

Supplementary Information

Figure S1. ^1H NMR (500 MHz, CDCl_3) spectrum of compound **1**.

Figure S2. ^{13}C NMR (125 MHz, CDCl_3) spectrum of compound **1**.

Figure S3. Dept 135 (125 MHz, CDCl_3) spectrum of compound **1**.

Figure S4. HSQC spectrum of compound **1**.

Figure S5. HMBC spectrum of compound **1**.

Figure S6. ^1H - ^1H COSY spectrum of compound **1**.

Figure S7. UV spectrum of compound **1**.

Figure S8. IR spectrum of compound **1**.

Figure S9. HRESI-MS of compound **1**.

Figure S10. ^1H NMR (500 MHz, CDCl_3) spectrum of compound **2**.

Figure S11. ^{13}C NMR (125 MHz, CDCl_3) spectrum of compound **2**.

Figure S12. Dept 135 (125 MHz, CDCl_3) spectrum of compound **2**.

Figure S13. UV spectrum of compound **2**.

Figure S14. IR spectrum of compound **2**.

Figure S15. HRESI-MS of compound **2**.

Figure S16. ^1H NMR (500 MHz, CDCl_3) spectrum of compound **3**.

Figure S17. ^{13}C NMR (125 MHz, CDCl_3) spectrum of compound **3**.

Figure S18. UV spectrum of compound **3**.

Figure S19. IR spectrum of compound **3**.

Figure S20. HRESI-MS of compound **3**.

Figure S21. ^1H NMR (500 MHz, CDCl_3) spectrum of compound **4**.

Figure S22. ^{13}C NMR (125 MHz, CDCl_3) spectrum of compound **4**.

Figure S23. Dept 135 (125 MHz, CDCl_3) spectrum of compound **4**.

Figure S24. HSQC spectrum of compound **4**.

Figure S25. HMBC spectrum of compound **4**.

Figure S26. UV spectrum of compound **4**.

Figure S27. IR spectrum of compound **4**.

Figure S28. HRESI-MS of compound **4**.

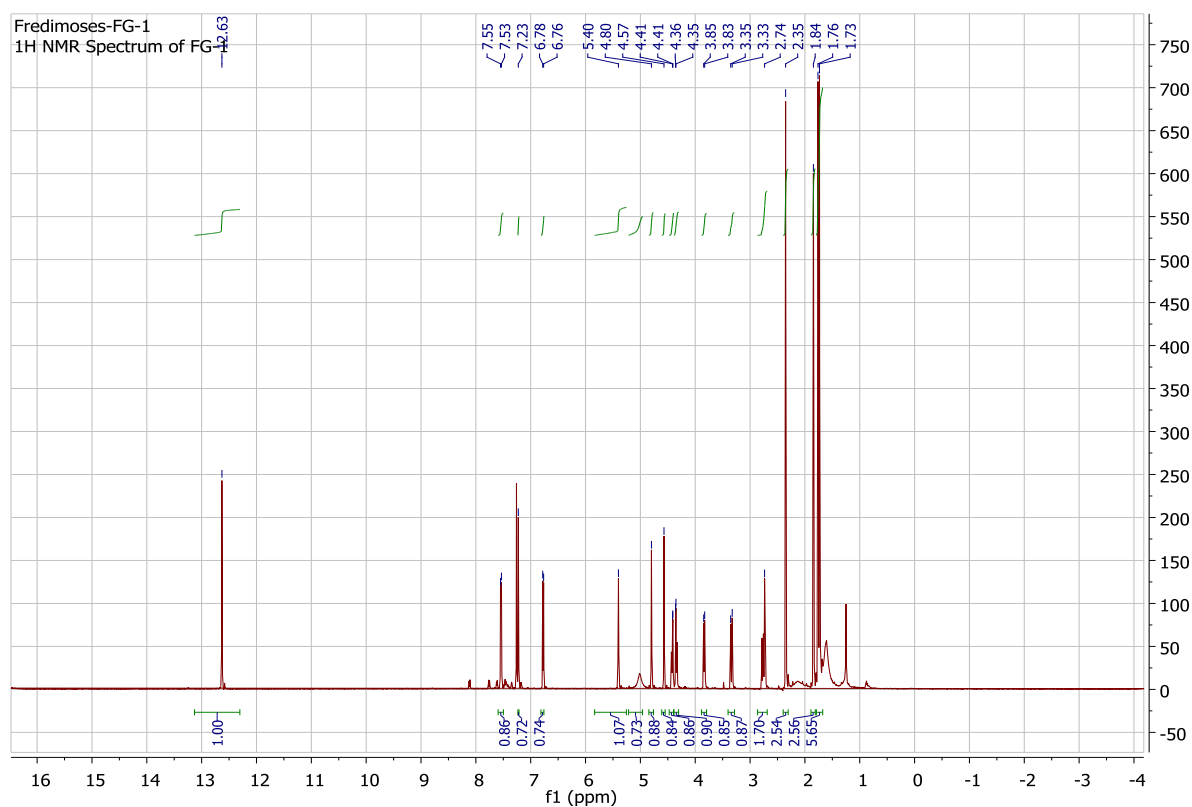
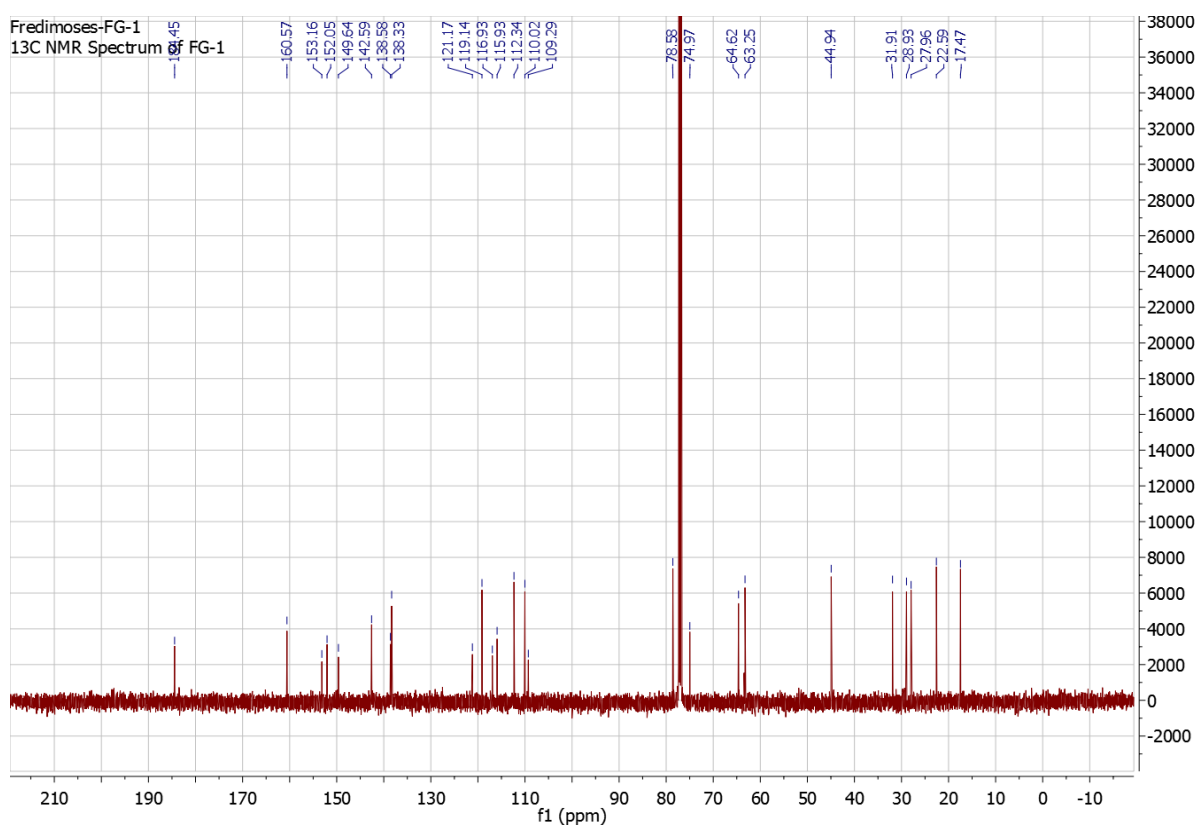
Figure S1. ^1H NMR (500 MHz, CDCl_3) spectrum of compound **1**.**Figure S2.** ^{13}C NMR (125 MHz, CDCl_3) spectrum of compound **1**.

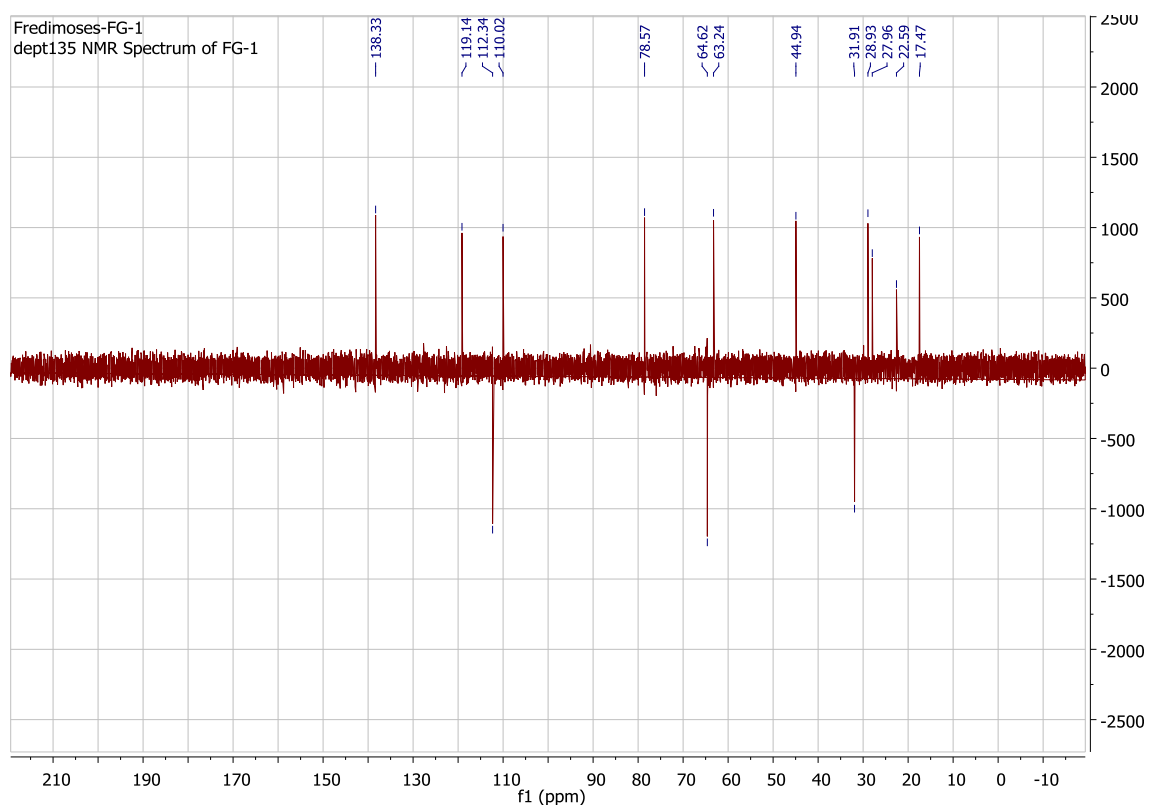
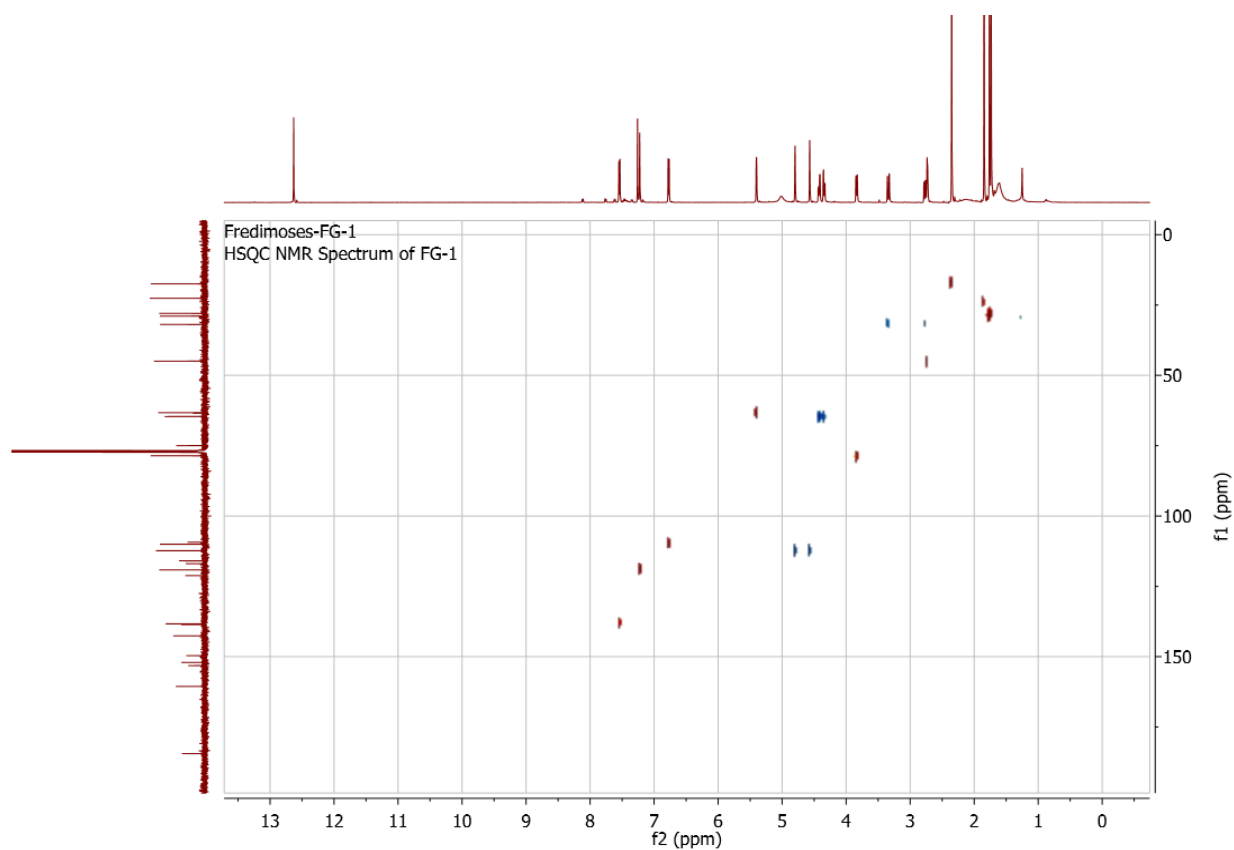
Figure S3. Dept 135 (125 MHz, CDCl₃) spectrum of compound 1.**Figure S4.** HSQC spectrum of compound 1.

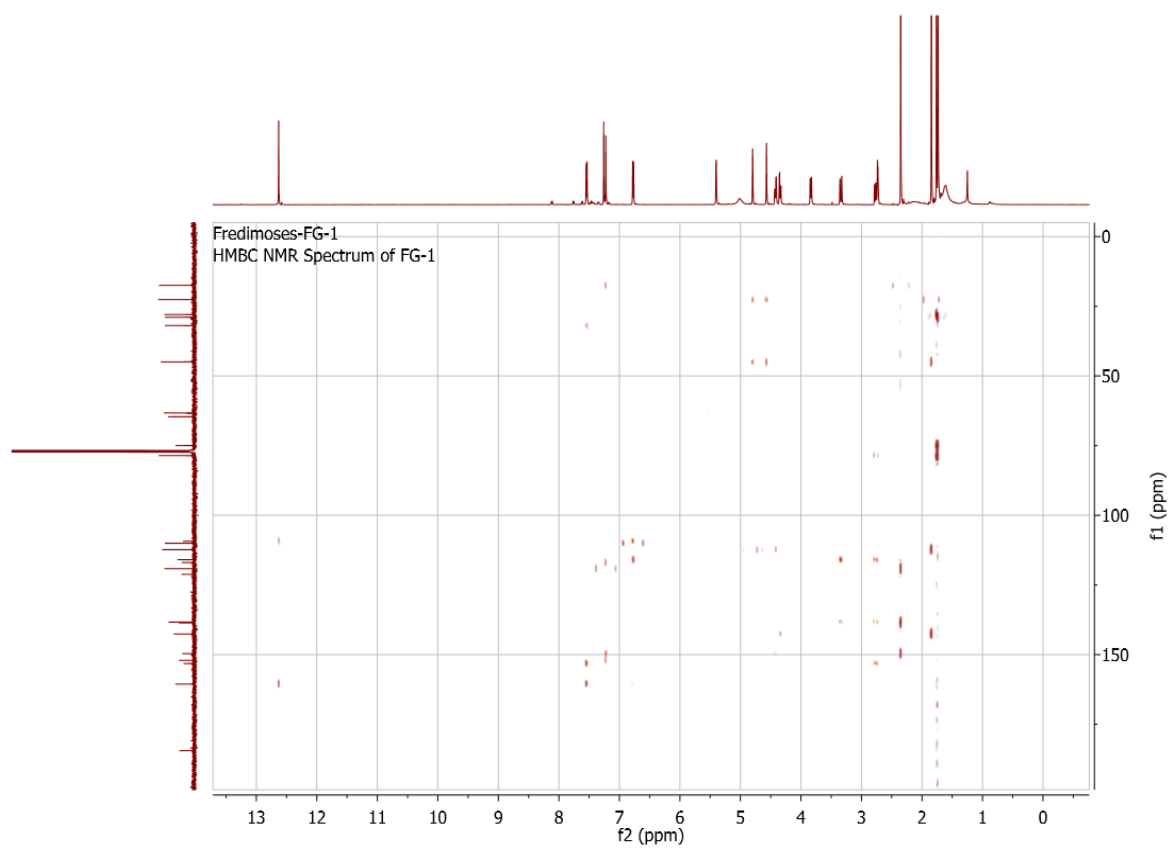
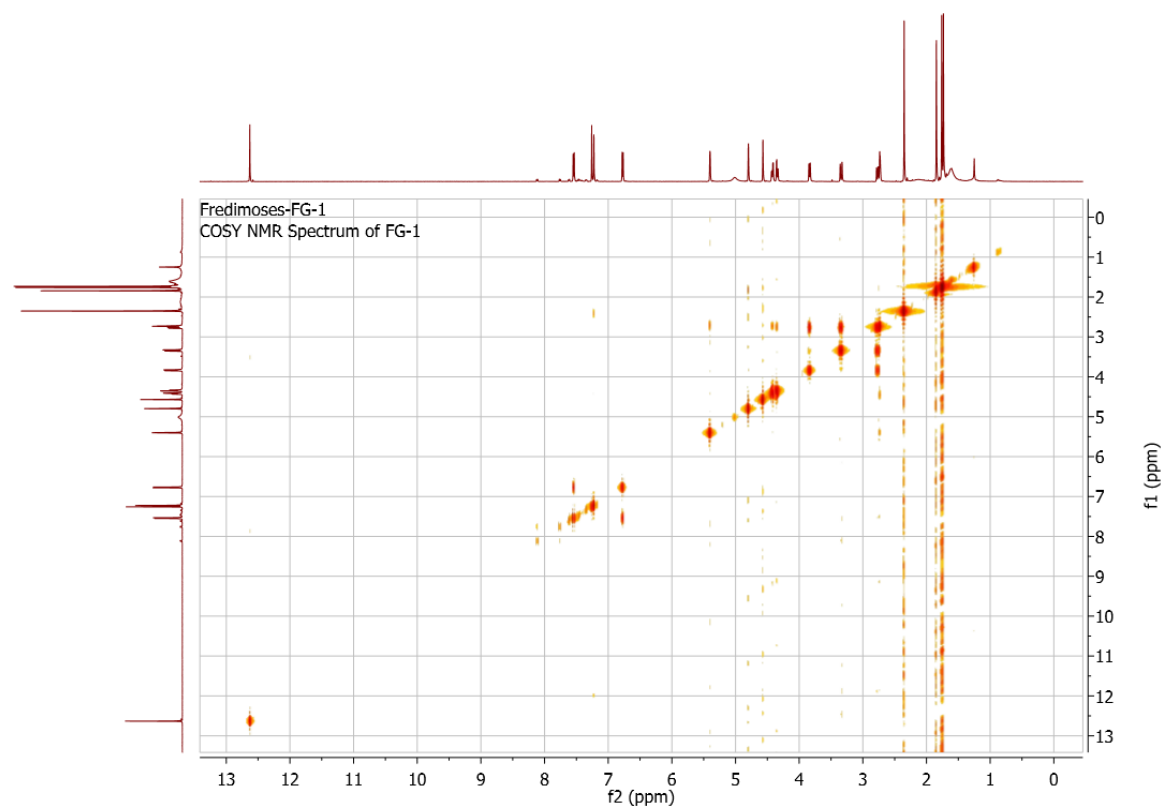
Figure S5. HMBC spectrum of compound **1**.**Figure S6.** ^1H - ^1H COSY spectrum of compound **1**.

Figure S7. UV spectrum of compound 1.

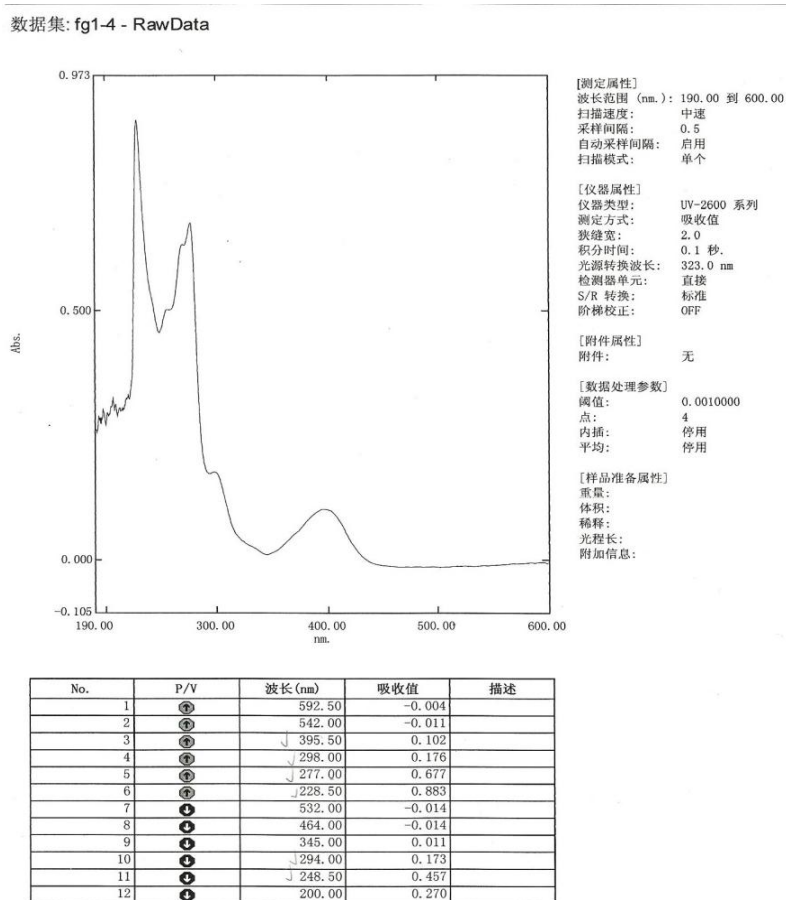


Figure S8. IR spectrum of compound 1.

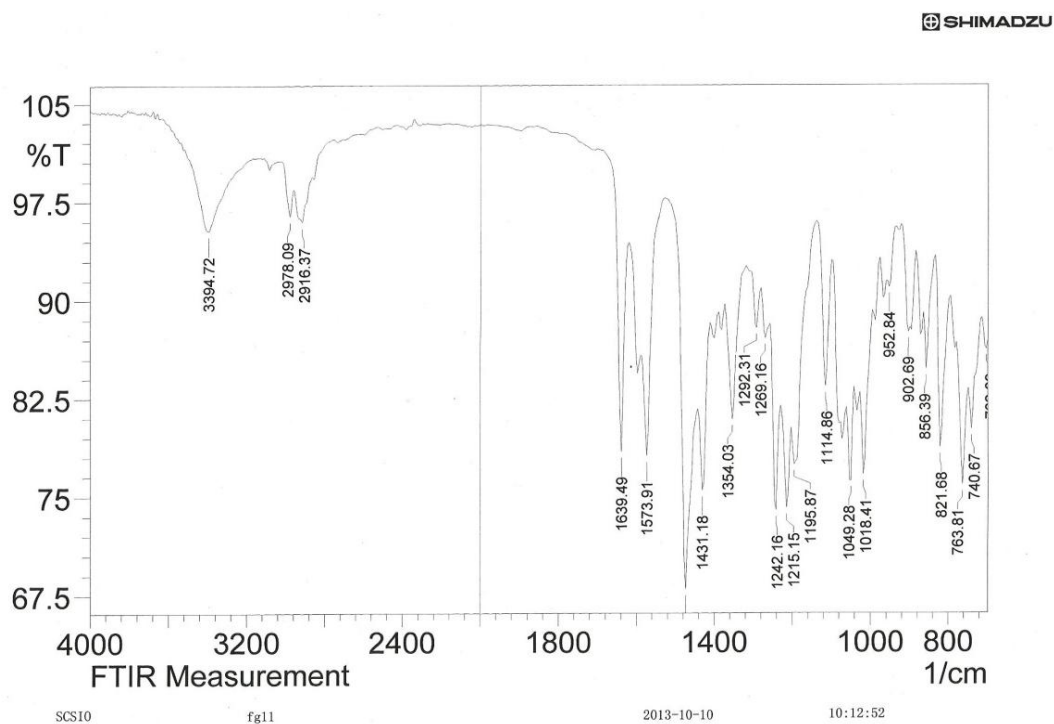


Figure S9. HRESI-MS of compound 1.

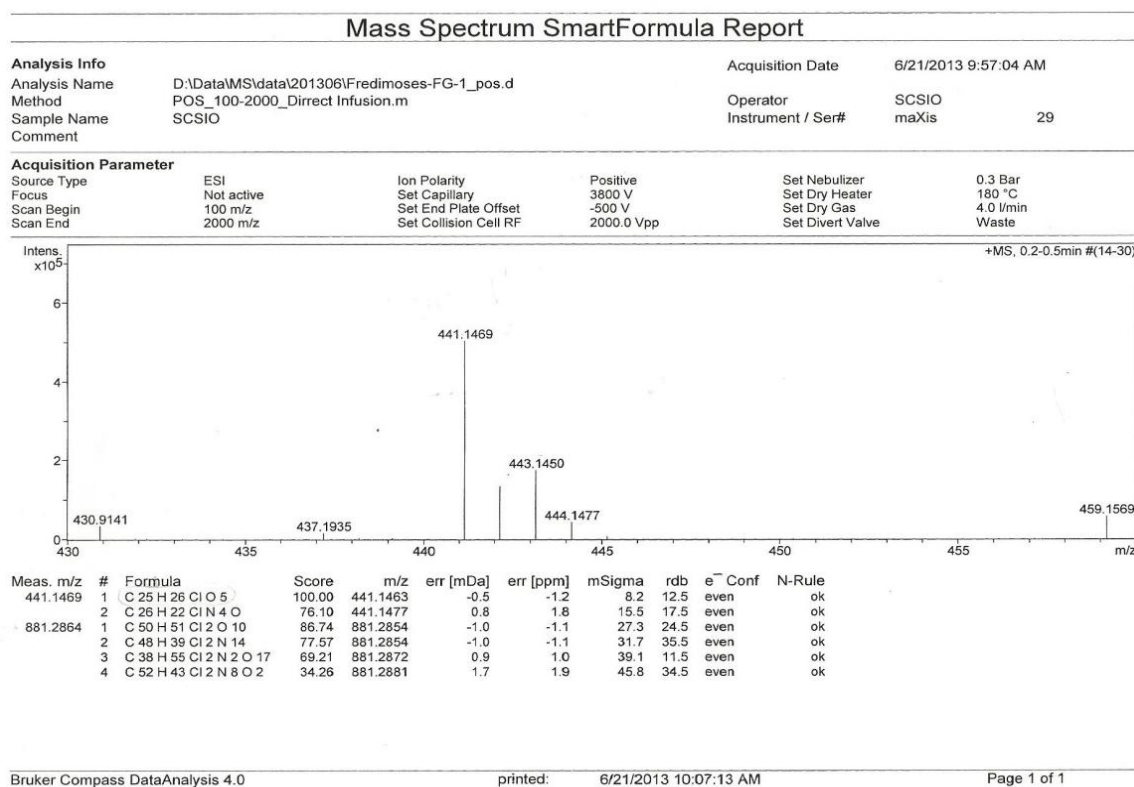
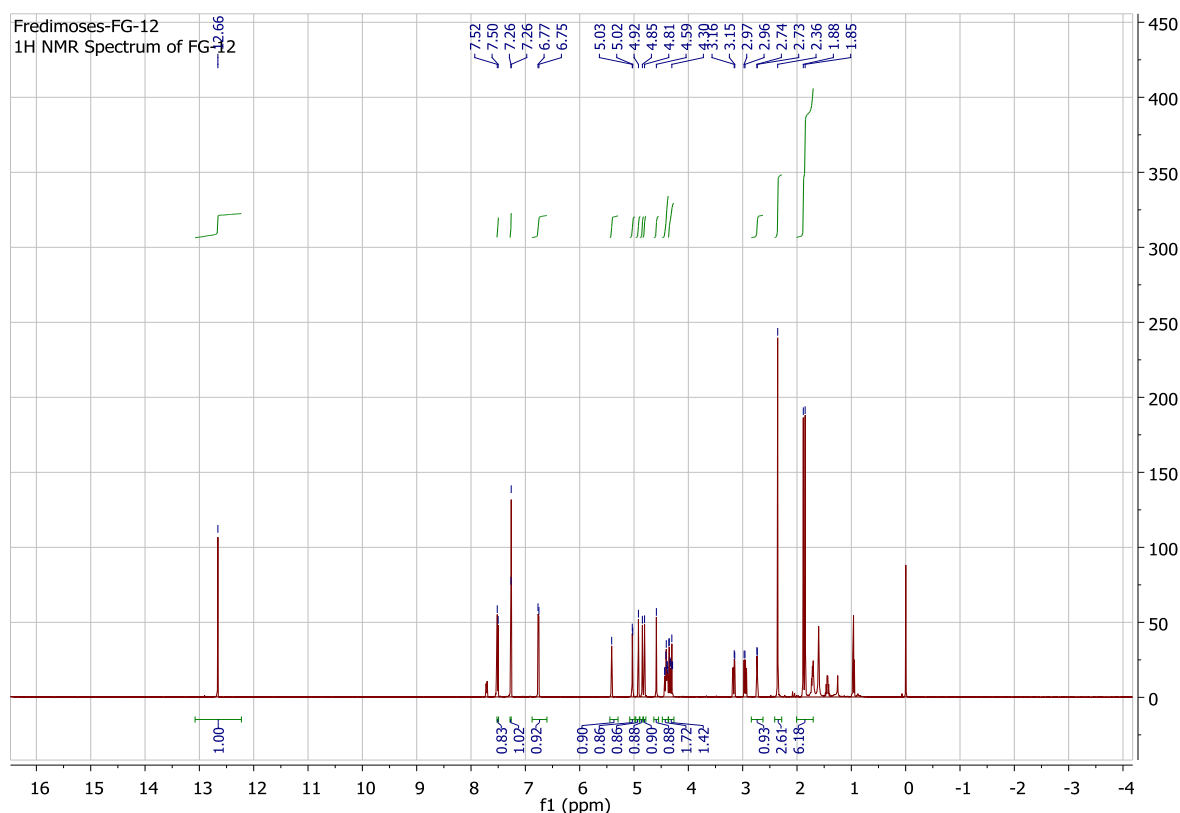
Figure S10. ¹H NMR (500 MHz, CDCl₃) spectrum of compound 2.

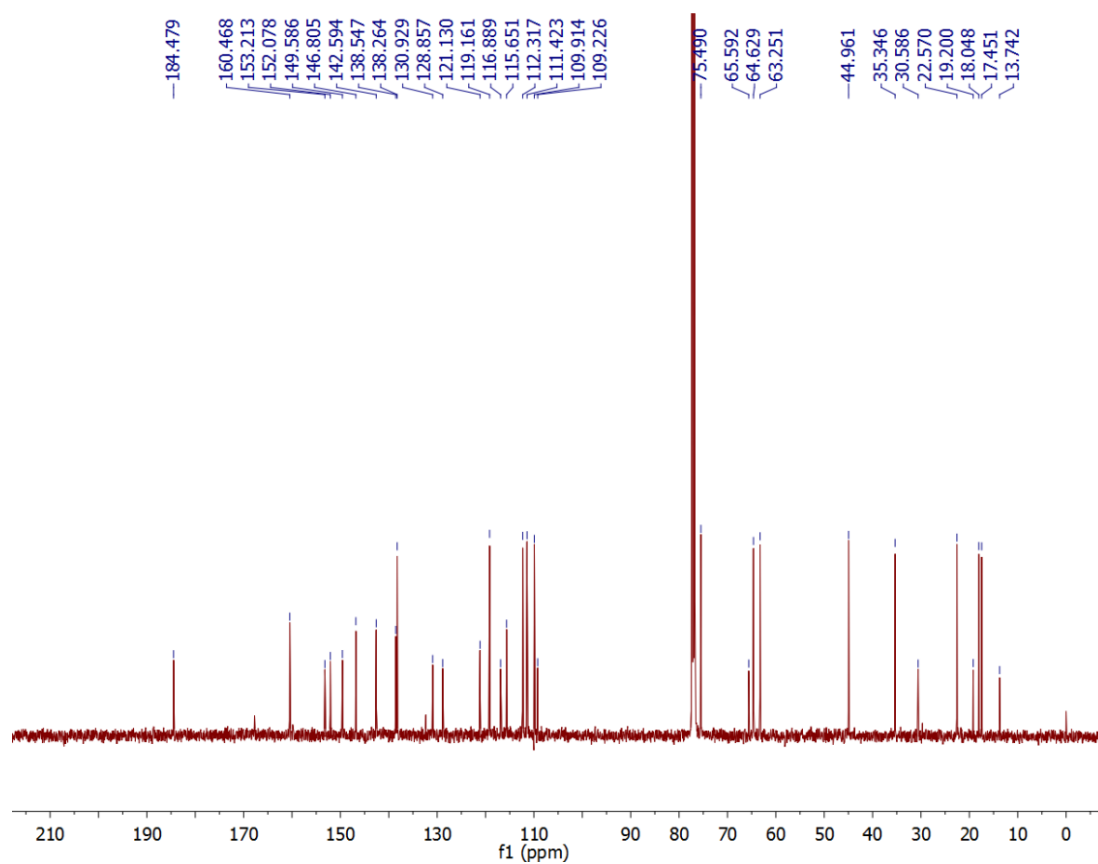
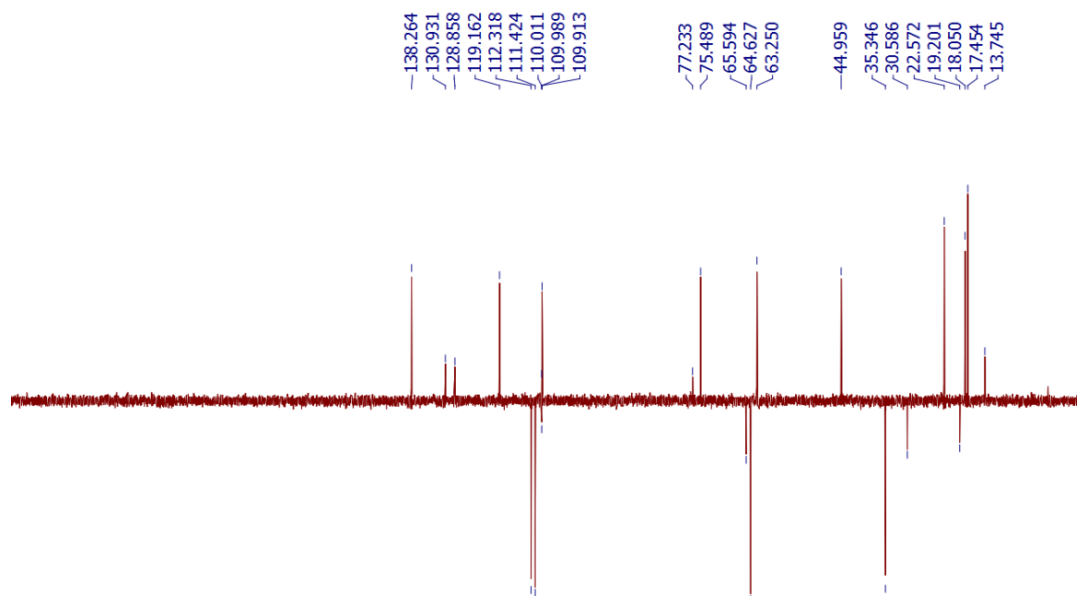
Figure S11. ^{13}C NMR (125 MHz, CDCl_3) spectrum of compound **2**.**Figure S12.** DEPT 135 (125 MHz, CDCl_3) spectrum of compound **2**.

Figure S13. UV spectrum of compound 2.

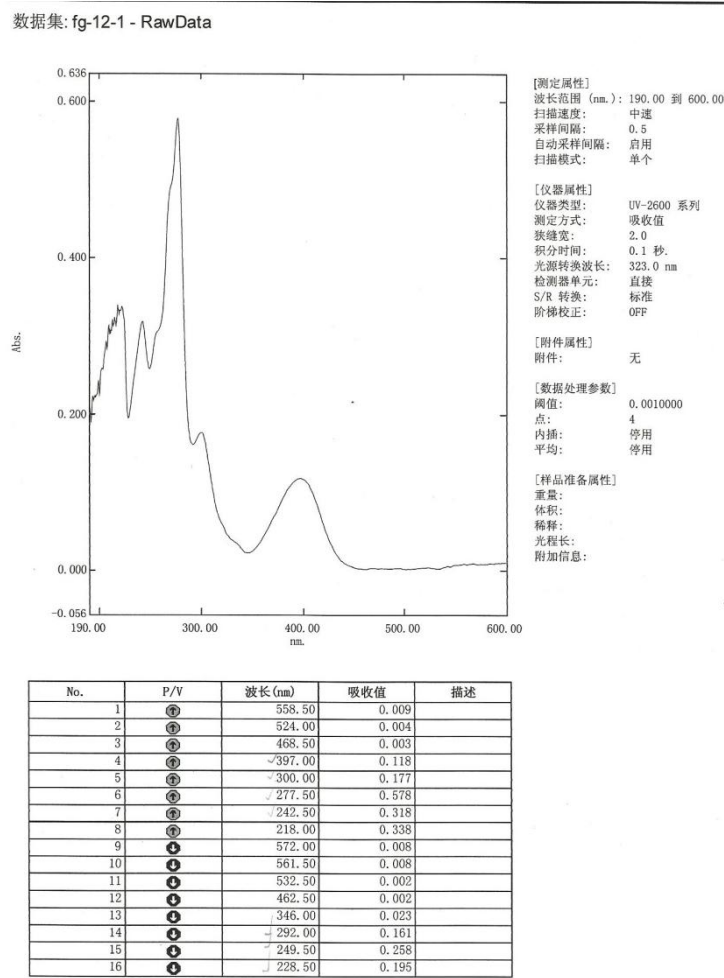


Figure S14. IR spectrum of compound 2.

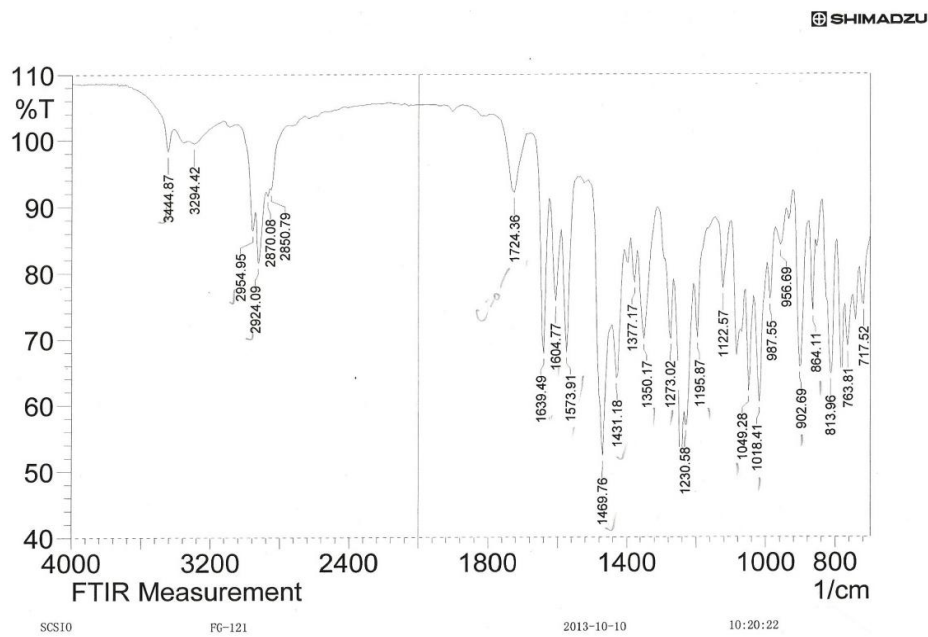


Figure S15. HRESI-MS of compound 2.

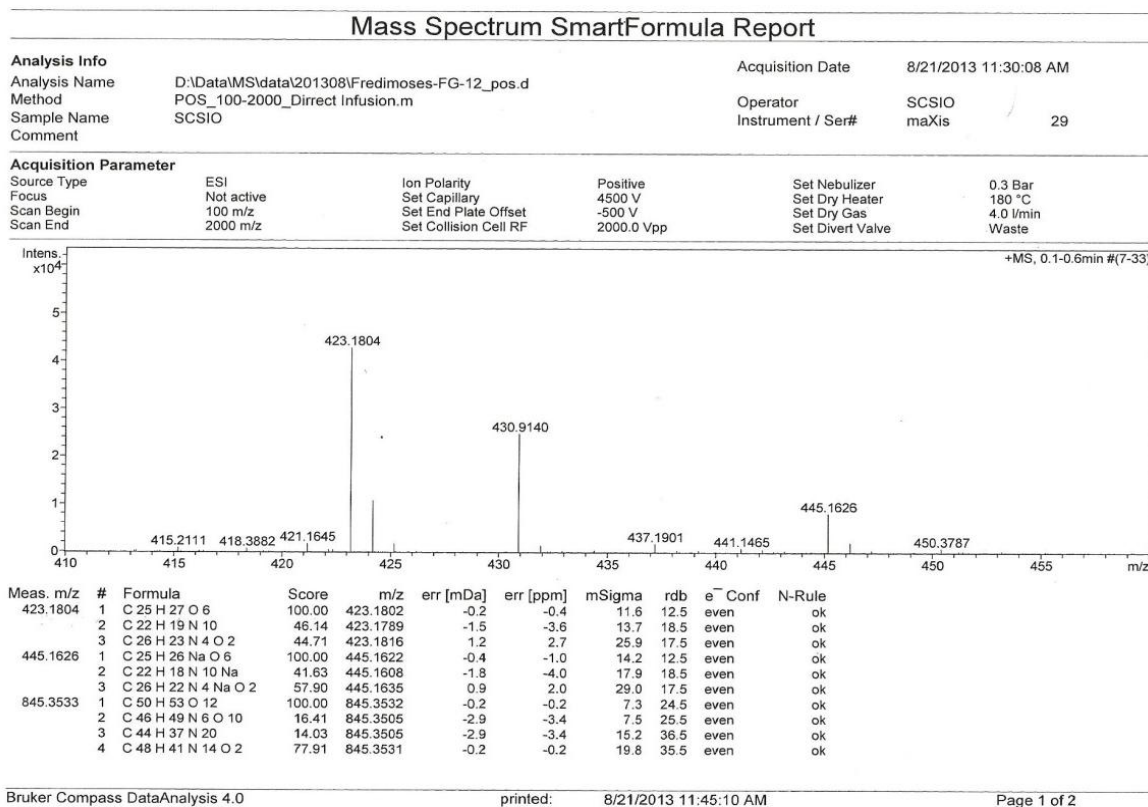
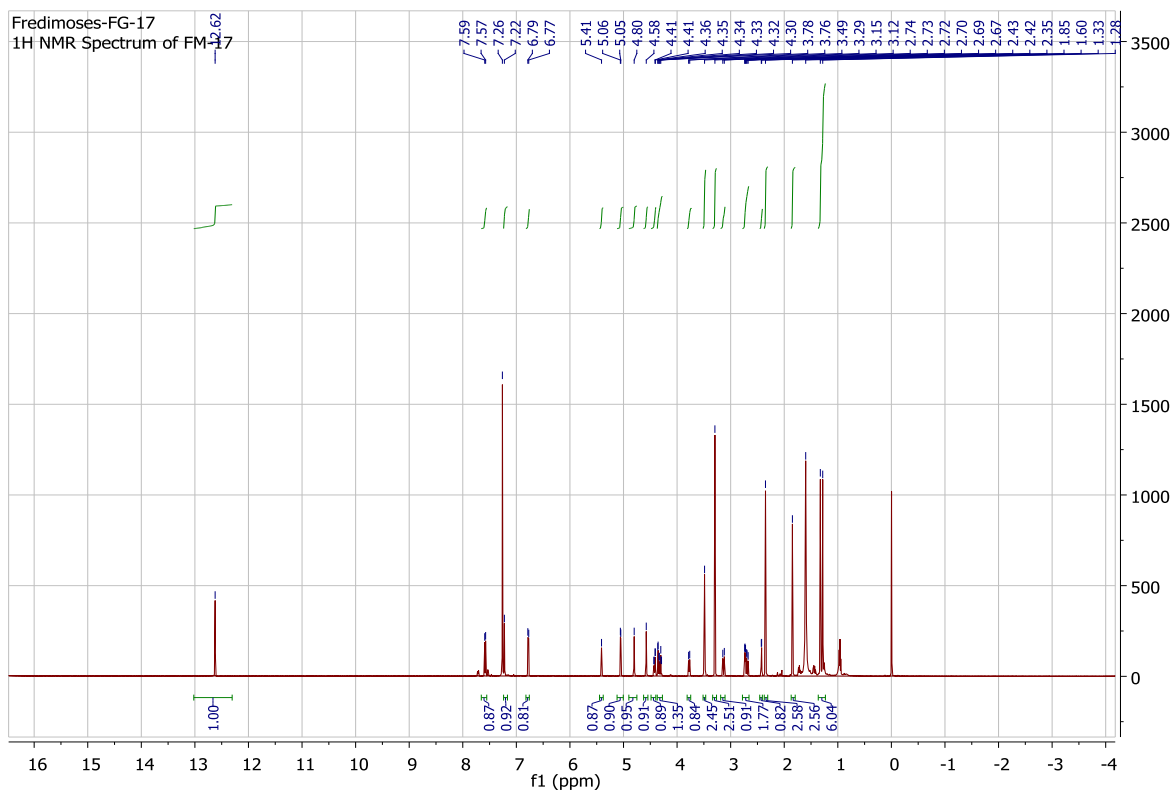
Figure S16. ¹H NMR (500 MHz, CDCl₃) spectrum of compound 3.

Figure S17. ¹³C NMR (125 MHz, CDCl₃) spectrum of compound 3.

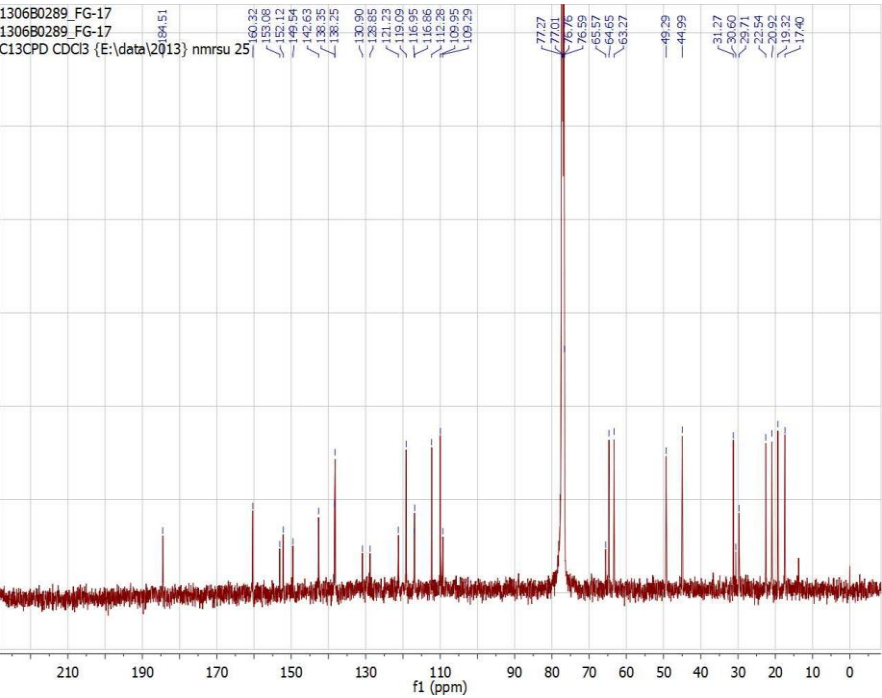
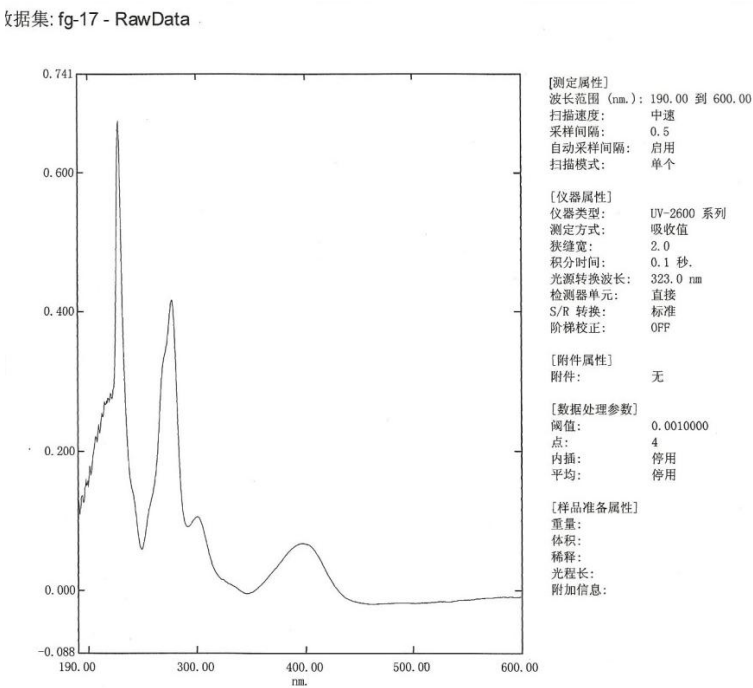


Figure S18. UV spectrum of compound 3.



No.	P/V	波长 (nm)	吸收值	描述
1	⑤	✓ 398.50	0.068	
2	⑤	✓ 300.50	0.106	
3	⑤	✓ 277.50	0.417	
4	⑤	✓ 228.00	0.672	
5	⑤	532.00	-0.016	
6	⑤	502.00	-0.018	
7	⑤	463.00	-0.019	
8	⑤	346.50	-0.004	
9	⑤	✓ 291.50	0.092	
10	⑤	✓ 249.00	0.060	

Figure S19. IR spectrum of compound 3.

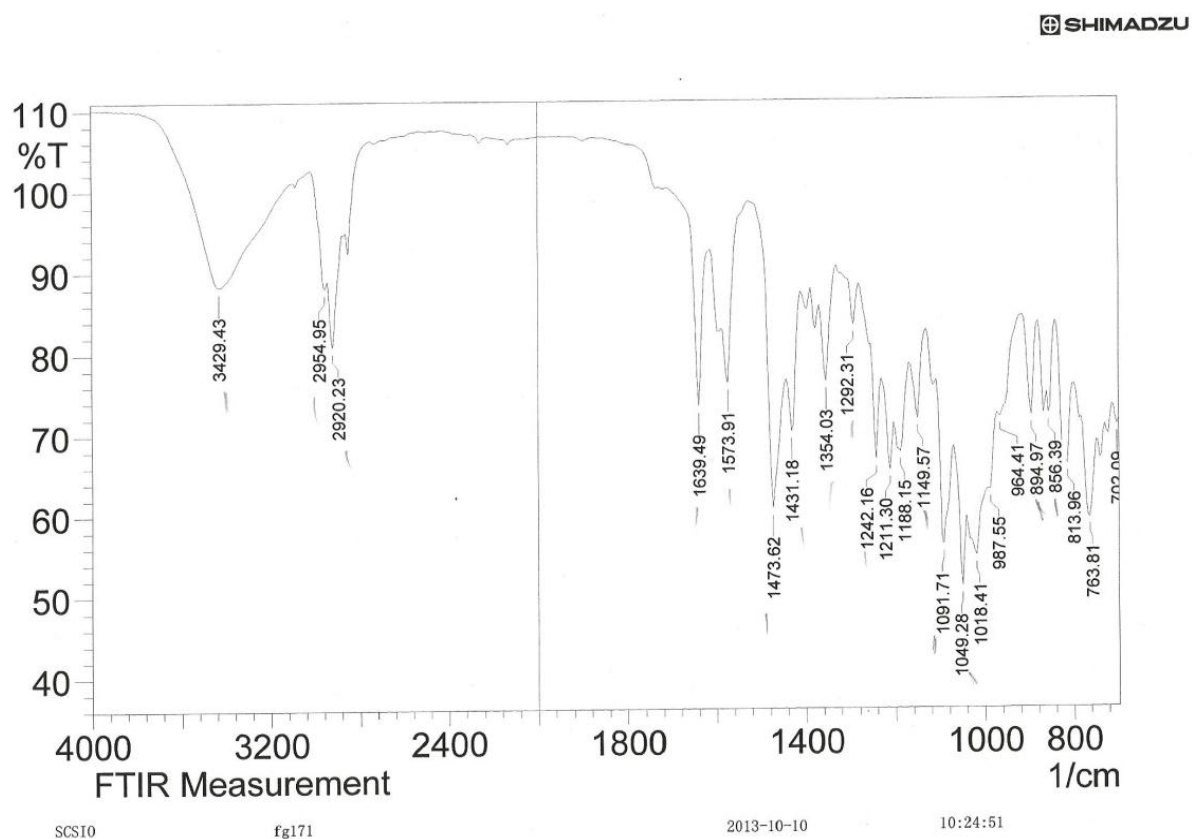


Figure S20. HRESI-MS of compound 3.

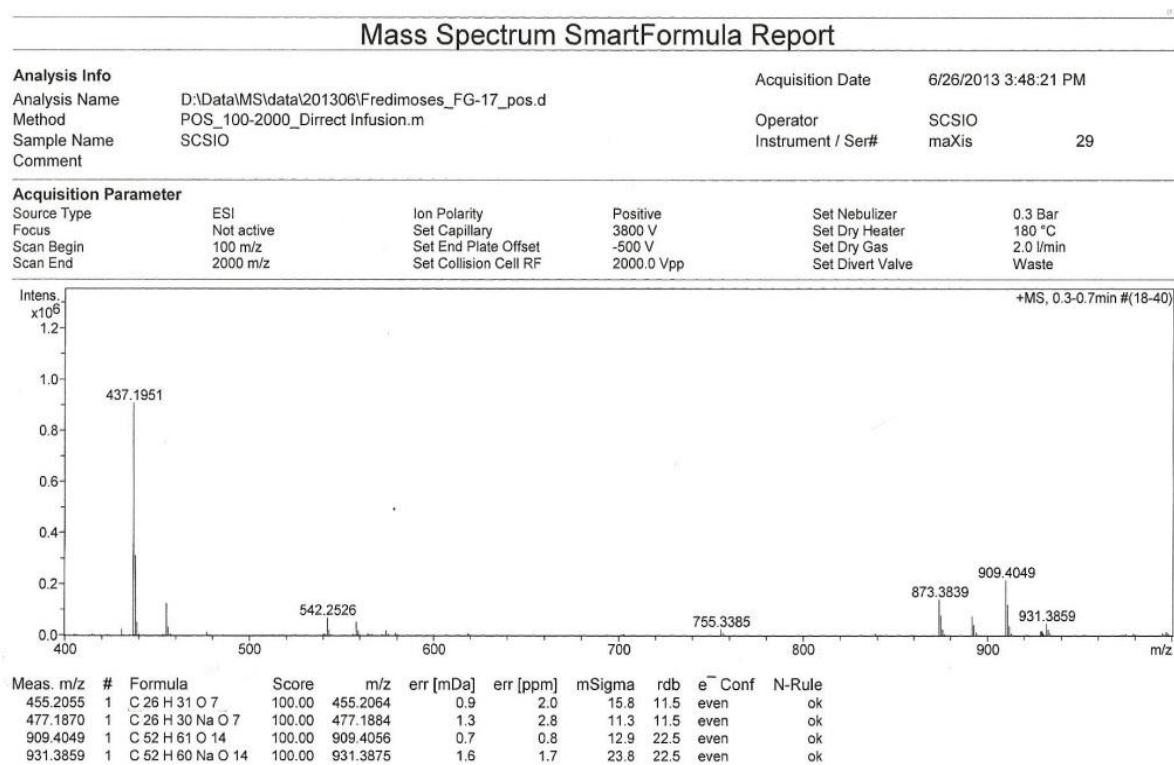


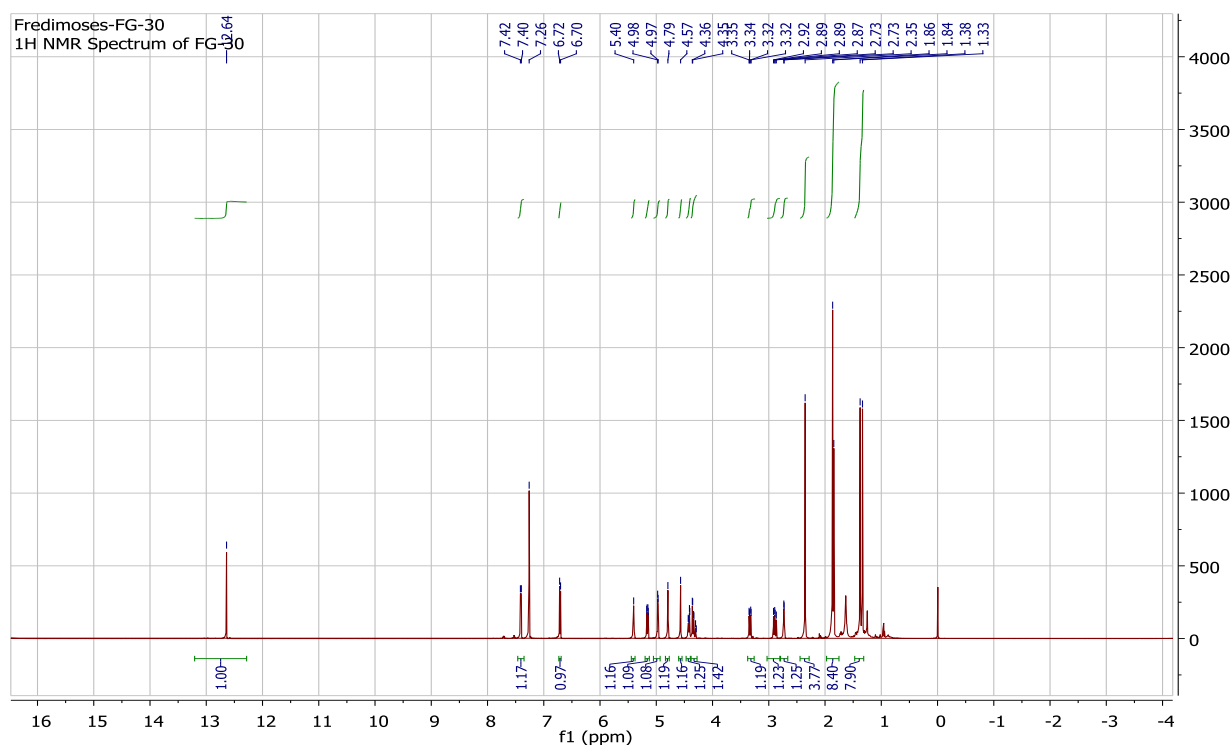
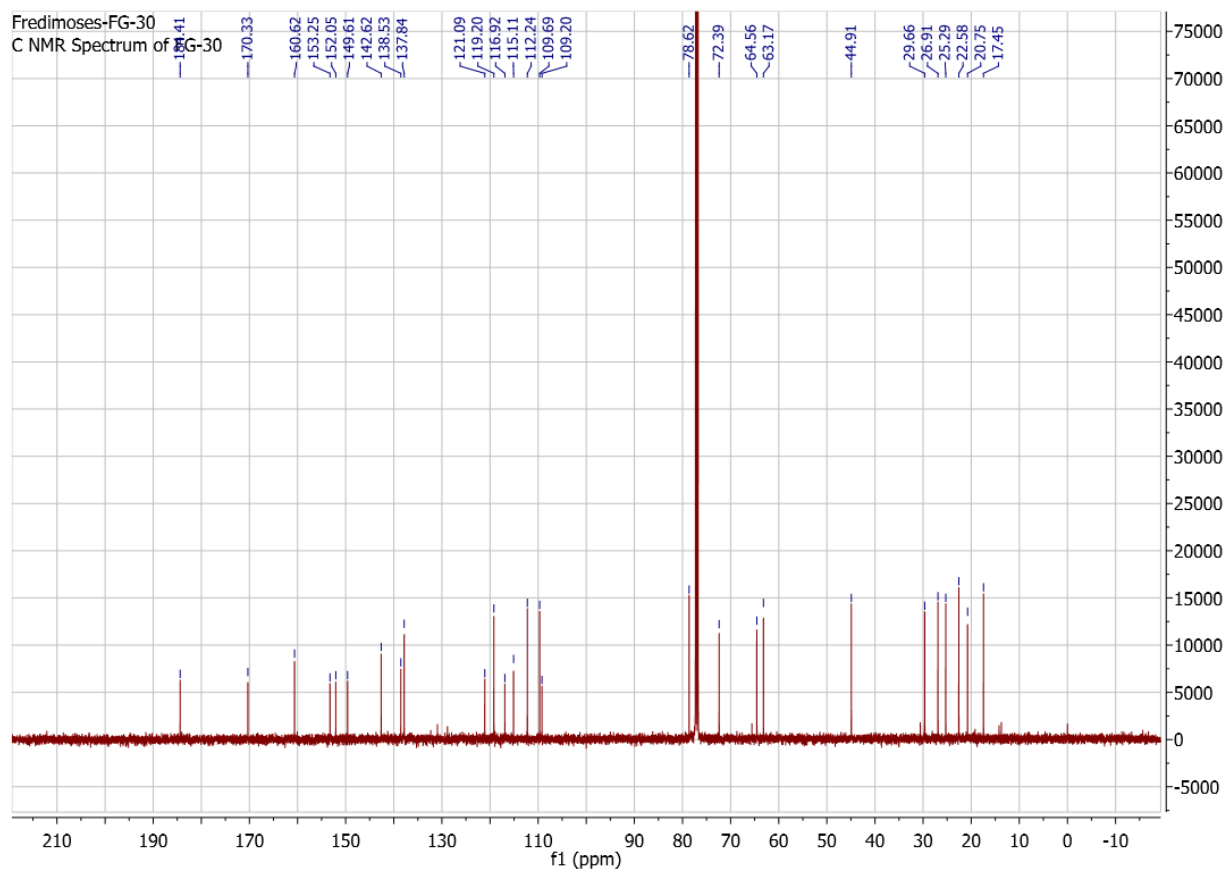
Figure S21. ^1H NMR (500 MHz, CDCl_3) spectrum of compound 4.**Figure S22.** ^{13}C NMR (125 MHz, CDCl_3) spectrum of compound 4.

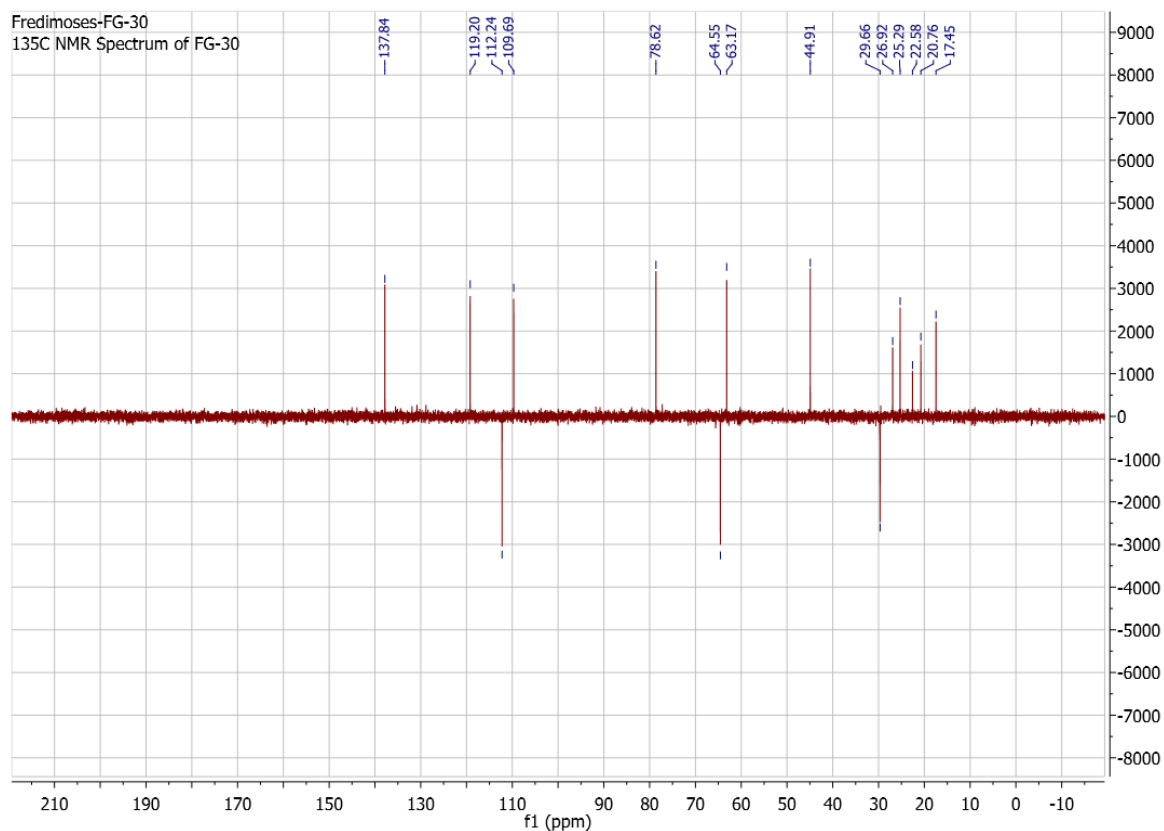
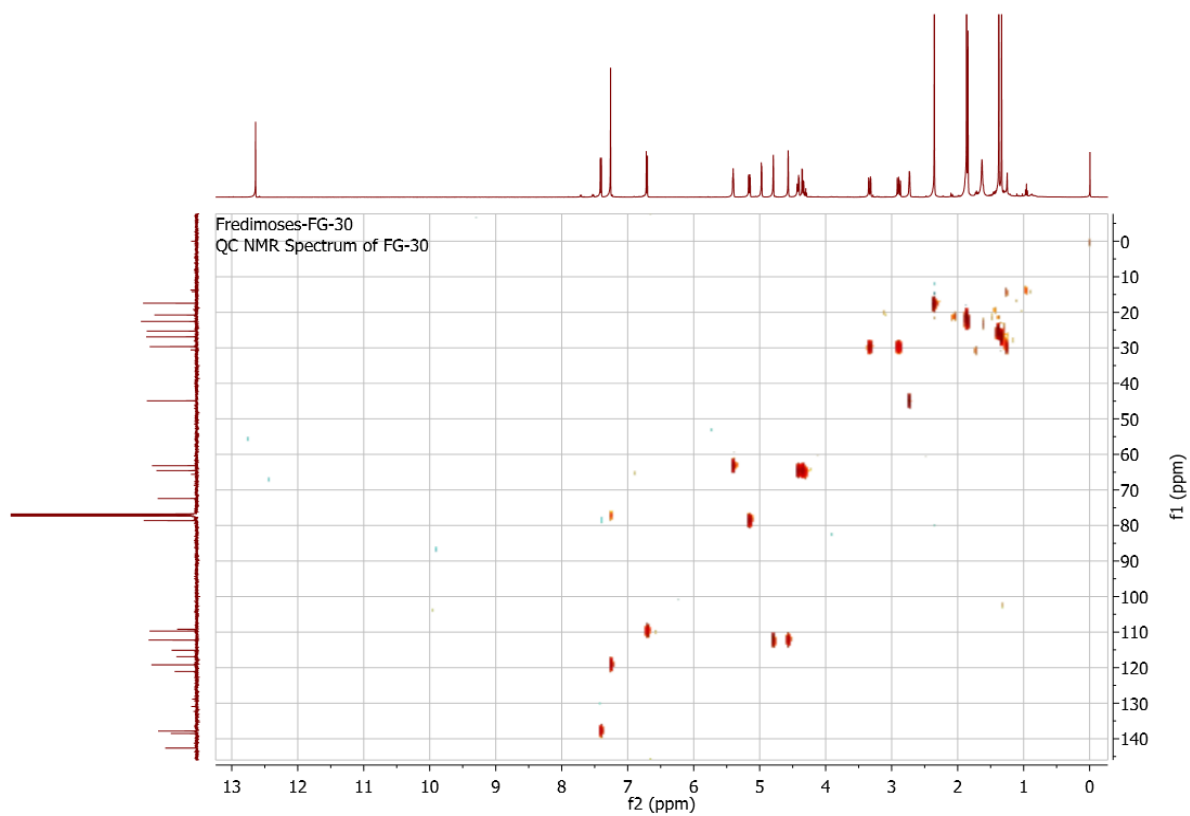
Figure S23. Dept 135 (125 MHz, CDCl₃) spectrum of compound 4.**Figure S24.** HSQC spectrum of compound 4.

Figure S25. HMBC spectrum of compound 4.

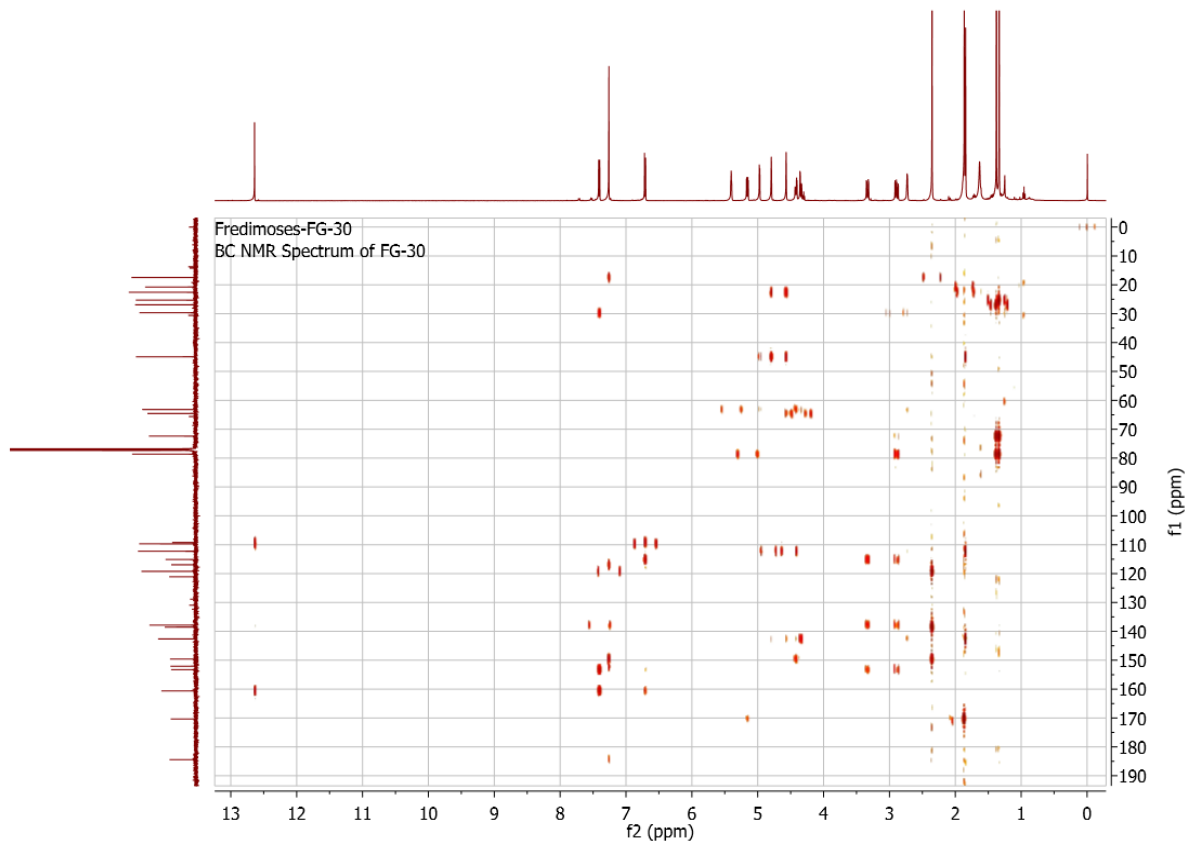


Figure S26. UV spectrum of compound 4.

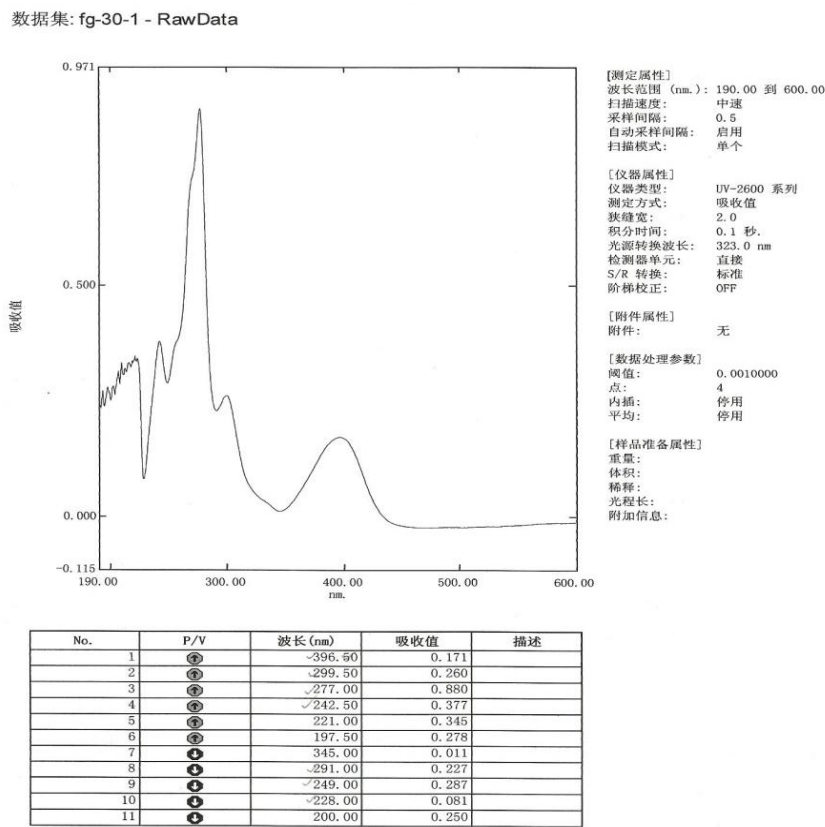


Figure S27. IR spectrum of compound 4.

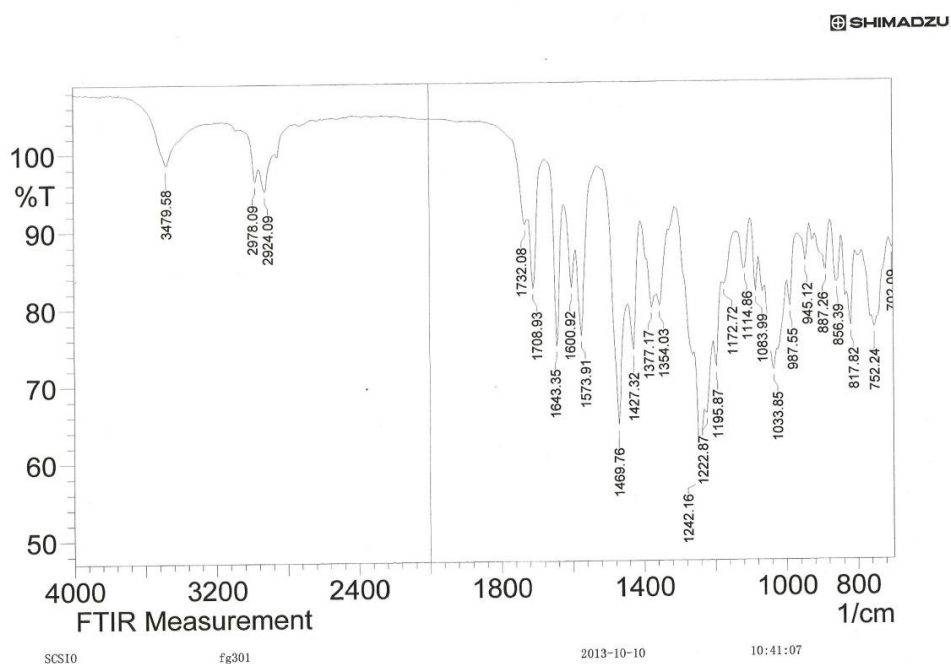


Figure S28. HRESI-MS of compound 4.

