

Naphthoquinone-Based Meroterpenoids from Marine-Derived *Streptomyces* sp. B9173

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Supplementary information

Figure S1. HPLC profile of *Streptomyces* sp. B9173 metabolites in MS media.

Figure S2. Sequence alignment of the type III PKS from gene clusters of naphthoquinone containing compounds.

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Figure S7. ¹H NMR spectrum of flaviogeranin C2 (5).

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Figure S9. ¹H NMR spectrum of flaviogeranin A (7).

Figure S10. CD spectrum of flaviogeranin D (3).

Table S1. HR-ESI MS of known compounds 4-7.

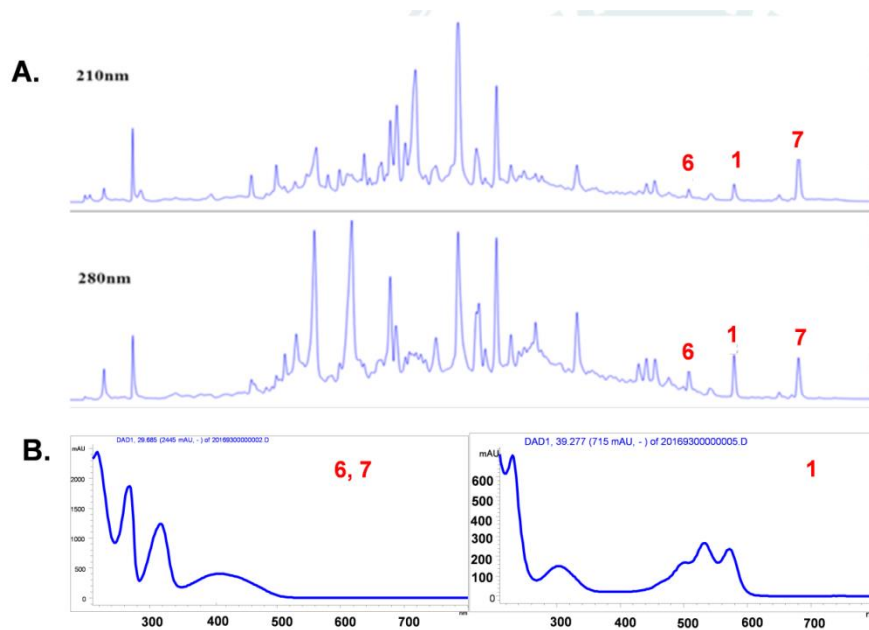


Figure S1. HPLC profile of *Streptomyces* sp. B9173 metabolites in MS media.
 A. HPLC profile of *Streptomyces* sp. B9173 metabolites in MS media.
 B. Specific UV spectrum of several naphthoquinone containing compounds.

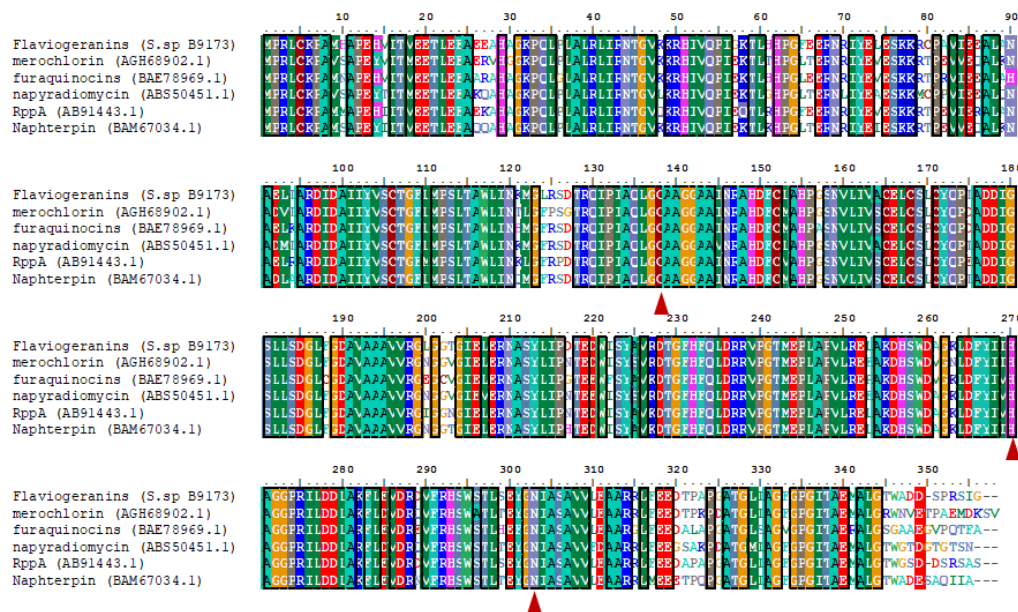
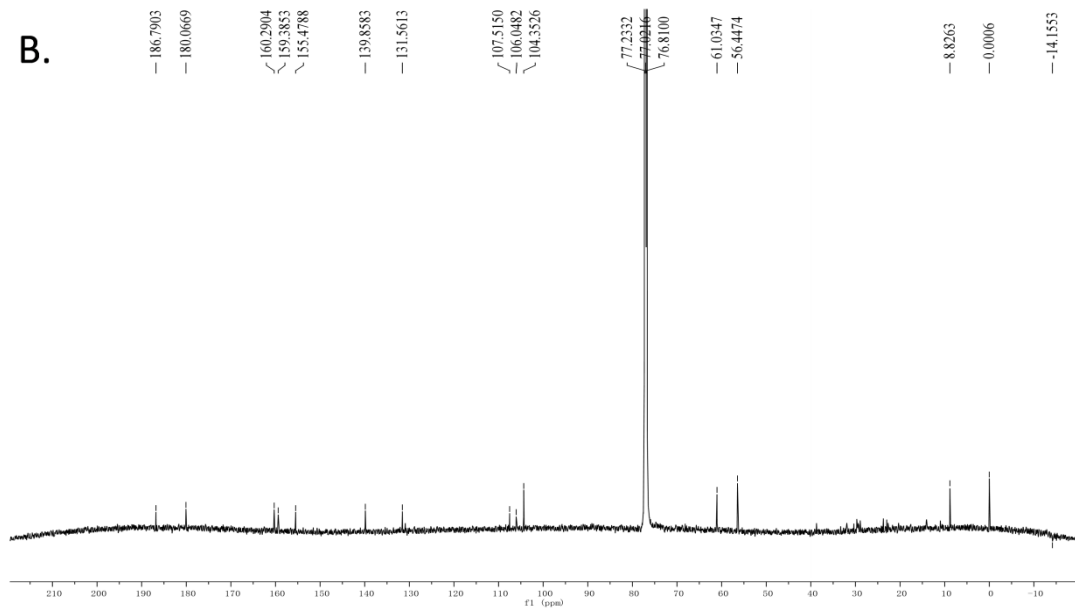
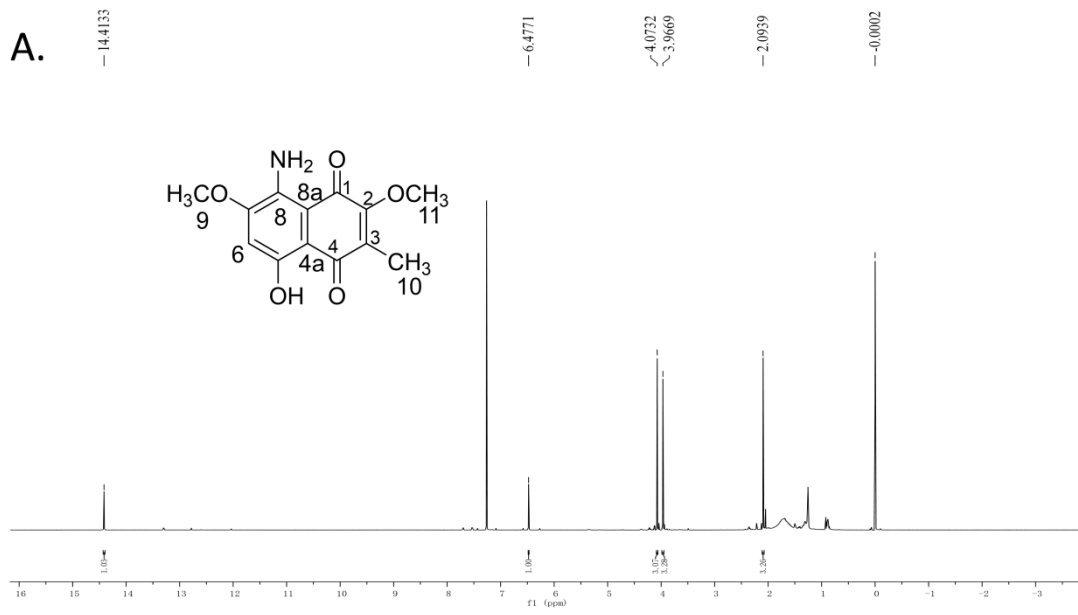
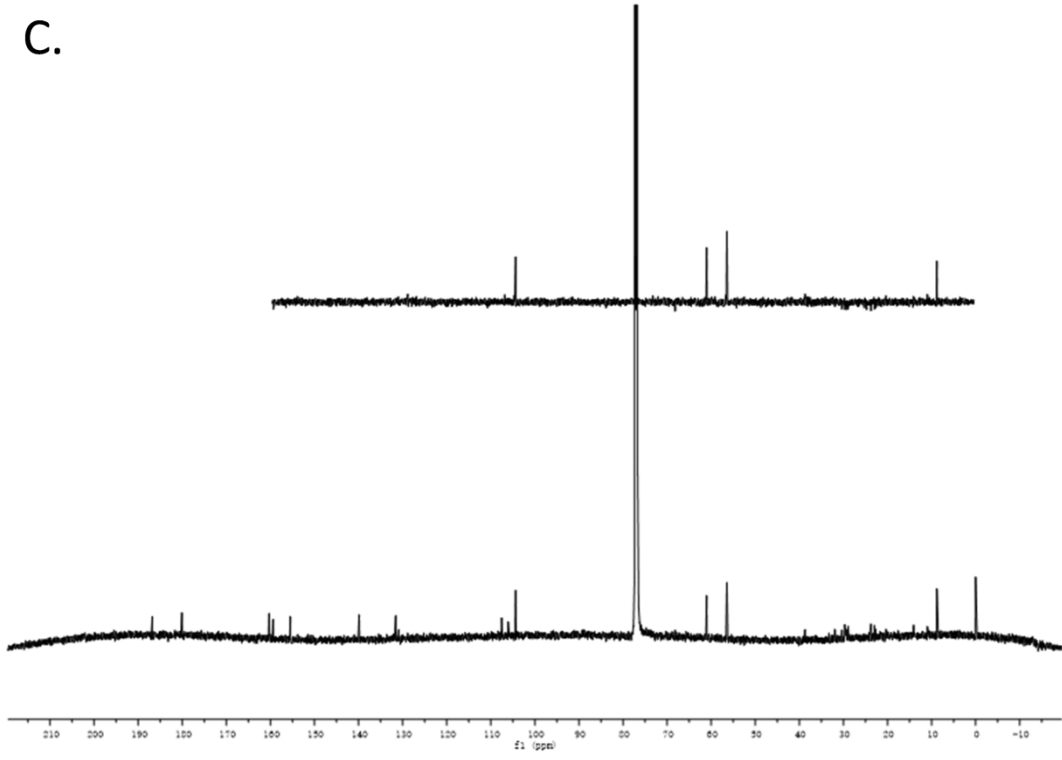


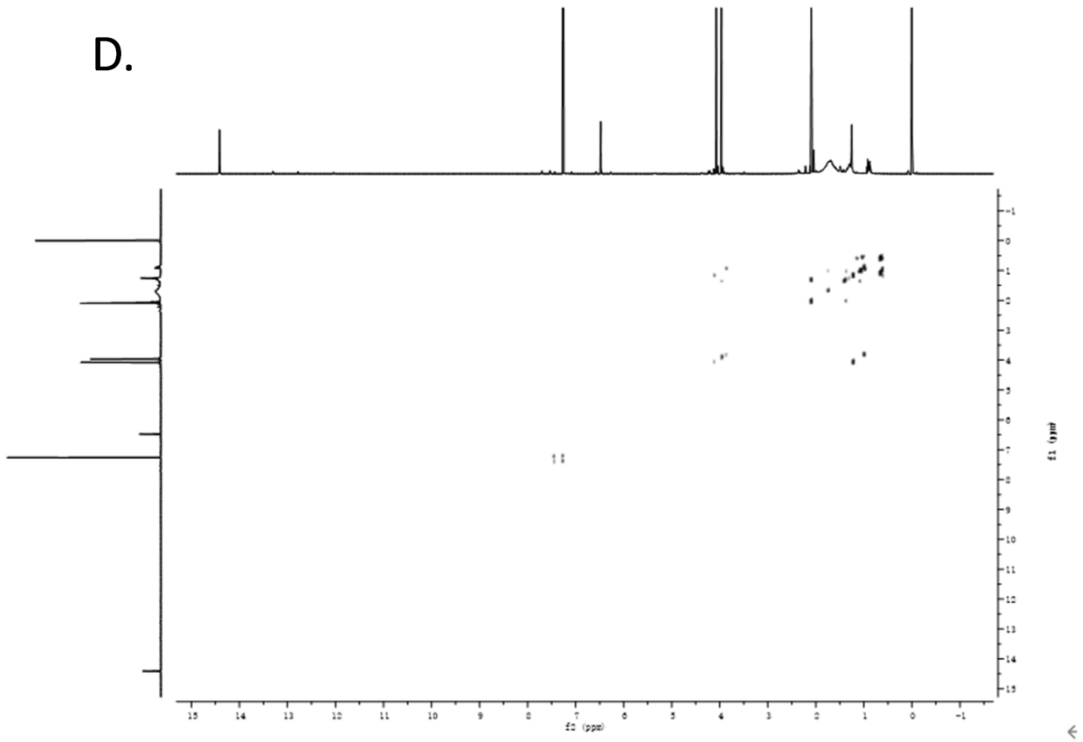
Figure S2. Sequence alignment of the type III PKS from gene clusters of naphthoquinone containing compounds. Sequence alignment revealed the conserved catalytic triad residues (Cys138, His270, and Asn303). AGH68902.1: type-III polyketide synthase [*Streptomyces* sp. CNH189]; BAE78969.1: Fur1 [*Streptomyces* sp. KO-3988]; ABS50451.1: NapB1 [*Streptomyces aculeolatus*]; BAB91443.1: Type III polyketide synthase RppA [*Streptomyces antibioticus*]; BAM67034.1: 1,3,6,8-tetrahydroxynaphthalene synthase [*Streptomyces* sp. CL190].



C.



D.



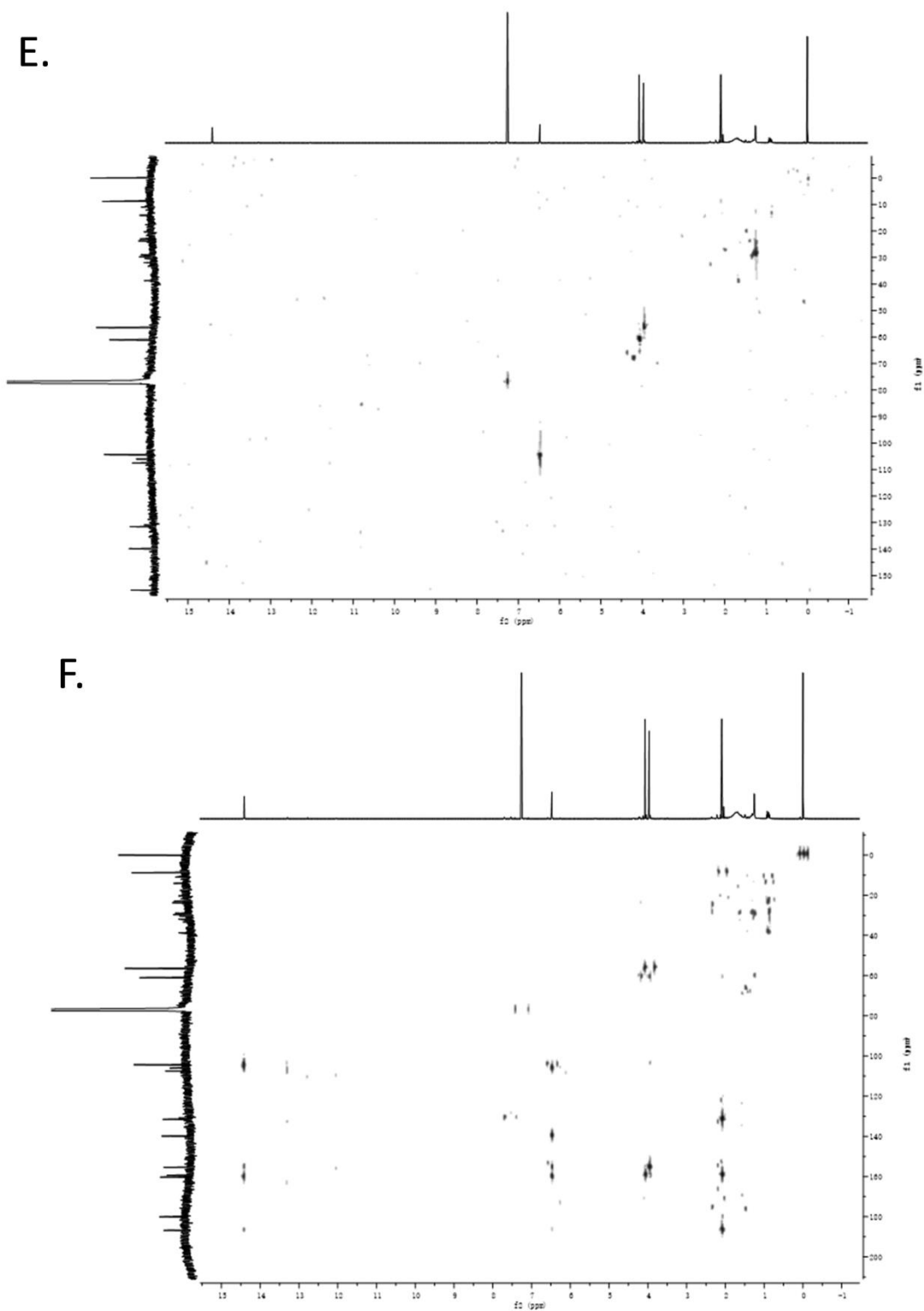
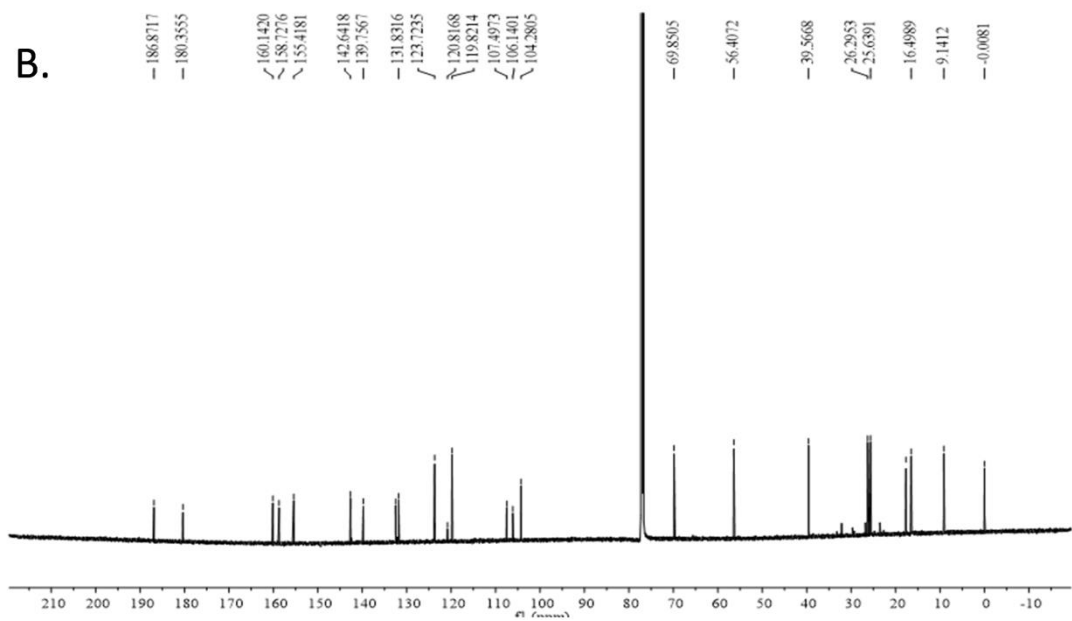
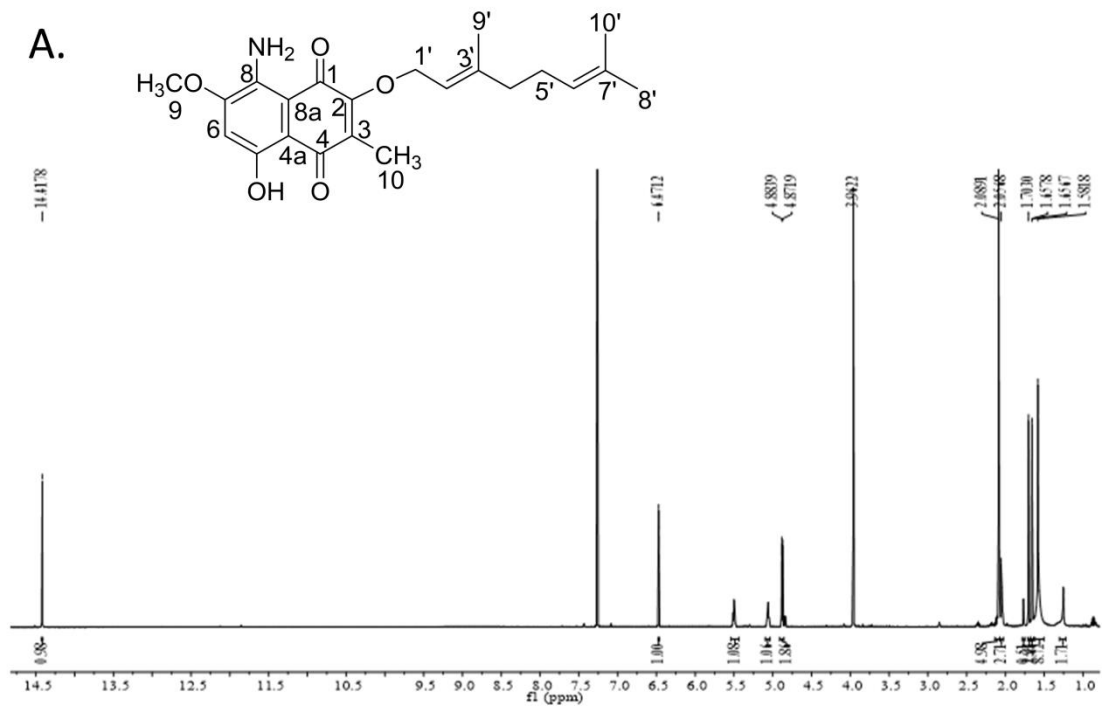
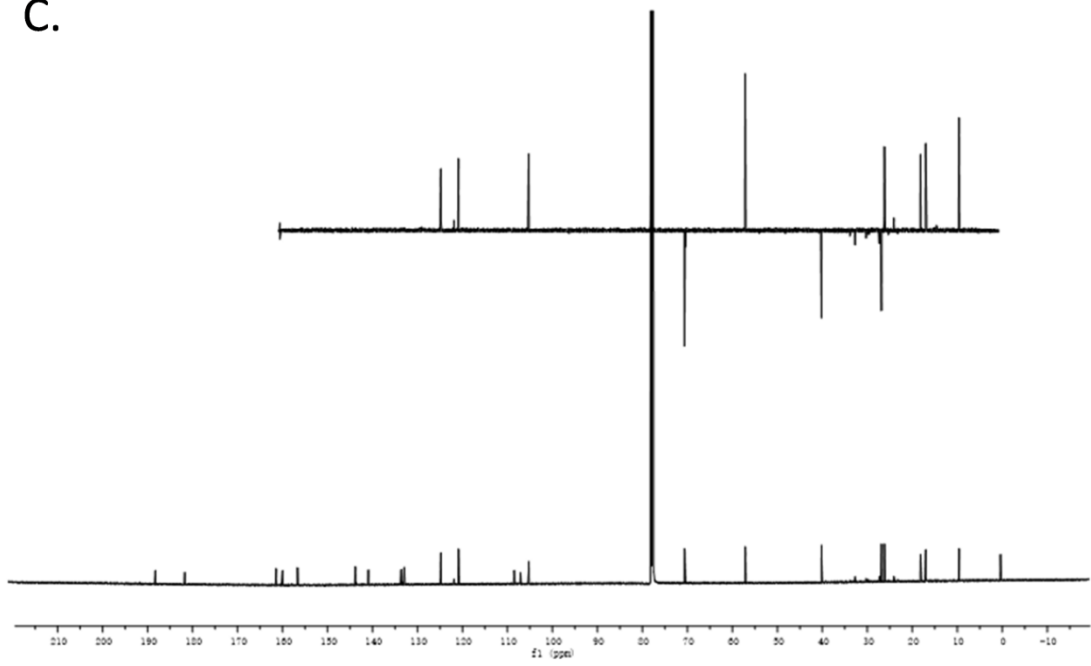


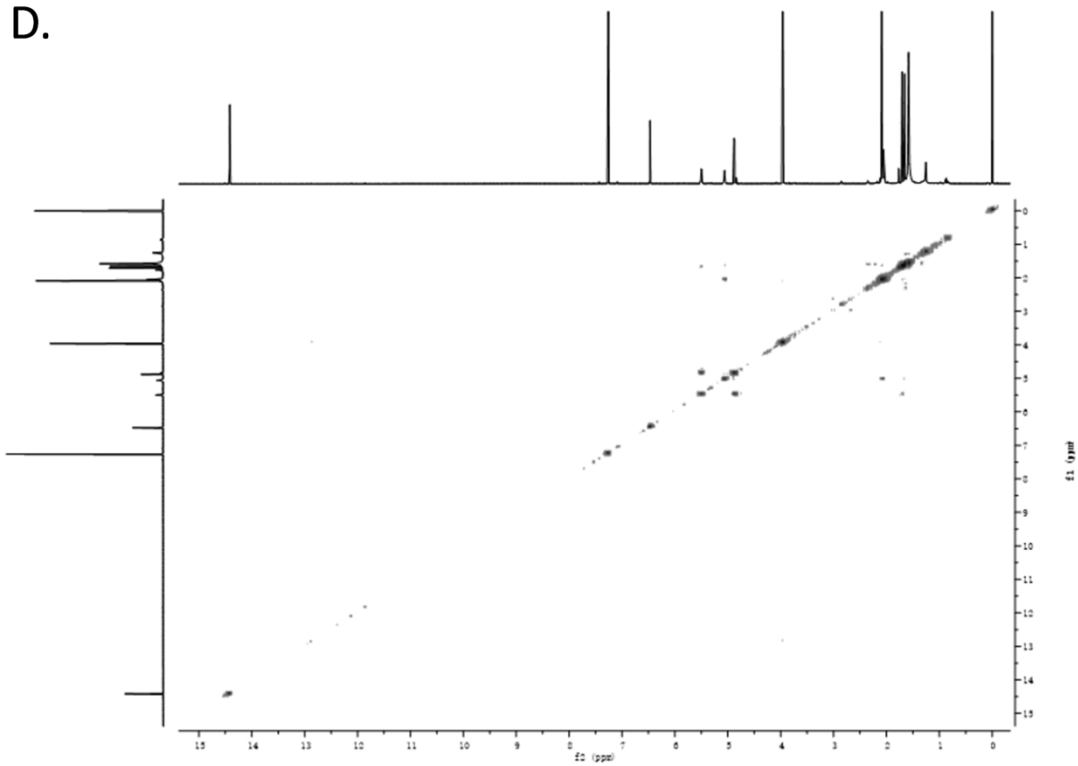
Figure S3. NMR spectra of flavioigeranin B1 (**1**). (A) ^1H NMR spectrum. (B) ^{13}C NMR spectrum. C. DEPT 135 spectrum. D. ^1H - ^1H COSY spectrum. E. HSQC spectrum. F. HMBC spectrum.



C.



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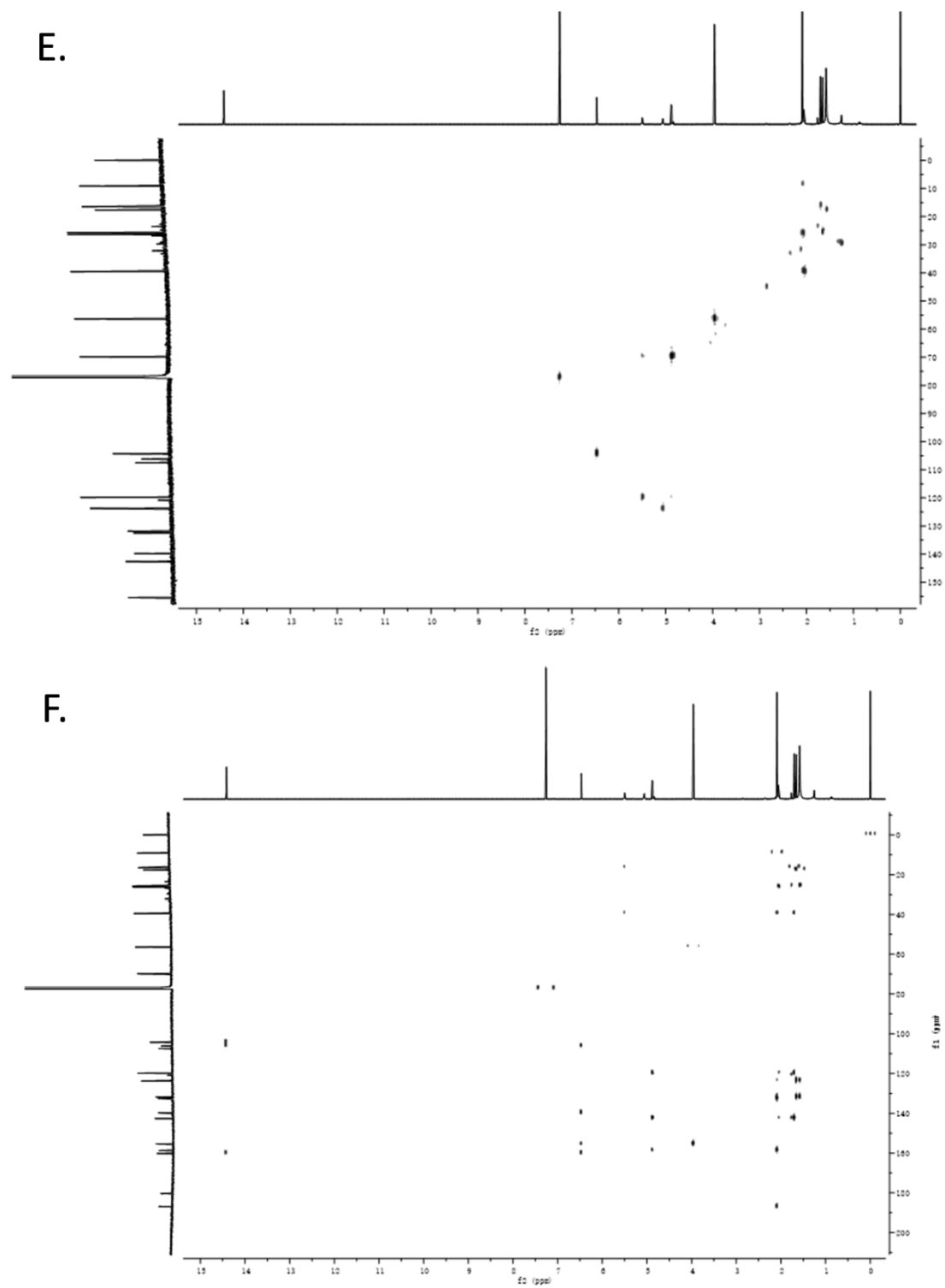
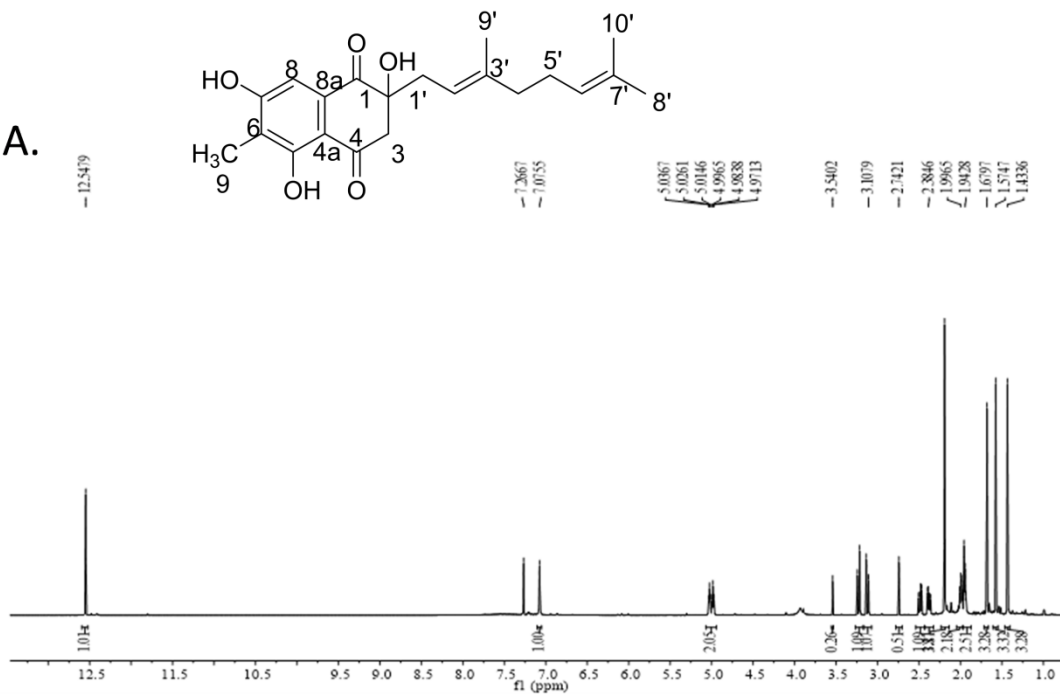


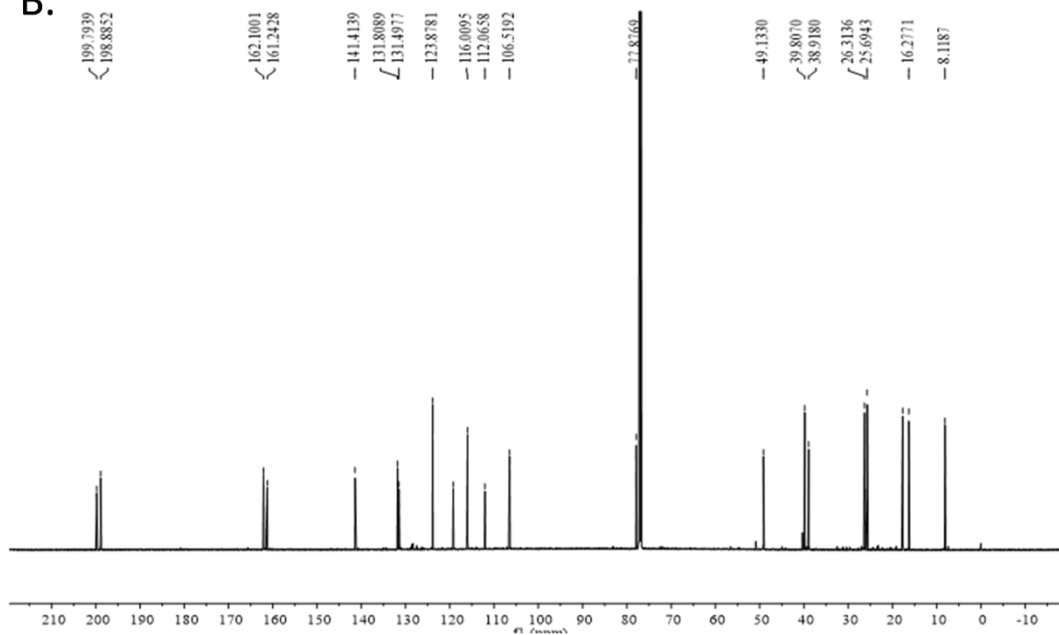
Figure S4. NMR spectra of flavioigeranin B2 (2).

A. ^1H NMR spectrum. B. ^{13}C NMR spectrum. C. DEPT 135 spectrum. D. ^1H - ^1H COSY spectrum. E. HSQC spectrum. F. HMBC spectrum.

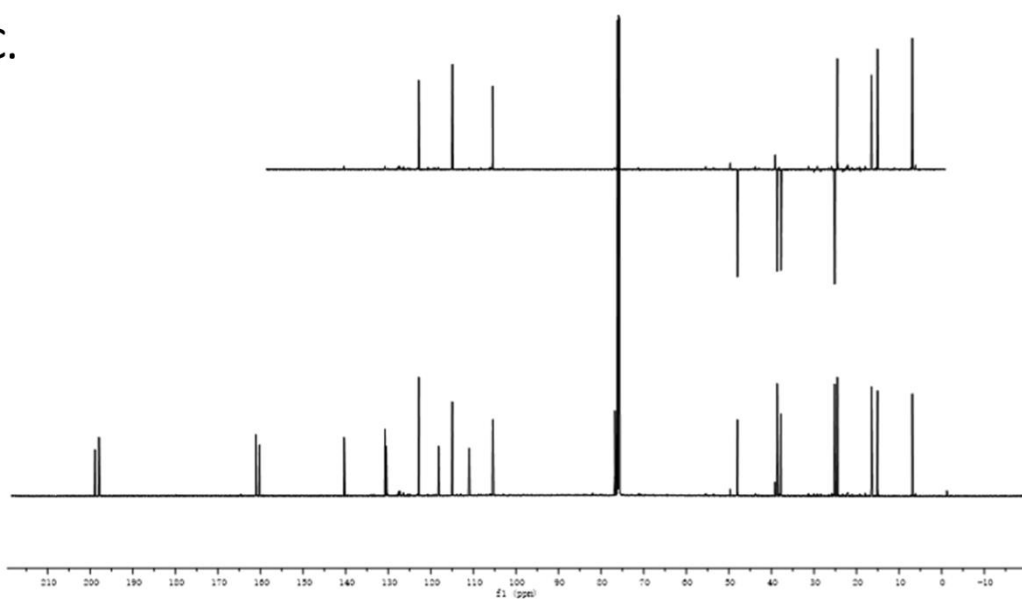
A.



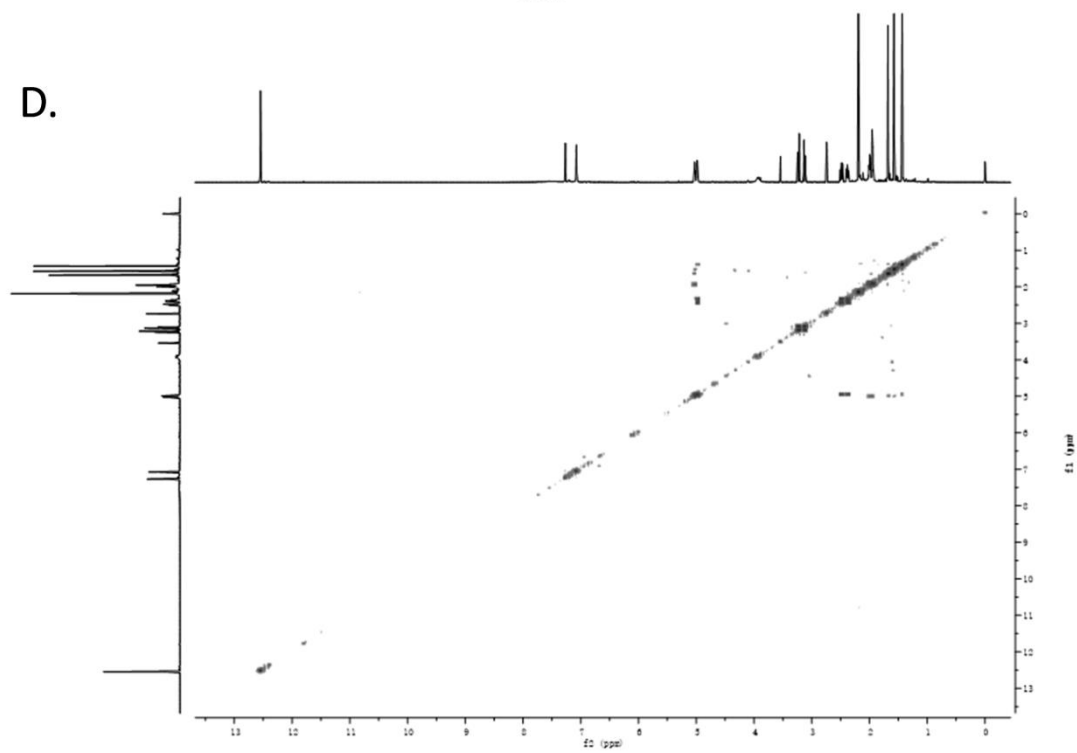
B.



C.



D.



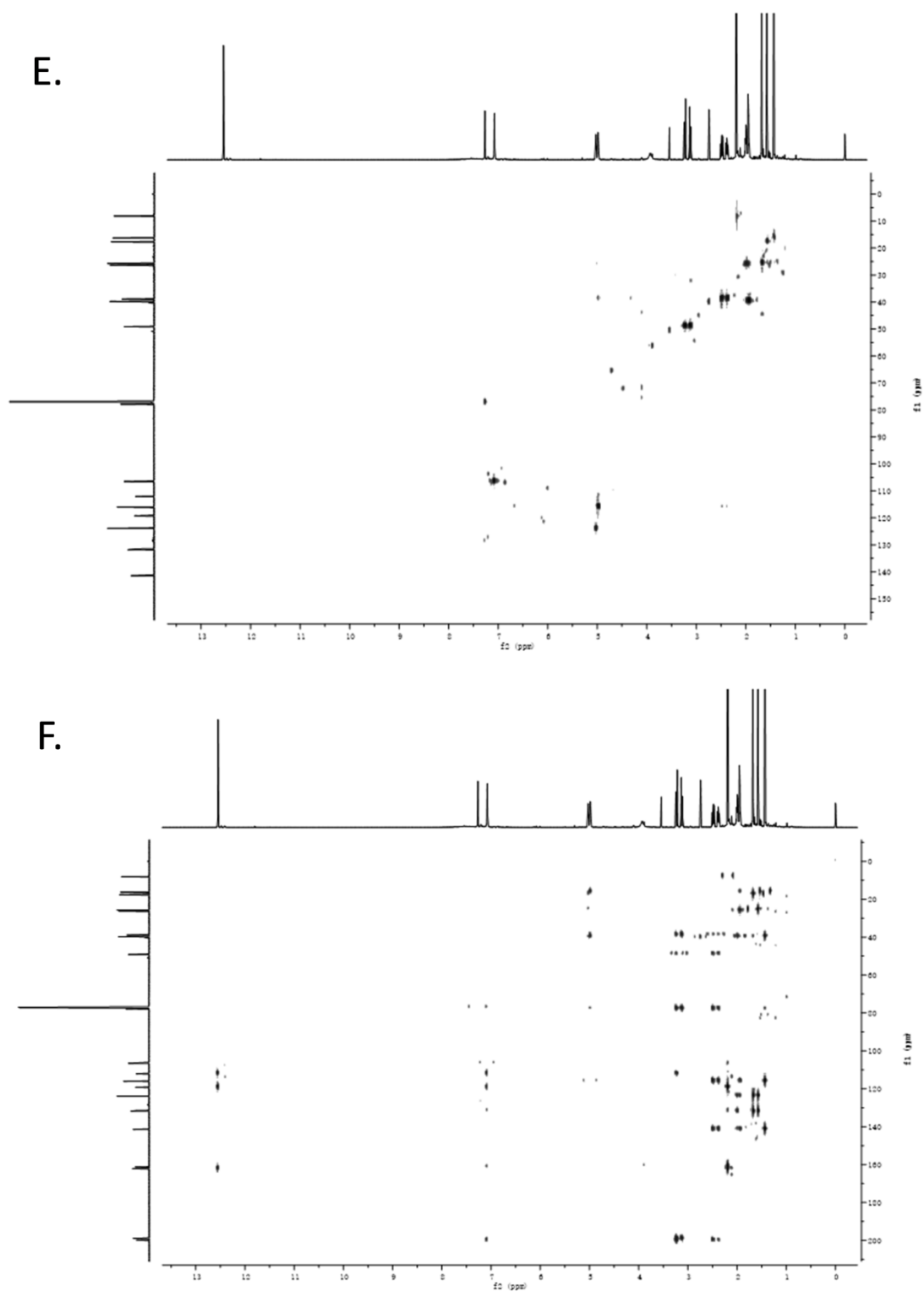


Figure S5. NMR spectra of faviogeranin D (3). A. ^1H NMR spectrum. B. ^{13}C NMR spectrum. C. DEPT 135 spectrum. D. ^1H - ^1H COSY spectrum. E. HSQC spectrum. F. HMBC spectrum.

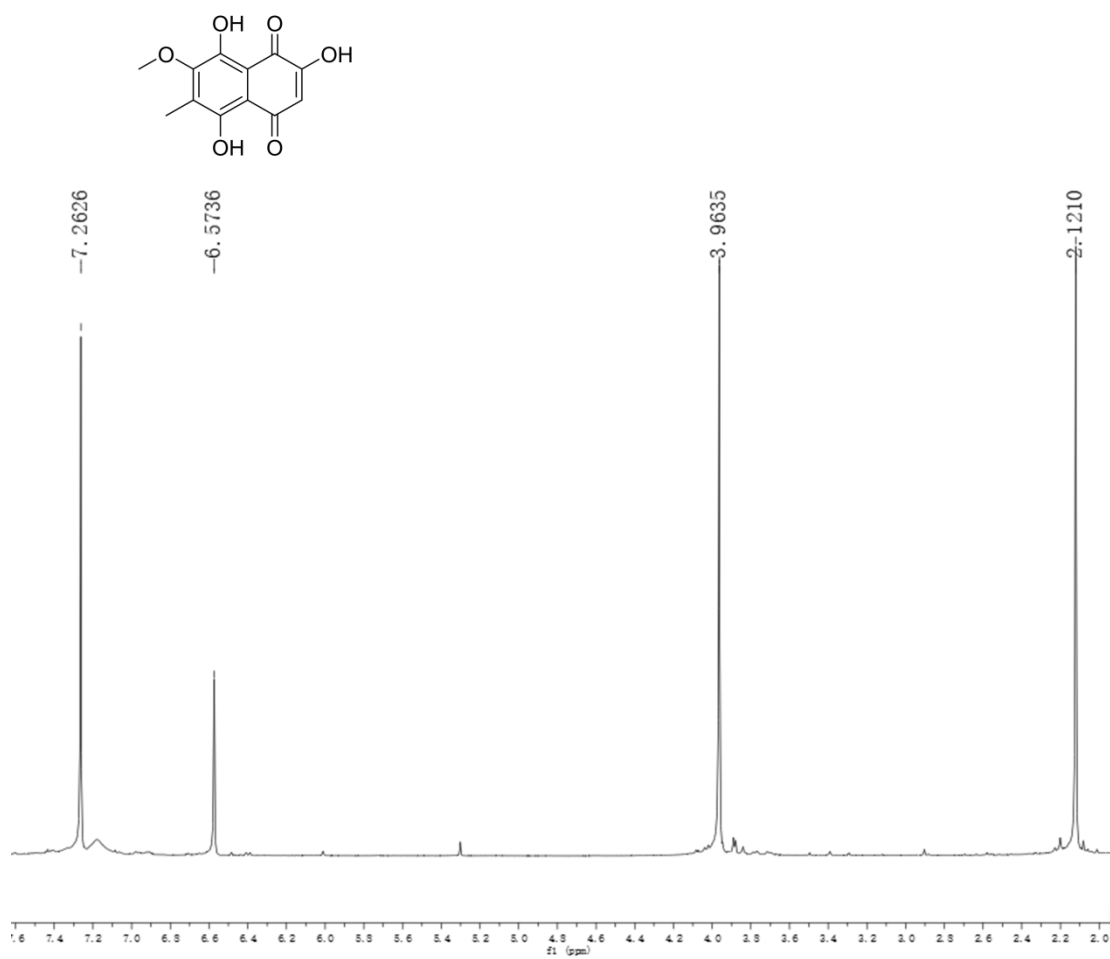


Figure S6. ¹H NMR spectrum of flaviogeranin C1 (**4**).

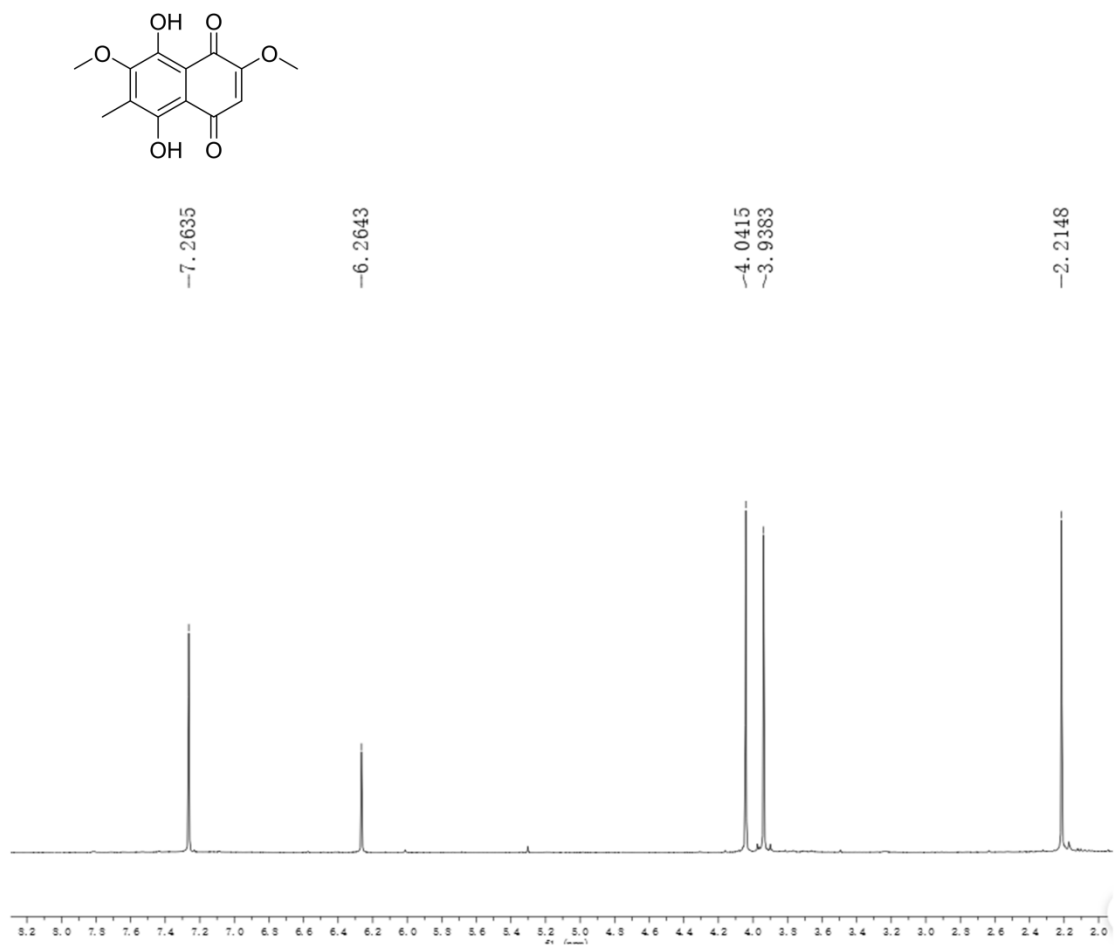


Figure S7. ¹H NMR spectrum of flaviogeranin C2 (5).

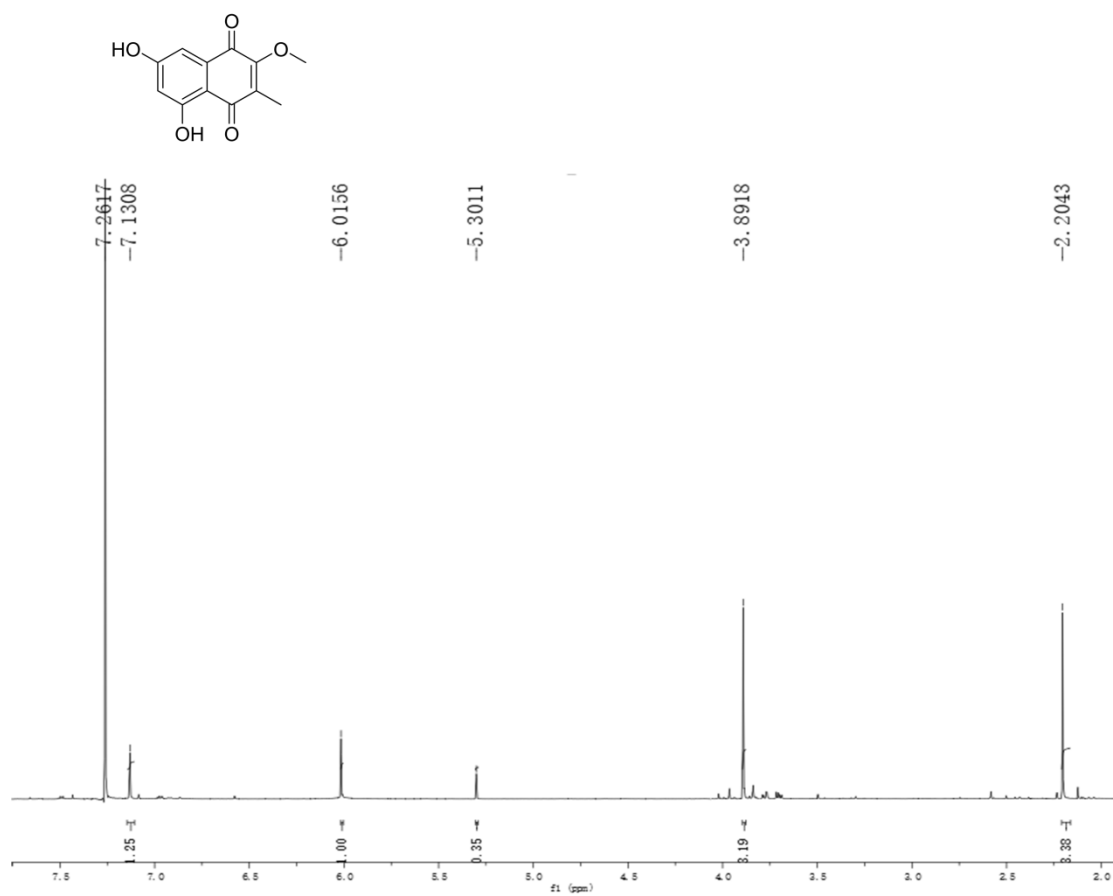


Figure S8. ¹H NMR spectrum of flaviogeranin A1 (**6**).

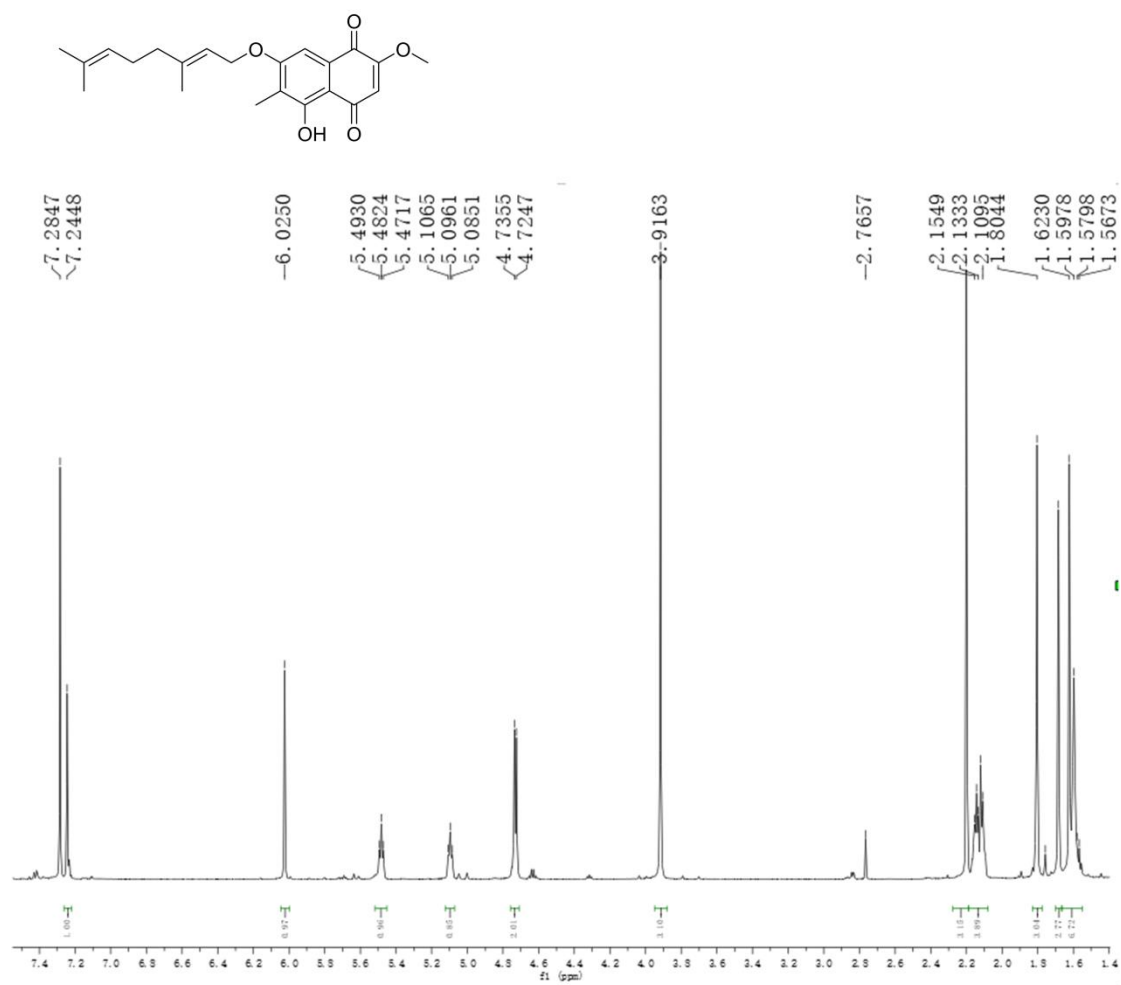


Figure S9. ^1H NMR spectrum of flaviogeranin A (7).

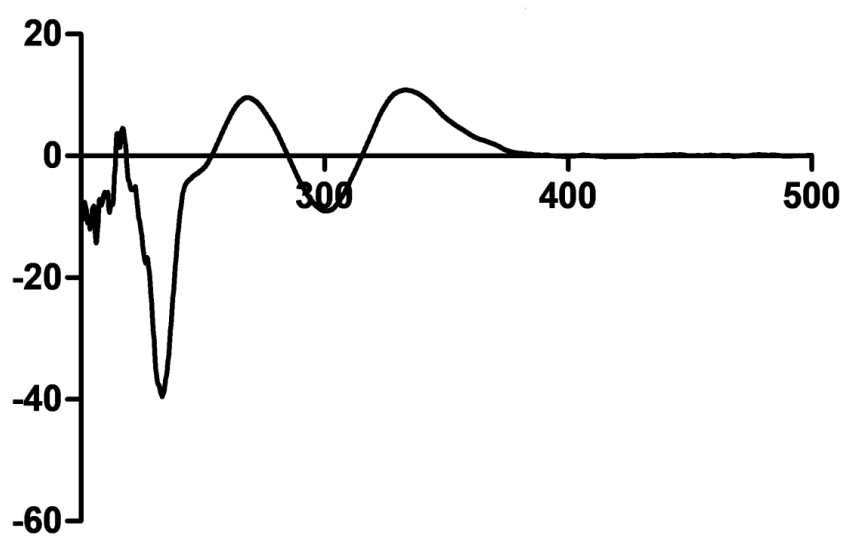


Figure S10. CD spectrum of flaviogeranin D (3).

Table S1. HR-ESI MS of known compounds 4-7.

Compounds	Expected m/z [M + H]⁺	Found m/z [M + H]⁺
4	251.0550	251.0451
5	265.0707	265.0681
6	235.0601	235.0602
7	371.1853	371.1858