Supplementary Materials: Production of New Isoflavone Diglucosides from Glycosylation of 8-Hydroxydaidzein by *Deinococcus geothermalis* Amylosucrase

Chien-Min Chiang,[1,†] Tzi-Yuan Wang,[2,†] Jiumn-Yih Wu,[3,†] Yun-Rong Zhang,[4] Shu-Yuan Lin,[4] and Te-Sheng Chang[4,*]

[1] Department of Pharmacy, Chia Nan University of Pharmacy and Science, No. 60, Sec. 1, Erh-Jen Rd., Jen-Te District, Tainan 71710, Taiwan; cmchiang@mail.cnu.edu.tw
[2] Biodiversity Research Center, Academia Sinica, Taipei 11529, Taiwan; tziyuan@gmail.com
[3] Department of Food Science, National Quemoy University, Kinmen County 892, Taiwan; wujy@nqu.edu.tw
[4] Department of Biological Sciences and Technology, National University of Tainan, Tainan 70005, Taiwan; mozyme2001@gmail.com (T.-S. C.); S10758011@gm2.nutn.edu.tw (Y.-R. Z.); doreen890513@gmail.com (S.-Y. L.)
* Correspondence: mozyme2001@gmail.com; Tel./Fax: +886-6-2602137
+ These authors contributed equally to this manuscript

Figure S18. The HSQC (700 MHz, DMSO-d_6) spectrum of compound (**2**).

Figure S19. The HMBC (700 MHz, DMSO-d_6) spectrum of compound (**2**).

Figure S20. The key HMBC and NOESY correlations of compound (**1**) and compound (**2**).

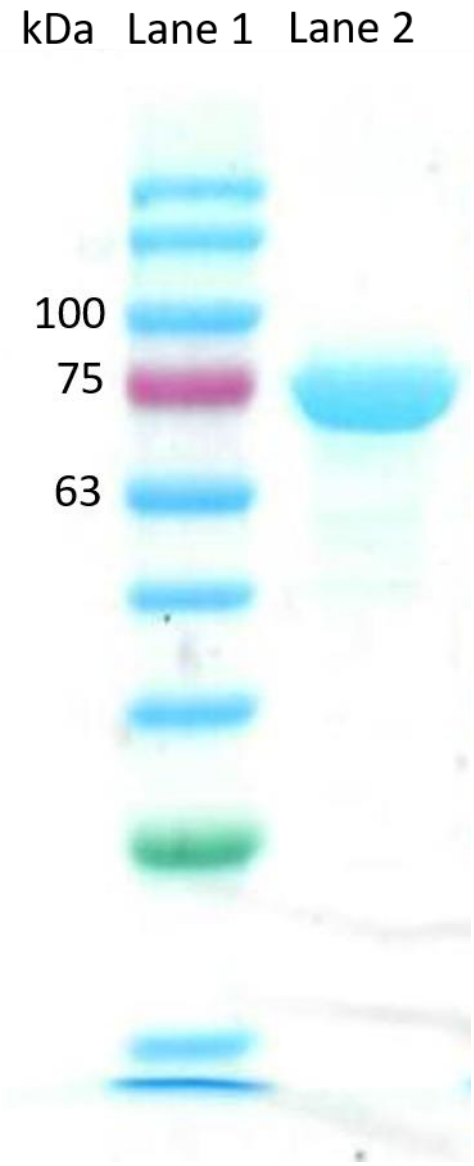


Figure S1. Sodium dodecyl sulfate polyacrylamide gel electrophoresis (SDS-PAGE) analysis of purified DgAS. Lane 1 is protein marker and lane 2 is the purified DgAS.

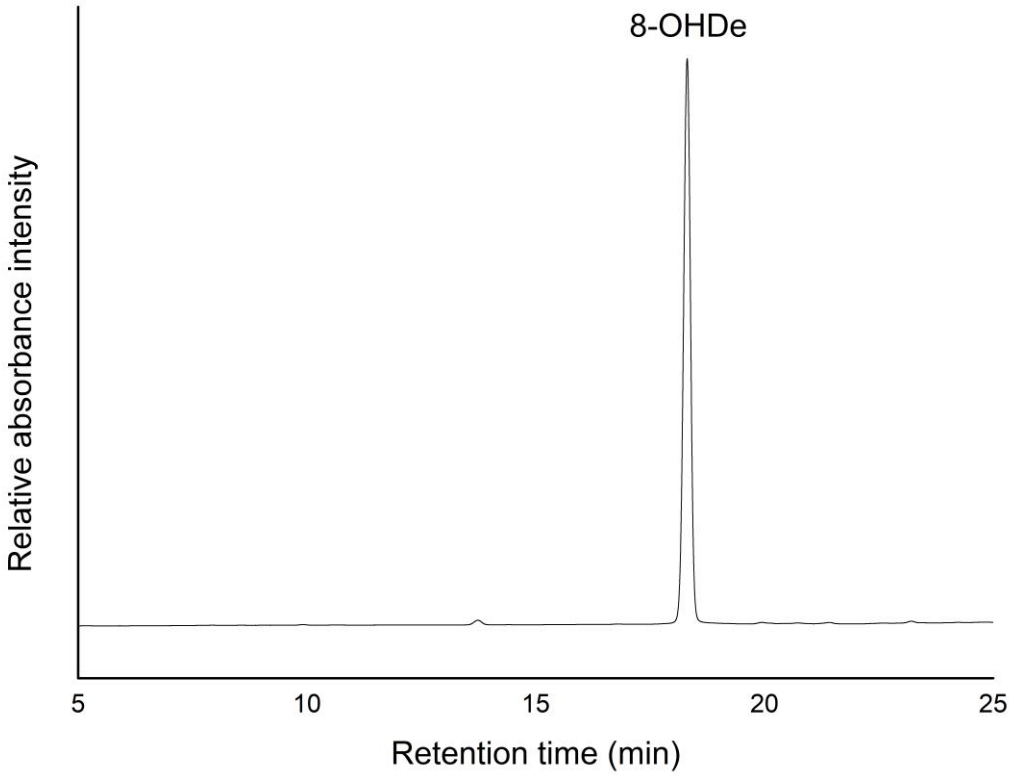


Figure S2. High-performance liquid chromatography (HPLC) analysis of the biotransformation products of 8-OHDe produced by heat-inactivated DgAS. The reaction condition was the same as that in Figure 1 but the DgAS was heated at 95 °C for 30 min before used.

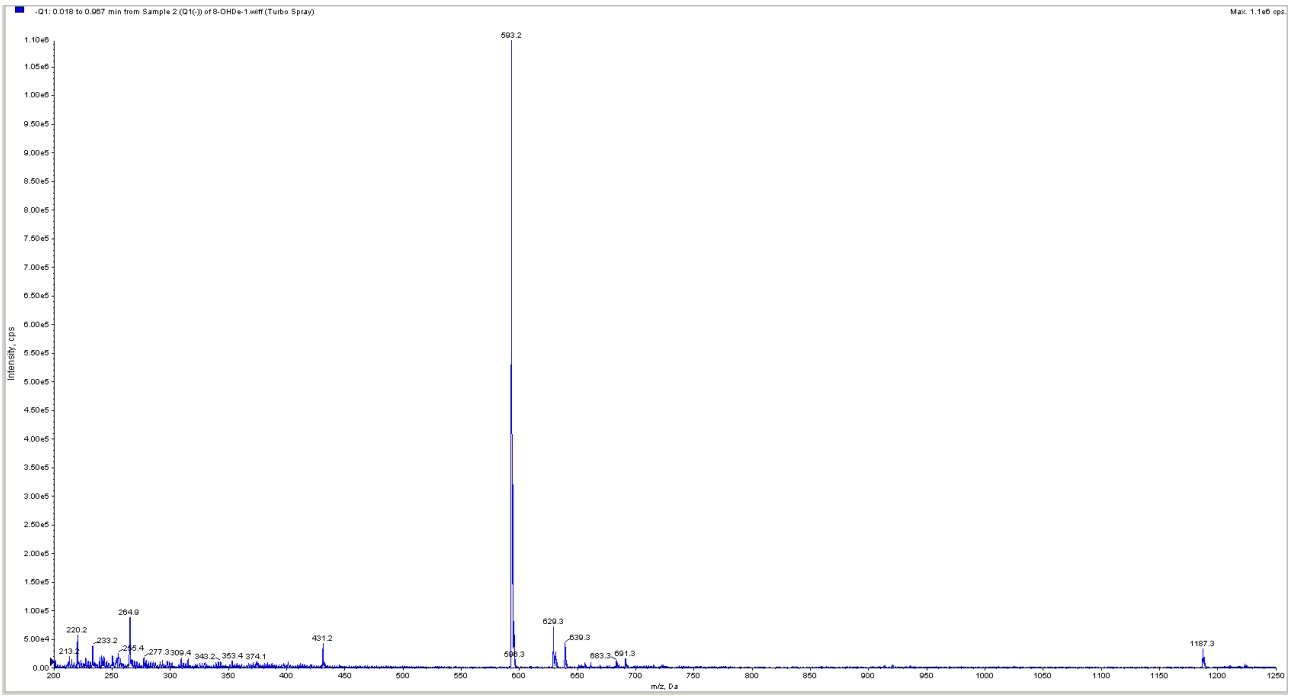


Figure S3. Mass analysis of compound (**1**) at the negative mode. A significant signal at *m*/*z* 593.2 showed the corresponding *m*/*z* signal of molecular weight 594 of 8-OHDe-diglucoside at the negative mode.

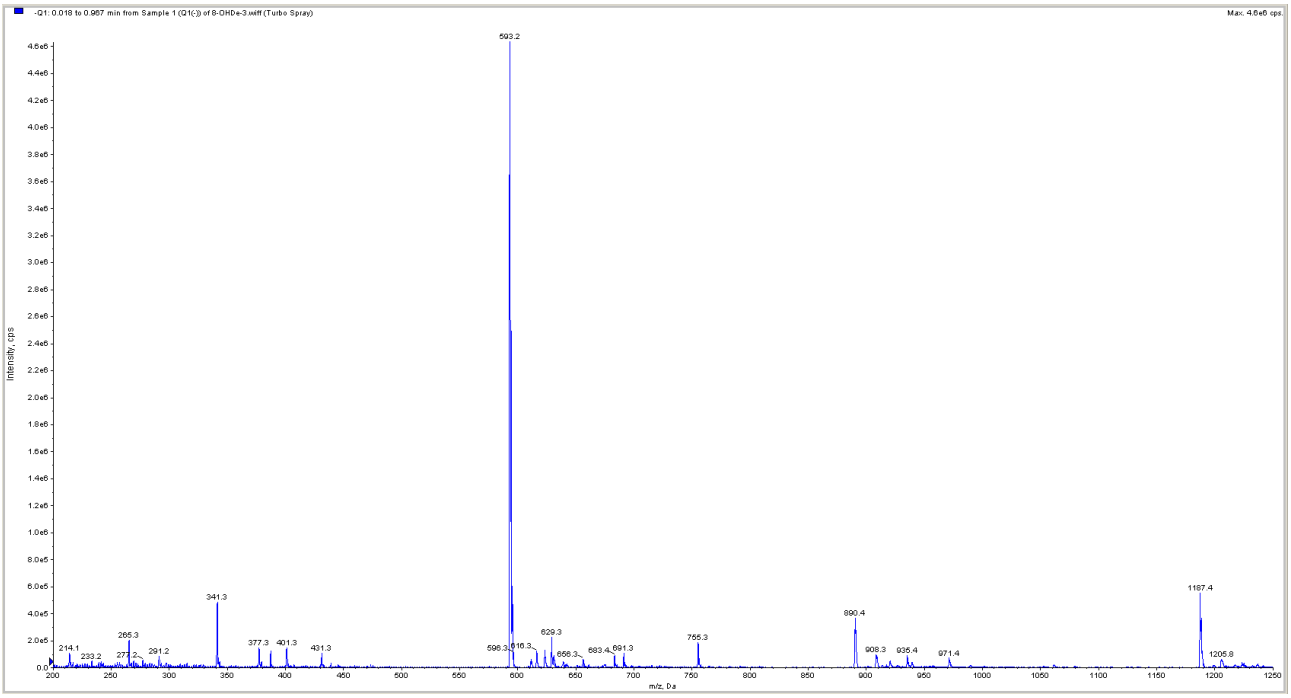


Figure S4. Mass analysis of compound (**2**) at the negative mode. A significant signal at *m*/*z* 593.2 showed the corresponding *m*/*z* signal of molecular weight 594 of 8-OHDe-diglucoside at the negative mode.

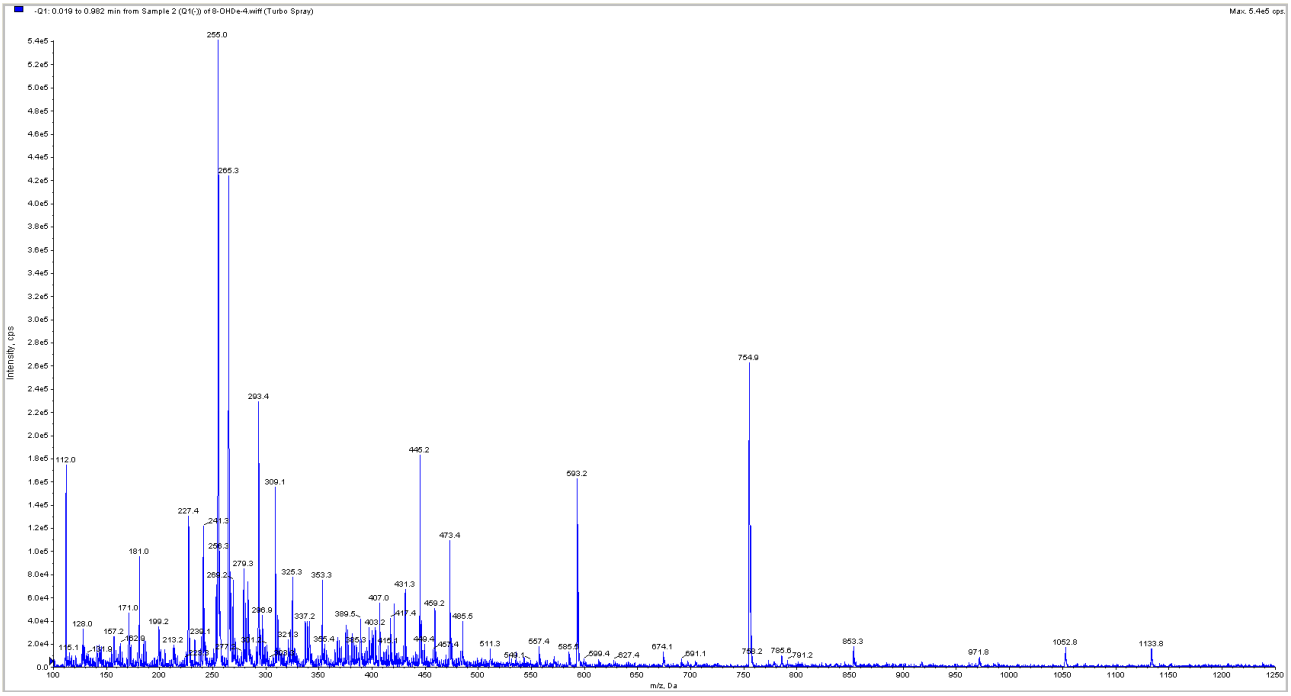


Figure S5. Mass analysis of compound (**3**) at the negative mode. A significant signal at *m*/*z* 755.2 showed the corresponding *m*/*z* signal of molecular weight 756 of 8-OHDe-triglucoside at the negative mode.

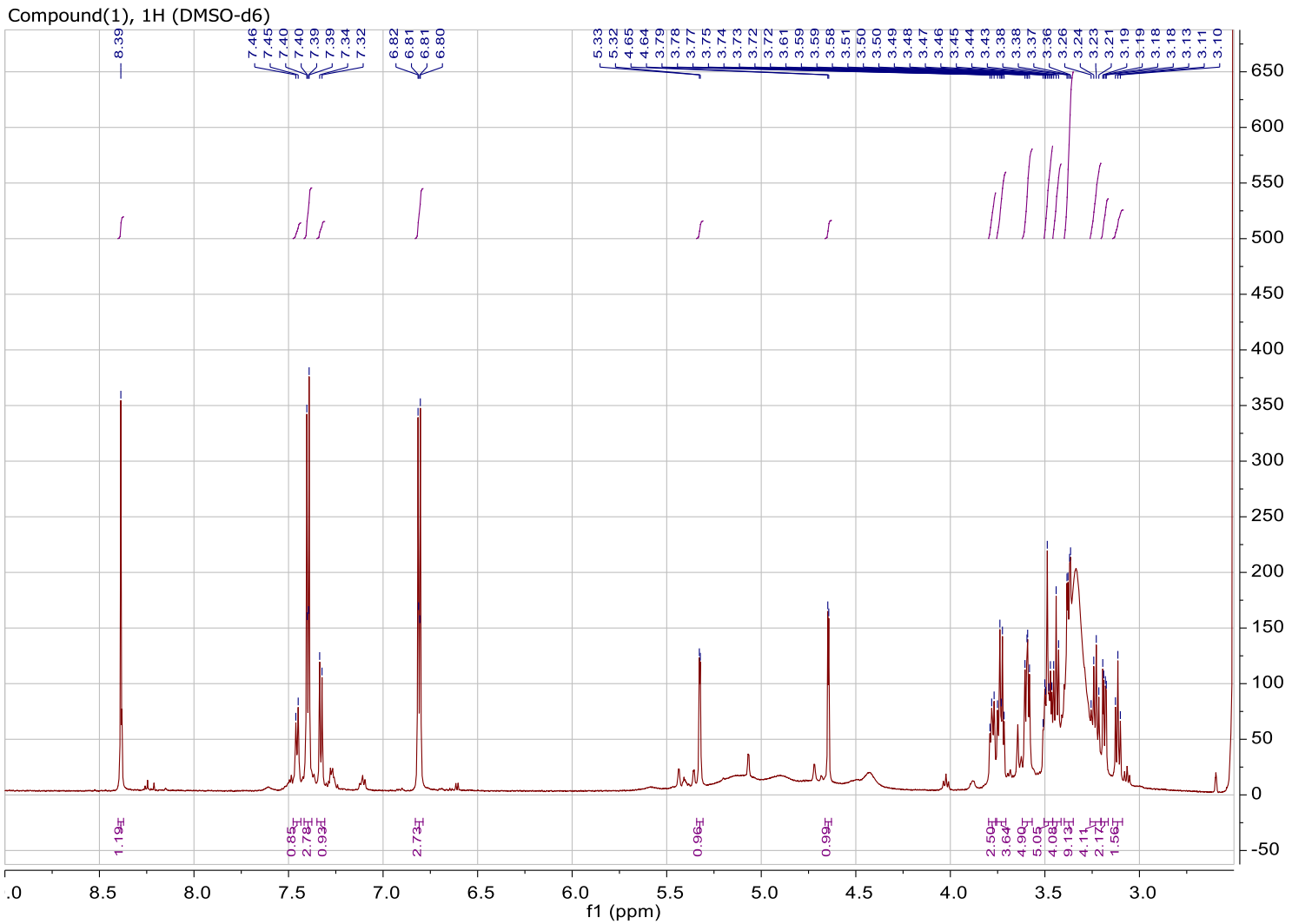


Figure S6. The ^{1}H-NMR (700 MHz, DMSO-d_6) spectrum of compound (**1**).

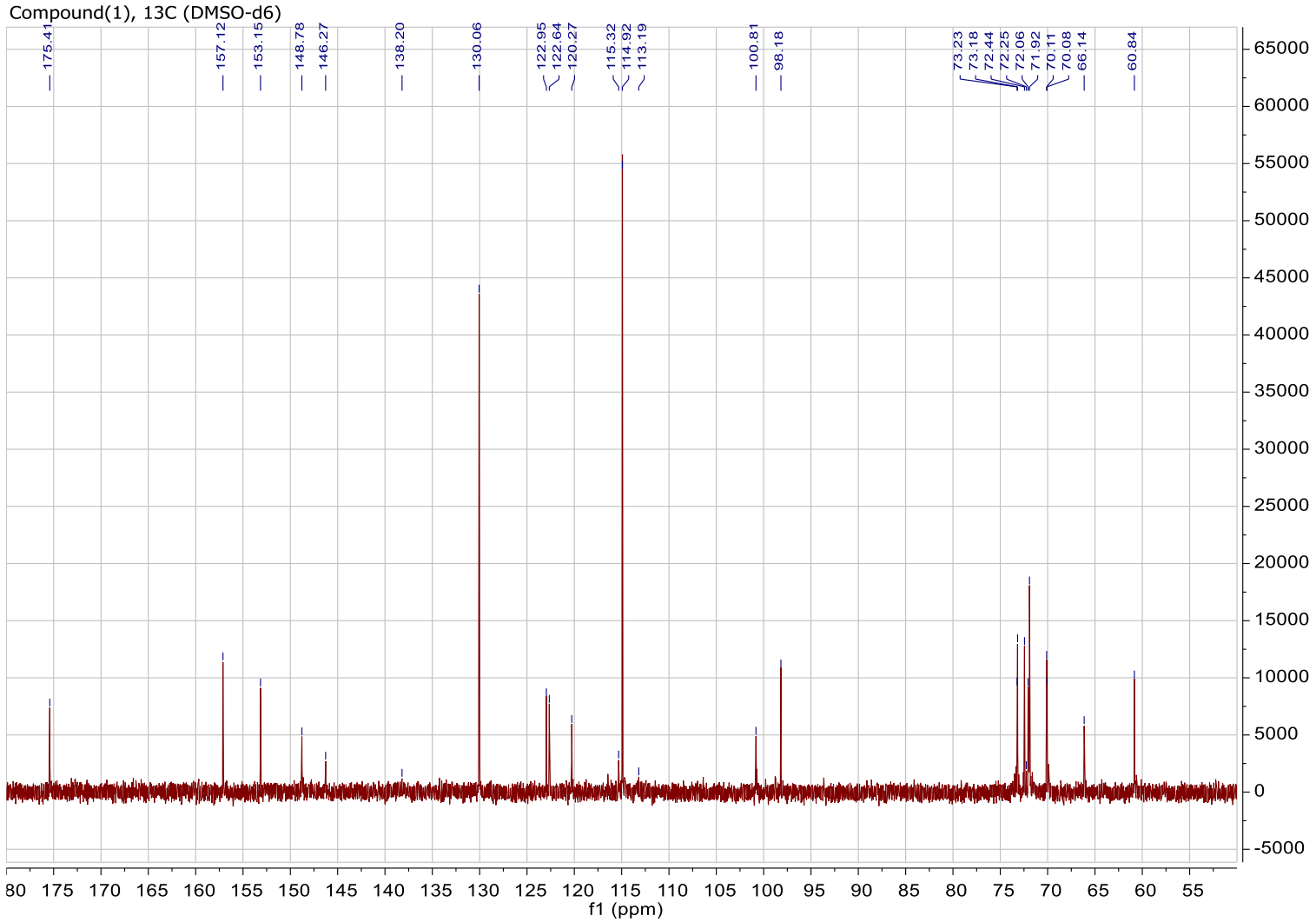


Figure S7. The ^{13}C-NMR (176 MHz, DMSO-d_6) spectrum of compound (**1**).

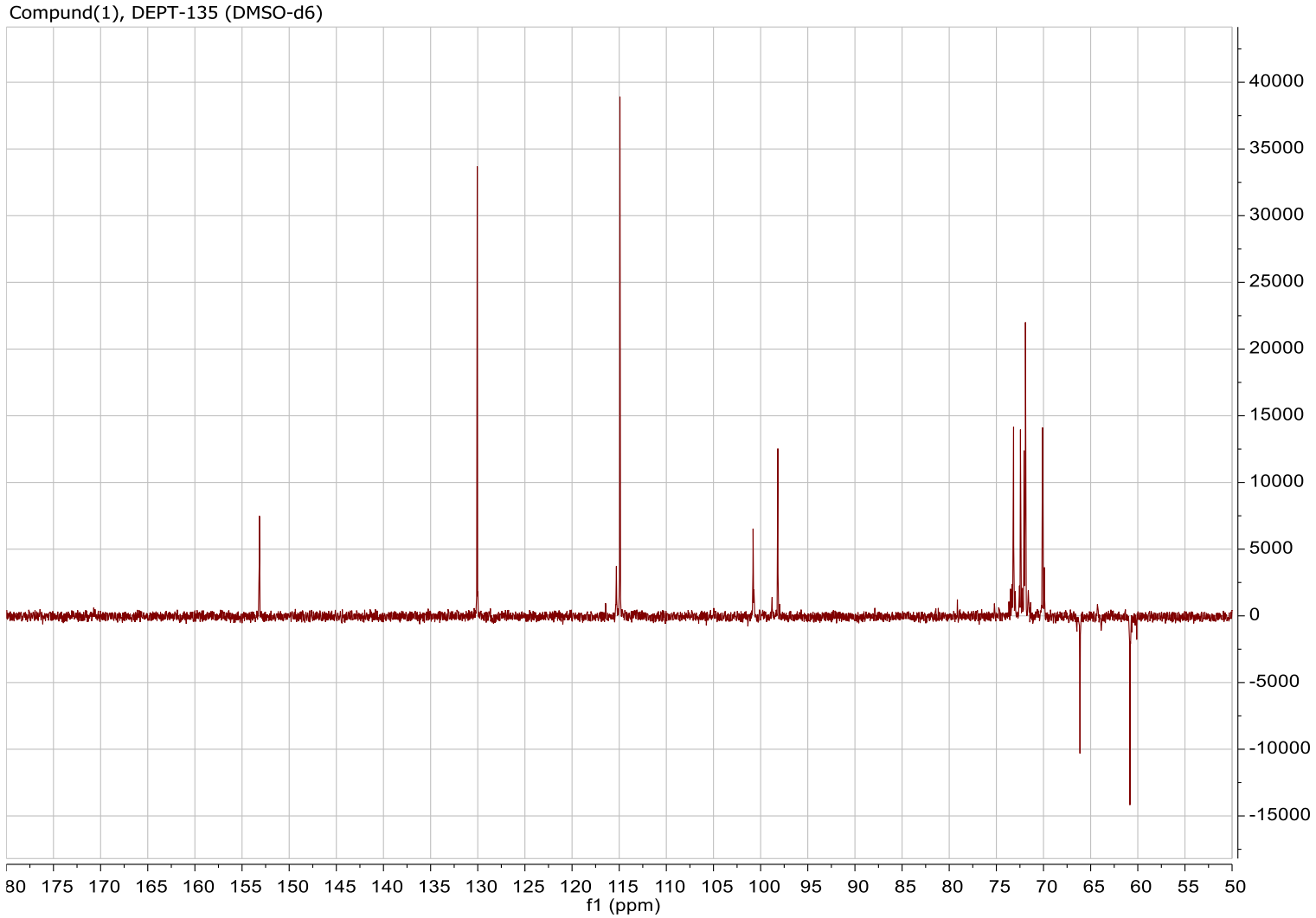


Figure S8. The DEPT-135 (176 MHz DMSO-d_6) spectrum of compound (**1**).

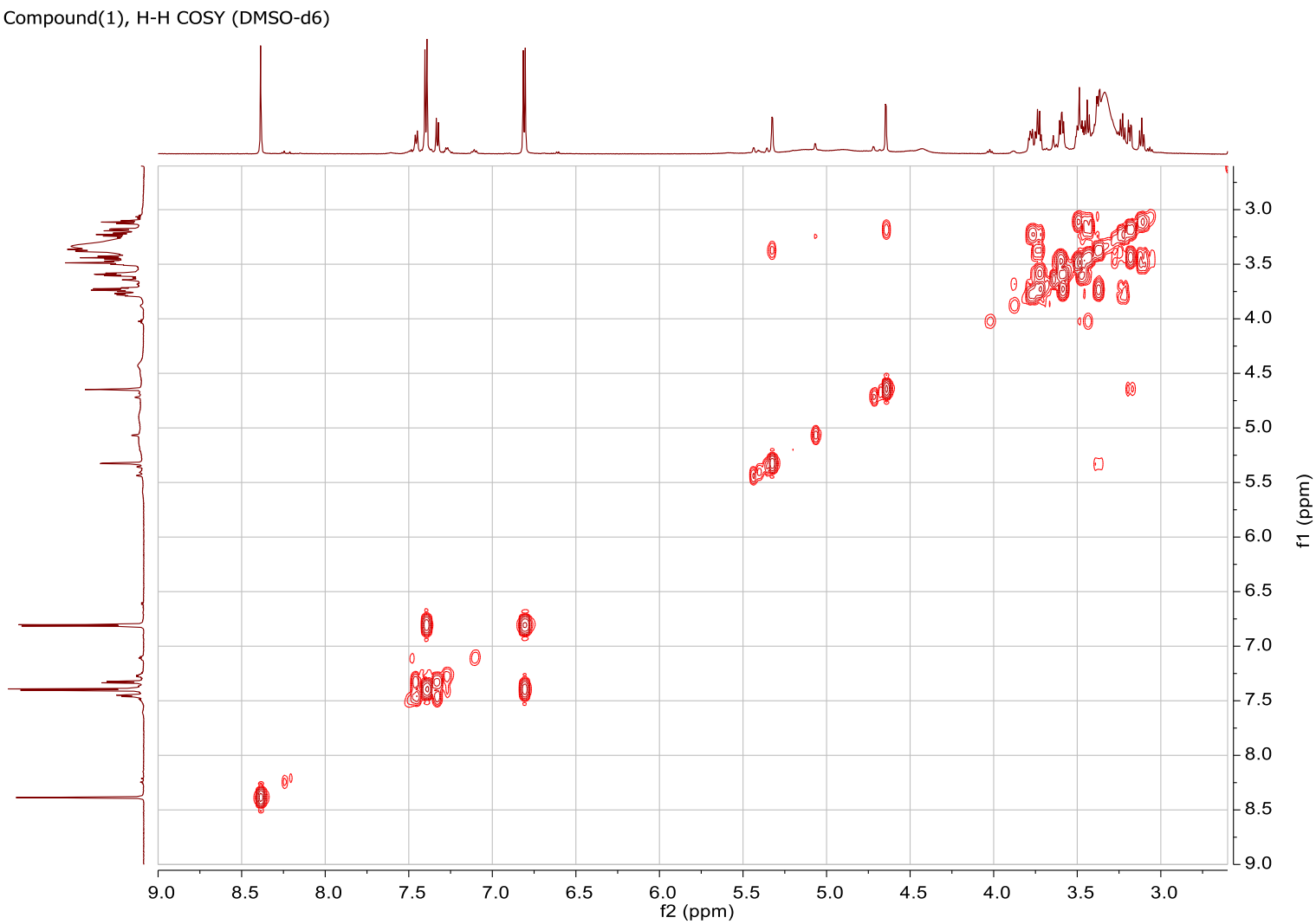


Figure S9. The H-H COSY (700 MHz DMSO-d_6) spectrum of compound (**1**).

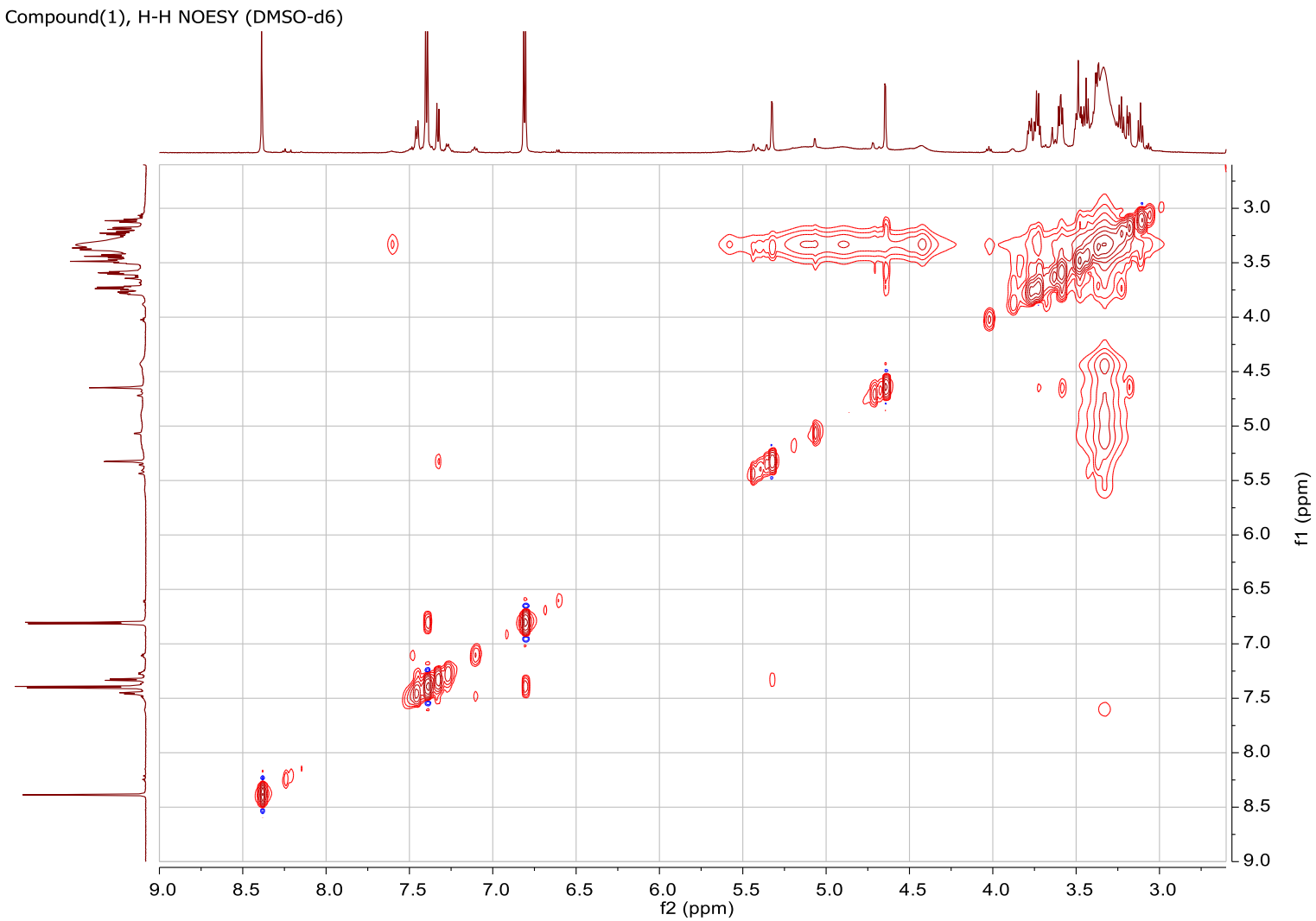


Figure S10. The H-H NOESY (700 MHz DMSO-d_6) spectrum of compound (**1**).

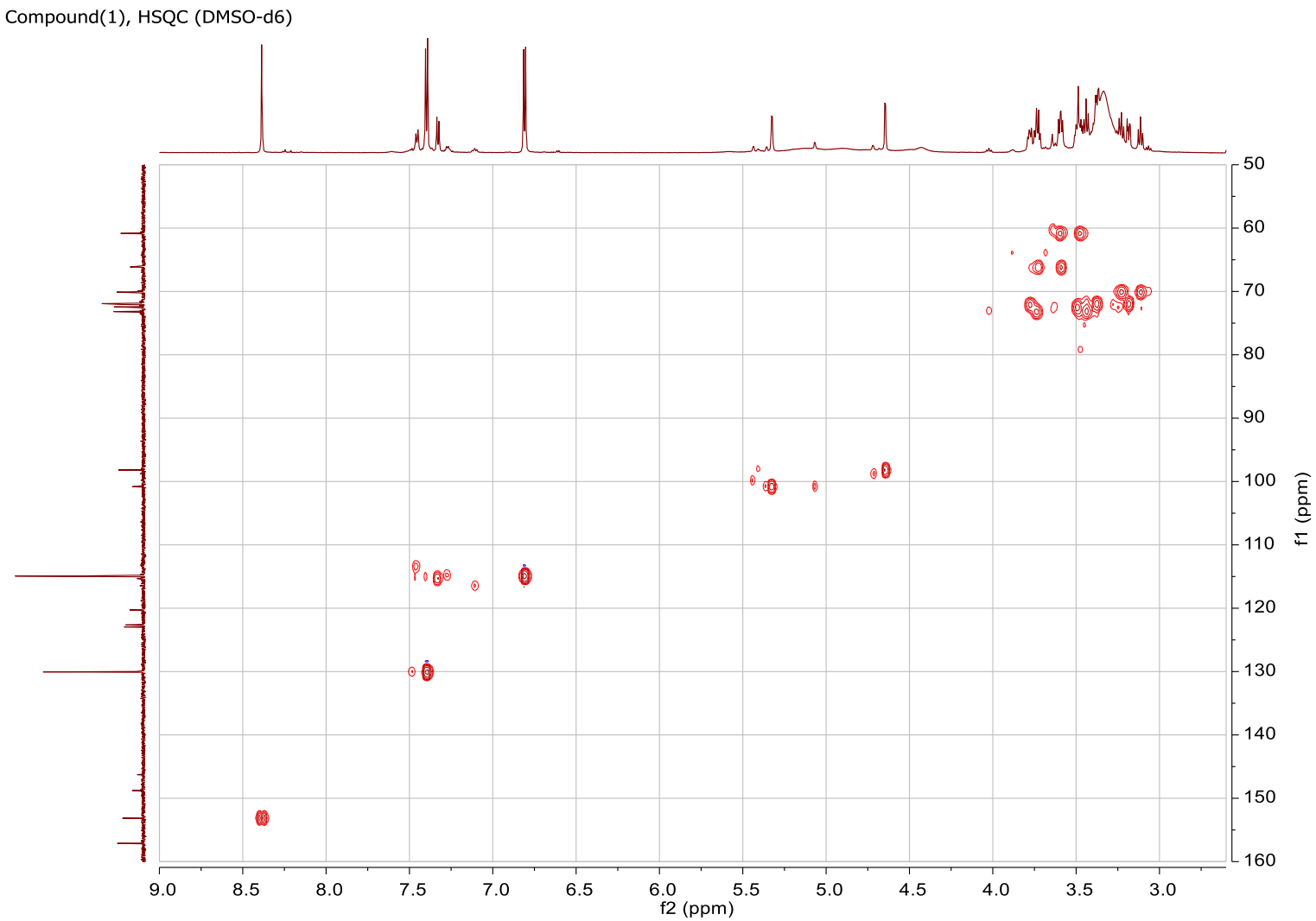


Figure S11. The HSQC (700 MHz DMSO-d_6) spectrum of compound (**1**).

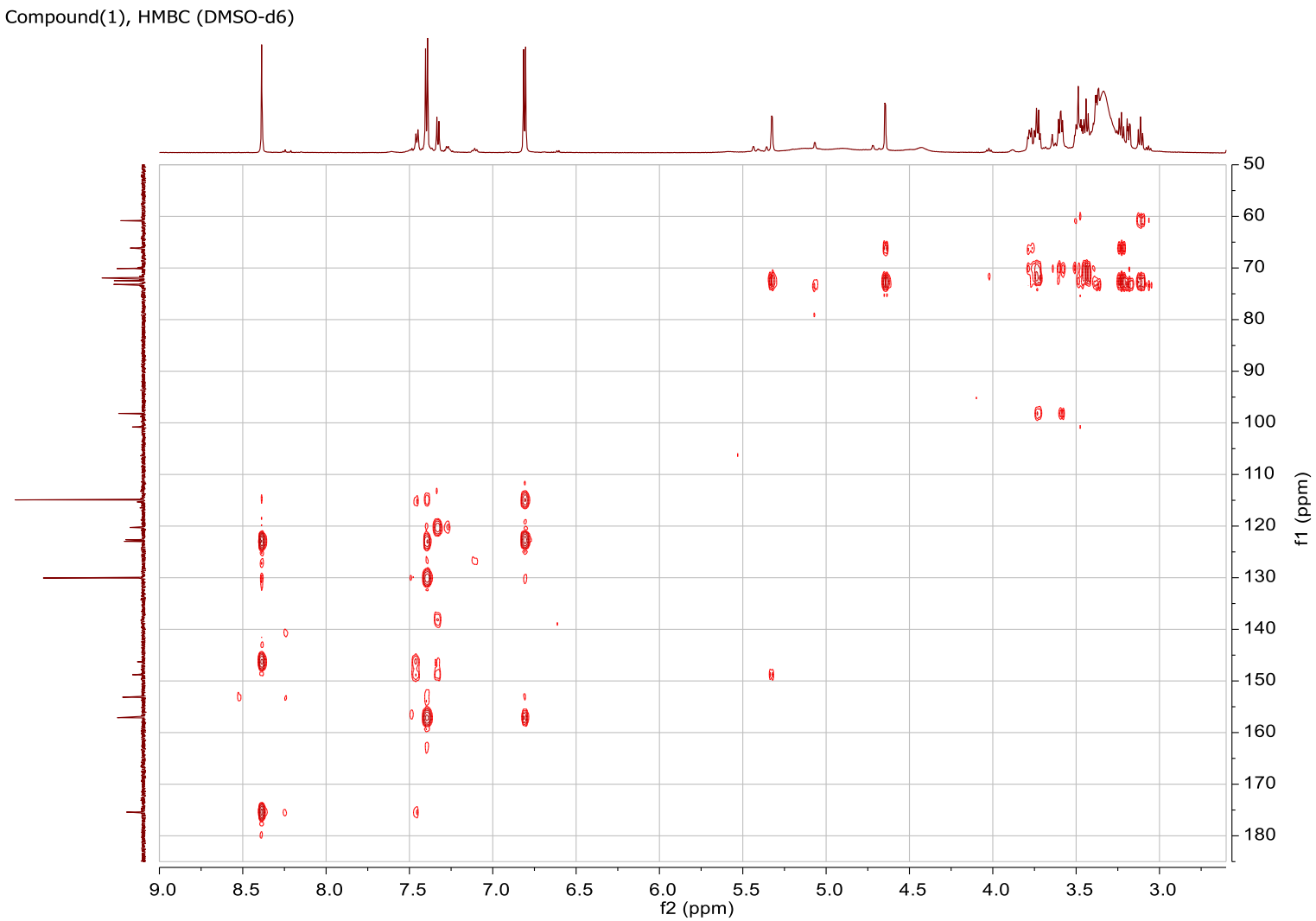


Figure S12. The HMBC (700 MHz DMSO-d_6) spectrum of compound (**1**).

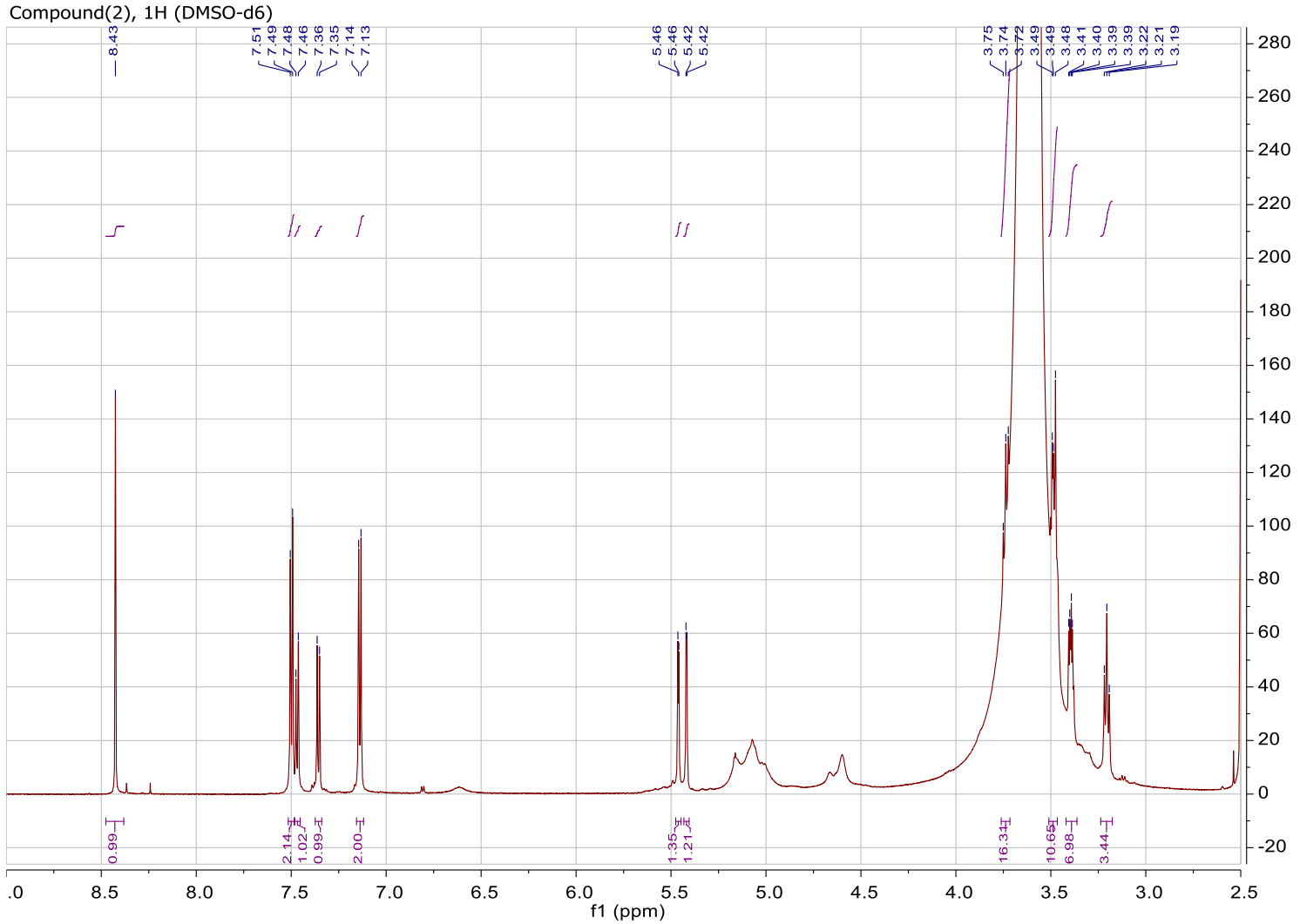


Figure S13. The ^{1}H-NMR (700 MHz, DMSO-d_6) spectrum of compound (**2**).

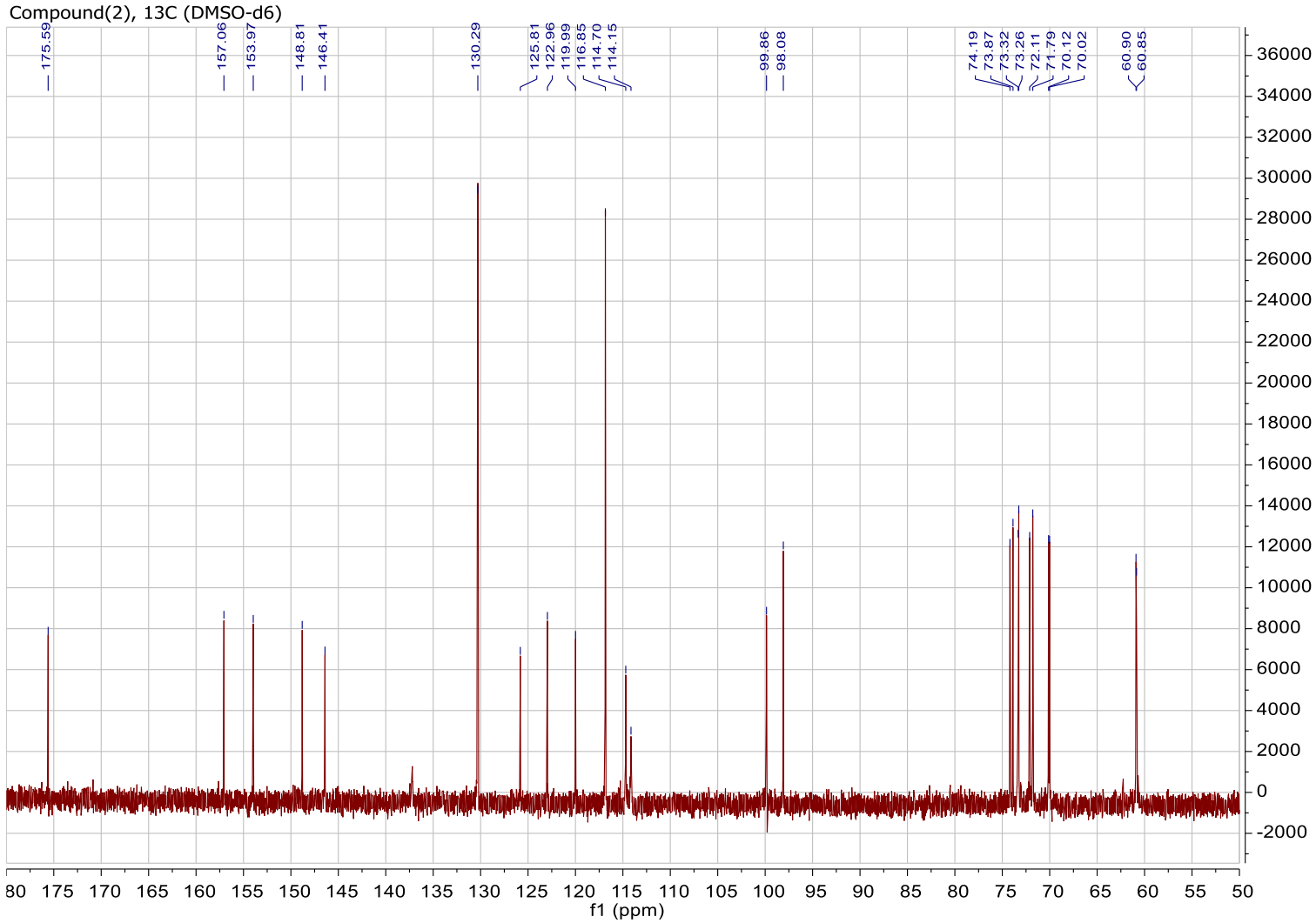


Figure S14. The ^{13}C-NMR (176 MHz, DMSO-d_6) spectrum of compound (**2**).

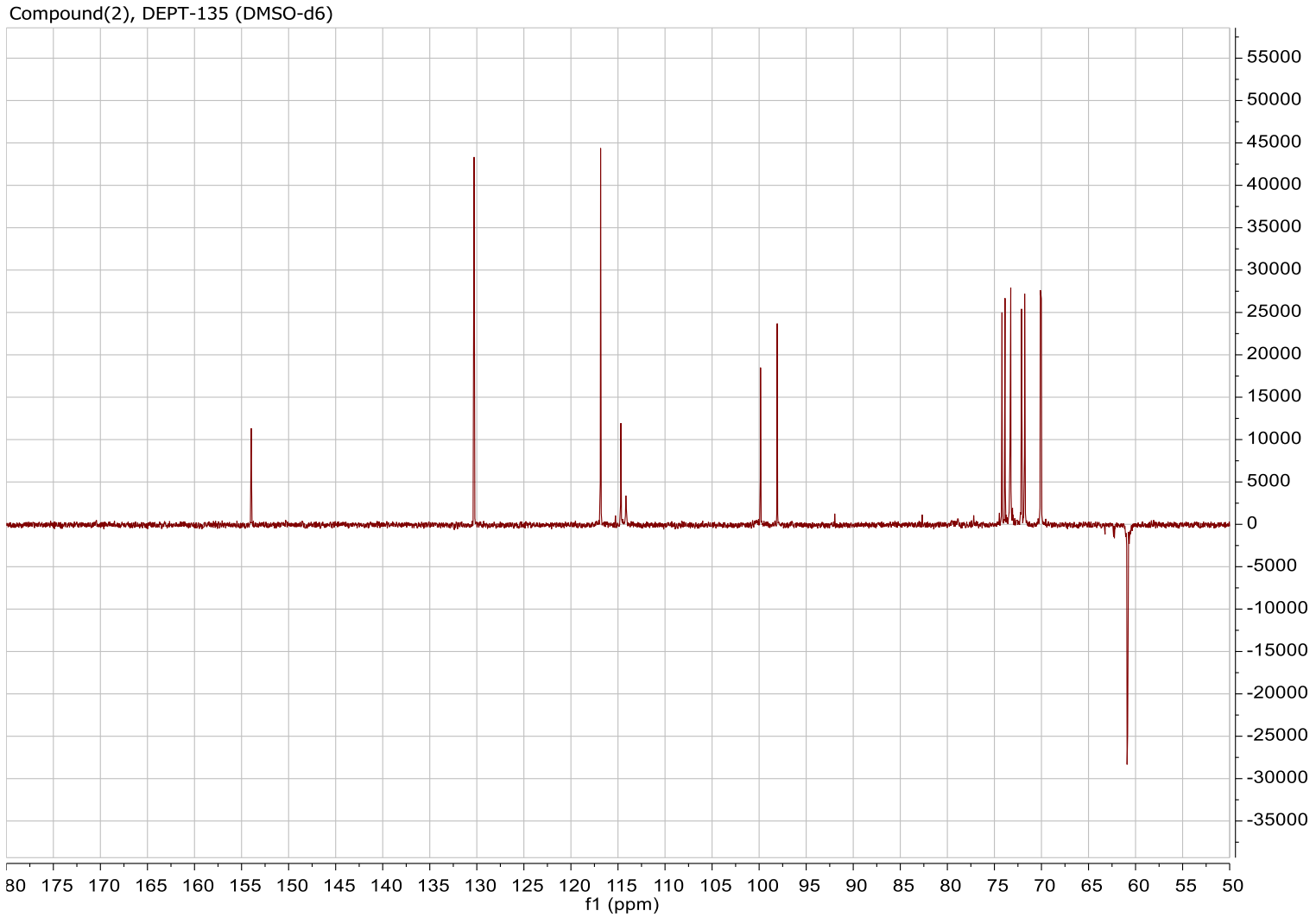


Figure S15. The DEPT-135 (176 MHz, DMSO-d_6) spectrum of compound (**2**).

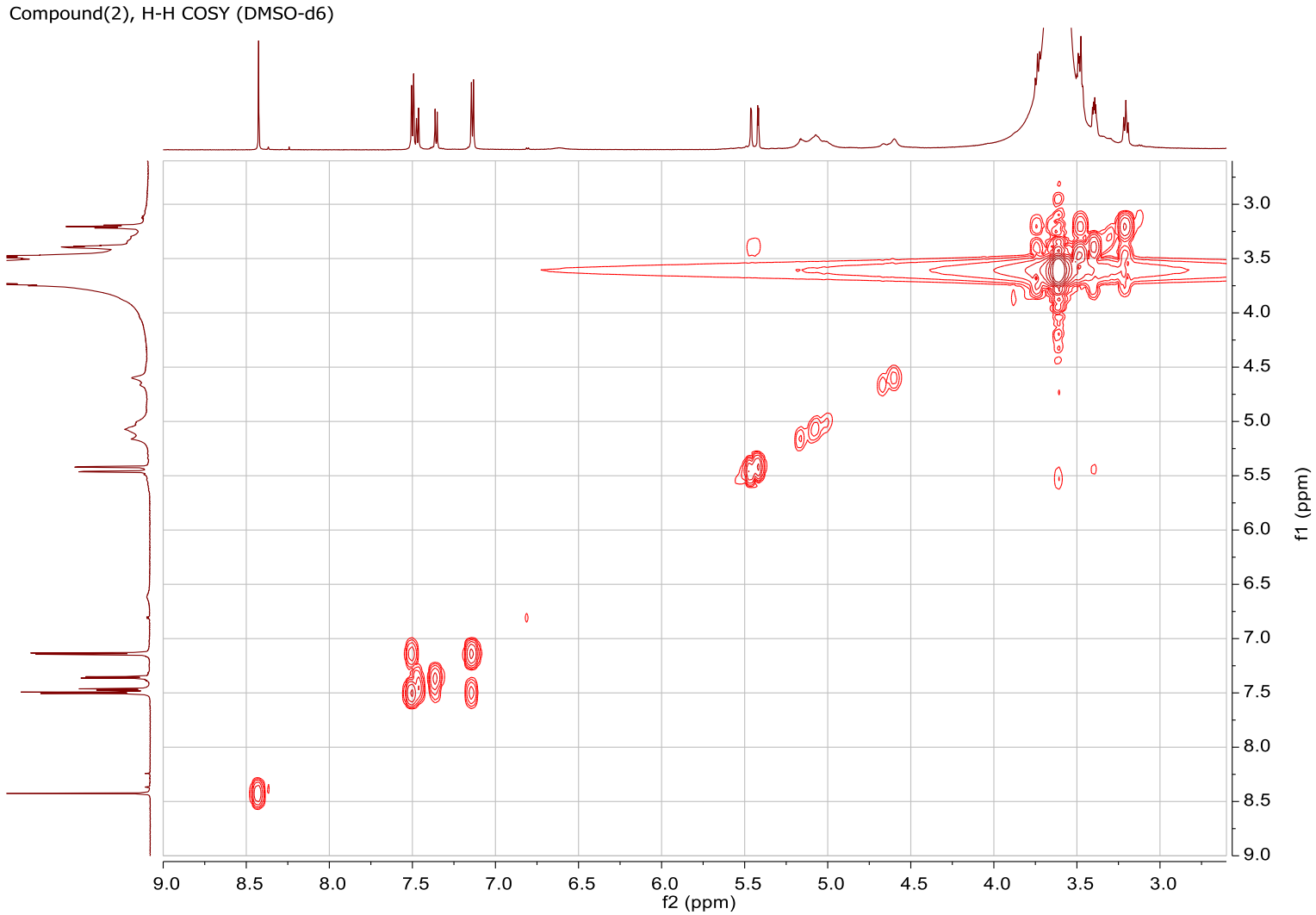


Figure S16. The H-H COSY (700 MHz, DMSO-d_6) spectrum of compound (**2**).

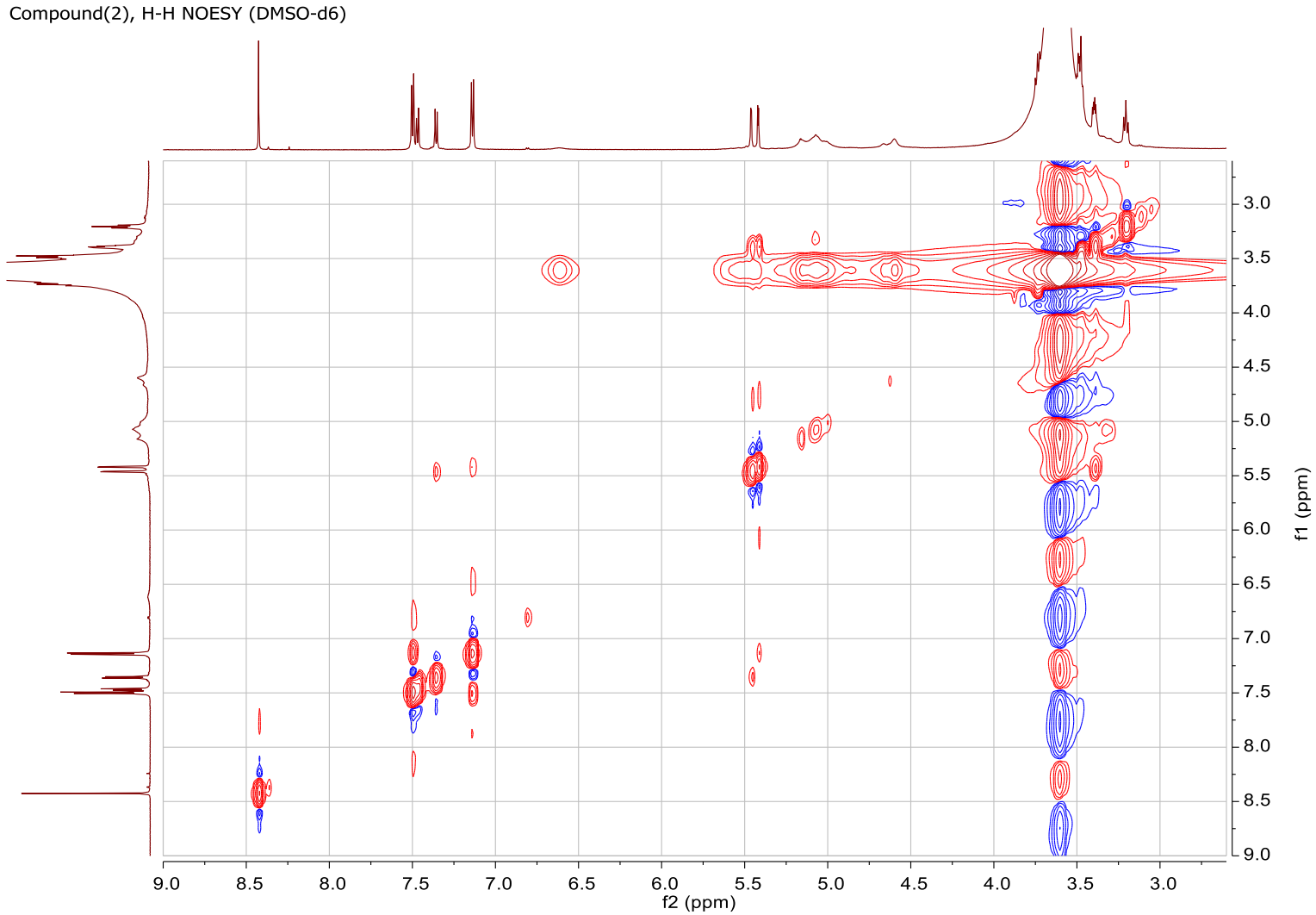


Figure S17. The H-H NOESY (700 MHz, DMSO-d_6) spectrum of compound (**2**).

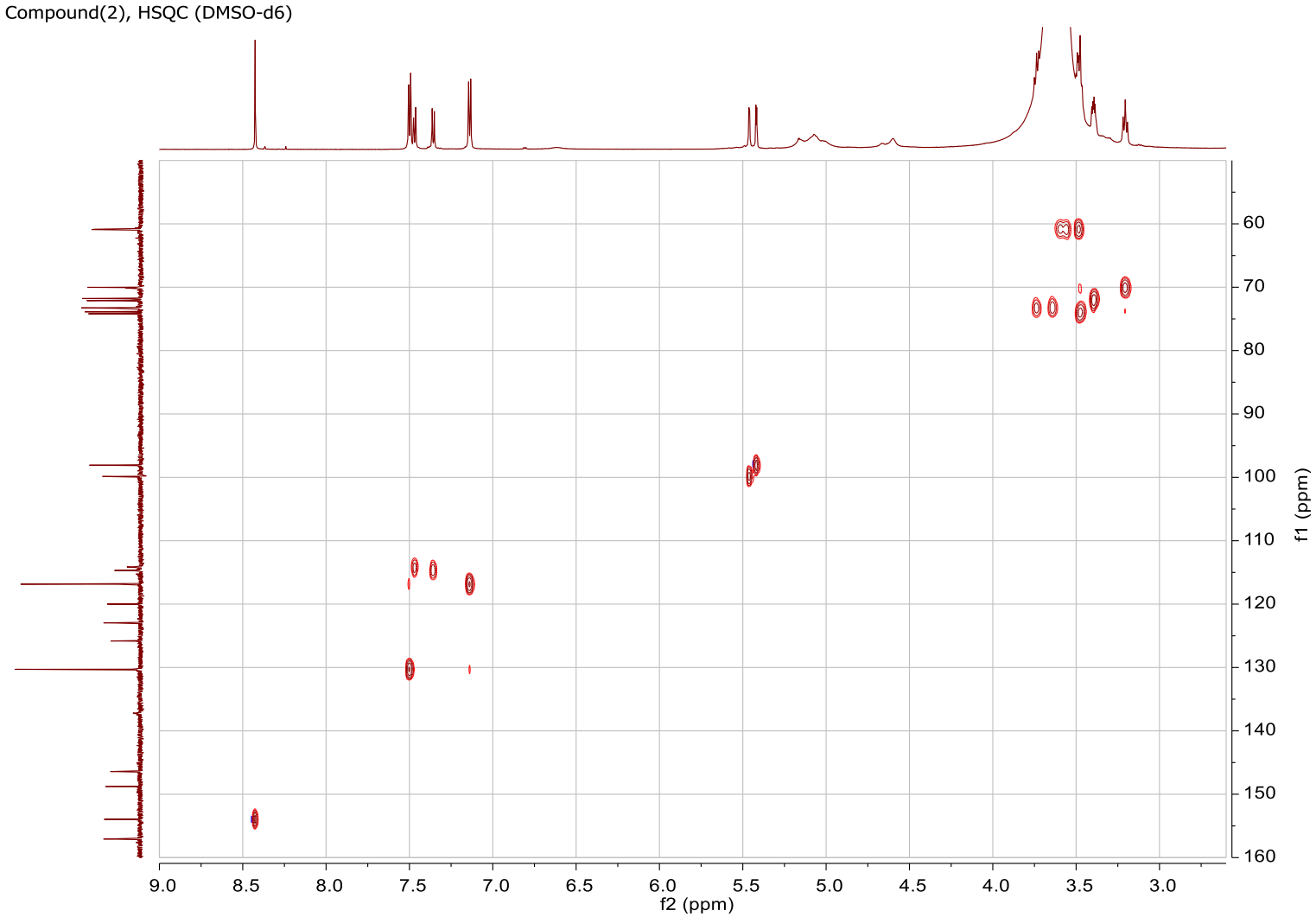


Figure S18. The HSQC (700 MHz, DMSO-d_6) spectrum of compound (**2**).

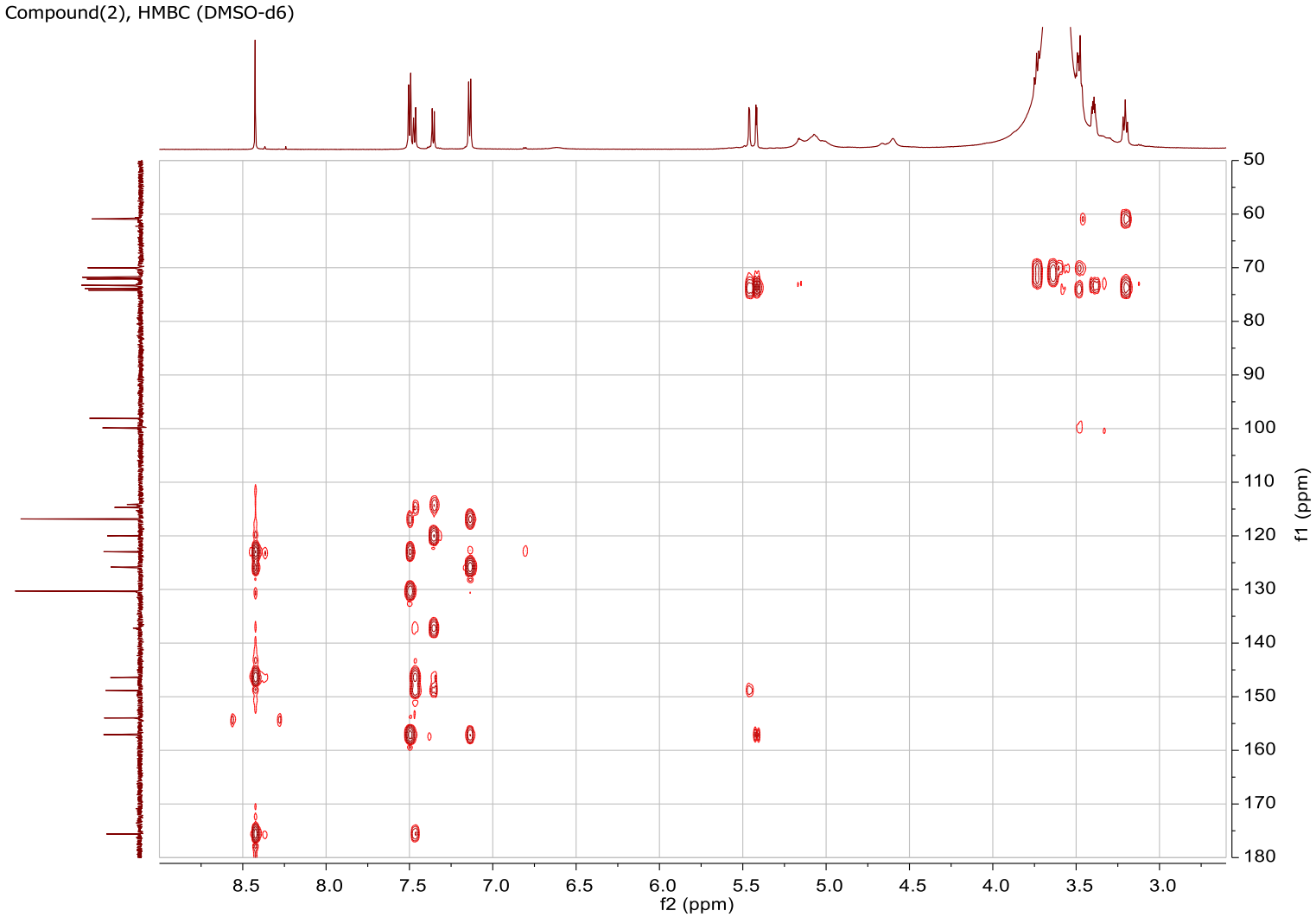
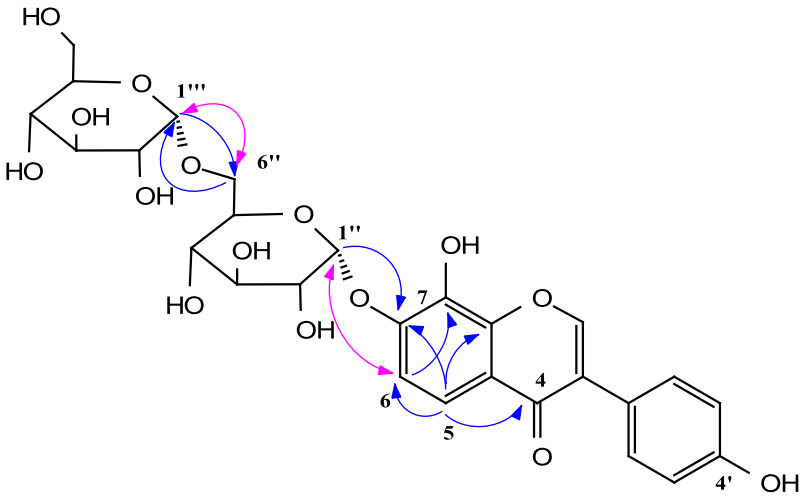
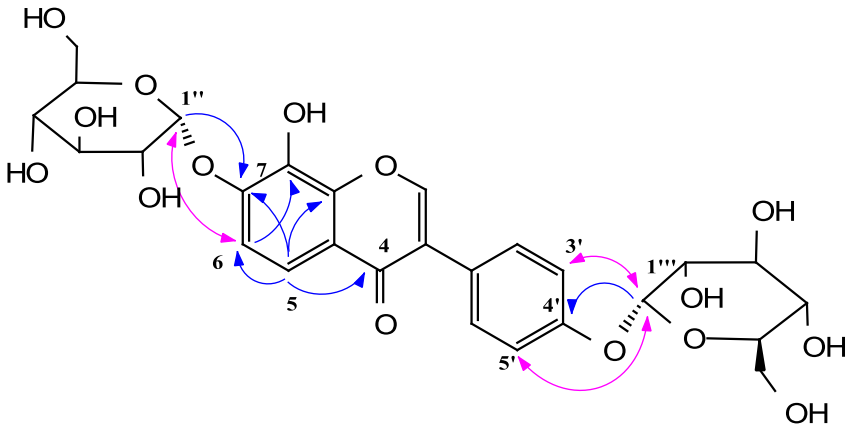


Figure S19. The HMBC (700 MHz, DMSO-d_6) spectrum of compound (**2**).



Compound (**1**)



Compound (**2**)

Figure S20. The key HMBC and NOESY correlations of compound (**1**) and compound (**2**).