

Electronic Supplementary Information

**Overexpression of Hgc1 increases the production and diversity of
hygrocins in *Streptomyces* sp. LZ35**

Shanren Li, Chunhua Lu, Jinhuan Ou, Jingjing Deng, and Yuemao Shen*

Key Laboratory of Chemical Biology (Ministry of Education), School of Pharmaceutical Sciences, Shandong University, Jinan, 250012, China

*Correspondence:

Yuemao Shen, Tel: 086-531-88382108; E-mail: yshen@sdu.edu.cn

Figure S1. HPLC analysis of SR101OEhgc1 Sephadex LH-20

Figure S2. HPLC analysis of SR101OEhgc1 Fr. 6c (16-20#)

Figure S3. HPLC analysis of SR101OEhgc1 Fr. 7 RP-18

Figure S4. HPLC analysis of SR101OEhgc1 Fr. 7d1

Figure S5. ^1H NMR (600 MHz, CD_3OD) spectrum for compound **1**

Figure S6. ^{13}C NMR (151 MHz, CD_3OD) spectrum for compound **1**

Figure S7. HMQC spectrum for compound **1**

Figure S8. HMBC spectrum for compound **1**

Figure S9. ^1H - ^1H COSY spectrum for compound **1**

Figure S10. ^1H NMR (600 MHz, CD_3OD) spectrum for compound **2**

Figure S11. ^{13}C NMR (151 MHz, CD_3OD) spectrum for compound **2**

Figure S12. HMQC spectrum for compound **2**

Figure S13. HMBC spectrum for compound **2**

Figure S14. NOE spectrum for compound **2**

Figure S15. ^1H NMR (600 MHz, CD_3OD) spectrum for compound **3**

Figure S16. ^{13}C NMR (151 MHz, CD_3OD) spectrum for compound **3**

Figure S17. HMQC spectrum for compound **3**

Figure S18. HMBC spectrum for compound **3**

Figure S19. ^1H - ^1H COSY spectrum for compound **3**

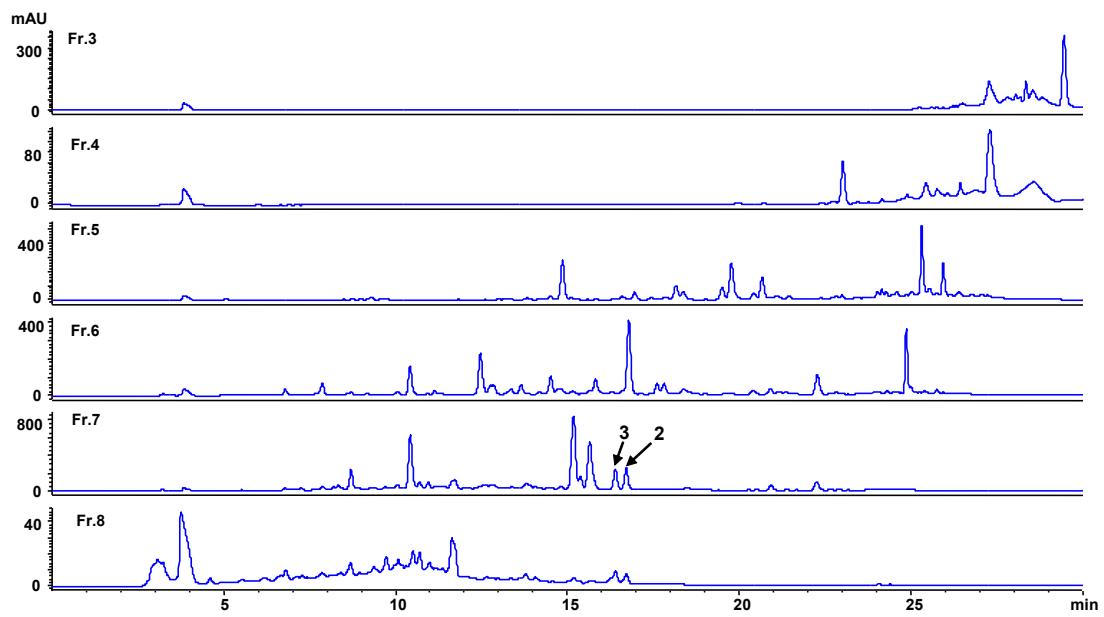


Figure S1. HPLC analysis of SR101OEhgcl Sephadex LH-20

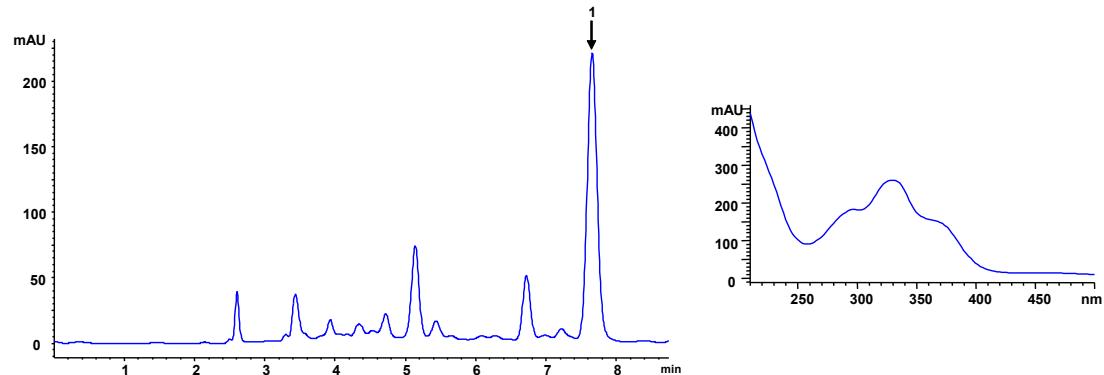


Figure S2. HPLC analysis of SR101OEhgcl Fr. 6c (16-20#)

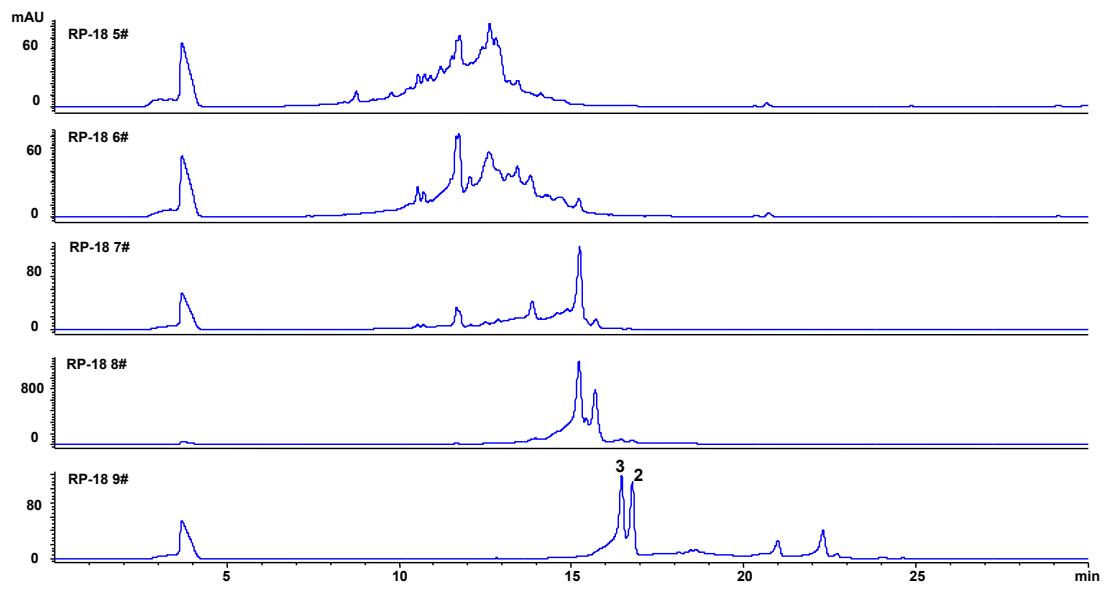


Figure S3. HPLC analysis of SR101OEhgcl Fr. 7 RP-18

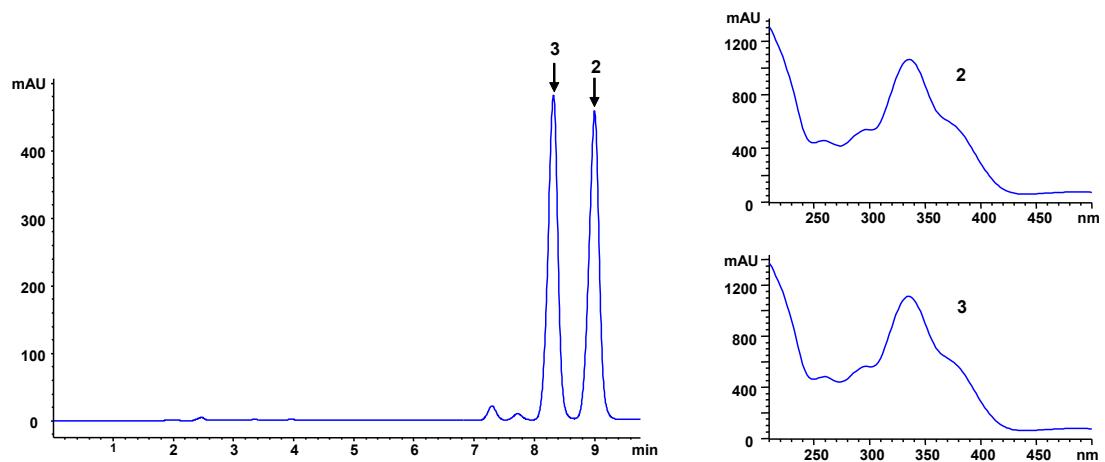


Figure S4. HPLC analysis of SR101OEhgcl Fr. 7d1

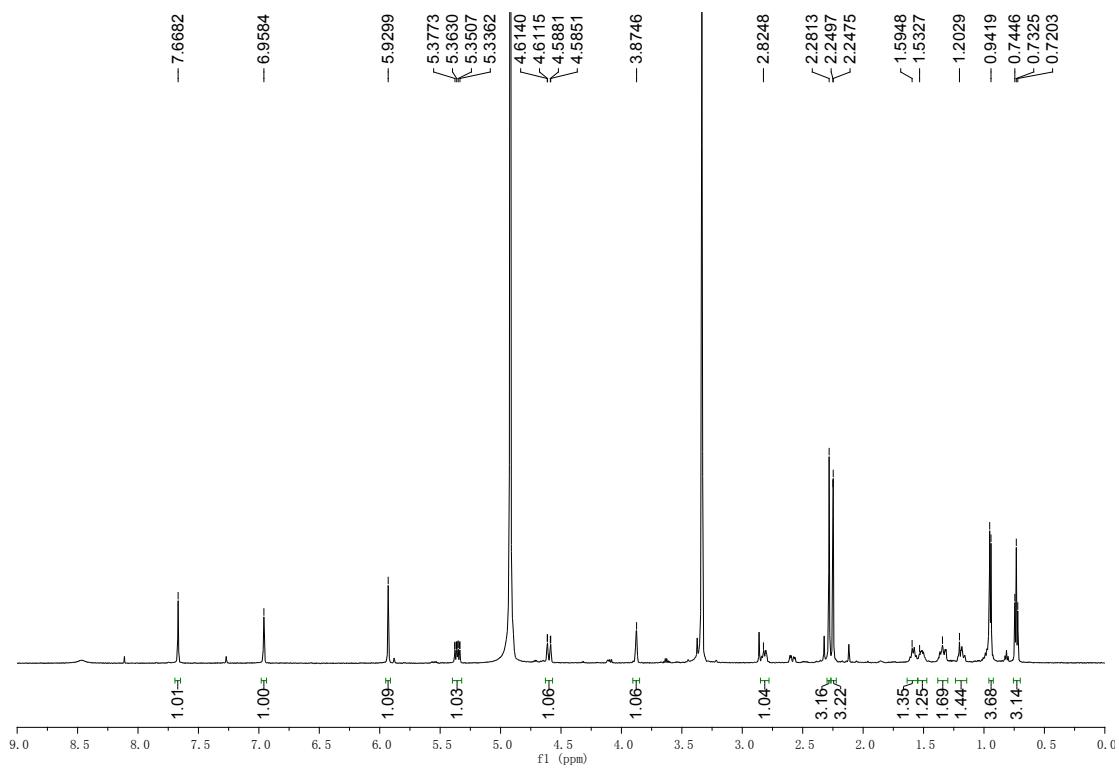


Figure S5. ^1H NMR (600 MHz, CD_3OD) spectrum for compound **1**

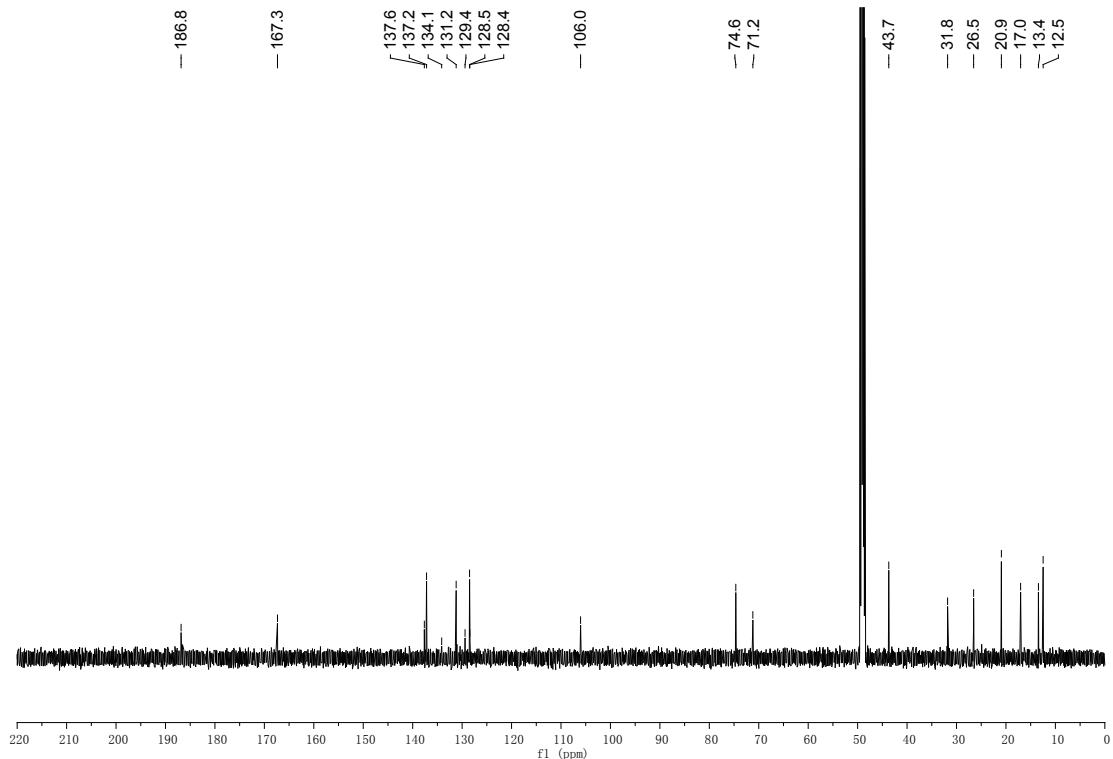


Figure S6. ^{13}C NMR (151 MHz, CD_3OD) spectrum for compound **1**

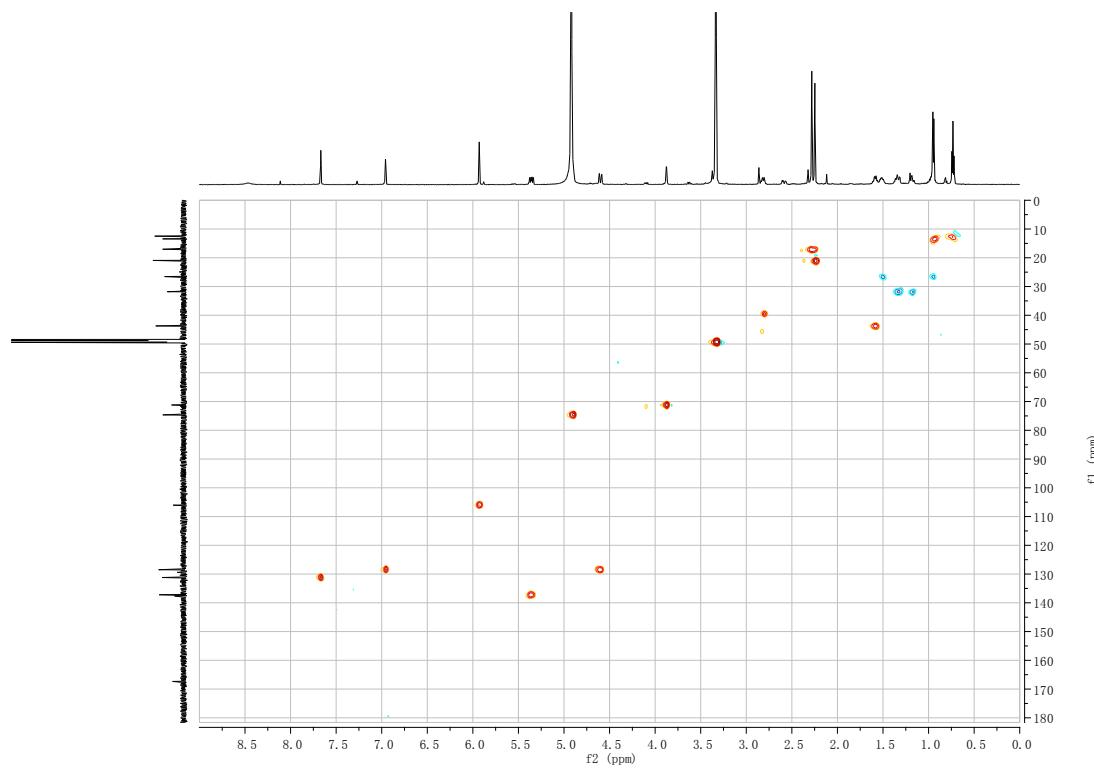


Figure S7. HMQC spectrum for compound **1**

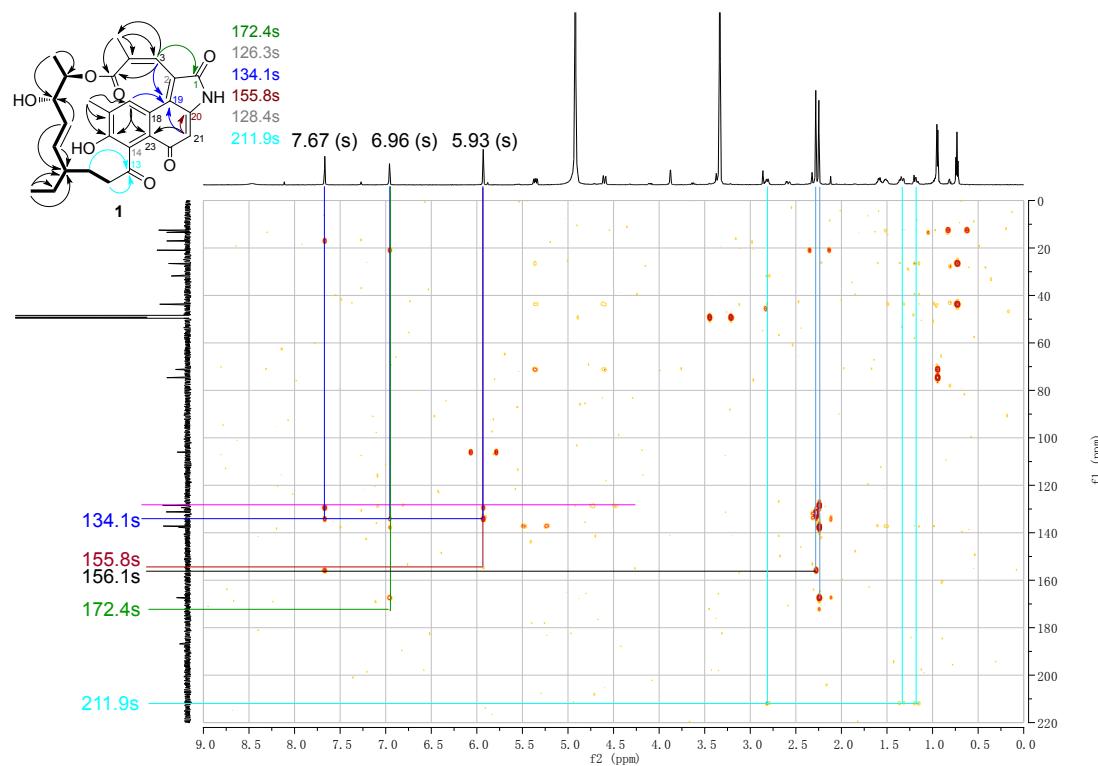


Figure S8. HMBC spectrum for compound **1**

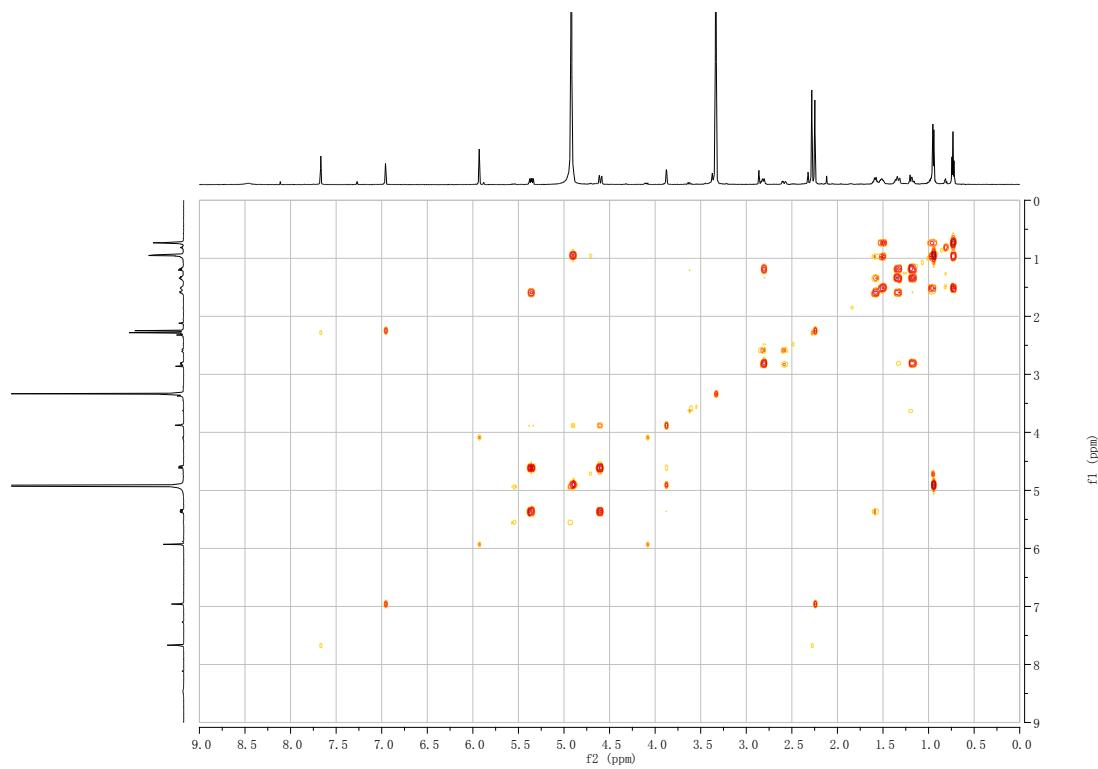


Figure S9. ^1H - ^1H COSY spectrum for compound **1**

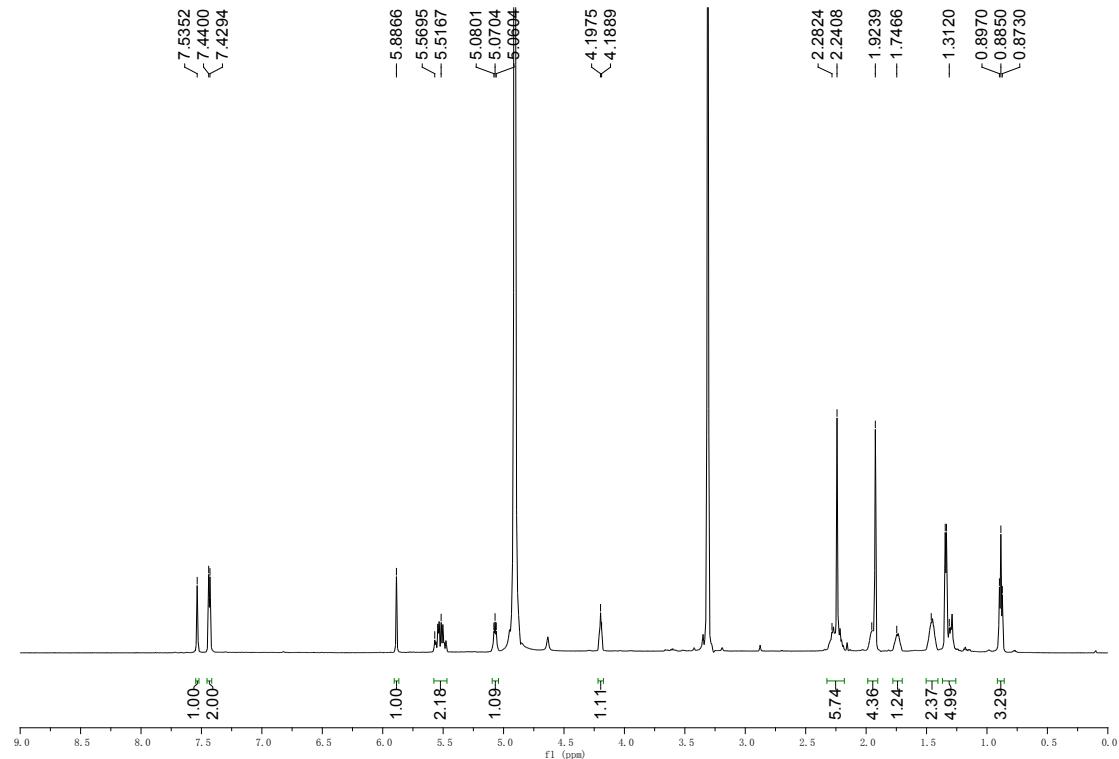


Figure S10. ^1H NMR (600 MHz, CD_3OD) spectrum for compound **2**

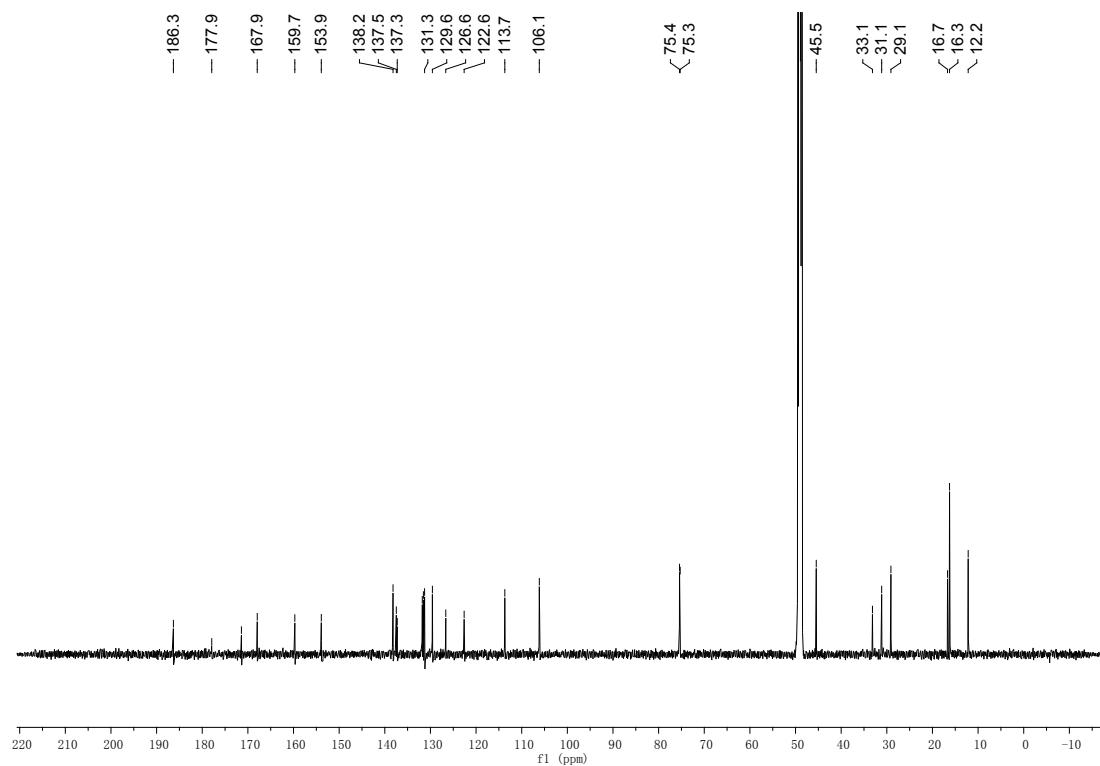


Figure S11. ¹³C NMR (151 MHz, CD₃OD) spectrum for compound 2

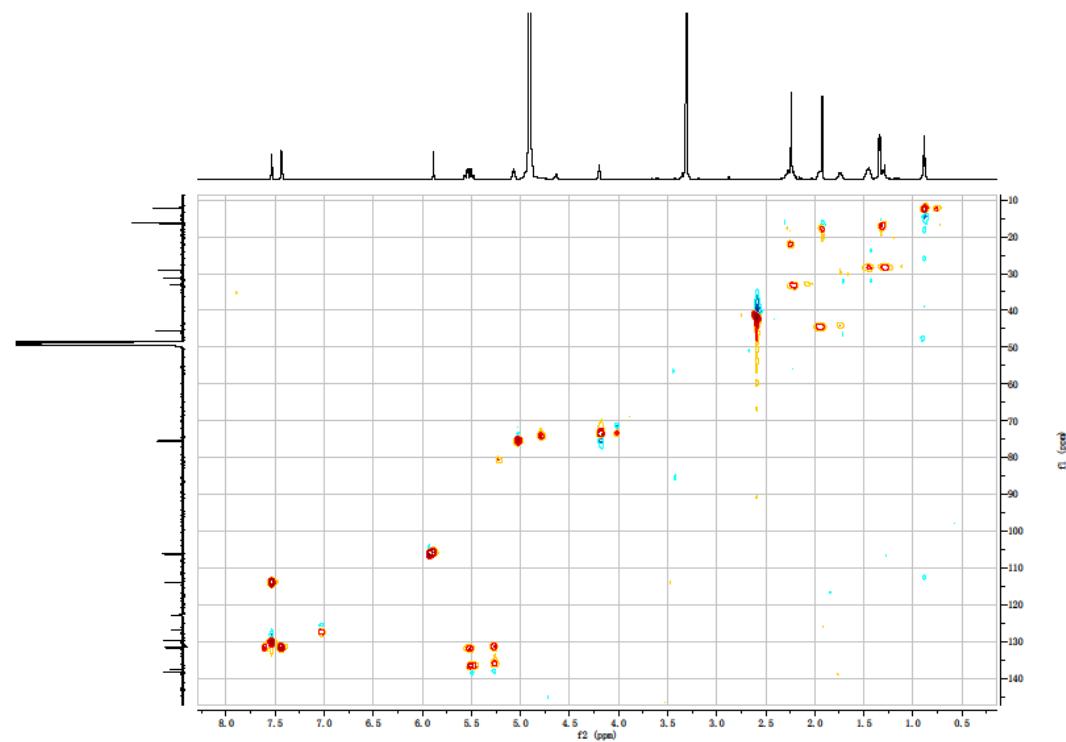


Figure S12. HMQC spectrum for compound 2

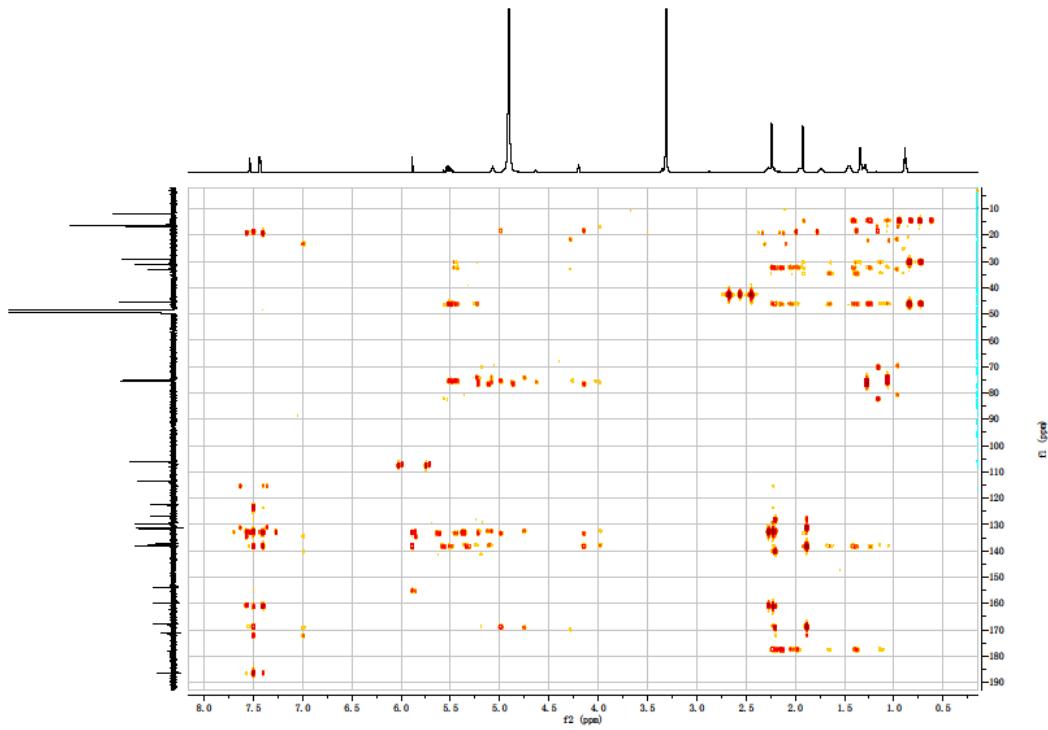


Figure S13. HMBC spectrum for compound 2

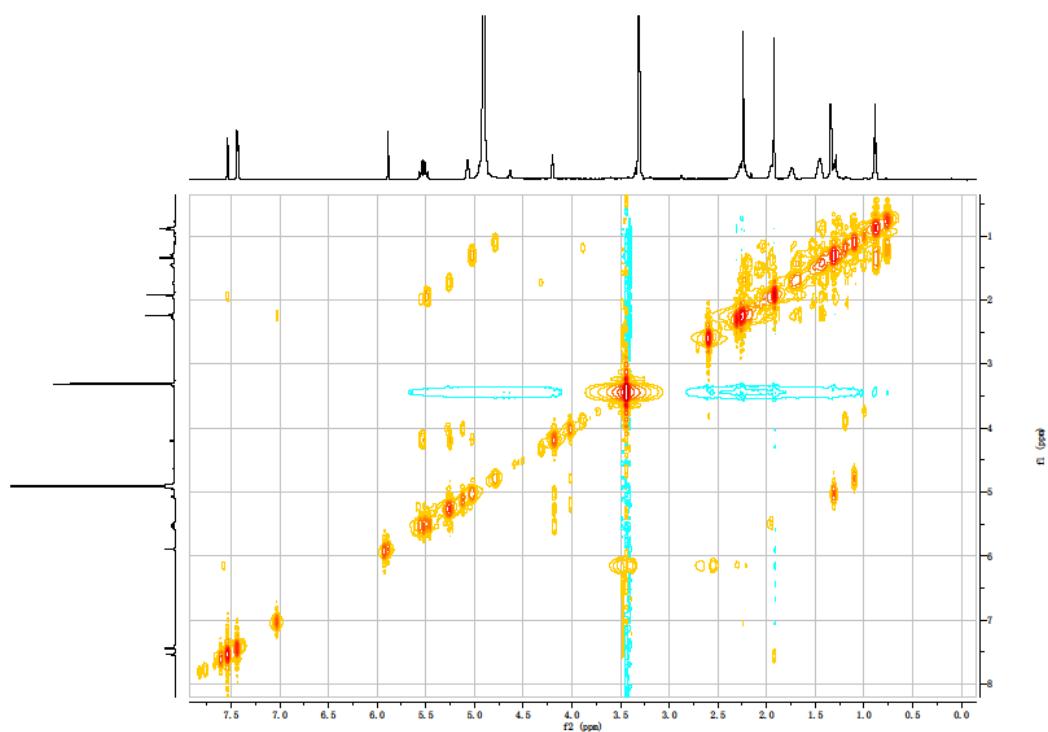


Figure S14. NOE spectrum for compound 2

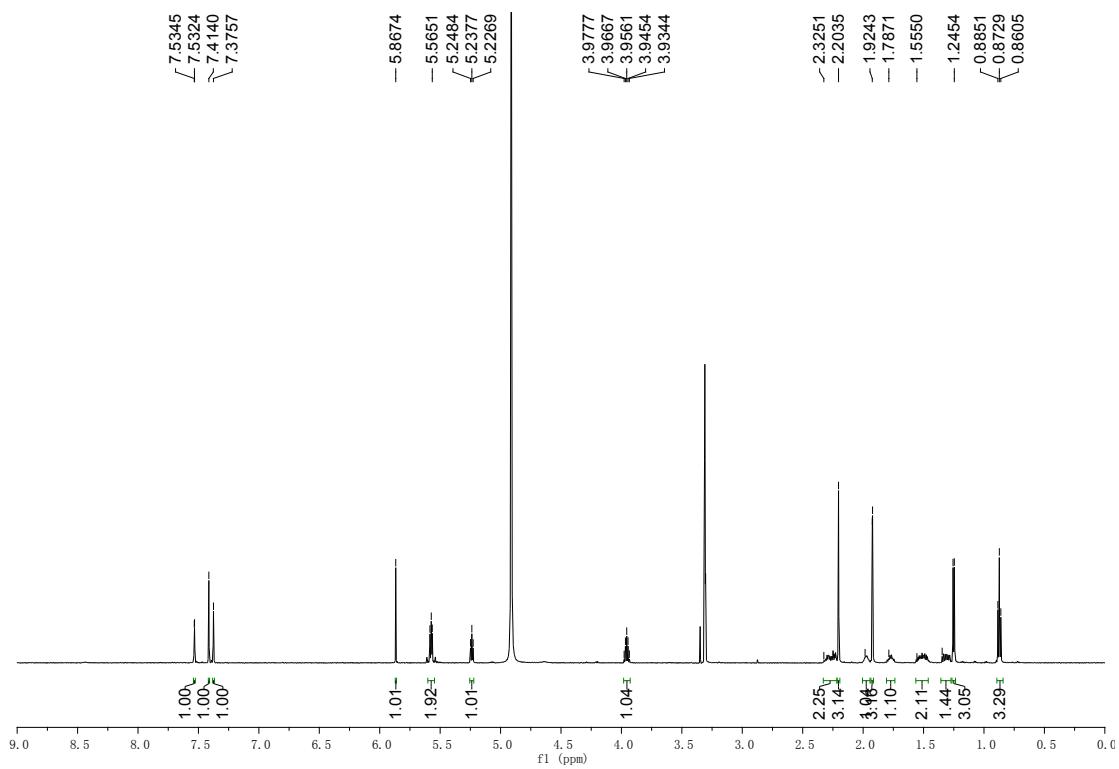


Figure S15. ^1H NMR (600 MHz, CD_3OD) spectrum for compound **3**

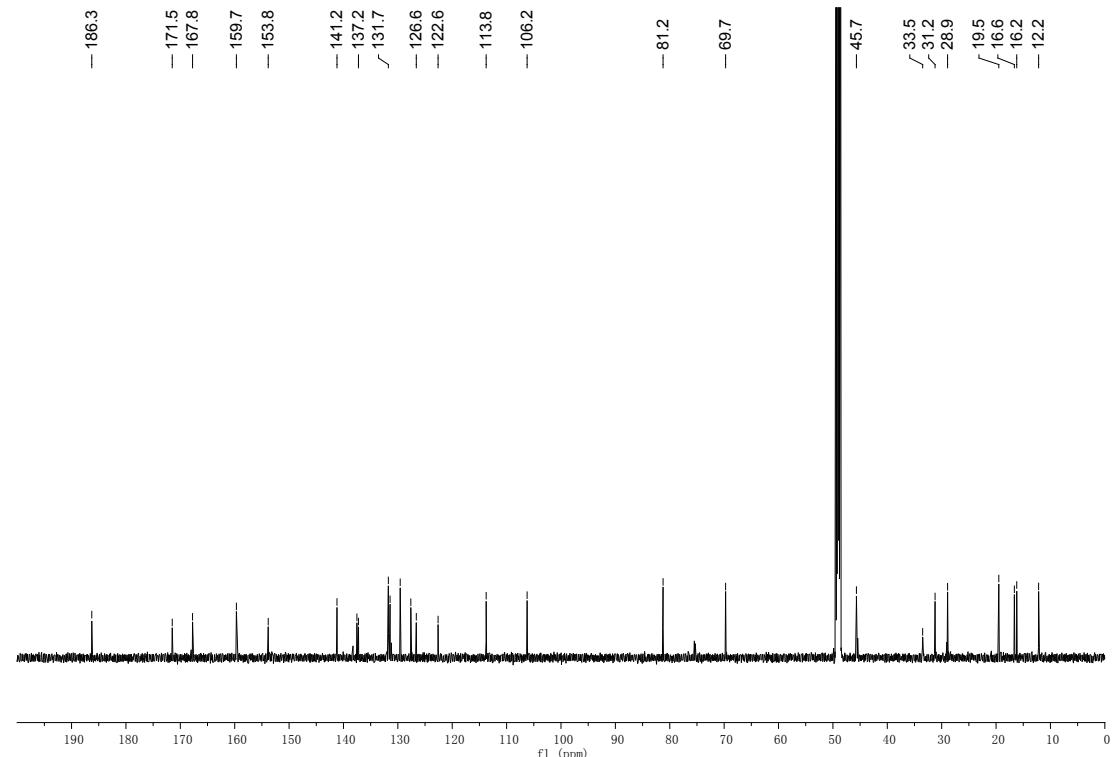


Figure S16. ^{13}C NMR (151 MHz, CD_3OD) spectrum for compound **3**

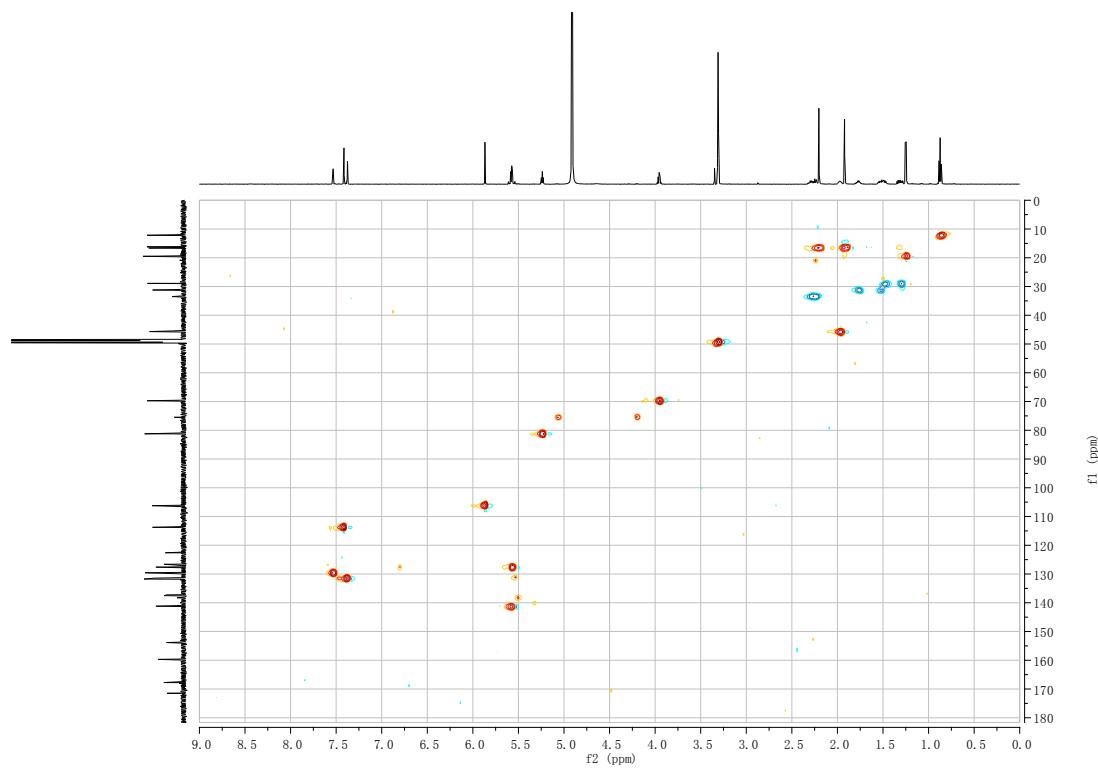


Figure S17. HMQC spectrum for compound 3

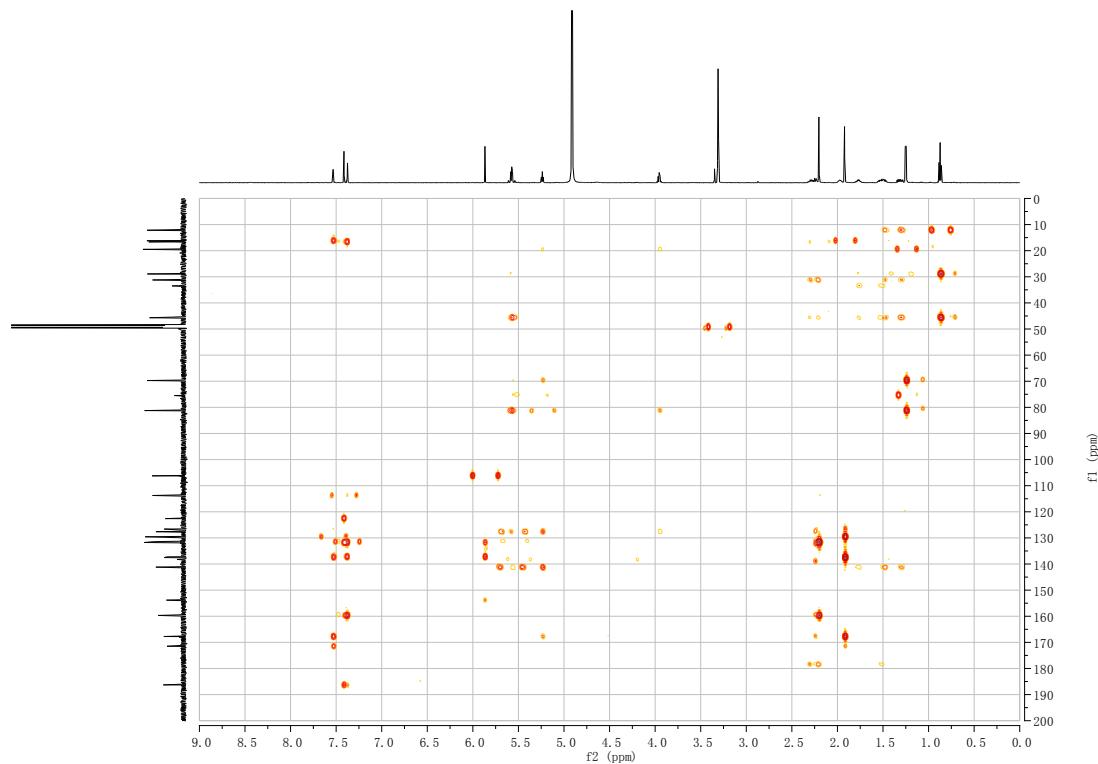


Figure S18. HMBC spectrum for compound 3

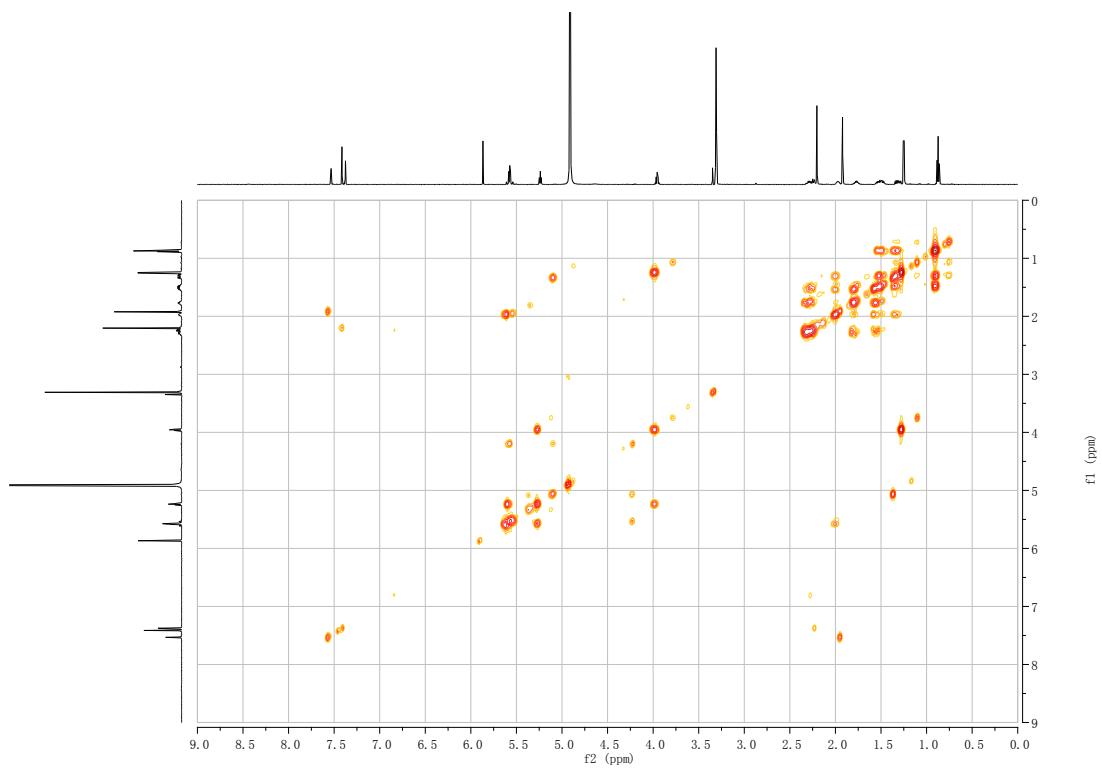


Figure S19. ^1H - ^1H COSY spectrum for compound 3