

Naphthrene Compounds from Mycelial Fermentation Products of *Marasmius berteroi*

Ning Ning Yang^{1,4, †}, Qing Yun Ma^{1,3, †}, Fan Dong Kong^{1,3}, Qing Yi Xie^{1,3}, Hao Fu Dai^{1,3}, Li Man Zhou¹, Zhi Fang Yu^{2*}, You Xing Zhao^{1,3*}

¹Hainan Key Laboratory for Research and Development of Natural Product from Li Folk Medicine,, Institute of Tropical Bioscience and Biotechnology, Chinese Academy of Tropical Agricultural Sciences, Haikou 571101, China; yangningning891216@163.com (N.N.Y.); maqingyun@itbb.org.cn (Q.Y.M.); kongfandong@itbb.org.cn (F.D.K.); xieqingyi@itbb.org.cn (Q.Y.X.)

²College of Food Science and Technology, Nanjing Agricultural University, Nanjing 210095, China; yuzhifang@njau.edu.cn(Z.F.Y.)

³Hainan Institute for Tropical Agricultural Resources, Chinese Academy of Tropical Agricultural Sciences, Haikou 571101, China;

⁴School of Food and Biological Engineering, Bengbu University, Bengbu 233030, China

[†]Ning Ning Yang and Qing Yun Ma contributed equally to this work.

*Correspondence: zhaoyouxing@itbb.org.cn (Y.X.Z.); yuzhifang@njau.edu.cn (Z.F.Y.)

Supplementary data

Figure S1. ^1H NMR spectrum of dipolynaphthalene A (1)

Figure S2. ^{13}C NMR spectrum of dipolynaphthalene A (1)

Figure S3. HSQC spectrum of dipolynaphthalene A (1)

Figure S4. HMBC spectrum of dipolynaphthalene A (1)

Figure S5. ^1H - ^1H COSY spectrum of dipolynaphthalene A (1)

Figure S6. ROESY spectrum of dipolynaphthalene A (1)

Figure S7. HRESIMS of dipolynaphthalene A (1)

Figure S8. IR spectrum of dipolynaphthalene A (1)

Figure S9. ^1H NMR spectrum of dipolynaphthalene B (2)

Figure S10. ^{13}C NMR spectrum of dipolynaphthalene B (2)

Figure S11. HSQC spectrum of dipolynaphthalene B (2)

Figure S12. HMBC spectrum of dipolynaphthalene B (2)

Figure S13. ^1H - ^1H COSY spectrum of dipolynaphthalene B (2)

Figure S14. ROESY spectrum of dipolynaphthalene B (2)

Figure S15. HRESIMS of dipolynaphthalene B (2)

Figure S16. IR spectrum of dipolynaphthalene B (2)

Figure S17. ^1H NMR spectrum of naphthone C (3)

Figure S18. ^{13}C NMR spectrum of naphthone C (3)

Figure S19. HSQC spectrum of naphthone C (3)

Figure S20. HMBC spectrum of naphthone C (3)

Figure S21. ^1H - ^1H COSY spectrum of naphthone C (3)

Figure S22. HRESIMS of naphthone C (3)

Figure S23. IR spectrum of naphthone C (3)

Figure S1. ¹H NMR spectrum of dipolynaphthalene A (1)

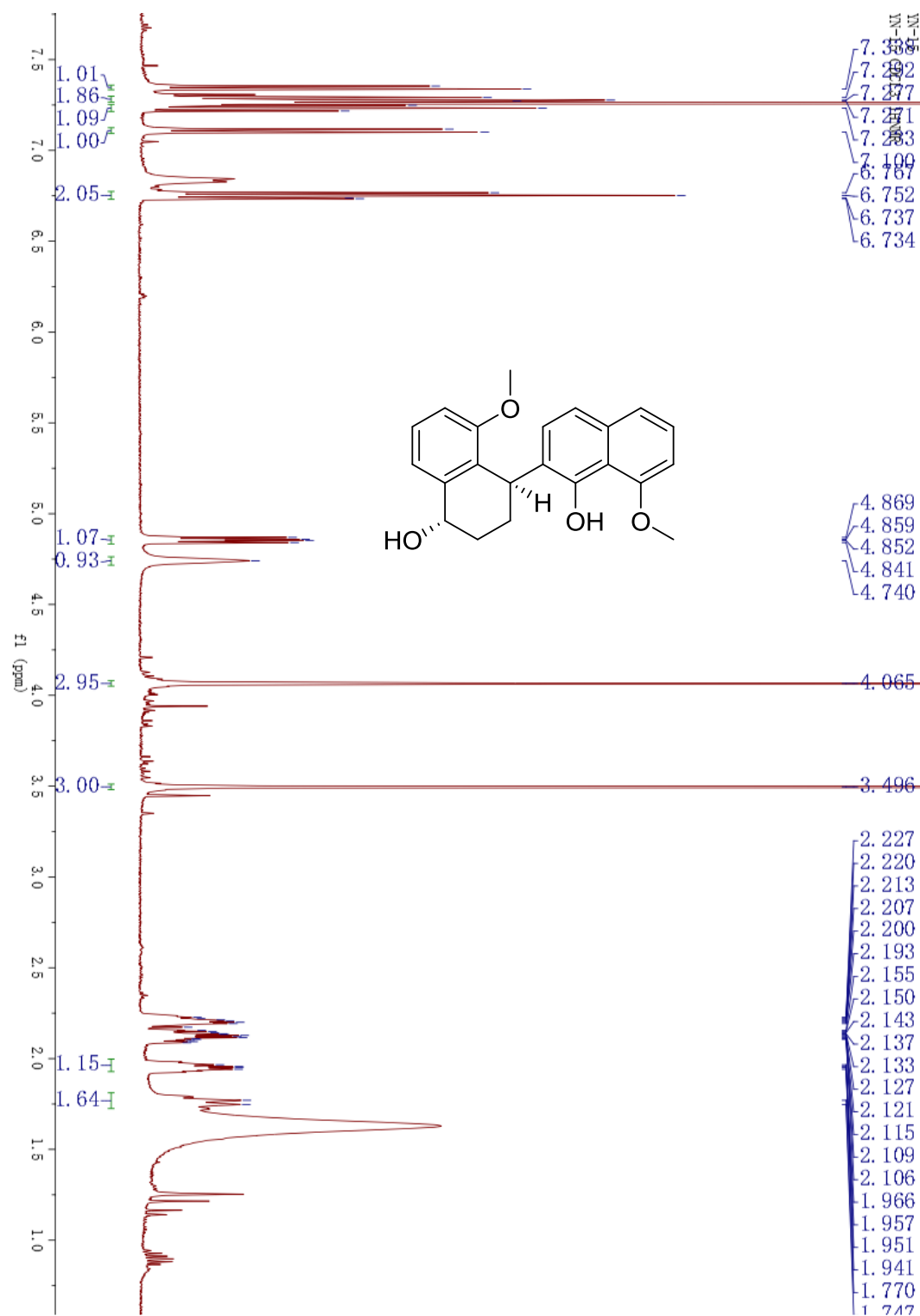


Figure S2. ^{13}C NMR spectrum of dipolynaphthalene A (1)

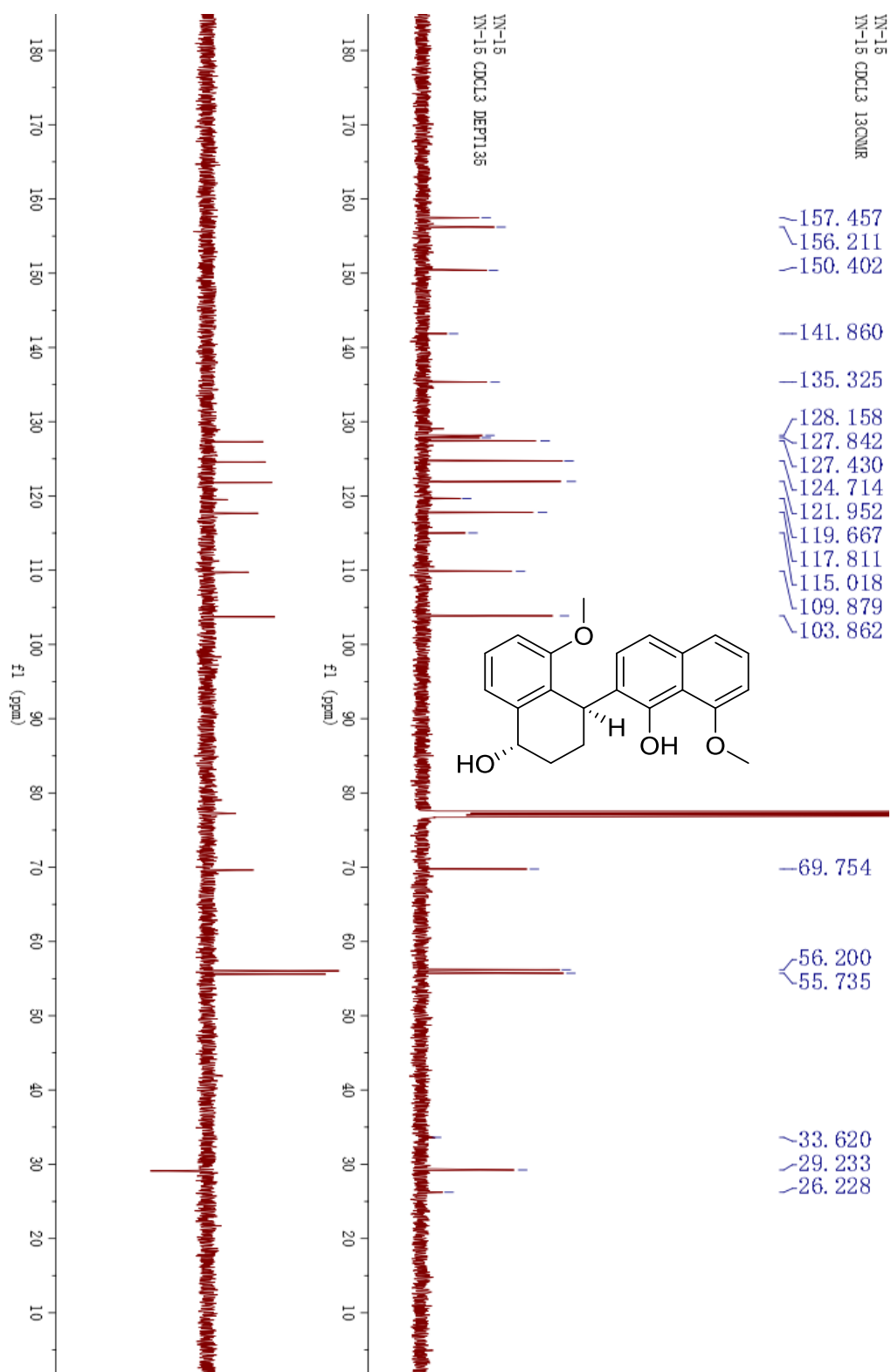


Figure S3. HSQC spectrum of dipolynaphthalene A (1)

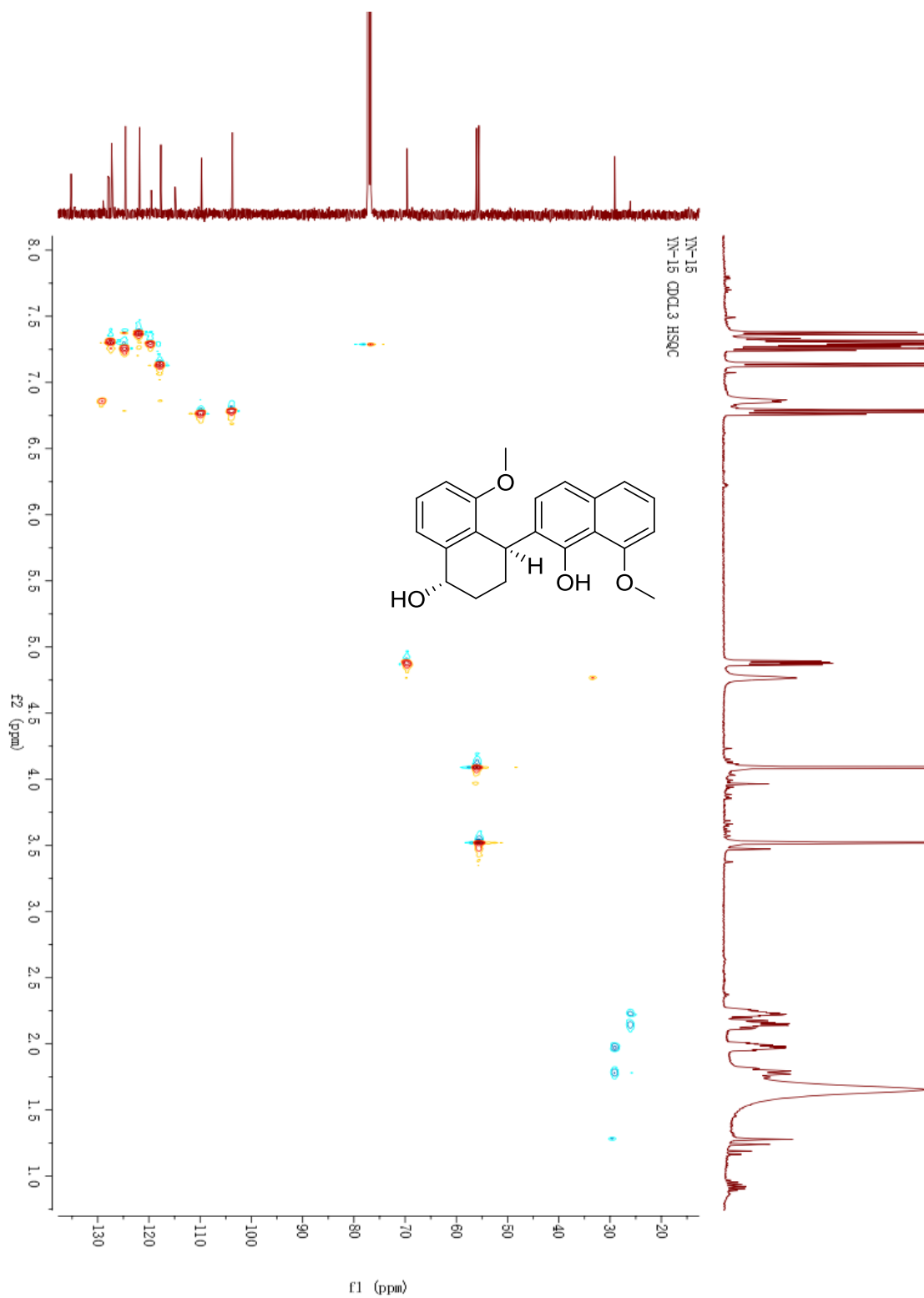


Figure S4. HMBC spectrum of dipolynaphthalene A (1)

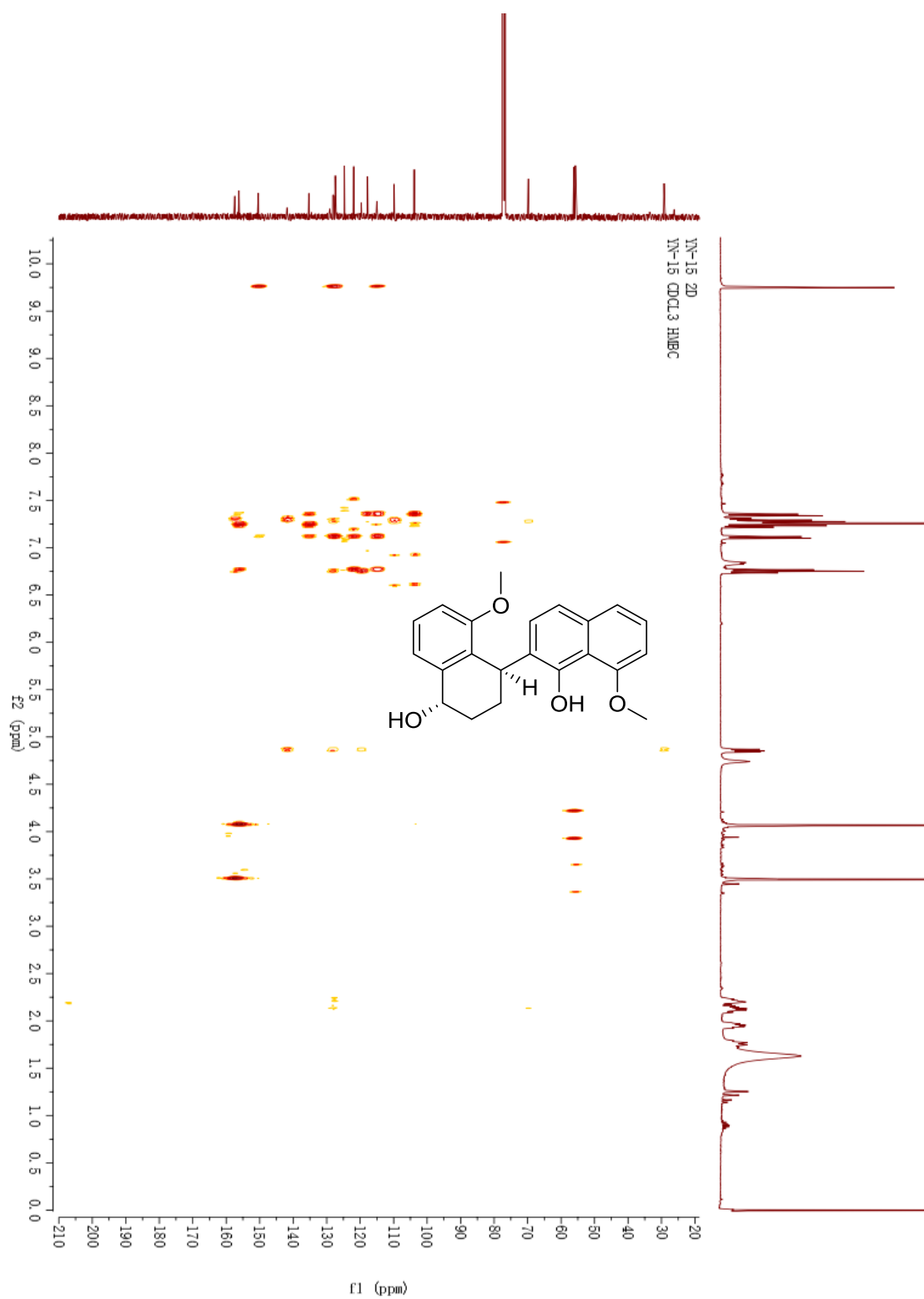


Figure S5. ^1H - ^1H COSY spectrum of dipolynaphthalene A (1)

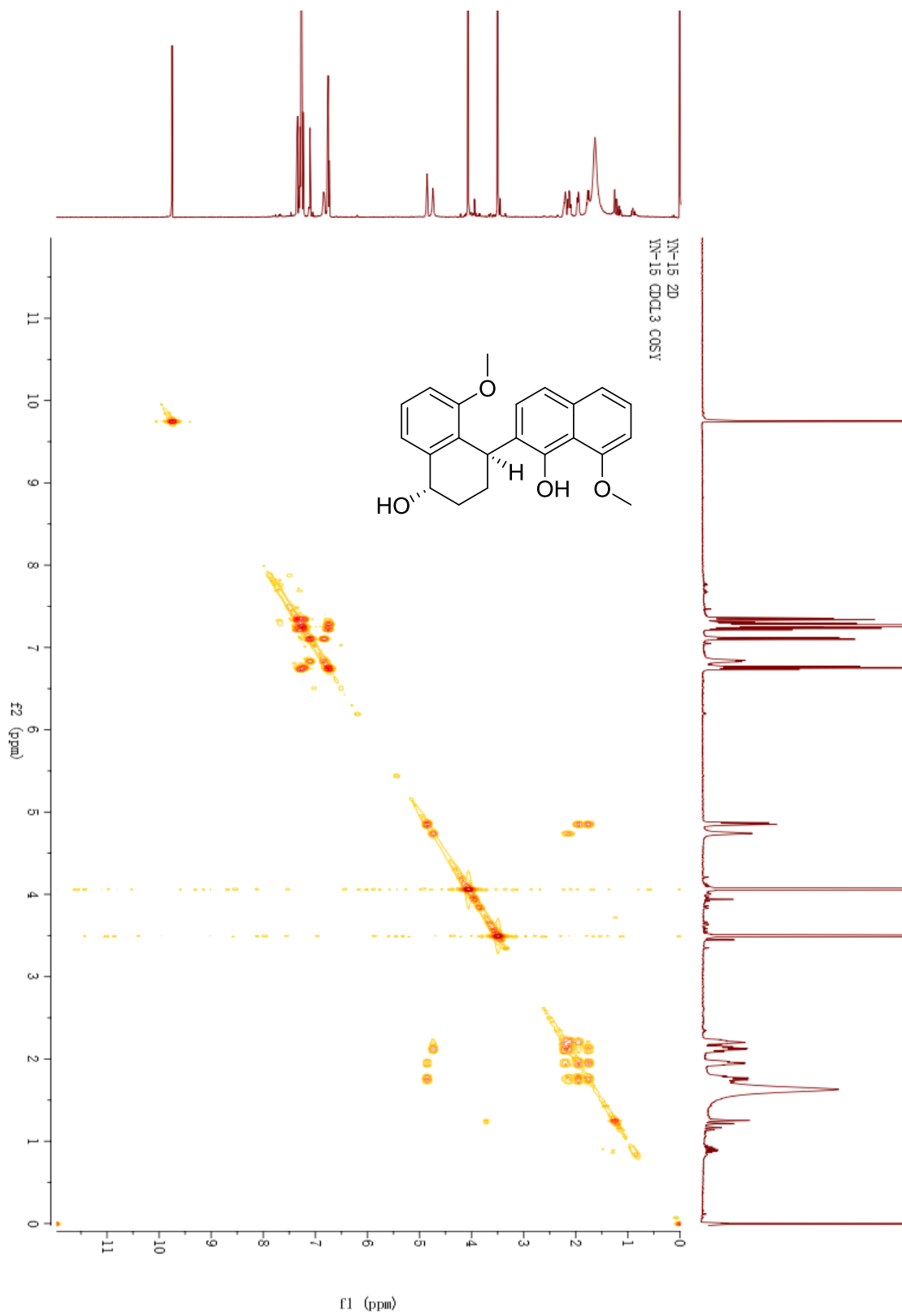


Figure S6. ROESY spectrum of dipolynaphthalene A (1)

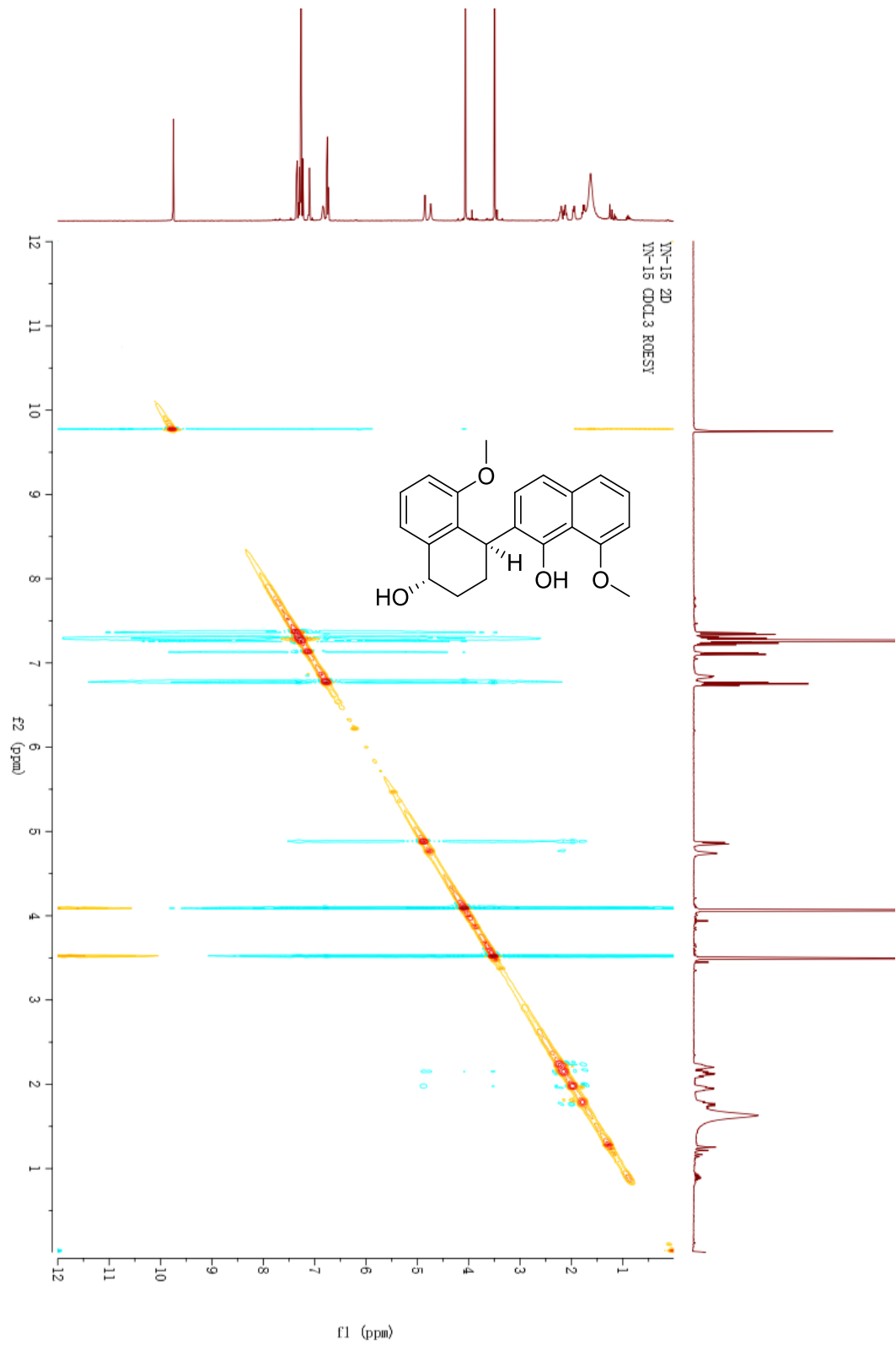


Figure S7. HRESIMS of dipolynaphthalene A (1)

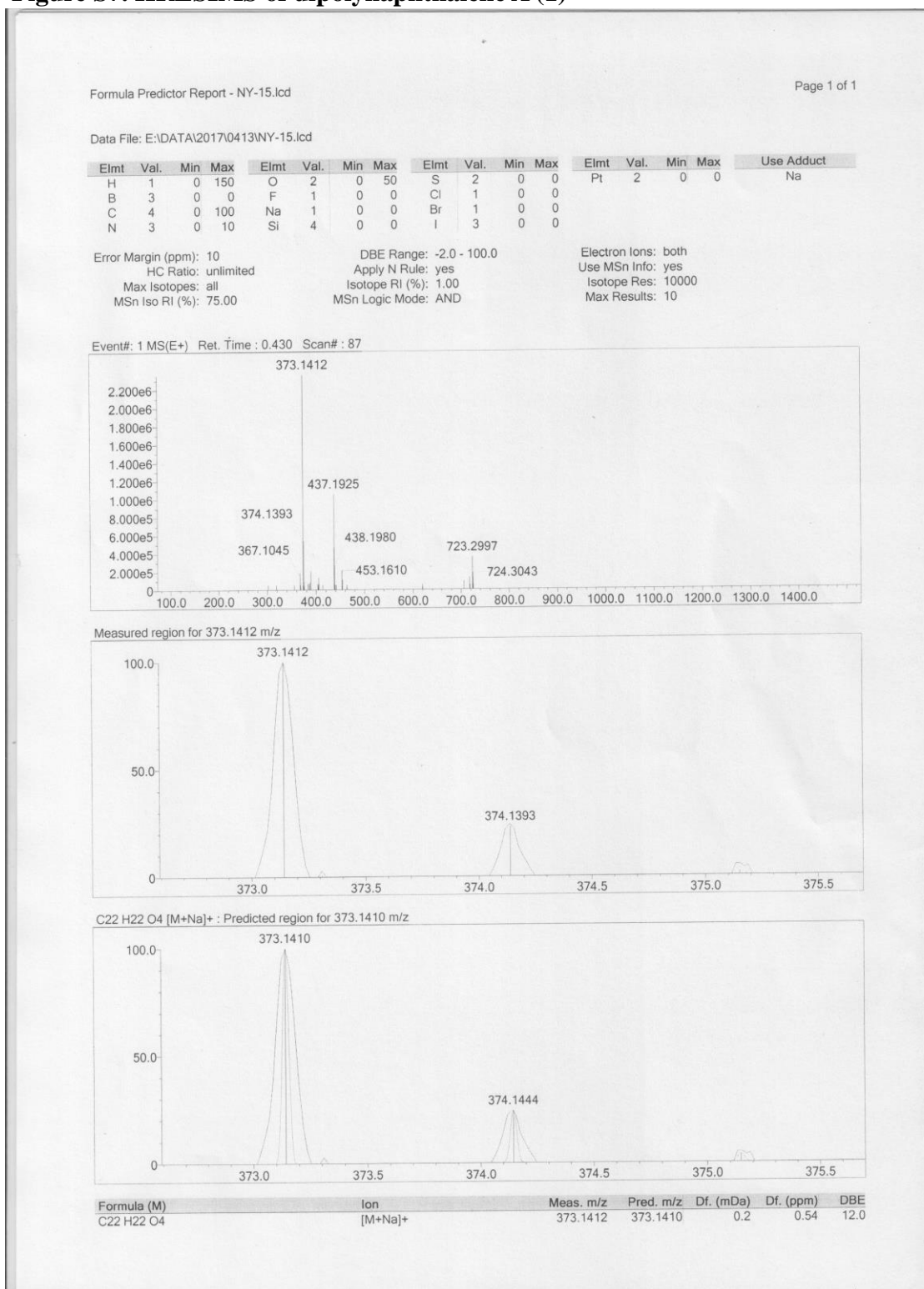


Figure S8. IR spectrum of dipolynaphthalene A (1)

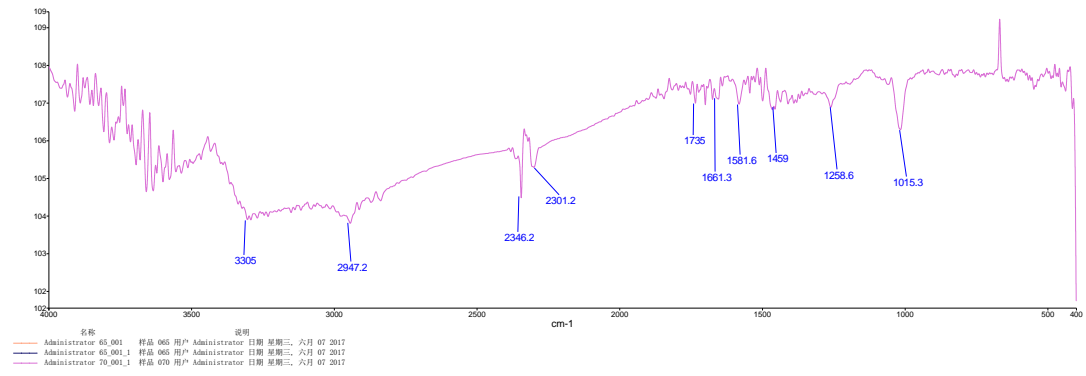


Figure S9. ¹H NMR spectrum of dipolynaphthalene B (2)

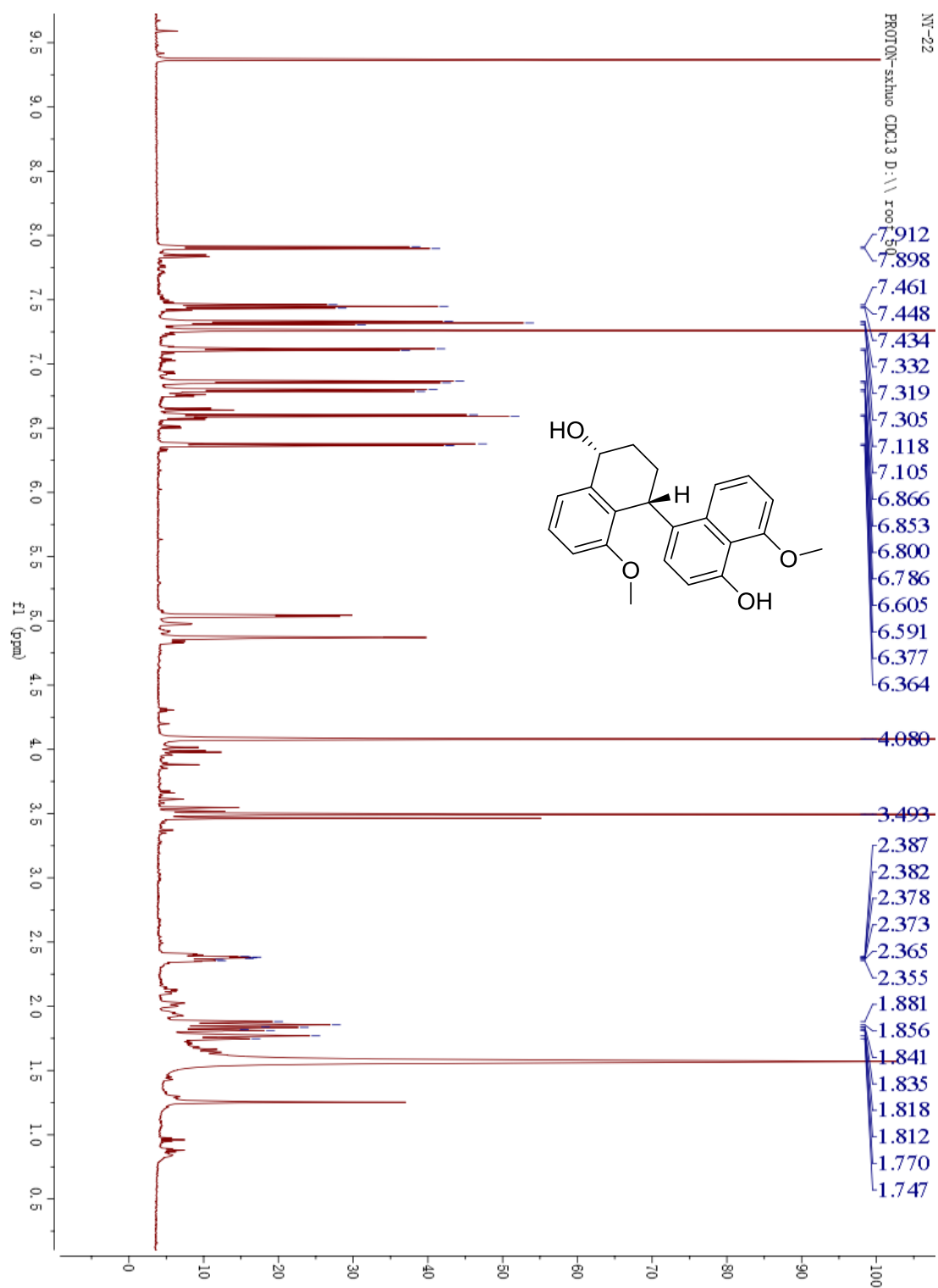


Figure S10. ^{13}C NMR spectrum of dipolynaphthalene B (2)

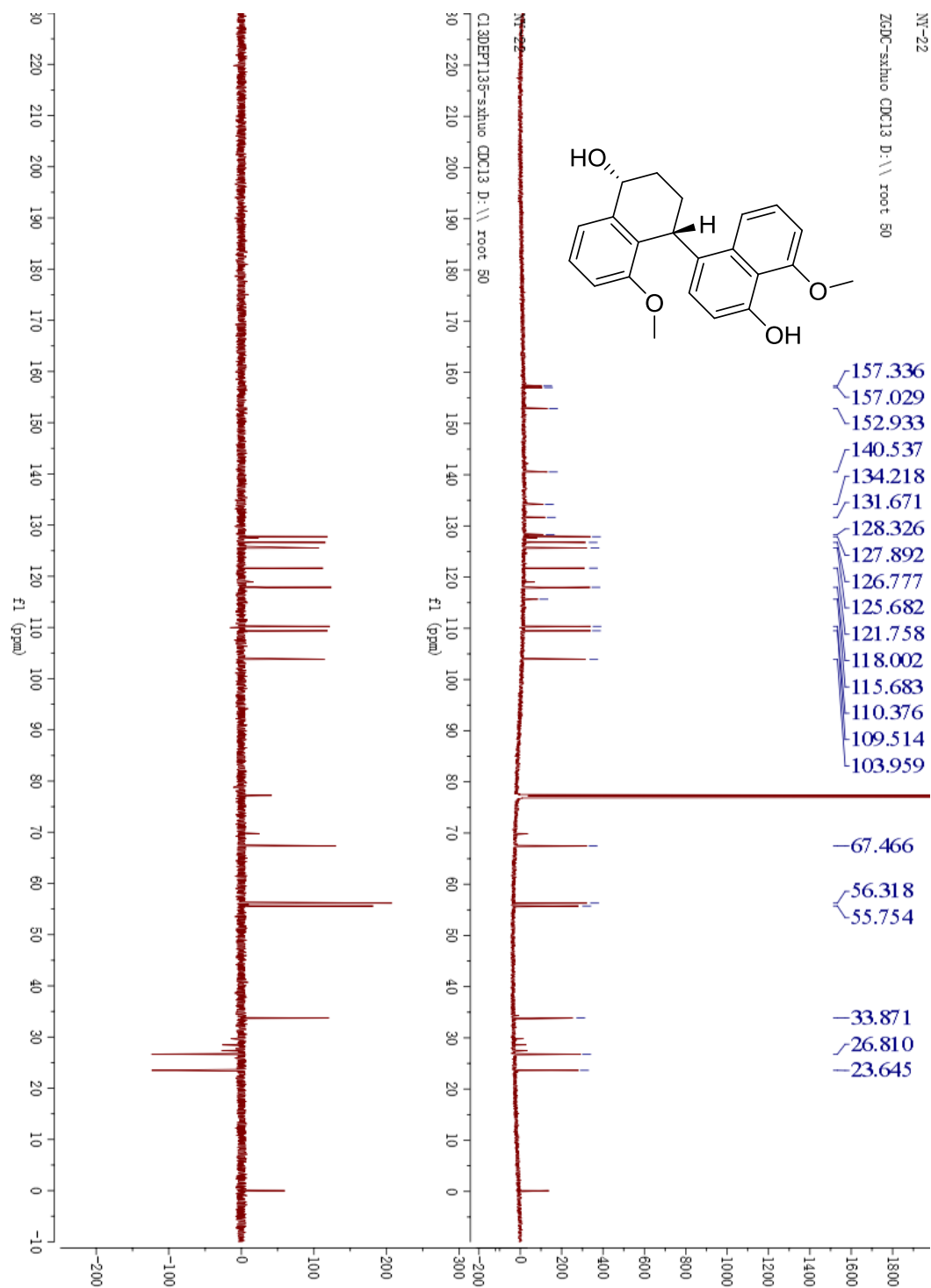


Figure S11. HSQC spectrum of xylariaine B (2)

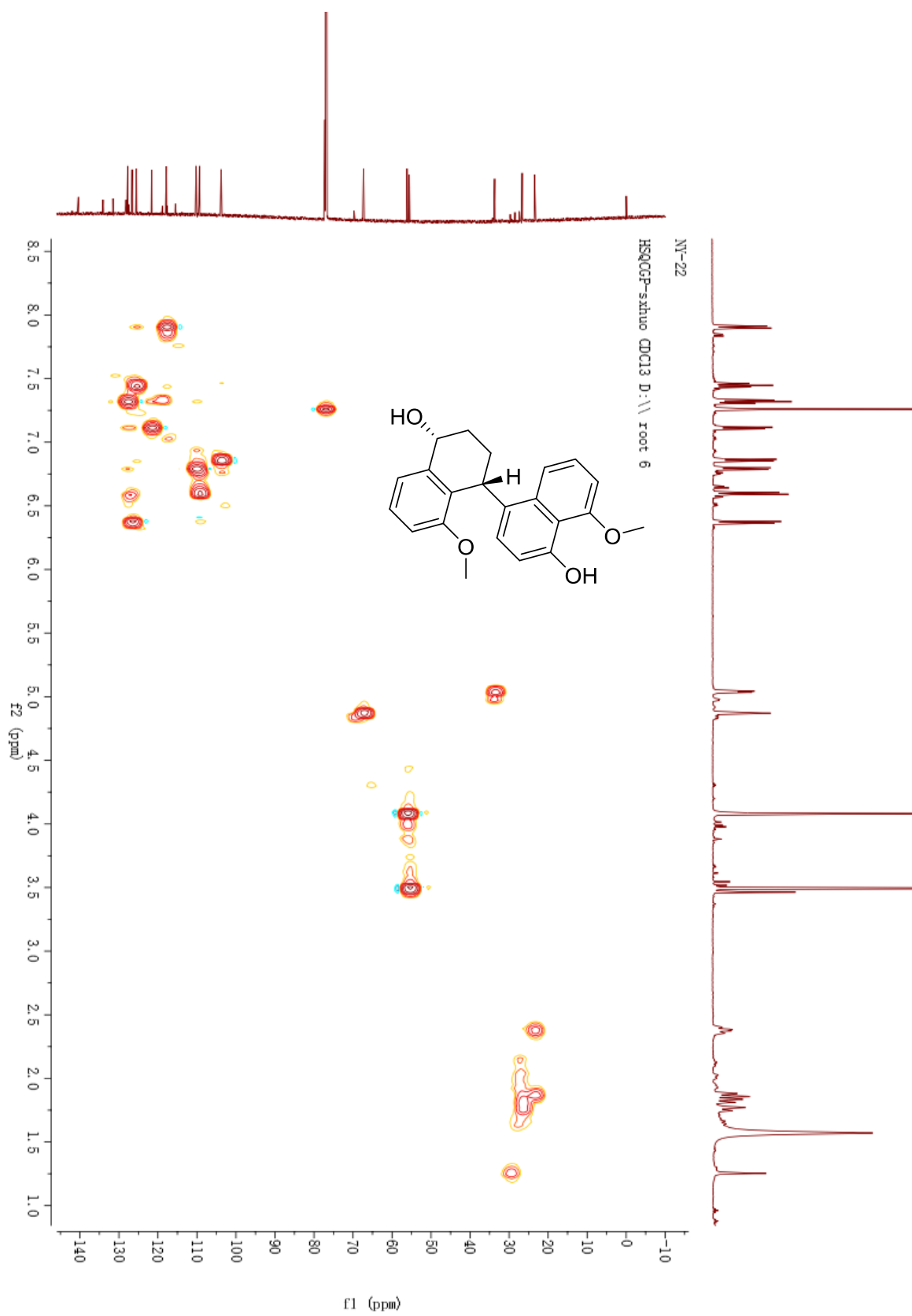


Figure S12. HMBC spectrum of dipolynaphthalene B (2)

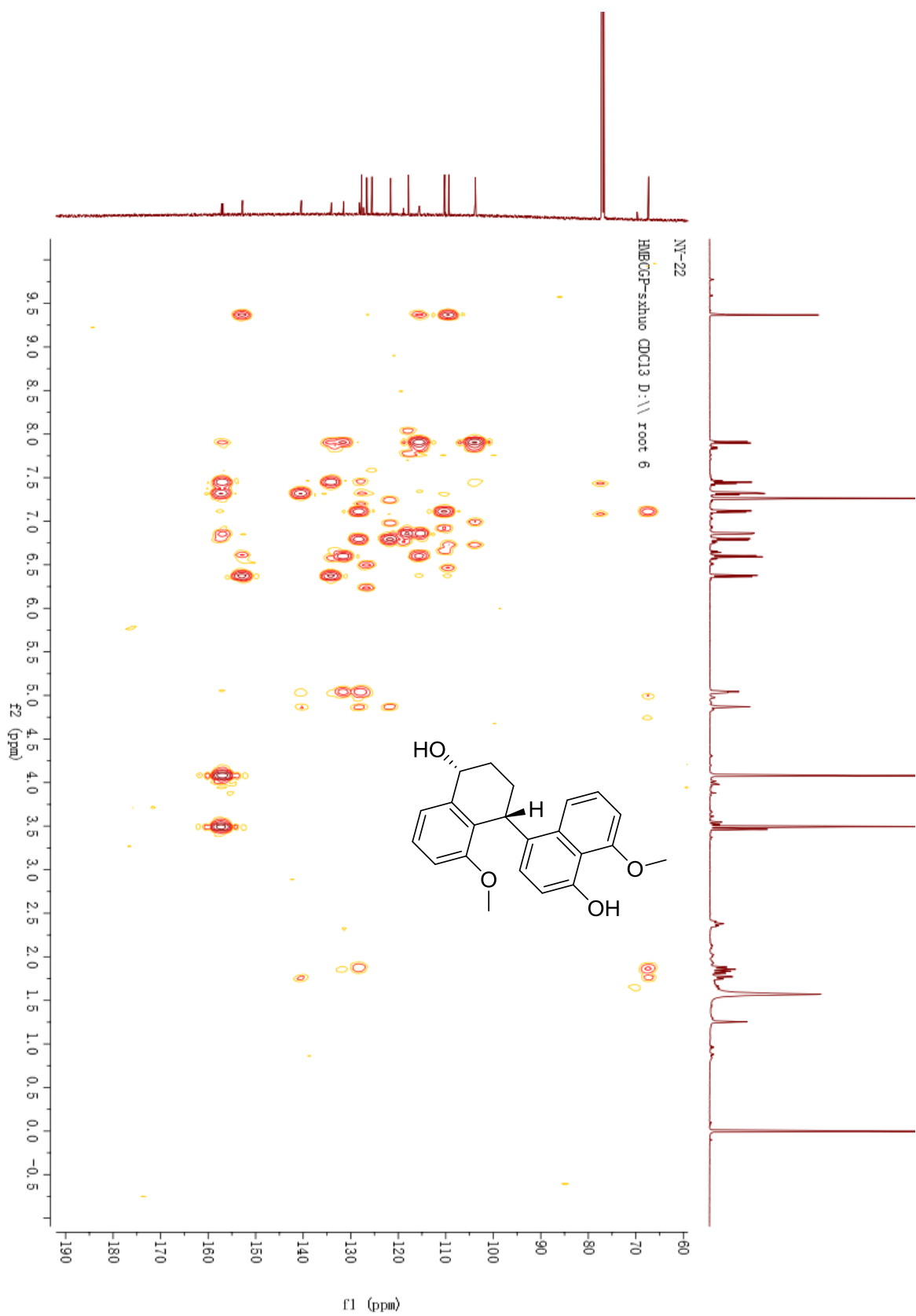


Figure S13. ^1H - ^1H COSY spectrum of dipolynaphthalene B (2)

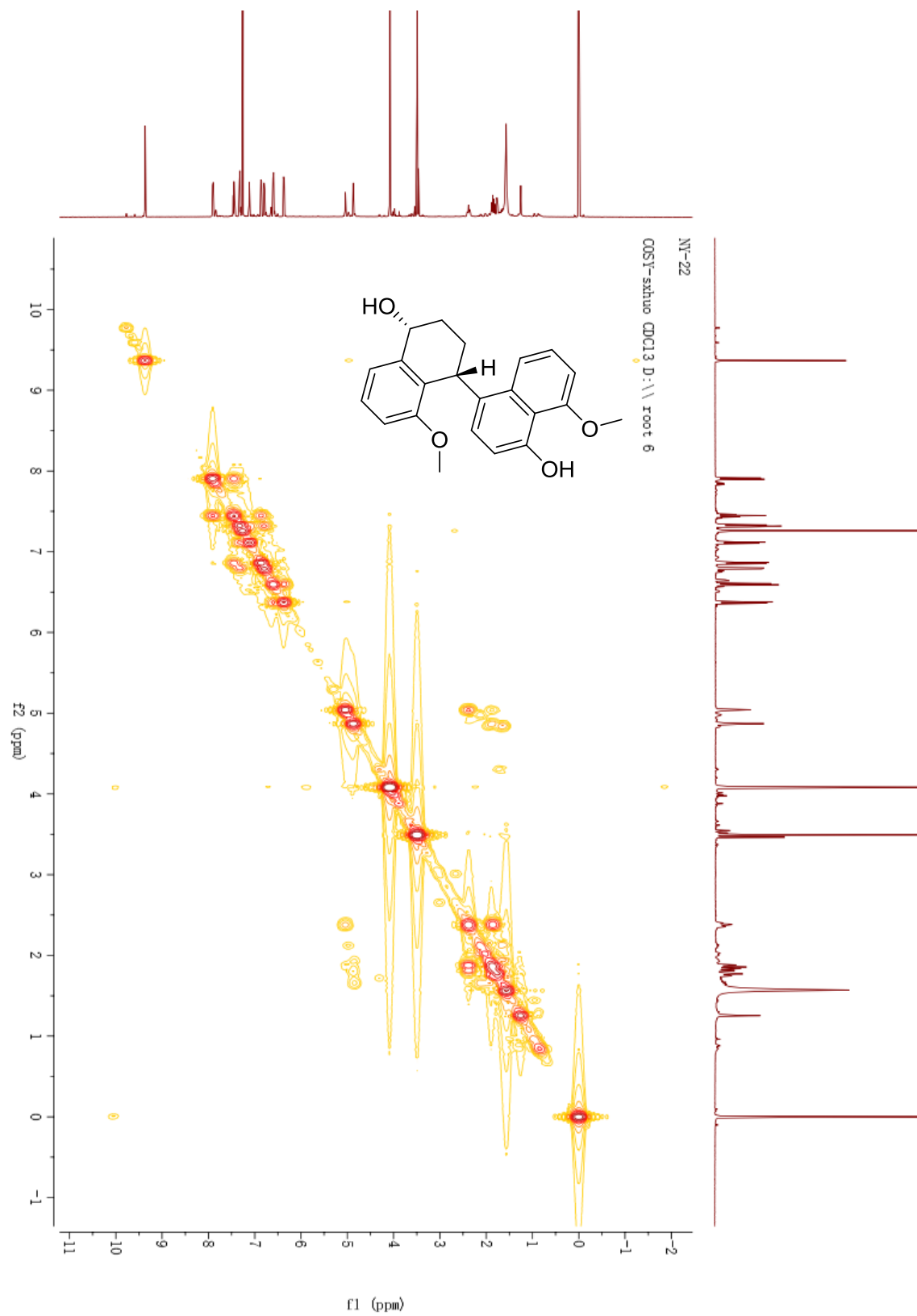


Figure S14. ROESY spectrum of dipolynaphthalene B (2)

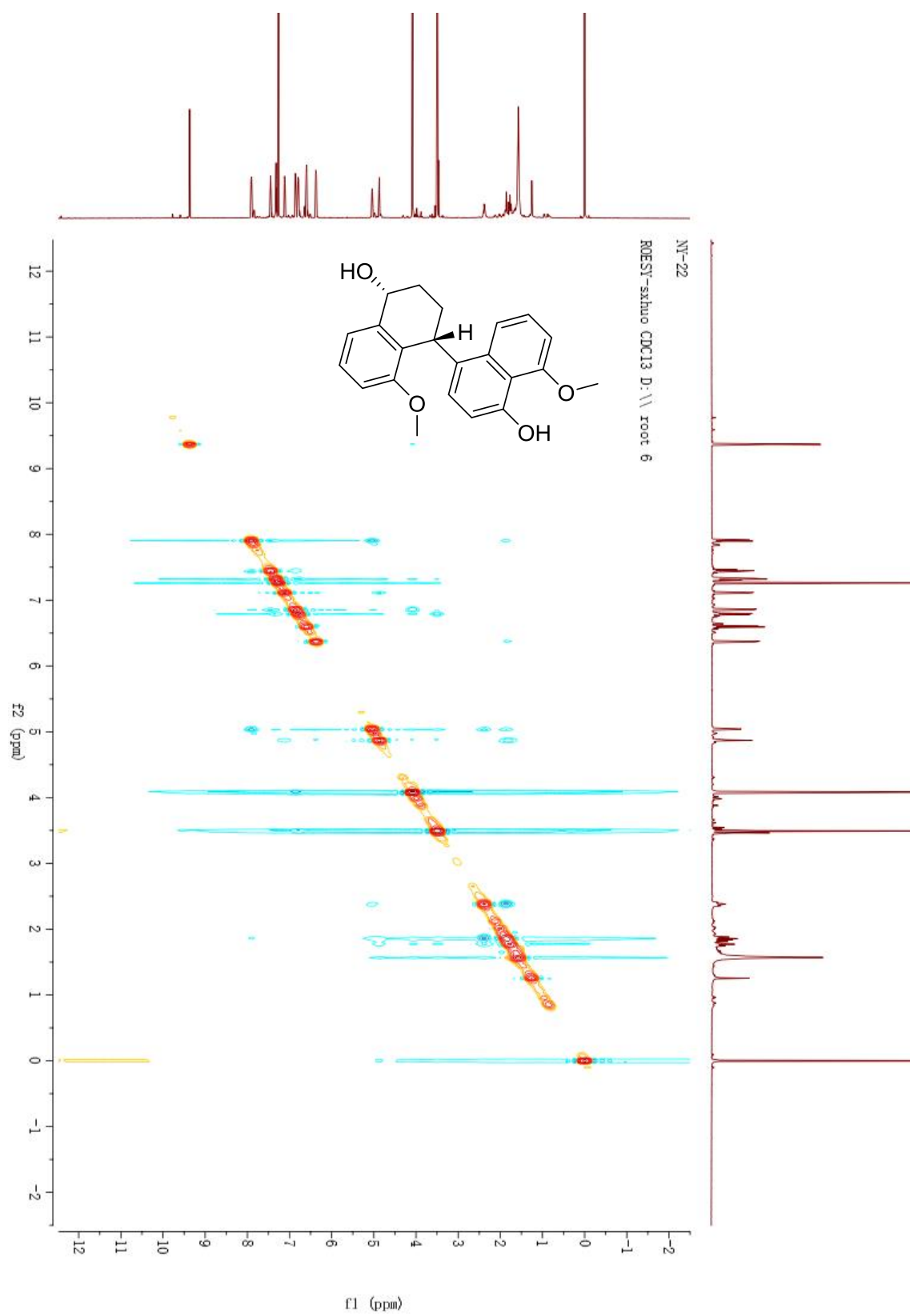


Figure S15. HRESIMS of dipolynaphthalene B (2)

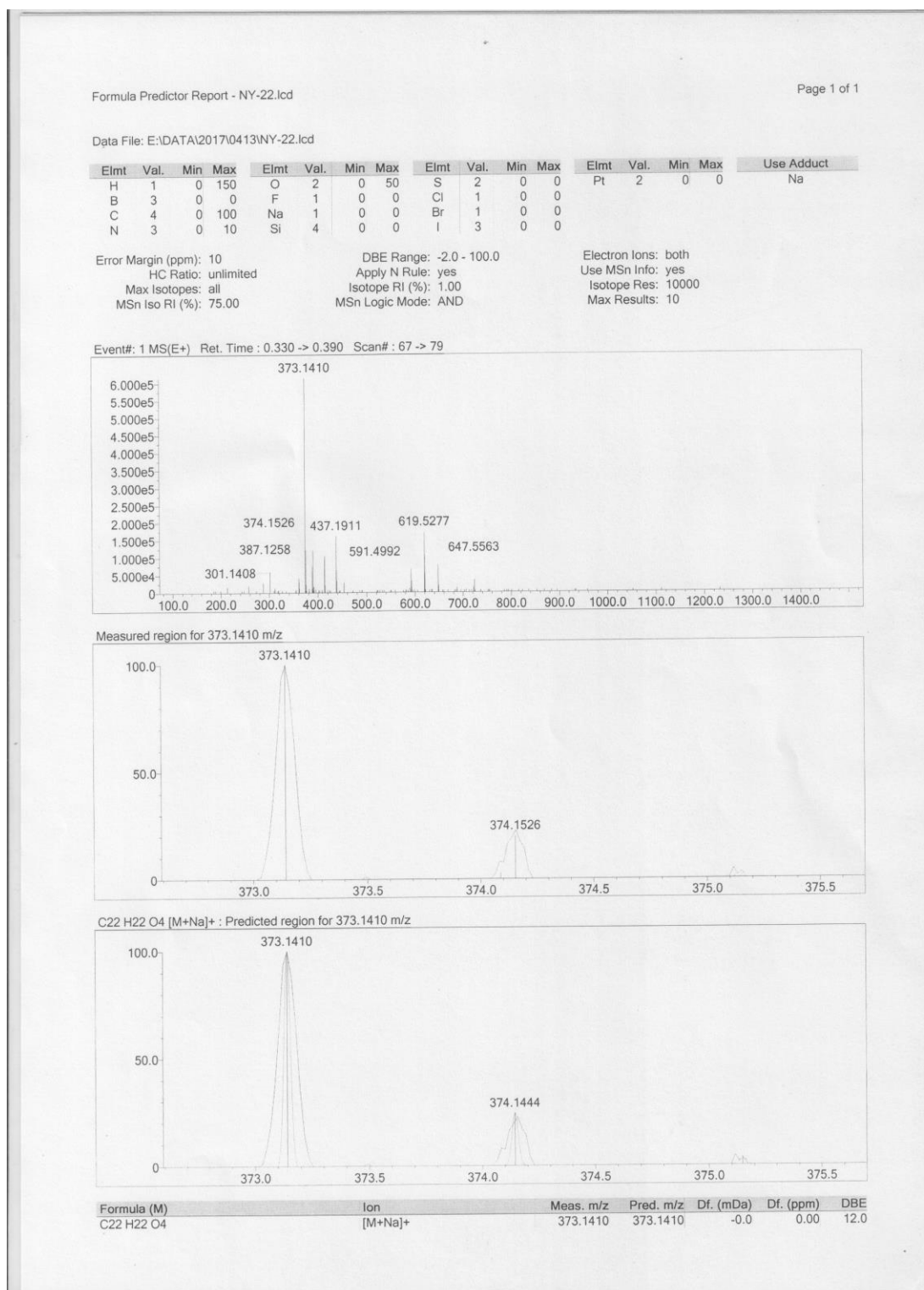


Figure S16. IR spectrum of dipolynaphthalene B (2)

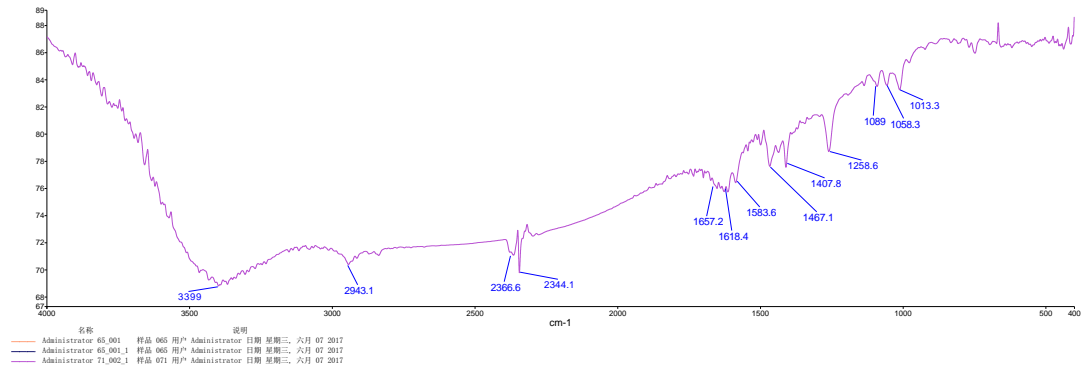


Figure S17. ¹H NMR spectrum of naphthone C (3)

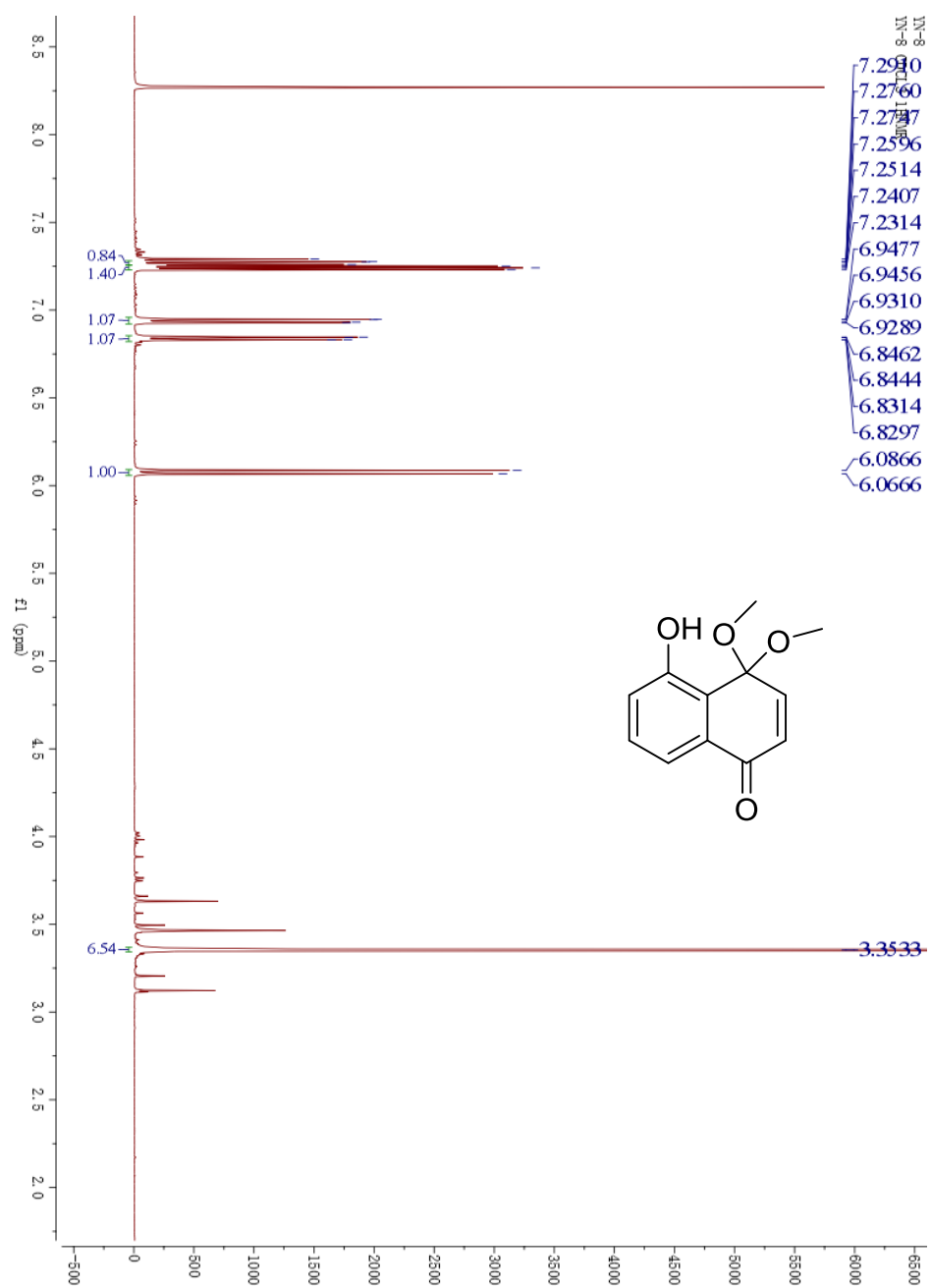


Figure S18. ^{13}C NMR spectrum of naphthone C (3)

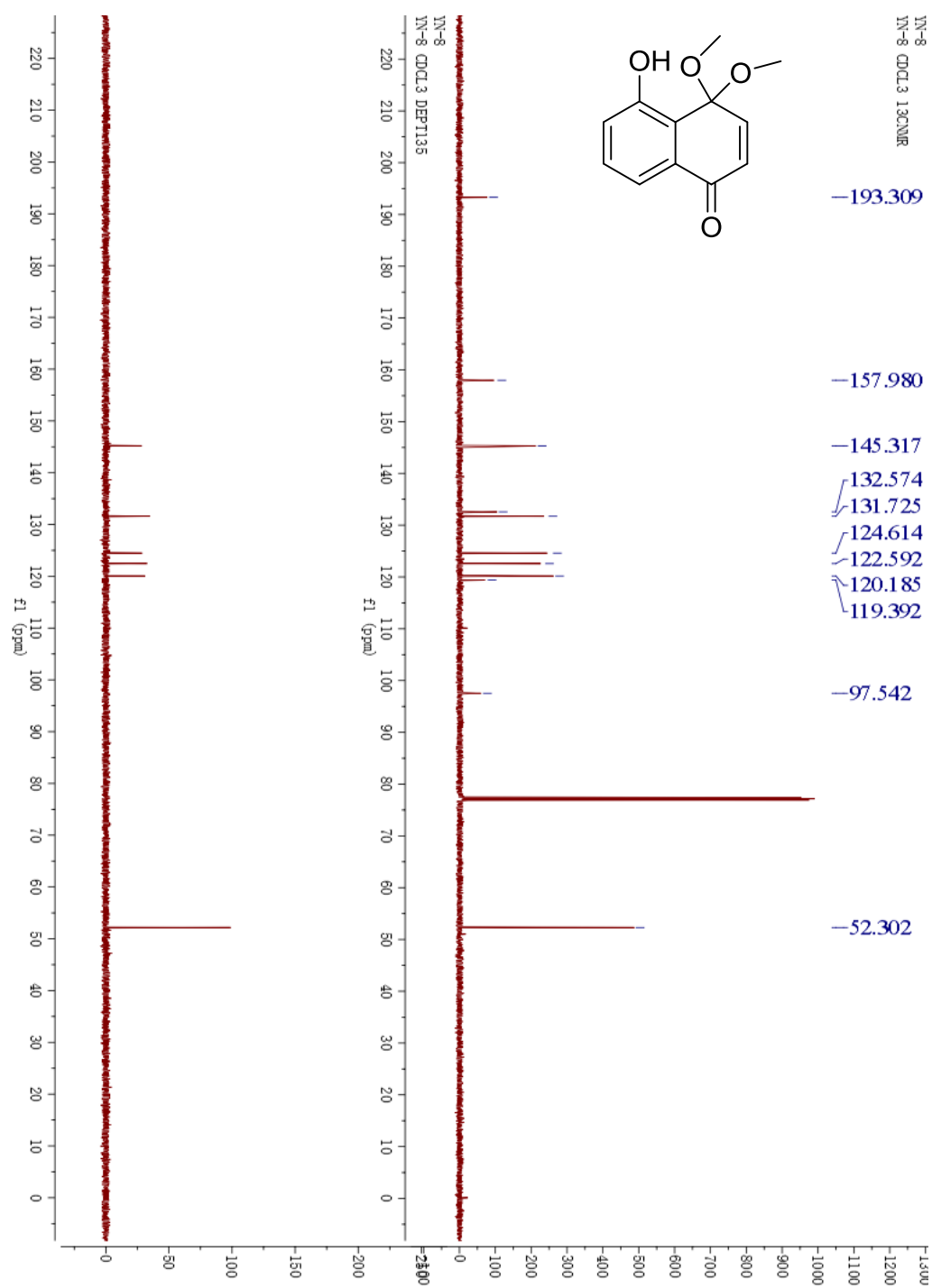


Figure S19. HSQC spectrum of naphthone C (3)

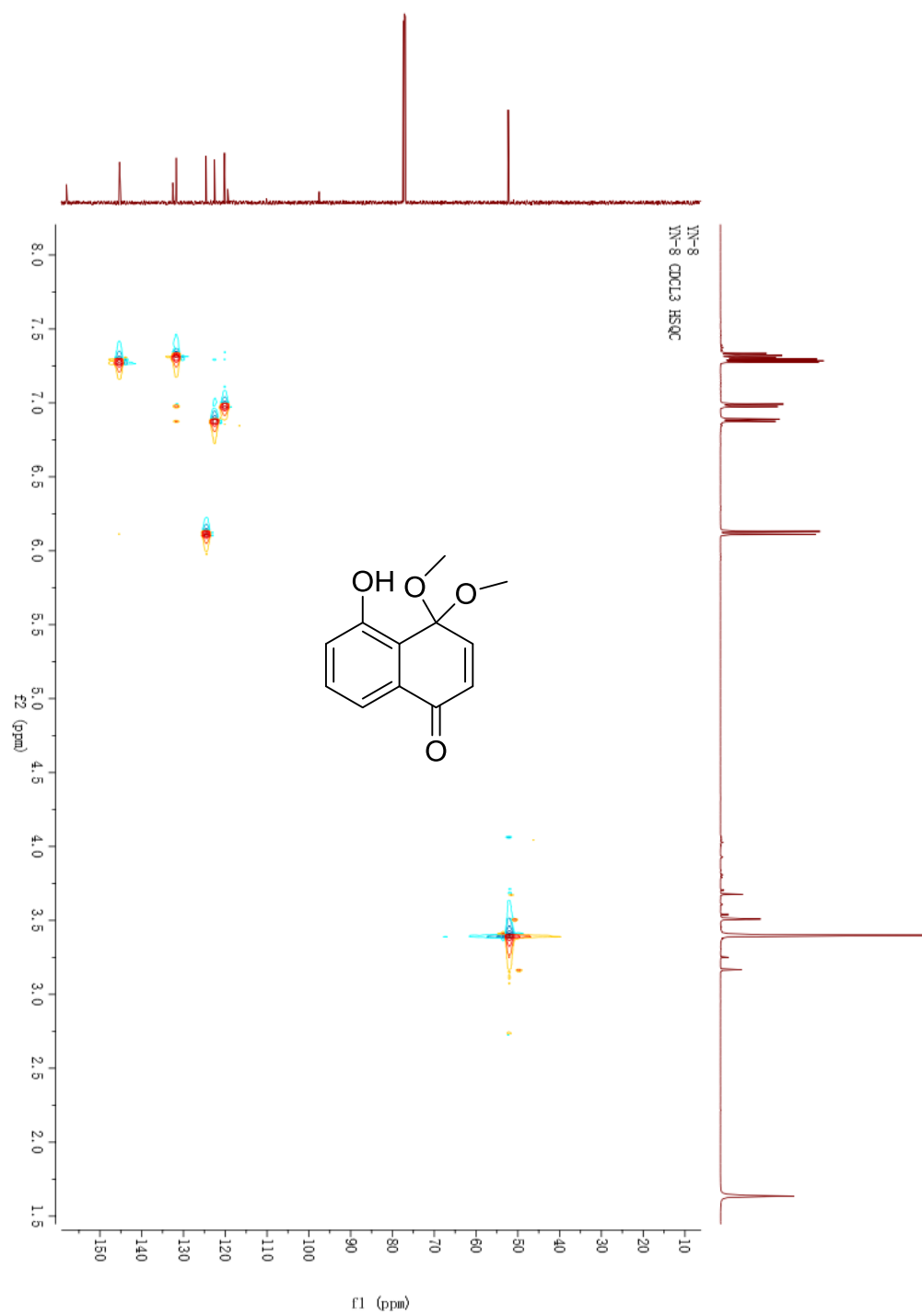


Figure S20. HMBC spectrum of naphthone C (3)

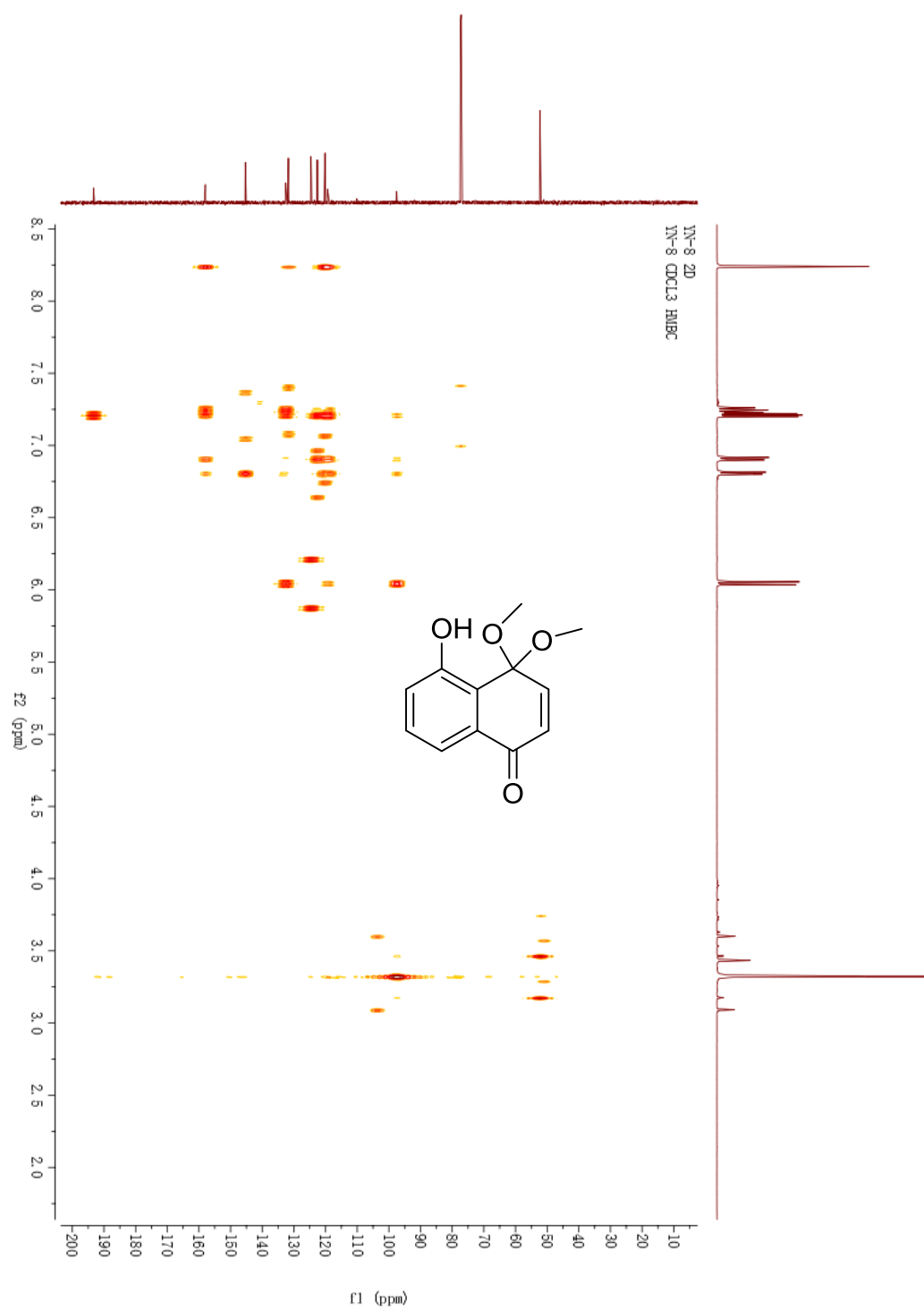


Figure S21. ^1H - ^1H COSY spectrum of naphthone C (3)

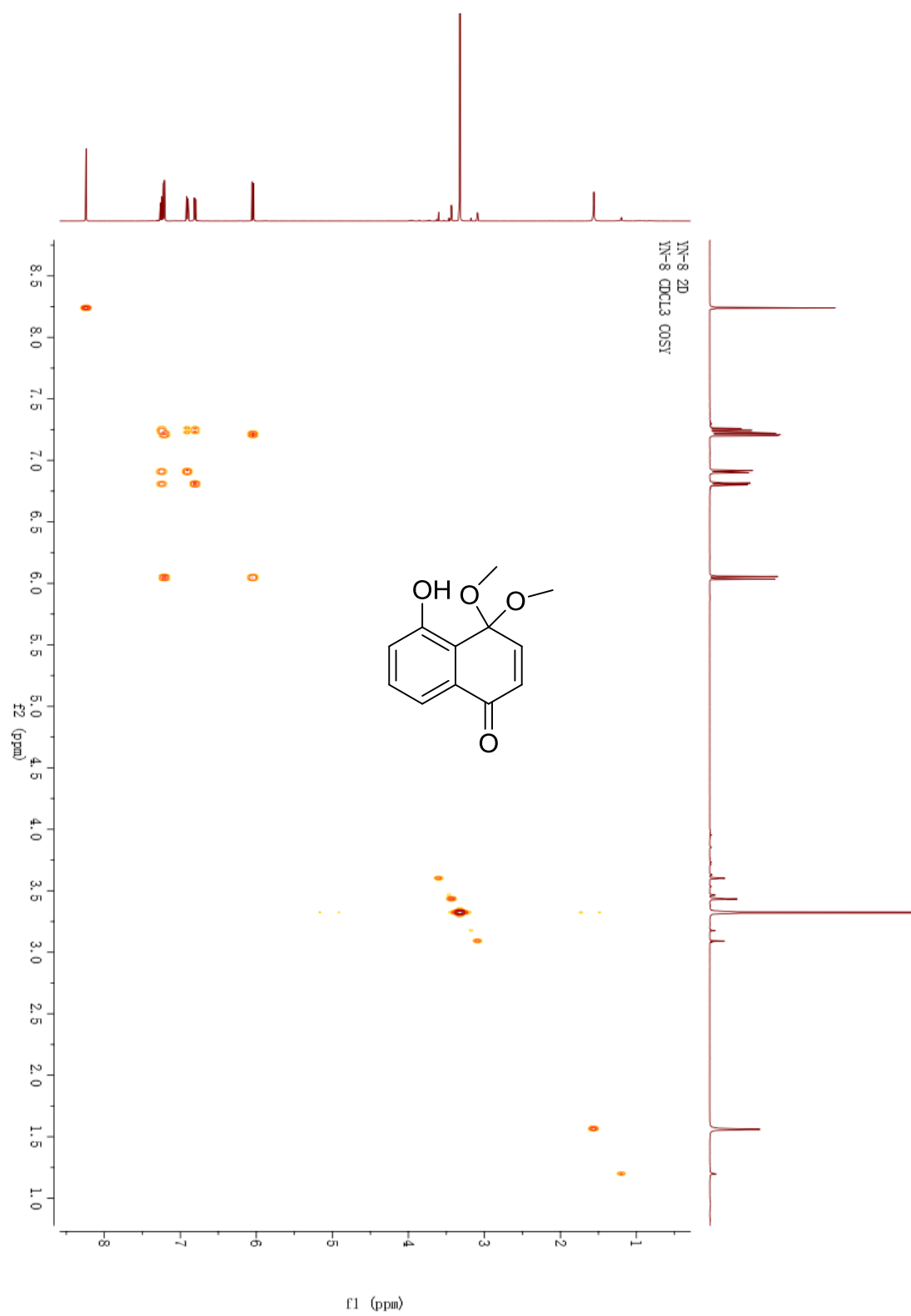


Figure S22. HRESIMS of naphthone C (3)

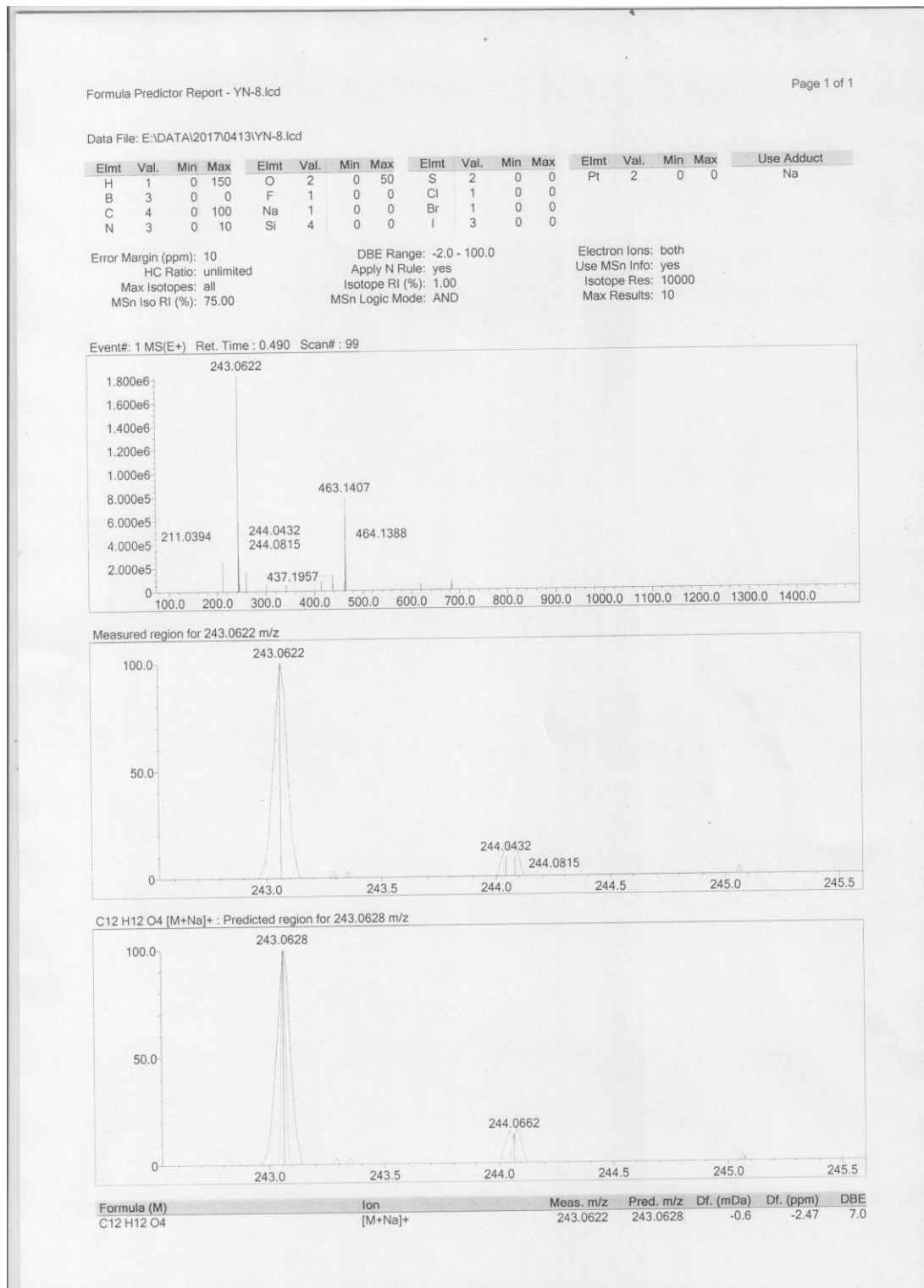


Figure S23. IR spectrum of naphthone C (3)

