Electronic Supplementary Material (ESI) for ChemComm.


# *Supporting Information*

## Bioinspired Total Synthesis of Streptovertidine A, Streptovertidione and Formicapyridine A

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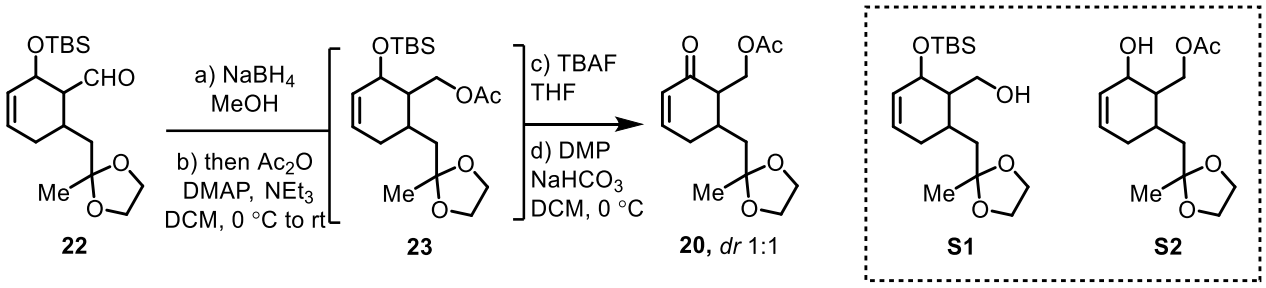
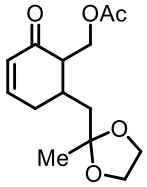
**General Experimental Procedures:** All reactions were carried out under nitrogen unless noted. Anhydrous tetrahydrofuran, dichloromethane, toluene, acetonitrile and dimethylformamide were purified by the PS-MD-5 (Innovative Technology) solvent purification system. Anhydrous 1,4-dioxane, dimethyl sulfoxide, methanol (extra dry, with molecular sieves) were purchased from *Energy Chemical*. Hexamethylphosphoramide (HMPA) was purchased from Macklin and stored over 4 Å molecular sieves by ourselves. Anhydrous 1,2-dichloroethane were distilled from calcium hydride. All degassed solvents were obtained by bubbling $N_2$ over 40 min. All other commercial reagents were purchased from commercial company and used as received. Flash column chromatography and preparative thin layer chromatography were performed as described by Still (Still, W. C.; Kahn, M.; Mitra, A. *J. Org. Chem.* **1978**, *43*, 2923–2925), employing SiliCycle UltraPure Silica Gels: SilicaFlash® P60 40–63 μm (230–400 mesh) and Yantai Jiangyou Silica gel: Huanghai® HSGF254 (0.4-0.5mm) respectively. TLC analyses were performed on EMD 250 μm Silica Gel HSGF254 plates and visualized by quenching of UV fluorescence (λmax = 254 nm), or by staining ceric ammonium molybdate, phosphomolybdic acid, or potassium permanganate.$^{1}$H and $^{13}$C NMR spectra were recorded on a Bruker-500 MHz or 400 MHz spectrometer. Chemical shifts for $^{1}$H and $^{13}$C NMR spectra are reported in ppm (δ) relative to residue protium in the solvent ($CDCl_3$: δ 7.26, 77.0 ppm; $CD_3OD$: δ 3.31, 49.0 ppm), and the multiplicities are presented as follows: s = singlet, d = doublet, t = triplet, q = quartet, m = multiplet, brs = broad single. High-resolution mass spectra (HRMS) were acquired on Waters Micromass GCT Premier or Bruker Daltonics, Inc. APEXIII 7.0 TESLA FTMS. Mass spectra were acquired on Agilent 5975C. The $[\alpha]_D$ was recorded using Anton Paar MCP 5500. Infrared (IR) spectra was obtained using a Shimadzu IRTracer-100 fourier transform infrared spectroscopy (FTIR). The photo reactor used for this photolysis is Rayonet RPR-200 (Southern New England Ultraviolet Company).

## Experimental Procedures and Spectral Data

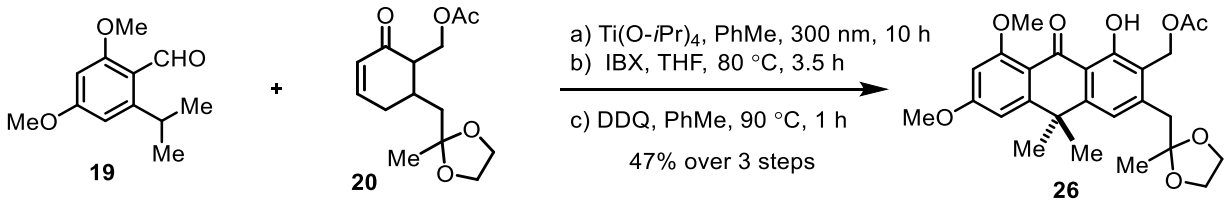


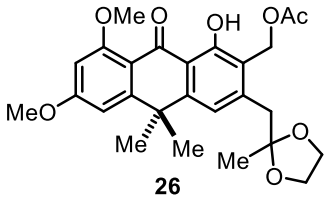




**20**, *dr* 1:1

To a solution of **22**[1] (25.00 g, 73.41 mmol, 1.0 equiv.) in anhydrous methanol (200 mL) was added sodium borohydride (5.55 g, 146.83 mmol, 2.0 equiv.) slowly at 0 ℃ under nitrogen atmosphere, the resulting mixture was stirred at 0 °C for 1 h until TLC showed that the starting material was consumed completed. Then the reaction mixture was cooled to 0 ℃ and slowly quenched with saturated ammonium chloride solution (100 mL). The mixture was concentrated under vacuum to remove most of methanol, the remaining solution was extracted with ethyl acetate (3×100 mL), the combined organic layer was washed with brine (2×100 mL) and dried over anhydrous sodium sulfate. The dried solution was filtered and concentrated under vacuum. The crude product **S1** was directly used in the next step without further purification. The above crude product **S1** was dissolved in dichloromethane (200 mL), DMAP (896.86 mg, 7.34 mmol, 0.1 equiv.) was added, the mixture was cooled to 0 °C, triethylamine (25.5 mL, 183.52 mmol, 2.5 equiv.) was added slowly, then the mixture was stirred for 0.5 h, acetic anhydride (21.2 mL, 220.23 mmol, 3.0 equiv.) was added at 0 °C under nitrogen atmosphere, the resulting mixture was stirred at rt for 10 h until TLC showed that the starting material was consumed completed. The reaction mixture was cooled to 0 °C and slowly quenched with saturated sodium bicarbonate solution (100 mL), and after stirring for 0.5 h, the solution was extracted with dichloromethane (3×150 mL), washed with brine (2×100 mL), dried over anhydrous sodium sulfate. The dried solution was filtered and concentrated under vacuum to give the crude product **23**. The crude product **23** was dissolved in tetrahydrofuran (200 mL) at 0 °C under air atmosphere, TBAF (tetrabutylammonium fluoride) (1M in tetrahydrofuran, 146.8 mL, 2.0 equiv.) was added slowly, the resulting mixture was stirred for 2 h at 0 °C until TLC showed that the starting

material was consumed completed. Then the reaction mixture was cooled to 0 ℃ and slowly quenched with saturated ammonium chloride solution (100 mL). The mixture was concentrated under vacuum to remove most of tetrahydrofuran, the remaining solution was extracted with ethyl acetate (3×100 mL), the combined organic layer was washed with brine (2×100 mL) and dried over anhydrous sodium sulfate. The dried solution was filtered and concentrated under vacuum. The crude product **S2** was directly used in the next step without further purification. The crude product **S2** was dissolved in dichloromethane (400 mL), sodium bicarbonate (6.17 g, 73.41 mmol, 1.0 equiv.) and Dess-Martin periodinane (62.27 g, 146.82 mmol, 2.0 equiv.) was added sequentially at 0 ℃. After stirring for 0.5 h, TLC showed that the starting material was consumed completed. The reaction mixture was slowly quenched with saturated sodium thiosulfate (150 mL) and saturated sodium bicarbonate (150 mL) at 0 ℃ , and after stirring for 0.5 h, the solution was extracted with dichloromethane (3×150 mL), washed with brine (2×100 mL), dried over anhydrous sodium sulfate. The dried solution was filtered and concentrated under vacuum. The residue was purified by silica gel column chromatography (5% to 20% ethyl acetate-petroleum ether) to give **20** as a white solid. (8.82 g, 45% over 4 steps). $R_f$ = 0.3 (20% ethyl acetate-petroleum ether); $^1$H NMR (500 MHz, Chloroform-*d*) δ 6.96 – 6.90 (m, 1H), 6.11 – 6.01 (m, 1H), 4.53 (dd, *J* = 11.3, 4.4 Hz, 1H), 4.31 (dd, *J* = 11.3, 4.8 Hz, 1H), 3.99 – 3.85 (m, 4H), 2.78 (dt, *J* = 19.3, 4.8, 1.7 Hz, 1H), 2.51 – 2.44 (m, 1H), 2.38 (dt, *J* = 8.4, 4.1 Hz, 1H), 2.32 – 2.23 (m, 1H), 2.03 (s, 3H), 1.90 (dd, *J* = 14.6, 3.6 Hz, 1H), 1.69 (dd, *J* = 14.5, 8.4 Hz, 1H), 1.30 (s, 3H) ppm.; $^{13}$C NMR (125 MHz, Chloroform-*d*) δ 198.1, 171.0, 149.4, 129.3, 109.9, 64.8, 64.4, 61.2, 51.5, 41.8, 31.7, 31.4, 24.2, 21.0. ppm; IR $\nu_{max}$ 3566, 2376, 2349, 1261, 1095, 1028, 802, 750 cm$^{-1}$; HRMS–EI (*m*/*z*): $[M+H]^+$ calcd for $C_{14}H_{21}O_5$, 269.1384; found, 269.1380.

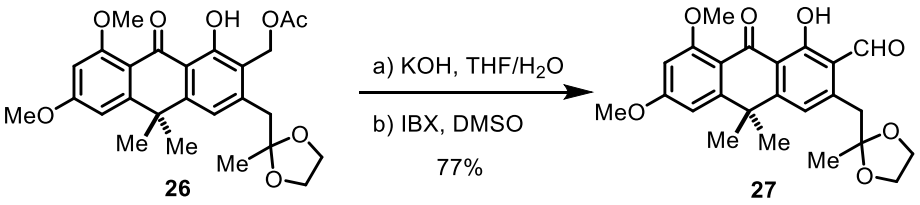


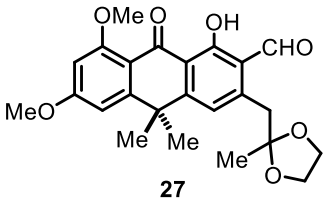


**26**

To a solution of **19** (4.66 g, 22.36 mmol, 3.0 equiv.) and **20** (2.00 g, 7.45 mmol, 1.0 equiv.) in toluene (toluene was degassed by bubbling $N_2$ for 1 h to remove oxygen before use) (745.0 mL, 0.01 M) was added Ti(O-*i*Pr)$_4$ (4.4 mL, 14.91 mmol, 2.0 equiv.), after homogeneous mixing, the solution was dispensed into four quartz tubes that had been replaced with nitrogen, then the solution was photolyzed at room temperature in a Rayonet chamber reactor at $\lambda$max=300 nm. When **20** was consumed completely, the reaction mixture was poured into 500 mL saturated sodium bicarbonate and stirred for 1 h, the mixture was filtered through celite, extracted with ethyl acetate (3×200 mL), and washed with brine (2× 200 mL) and dried over anhydrous sodium sulfate. The dried solution was filtered and concentrated under vacuum. The crude product was directly used in the next step without further purification. To a solution of the above crude product in tetrahydrofuran (200 mL) was added 2-iodoxybenzoic acid (IBX) (6.26 g, 22.35 mmol, 3.0 equiv.) at 0 ℃ under nitrogen atmosphere, the resulting mixture was refluxed at 80 ℃ for 3.5 h until that TLC showed that the starting material was consumed completed. The reaction solution was cooled to 0 ℃, quenched with saturated sodium bicarbonate (100 mL) , the mixture was concentrated under vacuum to removed most of the tetrahydrofuran, the remaining solution was extracted with ethyl acetate (3×100 mL),washed with brine (2×100 mL),dried over anhydrous sodium sulfate. The dried solution was filtered and concentrated under vacuum. The crude product was directly used in the next step without further purification. To a solution of the above crude product in toluene (200 mL) was added 2,3-Dichloro-5,6-dicyano-1,4-benzoquinone (DDQ) (4.40 g, 19.37 mmol, 2.6 equiv.) at RT, the mixture was stirred at 90 ℃ for 1 h until that TLC showed the starting material was consumed completed. The mixture was cooled to rt, and quenched with saturated sodium bicarbonate (200 mL), extracted with ethyl acetate (3×100 mL),washed with brine (2×100 mL),dried over anhydrous sodium sulfate. The dried solution was filtered and concentrated under vacuum. The residue was purified by silica gel column chromatography (5% to 40% ethyl acetate-petroleum ether) to give **26** as an orange foam or oily liquid. (1.63 g, 47% over 3 steps). $R_f$ = 0.25 (40% ethyl acetate-petroleum ether); $^1$H NMR (500 MHz, Chloroform-*d*) δ 14.27 (s, 1H), 7.04 (s, 1H), 6.74 (d, *J* = 2.3 Hz, 1H), 6.47 (d, *J* = 2.3 Hz, 1H), 5.37 (s, 2H), 3.99 (s,

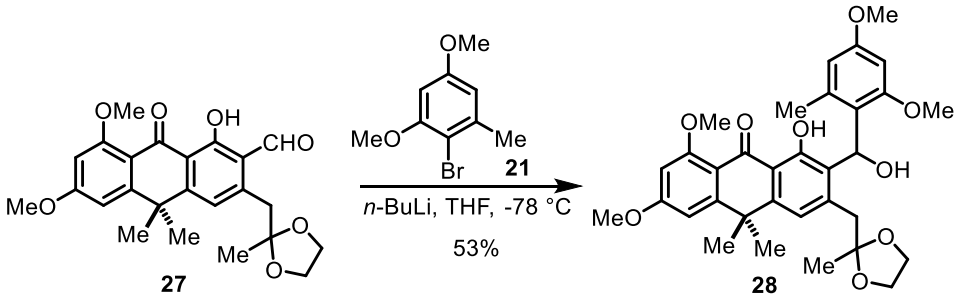
3H), 3.93 (s, 3H), 3.83 – 3.80 (m, 2H), 3.58 – 3.55 (m, 2H), 3.14 (s, 2H), 2.06 (s, 3H), 1.67 (s, 6H), 1.40 (s, 3H) ppm; $^{13}$C NMR (125 MHz, Chloroform-*d*) δ 188.0, 171.5, 164.8, 163.7, 162.6, 156.1, 149.6, 144.3, 121.4, 119.9, 114.1, 113.1, 109.8, 104.0, 97.1, 65.2(2C), 58.2, 56.5, 55.6, 42.8, 39.0, 34.0(2C), 25.6, 21.3. ppm; IR $\nu_{max}$ 3745, 3630, 3566, 2378, 2349, 1508, 1338, 1261, 802 cm$^{-1}$; HRMS–EI (*m*/*z*): [M + Na]$^+$ calcd for $C_{26}H_{30}O_8Na$, 493.1833; found, 493.1835.

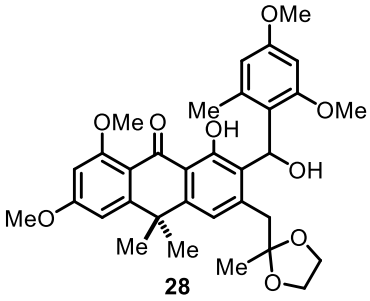



To a stirred solution of **26** (637.0 mg, 1.35 mmol, 1.0 equiv.) in tetrahydrofuran (100 mL) and $H_2O$ (50 mL) in round-bottomed flask was added potassium hydroxide (151.9 mg, 2.71 mmol, 2.0 equiv.) at 0 °C, after stirring at 0 °C for 30 min, the resulting mixture was neutralized with 1 N hydrochloric acid, the solution was concentrated under vacuum to removed most of tetrahydrofuran, the remaining mixture was extracted with ethyl acetate (3×100 mL), the combined organic layer was washed with brine (2×100 mL) and dried over anhydrous sodium sulfate. The dried solution was filtered and the filtrate was concentrated under vacuum. The crude product was directly used in the next step without further purification. A stirred solution of the above crude product in anhydrous dimethyl sulfoxide (100 mL) was added 2-iodoxybenzoic acid (IBX) (756.1 mg, 2.70 mmol, 2.0 equiv.) at rt. TLC showed that the starting material was consumed completely, the reaction solution was cooled to 0 °C, and quenched with saturated sodium bicarbonate (100 mL) and diluted with water (500 mL), the resulting mixture was extracted with ethyl acetate (3×200 mL), the combined organic layer was washed sequentially with water (2×150 mL), brine (2×150 mL) and dried over anhydrous sodium sulfate. The dried solution was filtered and the filtrate was concentrated under vacuum. The residue was purified by silica gel column chromatography (10% to 30% ethyl acetate-petroleum ether) to give **27** as a yellow foam. (440 mg, 77% over 2 steps). $R_f$ = 0.40 (40% ethyl acetate-petroleum ether); $^1$H NMR (500 MHz, Chloroform-*d*) δ 14.8 (s, 1H), 10.7 (s, 1H), 7.0 (s, 1H), 6.7 (d, *J* = 2.3 Hz, 1H), 6.5 (d, *J* = 2.3 Hz, 1H), 4.0 (s, 3H), 3.9 (s, 3H), 3.9 – 3.8

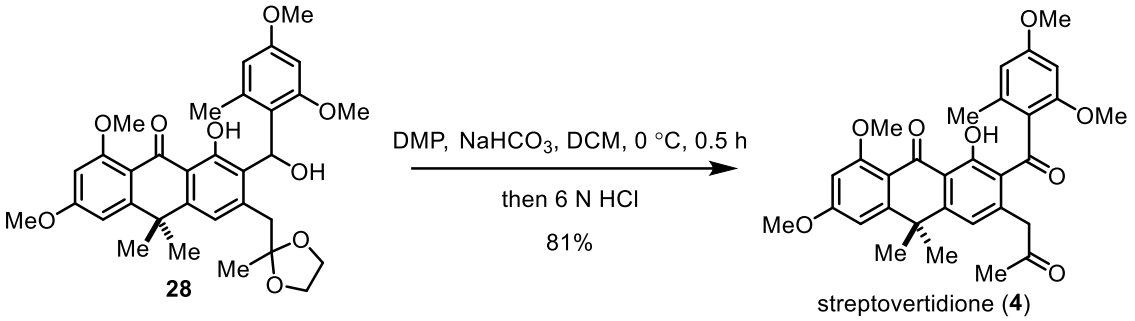
(m, 2H), 3.7 – 3.6 (m, 2H), 3.6 (s, 2H), 1.7 (s, 6H), 1.4 (s, 3H). ppm; $^{13}$C NMR (125 MHz, Chloroform-*d*) δ 192.0, 187.8, 167.3, 165.2, 163.9, 155.7, 154.3, 145.4, 121.9, 121.1, 114.4, 112.6, 109.9, 104.2, 97.1, 65.0, 56.5, 56.5, 55.7, 55.6, 41.2, 39.4, 33.6, 25.2 ppm; IR $\nu_{max}$ 2360, 2341, 1683, 1595, 1494, 1313, 1211, 1047, 840, 669 cm$^{-1}$; HRMS–EI (*m*/*z*): $[M+H]^+$ calcd for $C_{24}H_{27}O_7$, 427.1751; found, 427.1747.

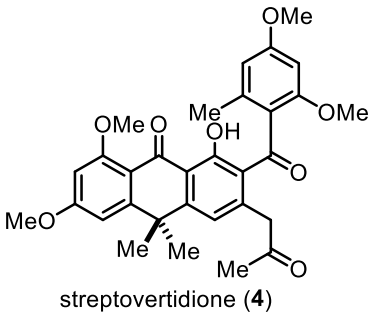


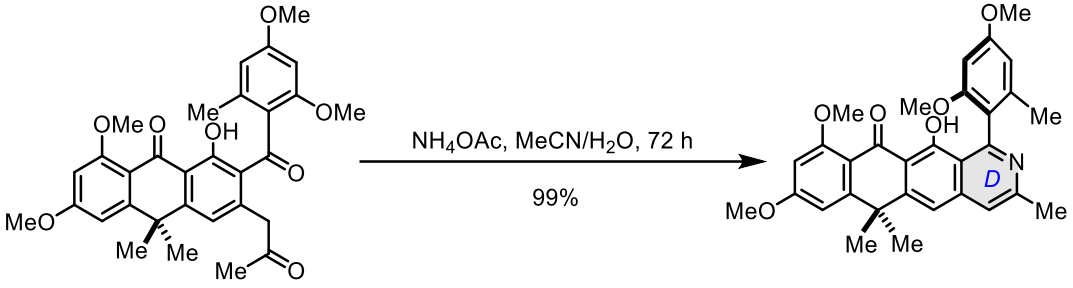

To a flame-dried 200 mL Schlenk flask was added **21** (812.8 mg 3.52 mmol, 2.5 equiv.) in anhydrous tetrahydrofuran (50 mL), the above reaction flask was placed at -78 ℃, then *n*-BuLi (1.6 M in hexane, 2.15 mL, 2.45 equiv.) was added dropwise. After stirring for 0.5 h, the solution of **27** (600.0 mg, 1.41 mmol, 1.0 equiv.) in tetrahydrofuran (20 mL) was slowly added dropwise to the above mixture at -78 ℃. The resulting mixture was stirred for 0.5 h until TLC showed that the starting material was consumed completed. The mixture was allowed to warm to 0 ℃ and quenched with saturated ammonium chloride (30 mL), the mixture was diluted with water (200 mL) and extracted with ethyl acetate (3×150 mL), the combined organic layer was washed sequentially with water (1×150 mL), brine (1×150 mL) and dried over anhydrous sodium sulfate. The dried solution was filtered and the filtrate was concentrated under vacuum. The residue was purified by silica gel column chromatography (10% to 50% ethyl acetate-petroleum ether) to give **28** as a light yellow oily. (430.0 mg, 53%). $R_f$ = 0.30 (40% ethyl acetate-petroleum ether); $^1$H NMR (500 MHz, Chloroform-*d*) δ 14.47 (d, *J* = 1.1 Hz, 1H), 7.06 – 6.91 (m, 1H), 6.80 – 6.70 (m, 1H), 6.62 – 6.59 (m, 1H), 6.50 – 6.39 (m, 1H), 6.32 (d, *J* = 2.5 Hz, 1H), 6.25 (d, *J* = 2.5 Hz, 1H), 5.24 (d, *J* = 14.0 Hz, 1H), 3.96 (d, *J* = 1.2 Hz, 3H), 3.92 (d, *J* = 1.2 Hz, 3H), 3.86 – 3.79 (m, 2H), 3.75 (d, *J* = 1.2 Hz, 3H), 3.56 (d, *J* = 1.2 Hz, 3H), 3.55 – 3.49 (m, 2H), 2.99 (d, *J* = 14.0 Hz, 1H), 2.49 (s, 3H), 1.68 – 1.65 (m, 3H), 1.64 (s, 3H), 1.42 (s, 3H). ppm; $^{13}$C NMR (125

MHz, Chloroform-*d*) δ 188.4, 164.6, 163.5, 161.3, 159.3, 159.2, 156.1, 146.7, 142.3, 140.0, 128.9, 122.9, 120.9, 113.5, 113.5, 110.3, 107.9, 103.8, 97.4, 97.1, 68.3, 65.2 (2C), 56.5, 55.6, 55.6, 55.3, 42.8, 38.8, 34.2, 33.6, 26.1, 20.8 ppm; IR $\nu_{max}$ 2360, 2341, 1597, 1489, 1417, 1319, 1274, 1149, 1045, 669 $cm^{-1}$; HRMS–EI (*m*/*z*): $[M+Na]^+$ calcd for $C_{33}H_{38}O_9Na$, 601.2408; found, 601.2414.

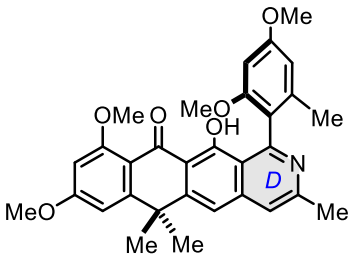



To a solution of **28** (100.0 mg, 0.17 mmol, 1.0 equiv.) in dichloromethane (30 mL) was added sodium bicarbonate (14.5 mg, 0.17 mmol, 1.0 equiv.) and Dess-Martin periodinane (146.6 mg, 0.35 mmol, 2.0 equiv.) at 0 ℃ under air atmosphere. The resulting mixture was stirred for 0.5 h until TLC showed that the starting material was consumed completed. The mixture was quenched with saturated sodium thiosulfate (20 mL) and saturated sodium bicarbonate (20 mL), extracted with dichloromethane (3×50 mL), the combined organic layer was washed with 6 N HCl (3×150 mL) and brine (1×100 mL), dried over anhydrous sodium sulfate. The dried solution was filtered and the filtrate was concentrated under vacuum. The residue was purified by silica gel column chromatography (30% to 50% ethyl acetate-petroleum ether) to give **4** as a yellow foam (74.5 mg, 81%). $R_f$ = 0.38 (40% ethyl acetate-petroleum ether); $^1H$ NMR (500 MHz, Chloroform-*d*) δ 13.99 (s, 1H), 6.91 (s, 1H), 6.74 (d, *J* = 2.2 Hz, 1H), 6.44 (d, *J* = 2.3 Hz, 1H), 6.38 (d, *J* = 2.2 Hz, 1H), 6.20 (d, *J* = 2.3 Hz, 1H), 3.94 (s, 3H), 3.92 (s, 3H), 3.80 (s, 3H), 3.78 (s, 2H), 3.44 (s, 3H), 2.40 (s, 3H), 2.25 (s, 3H), 1.68 (s, 6H). ppm; $^{13}C$ NMR (125 MHz, Chloroform-*d*) δ 205.7, 198.5, 187.8, 164.9, 163.7, 161.9, 161.6, 159.7, 155.8, 151.3, 140.8, 140.7, 129.4, 124.8, 118.9, 114.4, 113.1, 108.1, 103.9, 97.1, 96.3, 56.4, 55.8, 55.6, 55.4, 48.8, 39.3, 33.9 (2C), 30.0, 20.8 ppm; IR $\nu_{max}$ 3649, 2358, 1558, 1541, 1506, 669 $cm^{-1}$; HRMS–ESI (*m*/*z*): $[M+H]^+$ calcd for $C_{31}H_{33}O_8$, 533.2170; found, 533.2161.

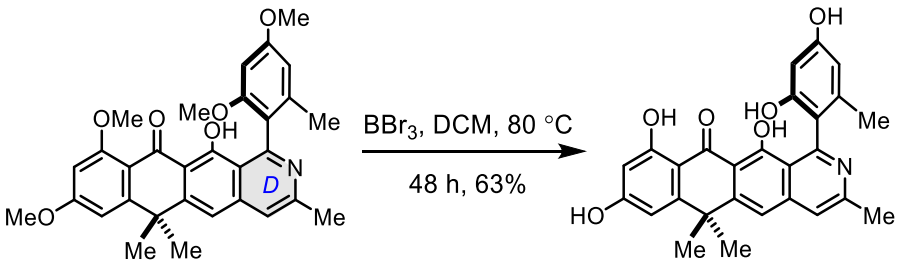



streptovertidione (**4**) streptovertidine A (**5**)

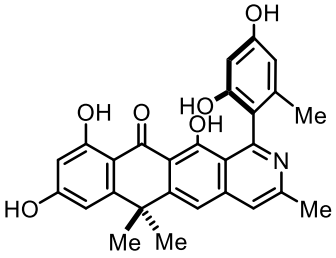



streptovertidine A (**5**)

To a solution of **4** (105.0 mg, 0.20 mmol, 1.0 equiv.) in acetonitrile/water (18 mL/2 mL) was added ammonium acetate (152.0 mg, 1.97 mmol, 10.0 equiv.) at rt. The mixture was stirred at rt for 72 h until TLC showed that the starting material was consumed completed. The reaction mixture was diluted with water (40 mL) and extracted with ethyl acetate (4×40 mL), the combined organic layer was washed with brine (2×100 mL) and dried over anhydrous sodium sulfate, the dried solution was filtered and the filtrate was concentrated under vacuum. The residue was purified by silica gel column chromatography (50% ethyl acetate-petroleum ether) to give **5** as a yellow foam (100.0 mg, 99%). $R_f$ = 0.40 (50% ethyl acetate-petroleum ether); $^1$H NMR (500 MHz, Methanol-$d_4$) δ 7.55 (s, 1H), 7.52 (s, 1H), 6.94 (d, $J$ = 2.3 Hz, 1H), 6.63 (d, $J$ = 2.3 Hz, 1H), 6.51 (d, $J$ = 2.4 Hz, 1H), 6.50 (d, $J$ = 2.4 Hz, 1H), 3.97 (s, 3H), 3.94 (s, 3H), 3.88 (s, 3H), 3.63 (s, 3H), 2.65 (s, 3H), 1.94 (s, 3H), 1.79 (s, 3H), 1.77 (s, 3H). ppm; $^{13}$C NMR (125 MHz, Methanol-$d_4$) δ 189.4, 167.2, 166.7, 165.1, 161.8, 159.6, 159.5, 156.7, 155.0, 151.8, 143.7, 138.1, 126.2, 119.6, 118.5, 113.9, 113.6, 112.2, 107.4, 105.2, 98.1, 96.7, 56.7, 56.2, 56.0, 55.8, 40.7, 34.3, 34.0, 23.5, 20.1. ppm; IR $\nu_{max}$ 3766, 3566, 2376, 1600, 1508, 1489, 1319, 1161, 669 cm$^{-1}$; HRMS–EI (*m*/*z*): $[M+H]^+$ calcd for $C_{31}H_{32}NO_6$, 514.2224; found, 514.2219.

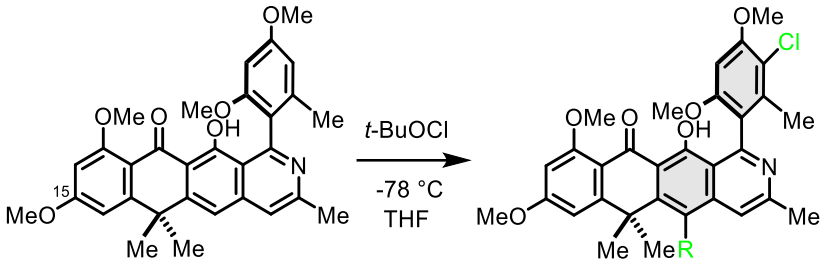



streptovertidine A (**5**) formicapyridine A (**3**)



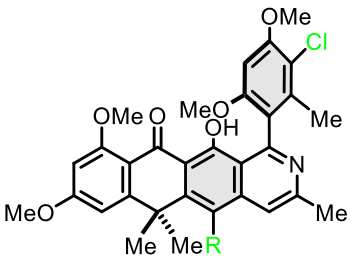
formicapyridine A (**3**)

To a stirred solution of **5** (15.0 mg, 0.03 mmol, 1.0 equiv.) in anhydrous dichloromethane (5 mL) was added boron tribromide (2 M in hexane, 146.0 mml, 10.0 equiv.) at 0 °C under $N_2$, the resulting reaction mixture was stirred at 80 °C in sealed tube for 48 h. After cooling to rt, the reaction mixture was quenched with 1 N HCl (5 mL) and stirred for 10 min. The mixture diluted with water (20 mL) and extracted with ethyl acetate (5×20 mL), the combined organic layer was washed sequentially with saturated sodium bicarbonate (3×20 mL), brine (2×20 mL) and dried over anhydrous sodium sulfate, the dried solution was filtered and the filtrate was concentrated under vacuum. The residue was purified by silica gel column chromatography (0% to 5% methanol-dichloromethane) to give **3** as a yellow foam (8.4 mg, 63%). $R_f$ = 0.36 (5% methanol-dichloromethane); $^1$H NMR (400 MHz, Methanol-$d_4$) δ 7.61 (s, 1H), 7.60 (s, 1H), 6.73 (d, $J$ = 2.2 Hz, 1H), 6.33 (d, $J$ = 2.2 Hz, 1H), 6.29 (d, $J$ = 2.3 Hz, 1H), 6.28 (d, $J$ = 2.2 Hz, 1H), 2.68 (s, 3H), 1.92 (s, 3H), 1.80 (s, 3H), 1.79 (s, 3H). ppm; $^{13}$C NMR (125 MHz, Methanol-$d_4$) δ 191.5, 167.5, 167.1, 167.1, 160.1, 158.6, 156.4, 155.6, 155.4, 152.3, 144.1, 138.2, 123.9, 119.4, 118.5, 115.2, 110.3, 109.0, 108.3, 107.5, 102.3, 101.1, 40.2, 34.5, 34.3, 23.4, 20.0. ppm; IR $\nu_{max}$ 3566, 2378, 2349, 1602, 1550, 1338, 1020, 800 cm$^{-1}$; HRMS–EI (*m*/*z*): [M+ H]$^+$ calcd for $C_{27}H_{24}NO_6$, 458.1598; found, 458.1592.



streptovertidine A (**5**)

R=H, **29** (23%)
R=Cl, **30** (66%)



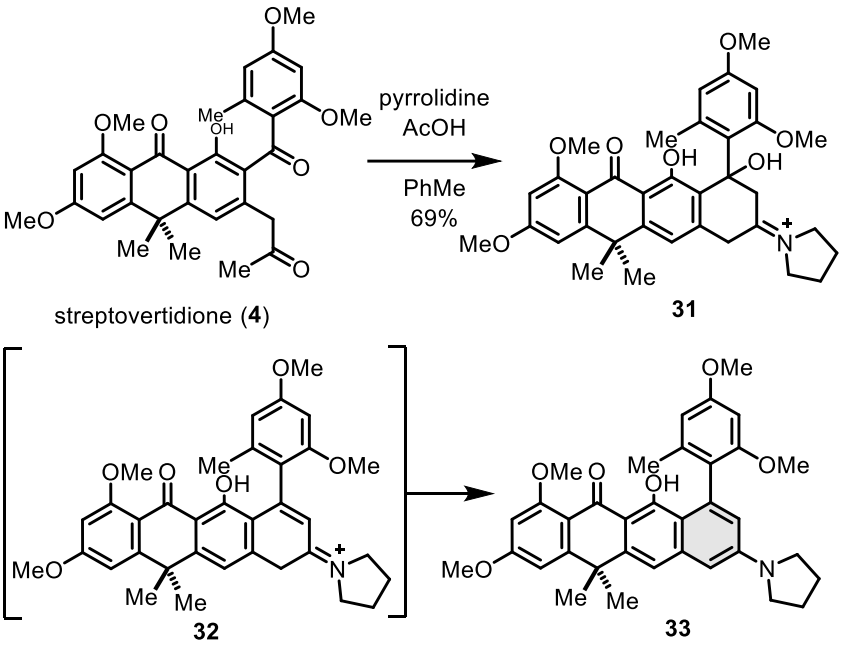
R=H, **29** (23%)
R=Cl, **30** (66%)

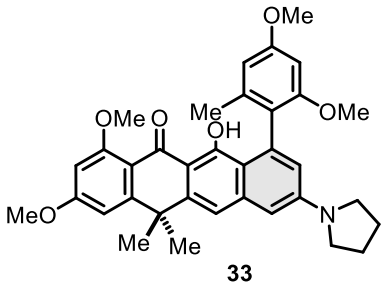
To a stirred solution of **5** (8.0 mg, 0.16 mmol, 1.0 equiv.) in anhydrous tetrahydrofuran (3 mL) was added tert-butyl hypochlorite (2.3 mml, 0.22 mmol, 1.3 equiv.) at -78 °C under nitrogen atmosphere. The mixture was stirred for 1 h until TLC showed that the starting material was consumed completely, then the reaction mixture was quenched with water (5 mL), extracted with ethyl

acetate (4×5 mL), the combined organic layer was dried over anhydrous sodium sulfate. The dried solution was filtered and the filtrate was concentrated under vacuum, purified by preparation lamella chromatography (50% ethyl acetate-petroleum ether) to give **29** (2.0 mg, 23%) and **30** (6.0 mg, 66%) as yellow foam.

**29**: $^{1}$H NMR (500 MHz, Methanol-$d_4$) δ 7.58 (s, 1H), 7.54 (s, 1H), 6.93 (d, $J$ = 2.3 Hz, 1H), 6.70 (s, 1H), 6.63 (d, $J$ = 2.3 Hz, 1H), 3.98 (s, 3H), 3.96 (s, 3H), 3.93 (s, 3H), 3.66 (s, 3H), 2.63 (s, 3H), 1.96 (s, 3H), 1.78 (s, 3H), 1.77 (s, 3H). ppm; $^{13}$C NMR (125 MHz, Chloroform-*d*) δ 187.9, 166.1, 165.0(2C), 163.7, 157.7, 156.1, 155.3, 154.8, 142.1, 135.5, 118.0, 117.4, 115.0, 113.4, 112.0, 111.2, 103.7, 97.0, 95.2, 56.7, 56.5, 56.4, 55.6, 39.6, 34.1, 33.9, 29.9, 17.7. ppm; IR $\nu_{max}$ 3574, 2360, 2341, 1597, 1554, 1330, 1028, 1159, 1037 cm$^{-1}$; HRMS–EI (*m*/*z*): $[M+H]^+$ calcd for $C_{31}H_{31}NClO_6$, 548.1834; found, 548.1831.

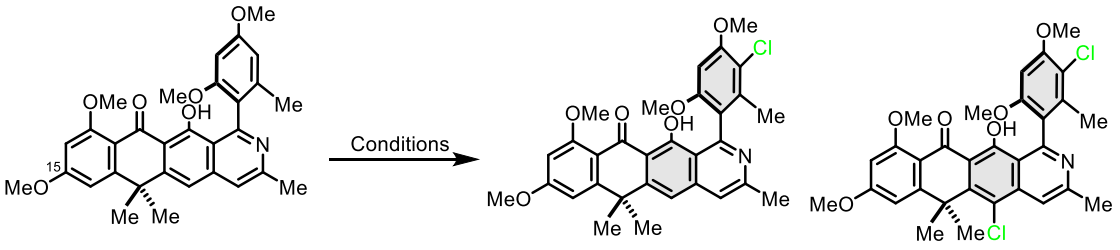
**30**: $^{1}$H NMR (300 MHz, Chloroform-*d*) δ 16.85 (s, 1H), 8.04 (s, 1H), 6.70 (d, $J$ = 2.3 Hz, 1H), 6.46 (s, 1H), 6.43 (d, $J$ = 2.3 Hz, 1H), 3.96 (s, 3H), 3.95 (s, 3H), 3.94 (s, 3H), 3.62 (s, 3H), 2.78 (s, 3H), 2.09 (d, $J$ = 1.4 Hz, 6H), 1.97 (s, 3H). ppm; $^{13}$C NMR (125 MHz, Chloroform-*d*) δ 187.6, 166.6, 165.2(2C), 163.1, 158.5, 157.9, 156.3, 155.7, 155.1, 140.9, 135.0, 126.8, 118.5, 116.6, 114.9, 114.5, 111.1, 110.6, 104.6, 97.0, 94.9, 56.5, 56.3, 56.1, 55.5, 40.4, 30.0, 29.9, 29.7, 17.5 ppm; IR $\nu_{max}$ 3649, 3566, 1683, 1597, 1558, 1506, 1456, 1166, 1085, 804 cm$^{-1}$; HRMS–EI (*m*/*z*): $[M+H]^+$ calcd for $C_{31}H_{30}NCl_2O_6$, 582.1445; found, 582.1438.



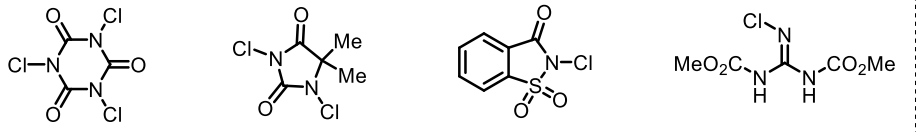

To a stirred solution of **4** (15.0 mg, 0.28 mmol, 1.0 equiv.) in anhydrous toluene (3 mL) was added pyrrolidine (2.5 mml, 0.30 mmol, 1.05 equiv.) and glacial acetic acid (1.7 mml, 0.30 mmol, 1.05 equiv.) at rt under nitrogen atmosphere. The mixture was stirred at 90 ℃ for 8 h until TLC showed that the starting material was consumed completely, then the reaction mixture was quenched with saturated sodium bicarbonate (5 mL), extracted with ethyl acetate (4×5 mL), the combined organic layer was dried over anhydrous sodium sulfate. The dried solution was filtered and the filtrate was concentrated under vacuum, purified by preparation lamella chromatography (30% ethyl acetate-petroleum ether) to give **33** (10.0 mg, 69%) as yellow foam. $^{1}$H NMR (300 MHz, Chloroform-*d*) δ 15.36 (s, 1H), 7.13 (s, 1H), 6.77 (d, *J* = 2.3 Hz, 1H), 6.61 (d, *J* = 2.5 Hz, 1H), 6.56 (d, *J* = 2.5 Hz, 1H), 6.42 (dd, *J* = 4.6, 2.6 Hz, 3H), 3.92 (s, 3H), 3.91 (s, 3H), 3.86 (s, 3H), 3.64 (s, 3H), 3.41 (m, 4H), 2.04 (m, 4H), 1.99 (s, 3H), 1.73 (s, 3H), 1.69 (s, 3H). ppm; $^{13}$C NMR (125 MHz, Chloroform-*d*) δ 187.1, 166.4, 163.8, 162.9, 159.0, 157.9, 155.2, 148.0, 144.3, 140.6, 138.2, 137.3, 126.7, 117.4, 114.3, 114.1, 112.5, 107.8, 105.8, 104.6, 103.2, 96.9, 96.1, 56.3, 56.1, 55.3(2C), 47.6(2C), 39.1, 34.3, 33.3, 29.7, 25.5(2C), 20.7. ppm; IR $\nu_{max}$ 3649, 2360, 1683, 1595, 1558, 1541, 1506, 669 cm$^{-1}$; HRMS–EI (*m*/*z*): $[M+H]^+$ calcd for $C_{35}H_{38}NO_6$, 568.2694; found, 568.2695.

## Table S1 Selective chlorination of Streptovertidine A




streptovertidine A (**5**) **29** **30**

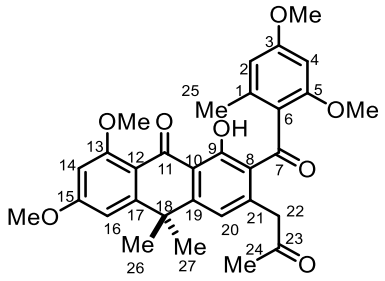
| | | |
|---|---|---|
| entry 1 | 1.3 equiv. NCS, DCM, 0 °C | messy |
| entry 2 | 1.3 equiv. $SO_2Cl_2$, 0 °C, DCM | **29** (13%) and mixture |
| entry 3 | 2.0 equiv. TCICA, 2.0 equiv. TFA, DCM, 0 °C | ND |
| entry 4 | 2.0 equiv. DCDMH, 2.0 equiv. TFA, PhMe, 0 °C | **30** (trace) and **29** (9%) |
| entry 5 | 1.3 equiv. *t*-BuOCl, -78 °C, THF | **29** (43%) and **30** (18%) |
| entry 6 | 2.0 equiv. N-Chlorosaccharin, -78 °C, DCM | **29** (31%) and **30** (15%) and mixture |
| entry 7 | 2.0 equiv. Palau' Chlor, -78 °C, DCM | mixture and **29** (21%) and **30** (17%) |
| entry 8 | 1.3 equiv. *t*-BuOCl, -78 °C, THF (8 mg scale) | **30** (66%) and **29** (23%) |



TCICA DCDMH N-Chlorosaccharin Palau' Chlor

All reactions were performed using **5** (4.0 mg, 0.08 mmol, 1.0 equiv.) unless otherwise noted. The isolation yield was calculated after purification by silica gel PTLC.

## Comparison of NMR spectroscopic data of natural[2] and synthetic Streptovertidione:



streptovertidione (**4**)

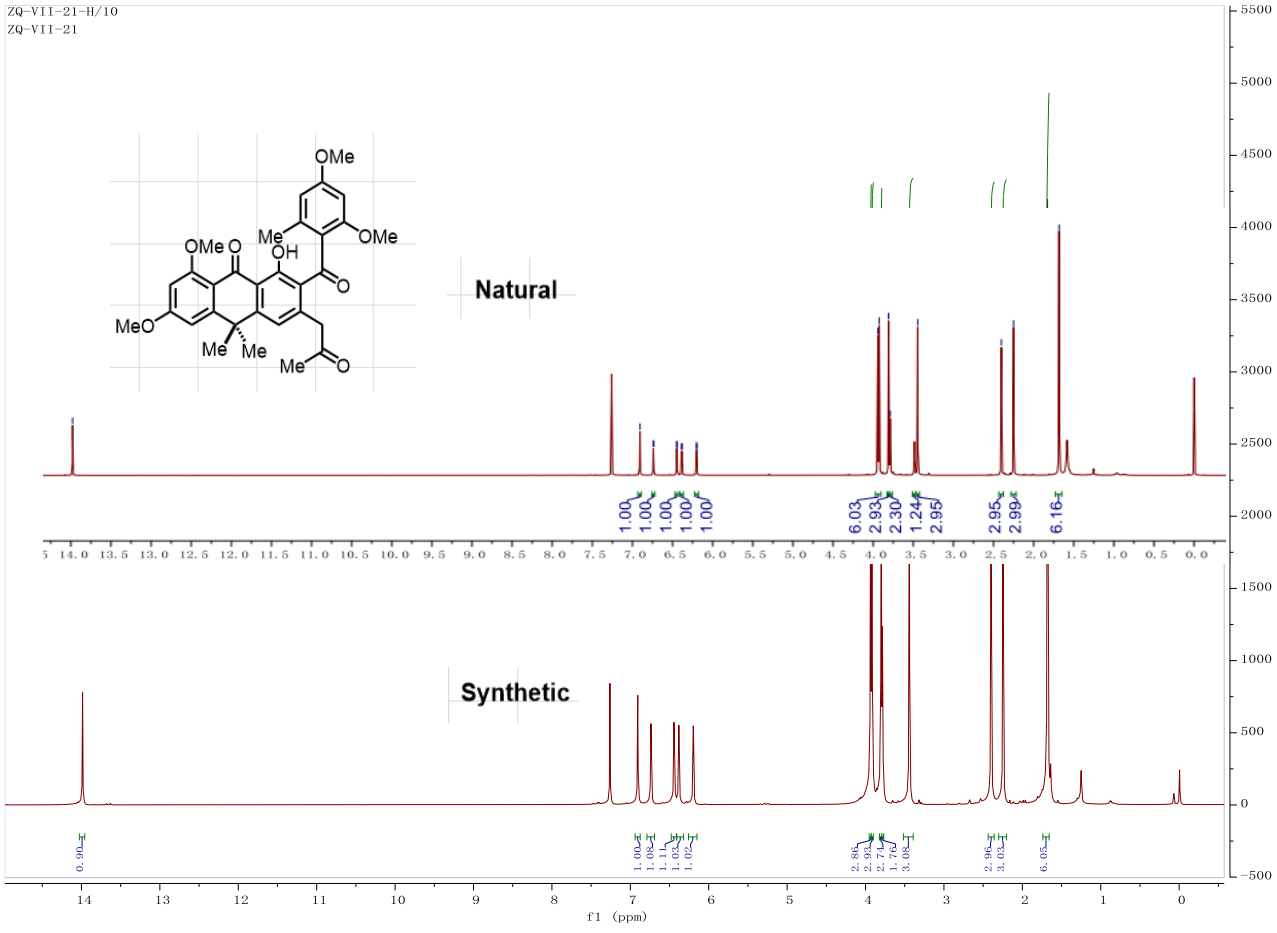
**Table S1** Comparison of $^{1}$H NMR spectroscopic data of natural and synthetic Streptovertidione

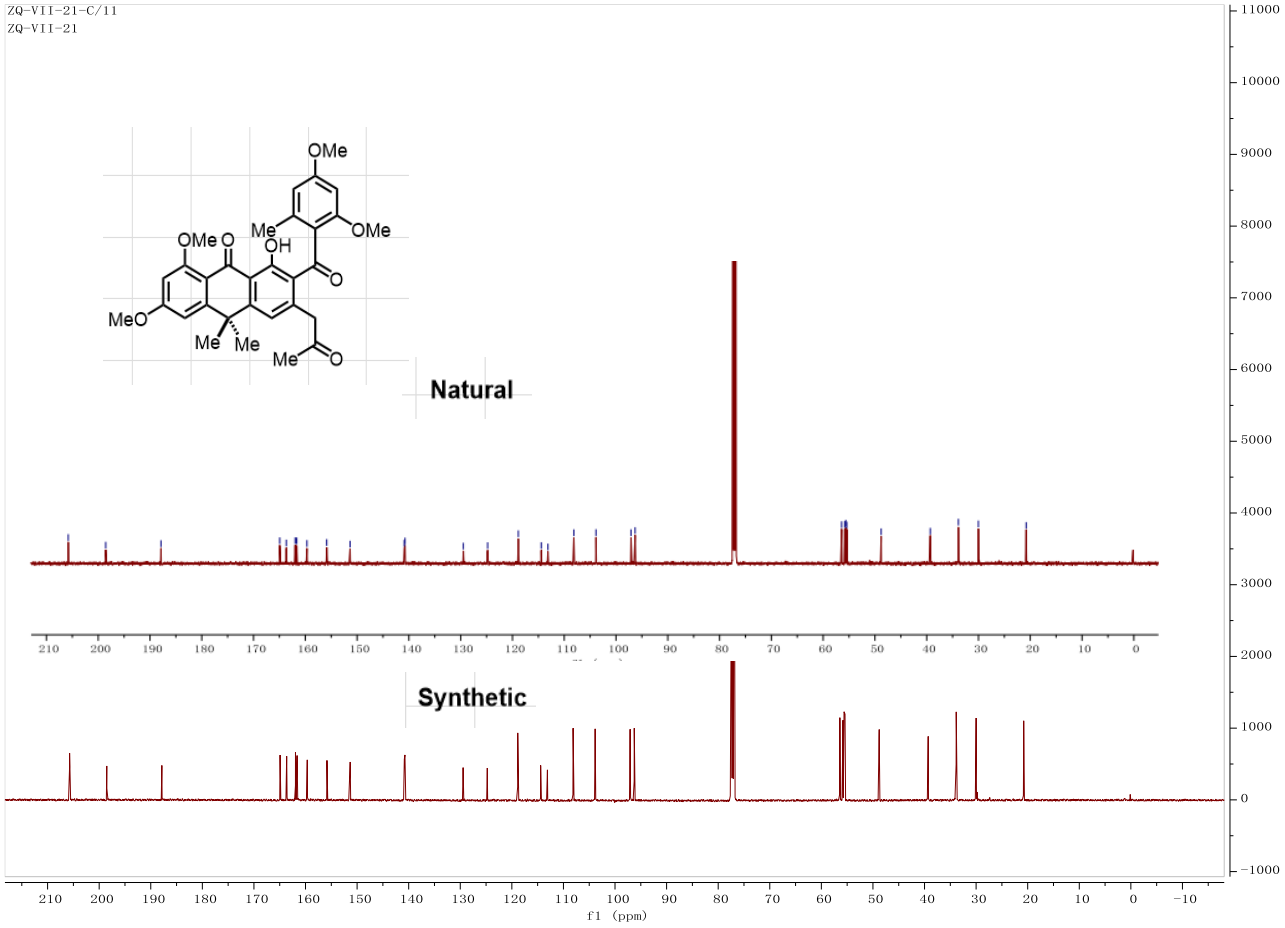
| **position** | **natural** δ $^{1}$H [ppm; mult; *J* (Hz)] 500 MHz, $CDCl_3$ | **synthetic** δ $^{1}$H [ppm; mult; *J* (Hz)] 500 MHz, $CDCl_3$ | **deviation** (natural–synthetic) Δδ (ppm) |
|---|---|---|---|
| 2-H | 6.39 [1H, d (2.2)] | 6.38 [1H, d (2.2)] | 0.01 |
| 4-H | 6.20 [1H, d (2.2)] | 6.20 [1H, d (2.2)] | 0 |
| 14-H | 6.45 [1H, d (2.3)] | 6.44 [1H, d (2.3)] | 0.01 |
| 16-H | 6.74 [1H, d (2.3)] | 6.74 [1H, d (2.3)] | 0 |
| 20-H | 6.91 [1H, s] | 6.91 [1H, s] | 0 |
| 22-$CH_2$ | 3.79 [2H, s] | 3.78 [2H, s] | 0.01 |
| 24-Me | 2.26 [3H, s] | 2.25 [3H, s] | 0 |
| 25-Me | 2.40 [3H, s] | 2.40 [3H, s] | 0 |
| 26-Me | 1.68 [3H, s] | 1.68 [3H, s] | 0 |
| 27-Me | 1.68 [3H, s] | 1.68 [3H, s] | 0 |
| 9-OH | 13.98 [1H, s] | 13.99 [1H, s] | -0.01 |
| 3-OMe | 3.81 [3H, s] | 3.80 [3H, s] | 0.01 |
| 5-OMe | 3.45 [3H, s] | 3.44 [3H, s] | 0.01 |
| 13-OMe | 3.94 [3H, s] | 3.94 [3H, s] | 0 |
| 15-OMe | 3.92 [3H, s] | 3.92 [3H, s] | 0 |

**Table S2** Comparison of $^{13}$C NMR spectroscopic data of natural and synthetic Streptovertidione

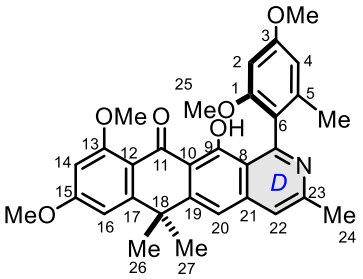
| **position** | **natural** δ $^{13}$C [ppm] 125 MHz, $CDCl_3$ | **synthetic** δ $^{13}$C [ppm] 125 MHz, $CDCl_3$ | **deviation** (natural–synthetic) Δδ (ppm) |
|---|---|---|---|
| 1 | 140.7 | 140.7 | 0 |
| 2 | 108.1 | 108.1 | 0 |
| 3 | 161.7 | 161.6 | 0.1 |
| 4 | 96.3 | 96.3 | 0 |
| 5 | 159.7 | 159.7 | 0 |
| 6 | 124.8 | 124.8 | 0 |
| 7 | 198.6 | 198.5 | 0.1 |
| 8 | 129.5 | 129.4 | 0.1 |
| 9 | 162.0 | 161.9 | 0.1 |
| 10 | 114.4 | 114.4 | 0 |
| 11 | 187.9 | 187.8 | 0.1 |

| | | | |
|---|---|---|---|
| 12 | 113.1 | 113.1 | 0 |
| 13 | 163.7 | 163.7 | 0 |
| 14 | 97.1 | 97.1 | 0 |
| 15 | 164.9 | 164.9 | 0 |
| 16 | 103.9 | 103.9 | 0 |
| 17 | 155.9 | 155.8 | 0.1 |
| 18 | 39.3 | 39.3 | 0 |
| 19 | 151.4 | 151.3 | 0.1 |
| 20 | 118.9 | 118.9 | 0 |
| 21 | 140.9 | 140.8 | 0.1 |
| 22 | 48.8 | 48.8 | 0 |
| 23 | 205.8 | 205.7 | 0.1 |
| 24 | 30.0 | 30.0 | 0 |
| 25 | 20.8 | 20.8 | 0 |
| 26 | 33.9 | 33.9 | 0 |
| 27 | 33.9 | 33.9 | 0 |
| 3-OMe | 55.4 | 55.4 | 0 |
| 5-OMe | 55.8 | 55.8 | 0 |
| 13-OMe | 56.4 | 56.4 | 0 |
| 15-OMe | 55.6 | 55.6 | 0 |




ZQ-VII-21-C/11
ZQ-VII-21
OMe
Me
OMe
OMe
OH
O
MeO
O
Me
Me
Me
O
Natural
Synthetic
f1 (ppm)

# Comparison of NMR spectroscopic data of natural[2] and synthetic Streptovertidine A



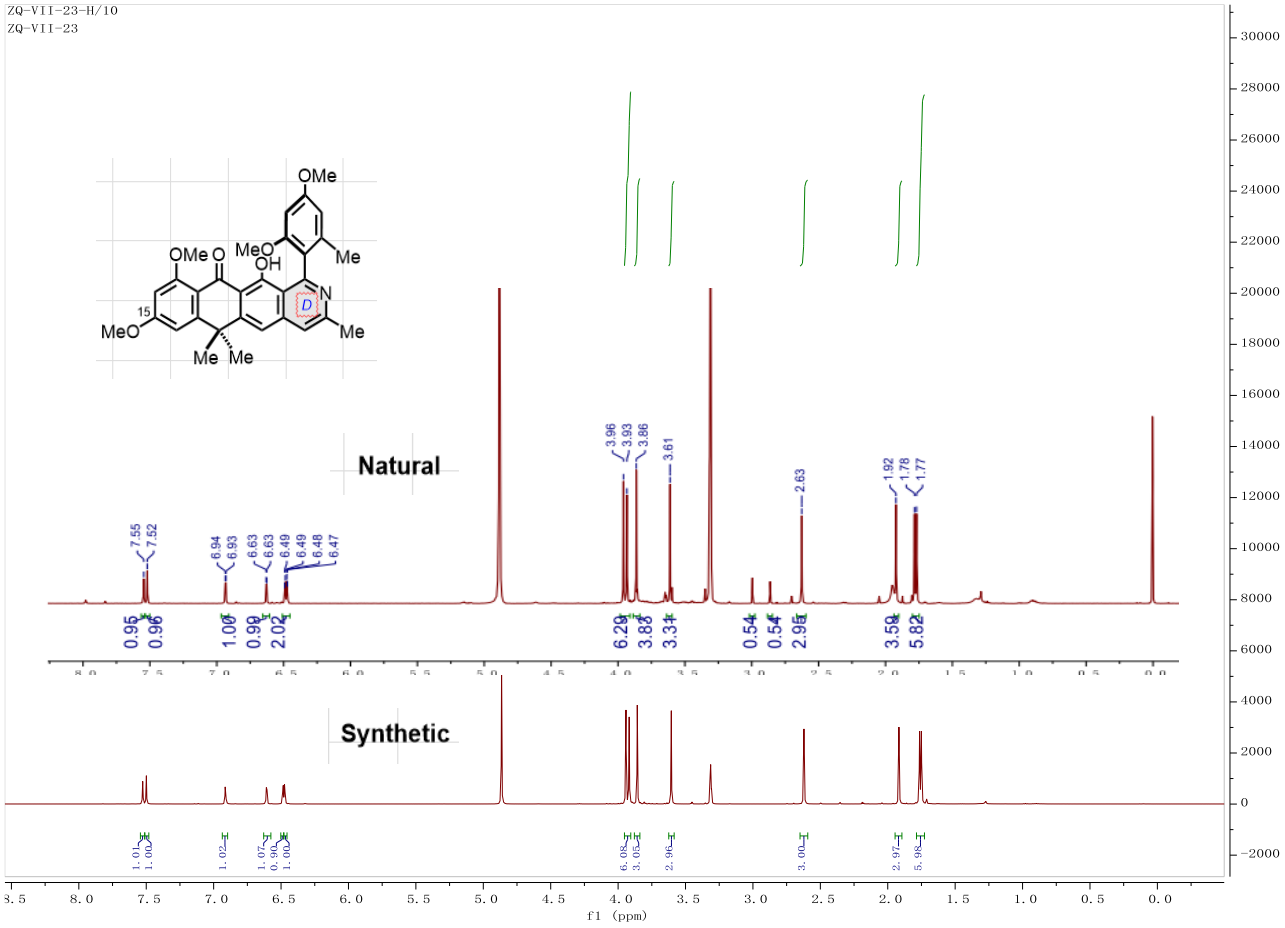

streptovertidine A (**5**)

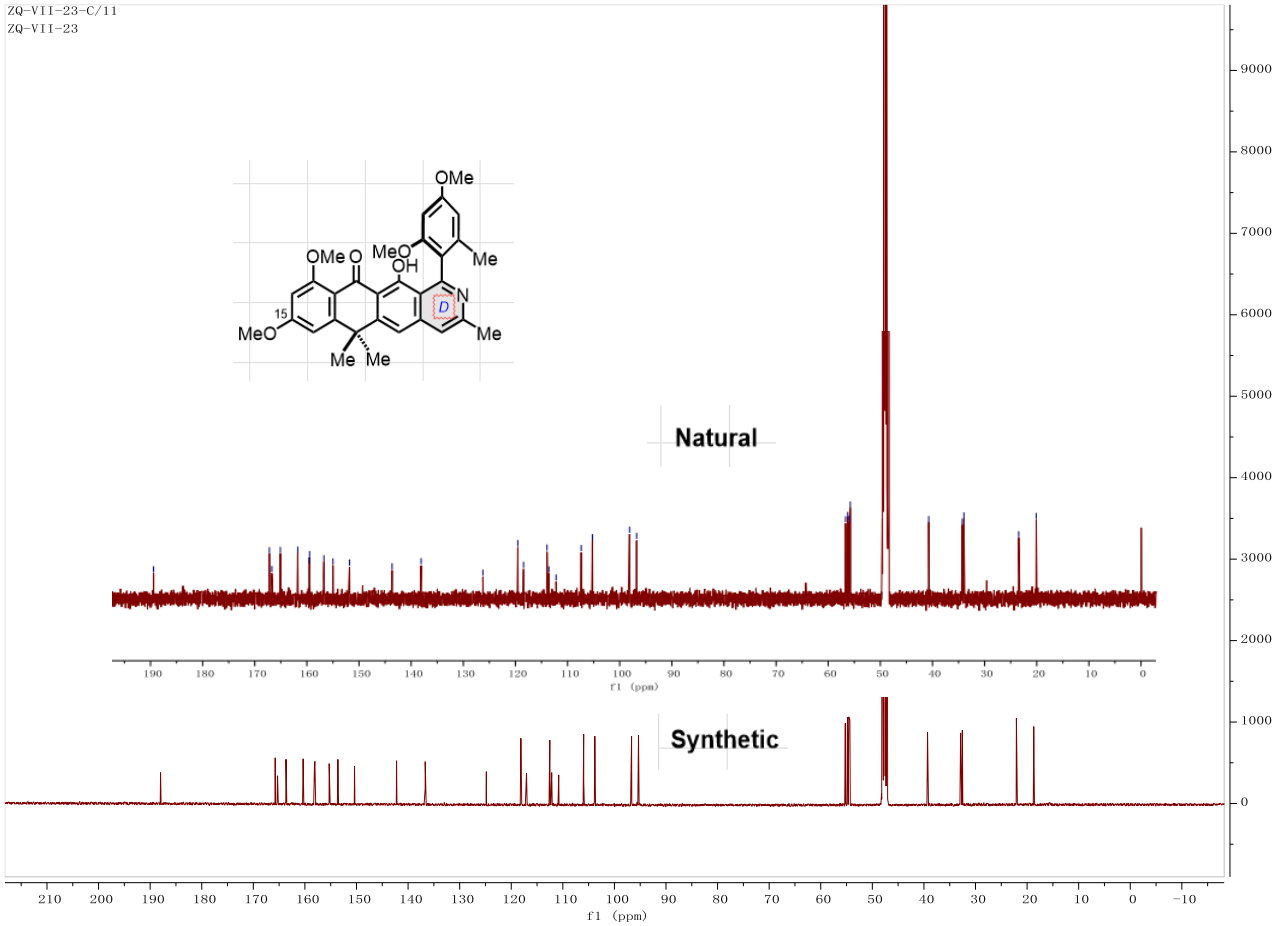
**Table S3** Comparison of $^{1}$H NMR spectroscopic data of natural and synthetic Streptovertidine A

| **position** | **natural** δ $^{1}$H [ppm; mult; *J* (Hz)] 500 MHz, $CD_3OD$ | **synthetic** δ $^{1}$H [ppm; mult; *J* (Hz)] 500 MHz, $CD_3OD$ | **deviation** (natural–synthetic) Δδ (ppm) |
|---|---|---|---|
| 2-H | 6.49 [1H, d (2.3)] | 6.51 [1H, d (2.4)] | -0.02 |
| 4-H | 6.47 [1H, d (2.3)] | 6.50 [1H, d (2.4)] | -0.03 |
| 14-H | 6.63 [1H, d (2.3)] | 6.63 [1H, d (2.3)] | 0 |
| 16-H | 6.93 [1H, d (2.3)] | 6.94 [1H, d (2.3)] | -0.01 |
| 20-H | 7.52 [1H, s] | 7.52 [1H, s] | 0 |
| 22-H | 7.55 [1H, s] | 7.55 [1H, s] | 0 |
| 24-Me | 2.63 [3H, s] | 2.65 [3H, s] | -0.02 |
| 25-Me | 1.92 [3H, s] | 1.94 [3H, s] | -0.02 |
| 26-Me | 1.77 [3H, s] | 1.79 [3H, s] | -0.02 |
| 27-Me | 1.78 [3H, s] | 1.77 [3H, s] | -0.01 |
| 3-OMe | 3.86 [3H, s] | 3.88 [3H, s] | -0.02 |
| 5-OMe | 3.61 [3H, s] | 3.63 [3H, s] | -0.02 |
| 13-OMe | 3.93 [3H, s] | 3.94 [3H, s] | -0.01 |
| 15-OMe | 3.96 [3H, s] | 3.97 [3H, s] | -0.01 |

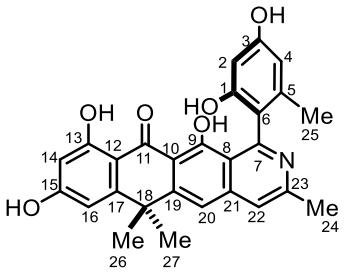
**Table S4** Comparison of $^{13}C$ NMR spectroscopic data of natural and synthetic Streptovertidine A

| **position** | **natural** δ $^{13}C$ [ppm] 125 MHz, $CDCl_3$ | **synthetic** δ $^{13}C$ [ppm] 125 MHz, $CDCl_3$ | **deviation** (natural–synthetic) Δδ (ppm) |
|---|---|---|---|
| 1 | 138.1 | 138.1 | 0 |
| 2 | 107.4 | 107.4 | 0 |
| 3 | 161.8 | 161.7 | 0.1 |
| 4 | 96.8 | 96.7 | 0.1 |
| 5 | 159.6 | 159.5 | 0.1 |
| 6 | 126.2 | 126.2 | 0 |
| 7 | 159.5 | 159.6 | -0.1 |
| 8 | 118.4 | 118.4 | 0 |
| 9 | 166.7 | 166.7 | 0 |
| 10 | 112.2 | 112.2 | 0 |
| 11 | 189.4 | 189.4 | 0 |
| 12 | 113.6 | 113.6 | 0 |
| 13 | 165.2 | 165.1 | 0.1 |
| 14 | 98.1 | 98.1 | 0 |
| 15 | 167.2 | 167.2 | 0 |
| 16 | 105.2 | 105.2 | 0 |
| 17 | 156.7 | 156.7 | 0.1 |
| 18 | 40.7 | 40.7 | 0 |
| 19 | 151.8 | 151.8 | 0 |
| 20 | 113.9 | 113.9 | 0 |
| 21 | 143.7 | 143.6 | 0.1 |
| 22 | 119.5 | 119.5 | 0 |
| 23 | 155.0 | 155.0 | 0.1 |
| 24 | 23.5 | 23.5 | 0 |
| 25 | 20.1 | 20.1 | 0 |
| 26 | 34.3 | 34.3 | 0 |
| 27 | 34.0 | 34.0 | 0 |
| 3-OMe | 55.8 | 55.8 | 0 |
| 5-OMe | 56.0 | 56.0 | 0 |
| 13-OMe | 56.7 | 56.6 | 0.1 |
| 15-OMe | 56.2 | 56.2 | 0 |


ZQ-VII-23-H/10
ZQ-VII-23
Natural
Synthetic
f1 (ppm)


ZQ-VII-23-C/11
ZQ-VII-23
Natural
Synthetic
f1 (ppm)

## Comparison of NMR spectroscopic data of natural[3] and synthetic Formicapyridine A:



formicapyridine A (**3**)

**Table S5** Comparison of $^{1}$H NMR spectroscopic data of natural and synthetic Formicapyridine A

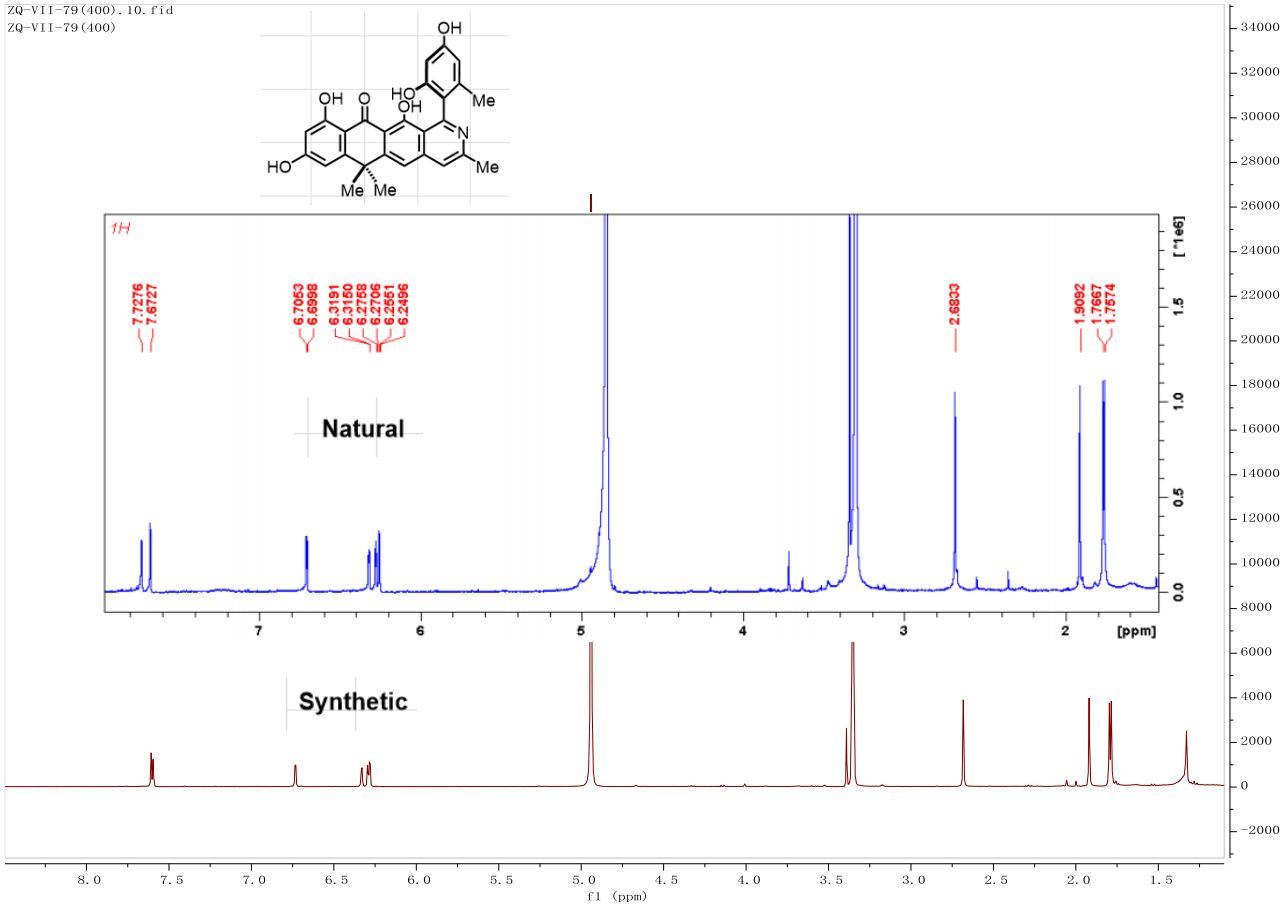
| **position** | **natural** δ $^{1}$H [ppm; mult; *J* (Hz)] 400 MHz, $CD_3OD$ | **synthetic** δ $^{1}$H [ppm; mult; *J* (Hz)] 500 MHz, $CD_3OD$ | **deviation** (natural–synthetic) Δδ (ppm) |
|---|---|---|---|
| 2-H | 6.31 [1H, d (2.2)] | 6.33 [1H, d (2.2)] | -0.02 |
| 4-H | 6.27 [1H, d (1.6)] | 6.29 [1H, d (2.3)] | -0.02 |
| 14-H | 6.25 [1H, d (1.6)] | 6.28 [1H, d (2.2)] | -0.03 |
| 16-H | 6.70 [1H, d (2.2)] | 6.73 [1H, d (2.2)] | -0.03 |
| 20-H | 7.67 [1H, s] | 7.60 [1H, s] | -0.07 |
| 22-H | 7.72 [1H, s] | 7.61 [1H, s] | -0.11 |
| 24-Me | 2.68 [3H, s] | 2.68 [3H, s] | 0 |
| 25-Me | 1.91 [3H, s] | 1.92 [3H, s] | -0.01 |
| 26-Me | 1.76 [3H, s] | 1.80 [3H, s] | -0.04 |
| 27-Me | 1.77 [3H, s] | 1.79 [3H, s] | -0.02 |

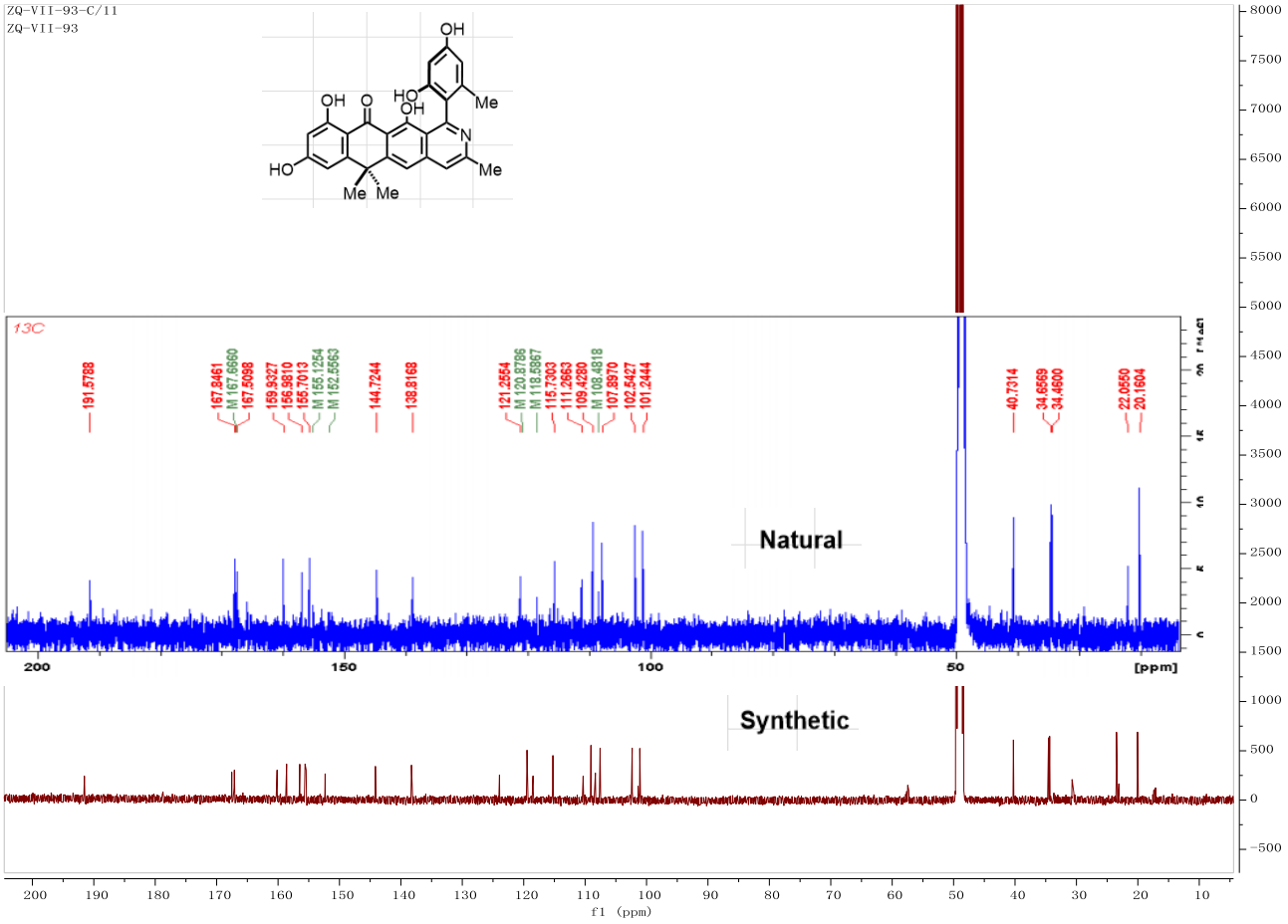
**Table S11** Comparison of $^{13}$C NMR spectroscopic data of natural and synthetic Formicapyridine A

, ,

| **position** | **natural** δ $^{13}$C [ppm] 125 MHz, $CDCl_3$ | **synthetic** δ $^{13}$C [ppm] 125 MHz, $CDCl_3$ | **deviation** (natural–synthetic) Δδ (ppm) |
|---|---|---|---|
| 1 | 138.8 | 138.2 | 0.6 |
| 2 | 109.4 | 109.0 | 0.4 |
| 3 | 160.0 | 160.1 | -0.1 |
| 4 | 101.2 | 101.1 | 0.1 |
| 5 | 157.0 | 156.4 | 0.6 |
| 6 | 120.9 | 119.4 | 1.5 |
| 7 | 159.9 | 158.6 | 1.3 |
| 8 | 118.6 | 118.5 | 0.1 |
| 9 | 167.5 | 167.1 | 0.4 |
| 10 | 111.3 | 110.3 | 1.0 |
| 11 | 191.6 | 191.5 | 0.1 |
| 12 | 108.5 | 108.3 | 0.2 |

| | | | |
|---|---|---|---|
| 13 | 167.7 | 167.1 | 0.6 |
| 14 | 102.5 | 102.3 | 0.2 |
| 15 | 167.8 | 167.5 | 0.3 |
| 16 | 107.9 | 107.5 | 0.4 |
| 17 | 155.7 | 155.6 | 0.1 |
| 18 | 40.7 | 40.2 | 0.5 |
| 19 | 155.1 | 155.4 | -0.3 |
| 20 | 115.7 | 115.2 | 0.5 |
| 21 | 144.7 | 144.1 | 0.6 |
| 22 | 121.3 | 123.9 | 2.6 |
| 23 | 152.6 | 152.3 | 0.3 |
| 24 | 22.1 | 23.4 | 1.3 |
| 25 | 20.2 | 20.0 | 0.2 |
| 26 | 34.5 | 34.3 | 0.2 |
| 27 | 34.7 | 34.5 | 0.2 |

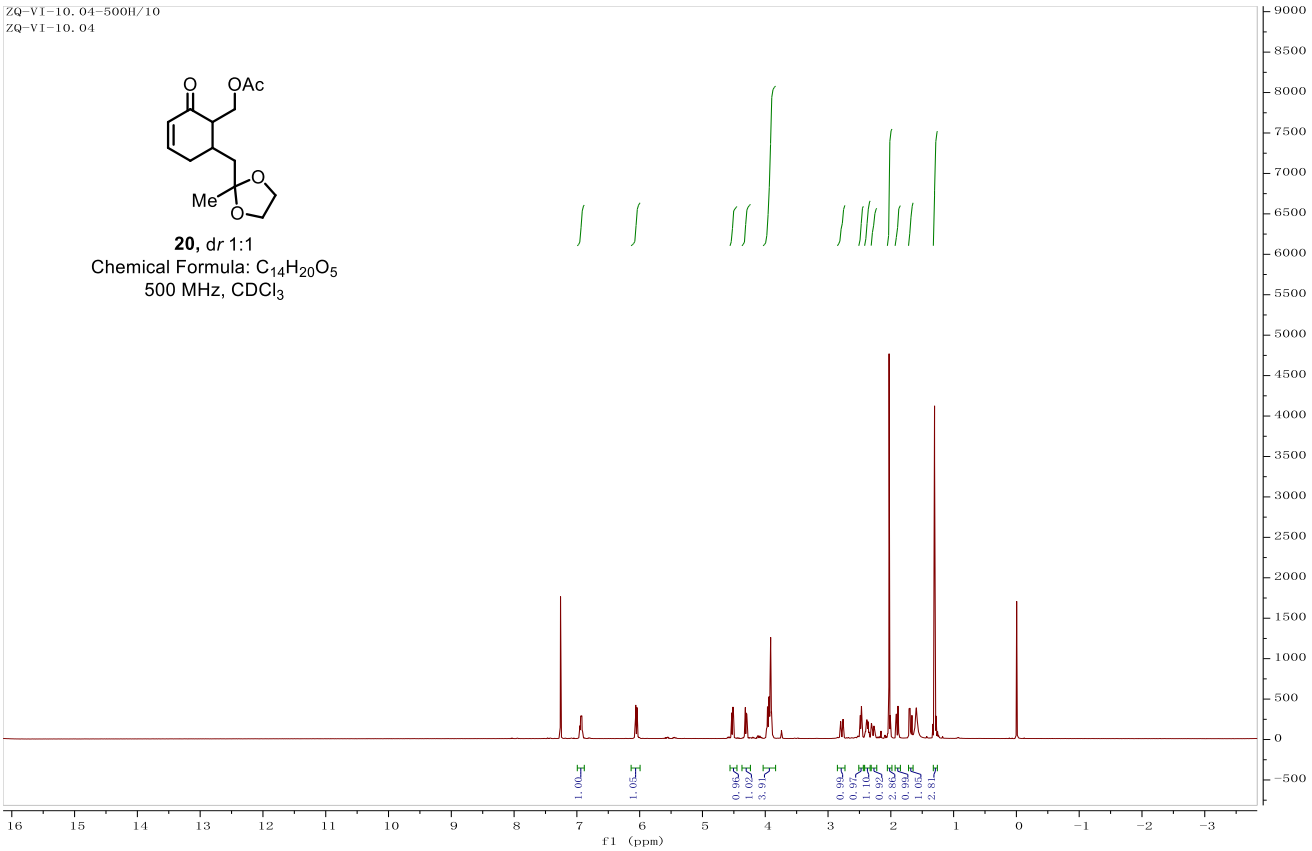


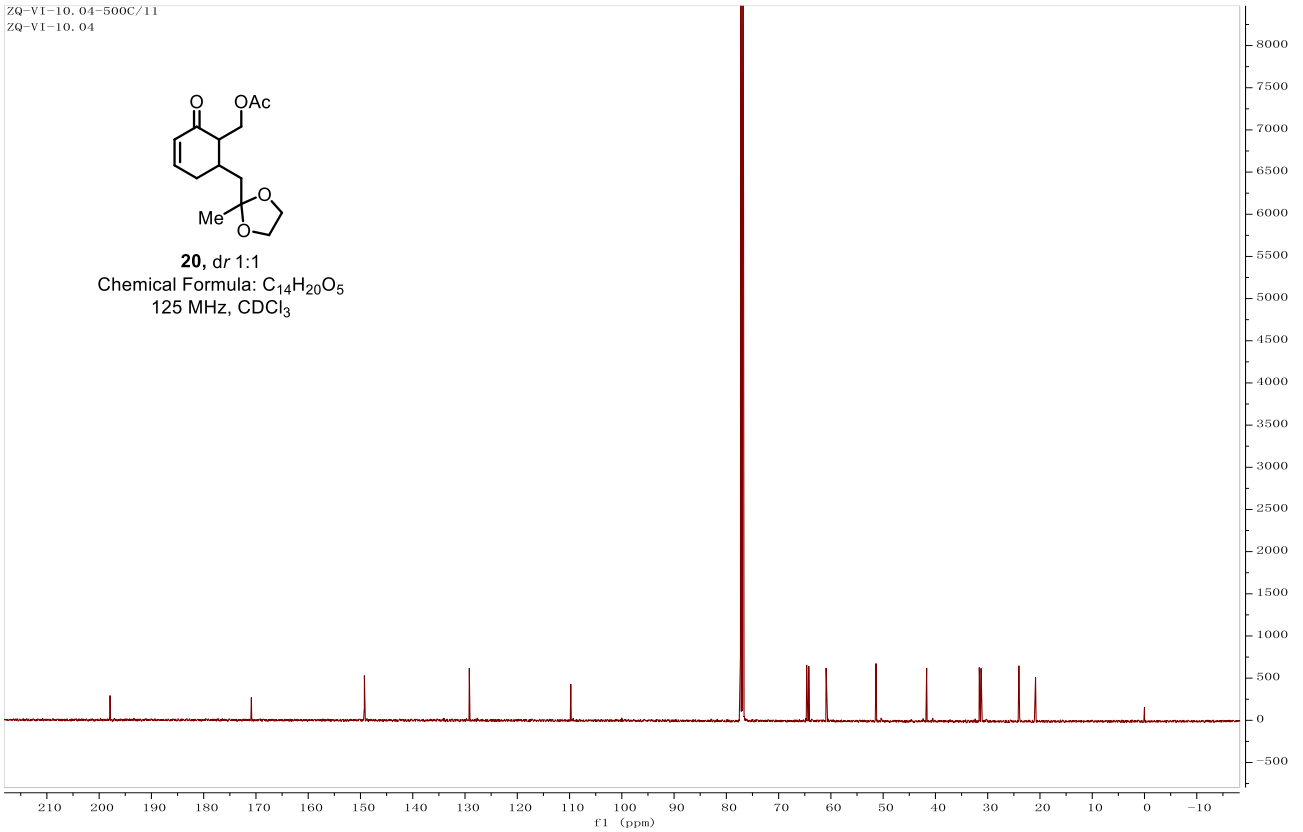


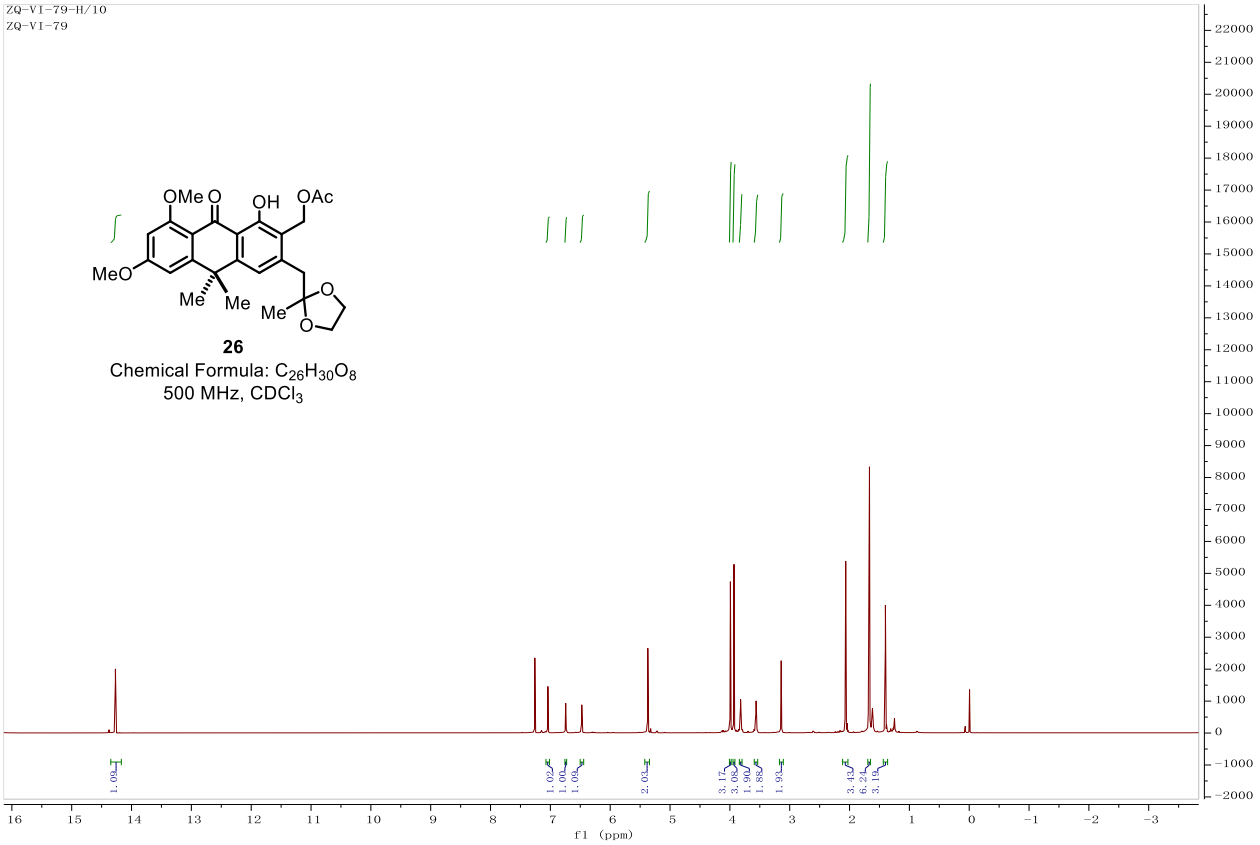

## Reference

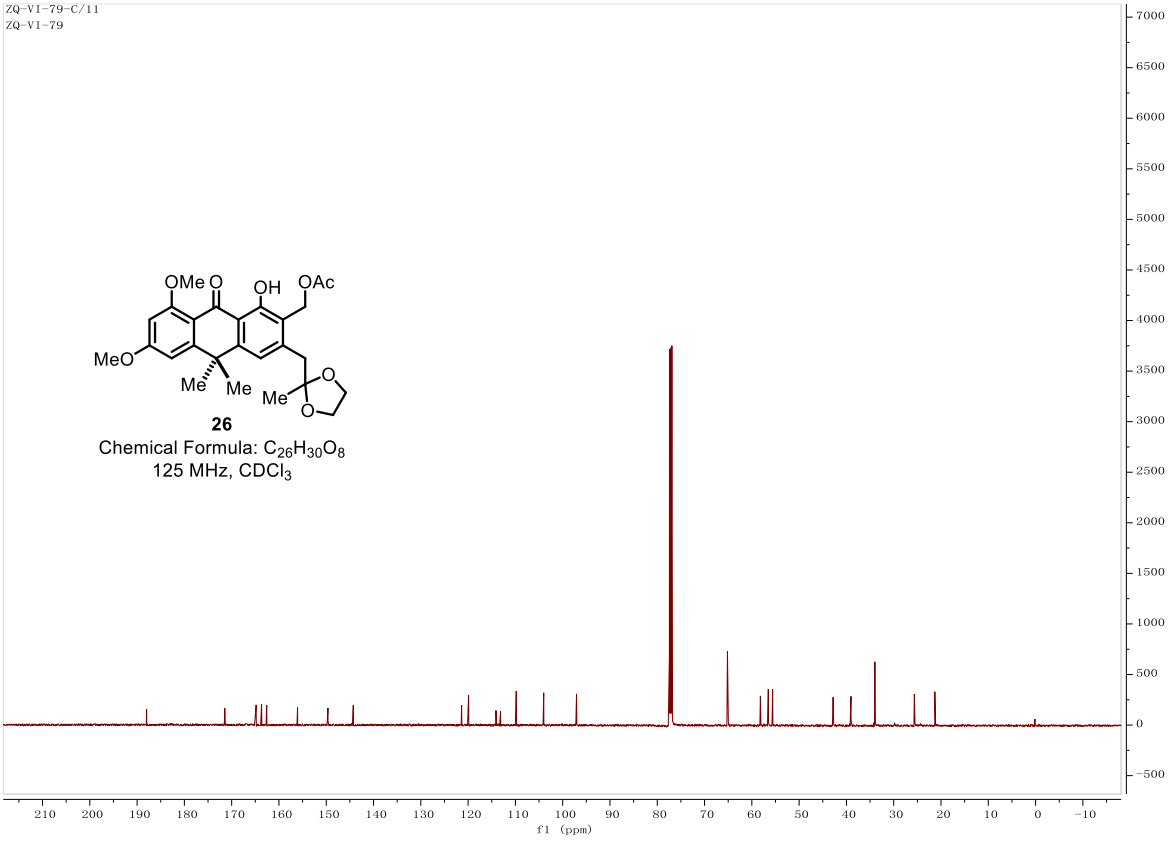

1. D. Jiang, K. Xin, B. Yang, Y. Chen, Q. Zhang, H. He, S. Gao, *CCS Chem*., 2020, **2**, 800–812.
2. X. Li, P. Wu, H. Li, J. Xue, H. Xu, X. Wei, *J. Nat. Prod.,* 2021, **84**, 1806–1815.
3. Z. Qin, R. Devine, M. I. Hutchings, B. Wilkinson, *Nat. Commun.,* 2019, **10,** 3611.

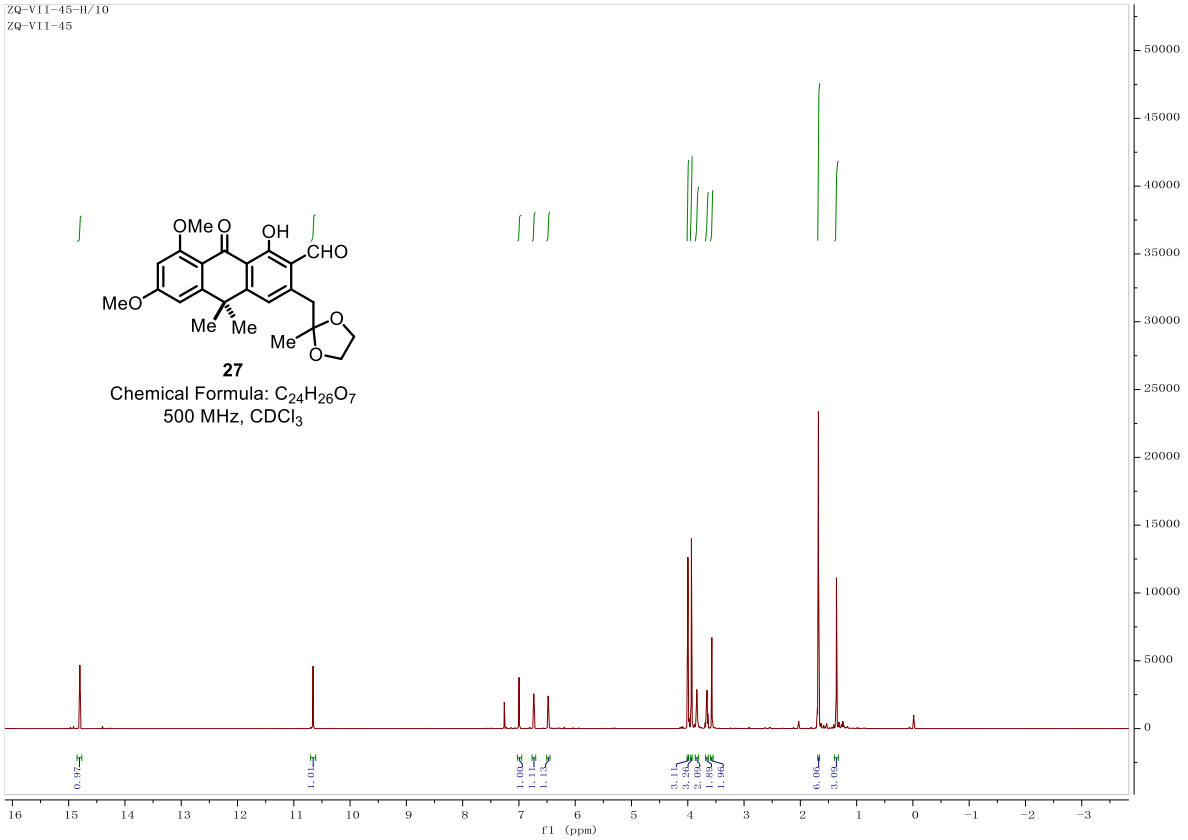
# $^{1}H$ and $^{13}C$ NMR Spectra of Compounds

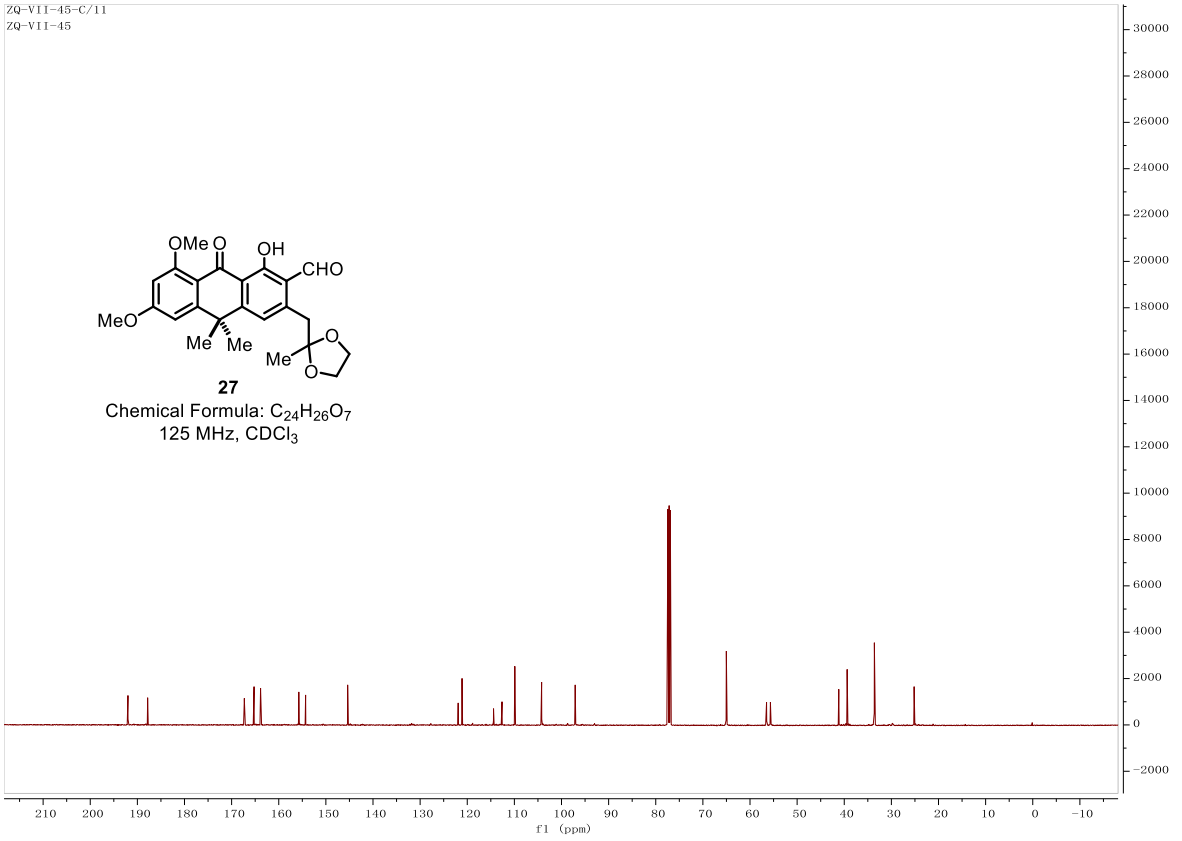


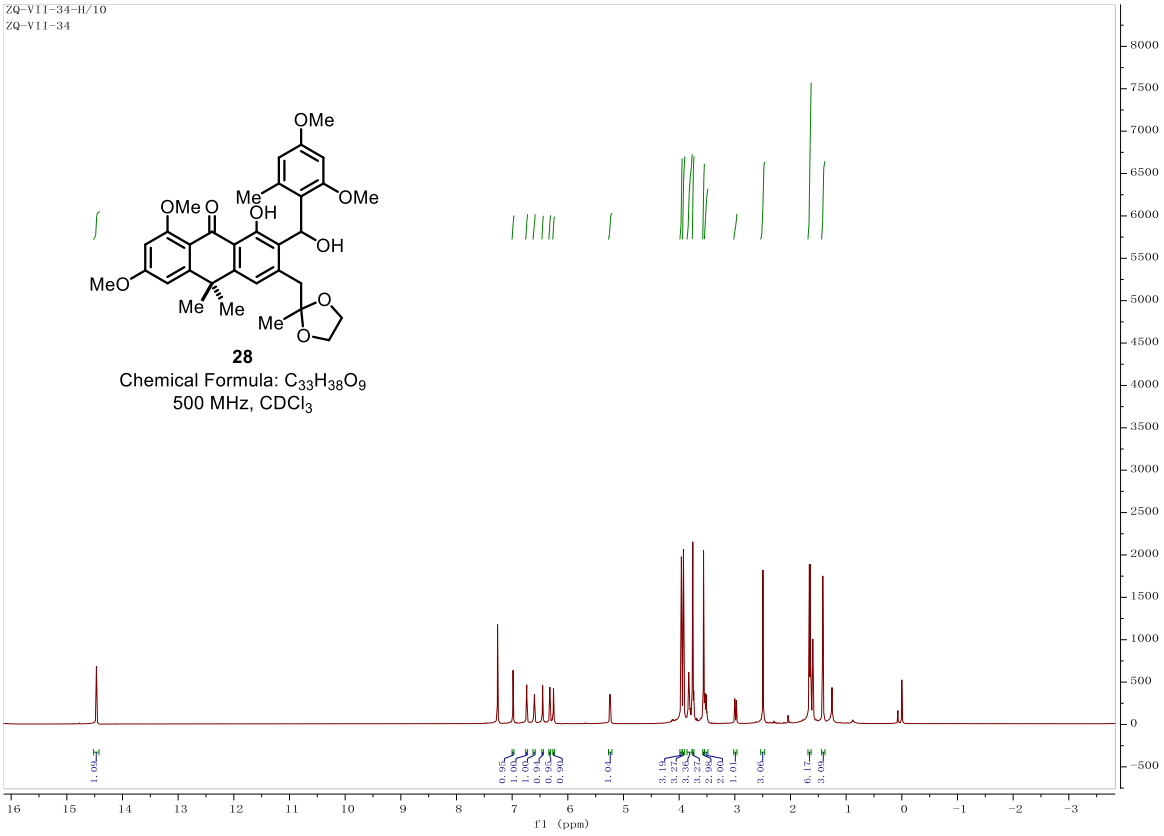




ZQ-VI-79-H/10
ZQ-VI-79
OMe O
OH
OAc
MeO
Me
Me
Me
O
O
26
Chemical Formula: C26H30O8
500 MHz, CDCl3
f1 (ppm)


ZQ-VI-79-C/11
ZQ-VI-79
OMe O
OH
OAc
MeO
Me
Me
Me
O
O
26
Chemical Formula: C26H30O8
125 MHz, CDCl3
f1 (ppm)


ZQ-VII-45-H/10
ZQ-VII-45
OMe O
OH
CHO
MeO
Me Me
Me
O
O
27
Chemical Formula: C24H26O7
500 MHz, CDCl3
f1 (ppm)

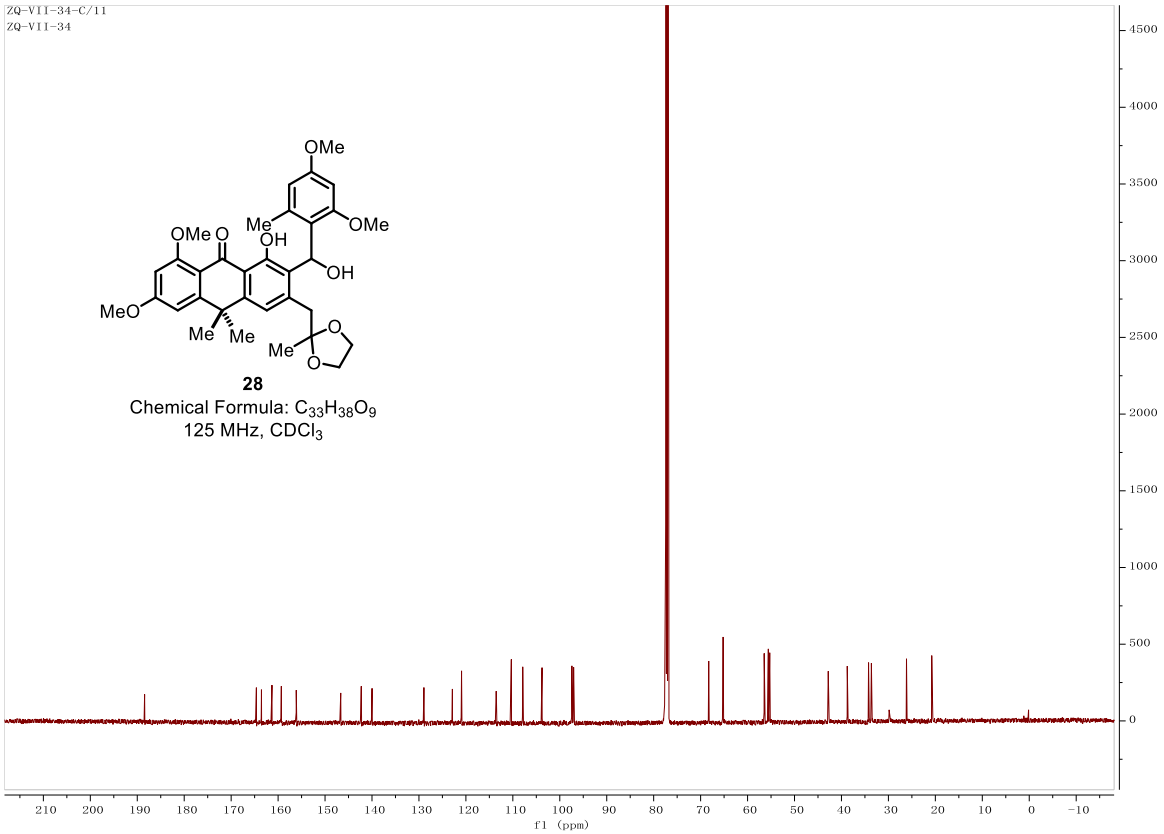

ZQ-VII-45-C/11
ZQ-VII-45
OMe O
OH
CHO
MeO
Me Me
Me
O
O
27
Chemical Formula: C24H26O7
125 MHz, CDCl3
f1 (ppm)




**28**

Chemical Formula: $C_{33}H_{38}O_9$

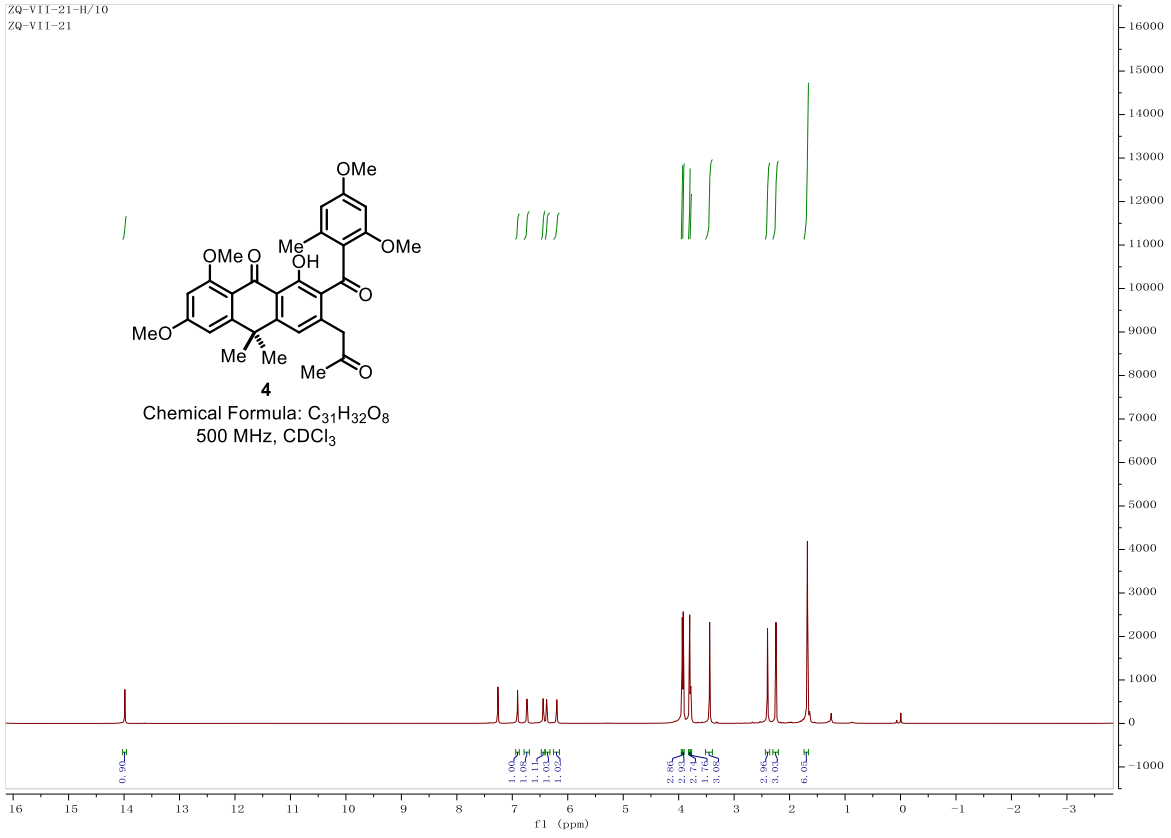
500 MHz, $CDCl_3$

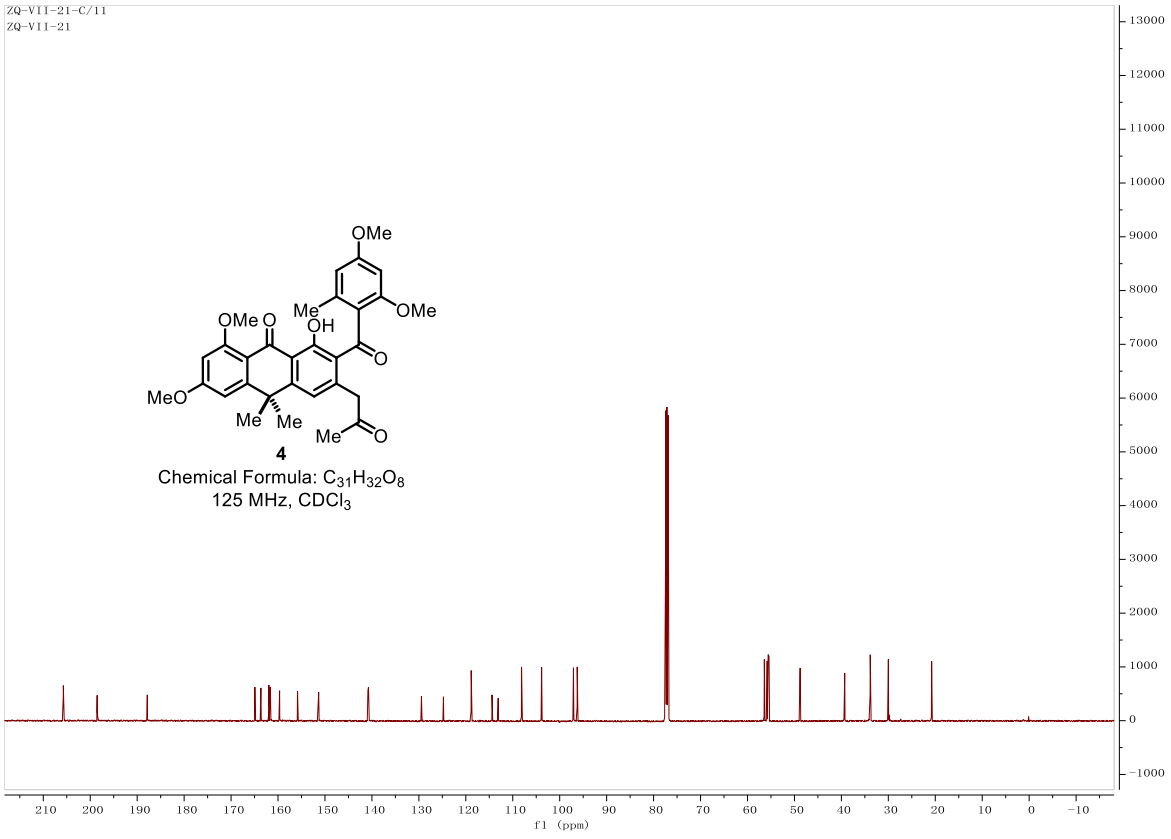


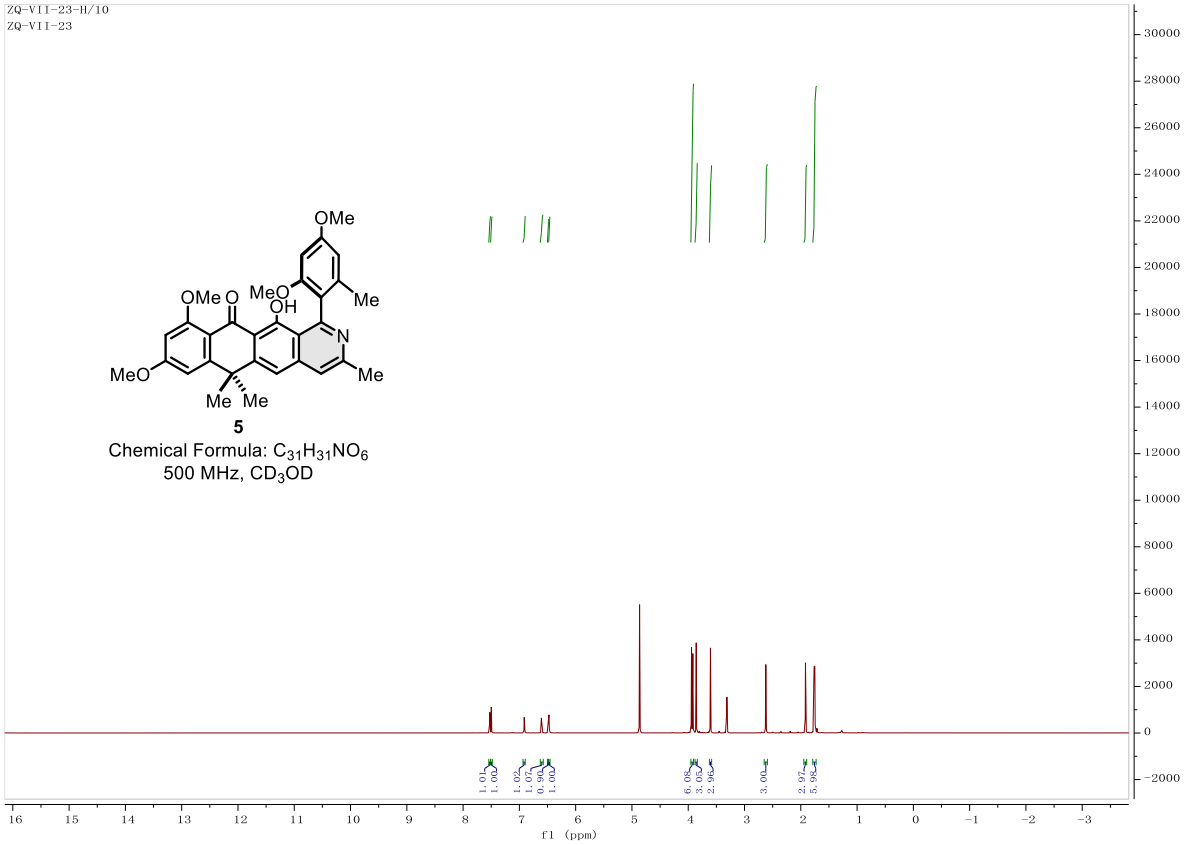

**28**

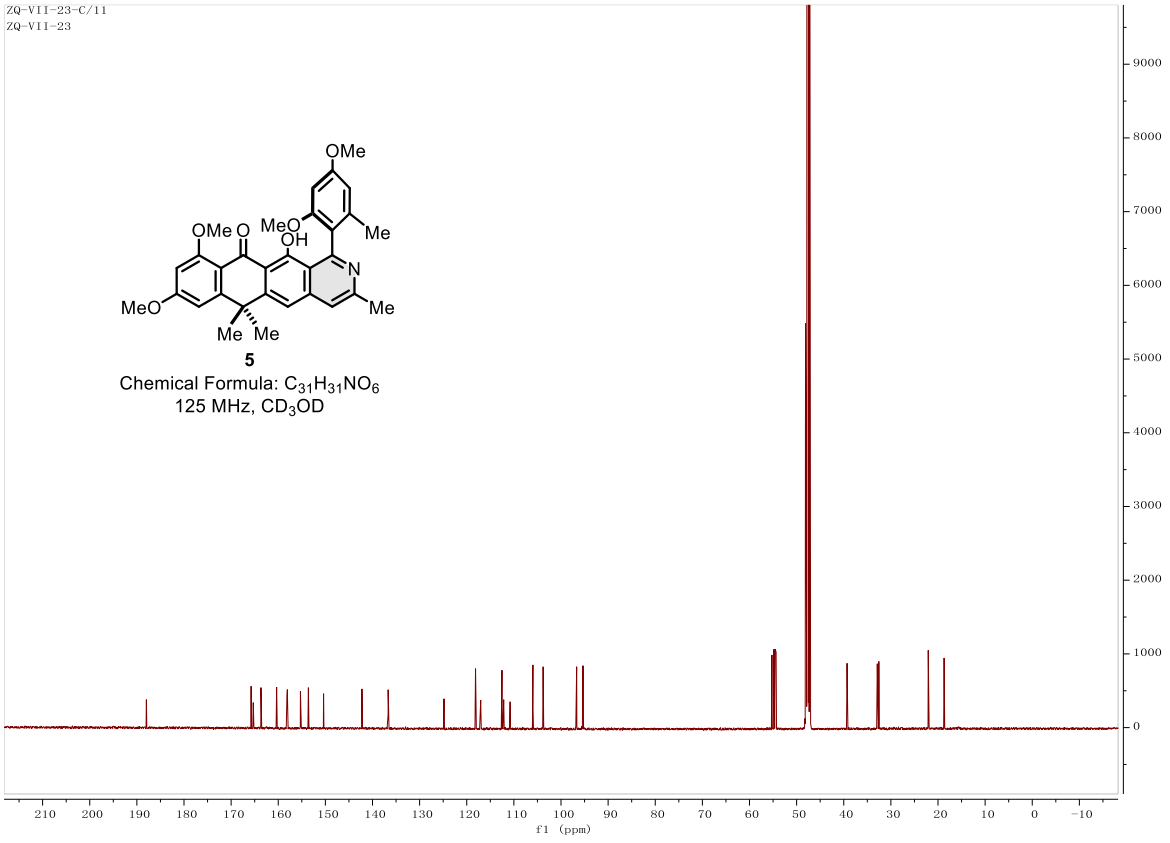
Chemical Formula: $C_{33}H_{38}O_9$

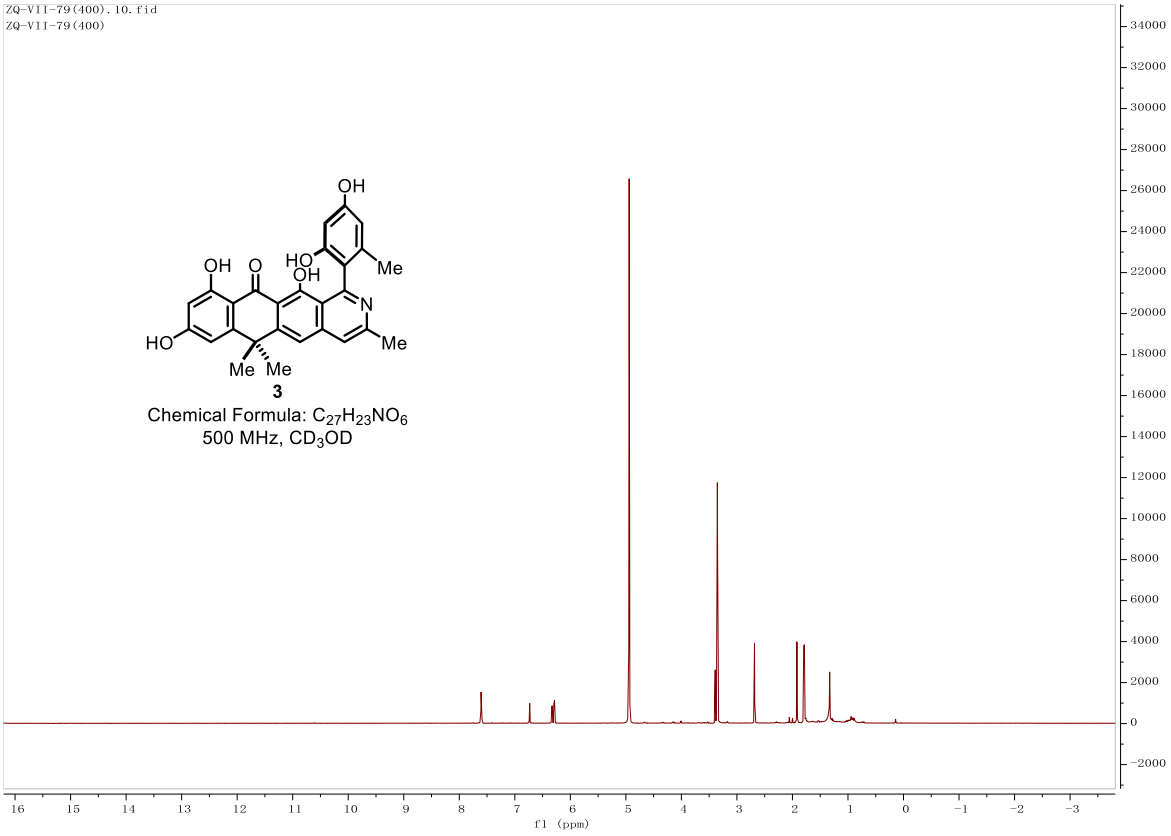
125 MHz, $CDCl_3$


ZQ-VII-21-H/10
ZQ-VII-21
OMe
Me
OMe
OMe O
OH
O
MeO
Me Me
Me
O
4
Chemical Formula: C31H32O8
500 MHz, CDCl3
f1 (ppm)


ZQ-VII-21-C/11
ZQ-VII-21
OMe
Me
OMe
OMe O
OH
O
MeO
Me Me
Me
O
4
Chemical Formula: C31H32O8
125 MHz, CDCl3
f1 (ppm)


ZQ-VII-23-H/10
ZQ-VII-23
OMe
OMe O
MeO
OH
Me
N
MeO
Me
Me Me
5
Chemical Formula: C31H31NO6
500 MHz, CD3OD
f1 (ppm)

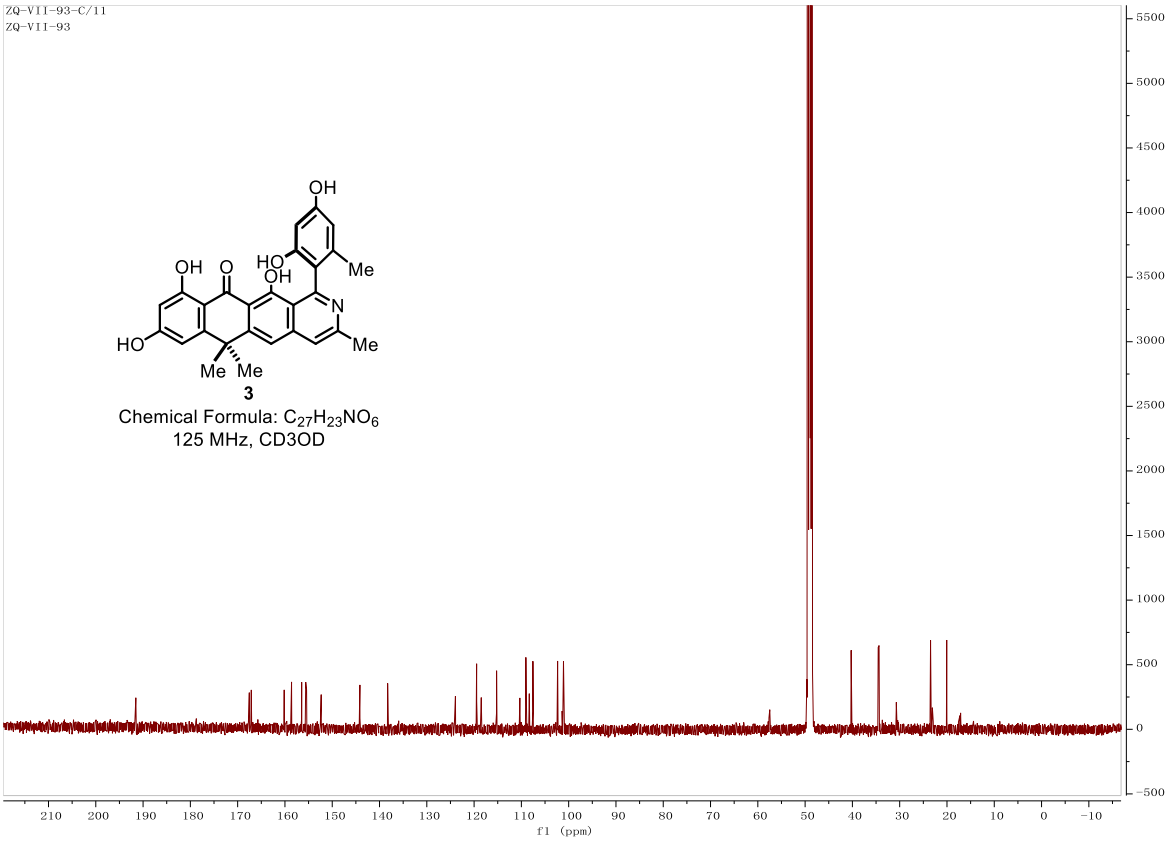

ZQ-VII-23-C/11
ZQ-VII-23
OMe
OMe O
MeO
OH
Me
N
MeO
Me
Me Me
5
Chemical Formula: C31H31NO6
125 MHz, CD3OD
f1 (ppm)




**3**

Chemical Formula: $C_{27}H_{23}NO_6$

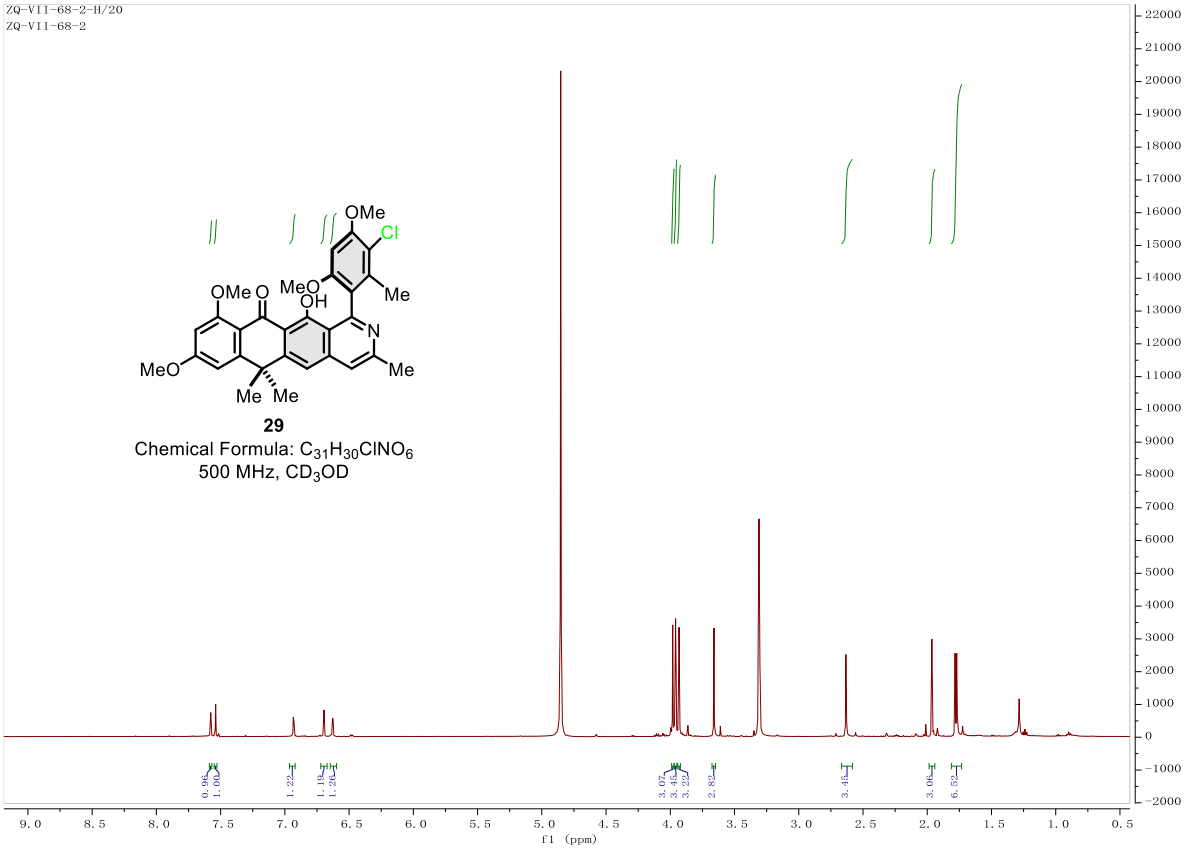
500 MHz, $CD_3OD$

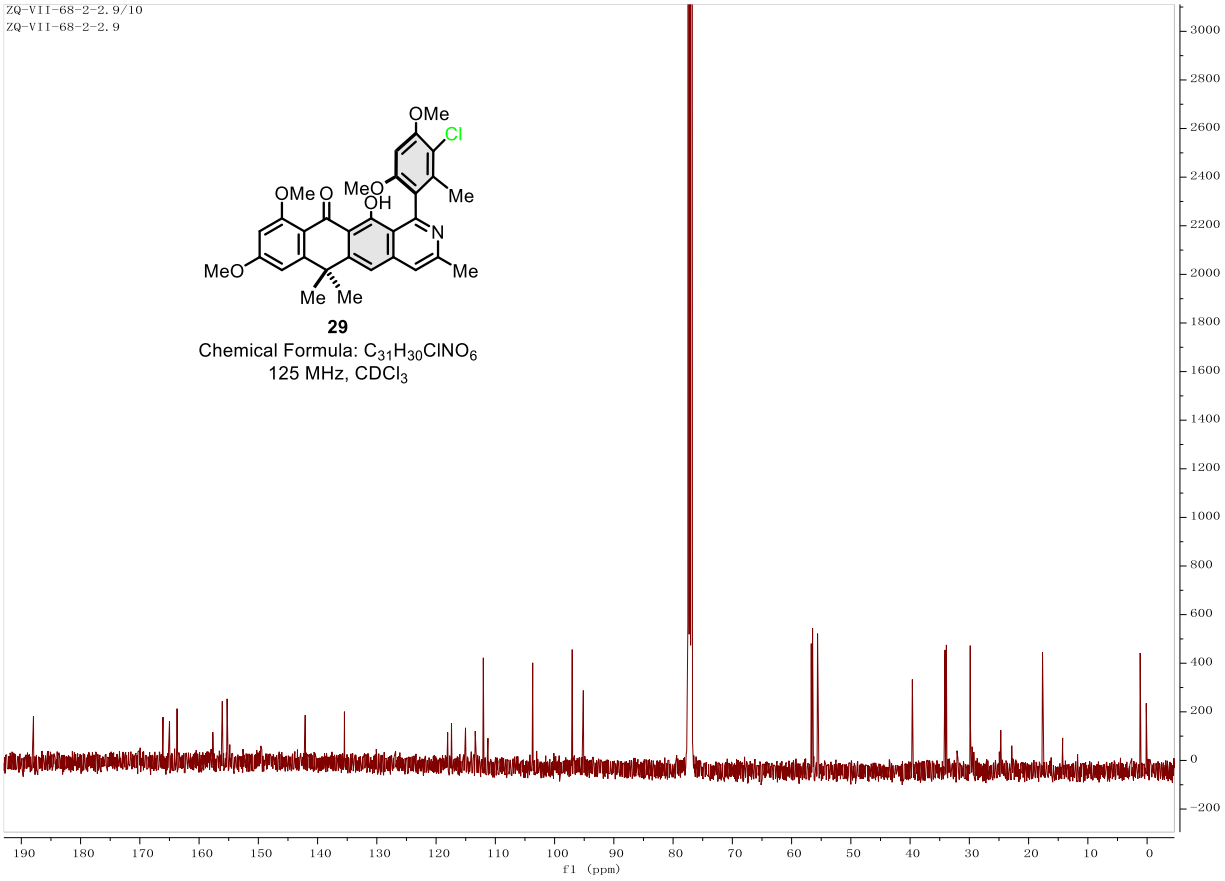


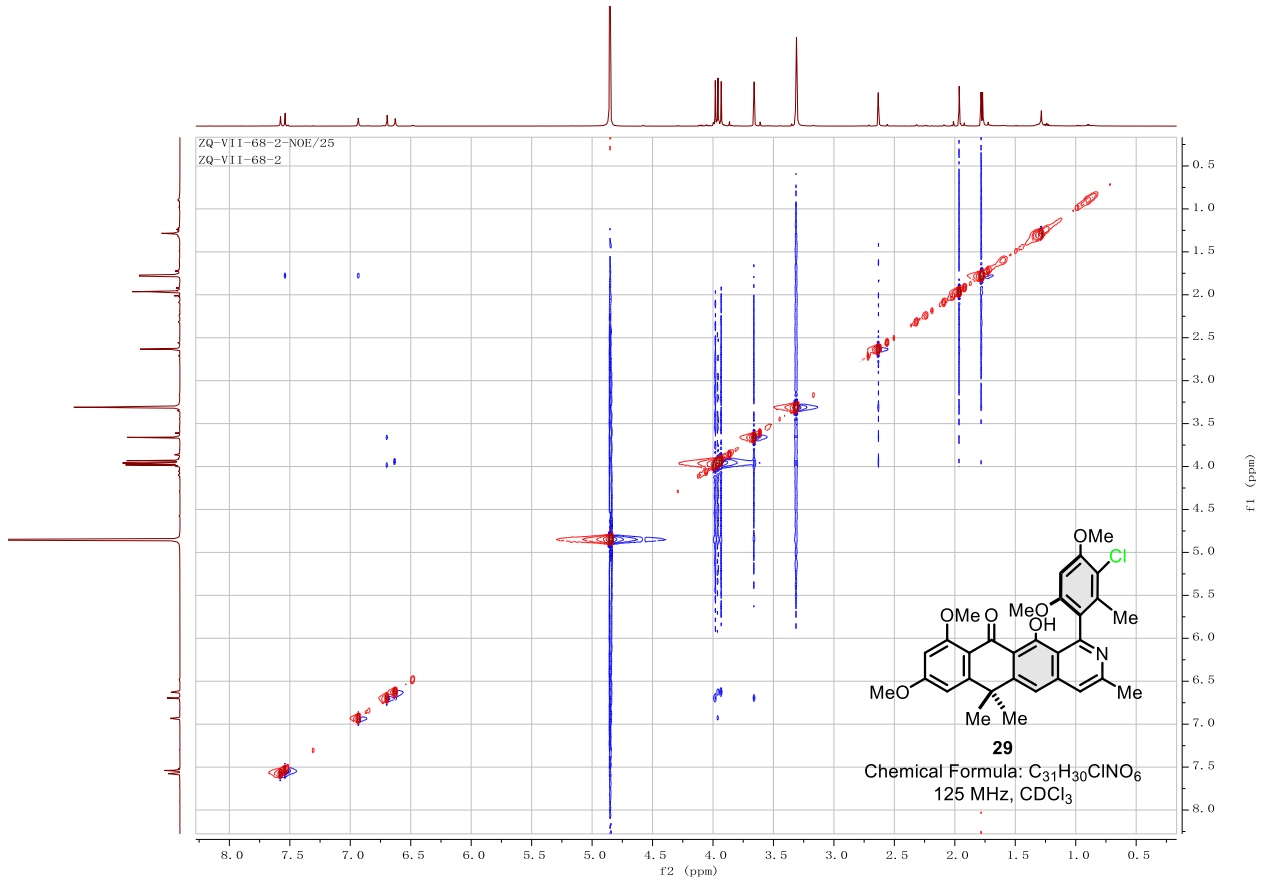

**3**

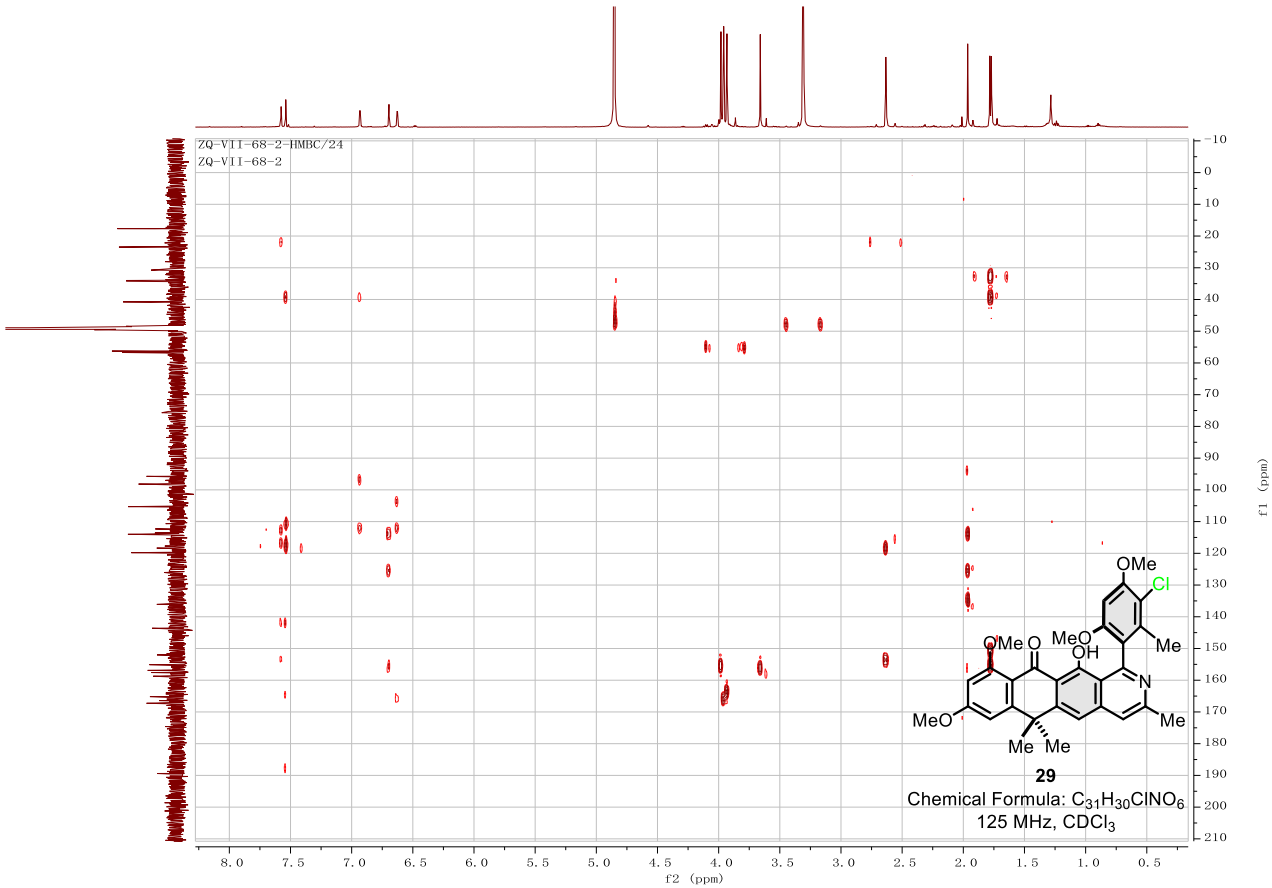
Chemical Formula: $C_{27}H_{23}NO_6$

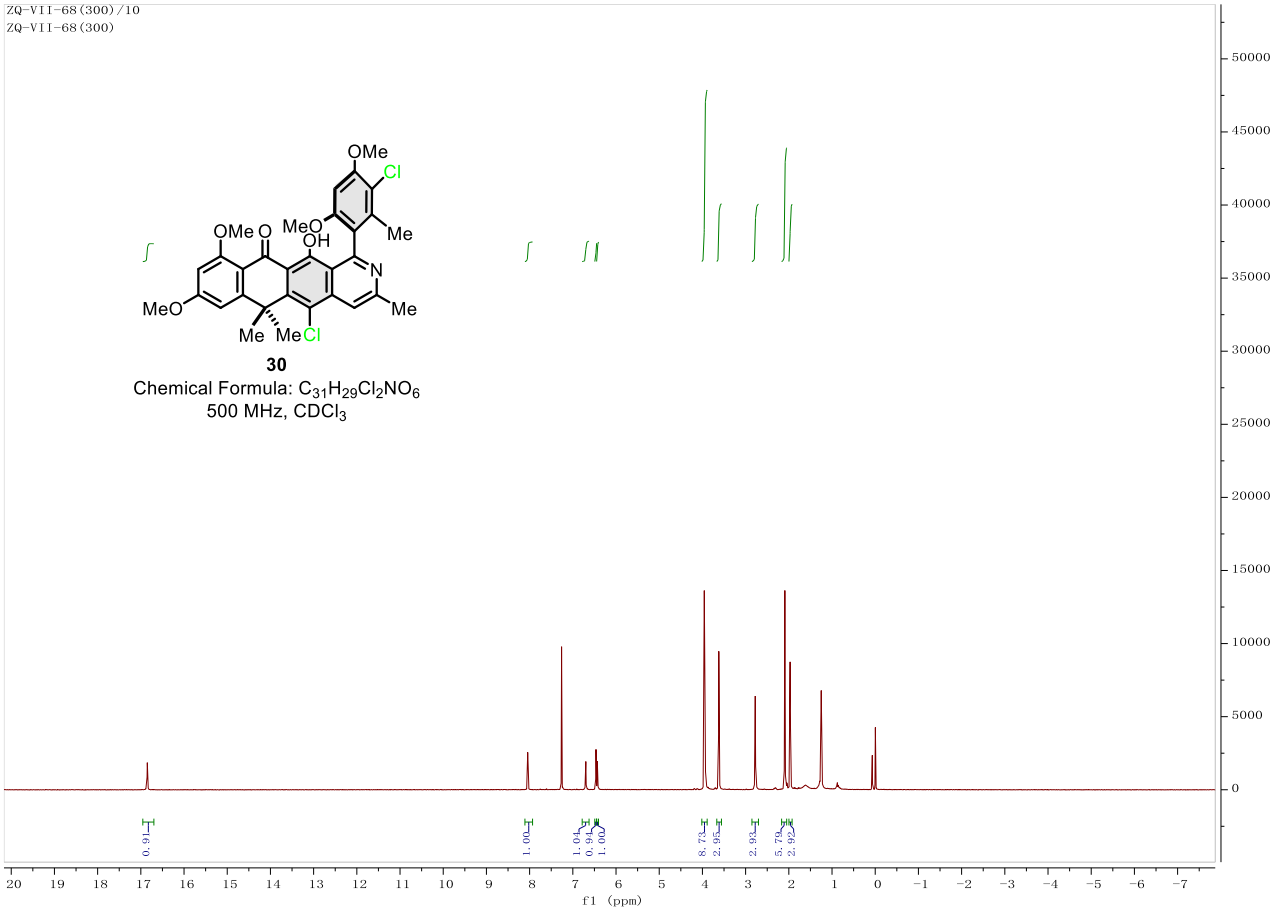
125 MHz, CD3OD

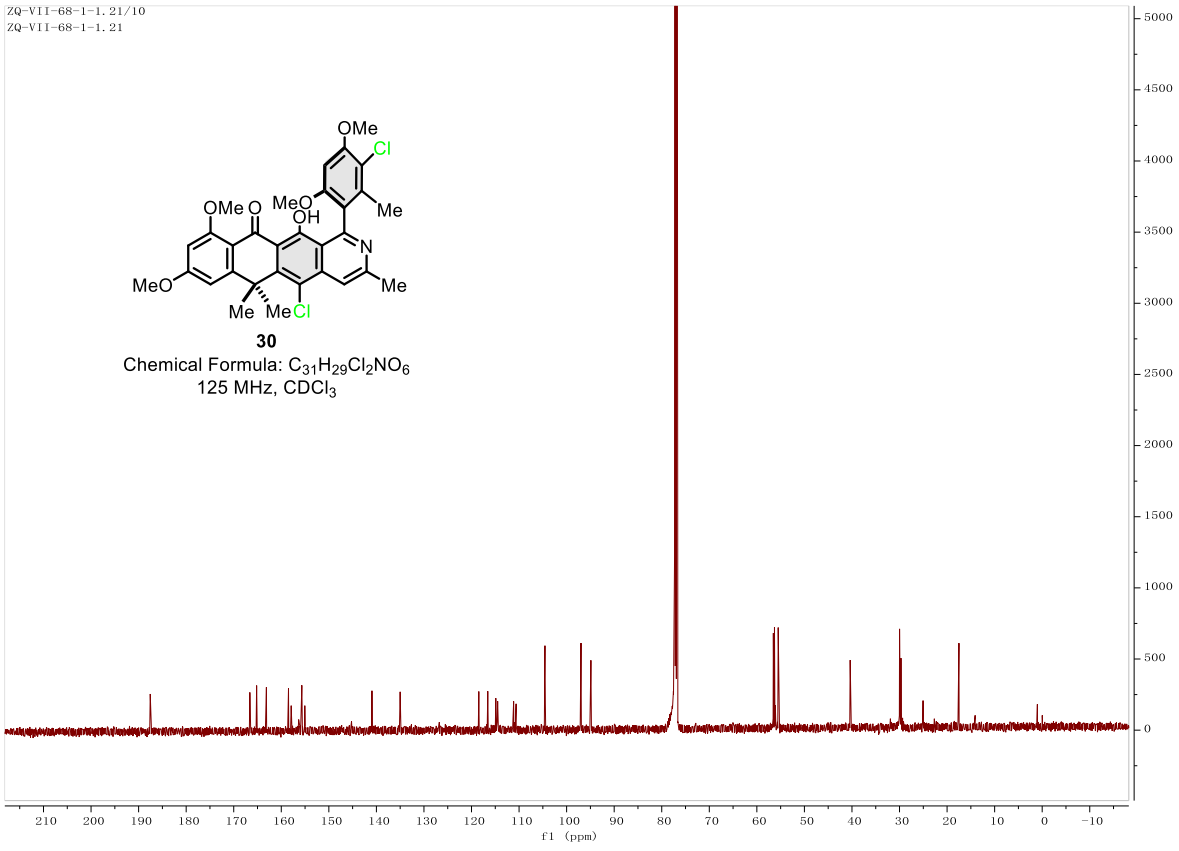

ZQ-VII-68-2-H/20
ZQ-VII-68-2
OMe
Cl
OMe O
MeO
OH
Me
N
MeO
Me
Me Me
29
Chemical Formula: C31H30ClNO6
500 MHz, CD3OD
f1 (ppm)

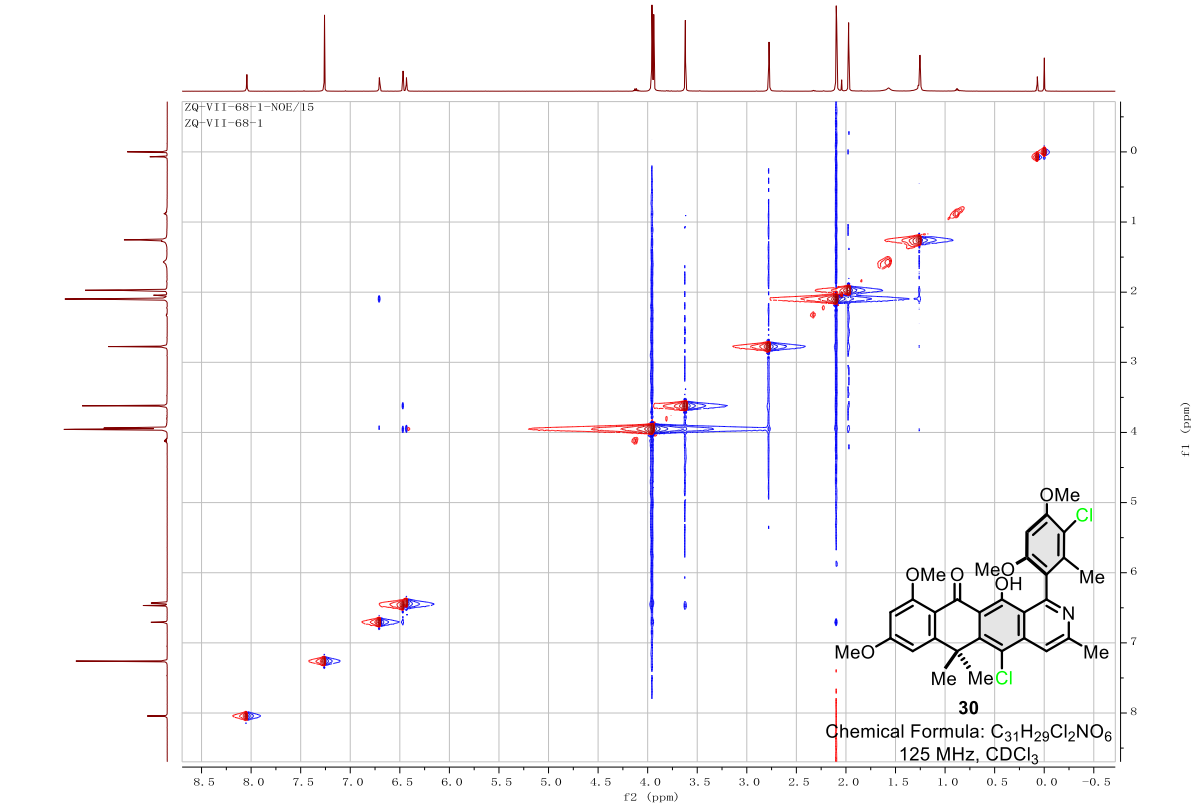

ZQ-VII-68-2-2.9/10
ZQ-VII-68-2-2.9
OMe
Cl
OMe O
MeO
OH
Me
N
MeO
Me
Me Me
29
Chemical Formula: C31H30ClNO6
125 MHz, CDCl3
f1 (ppm)

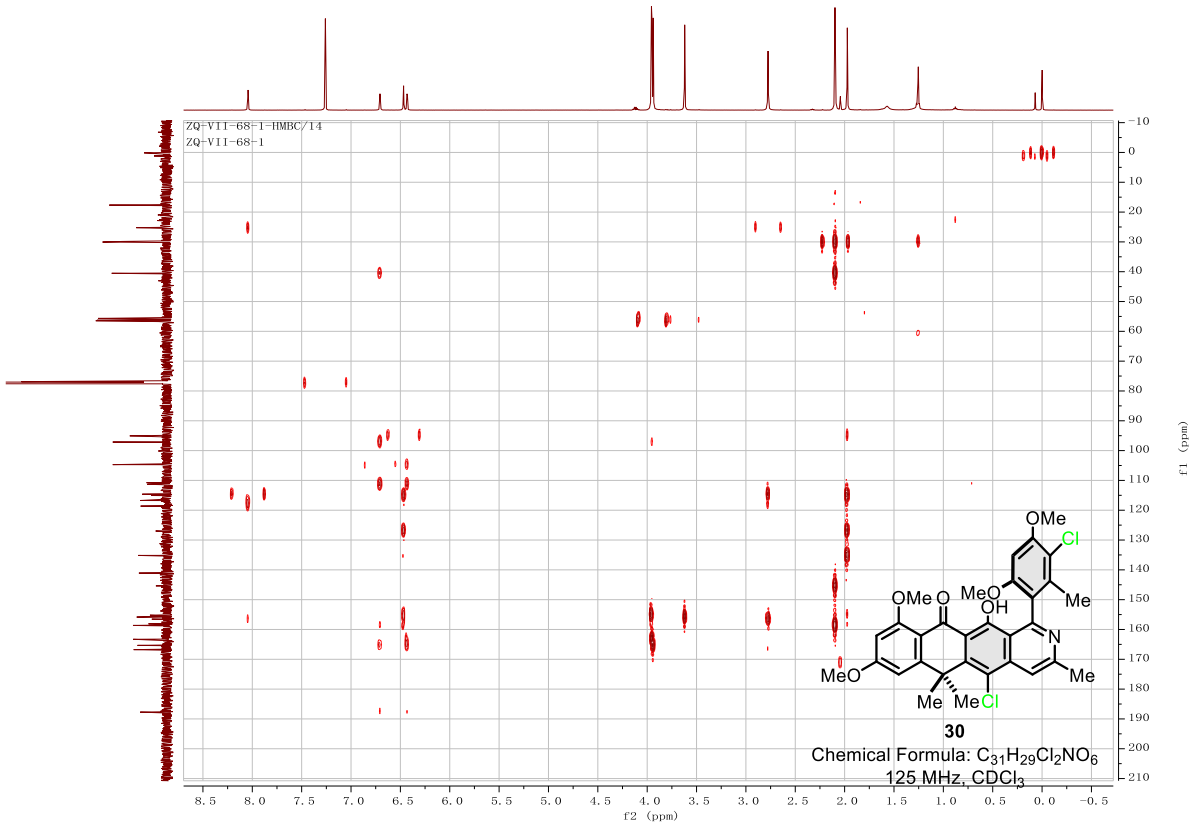

ZQ-VII-68-2-NOE/25
ZQ-VII-68-2
OMe
Cl
MeO
Me
OMe O
OH
N
MeO
Me
Me Me
29
Chemical Formula: C31H30ClNO6
125 MHz, CDCl3
f2 (ppm)
f1 (ppm)

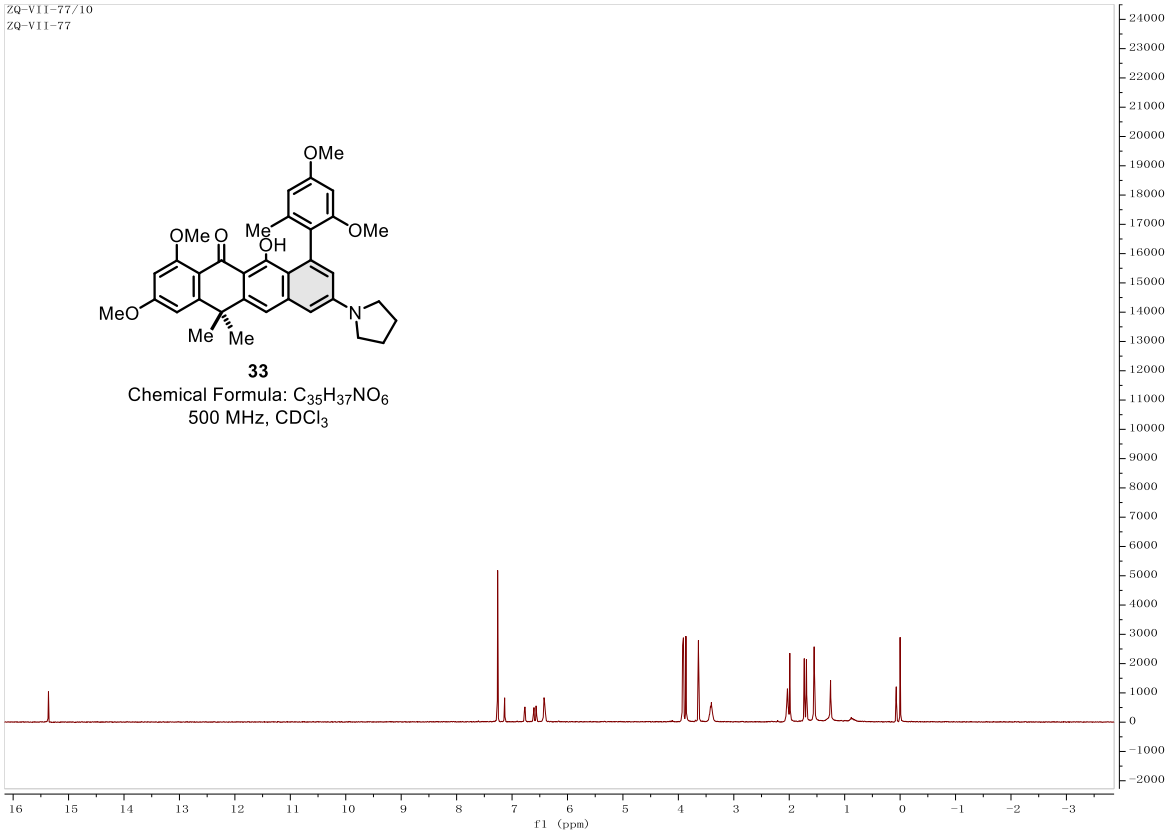

ZQ-VII-68-2-HMBC/24
ZQ-VII-68-2
OMe
Cl
MeO
Me
OMe O
OH
N
MeO
Me
Me Me
29
Chemical Formula: C31H30ClNO6
125 MHz, CDCl3
f2 (ppm)
f1 (ppm)

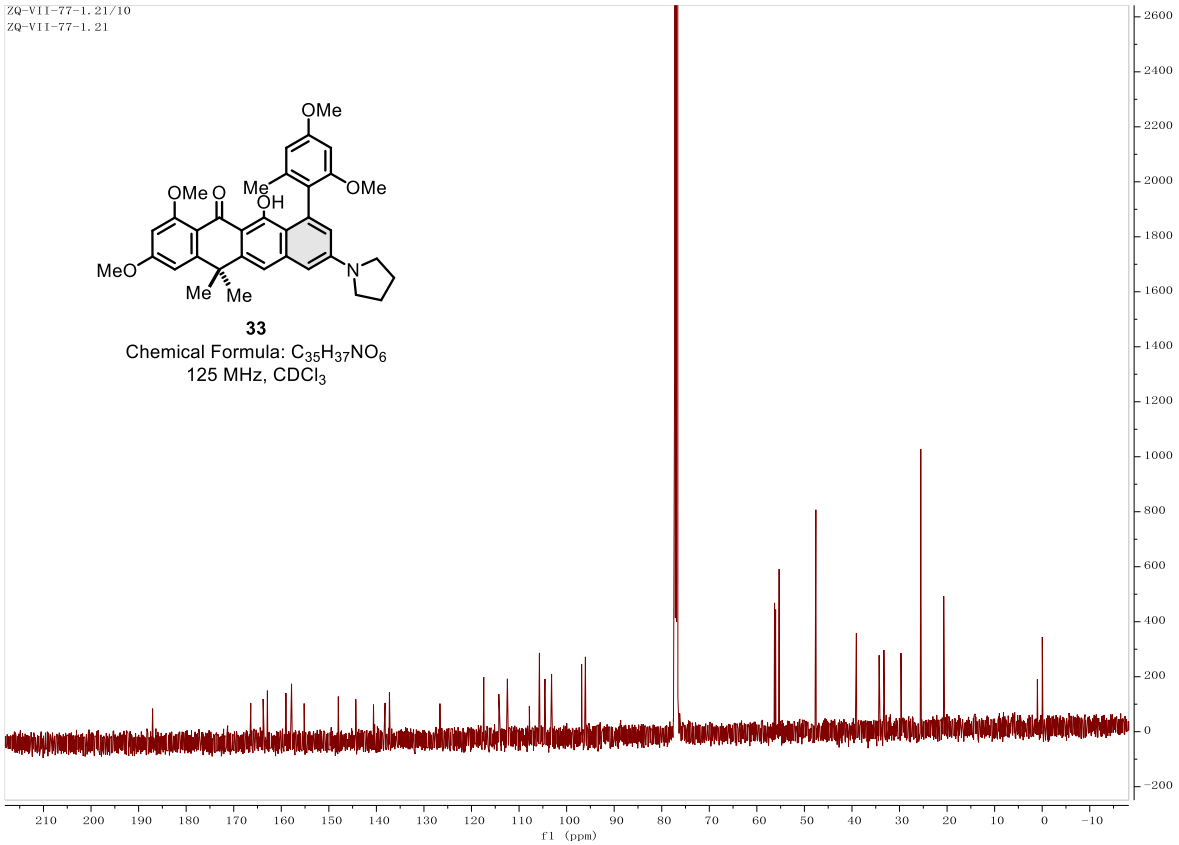

ZQ-VII-68(300)/10
ZQ-VII-68(300)
OMe
Cl
OMe O
MeO
OH
Me
N
MeO
Me
Me
MeCl
30
Chemical Formula: C31H29Cl2NO6
500 MHz, CDCl3
f1 (ppm)


ZQ-VII-68-1-1.21/10
ZQ-VII-68-1-1.21
OMe
Cl
OMe O
MeO
OH
Me
N
MeO
Me
Me
MeCl
30
Chemical Formula: C31H29Cl2NO6
125 MHz, CDCl3
f1 (ppm)


ZQ-VII-68-1-NOE/15
ZQ-VII-68-1
f2 (ppm)
f1 (ppm)
OMe
Cl
OMe O
MeO
OH
Me
N
MeO
Me
Me
MeCl
30
Chemical Formula: C31H29Cl2NO6
125 MHz, CDCl3


ZQ-VII-68-1-HMBC/14
ZQ-VII-68-1
f2 (ppm)
f1 (ppm)
OMe
Cl
OMe O
MeO
OH
Me
N
MeO
Me
Me
MeCl
30
Chemical Formula: C31H29Cl2NO6
125 MHz, CDCl3


ZQ-VII-77/10
ZQ-VII-77
OMe
OMe O
Me
OH
OMe
MeO
Me Me
N
33
Chemical Formula: C35H37NO6
500 MHz, CDCl3
f1 (ppm)


ZQ-VII-77-1.21/10
ZQ-VII-77-1.21
OMe
OMe O
Me
OH
OMe
MeO
Me Me
N
33
Chemical Formula: C35H37NO6
125 MHz, CDCl3
f1 (ppm)