text{CDCl}_3$ )

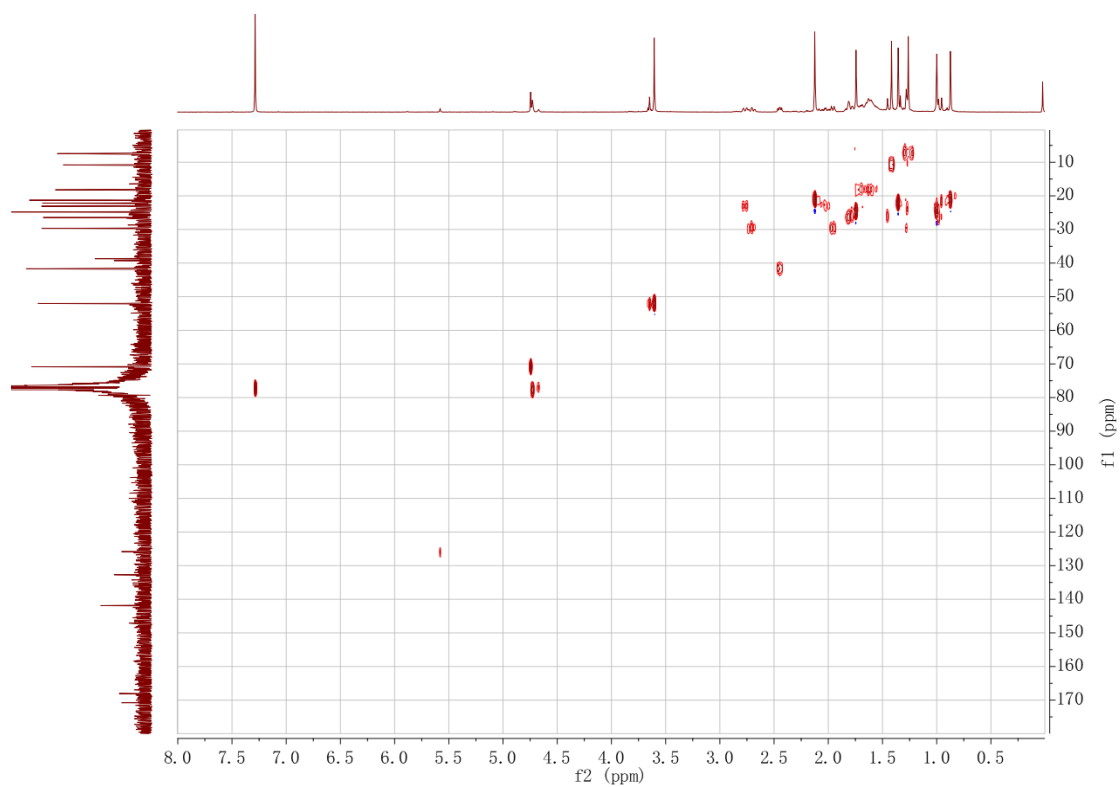


**Figure S14.**  $^{13}\text{C}$  NMR spectrum of penimeroterpenoid C (**3**; 125 MHz,  $\text{CDCl}_3$ )





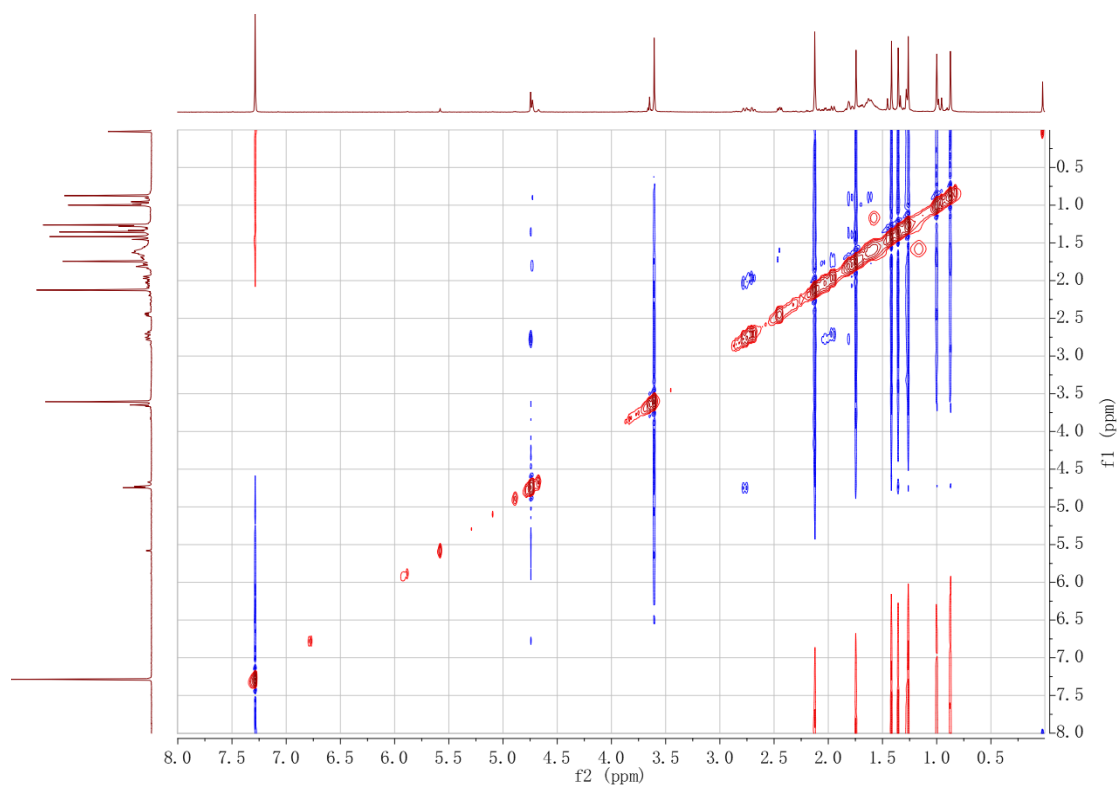
**Figure S15.**  $^1\text{H}$ - $^1\text{H}$  COSY spectrum of penimeroterpenoid C (**3**; 500 MHz,  $\text{CDCl}_3$ )



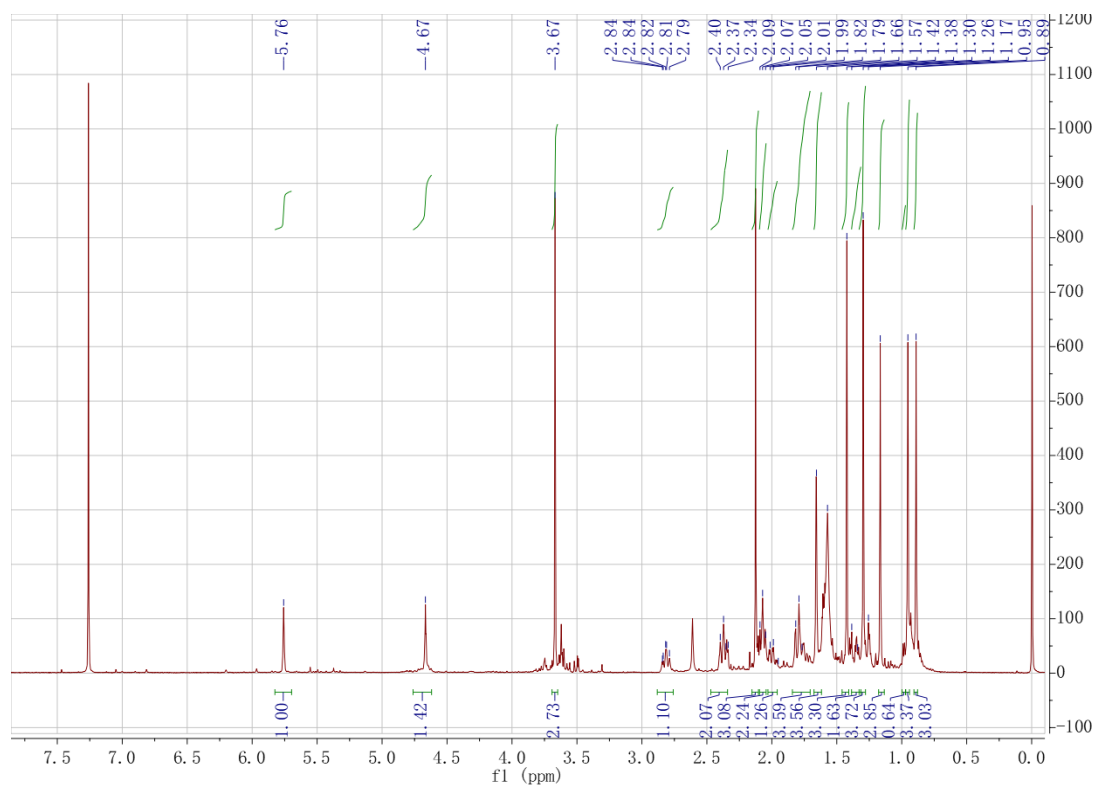
**Figure S16.** HSQC spectrum of penimeroterpenoid C (**3**; 500 MHz, CDCl<sub>3</sub>)



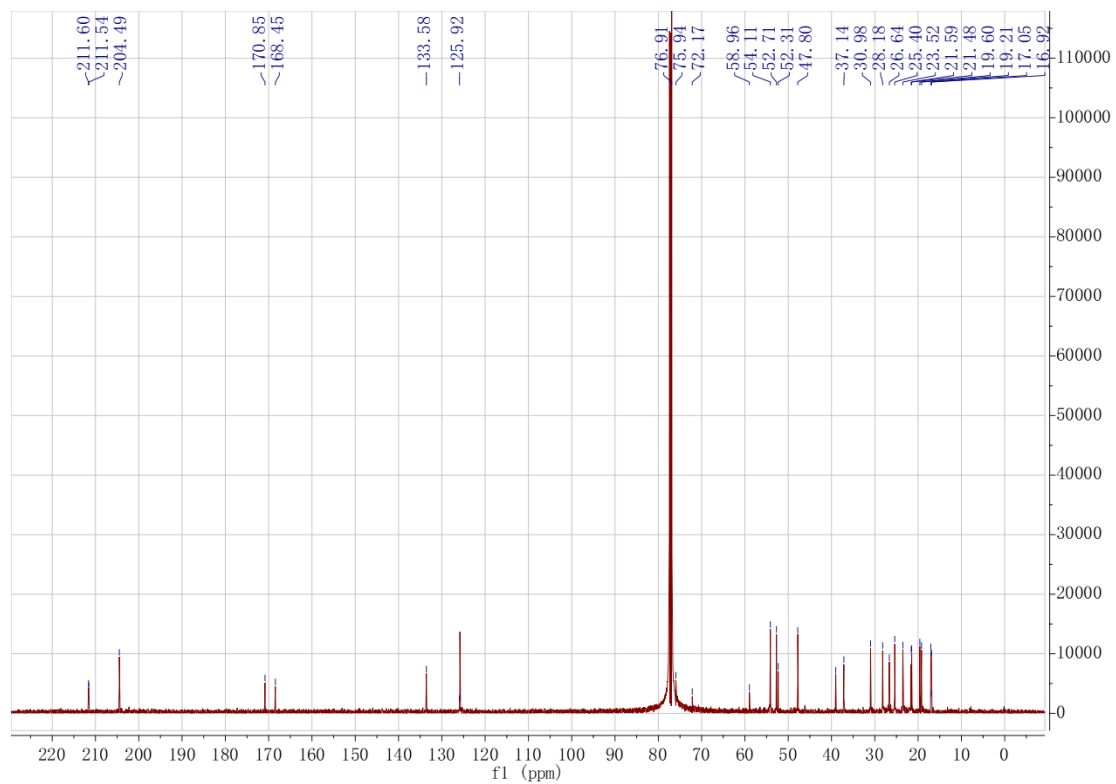
**Figure S17.** HMBC spectrum of penimeroterpenoid C (**3**; 500 MHz, CDCl<sub>3</sub>)



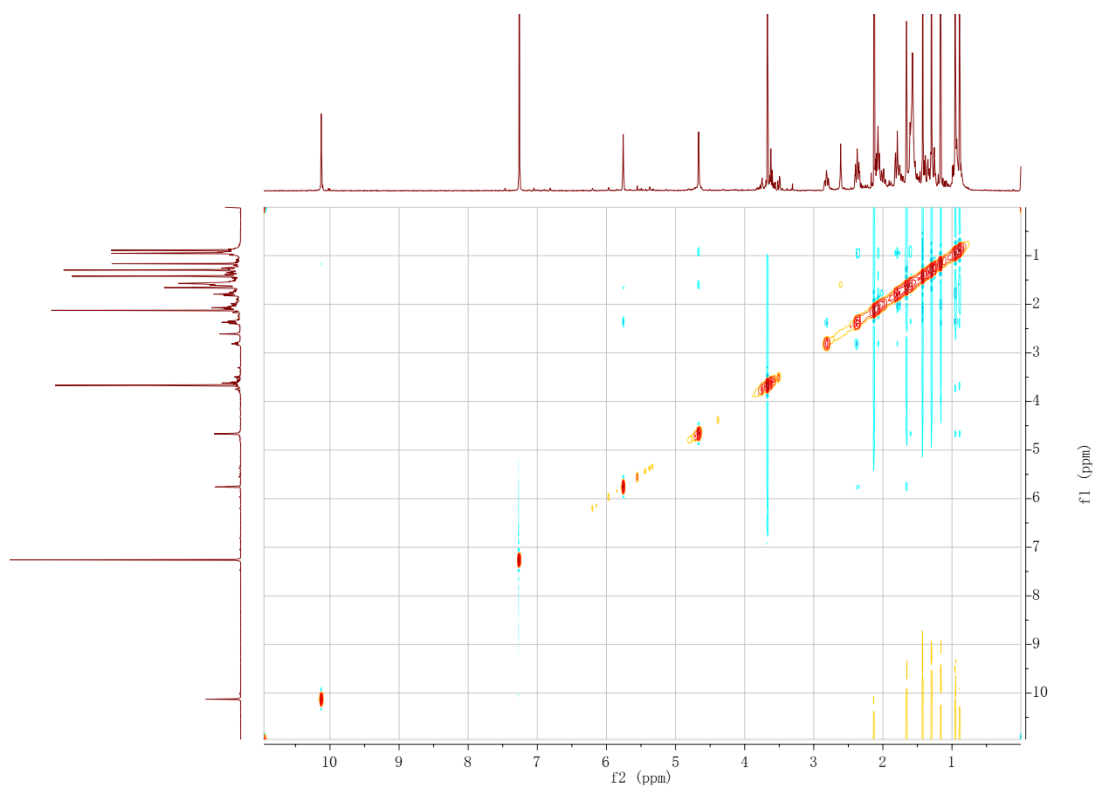
**Figure S18.** NOESY spectrum of penimeroterpenoid C (**3**; 500 MHz, CDCl<sub>3</sub>)



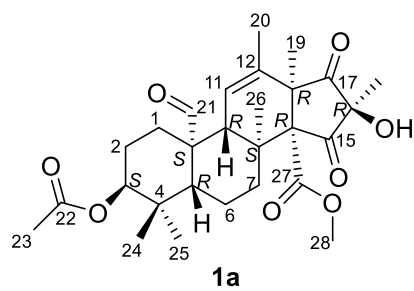
**Figure S19.**  $^1\text{H}$  NMR spectrum of andrastone E (**4**; 500 MHz,  $\text{CDCl}_3$ )

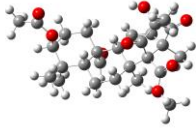

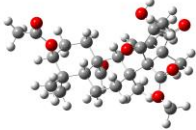
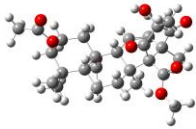


**Figure S20.** <sup>13</sup>C NMR spectrum of andrastone E (4; 125 MHz, CDCl<sub>3</sub>)

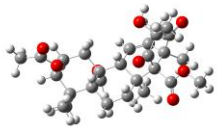
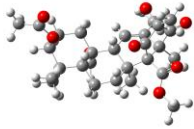
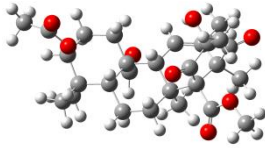
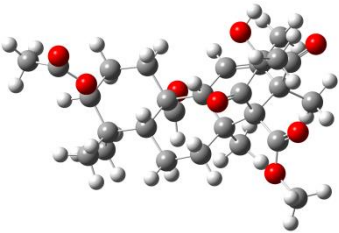
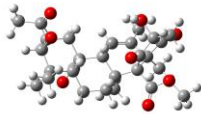


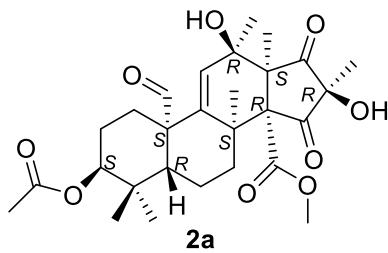
**Figure S21.** NOESY NMR spectrum of andrastone E (**4**; 500 MHz,  $\text{CDCl}_3$ )

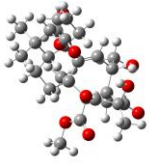
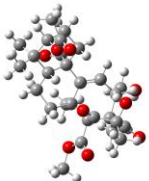
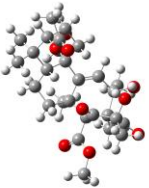



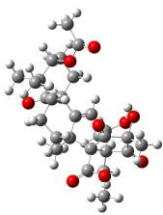
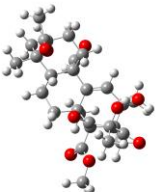
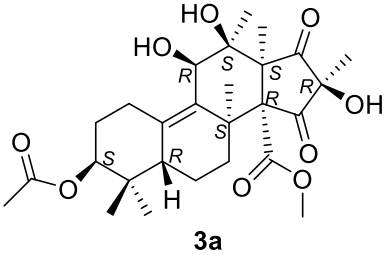
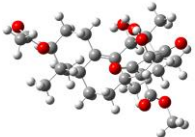
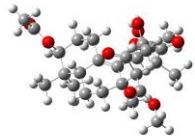
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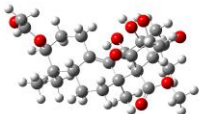


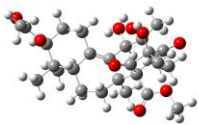
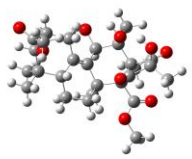


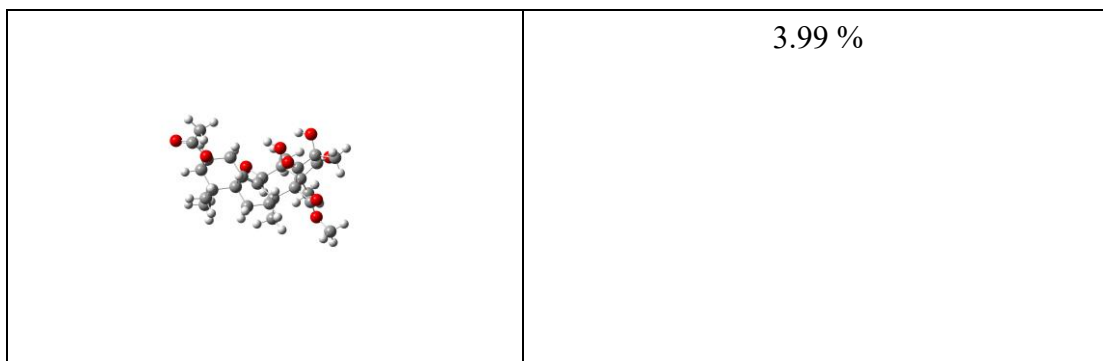
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**Figure S22.** ECD conformers of penimeroterpenoids A–C (1–3)