Electronic Supplementary Material (ESI) for Organic & Biomolecular Chemistry.

Supporting information for

Asymmetric Synthesis of (-)-Solanidine and (-)-Tomatidenol

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Table S1. Comparing the ^{1}H NMR Data of Synthetic **1** with Those Reported[1]

Numbering	Our sample: (400 MHz, $CDCl_3$)	Reported by Zhang (400 MHz, $CDCl_3$)	Δδ/ppm
3	3.46-3.57 (m, 1H)	3.46-3.57 (m, 1H)	0.00
6	5.35 (d, *J* =5.1 Hz, 1H)	5.35 (d, *J* = 4.7 Hz, 1H)	0.00
16	2.81-2.91 (m, 1H)	2.85 (d, *J* = 7.8 Hz, 1H)	0.01
18	0.84 (s)	0.83 (s)	0.01
19	1.02 (s)	1.02 (s)	0.00
21	0.83 (d, *J* =6.8 Hz, 3H)	0.83 (d, *J*=6.6 Hz)	0.00
22	2.57-2.68 (m, 1H)	2.57-2.67 (m, 1H),	0.00
27	0.92 (d, *J* =6.6 Hz)	0.92 (d, *J* = 6.5 Hz, 3H)	0.00

Table S2. Comparing the ^{13}C NMR Data of Synthetic **1** with Those Reported[1]

numbering	Our sample (100 MHz, $CDCl_3$)	Reported by Zhang ($CDCl_3$)	Δδ/ppm
1	37.4	37.4	0.0
2	31.5	31.5	0.0
3	71.9	71.9	0.0
4	42.5	42.5	0.0
5	140.9	140.9	0.0
6	121.8	121.8	0.0
7	31.8	31.8	0.0
8	32.2	32.2	0.0
9	50.4	50.4	0.0
10	36.8	36.8	0.0
11	21.1	21.1	0.0
12	40.1	40.1	0.0
13	40.4	40.4	0.0
14	57.8	57.8	0.0
15	33.5	33.5	0.0
16	69.2	69.2	0.0
17	63.2	63.2	0.0

18	17.1	17.0	0.1
19	19.7	19.7	0.0
20	36.8	36.8	0.0
21	18.5	18.4	0.1
22	74.8	74.8	0.0
23	29.5	29.8	0.3
24	31.2	31.2	0.0
25	31.2	31.2	0.0
26	60.4	60.4	0.0
27	19.6	19.6	0.0

Table S3. Comparing the ^{1}H NMR Data of Synthetic **2** with Those Reported[2]

Numbering	Our sample: (400 MHz, $CDCl_3$)	Reported by Wu (400 MHz, $CDCl_3$)	Δδ/ppm
3	3.46-3.57 (m, 1H)	3.46-3.57 (m, 1H)	0.00
6	5.35 (d, *J* = 5.4 Hz, 1H)	5.35 (d, *J* = 4.6 Hz, 1H)	0.00
16	4.14 (q, *J* = 7.4 Hz, 1H)	4.13 (q, *J* = 7.4 Hz, 1H)	0.01
18	0.85 (s)	0.85 (s)	0.00
19	1.03 (s, 3H)	1.03 (s)	0.00
21	0.86 (d, *J* = 6.7 Hz, 3H)	0.86 (d, *J* =7.0 Hz, 3H)	0.00
24	2.66-2.76 (m, 2H)	2.67-2.80 (m, 2H)	0.02
26	2.20-2.37 (m, 2H)	2.30 (dd, *J* =12.8, 3.8Hz, 1H) 2.23 (t, *J* =12.2 Hz, 1H)	0.02
27	0.98 (d, *J* = 6.7 Hz, 3H)	0.98 (d, *J* = 6.6 Hz, 3H)	0.00

Table S4. Comparing the ^{13}C NMR Data of Synthetic **2** with Those Reported[3]

numbering	Our sample (100 MHz, $CDCl_3$)	Reported by Chhabra ($CDCl_3$)	Δδ/ppm
1	36.8	36.9	0.1
2	31.8	31.6	0.2
3	71.9	71.7	0.2
4	42.4	42.3	0.1
5	141.0	141.0	0.0
6	121.5	121.0	0.5
7	32.3	32.1	0.2
8	31.5	31.4	0.1
9	50.3	50.1	0.2
10	37.4	37.3	0.1
11	21.0	20.9	0.1
12	40.1	40.0	0.1
13	40.8	40.6	0.2
14	56.2	56.0	0.2
15	32.9	32.8	0.1

16	78.6	78.5	0.1
17	62.0	61.9	0.1
18	16.9	16.8	0.1
19	19.5	19.4	0.1
20	43.2	43.0	0.2
21	16.1	15.9	0.2
22	100.1	99.1	1.0
23	26.8	26.7	0.1
24	28.7	28.6	0.1
25	31.2	31.1	0.1
26	50.4	50.2	0.2
27	19.6	19.4	0.2

Reference:

1. Z. D. Zhang, Y. Shi, J. J. Wu, J. R. Lin, W. S. Tian, *Org. Lett.* 2016, **18**, 3038-3040.

2. J. J. Wu, R. Gao, Y. Shi, W. S. Tian, *Tetrahedron Lett.* 2015, **56**, 6639-6642.

3. A. W. Wangyonyi, S. C. Ghhabra, G. Mkoji, U. Eilert, W. M. Njue, Phytochemistry. 2002, **59**, 79-84.

^{1}H and ^{13}C NMR spectra of all new compounds

Figure S1. ^{1}H NMR Spectrum of **9** (400 MHz, $CDCl_3$)

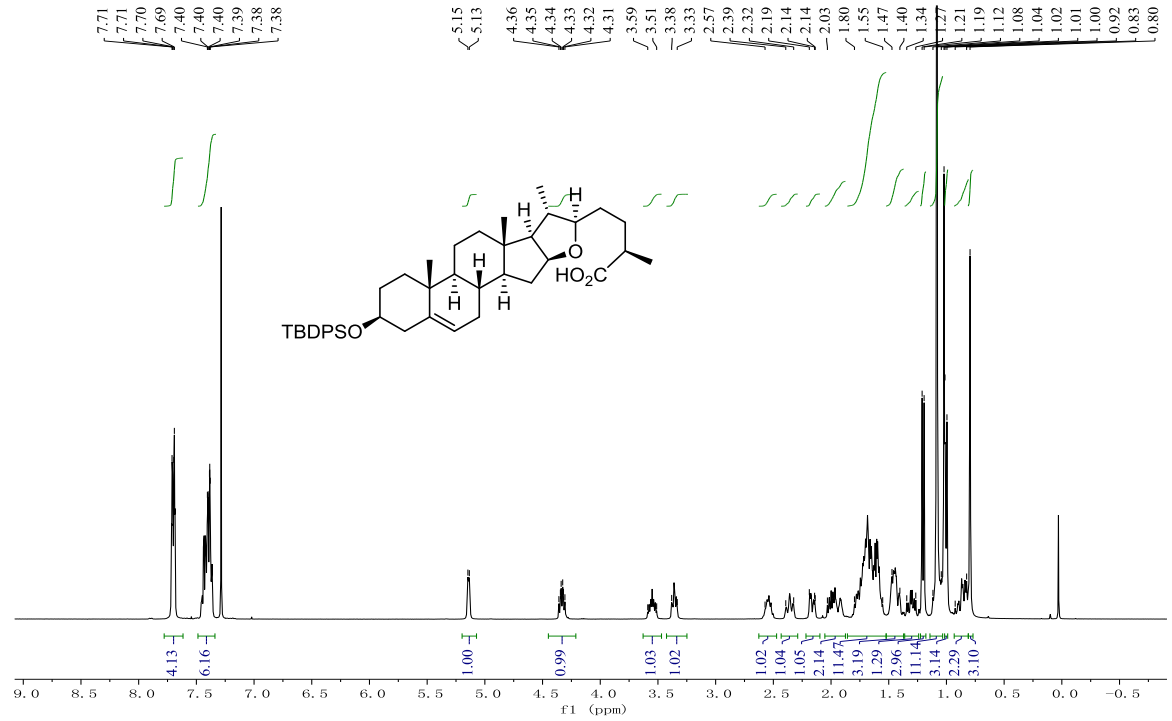

Figure S2. ^{13}C NMR Spectra of **9** (100 MHz, $CDCl_3$)

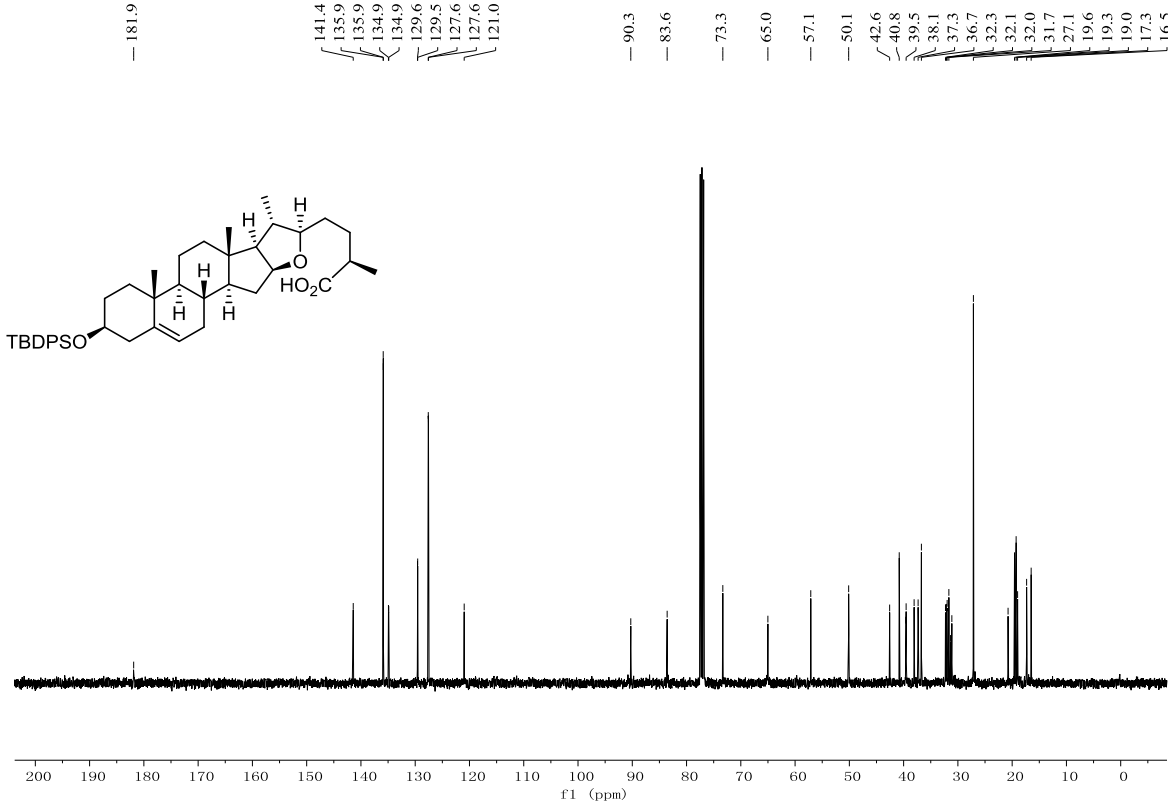

Figure S3. ^{13}C NMR Spectra of **9** (DEPT, 100 MHz, $CDCl_3$)

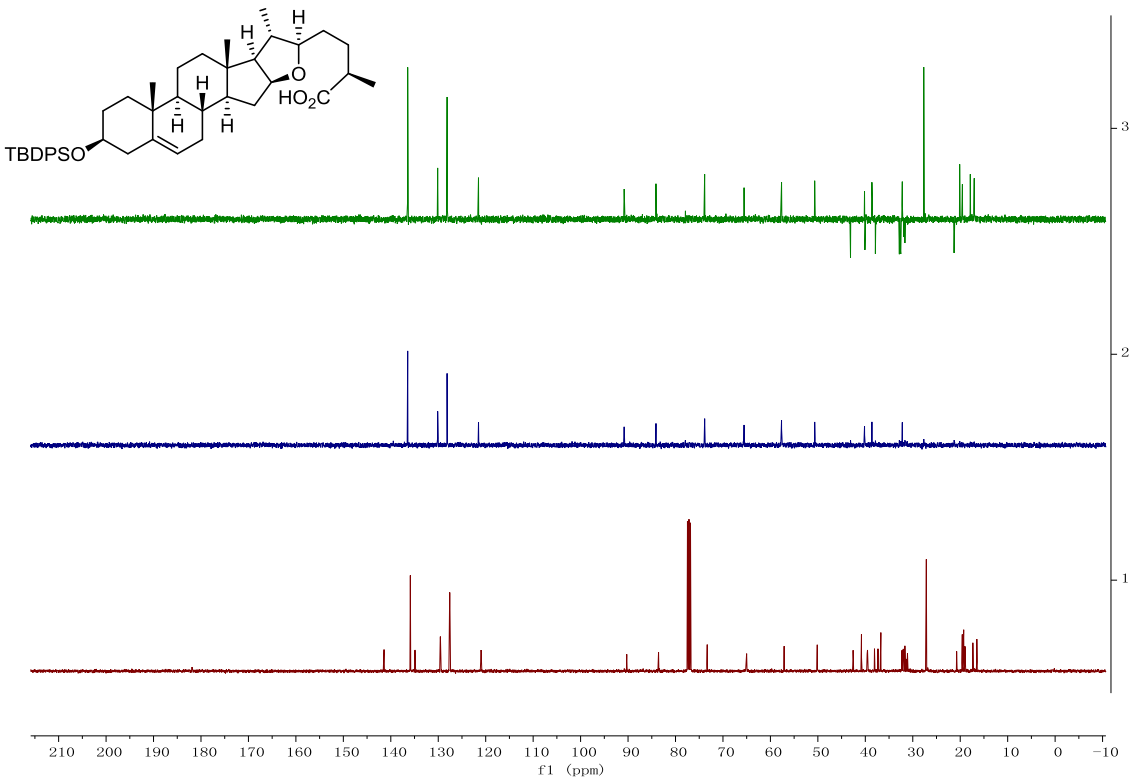

Figure S4. ^{1}H NMR Spectrum of **8** (400 MHz, $CDCl_3$)

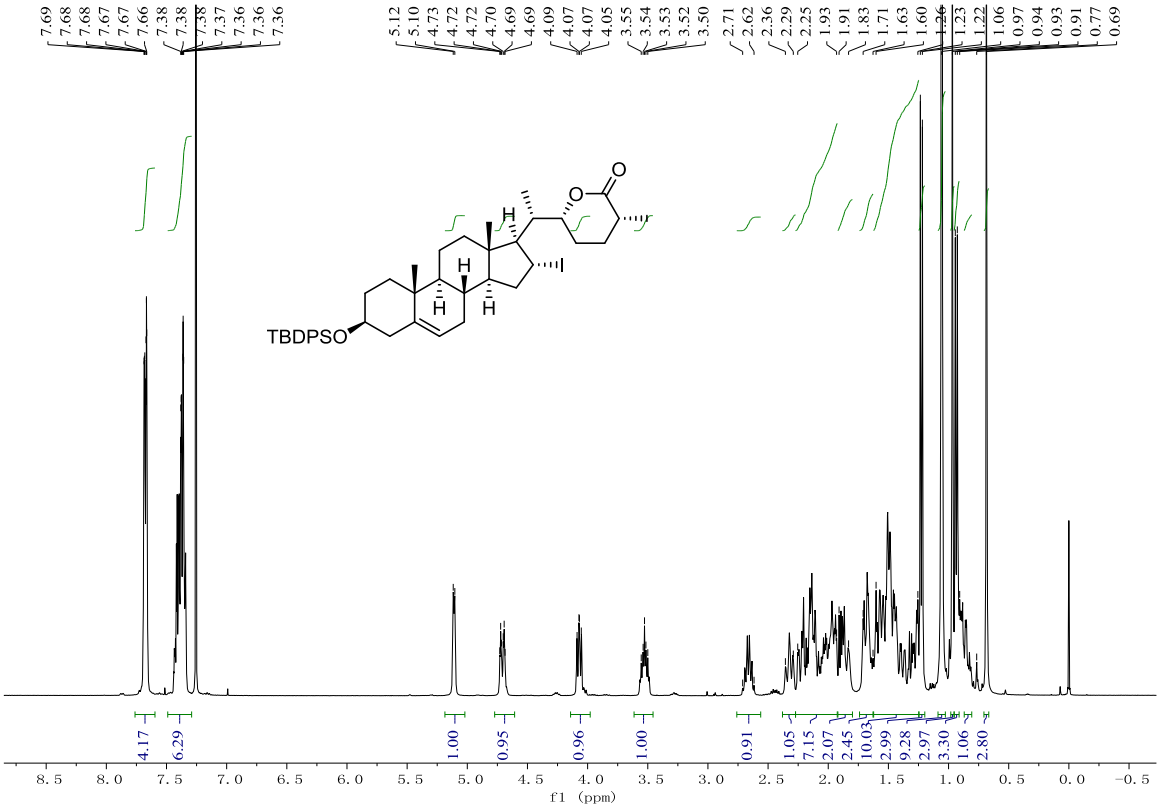

Figure S5. ^{13}C NMR Spectra of **8** (100 MHz, $CDCl_3$)

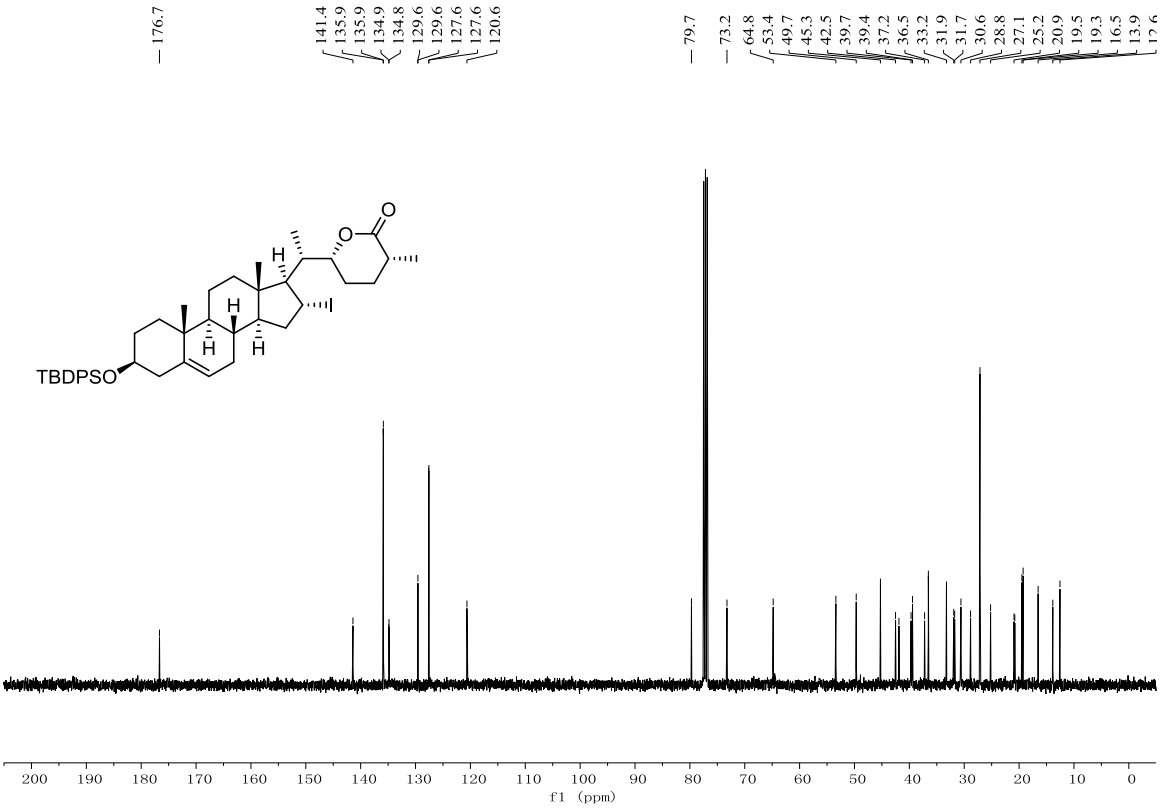

Figure S6. ^{13}C NMR Spectra of **8** (DEPT, 100 MHz, $CDCl_3$)

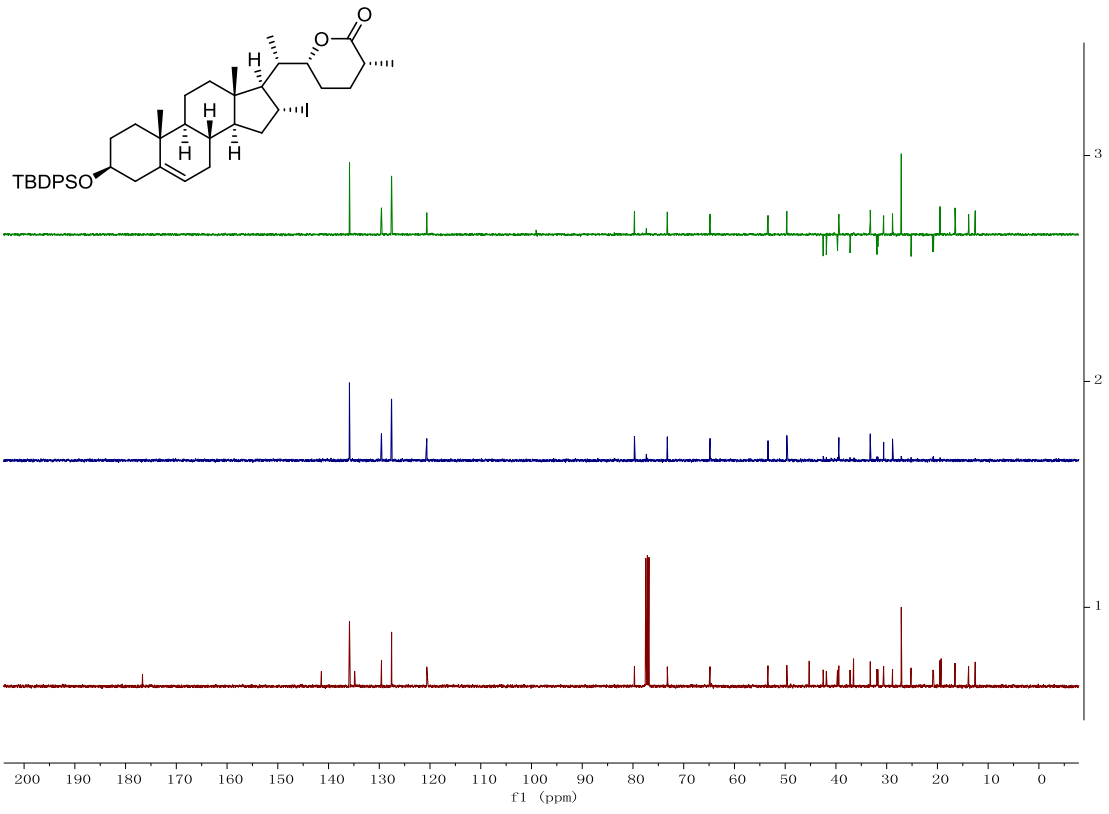

Figure S7. ^{1}H NMR Spectrum of **12** (400 MHz, $CDCl_3$)

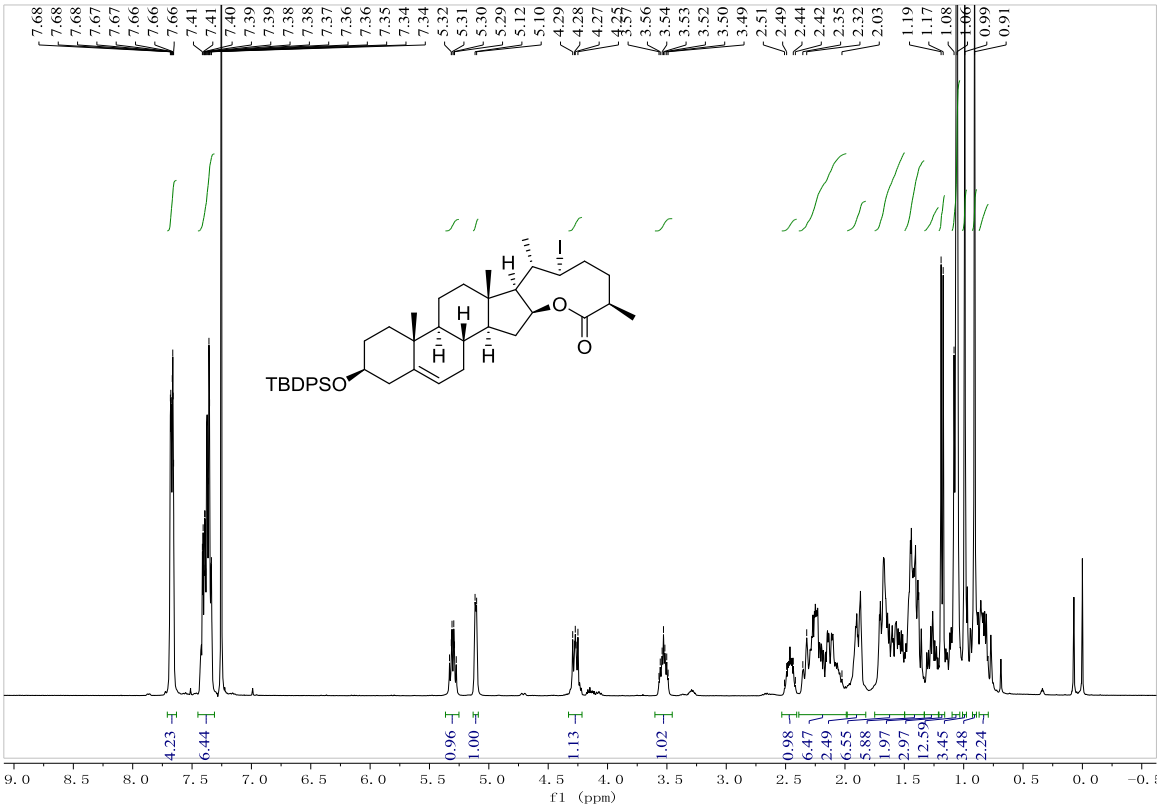

Figure S8. ^{13}C NMR Spectra of **12** (100 MHz, $CDCl_3$)

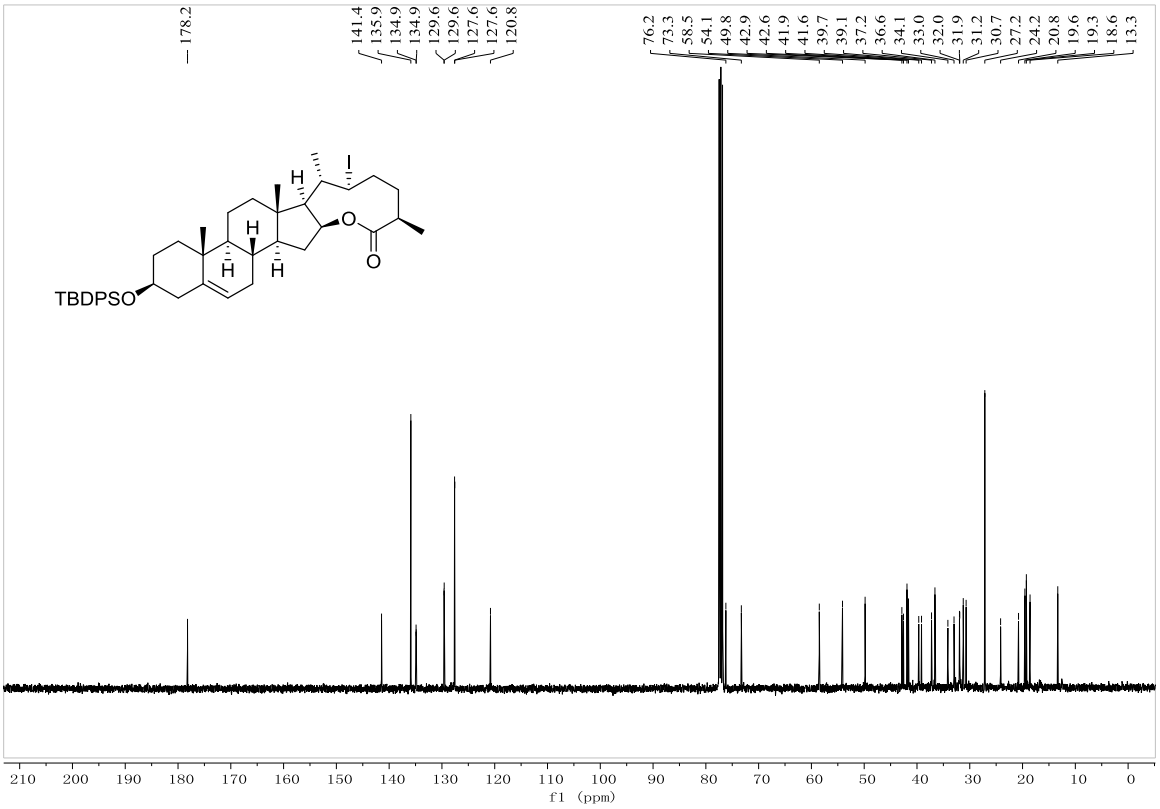

Figure S9. ^{13}C NMR Spectra of **12** (DEPT, 100 MHz, $CDCl_3$)

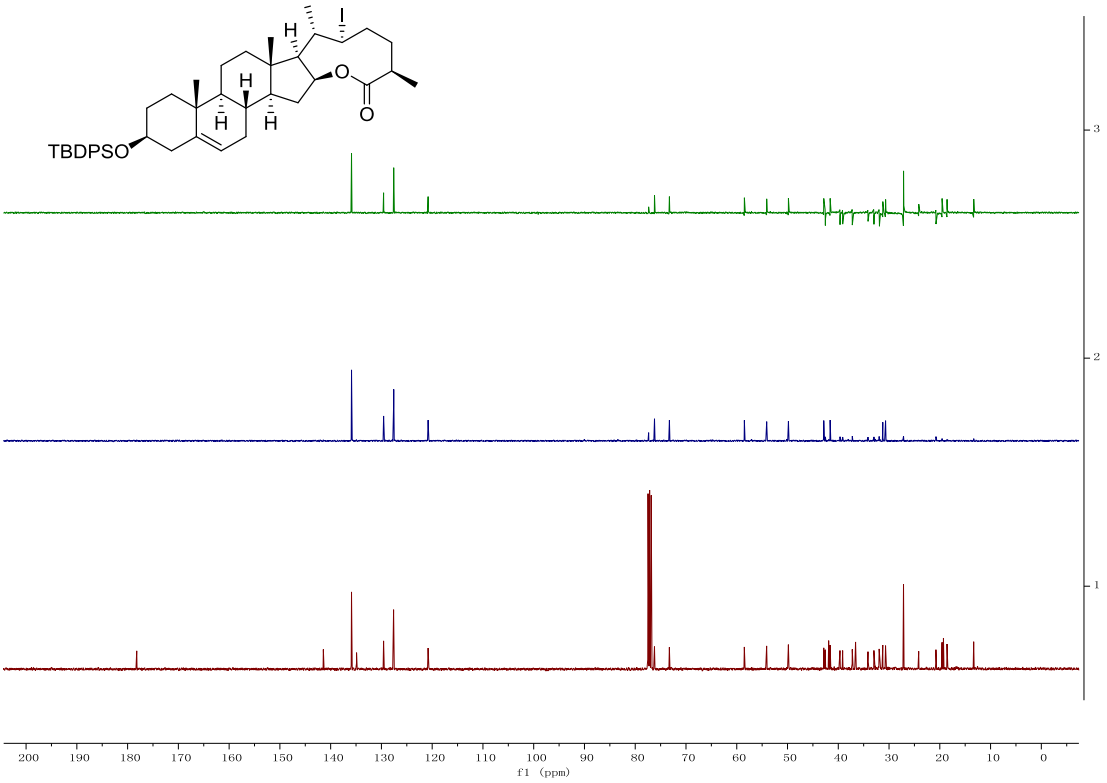

Figure S10. ^{1}H NMR Spectrum of **13** (400 MHz, $CDCl_3$)

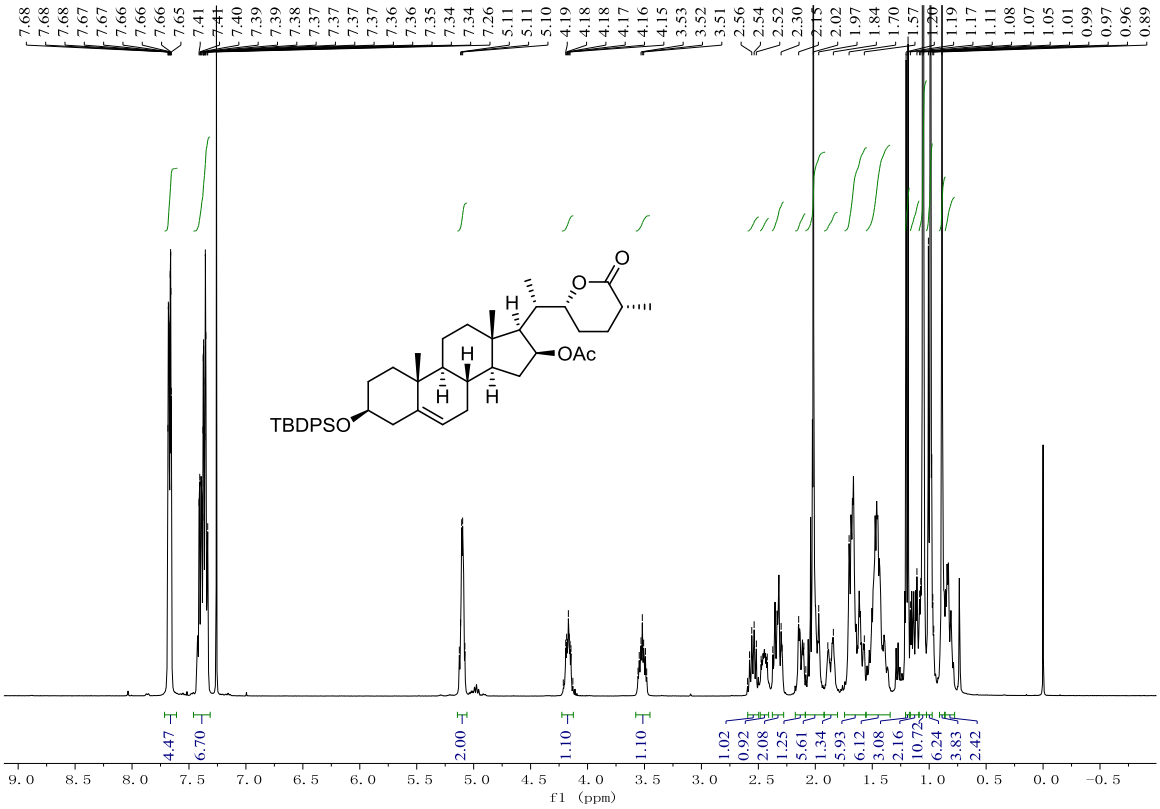

Figure S11. ^{13}C NMR Spectra of **13** (100 MHz, $CDCl_3$)

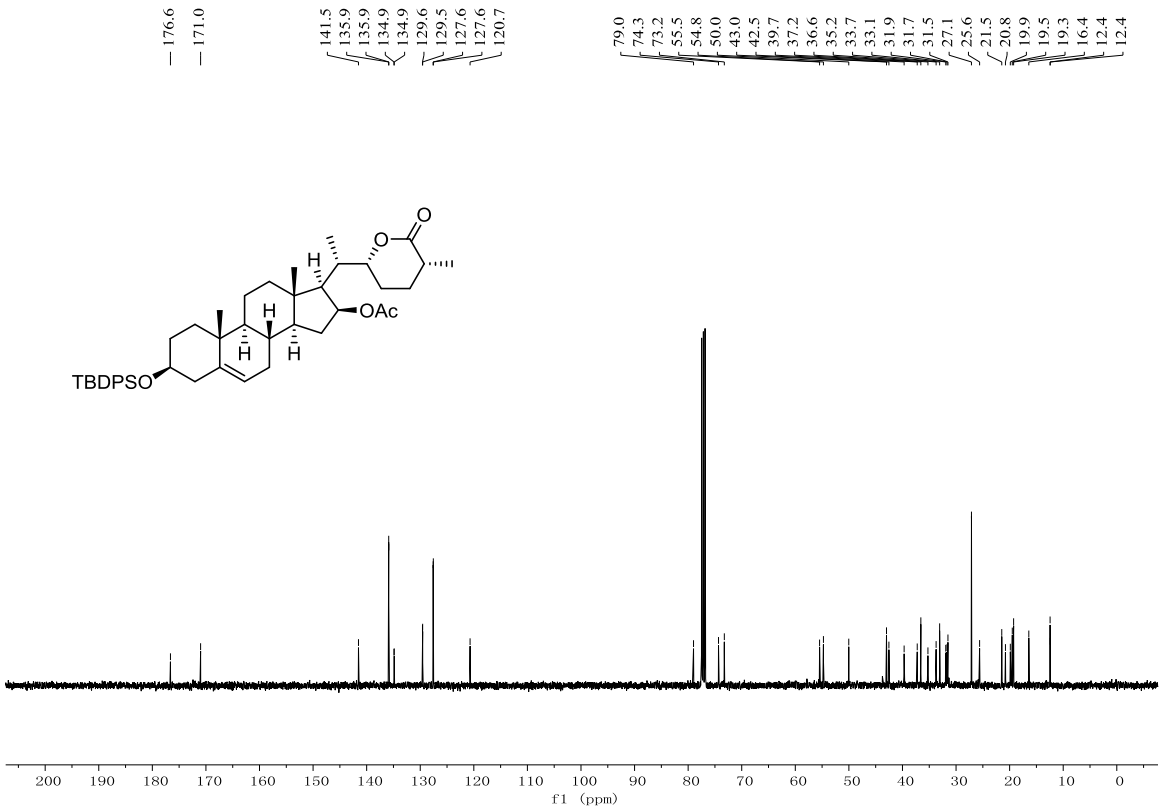

Figure S12. ^{13}C NMR Spectra of **13** (DEPT, 100 MHz, $CDCl_3$)

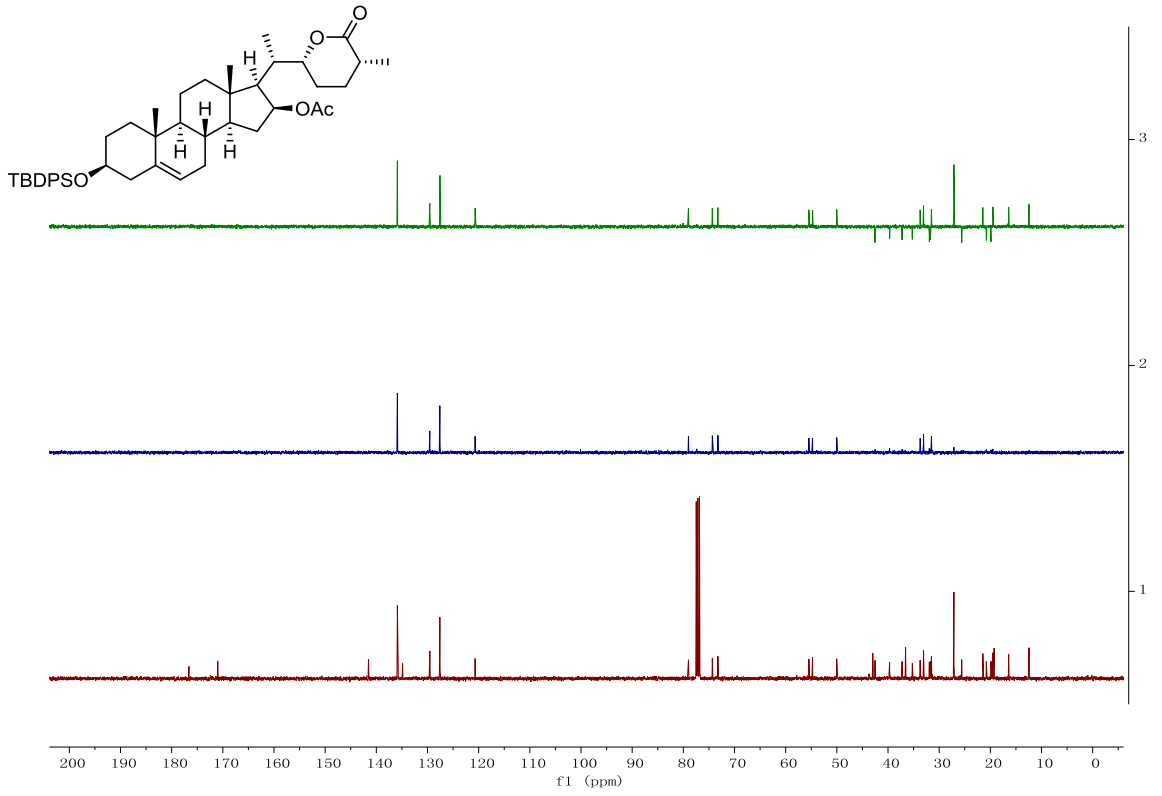

Figure S13. ^{1}H NMR Spectrum of **7** (400 MHz, $CDCl_3$)

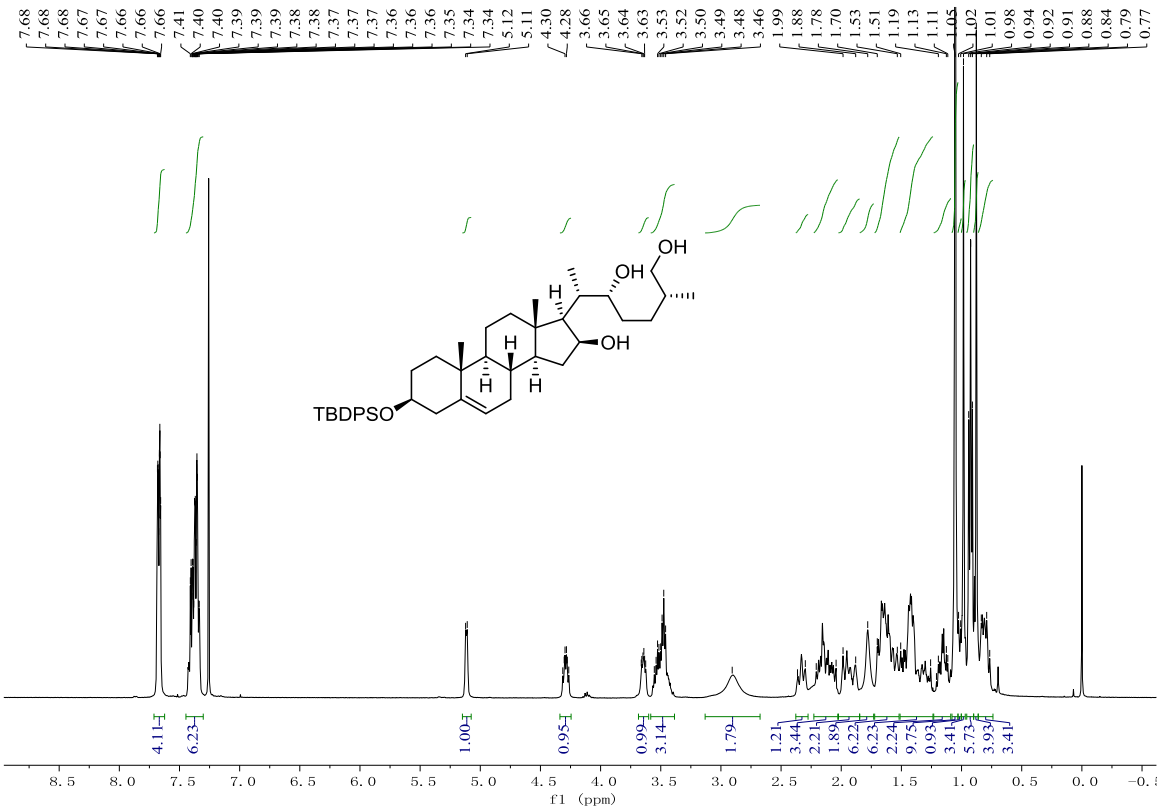

Figure S14. ^{13}C NMR Spectra of **7** (100 MHz, $CDCl_3$)

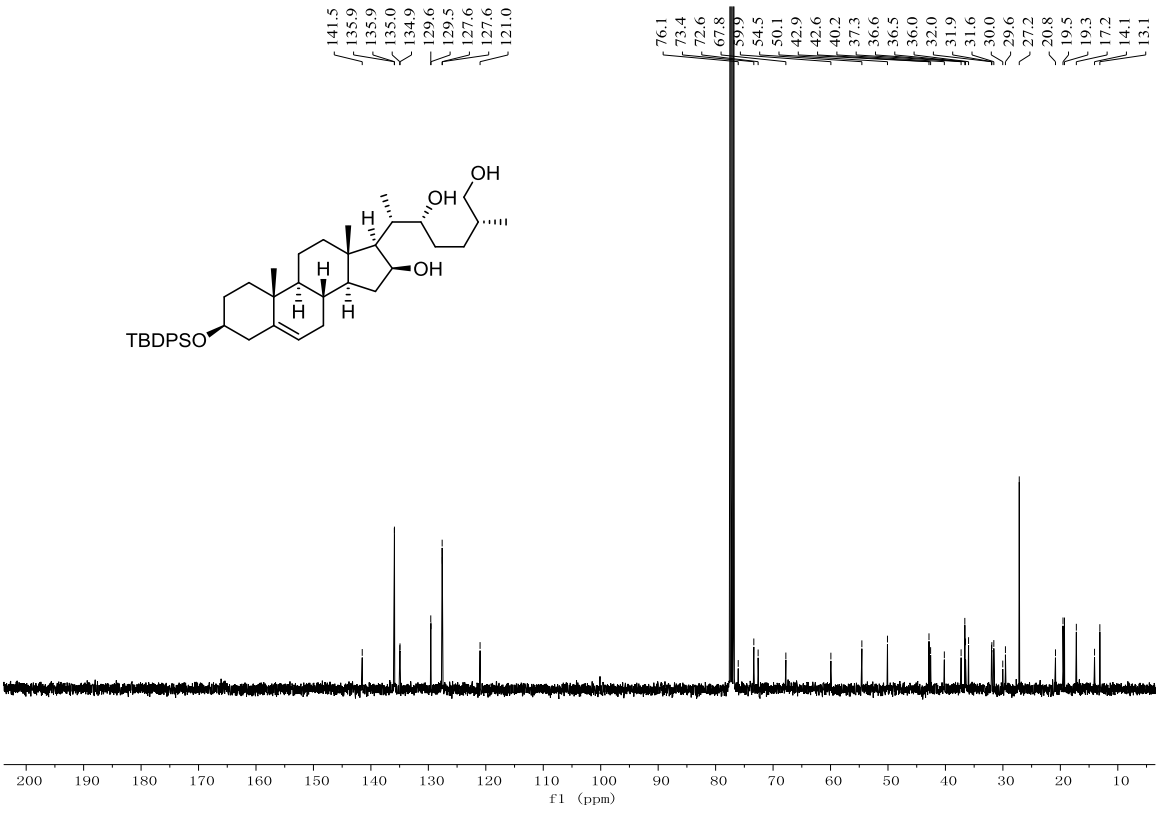

Figure S15. ^{13}C NMR Spectra of **7** (DEPT, 100 MHz, $CDCl_3$)

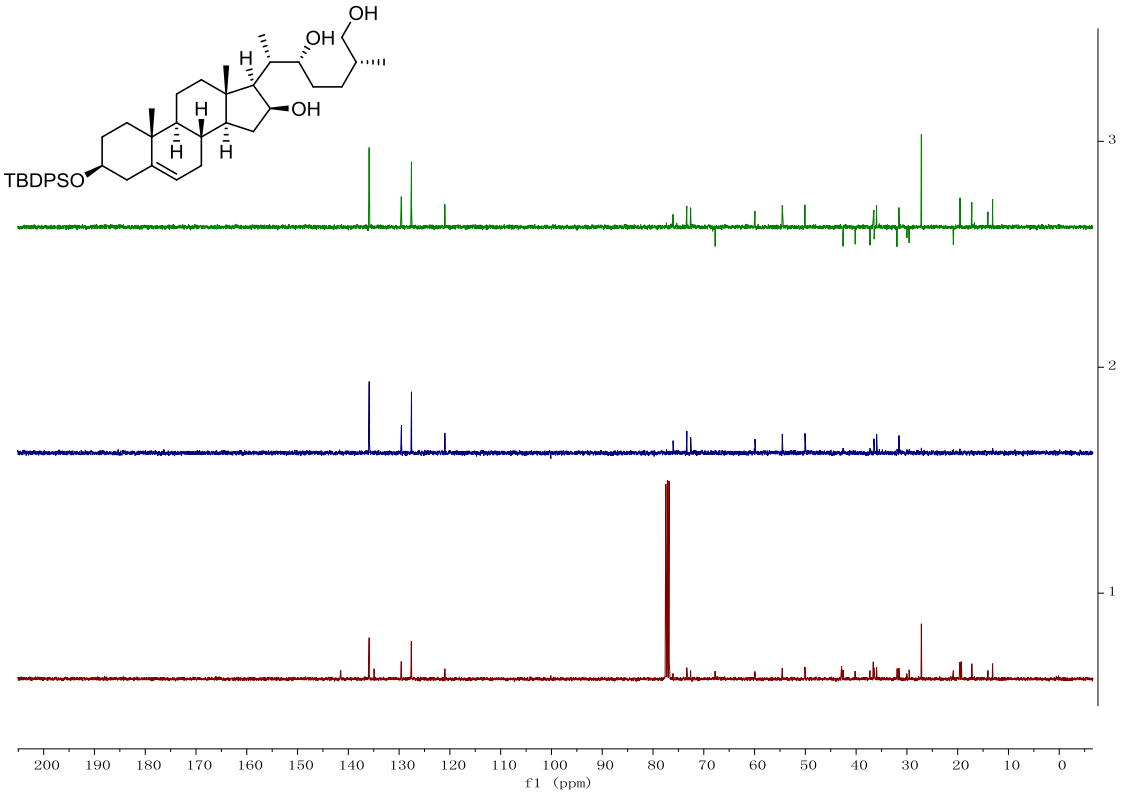

Figure S16. ^{1}H NMR Spectrum of **16** (400 MHz, $CDCl_3$)

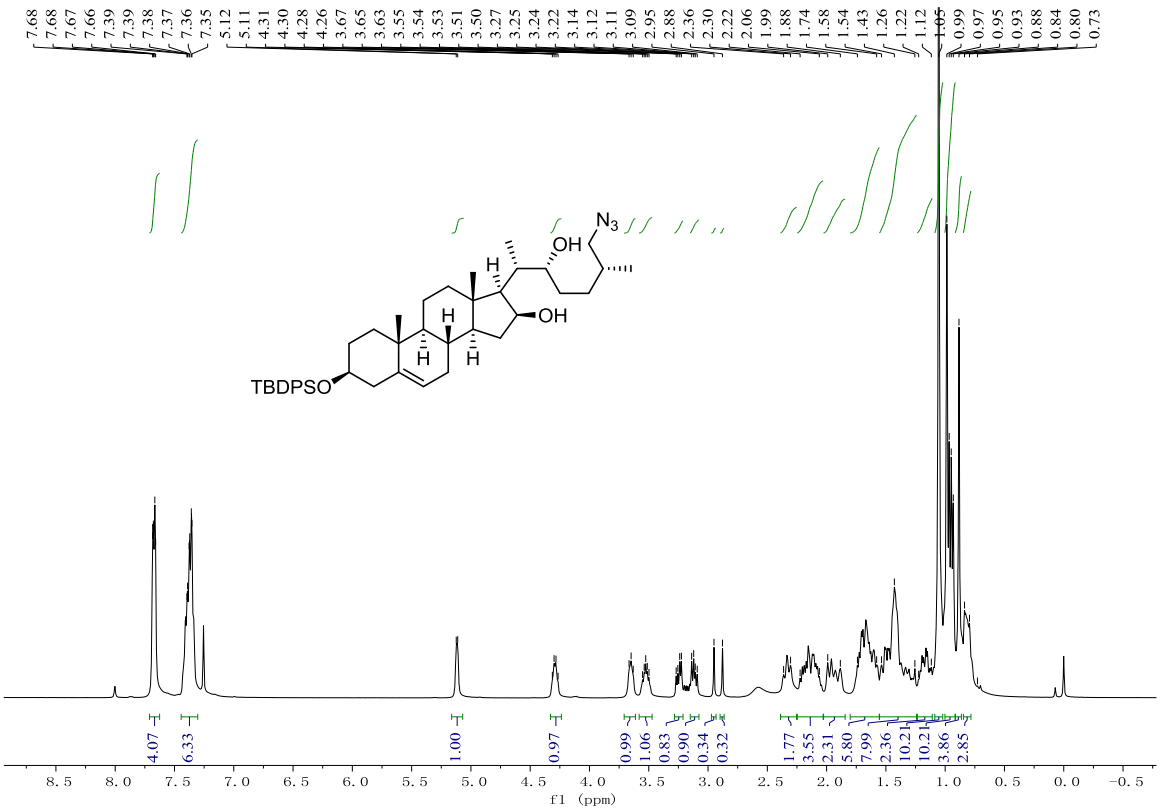

Figure S17. ^{13}C NMR Spectra of **16** (100 MHz, $CDCl_3$)

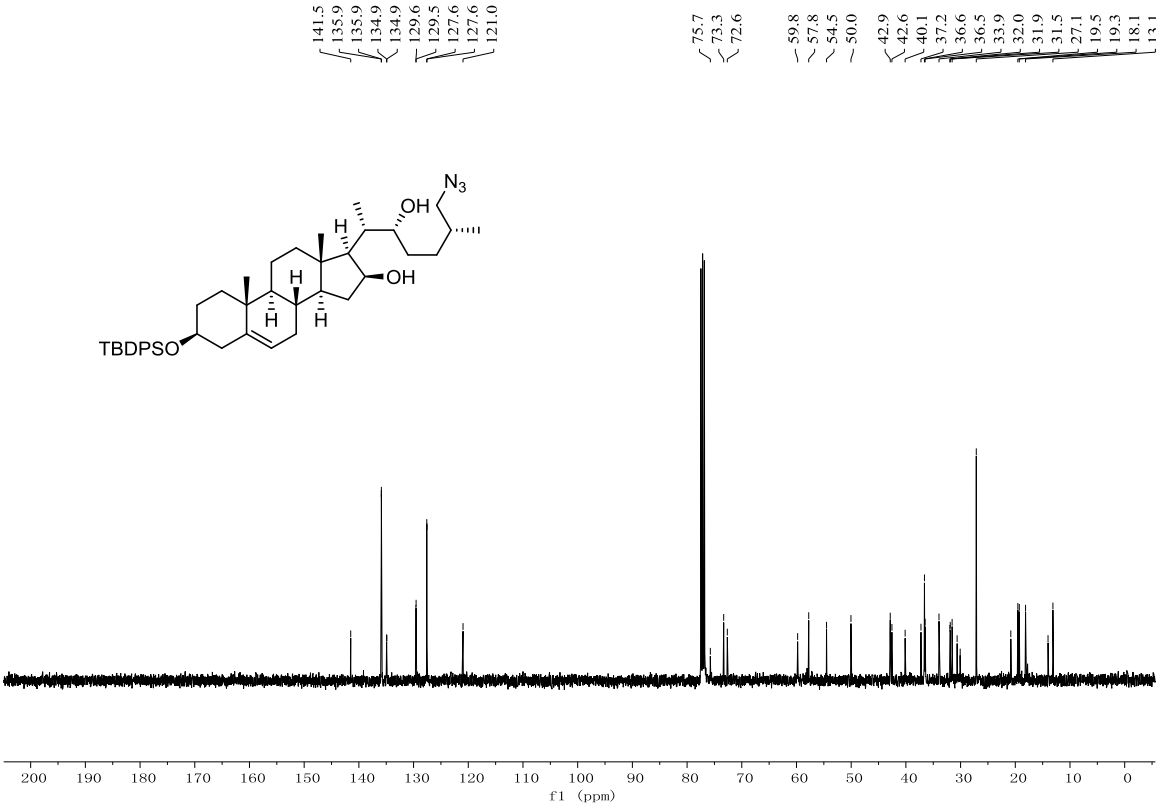

Figure S18. ^{13}C NMR Spectra of **16** (DEPT, 100 MHz, $CDCl_3$)

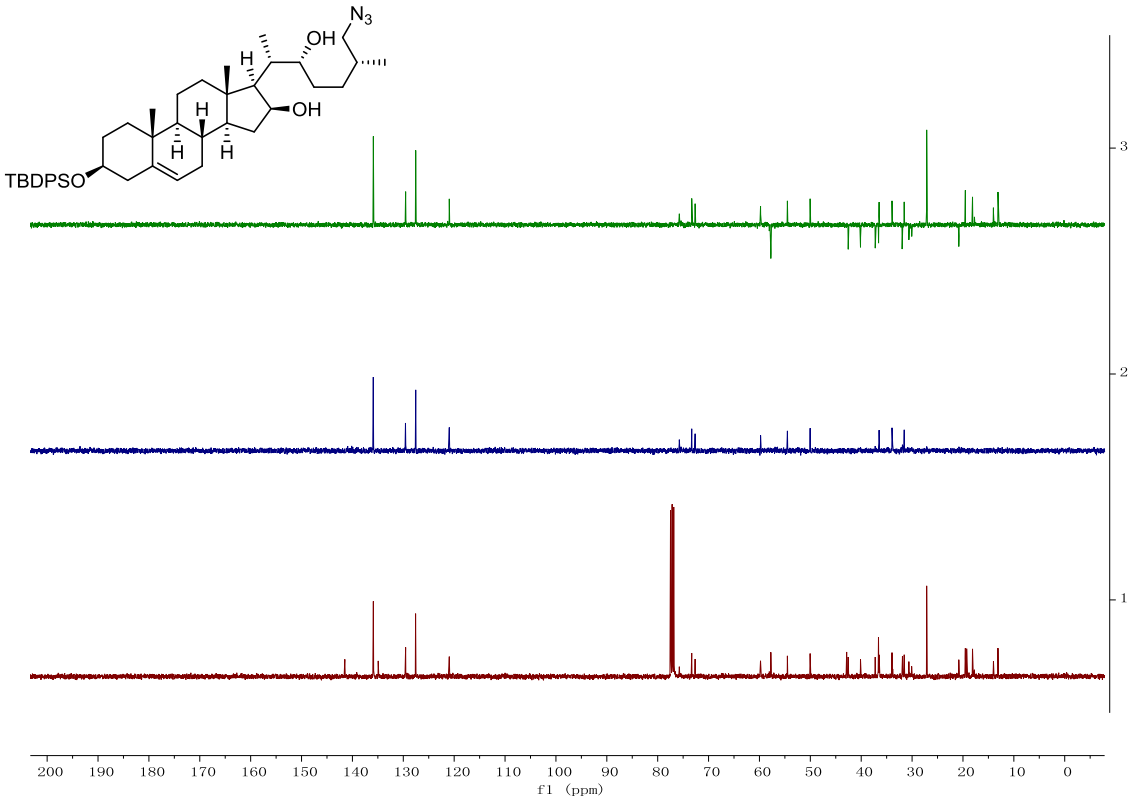

Figure S19. ^{1}H NMR Spectrum of **6** (400 MHz, $CDCl_3$)

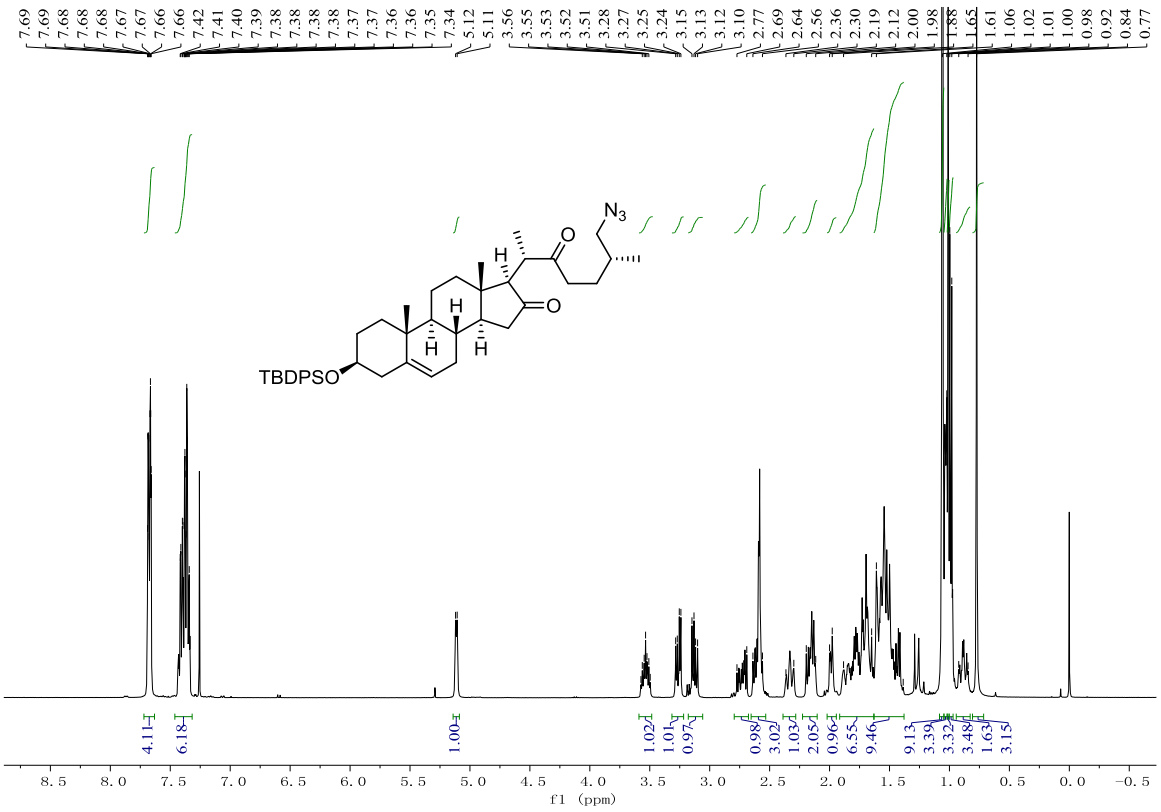

Figure S20. ^{13}C NMR Spectra of **6** (100 MHz, $CDCl_3$)

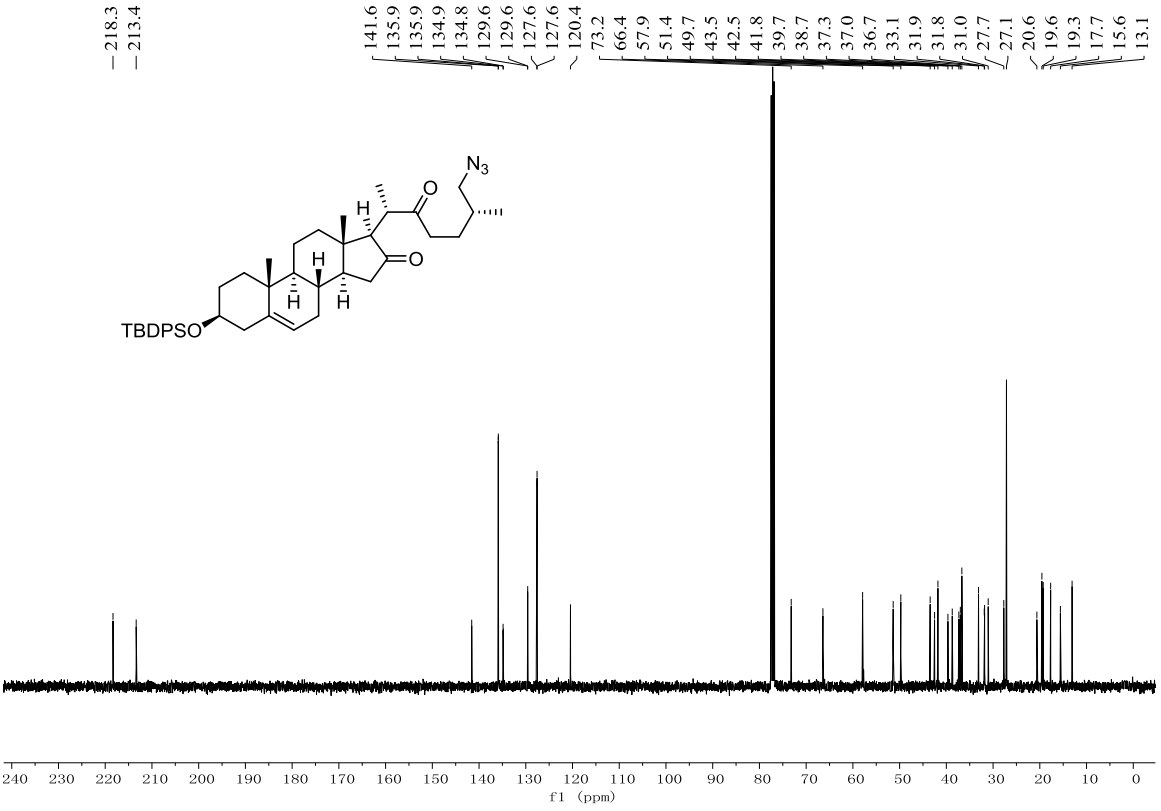

Figure S21. ^{13}C NMR Spectra of **6** (DEPT, 100 MHz, $CDCl_3$)

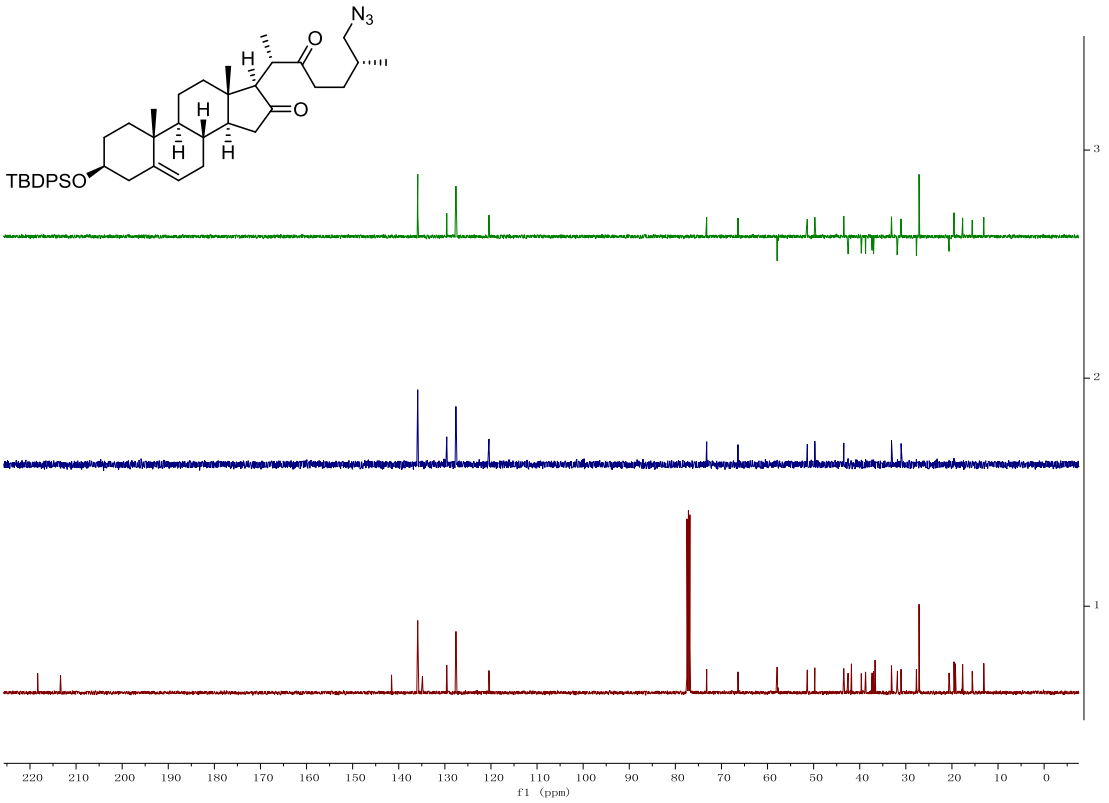

Figure S22. ^{1}H NMR Spectrum of **17** (400 MHz, $CDCl_3$)

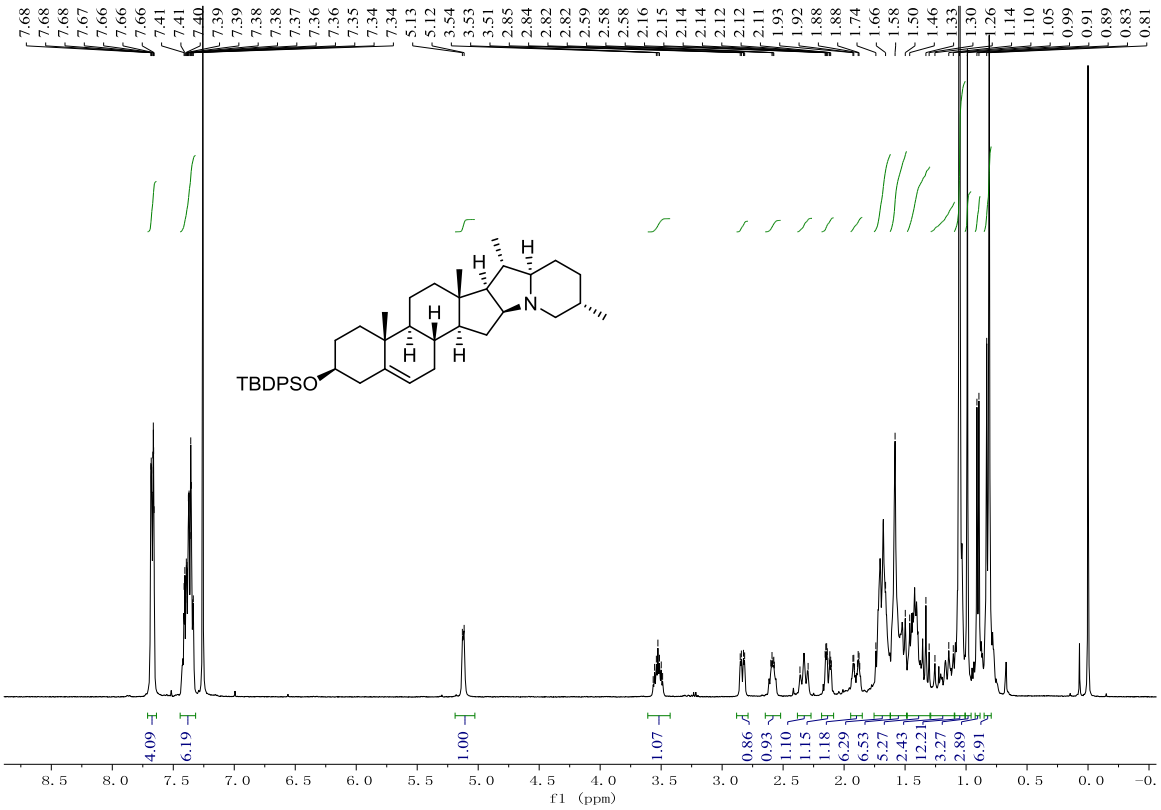

Figure S23. ^{13}C NMR Spectra of **17** (100 MHz, $CDCl_3$)

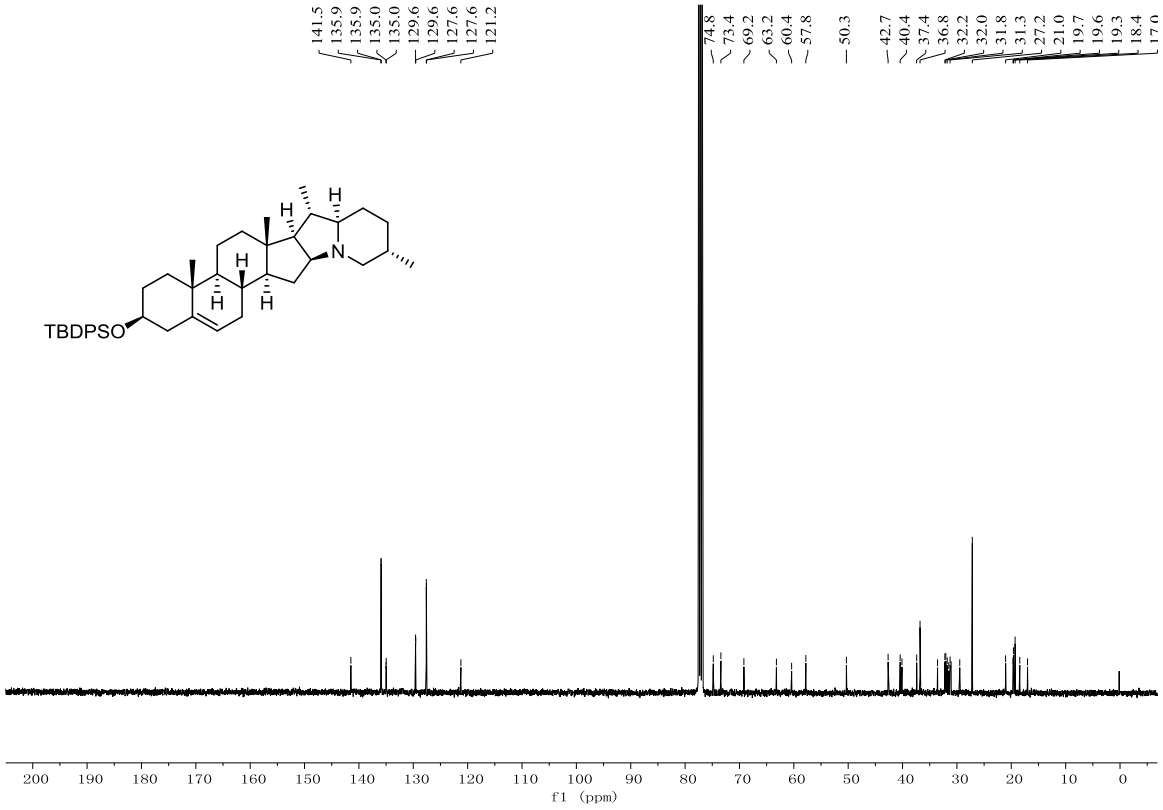

Figure S24. ^{1}H NMR Spectrum of **1** (400 MHz, $CDCl_3$)

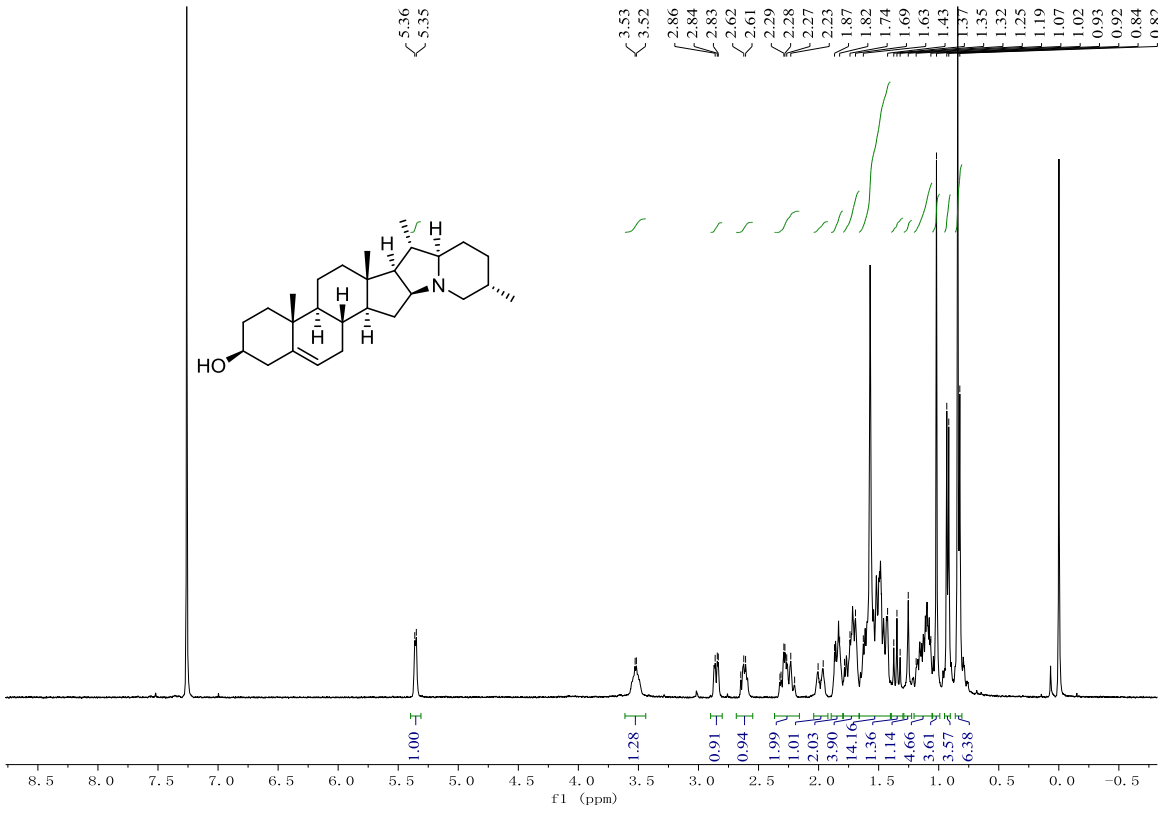

Figure S25. ^{13}C NMR Spectra of **1** (100 MHz, $CDCl_3$)

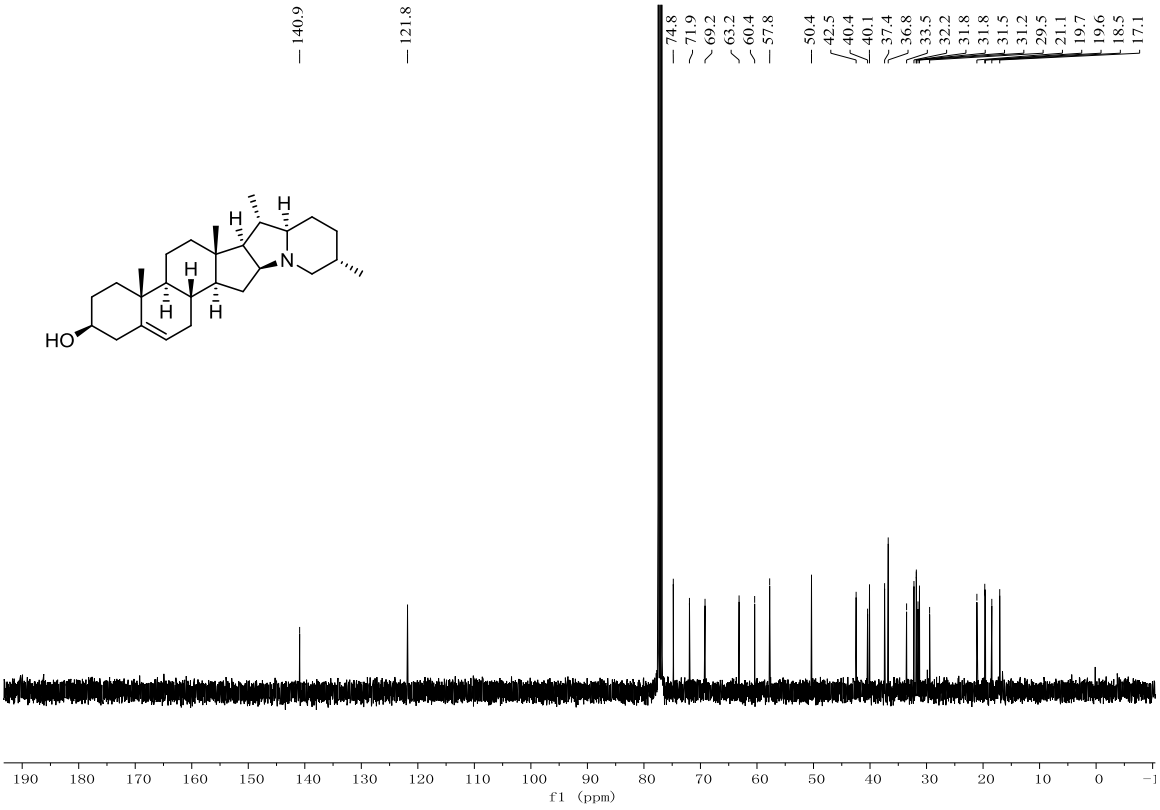

Figure S26. ^{1}H NMR Spectrum of **18** (400 MHz, $CDCl_3$)

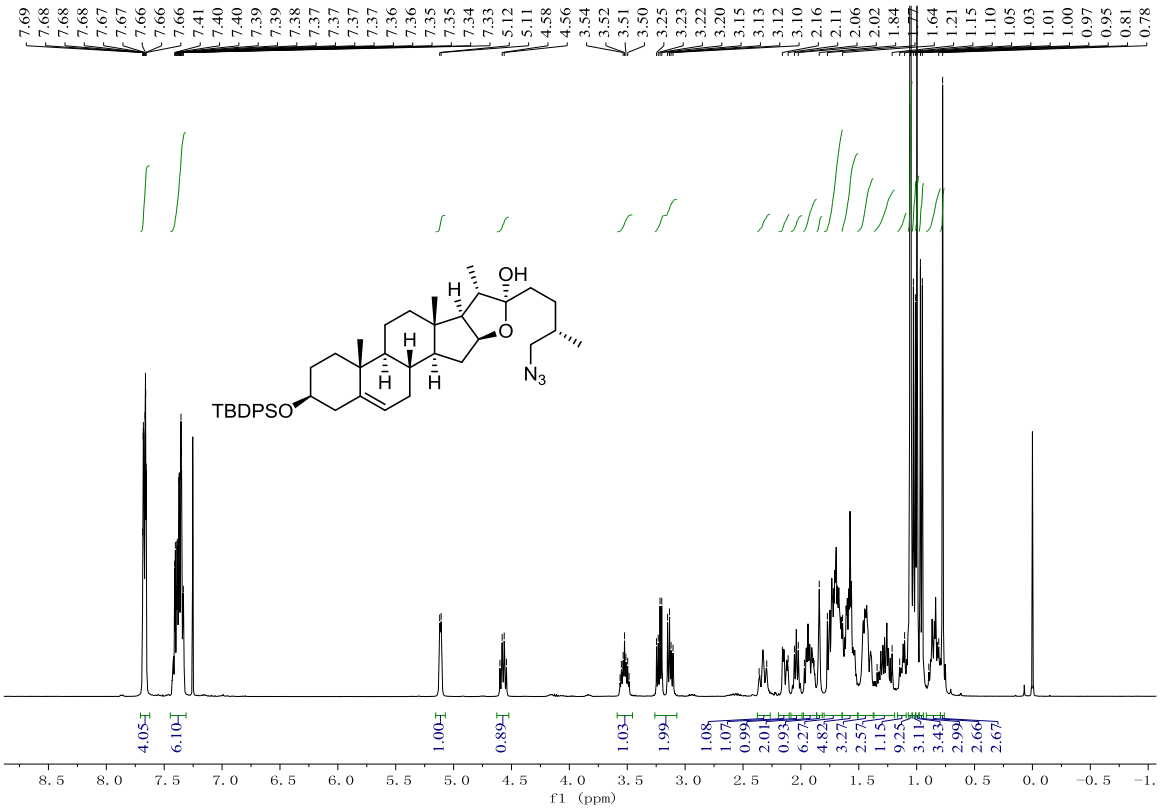

Figure S27. ^{13}C NMR Spectra of **18** (100 MHz, $CDCl_3$)

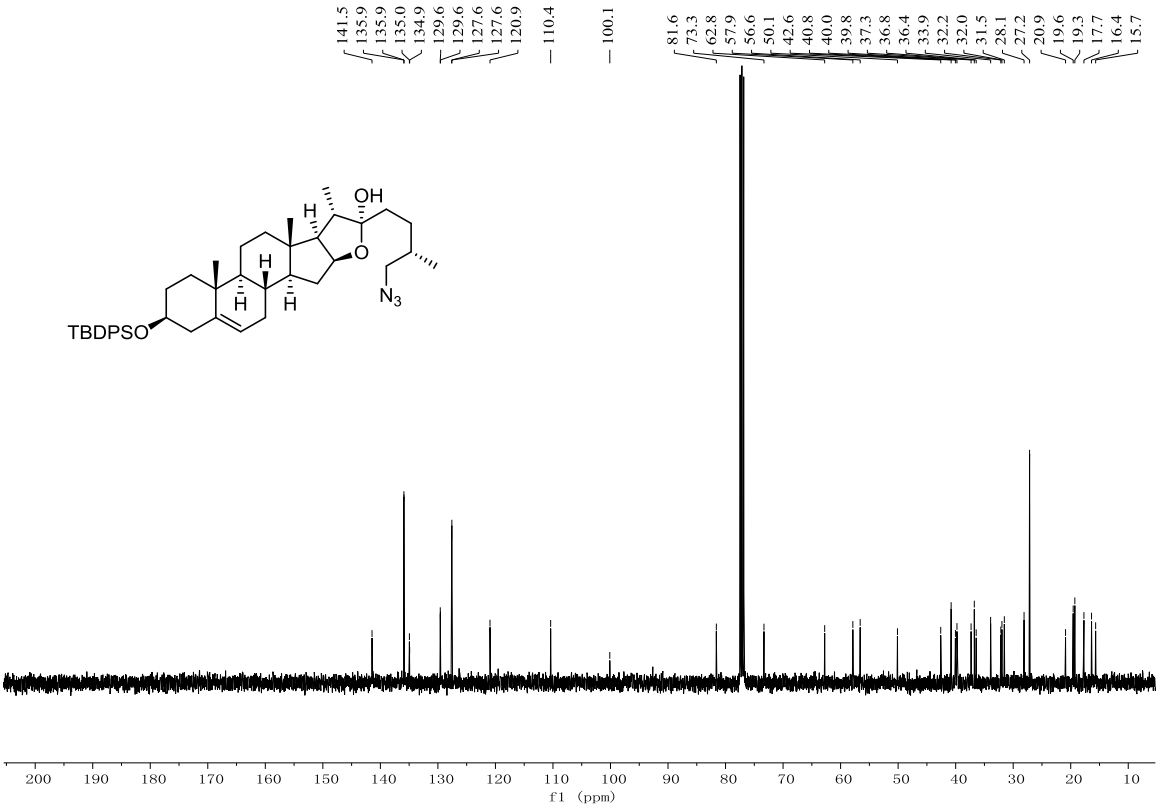

Figure S28. ^{13}C NMR Spectra of **18** (DEPT, 100 MHz, $CDCl_3$)

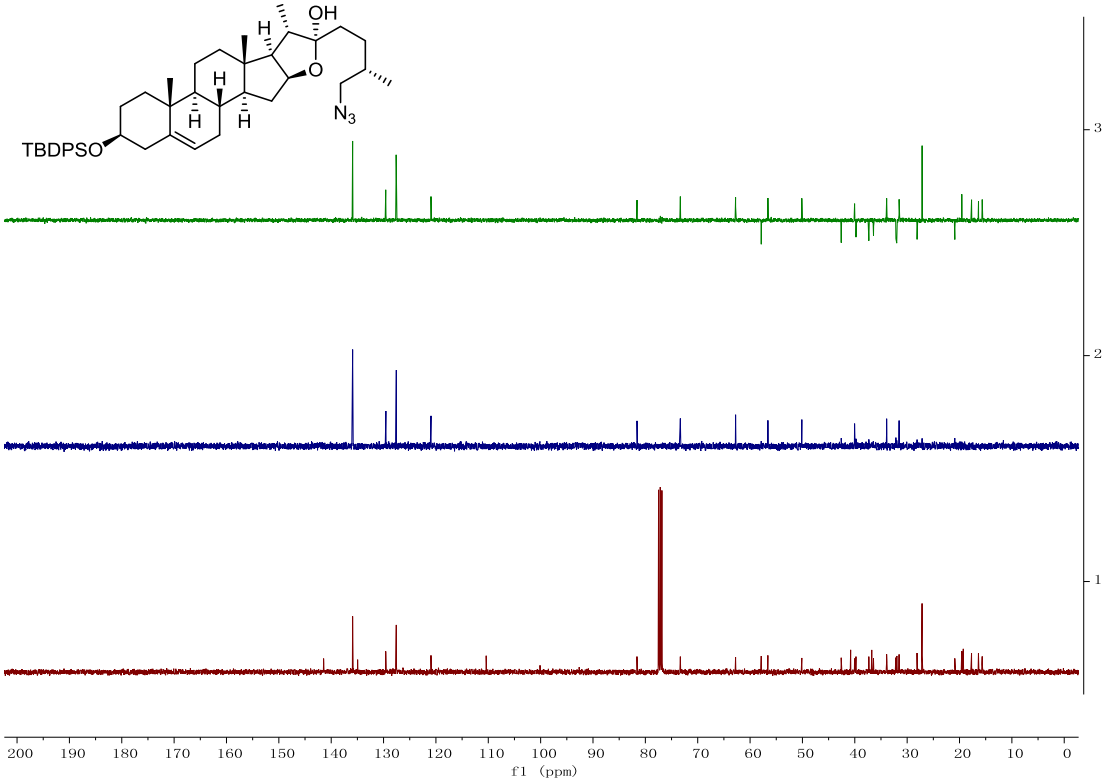

Figure S29. ^{1}H NMR Spectrum of **22-*epi*-16** (400 MHz, $CDCl_3$)

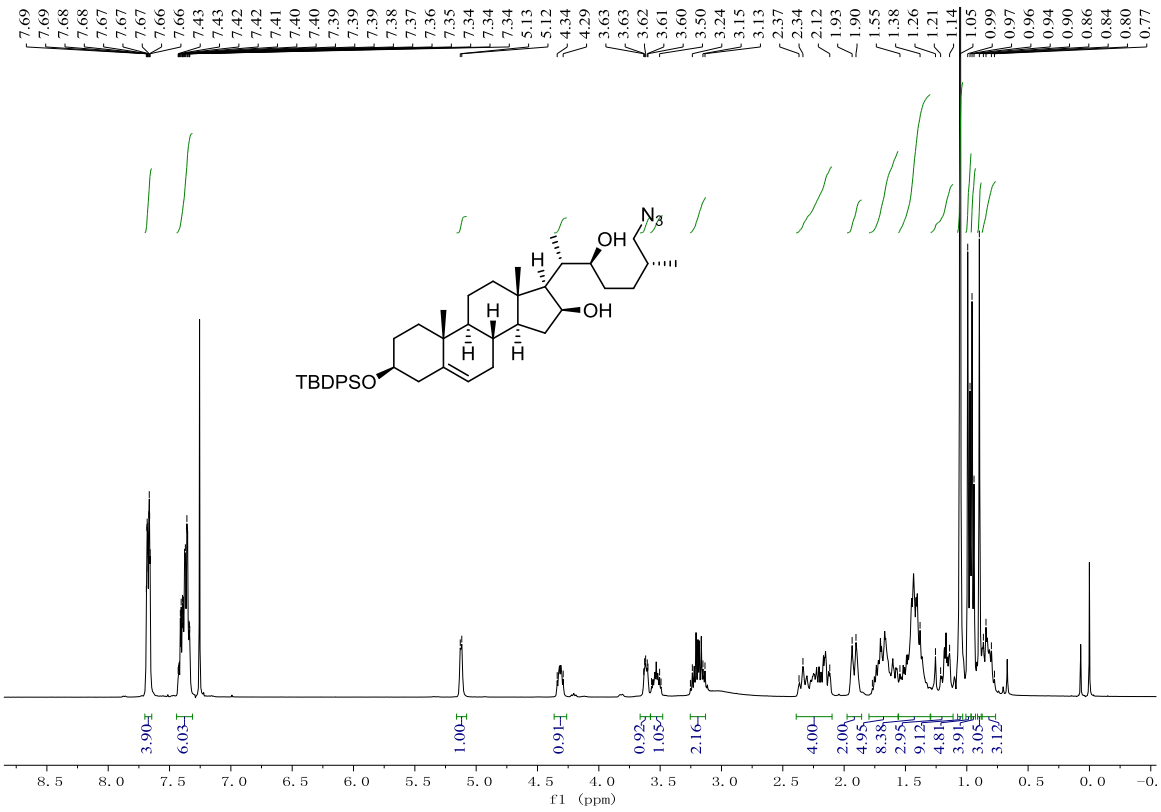

Figure S30. ^{13}C NMR Spectra of **22-*epi*-16** (100 MHz, $CDCl_3$)

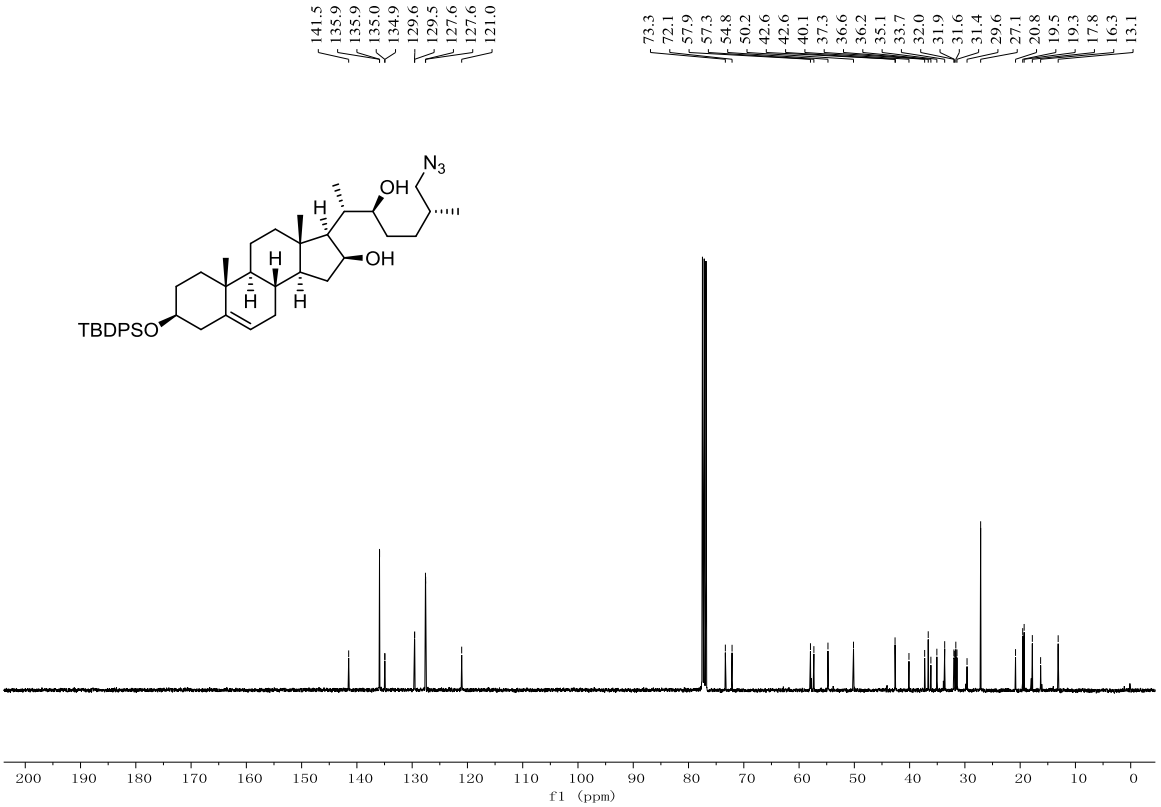

Figure S31. ^{1}H NMR Spectrum of **2** (400 MHz, $CDCl_3$)

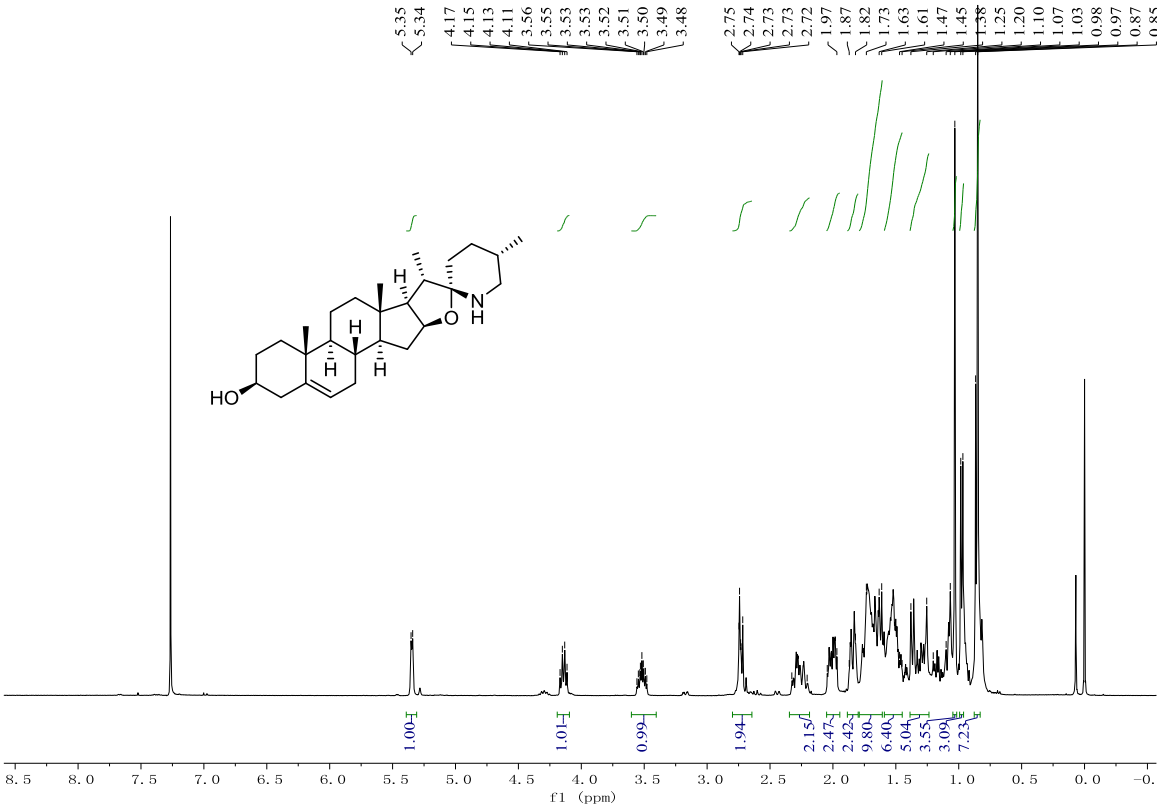

Figure S32. ^{13}C NMR Spectra of **2** (100 MHz, $CDCl_3$)