

Six New Phenolic Glycosides from the Seeds of *Moringa oleifera* Lam. and Their α -glucosidase Inhibitory Activity

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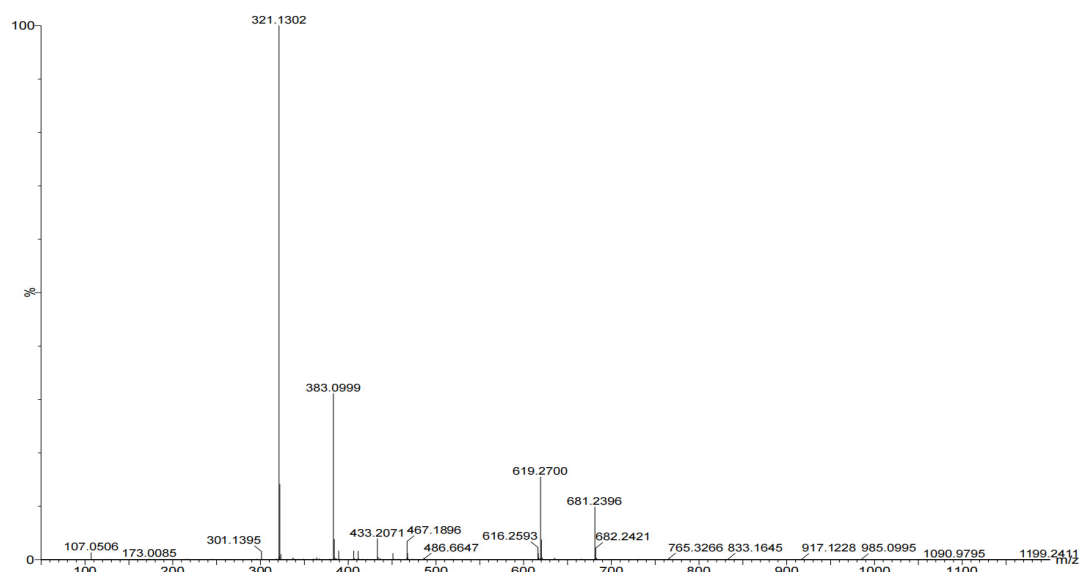


Figure S1. HR-ESI-MS spectrum of compound **1** (positive mode).

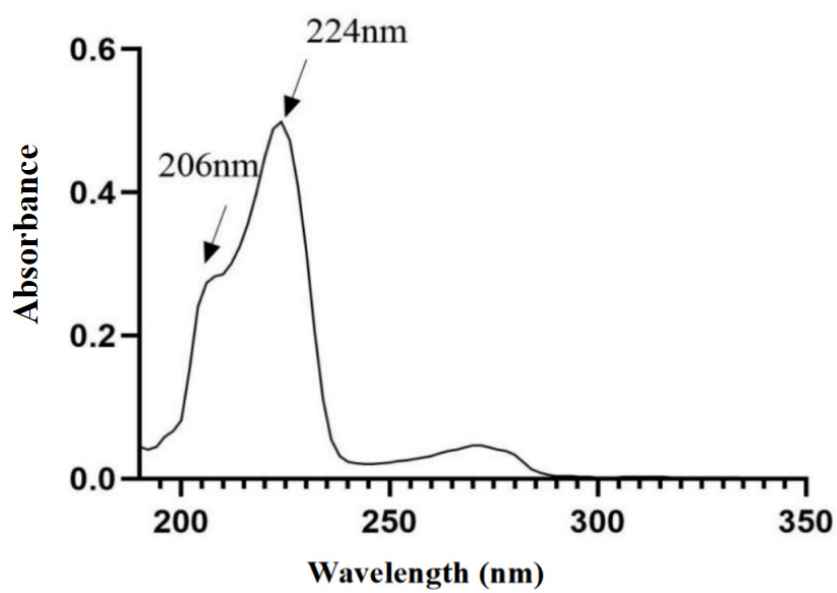


Figure S2. UV spectrum of compound **1**.

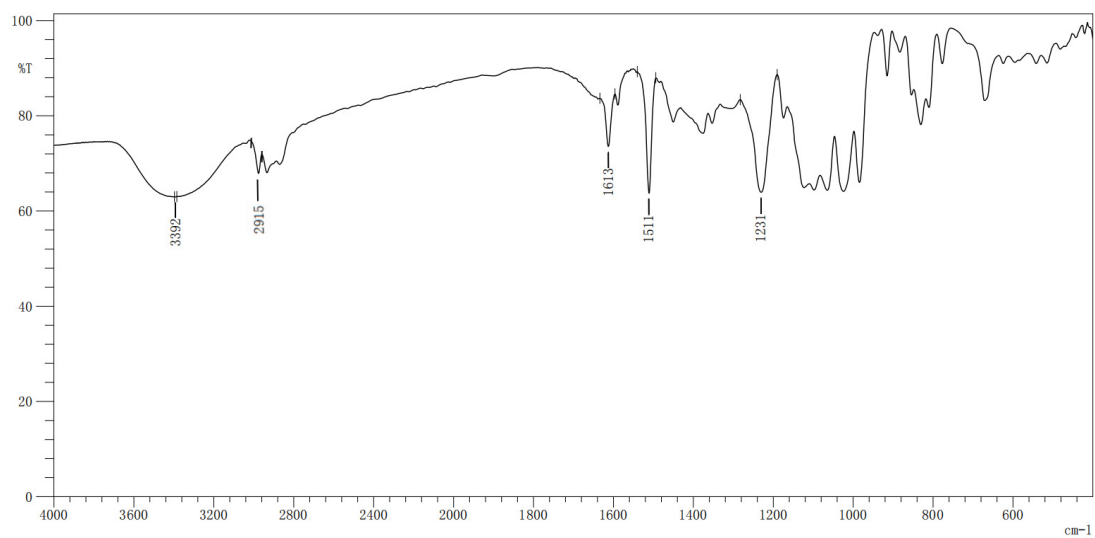


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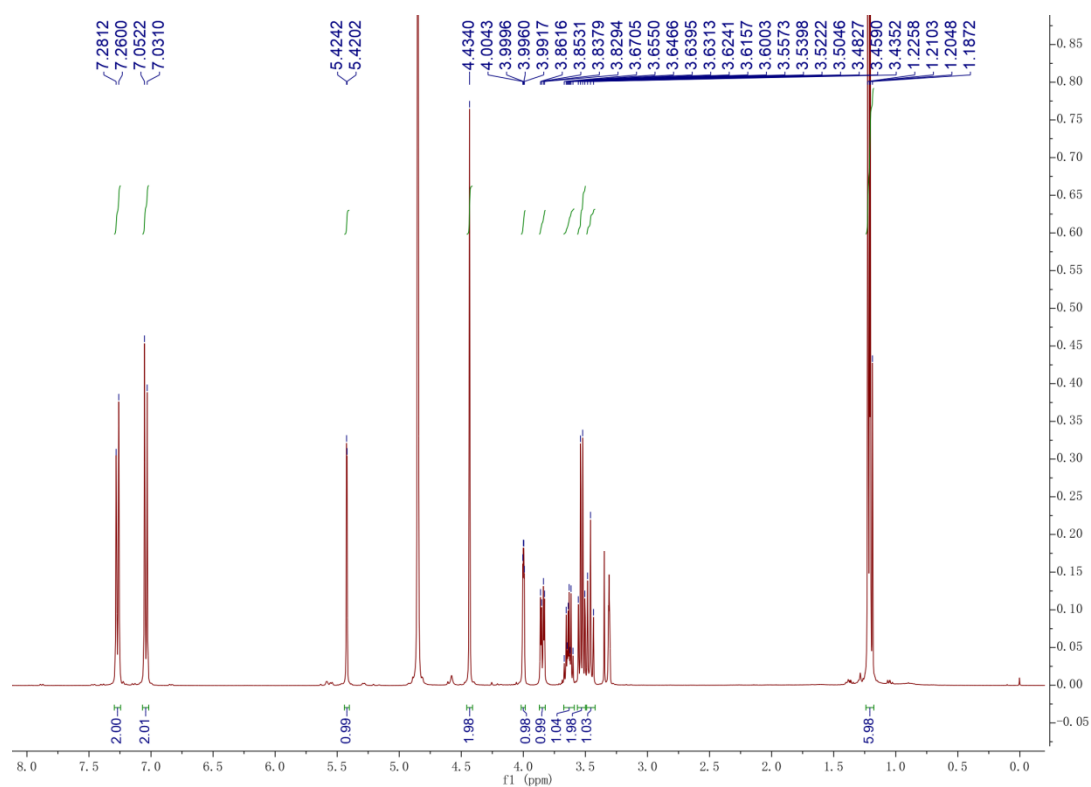


Figure S4. ¹H-NMR (400MHz, CD₃OD) spectrum of compound **1**.

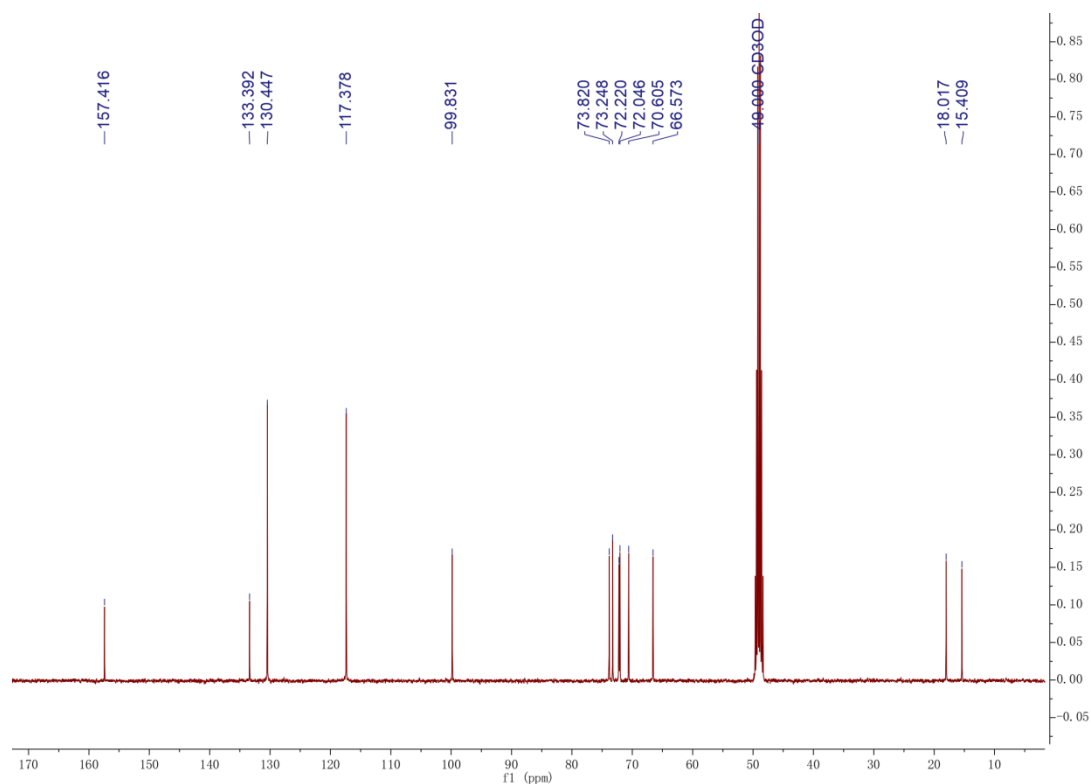


Figure S5. ^{13}C -NMR (100MHz, CD_3OD) spectrum of compound **1**.

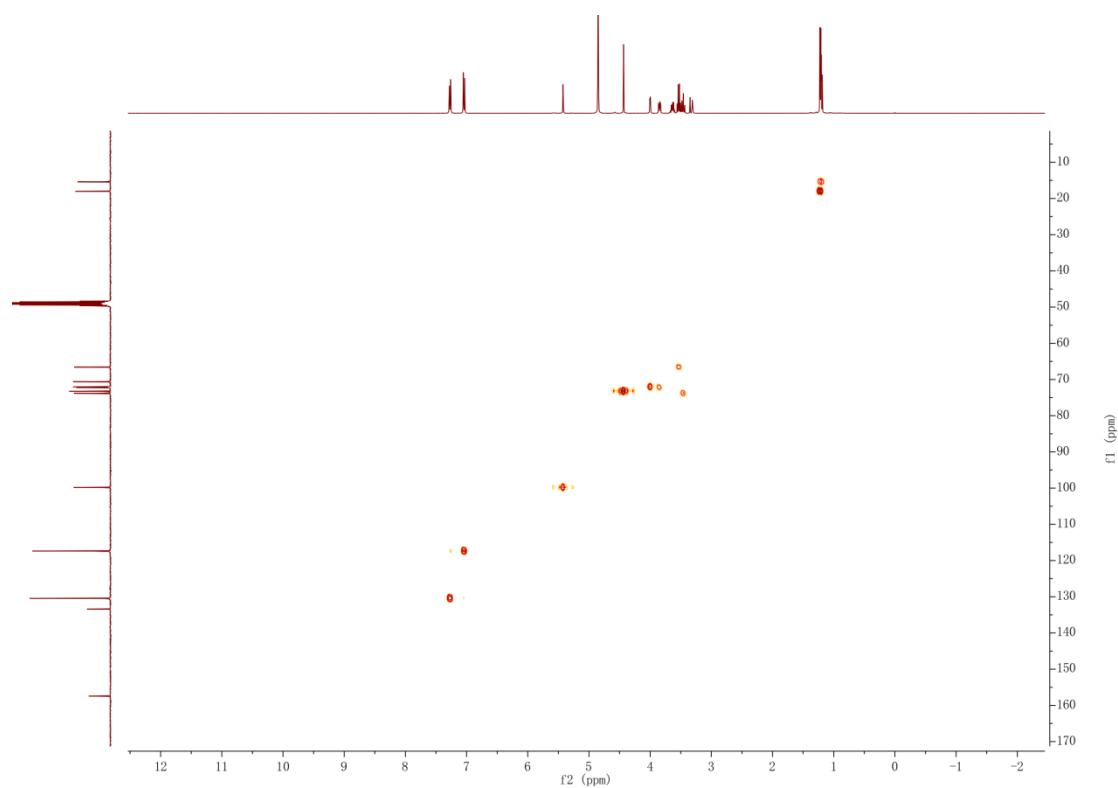


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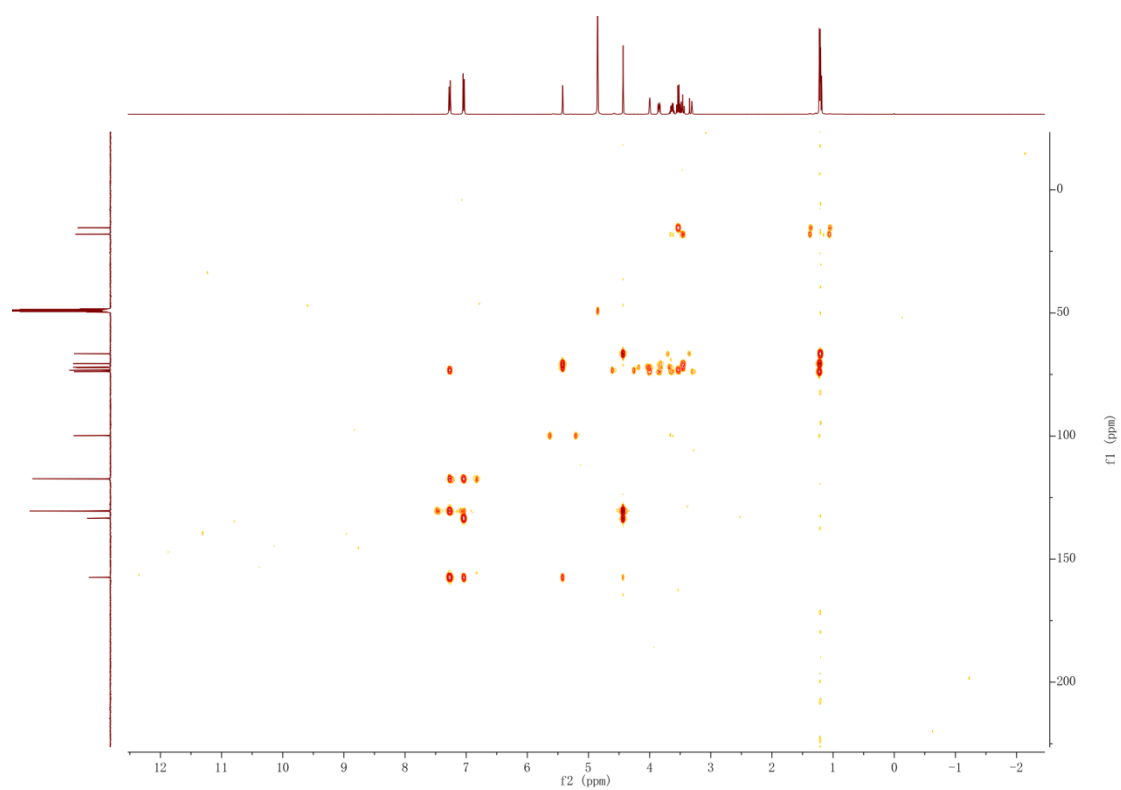


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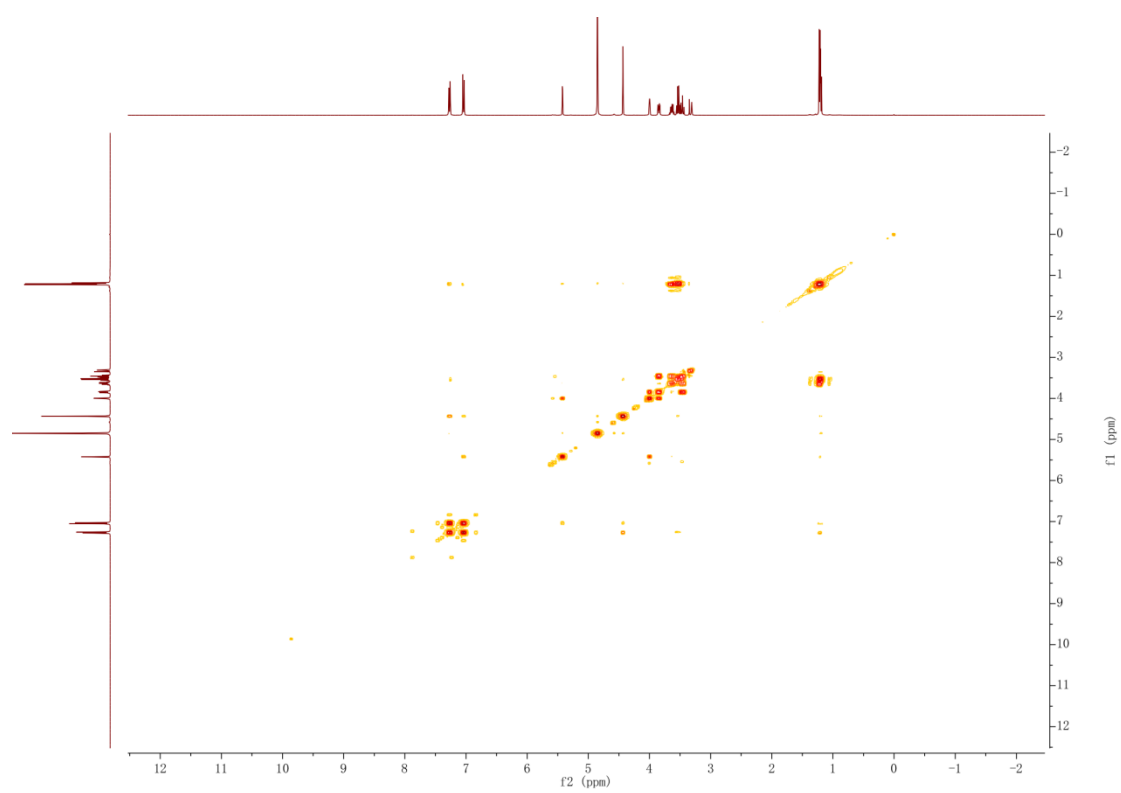


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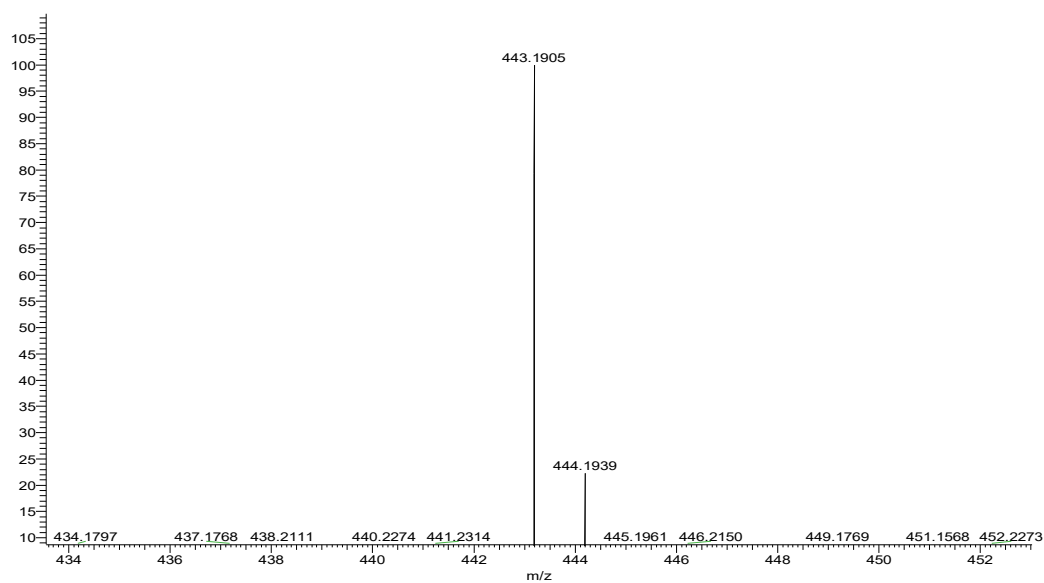


Figure S9. HR-ESI-MS spectrum of compound **2** (positive mode).

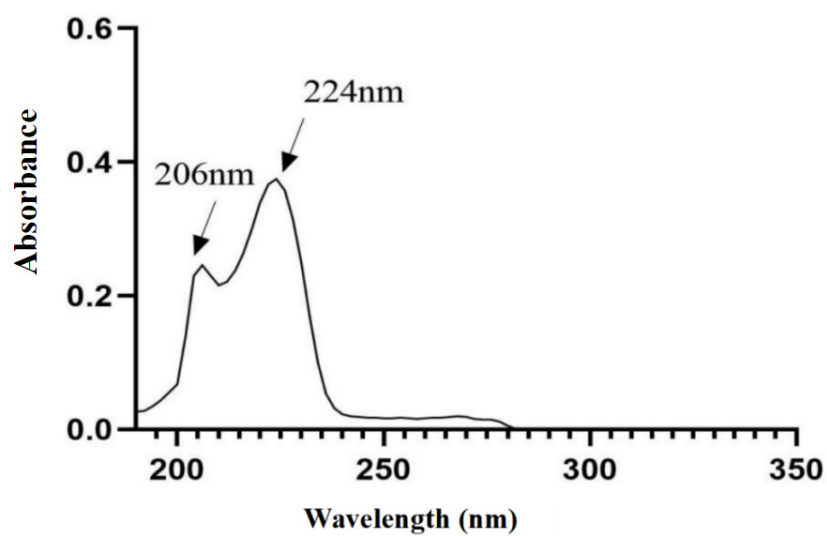


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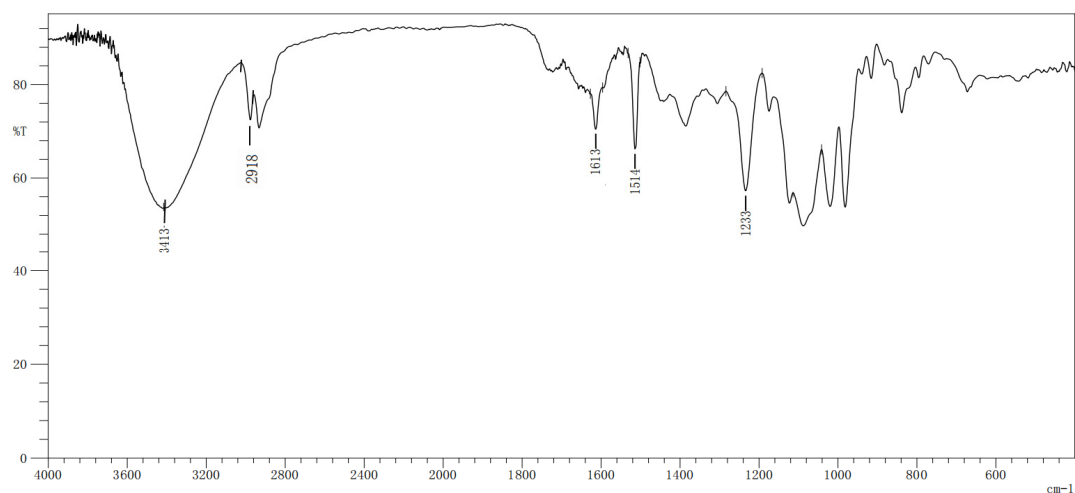


Figure S11. IR spectrum of compound **2**.

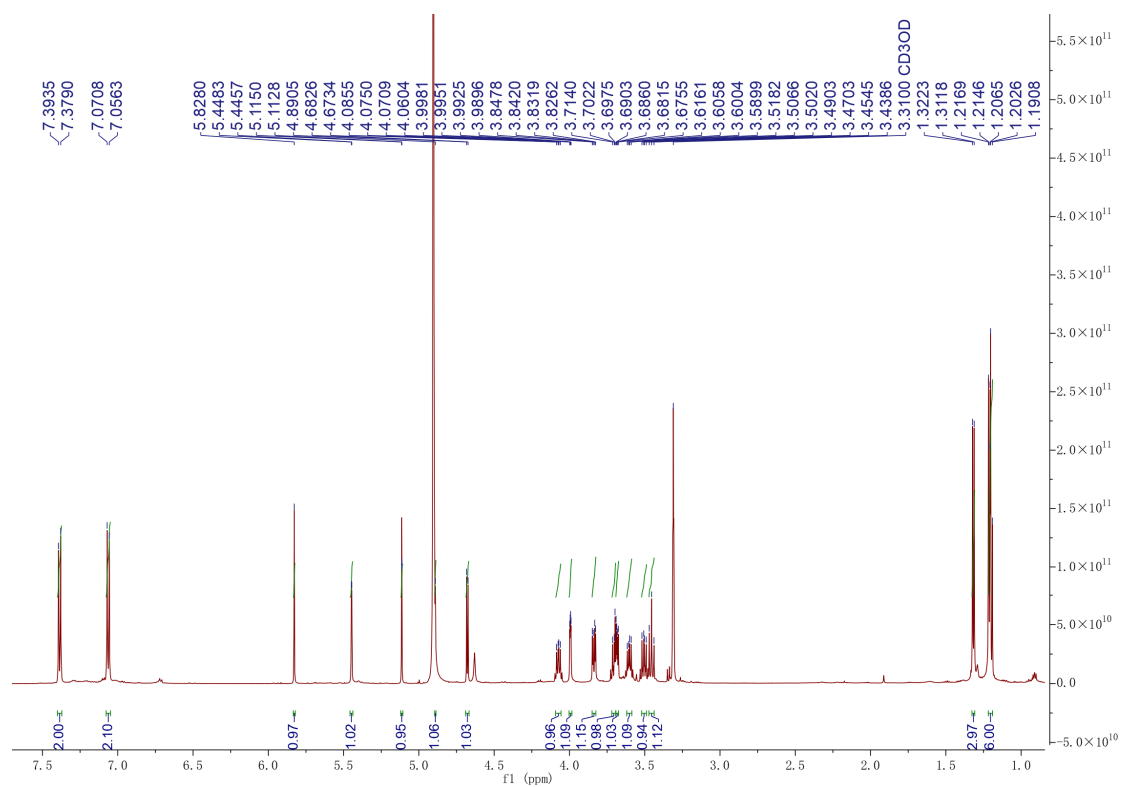


Figure S12. ¹H-NMR (600MHz, CD₃OD) spectrum of compound **2**.

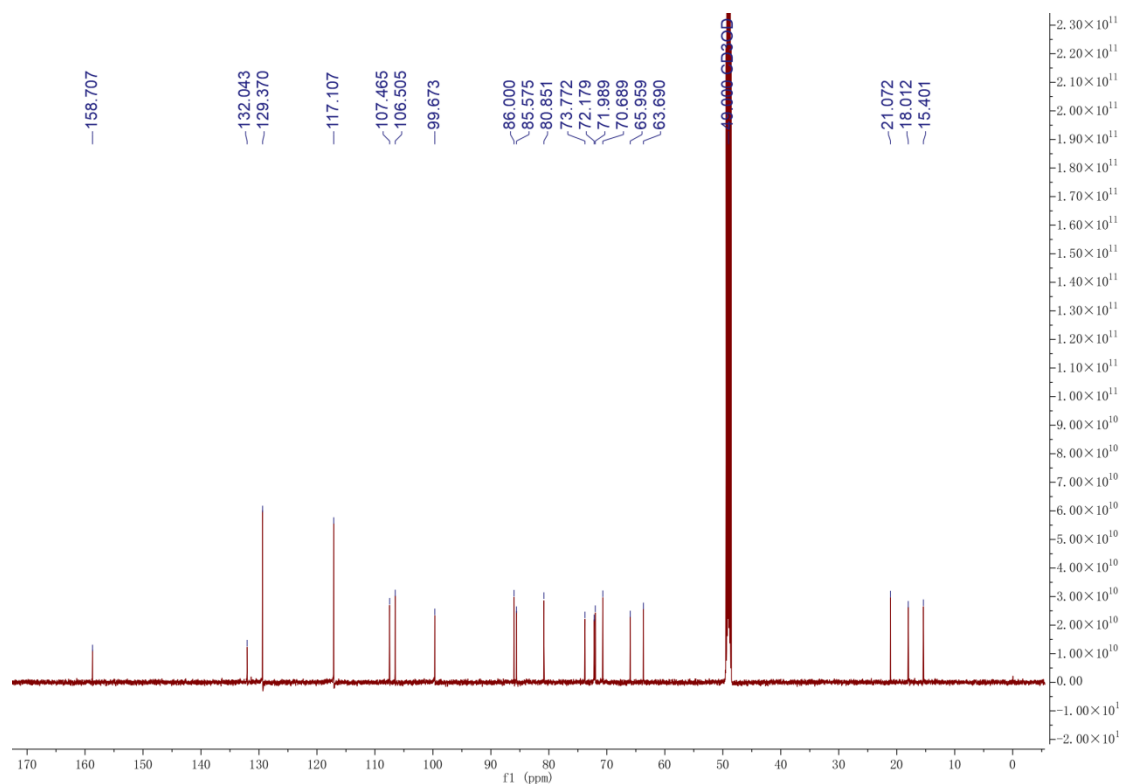


Figure S13. ^{13}C -NMR (150MHz, CD_3OD) spectrum of compound **2**.

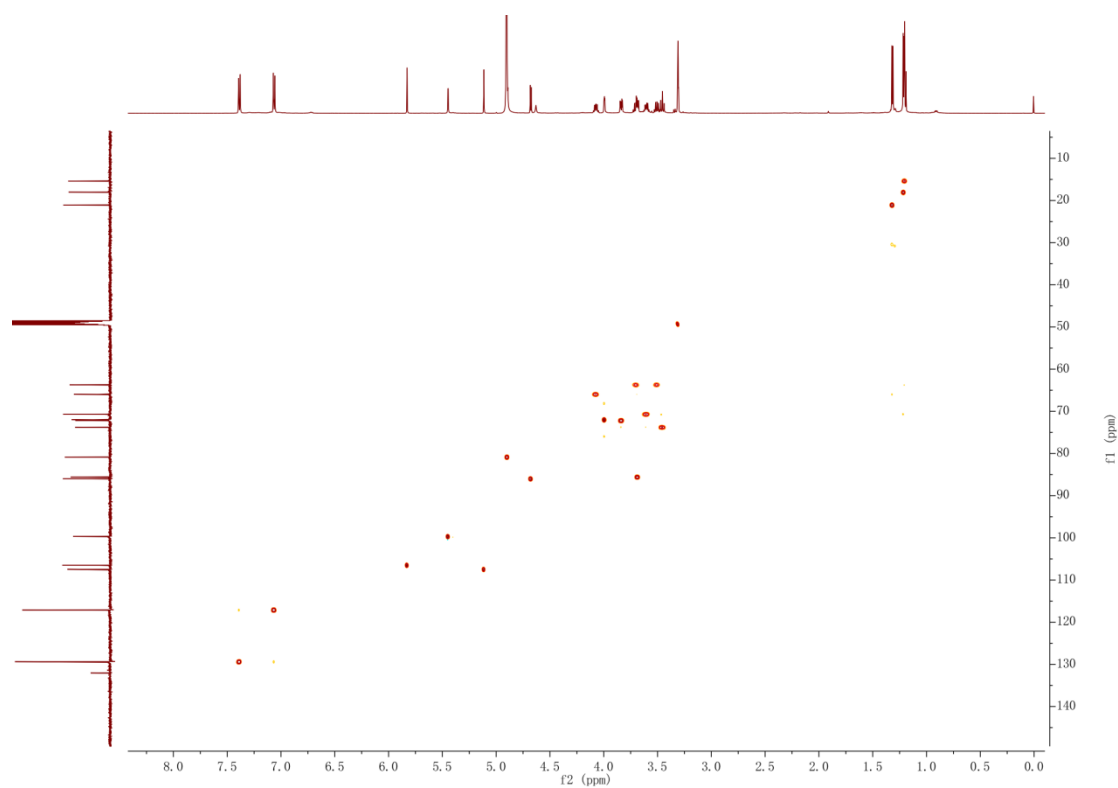


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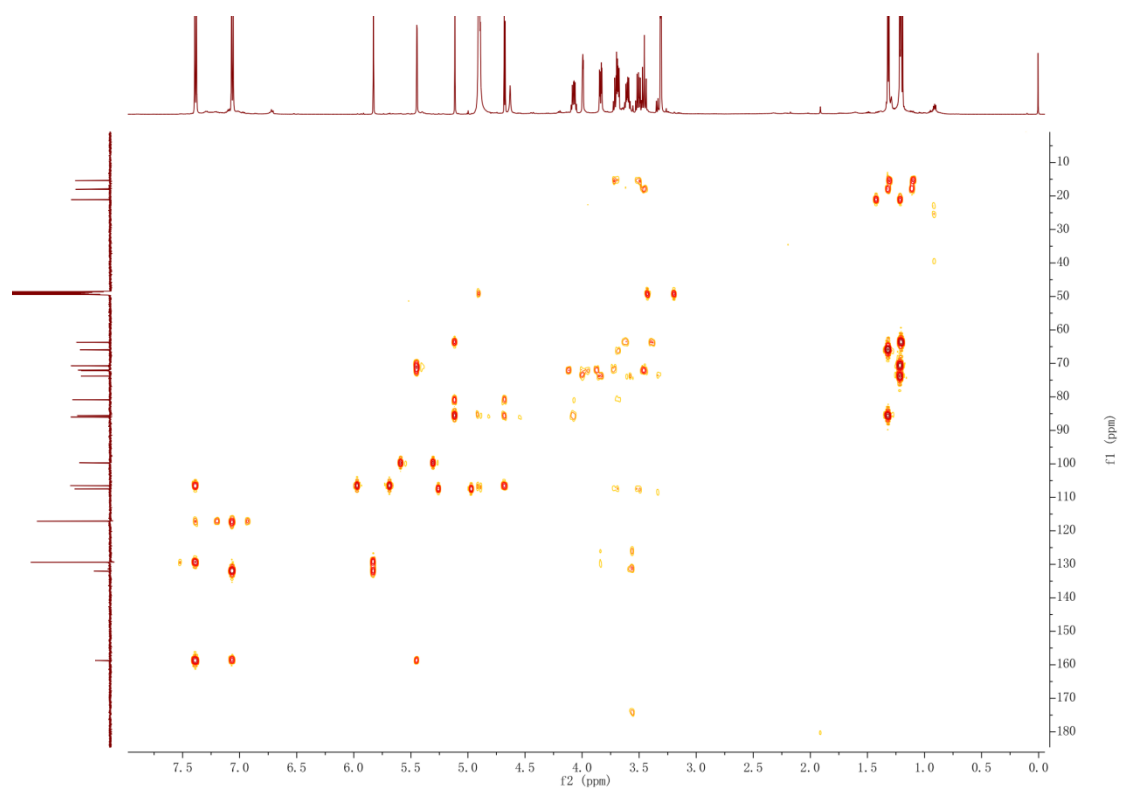


Figure S15. HMBC spectrum of compound **2**.

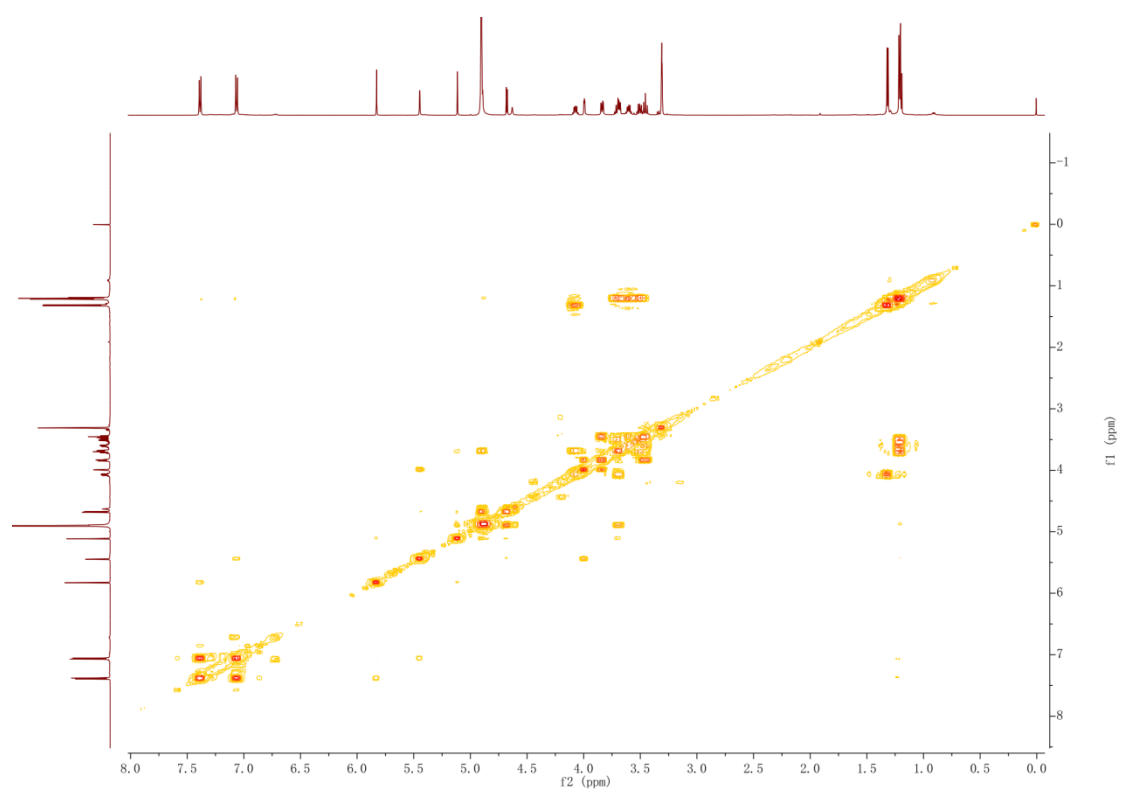


Figure S16. ^1H - ^1H COSY spectrum of compound **2**.

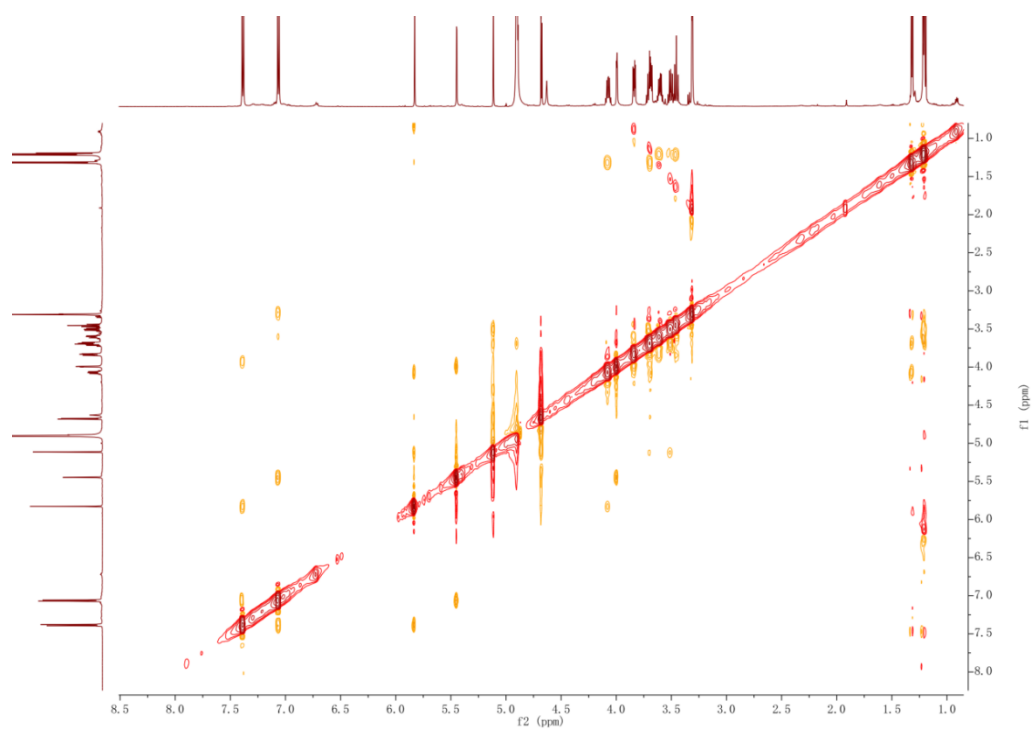


Figure S17. NOESY spectrum of compound **2**.

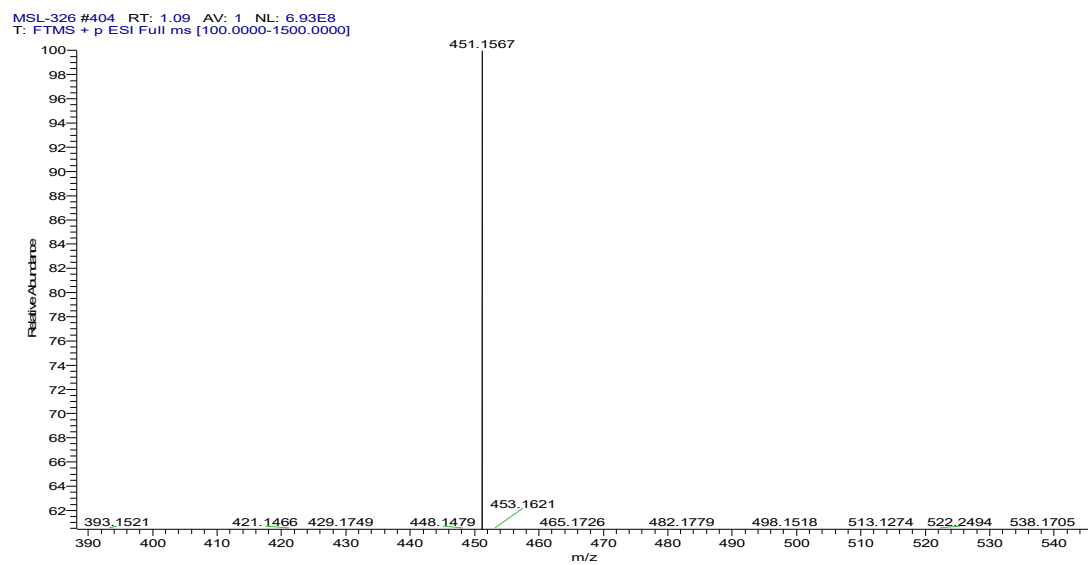


Figure S18. HR-ESI-MS spectrum of compound **3** (positive mode).

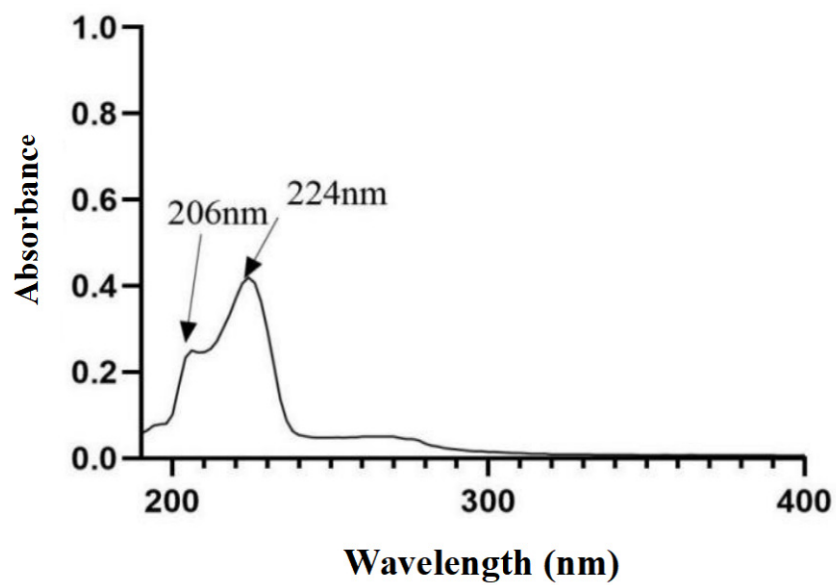


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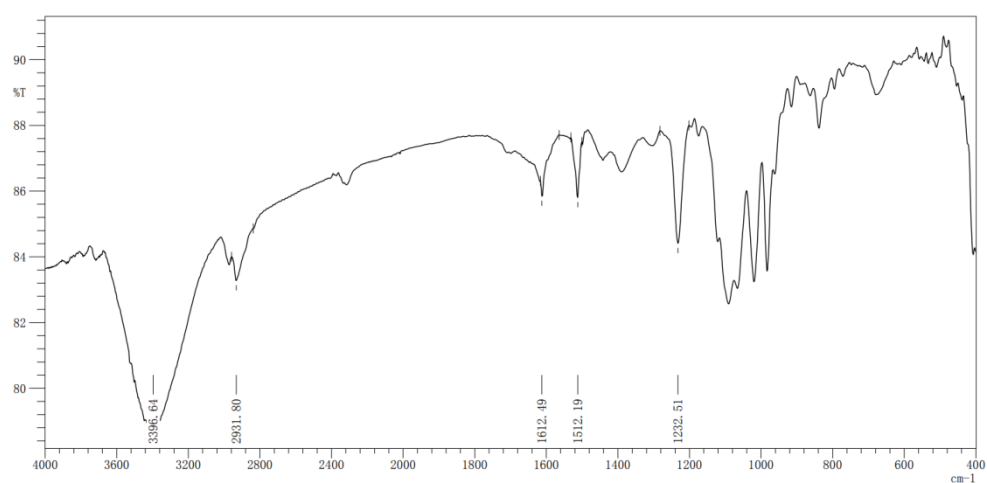


Figure S20. IR spectrum of compound **3**.

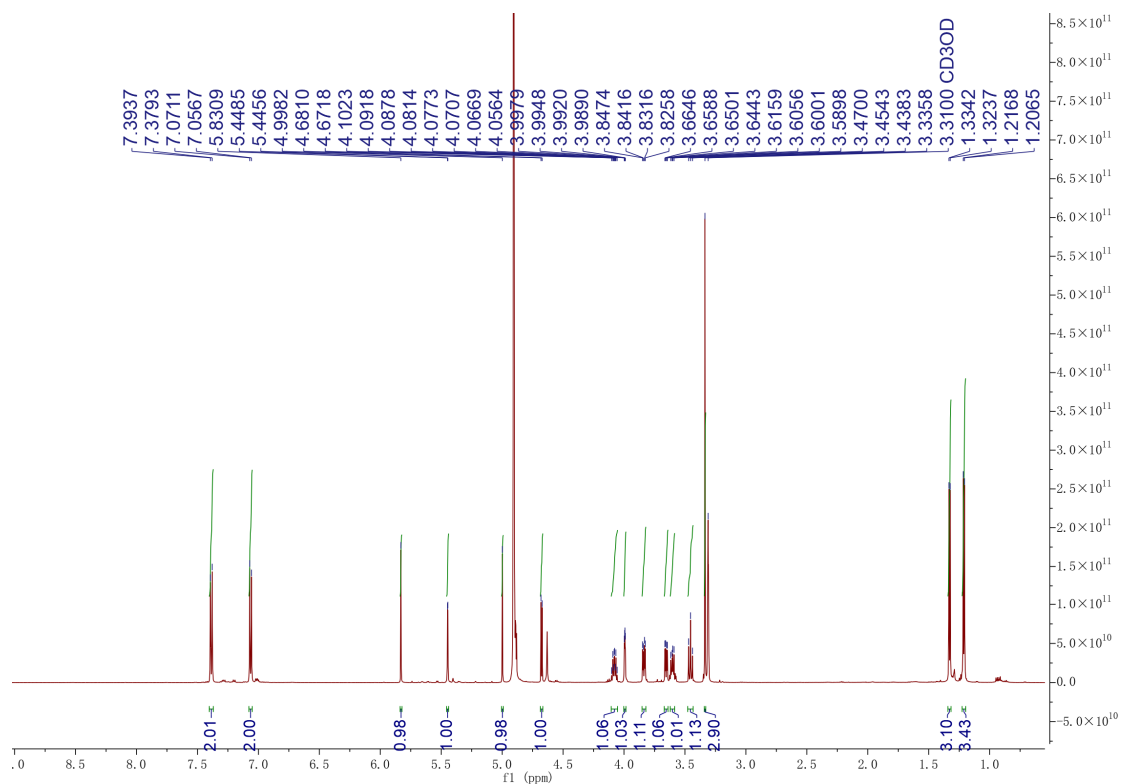


Figure S21. ¹H-NMR (600MHz, CD₃OD) spectrum of compound **3**.

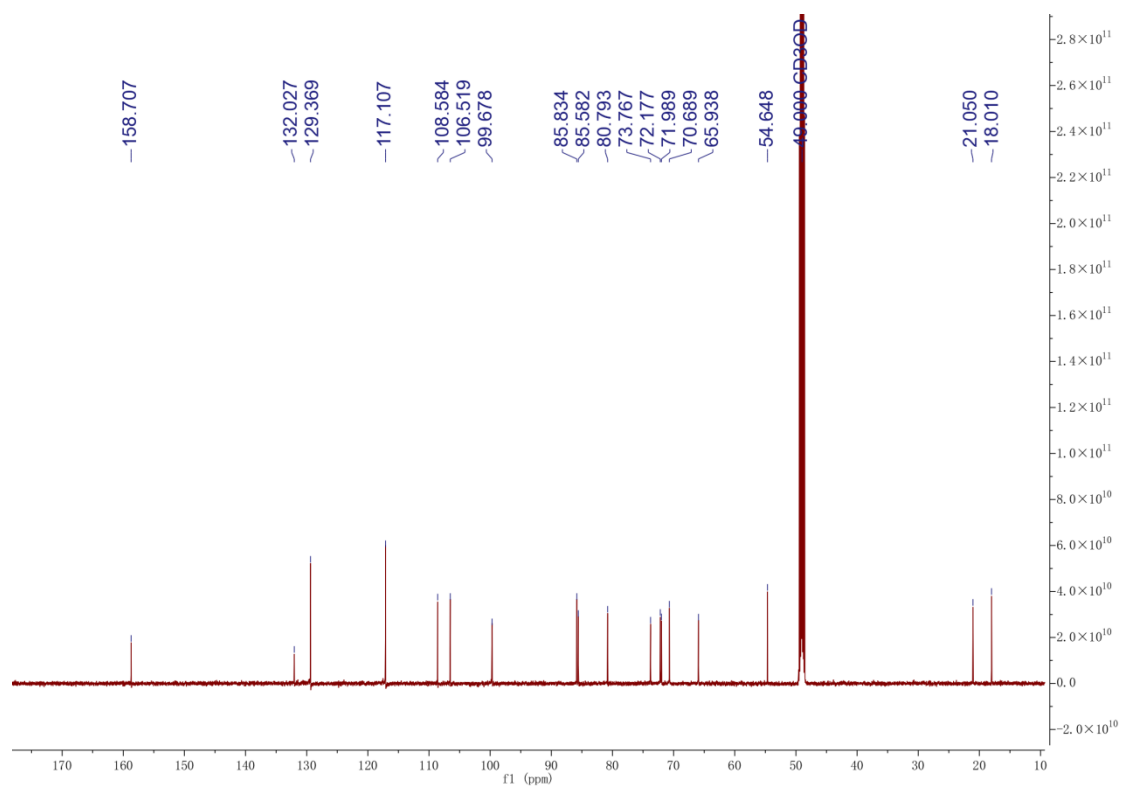


Figure S22. ¹³C-NMR (150MHz, CD₃OD) spectrum of compound **3**.

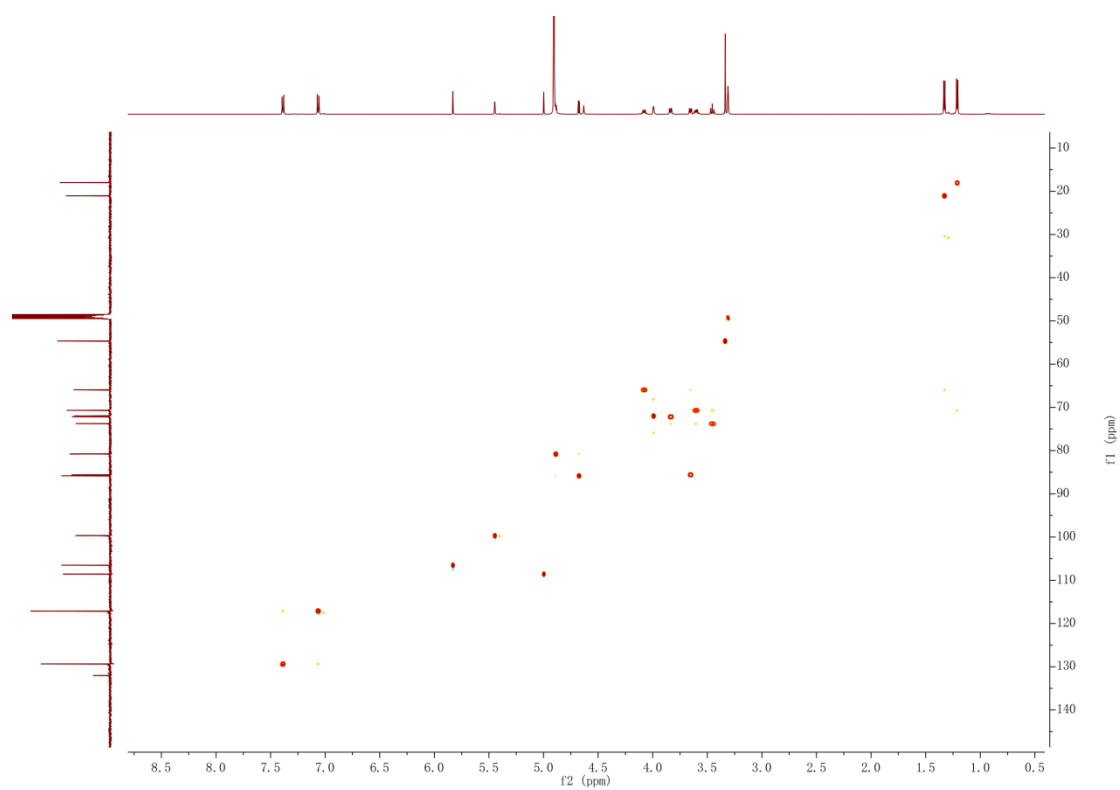


Figure S23. HMQC spectrum of compound **3**.

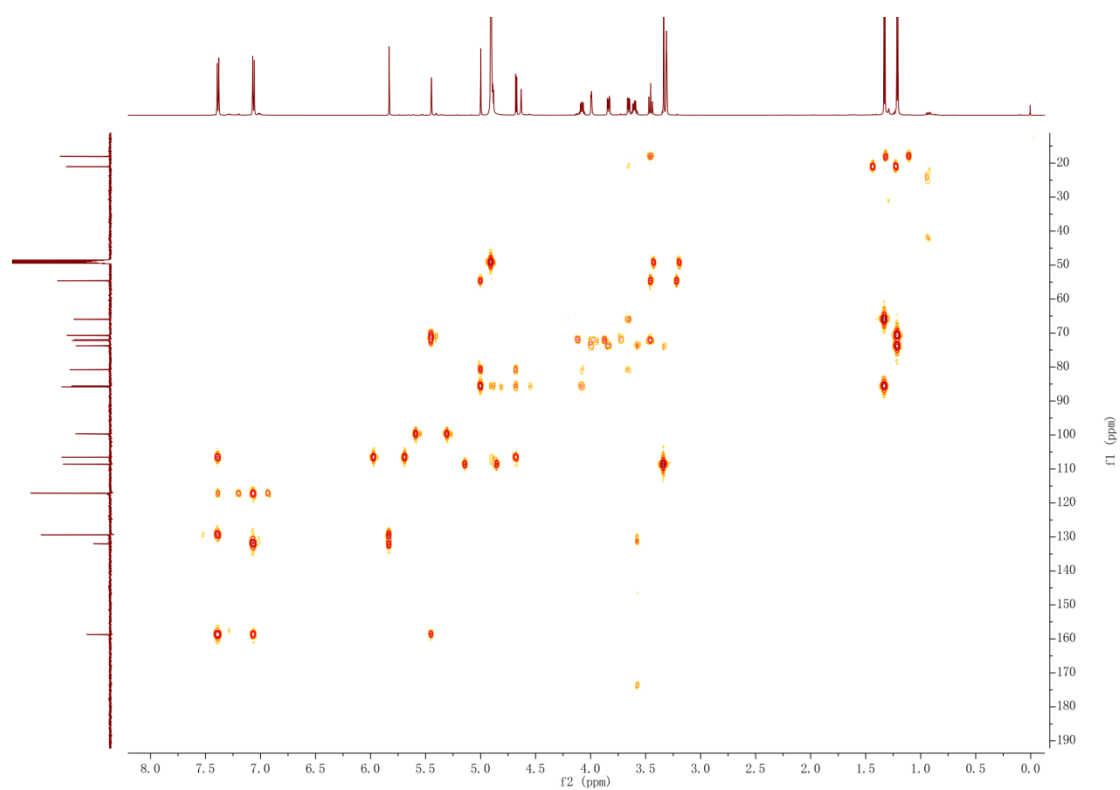


Figure S24. HMBC spectrum of compound **3**.

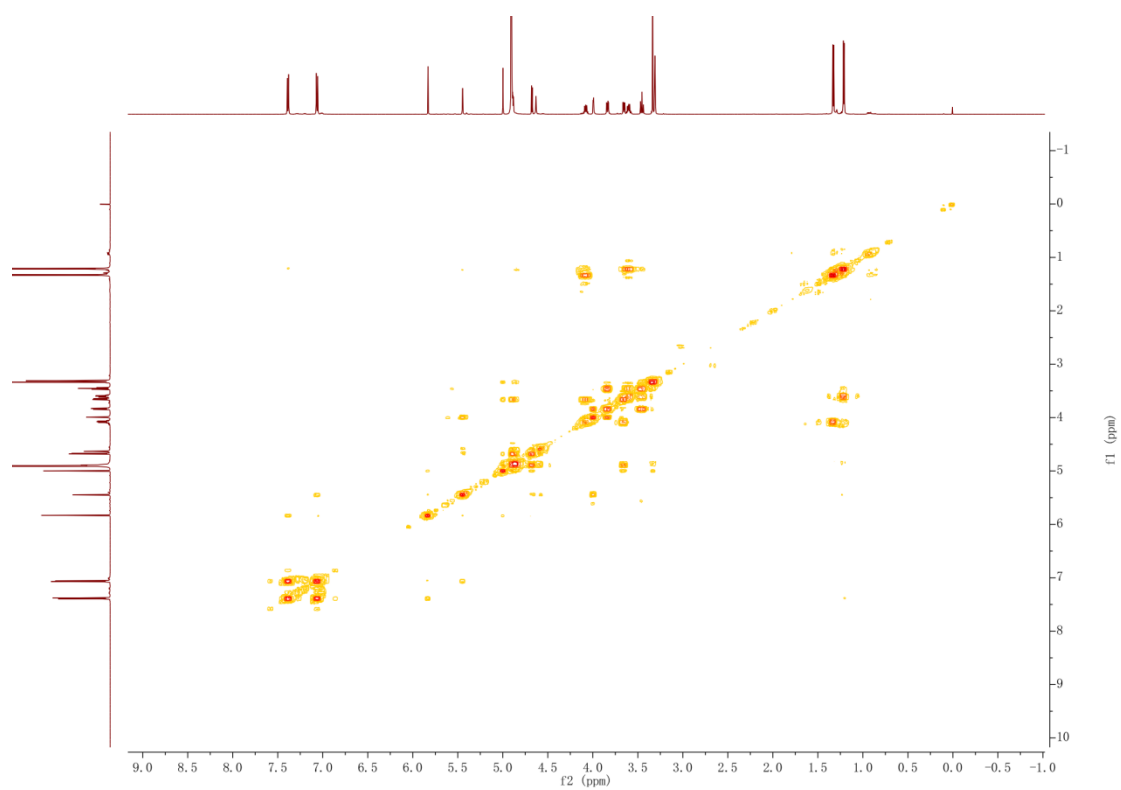


Figure S25. ^1H - ^1H COSY spectrum of compound **3**.

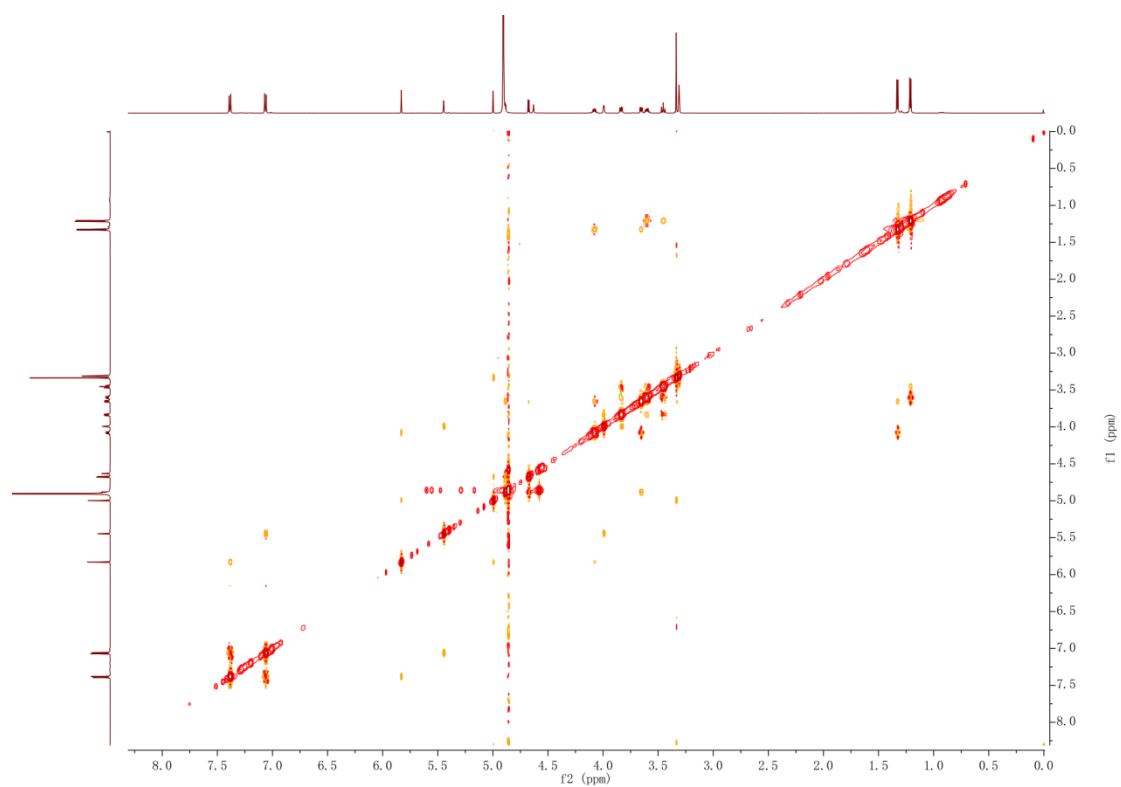


Figure S26. NOESY spectrum of compound **3**.

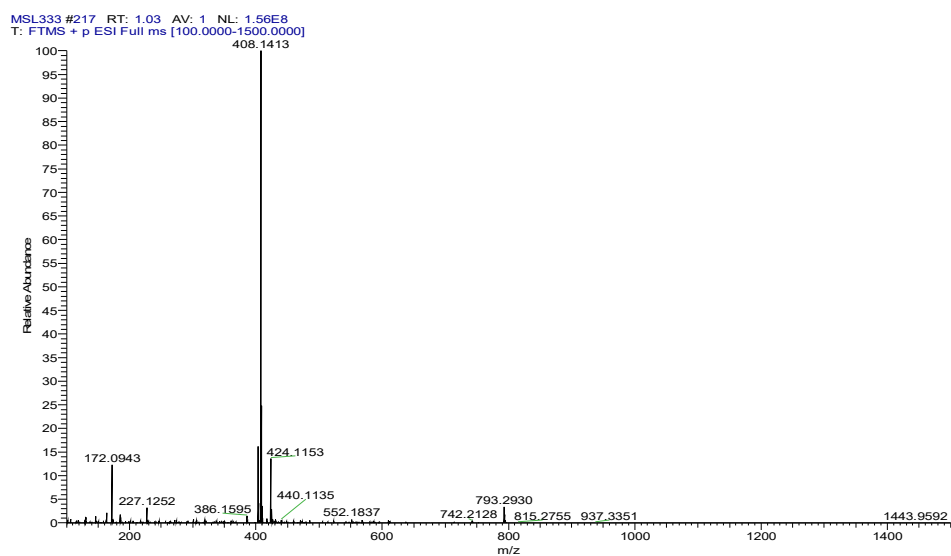


Figure S27. HR-ESI-MS spectrum of compound **4** (positive mode).

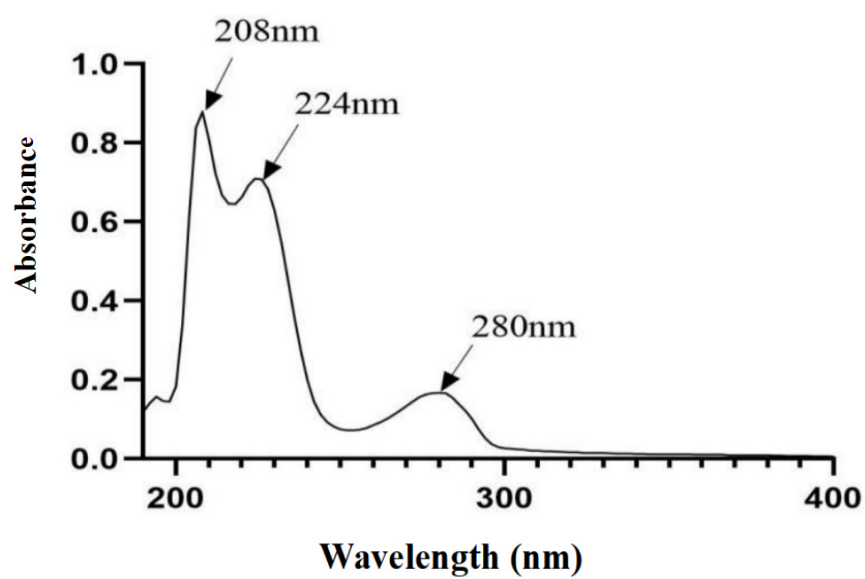


Figure S28. UV spectrum of compound **4**.

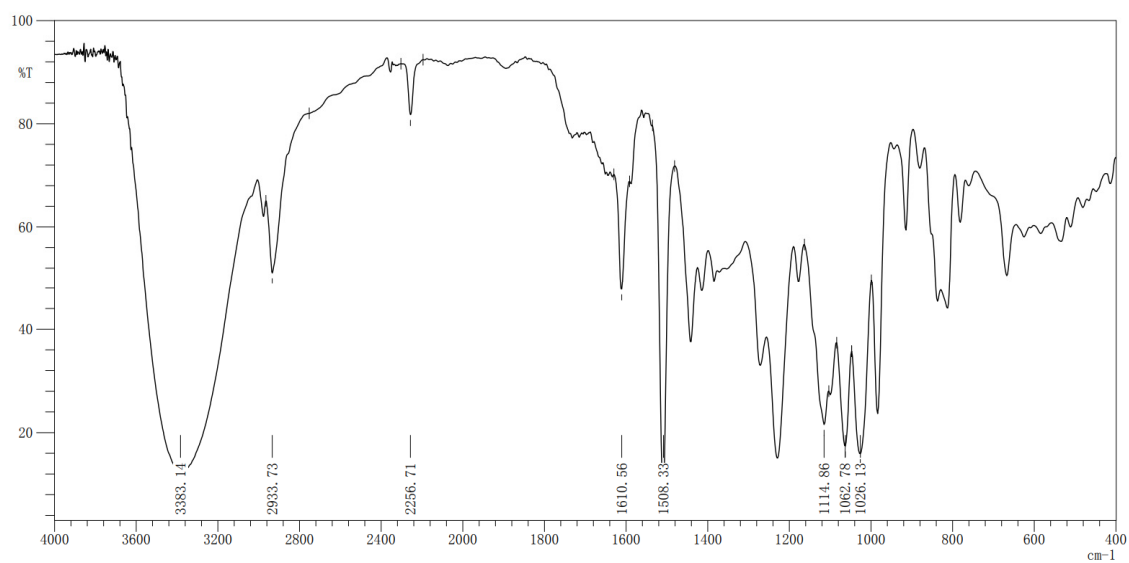


Figure S29. IR spectrum of compound **4**.

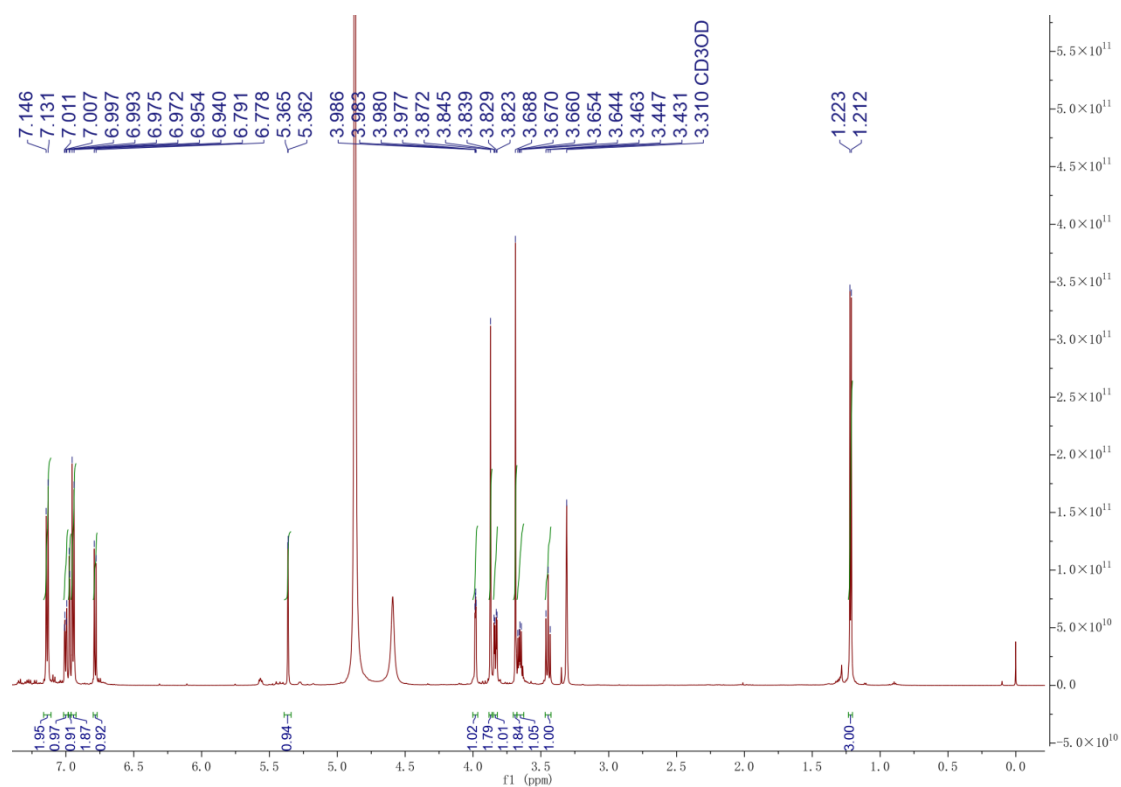


Figure S30. ^1H -NMR (600MHz, CD_3OD) spectrum of compound **4**.

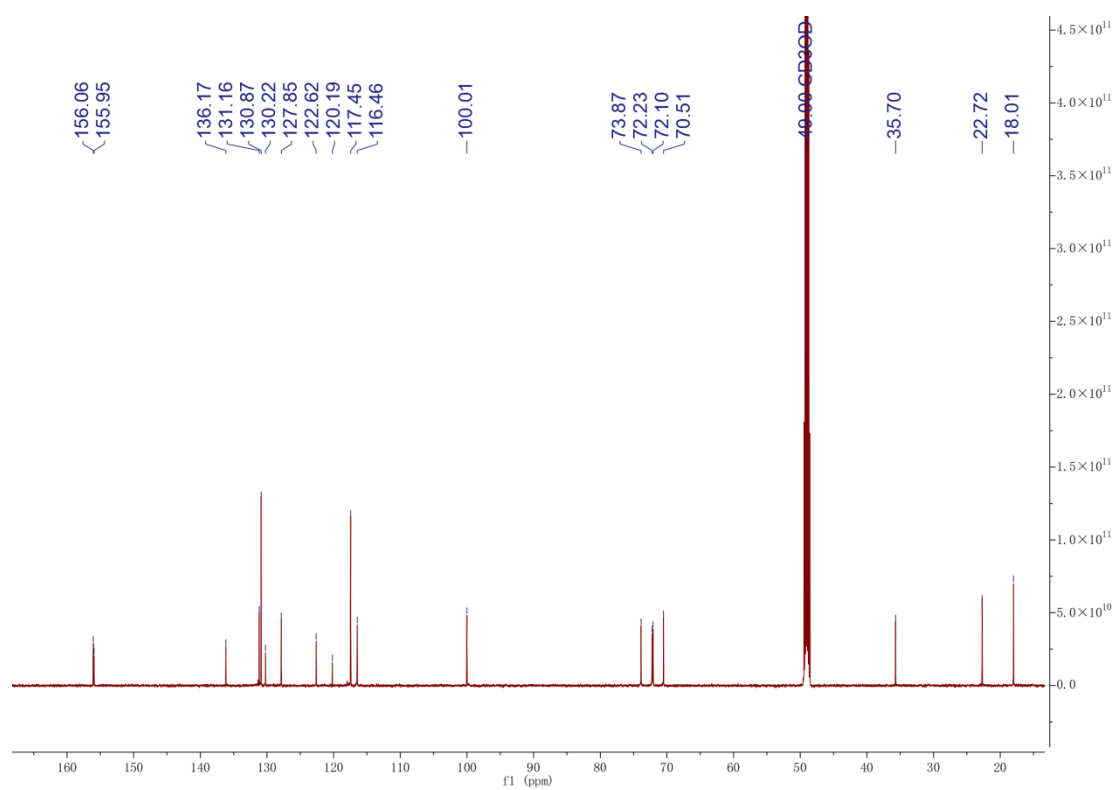


Figure S31. ¹³C-NMR (150MHz, CD₃OD) spectrum of compound 4.

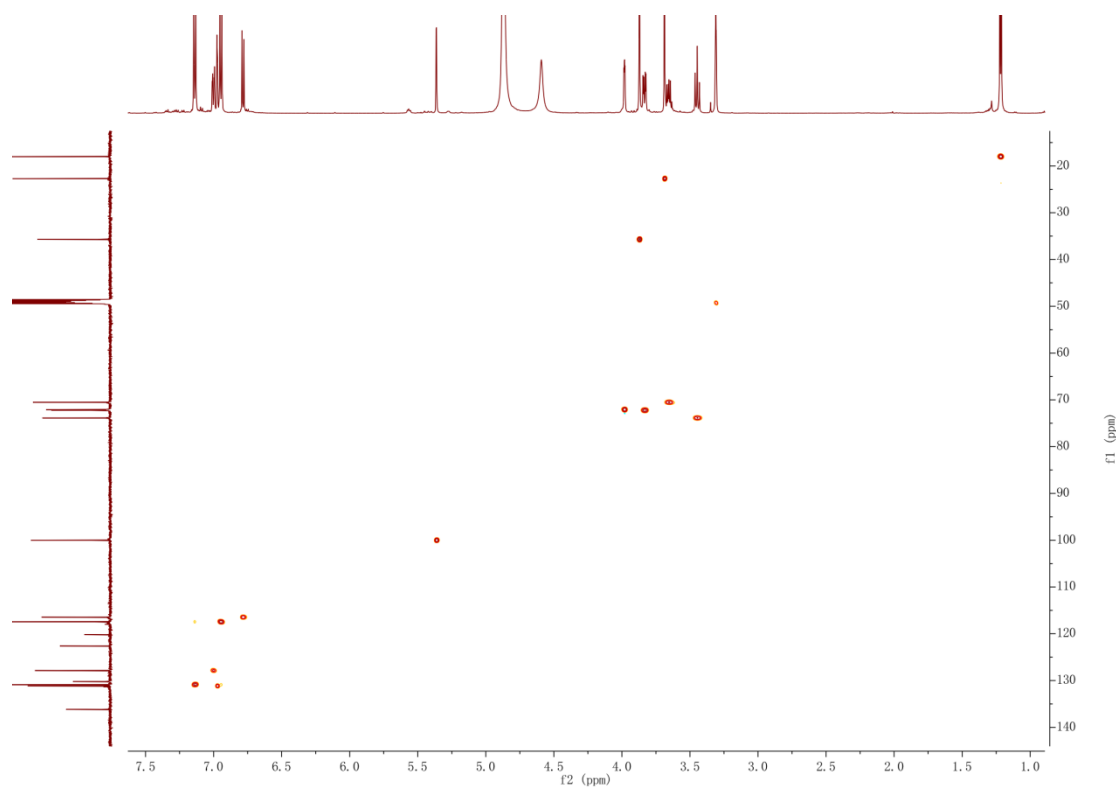


Figure S32. HMQC spectrum of compound 4.

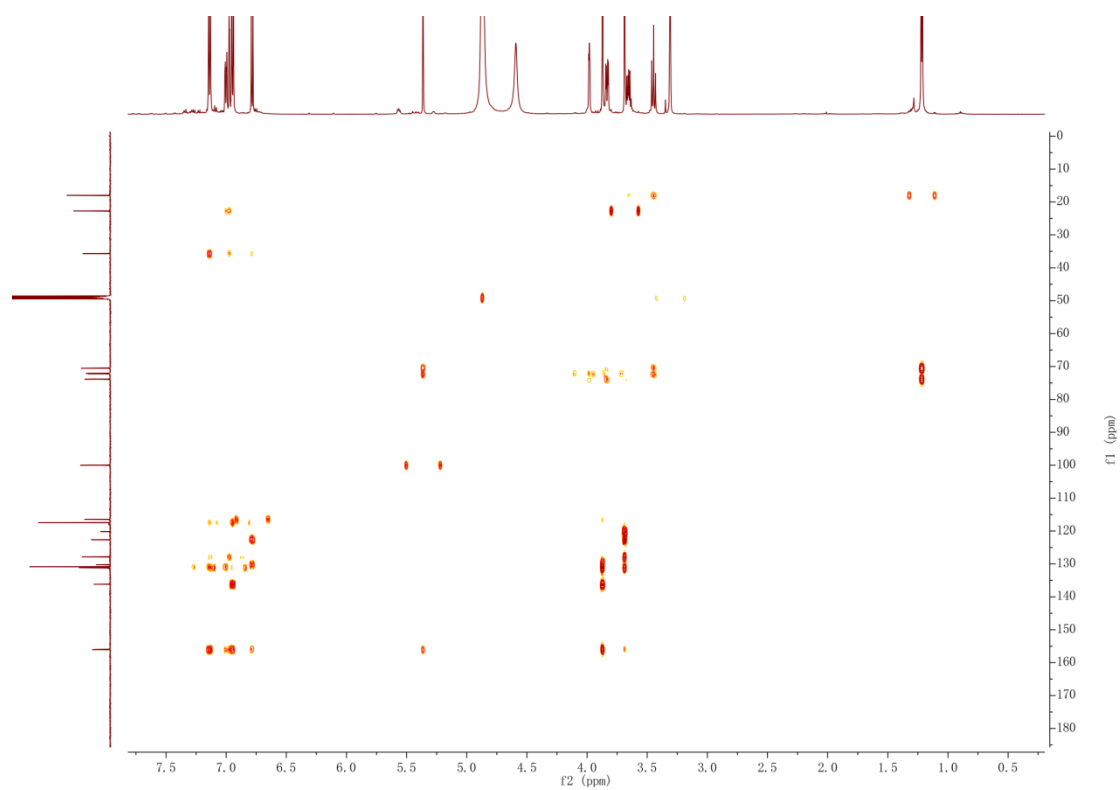


Figure S33. HMBC spectrum of compound 4.

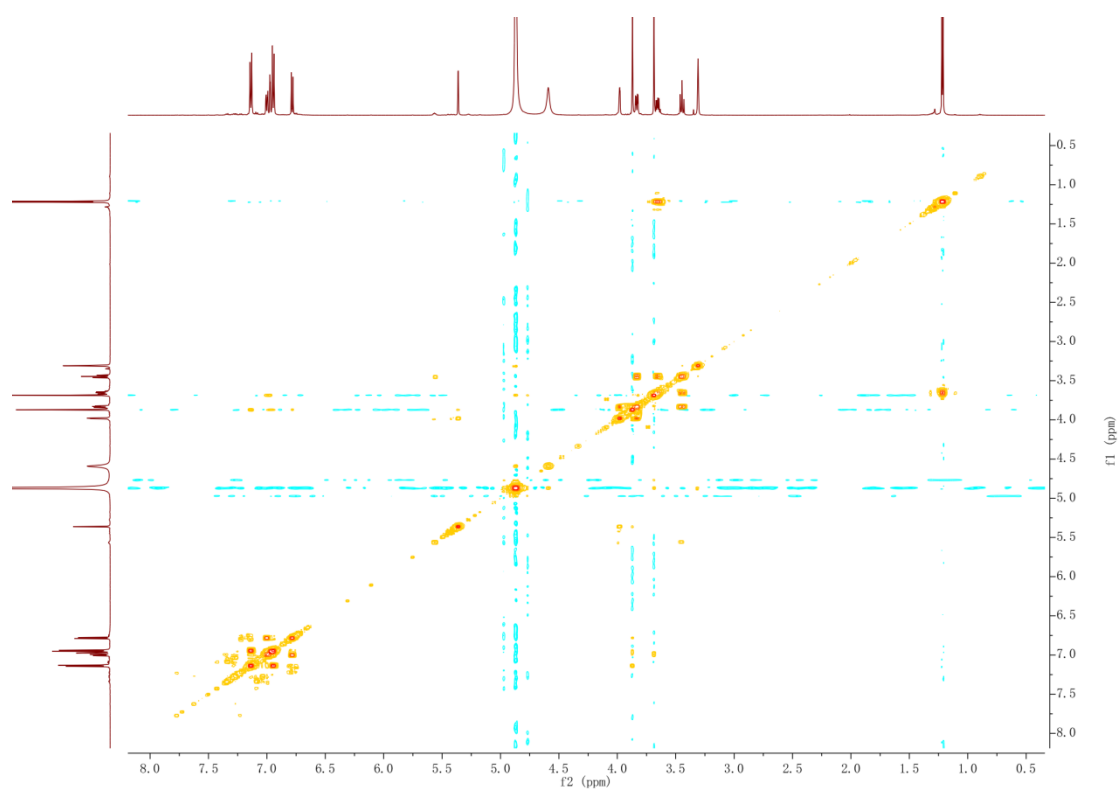


Figure S34. ^1H - ^1H COSY spectrum of compound 4.

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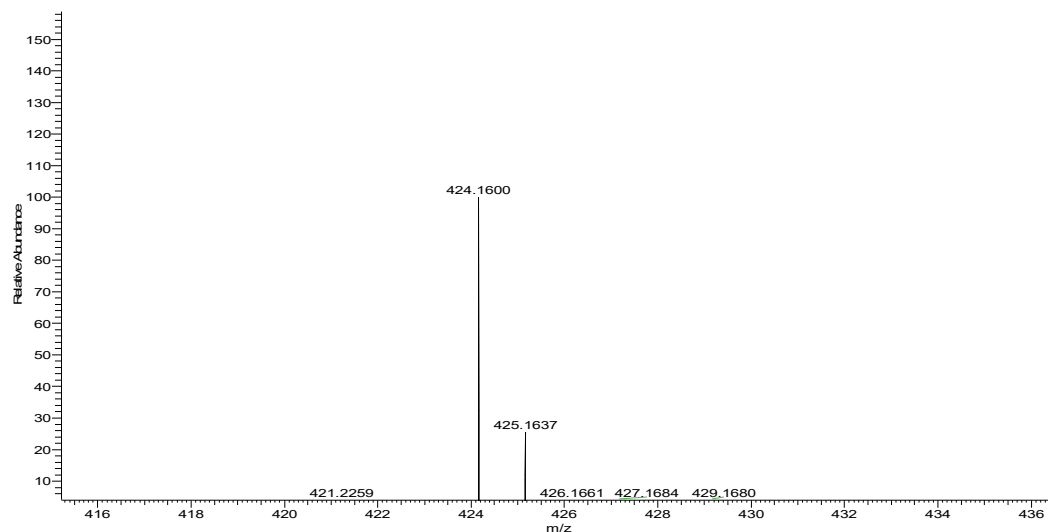


Figure S35. HR-ESI-MS spectrum of compound **5** (negative mode).

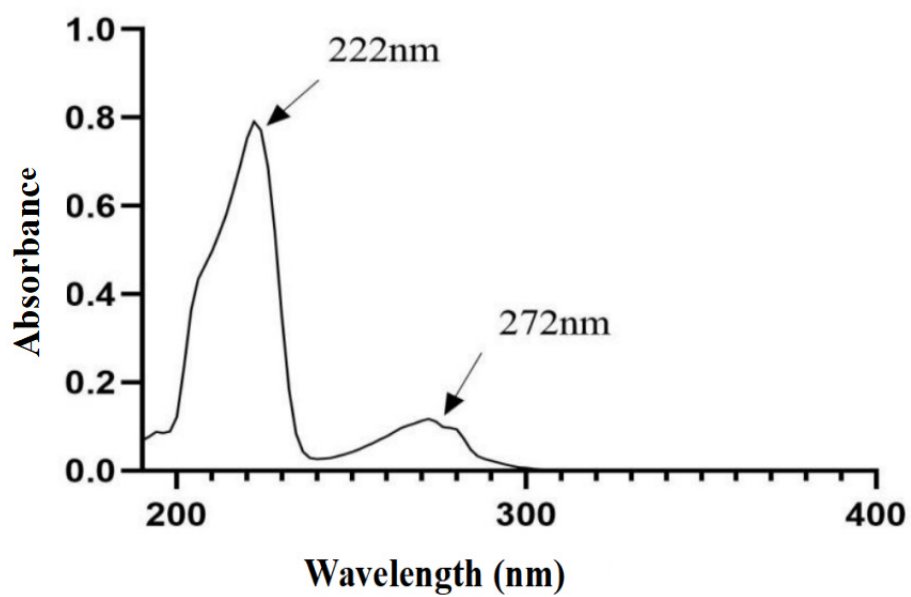


Figure S36. UV spectrum of compound **5**.

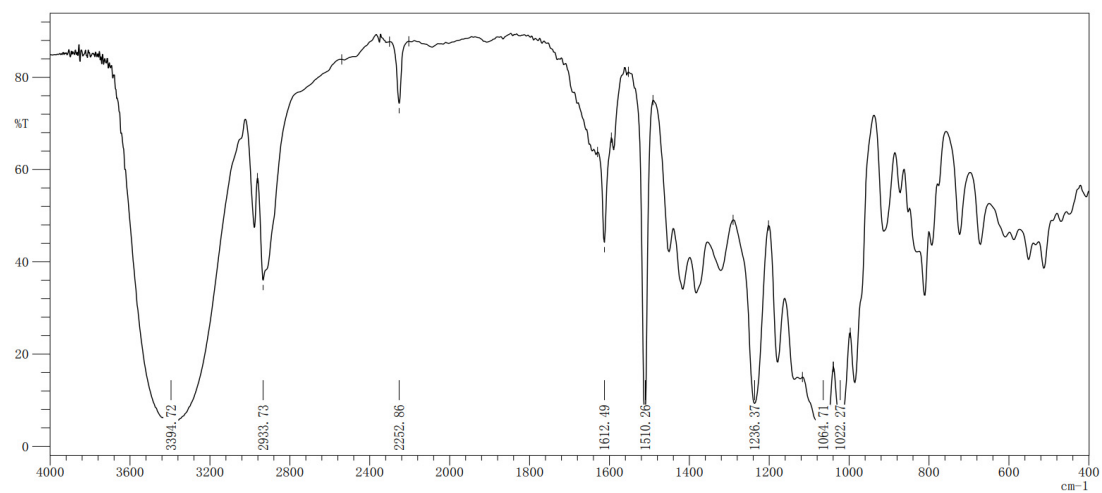


Figure S37. IR spectrum of compound **5**.

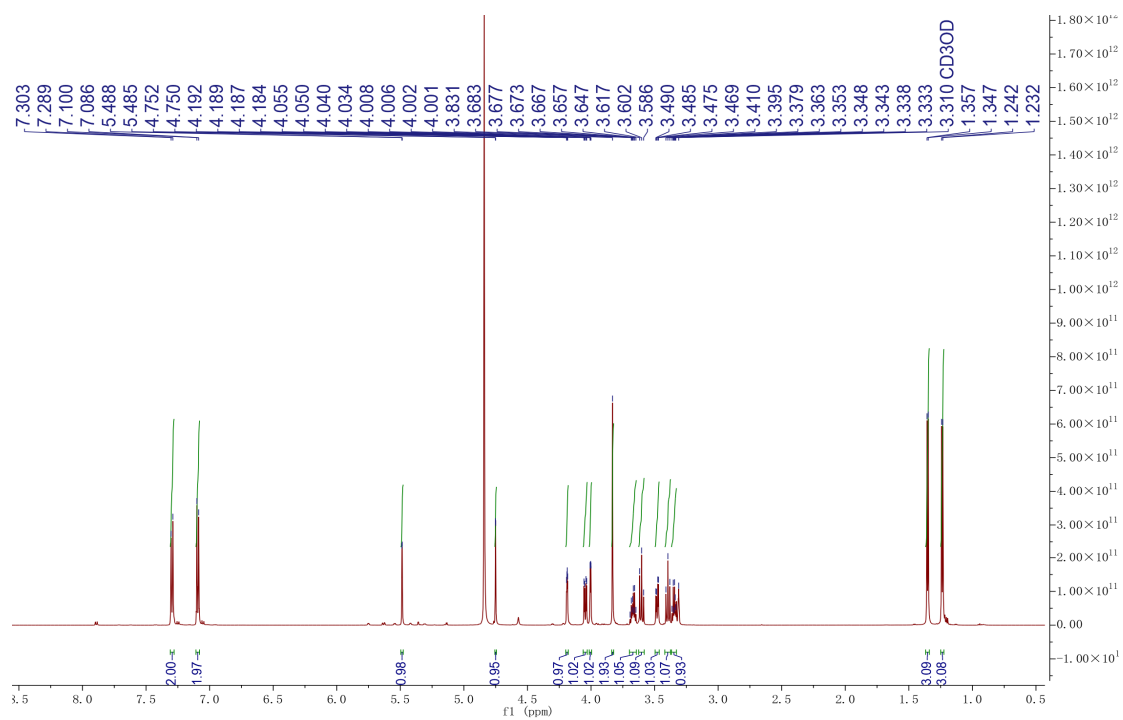


Figure S38. ¹H-NMR (600MHz, CD₃OD) spectrum of compound **5**.

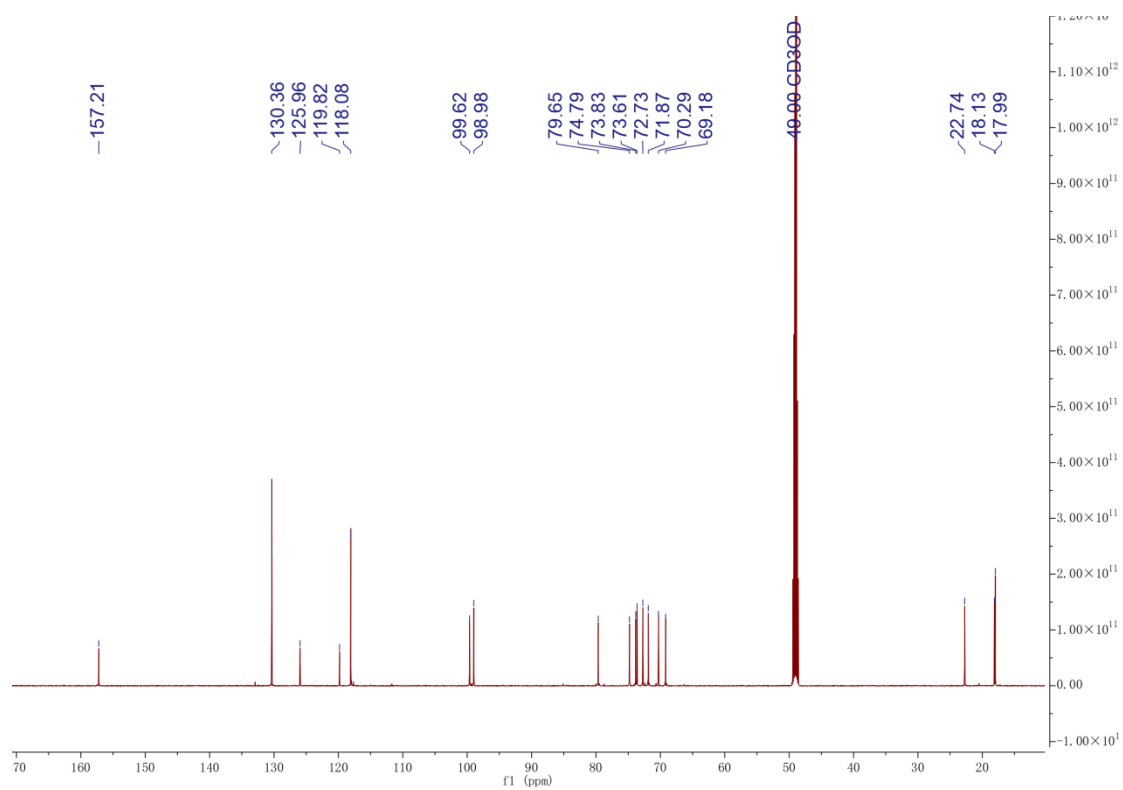


Figure S39. ¹³C-NMR (150MHz, CD₃OD) spectrum of compound **5**.

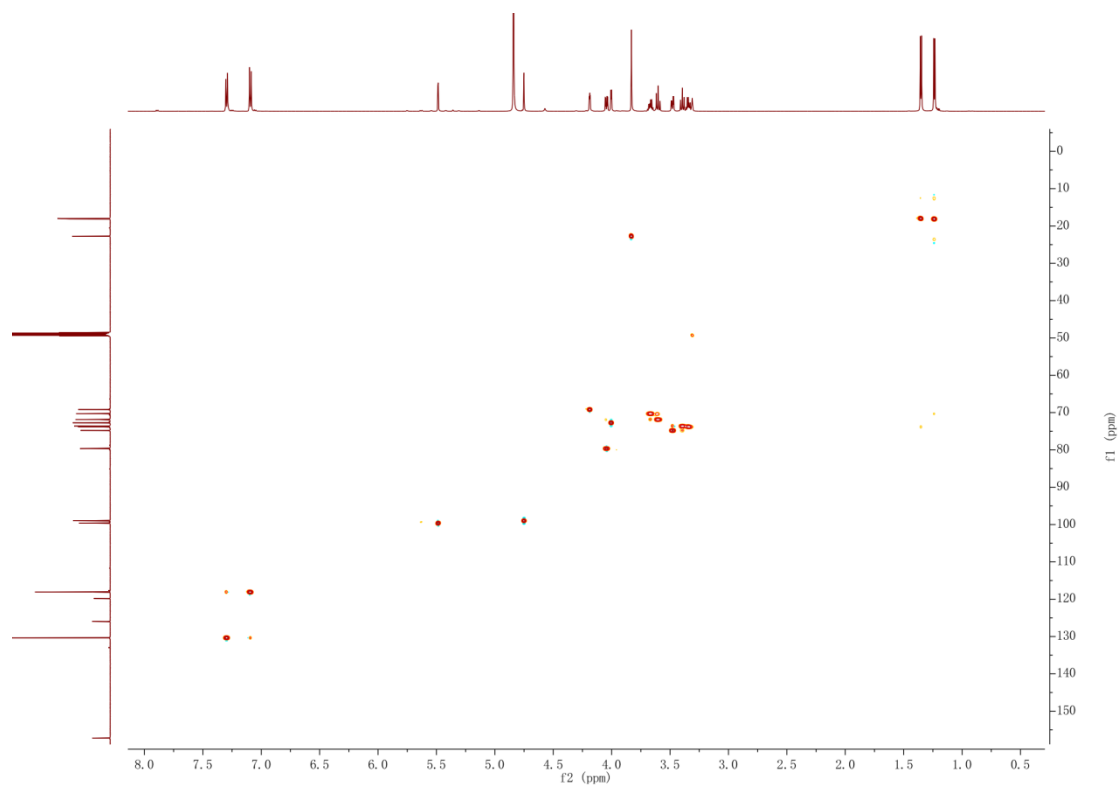


Figure S40. HMQC spectrum of compound **5**.

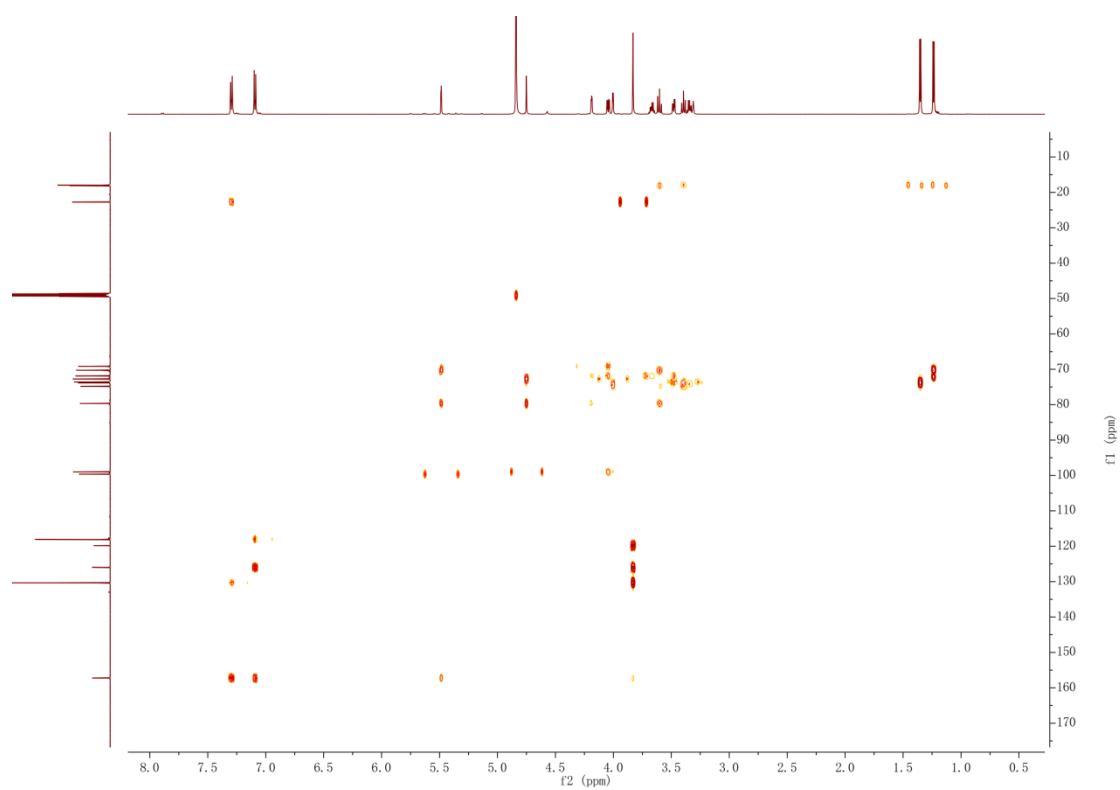


Figure S41. HMBC spectrum of compound **5**.

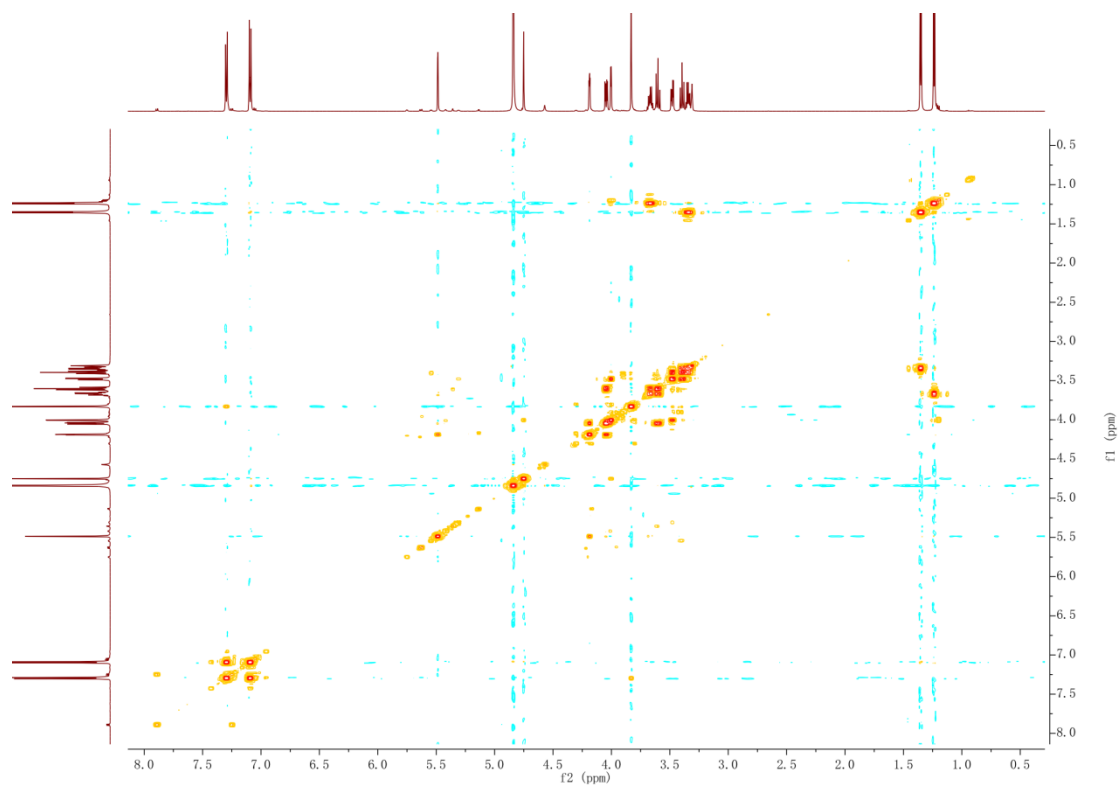


Figure S42. ^1H - ^1H COSY spectrum of compound **5**.

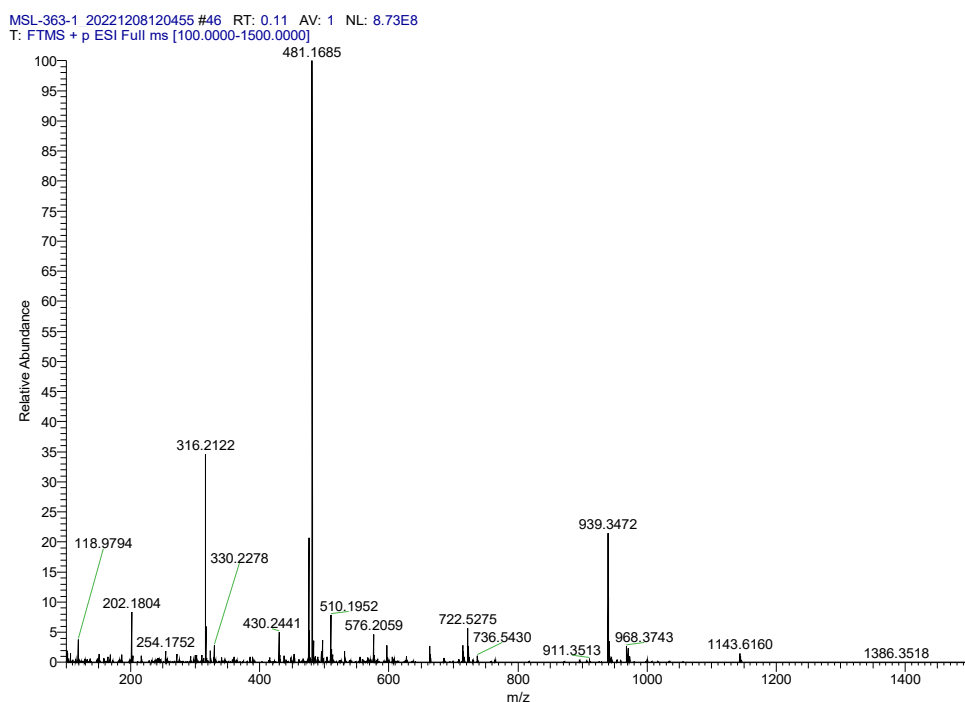


Figure S43. HR-ESI-MS spectrum of compound **6** (positive mode).

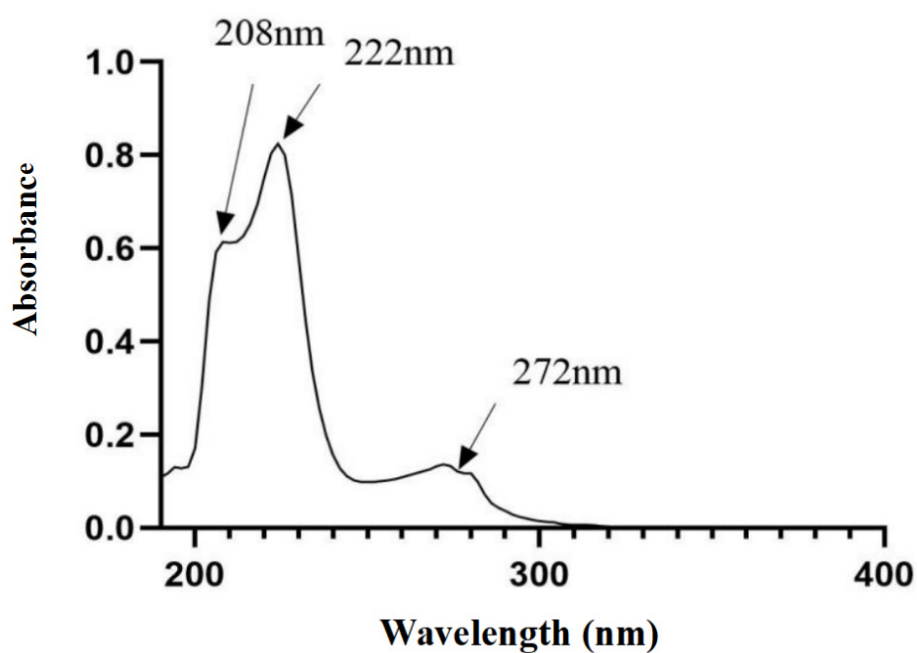


Figure S44. UV spectrum of compound **6**.

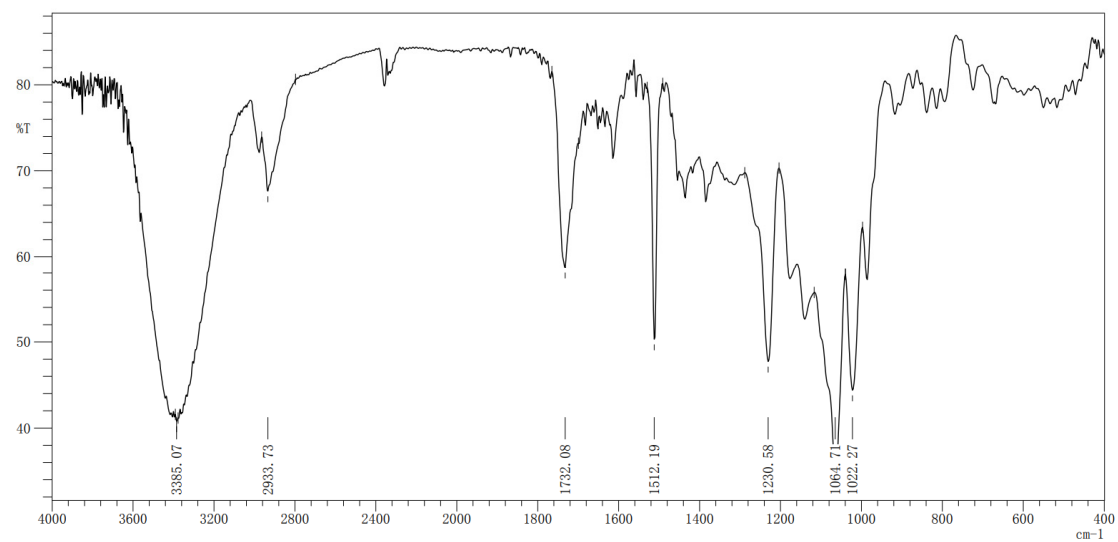


Figure S45. IR spectrum of compound **6**.

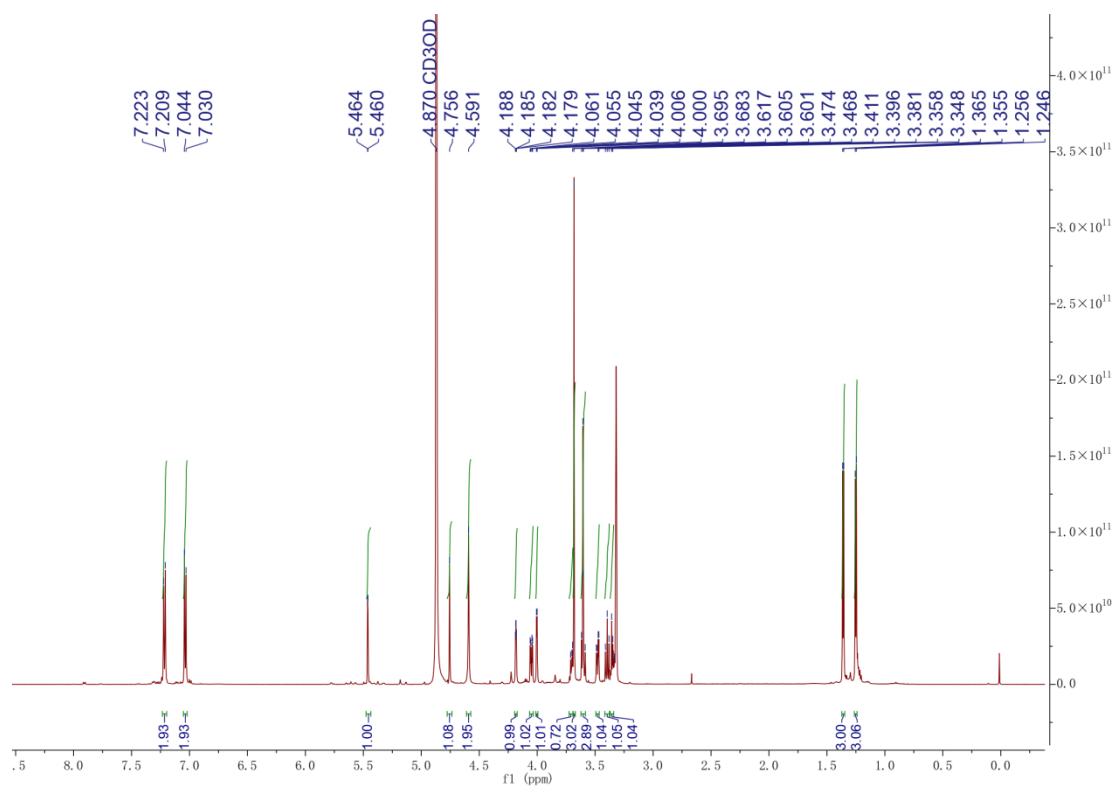


Figure S46. ¹H-NMR (600MHz, CD₃OD) spectrum of compound **6**.

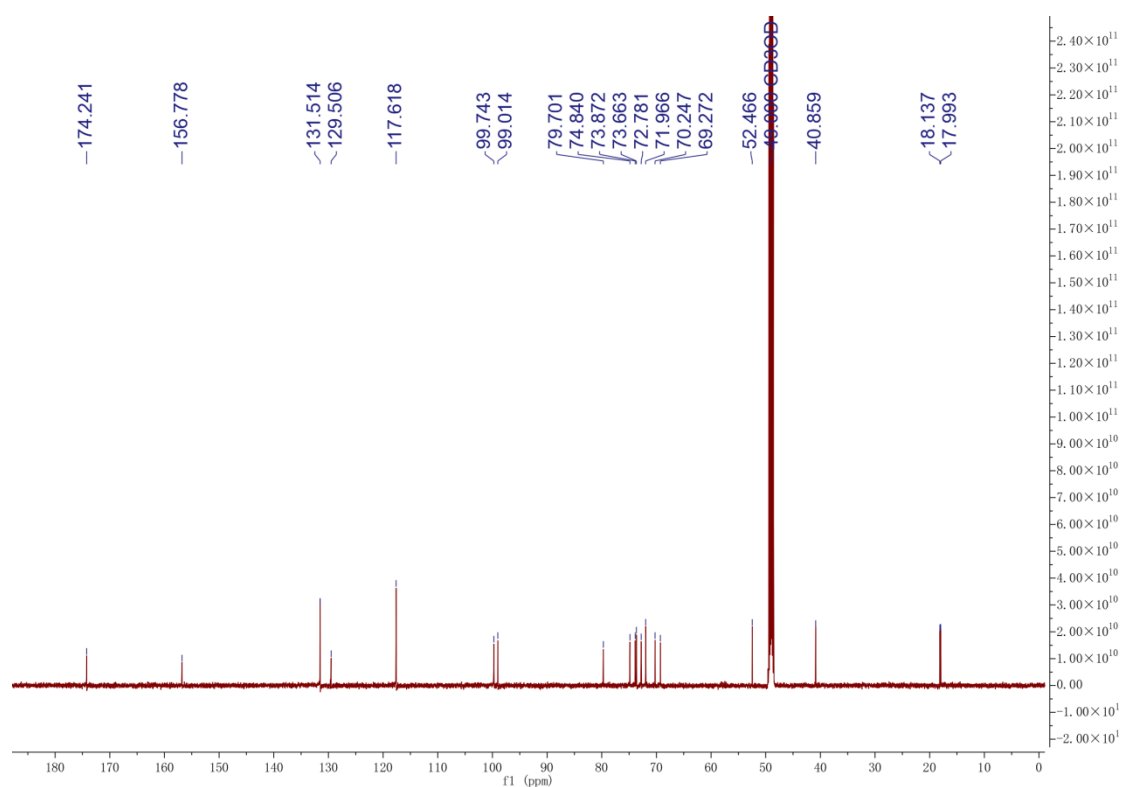


Figure S47. ^{13}C -NMR (150MHz, CD_3OD) spectrum of compound **6**.

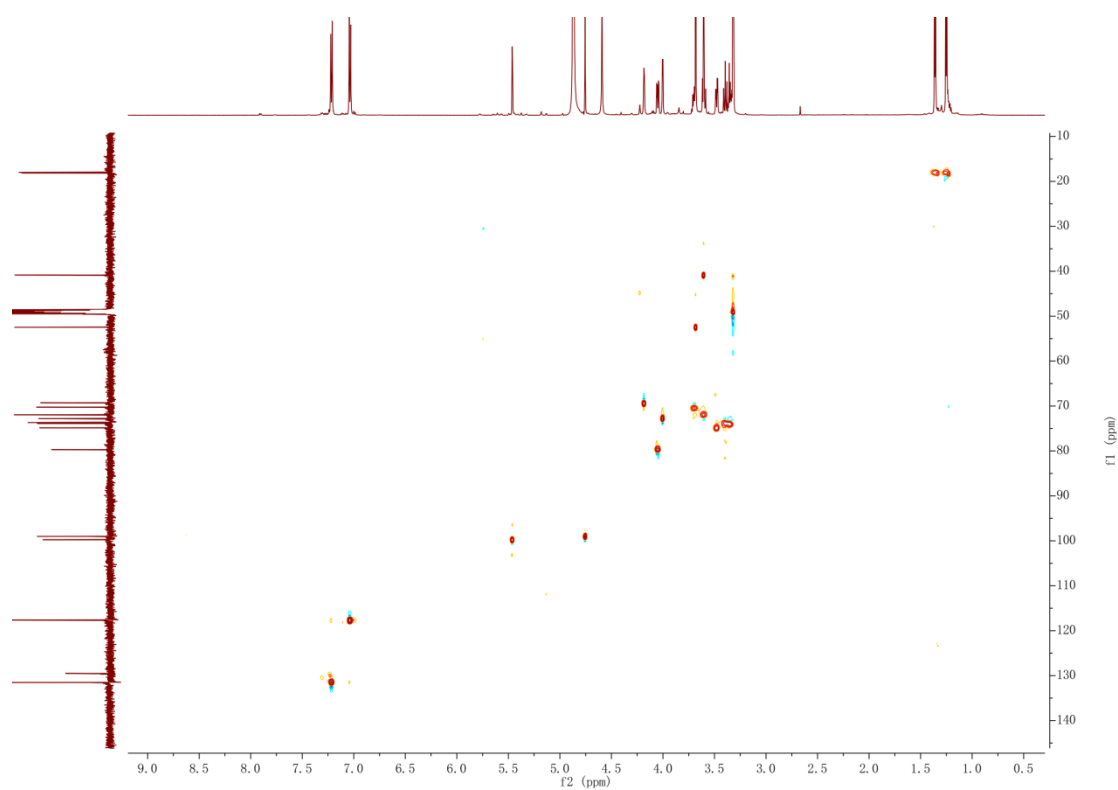


Figure S48. HMQC spectrum of compound **6**.

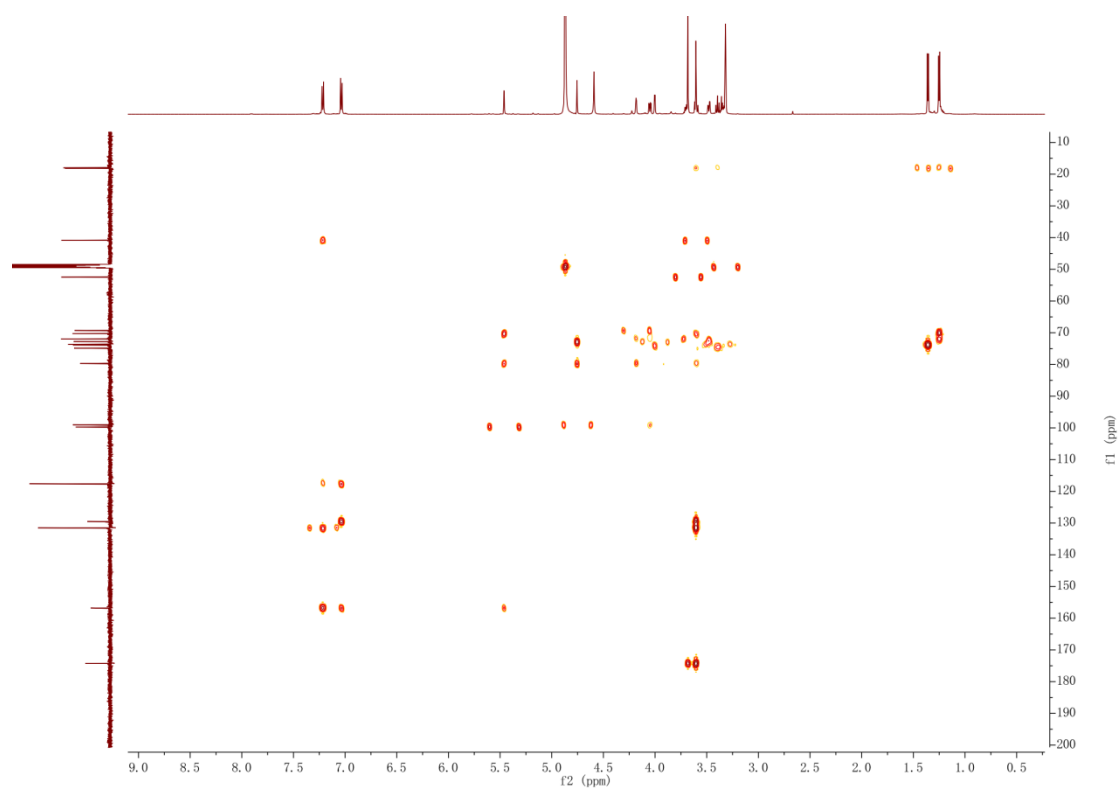


Figure S49. HMBC spectrum of compound **6**.

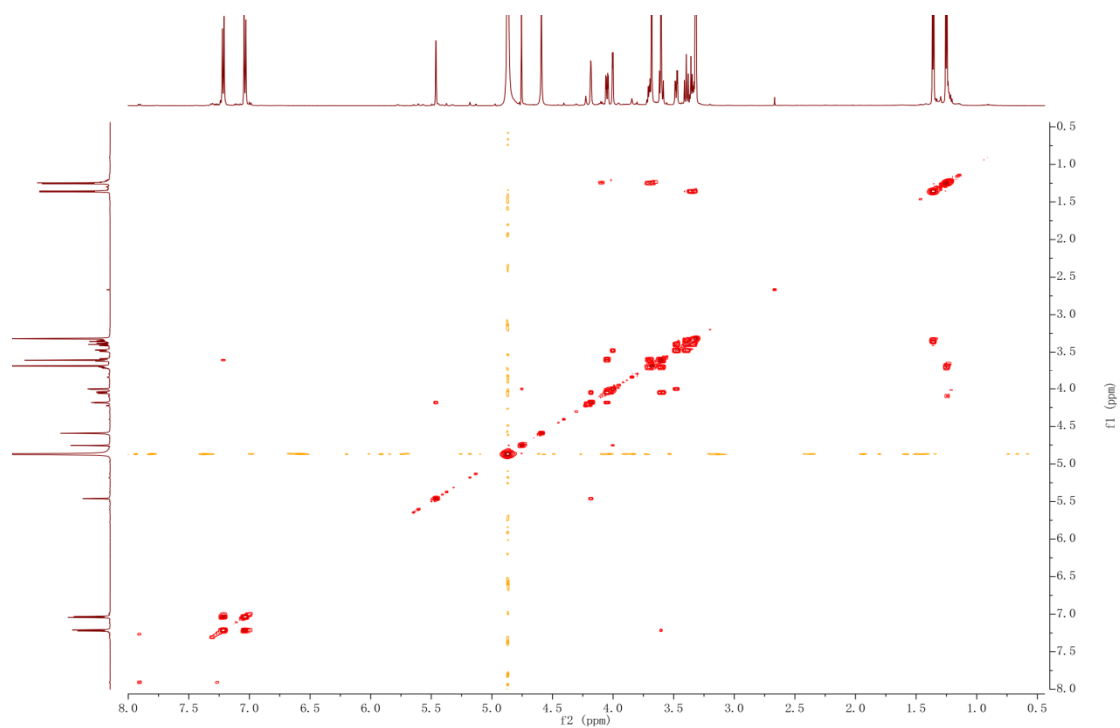
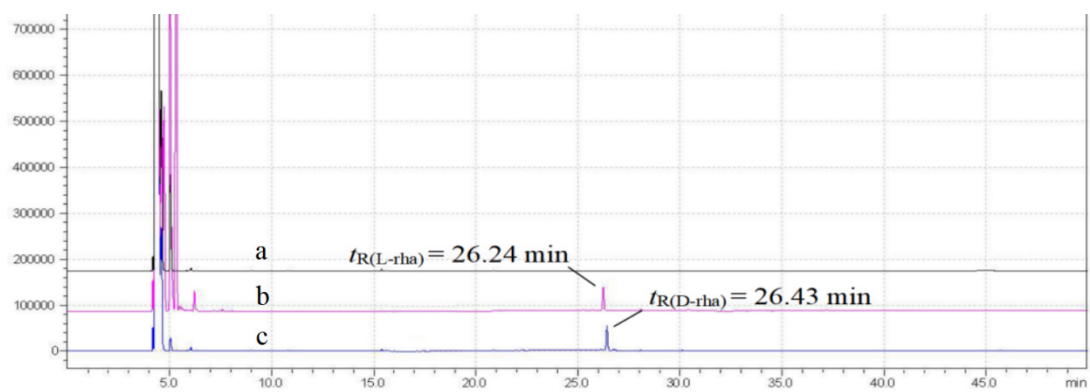
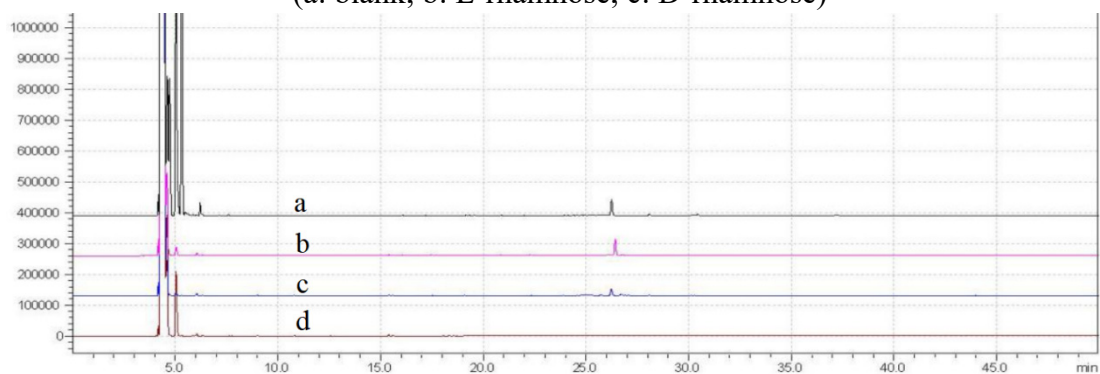


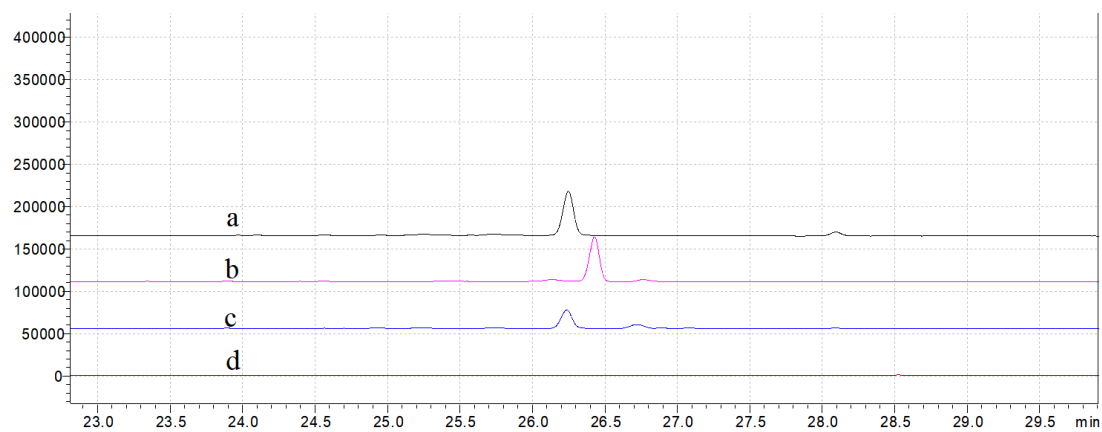
Figure S50. ^1H - ^1H COSY spectrum of compound **6**.



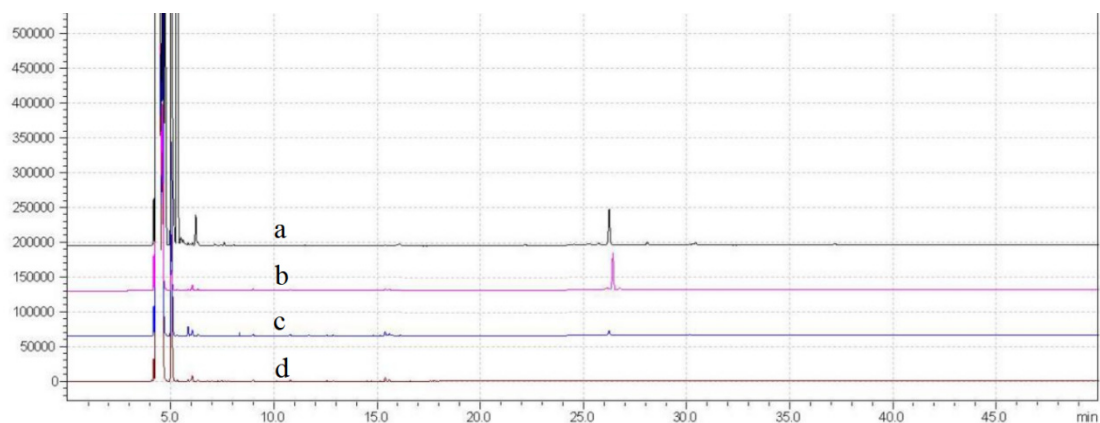
D-rhamnose and L-rhamnose (contrast with compound **1-3**)
(a: blank; b: L-rhamnose; c: D-rhamnose)



compound **1**
(a: L-rhamnose; b: D-rhamnose; c: compound **1**; d: blank)

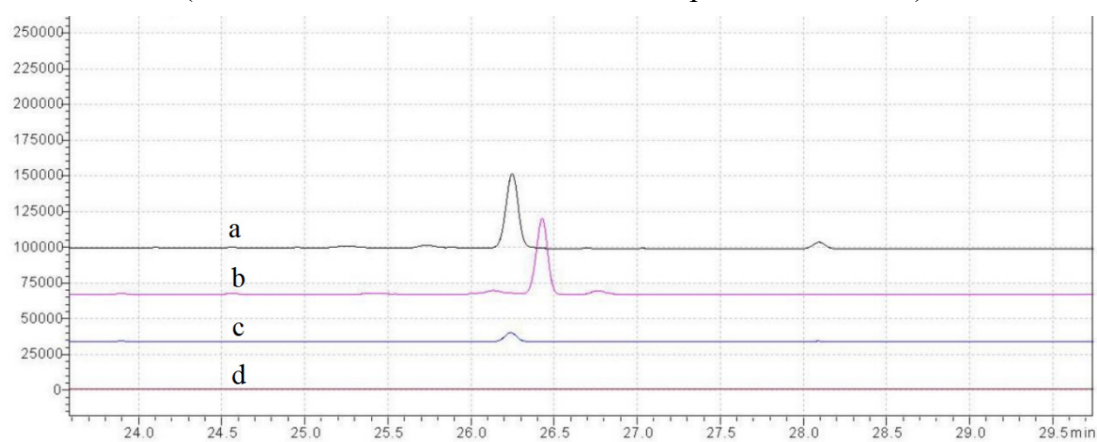


Extended compound **1**
(a: L-rhamnose; b: D-rhamnose; c: compound **1**; d: blank)



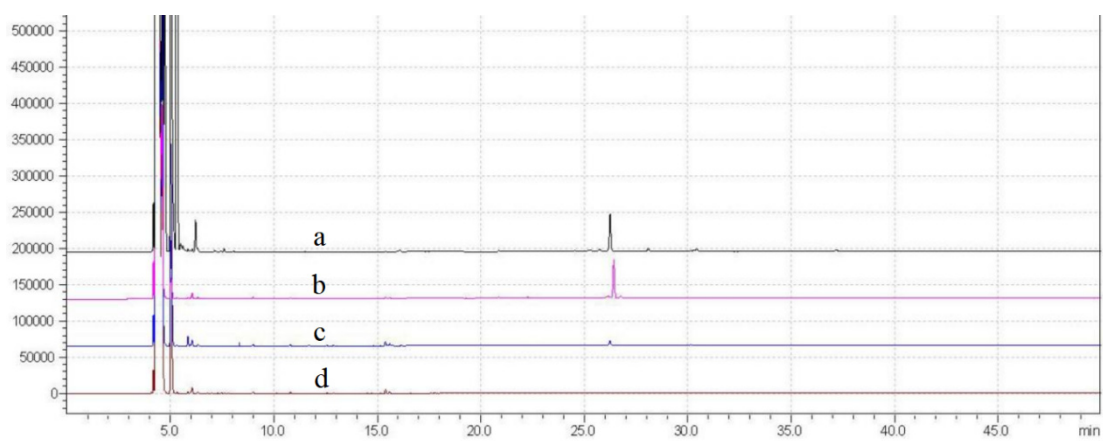
compound 2

(a: L-rhamnose; b: D-rhamnose; c: compound 2; d: blank)



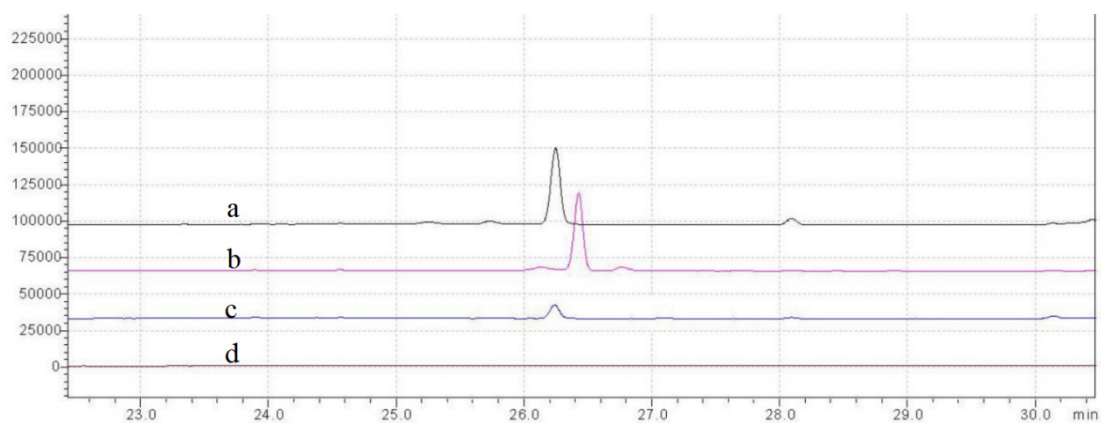
Extended compound 2

(a: L-rhamnose; b: D-rhamnose; c: compound 2; d: blank)



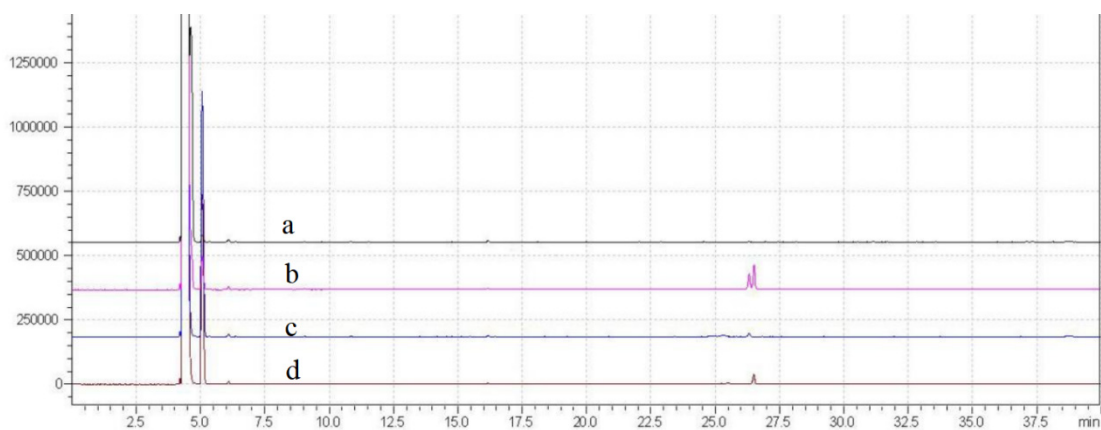
compound 3

(a: L-rhamnose; b: D-rhamnose; c: compound 3; d: blank)



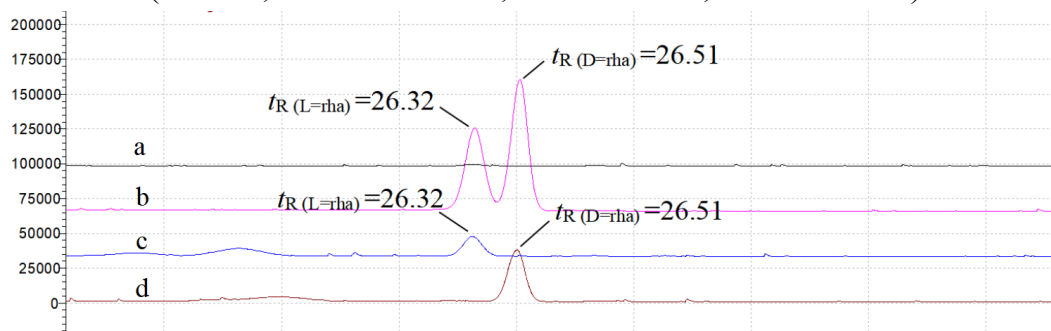
Extended compound 3

(a: L-rhamnose; b: D-rhamnose; c: compound 3; d: blank)



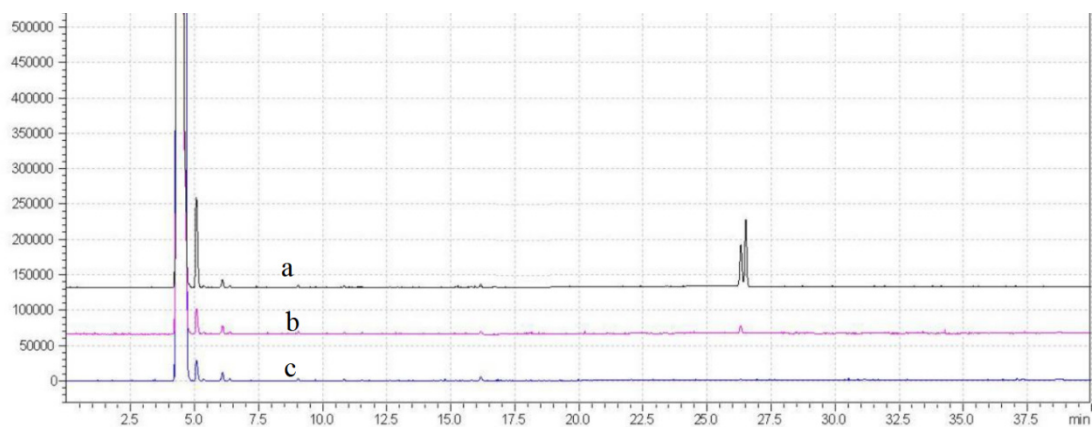
D-rhamnose and L-rhamnose (contrast with compound 4-6)

(a: blank; b: D-L-rhamnose; c: L-rhamnose; d: D-rhamnose)



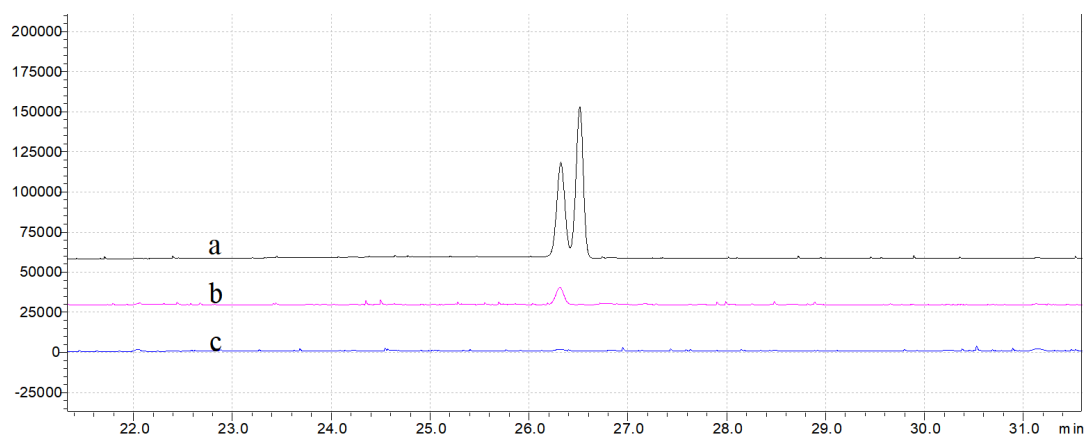
Extended D-rhamnose and L-rhamnose (contrast with compound 4-6)

(a: blank; b: D-L-rhamnose; c: L-rhamnose; d: D-rhamnose)



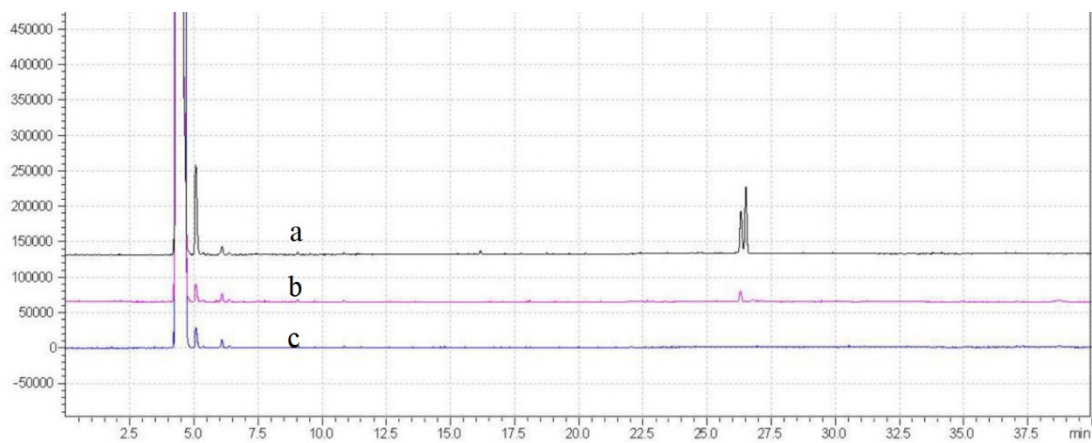
compound 4

(a: D-L-rhamnose; b: compound 4; c: blank)



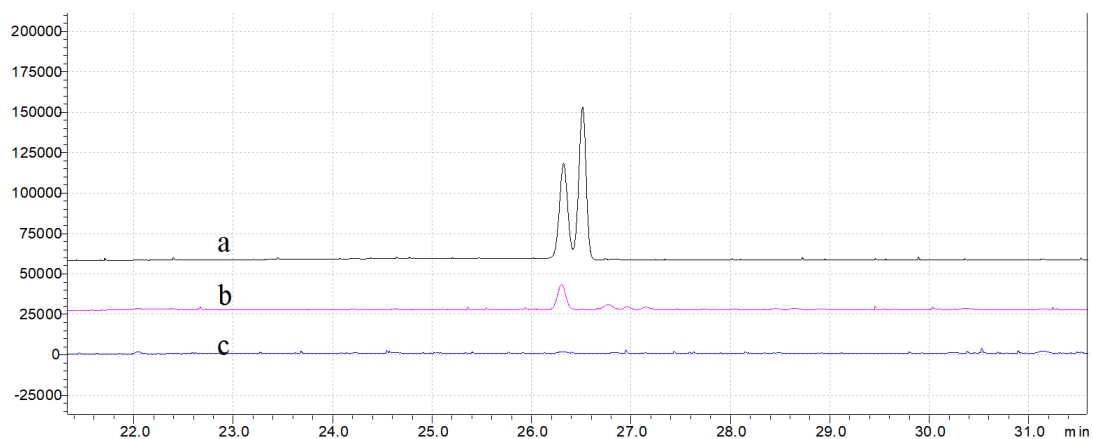
Extended compound 4

(a: D-L-rhamnose; b: compound 4; c: blank)

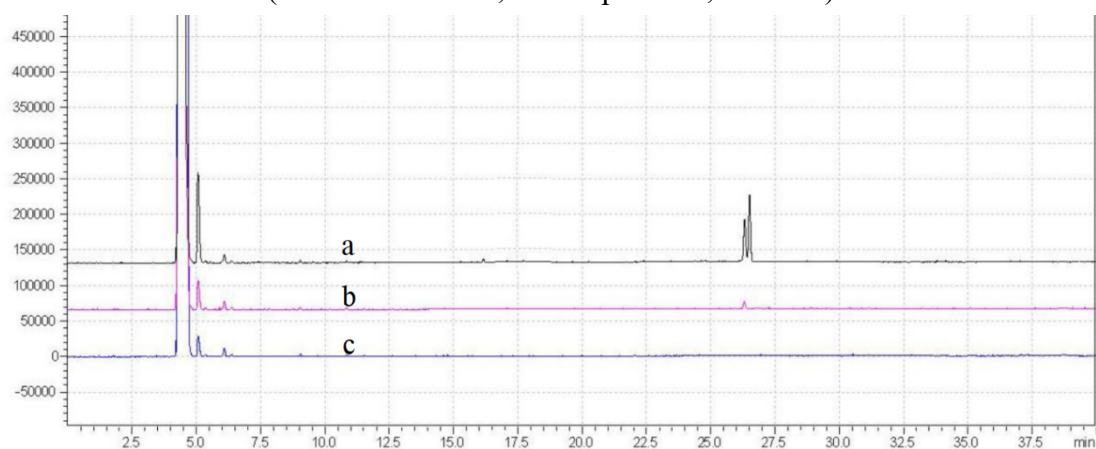


compound 5

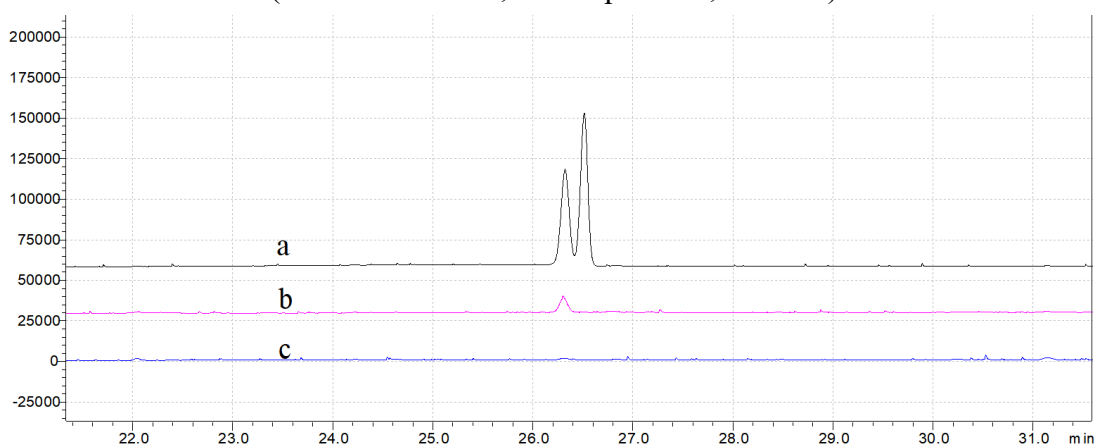
(a: D-L-rhamnose; b: compound 5; c: blank)



Extended compound 5
(a: D-L-rhamnose; b: compound 5; c: blank)



compound 6
(a: D-L-rhamnose; b: compound 6; c: blank)



Extended compound 6
(a: D-L-rhamnose; b: compound 6; c: blank)

Figure S51. GC analysis of D-rhamnose, L-rhamnose and compounds 1–6.