Electronic Supplementary Material (ESI) for RSC Advances.

An expedient total synthesis of mupirocin H.

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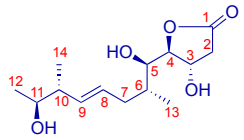
Contents:

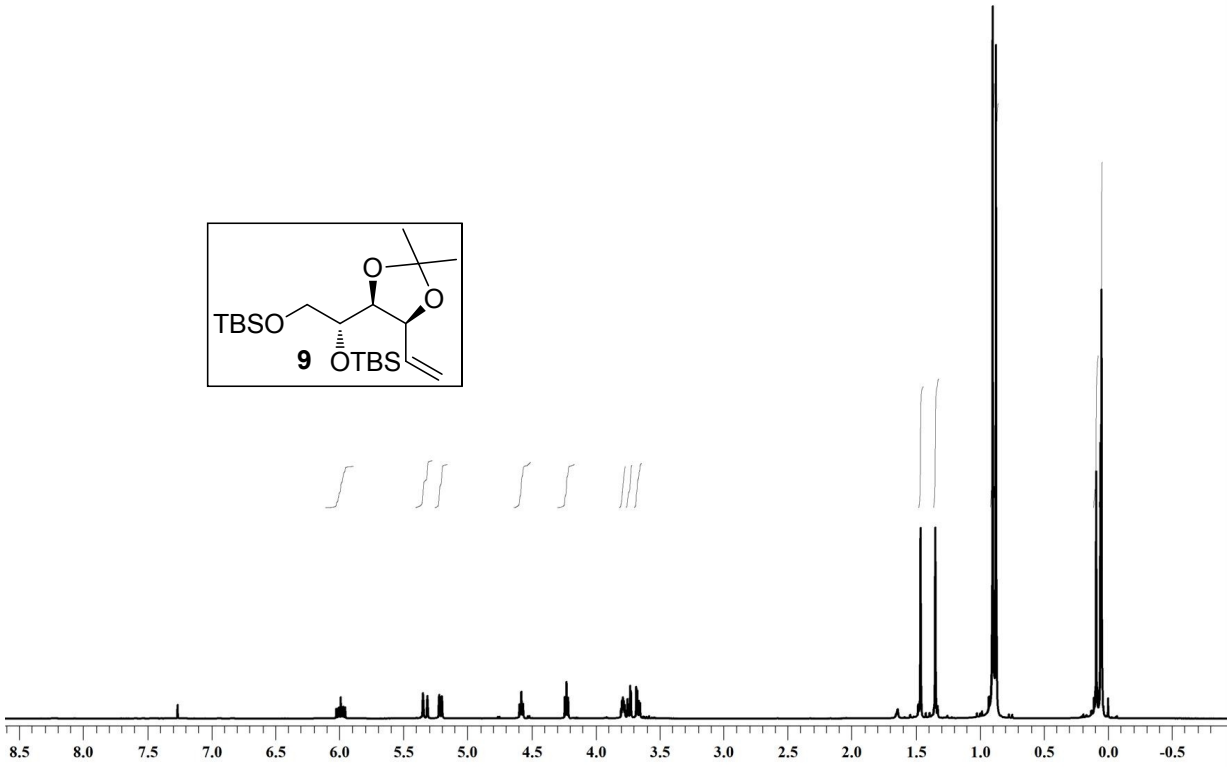
^{1}H NMR spectral comparative table :



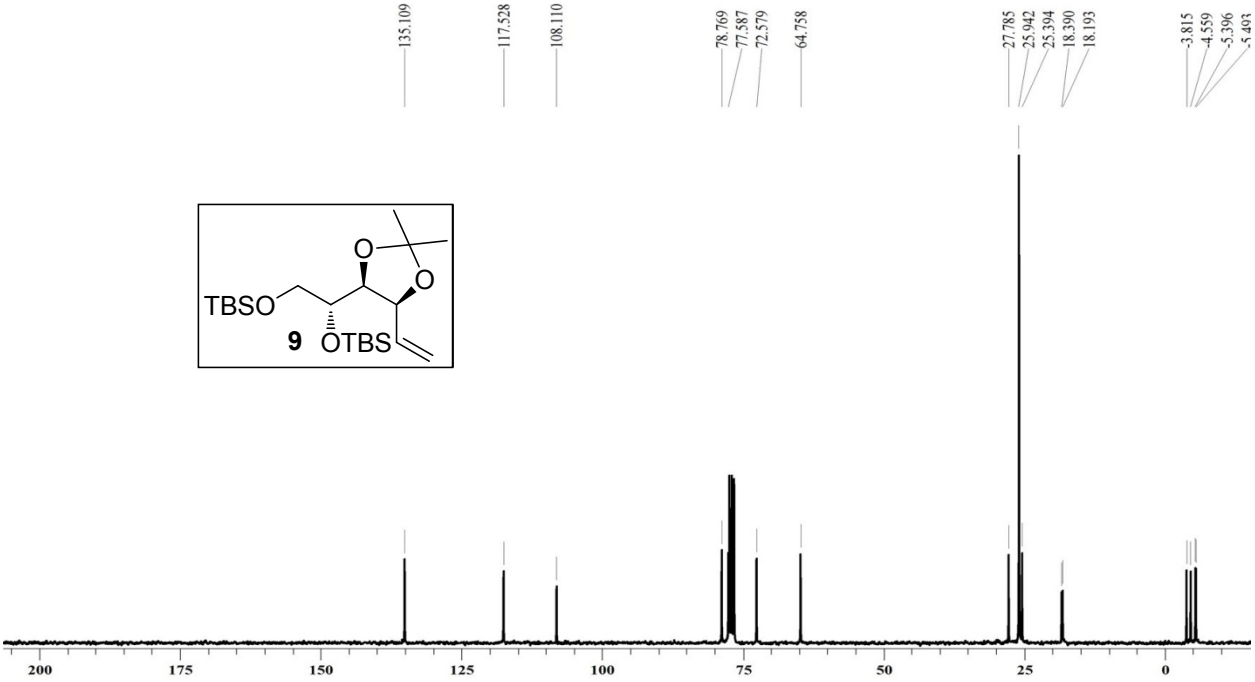
Position	Our data (500 MHz, $CDCl_3$)	Chakraborthy's[1] synthesis data (300 MHz, $CDCl_3$)	Changgui's[2] synthesis data (400 MHz, $CDCl_3$)	Simpson's[3] isolation data
2	2.52 (dd, *J* = 18.2, 4.4 Hz, 1H)	2.50 (dd, *J* = 18.1, 3.8 Hz, 1H)	2.52 (dd, *J* = 18.4, 3.6 Hz, 1H)	a: 2.54 (dd, *J* = 18.3, 4.4 Hz, 1H)
	2.93 (dd, *J* = 18.2, 7.5 Hz, 1H)	2.93 (dd, *J* = 18.1, 7.6 Hz, 1H)	2.93 (dd, *J* = 18.4, 7.6 Hz, 1H)	b: 2.94 (dd, *J* = 18.3, 7.6 Hz, 1H)
3	4.62-4.56 (m, 1H)	4.58 (m, 1H)	4.60 - 4.57 (m, 1H)	4.61 (ddd, *J* = 7.6, 4.4, 3.2 Hz, 1H)
4	4.42 (dd, *J* = 5.6, 3.2 Hz, 1H)	4.44 (dd, *J* = 5.3, 3.0 Hz, 1H)	4.44 (dd, *J* = 5.2, 2.8 Hz, 1H)	4.44 (dd, *J* = 5.8, 3.2 Hz, 1H)
5	3.60-3.56 (m, 1H)	3.57 (dd, *J* = 6.8, 6.0 Hz, 1H)	3.57 (dd, *J* = 6.4, 6.0 Hz, 1H)	3.60 (dd, *J* = 6.6, 5.8 Hz, 1H)
6	1.94-1.84 (m, 1H)	1.89 (m, 1H)	1.93 - 1.86 (m, 2H)	1.92 (dqdd, *J* = 7.1, 6.8, 6.6, 6.6 Hz,1H)
7	2.30-2.20 (m, 2H)	2.36-2.21 (m, 2H)	2.29 - 2.19 (m, 2H)	a: 2.27 (m, 1H) b: 2.25 (m, 1H)
8	5.61 (ddd, *J* = 15.0, 8.2, 6.3 Hz, 1H)	5.59 (ddd, *J* = 15.1, 8.3, 6.8 Hz, 1H)	5.60 (ddd, *J* = 14.8, 8.0, 6.8 Hz, 1H)	5.63 (ddd, *J* = 15.4, 8.6, 6.1 Hz, 1H)
9	5.39 (dd, *J* = 15.4, 8.7 Hz, 1H)	5.37 (dd, *J* = 15.1, 8.3 Hz, 1H)	5.38 (dd, *J* = 15.2, 8.8 Hz, 1H)	5.40 (dd, *J* = 15.4, 8.6 Hz, 1H)
10	2.10-2.02 (m, 1H)	2.06 (m, 1H)	2.11 - 2.02 (m, 1H)	2.07 (ddq, *J* = 8.6, 7.3, 6.8 Hz, 1H)
11	3.54-3.48 (m, 1H)	3.49 (m, 1H)	3.52 - 3.48 (m, 1H)	3.53 (dq, *J* = 7.3, 6.4 Hz, 1H)
12	1.18 (d, *J* = 6.1 Hz, 3H)	1.18 (d, *J* = 6.8 Hz, 3H)	1.18 (d, *J* = 6.4 Hz, 3H)	1.20 (d, *J* = 6.4 Hz, 3H)
13	1.05 (d, *J* = 7.0 Hz, 3H)	1.04 (d, *J* = 6.8 Hz, 3H)	1.04 (d, *J* = 7.2 Hz, 3H)	1.05 (d, *J* = 6.8 Hz, 3H)
14	0.98 (d, *J* = 6.9 Hz 3H)	0.98 (d, *J* = 6.8 Hz, 3H)	0.98 (d, *J* = 6.8 Hz, 3H)	1.00 (d, *J* = 6.8 Hz, 3H)

^{13}C NMR spectral comparative table:

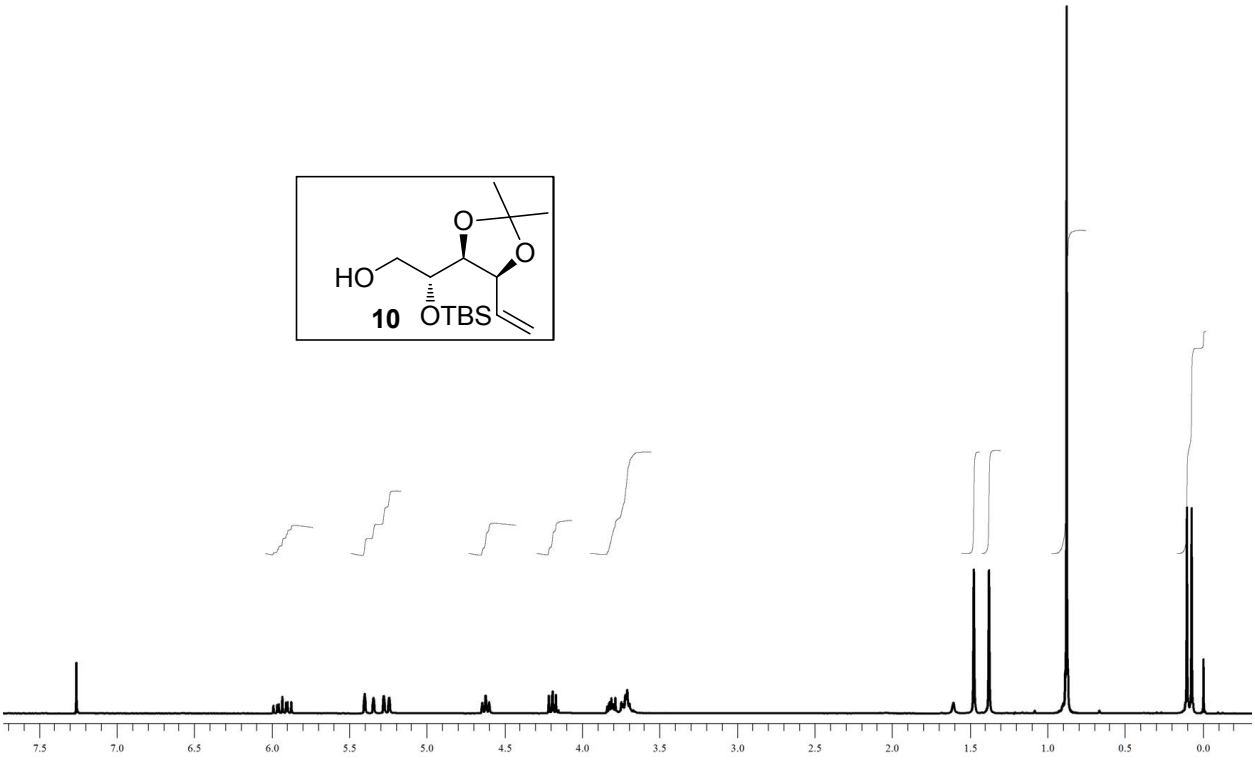
Position	Our data (75 MHz), $CDCl_3$	Chakraborthy's[1] synthesis data (75 MHz, $CDCl_3$)	Changgui's[2] synthesis data (100 MHz, $CDCl_3$)	Simpson's[3] isolation data
1	175.8	176.2	176.5	175.8
2	38.2	38.3	38.4	38.1
3	68.4	68.4	68.3	68.6
4	87.6	88.0	88.2	87.5
5	75.1	75.1	75.0	75.6
6	35.2	35.3	35.4	35.3
7	34.5	34.6	34.8	34.6
8	129.5	129.6	129.5	129.7
9	134.7	134.7	134.7	134.8
10	45.2	45.3	45.2	45.3
11	71.5	71.6	71.6	71.5
12	20.5	20.6	20.6	20.6
13	16.8	17.0	17.0	16.9
14	15.9	16.0	16.0	16.0



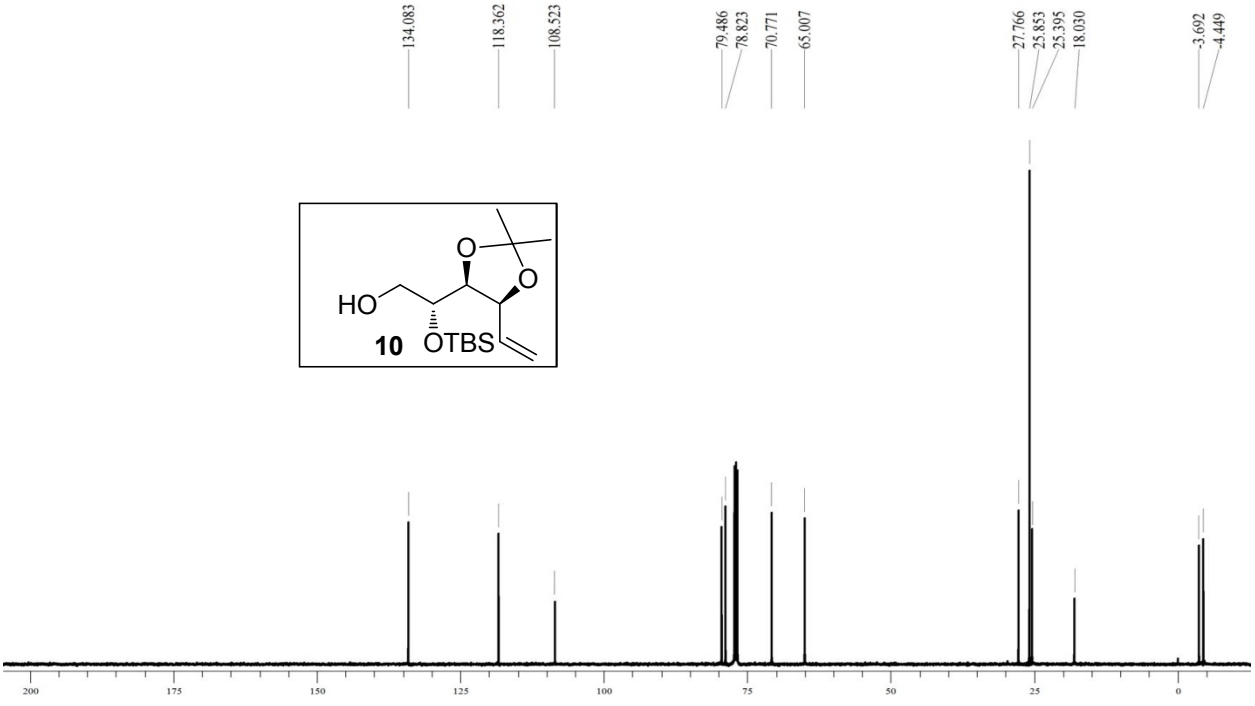
^{1}H NMR Spectrum of 9 (500 MHz, $CDCl_3$)



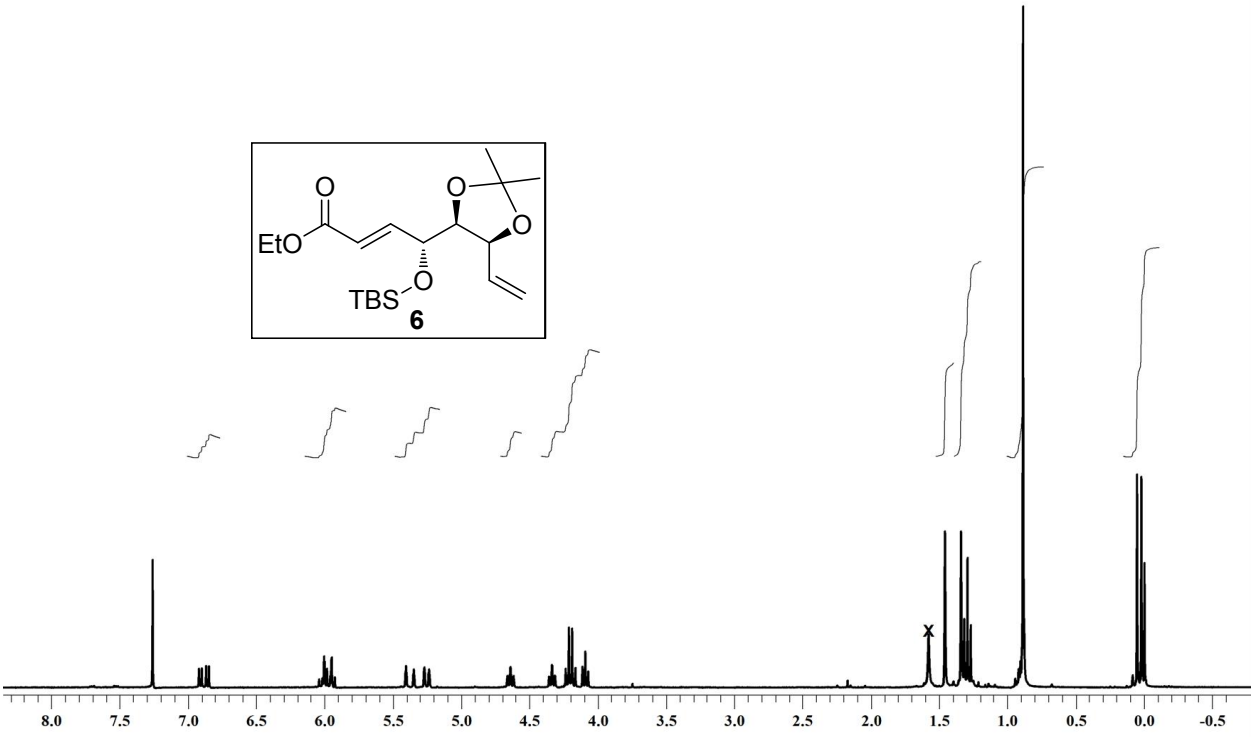
^{13}C NMR Spectrum of 9 (75 MHz, $CDCl_3$)



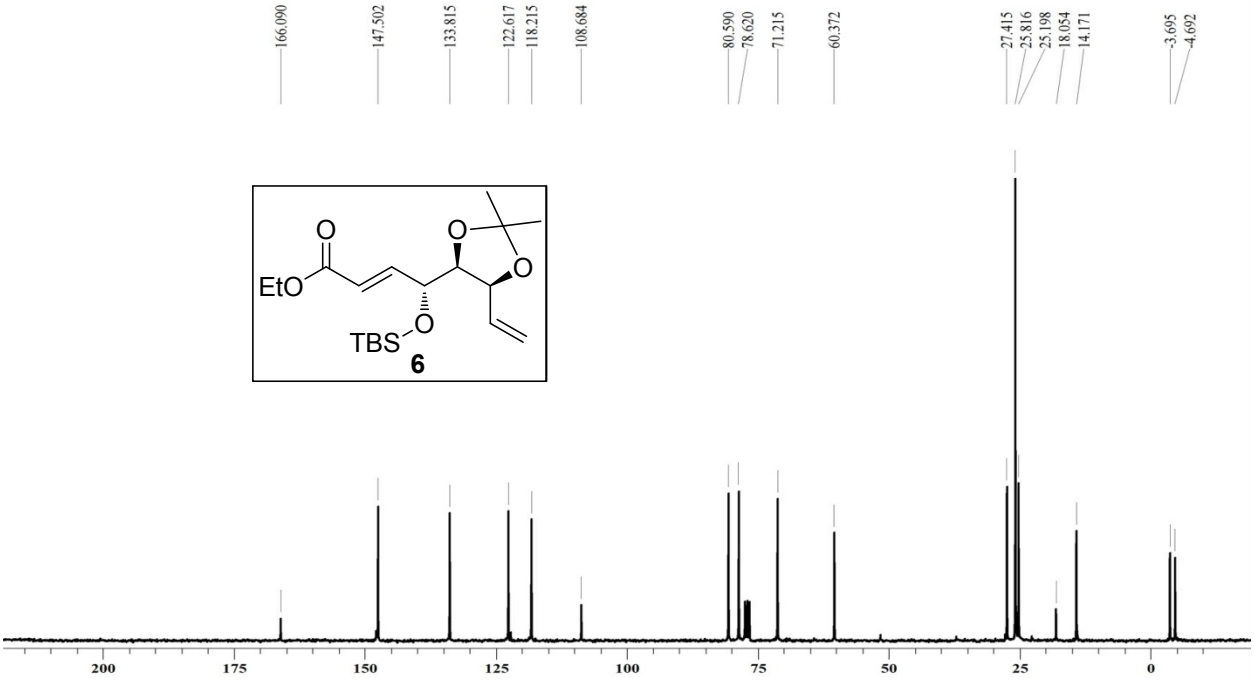
^{1}H NMR Spectrum of 10 (300 MHz, $CDCl_3$)



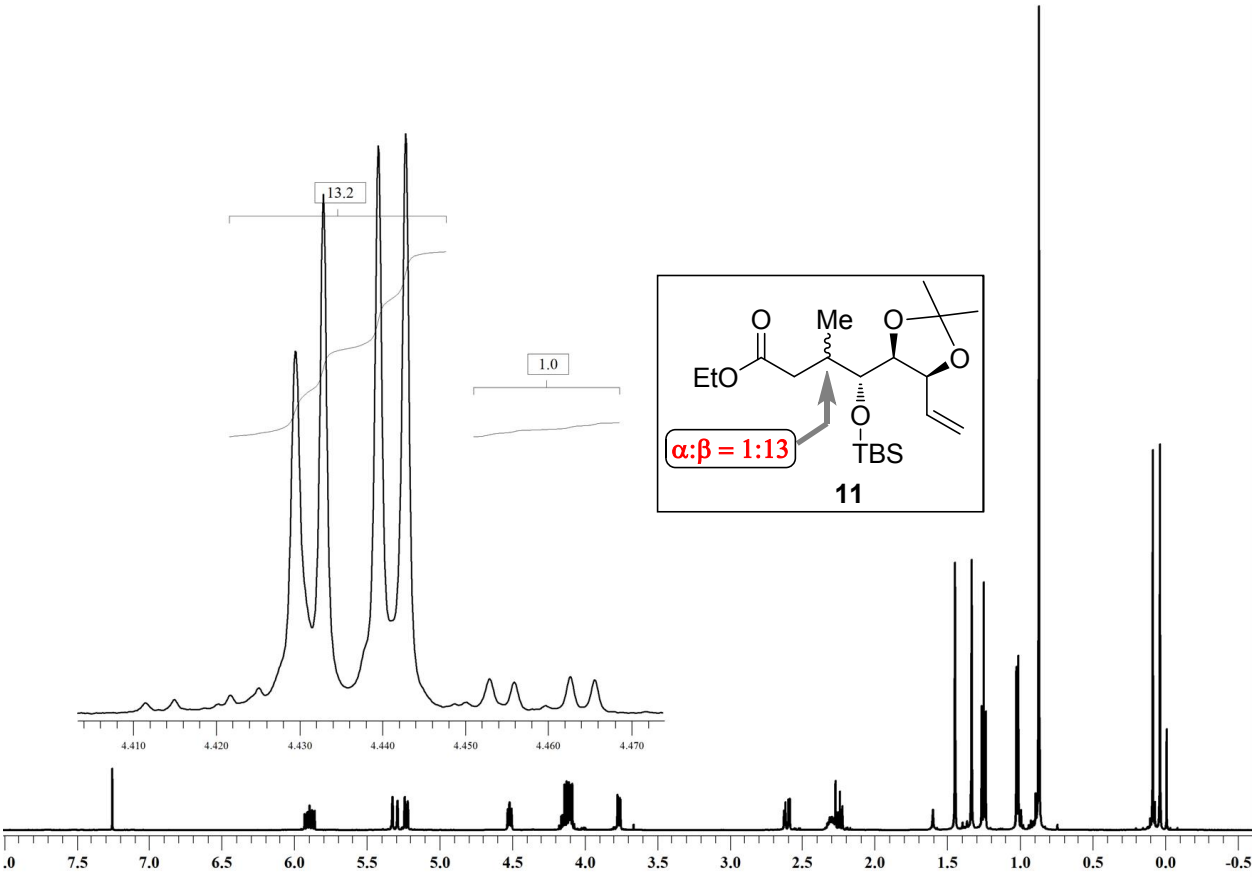
^{13}C NMR Spectrum of 10 (125 MHz, $CDCl_3$)



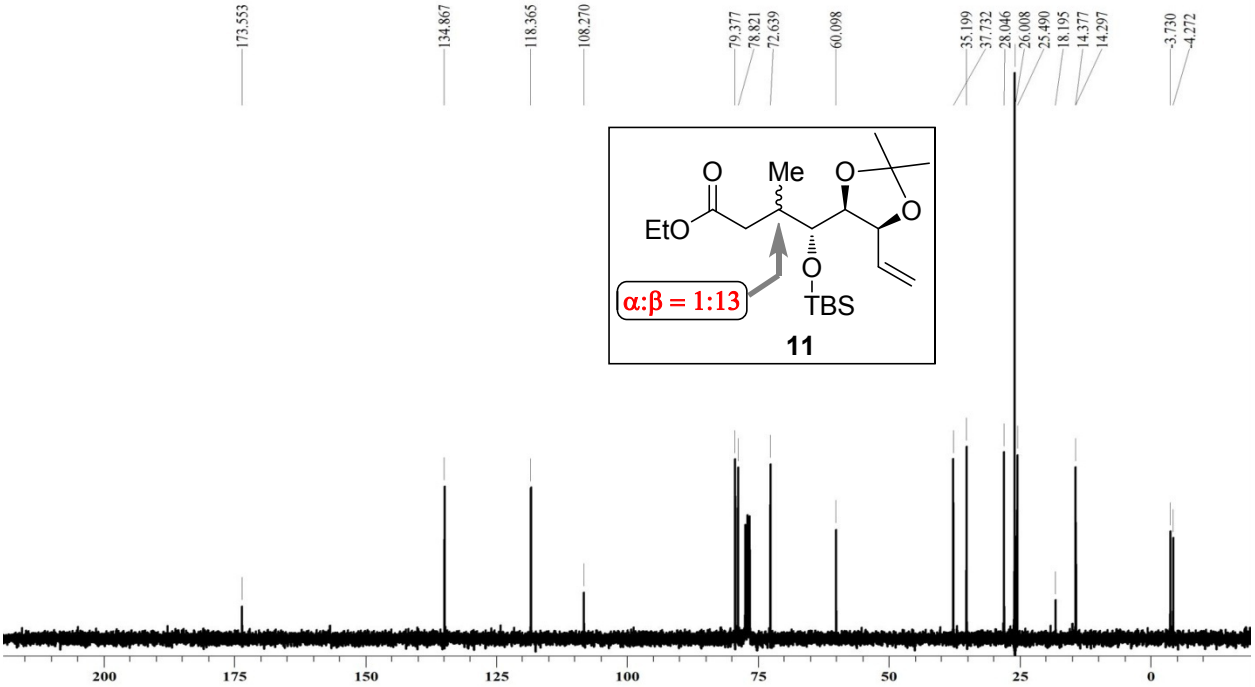
^{1}H NMR Spectrum of 6 (300 MHz, $CDCl_3$)



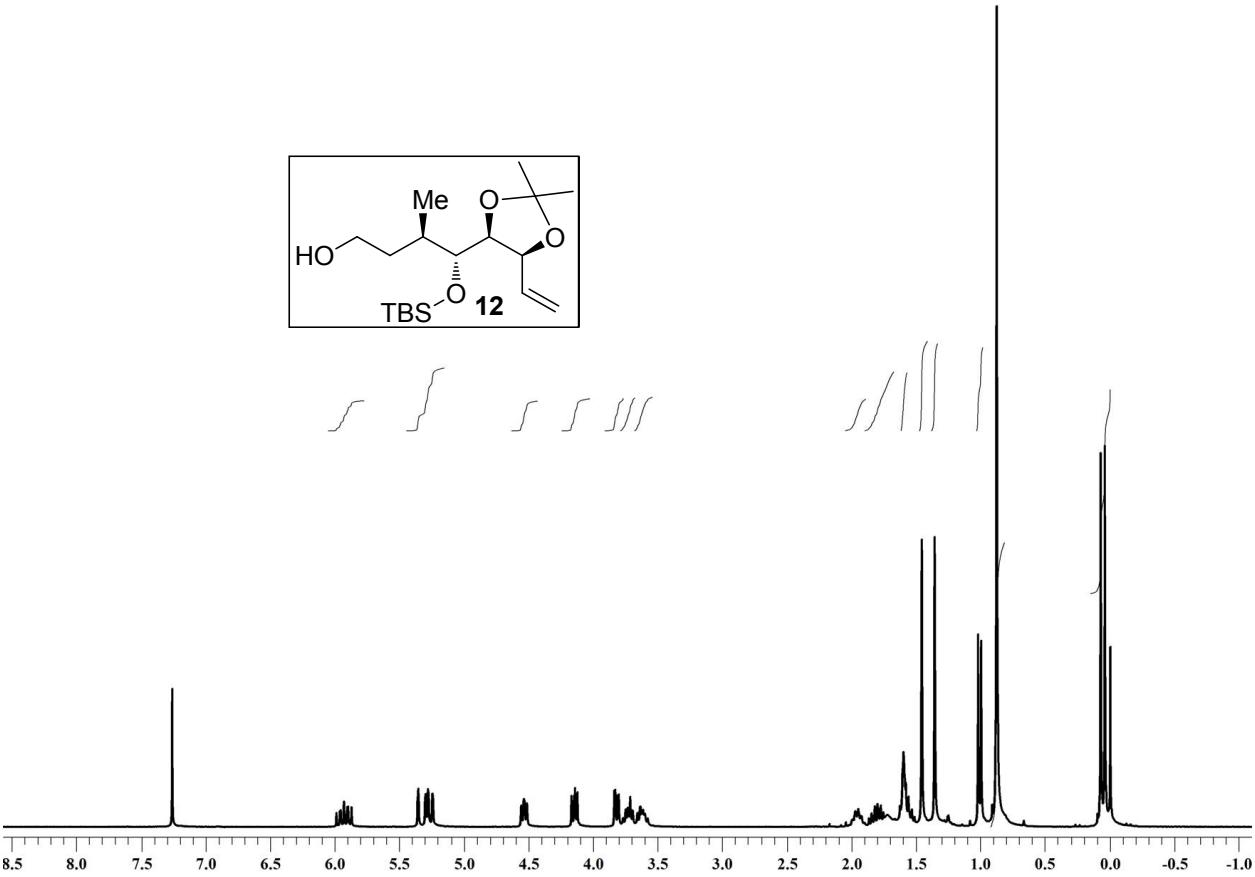
^{13}C NMR Spectrum of 6 (75 MHz, $CDCl_3$)



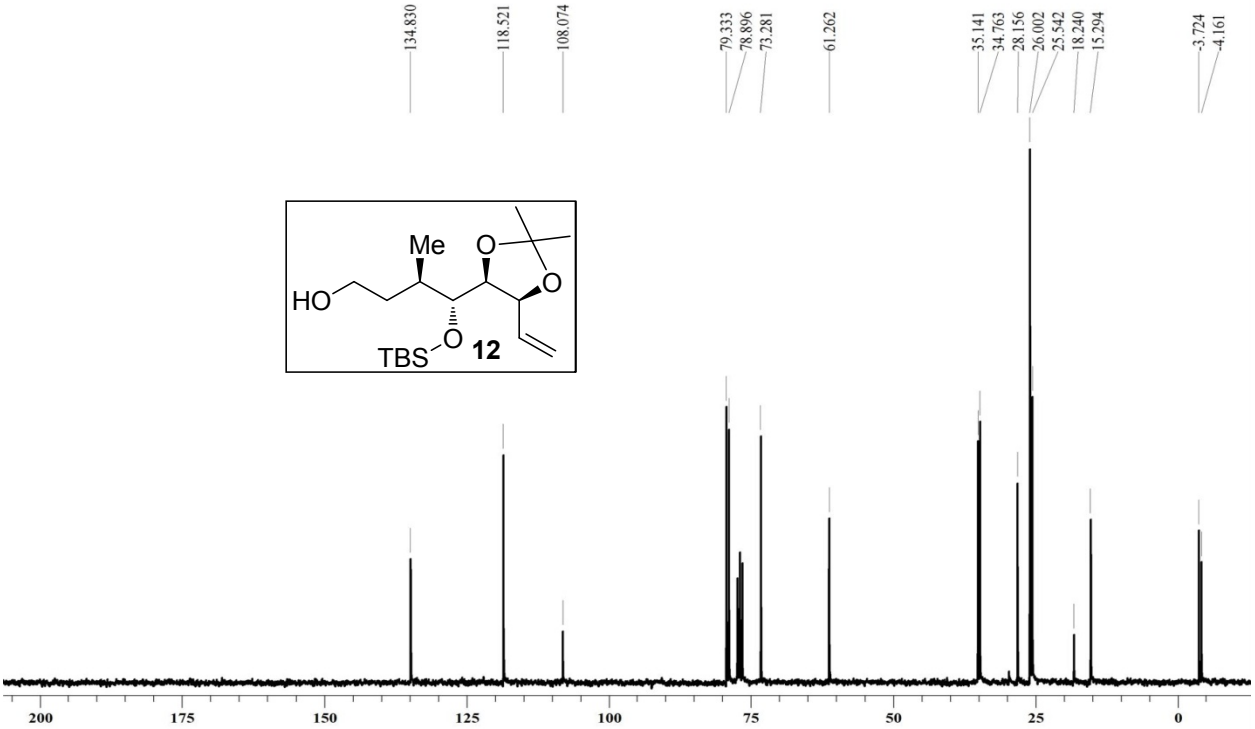
^{1}H NMR Spectrum of 11 (500 MHz, $CDCl_3$) (diastereomeric mixture)



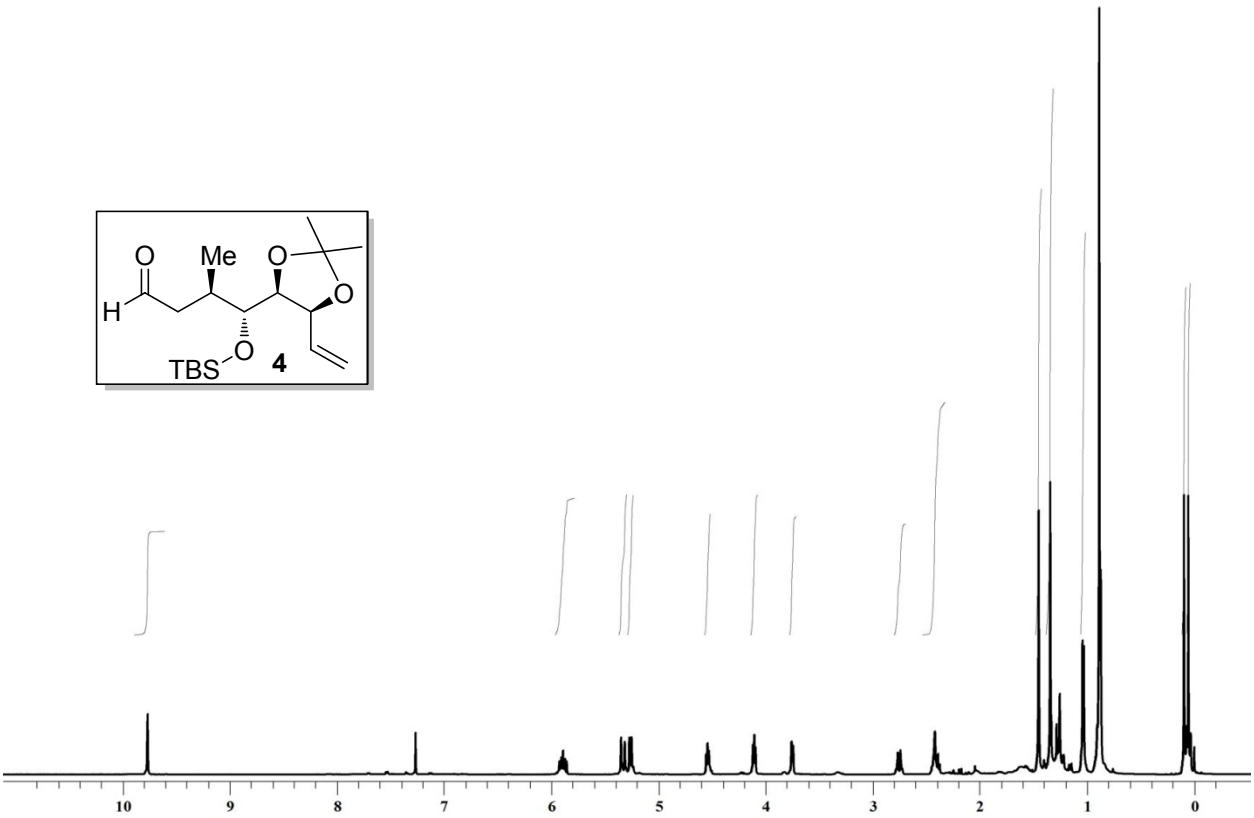
^{13}C NMR Spectrum of 11 (75 MHz, $CDCl_3$) (diastereomeric mixture)



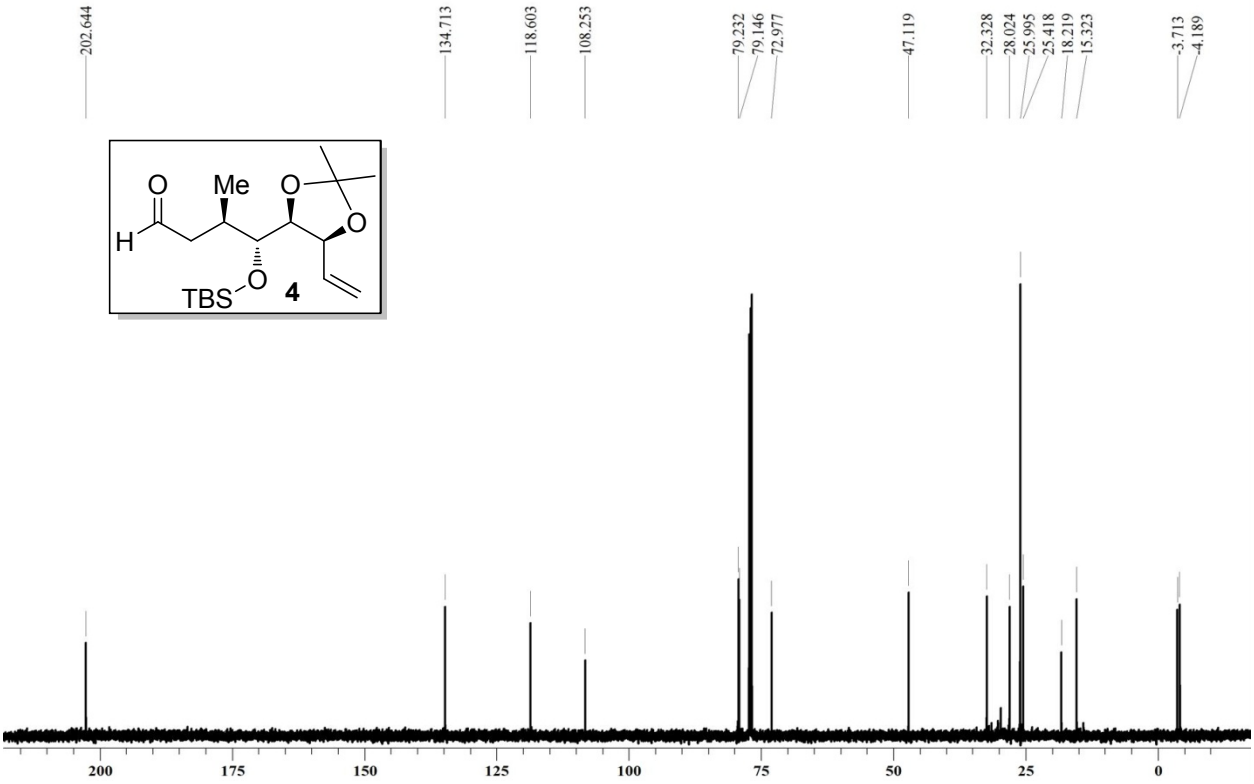
^{1}H NMR Spectrum of 12 (300 MHz, $CDCl_3$)



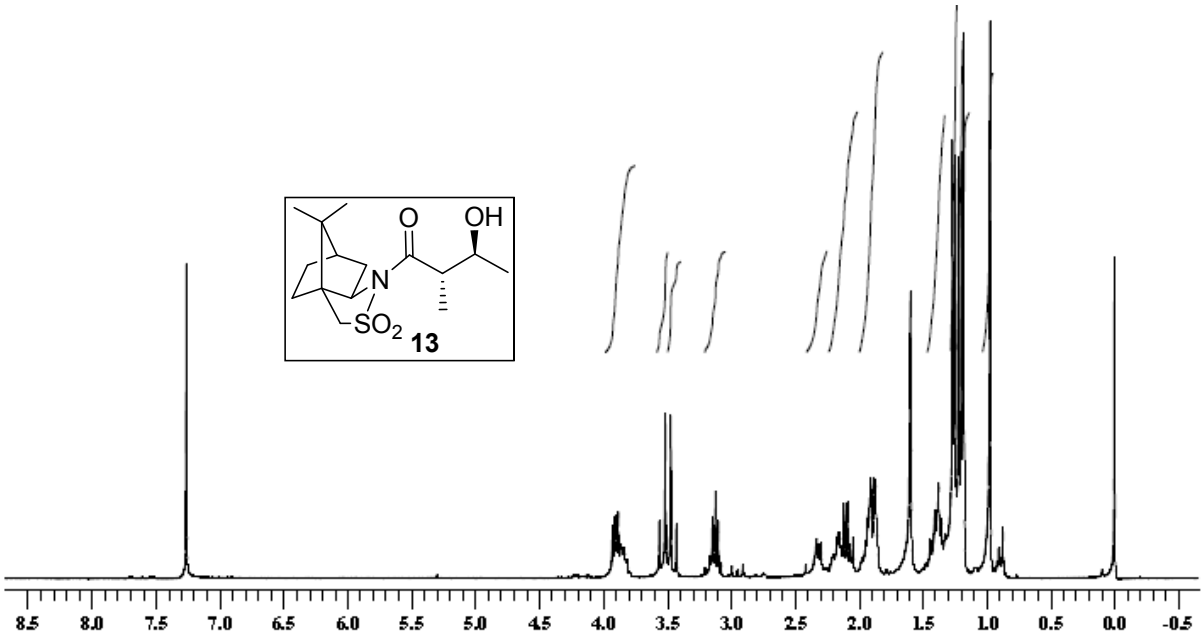
^{13}C NMR Spectrum of 12 (75 MHz, $CDCl_3$)



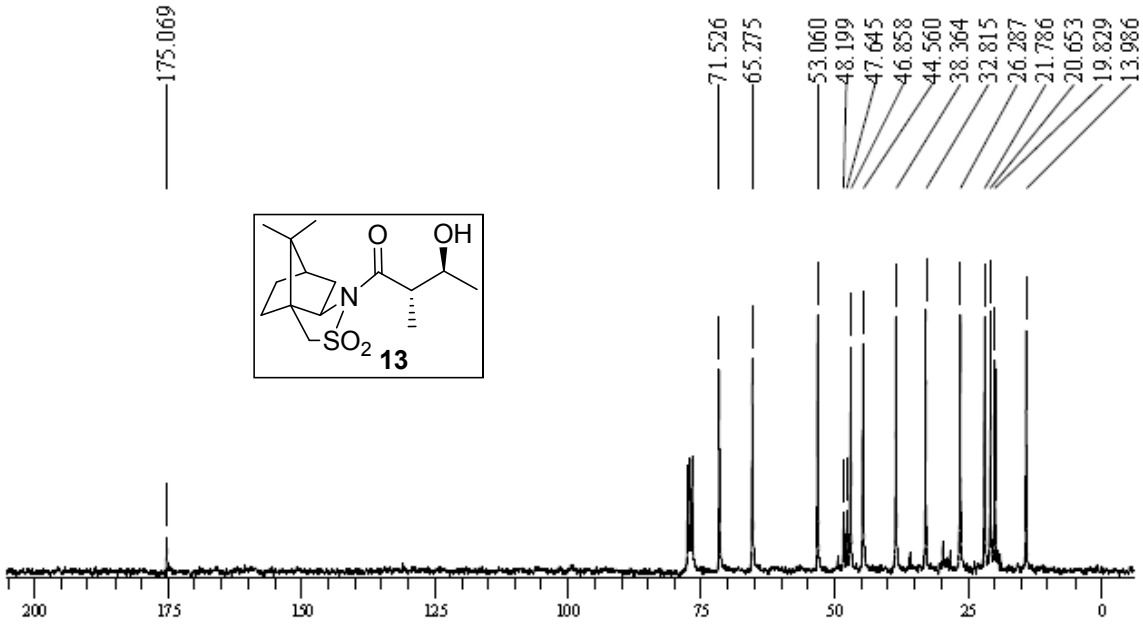
^{1}H NMR Spectrum of 4 (500 MHz, $CDCl_3$)



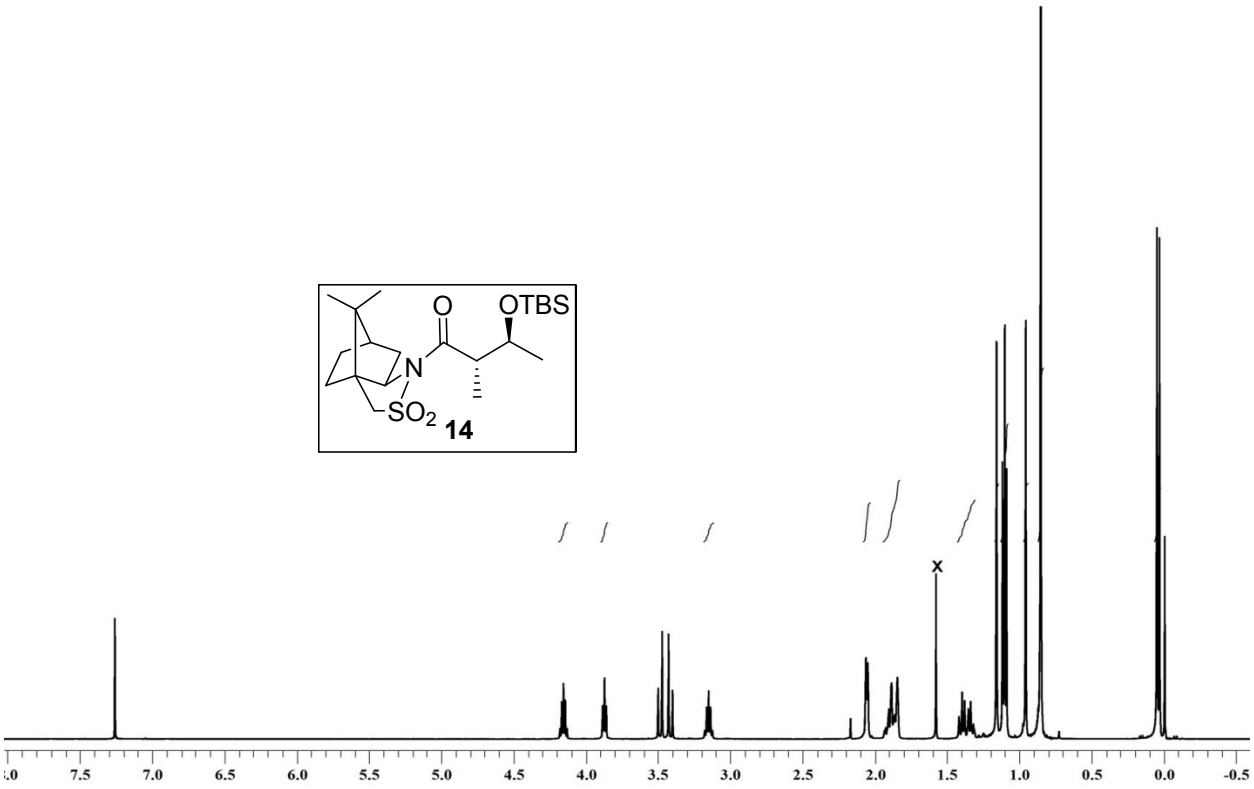
^{13}C NMR Spectrum of 4 (125 MHz, $CDCl_3$)



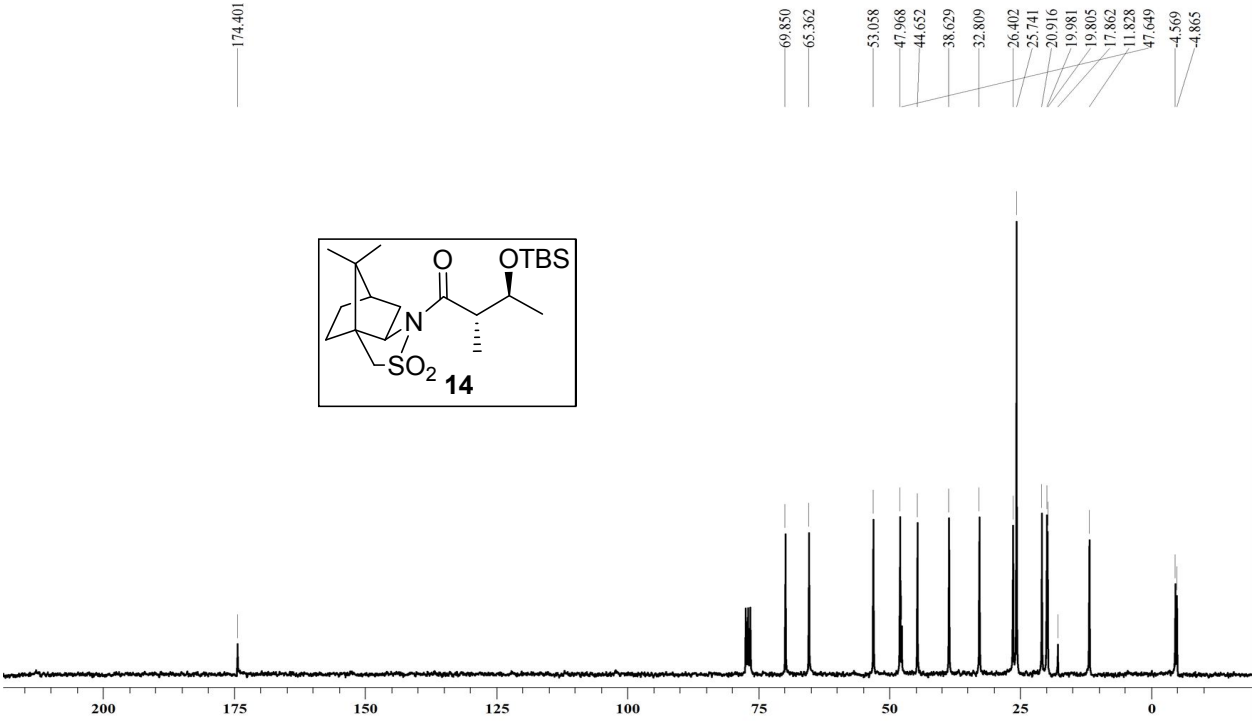
^{1}H-NMR of 13 (300 MHz, $CDCl_3$)



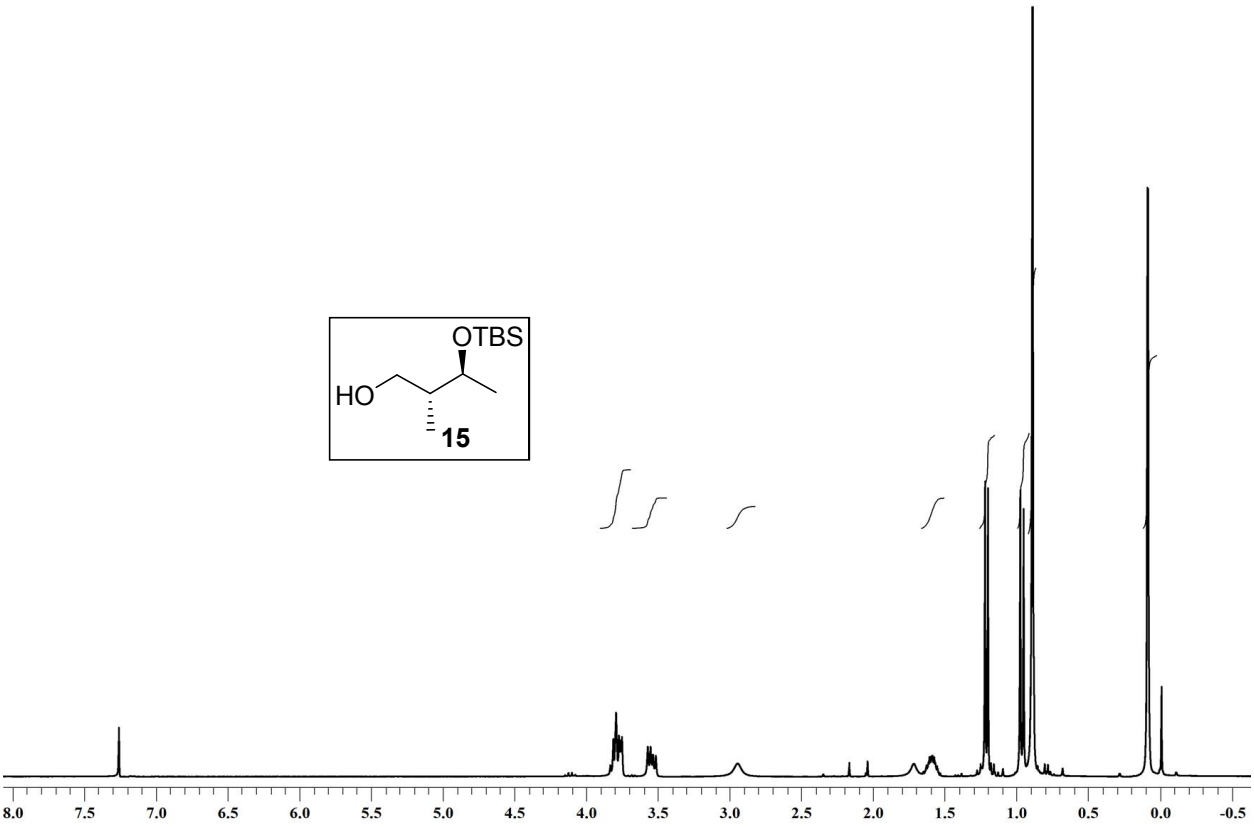
^{13}C-NMR of 13 (75 MHz, $CDCl_3$)



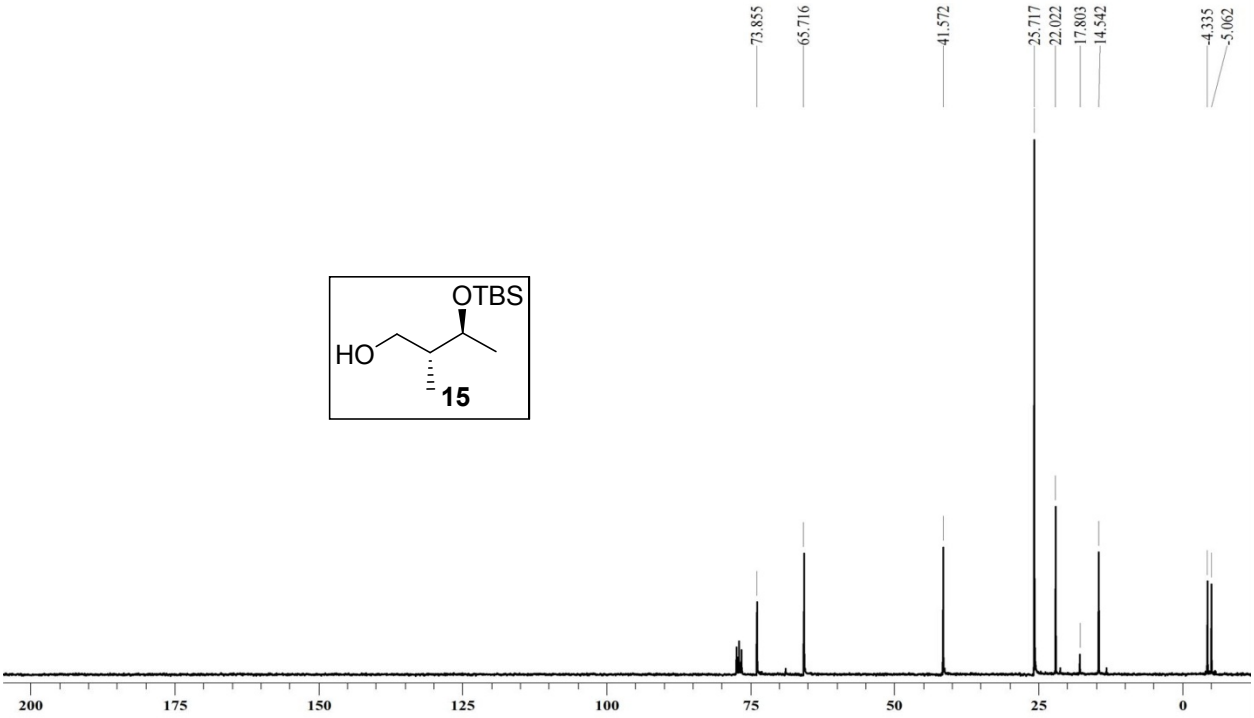
^{1}H NMR Spectrum of 14 (500 MHz, $CDCl_3$)



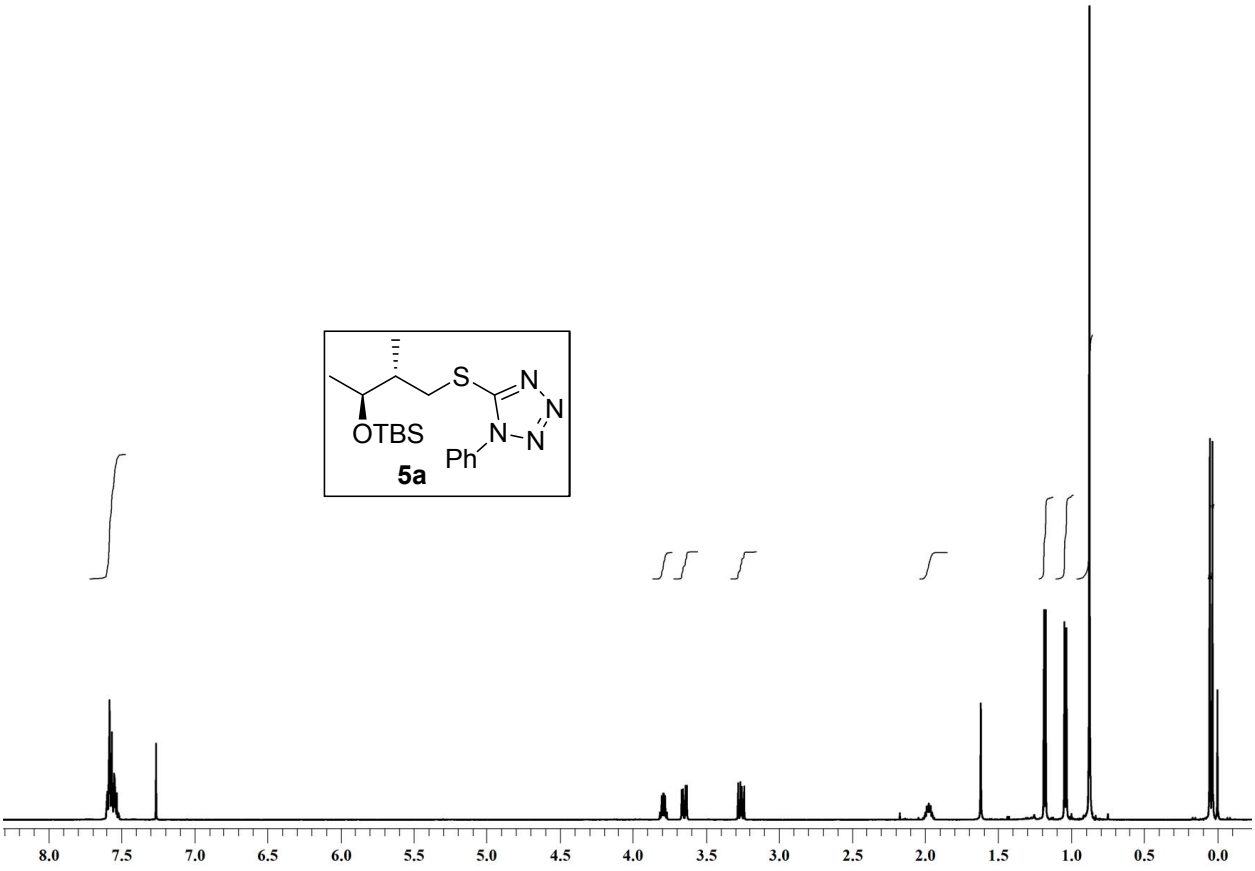
^{13}C NMR Spectrum of 14 (75 MHz, $CDCl_3$)



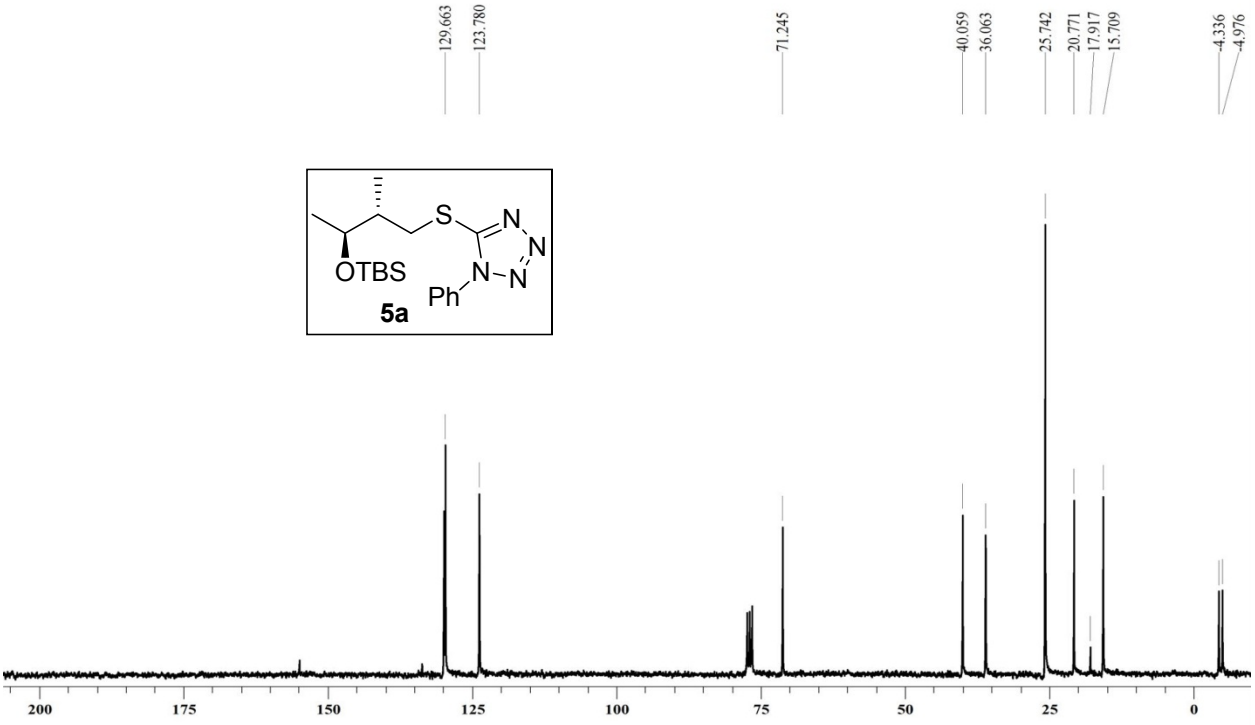
^{1}H NMR Spectrum of 15 (300 MHz, $CDCl_3$)



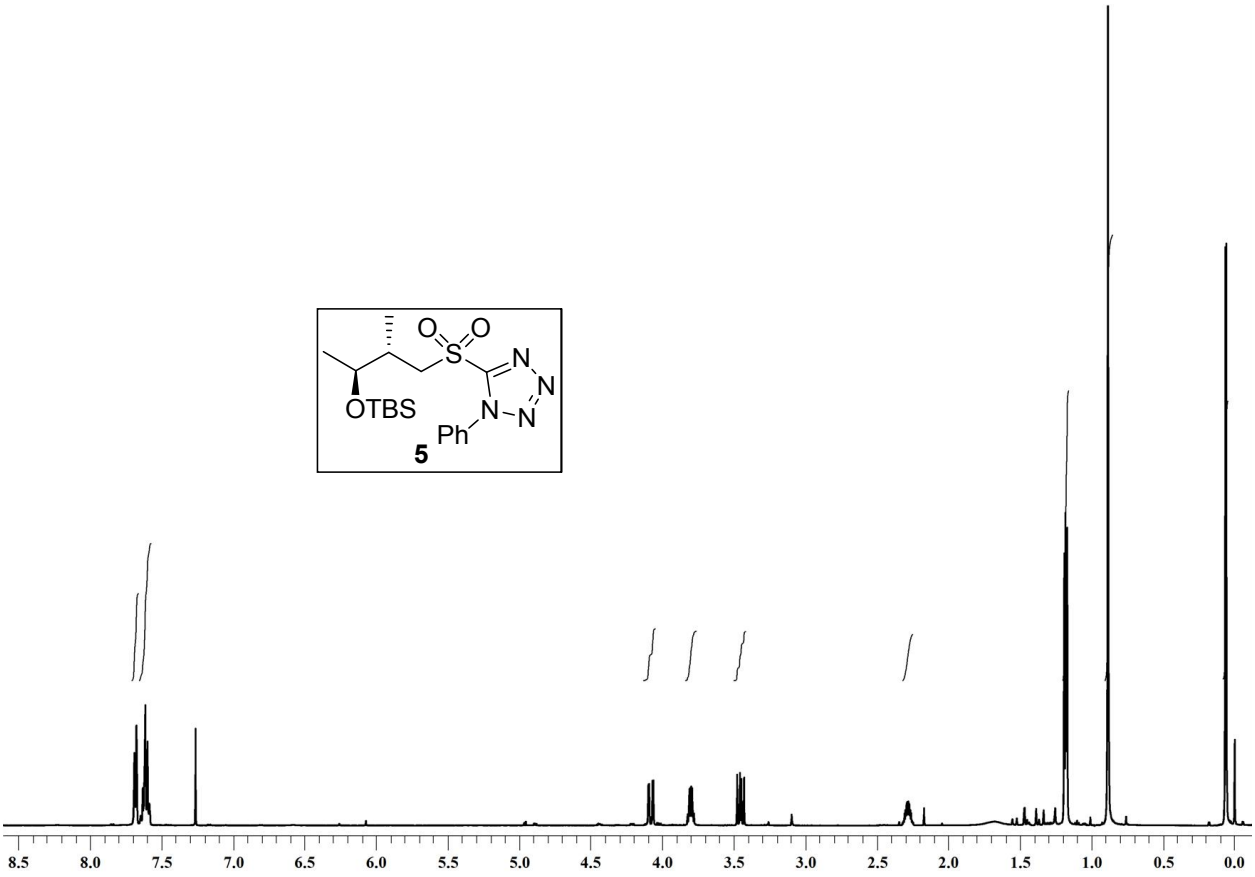
^{13}C NMR Spectrum of 15 (75 MHz, $CDCl_3$)



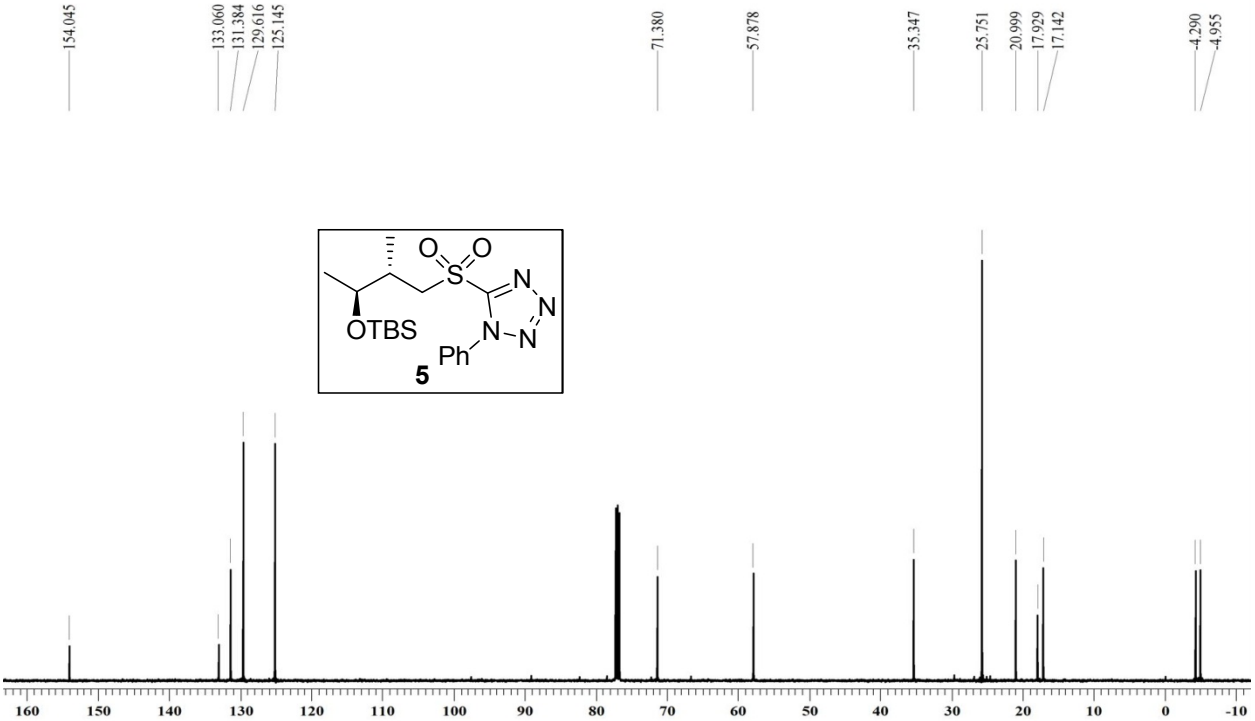
^{1}H NMR Spectrum of 5a (500 MHz, $CDCl_3$)



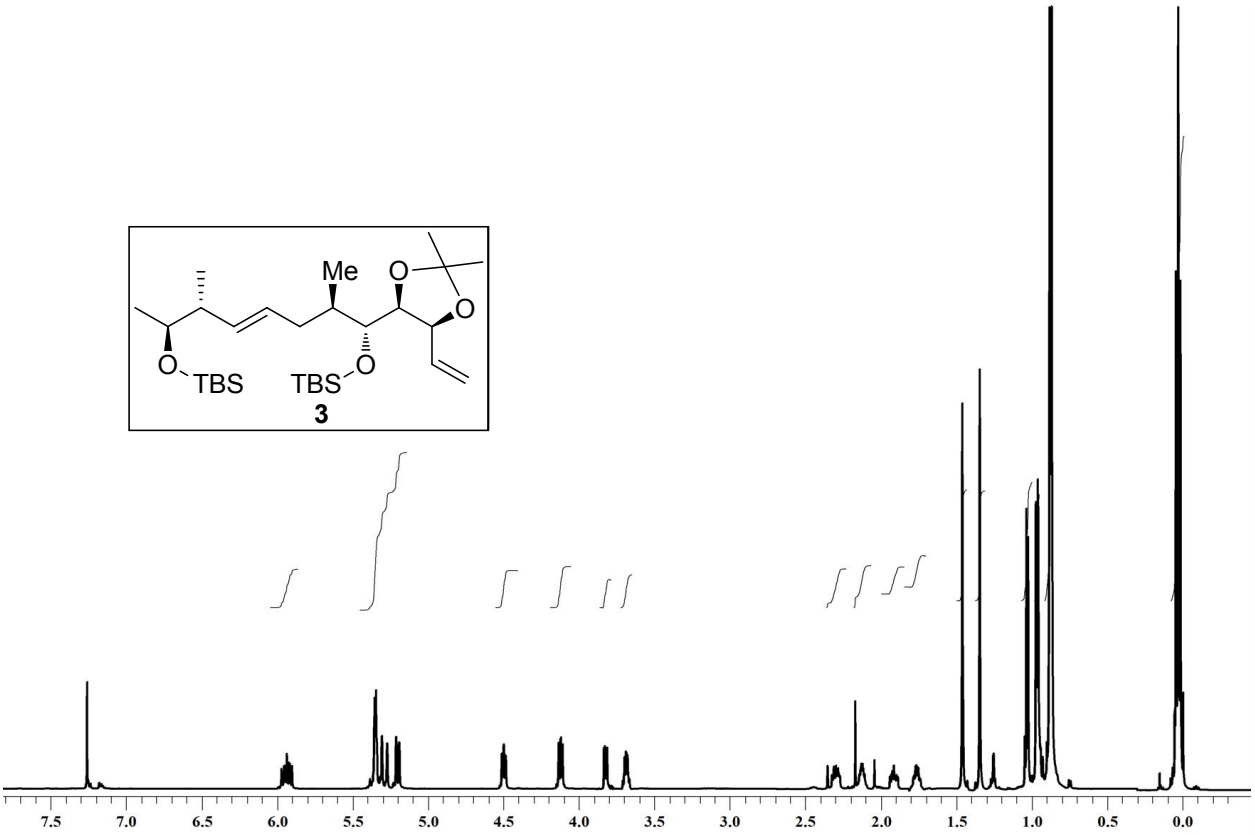
^{13}C NMR Spectrum of 5a (75 MHz, $CDCl_3$)



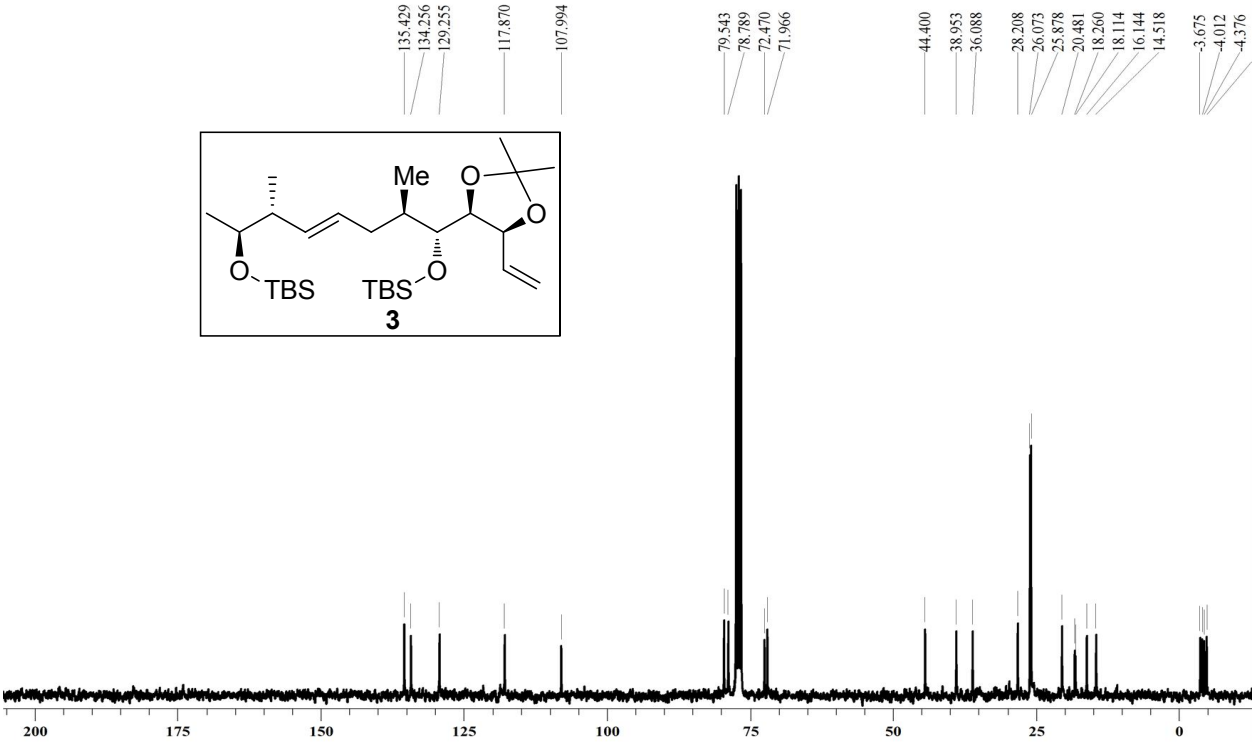
^{1}H NMR Spectrum of 5 (500 MHz, $CDCl_3$)



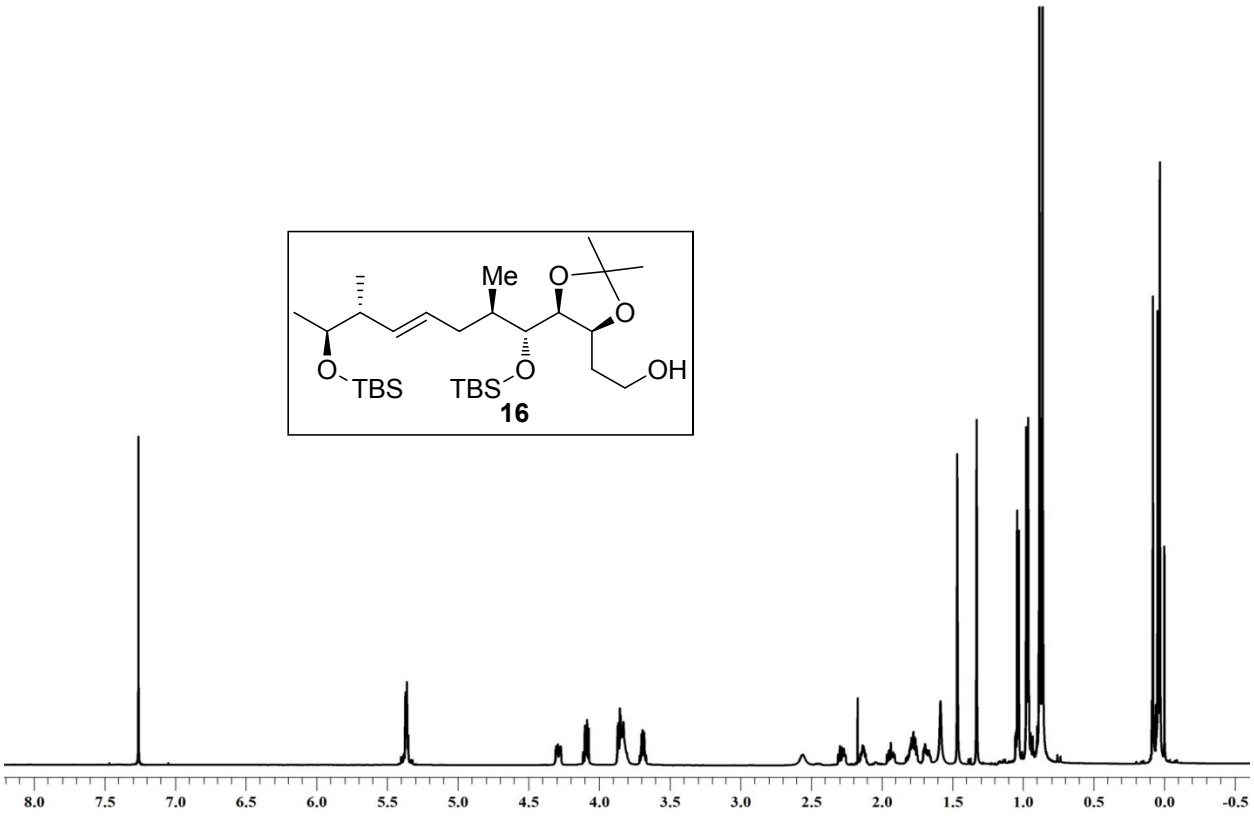
^{13}C NMR Spectrum of 5 (125 MHz, $CDCl_3$)



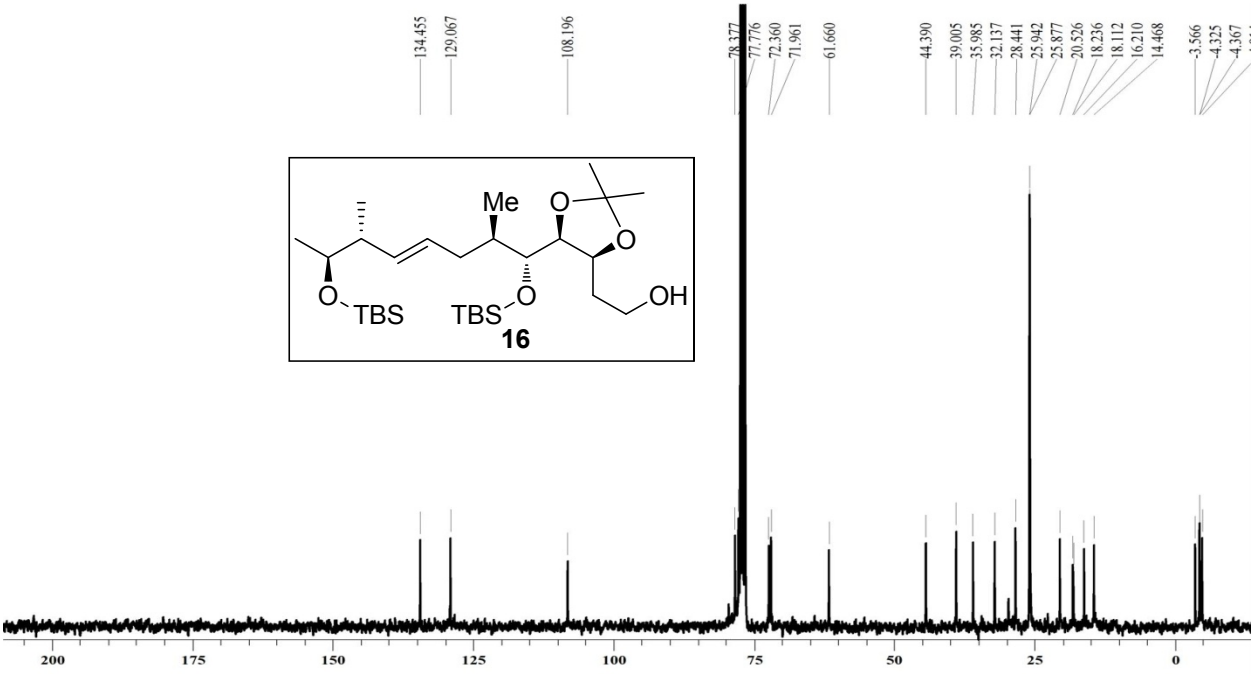
^{1}H NMR Spectrum of 3 (500 MHz, $CDCl_3$)



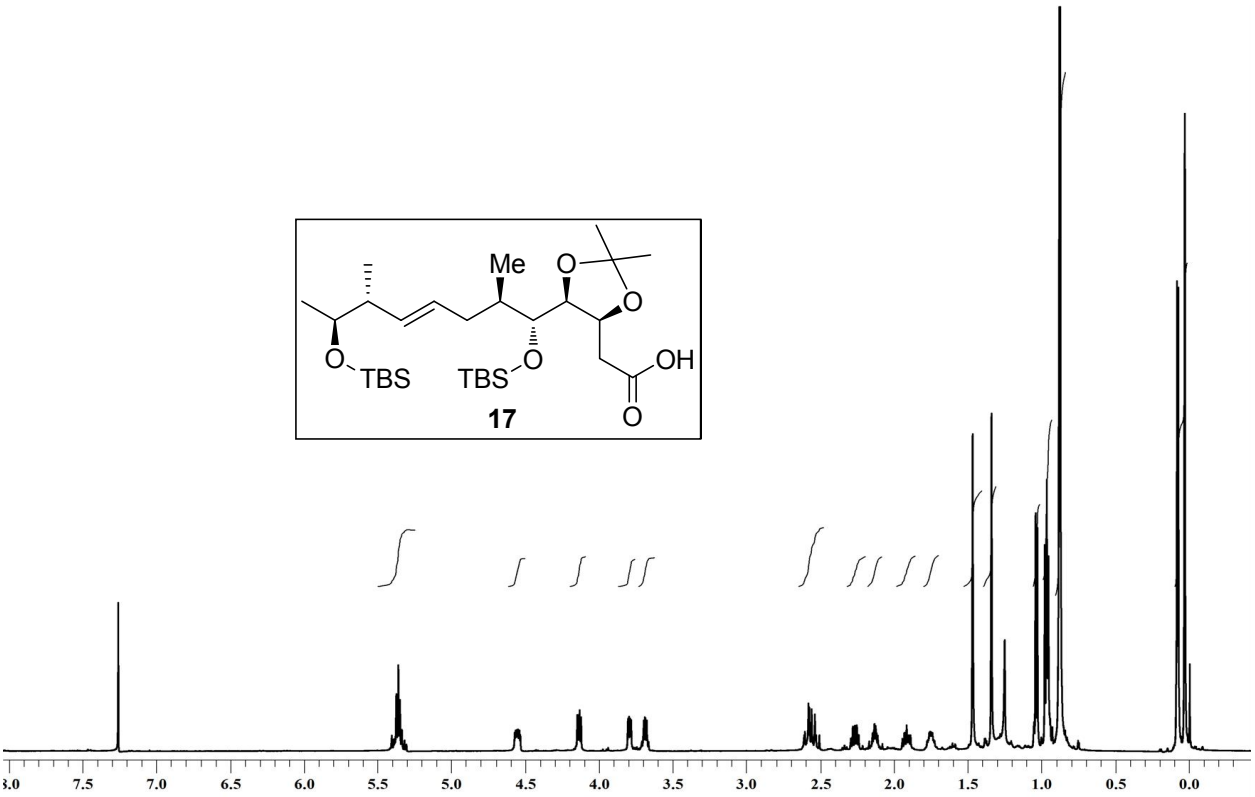
^{13}C NMR Spectrum of 3 (75 MHz, $CDCl_3$)



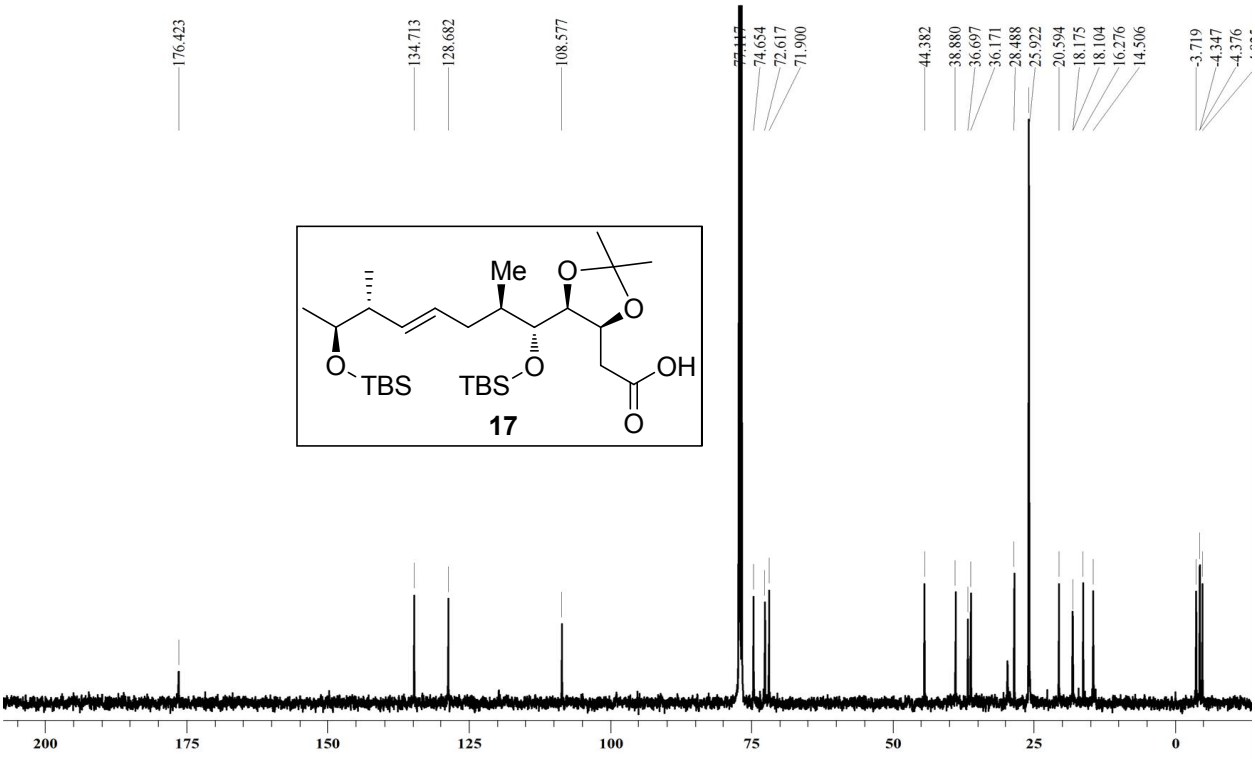
^{1}H NMR Spectrum of 16 (500 MHz, $CDCl_3$)



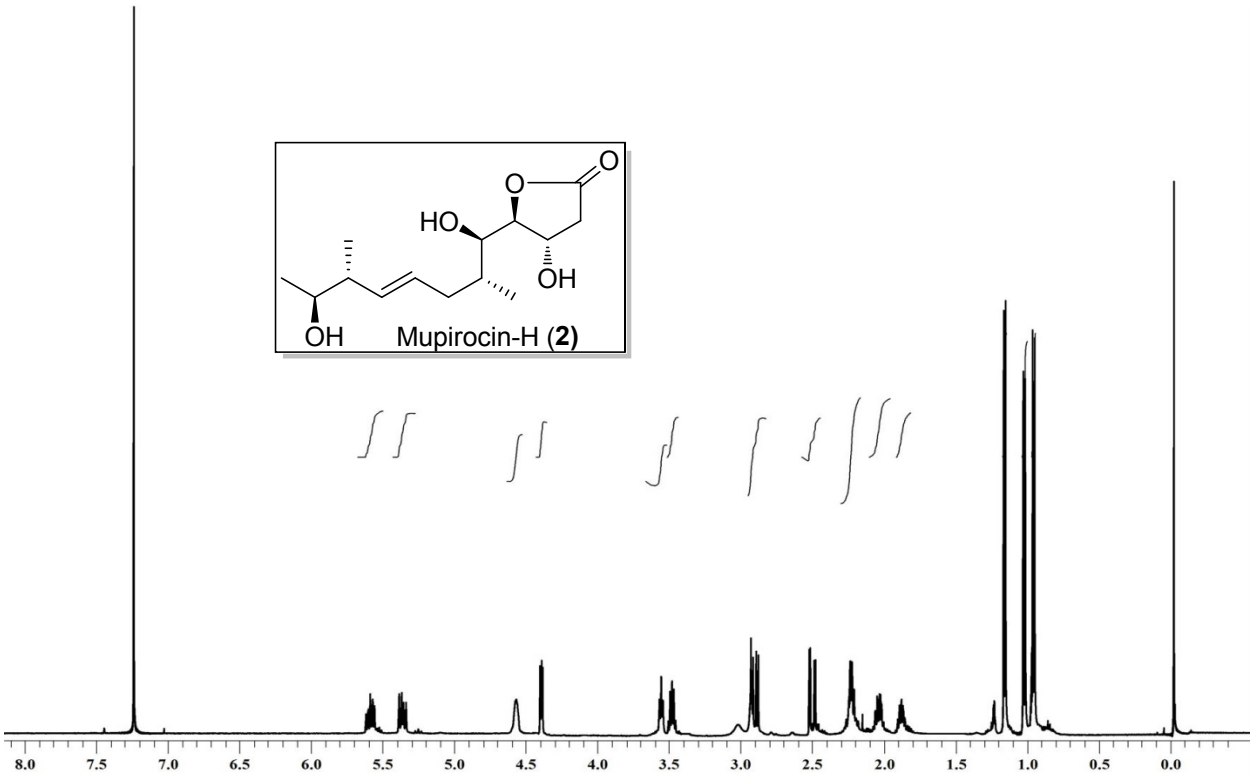
^{13}C NMR Spectrum of 16 (75 MHz, $CDCl_3$)



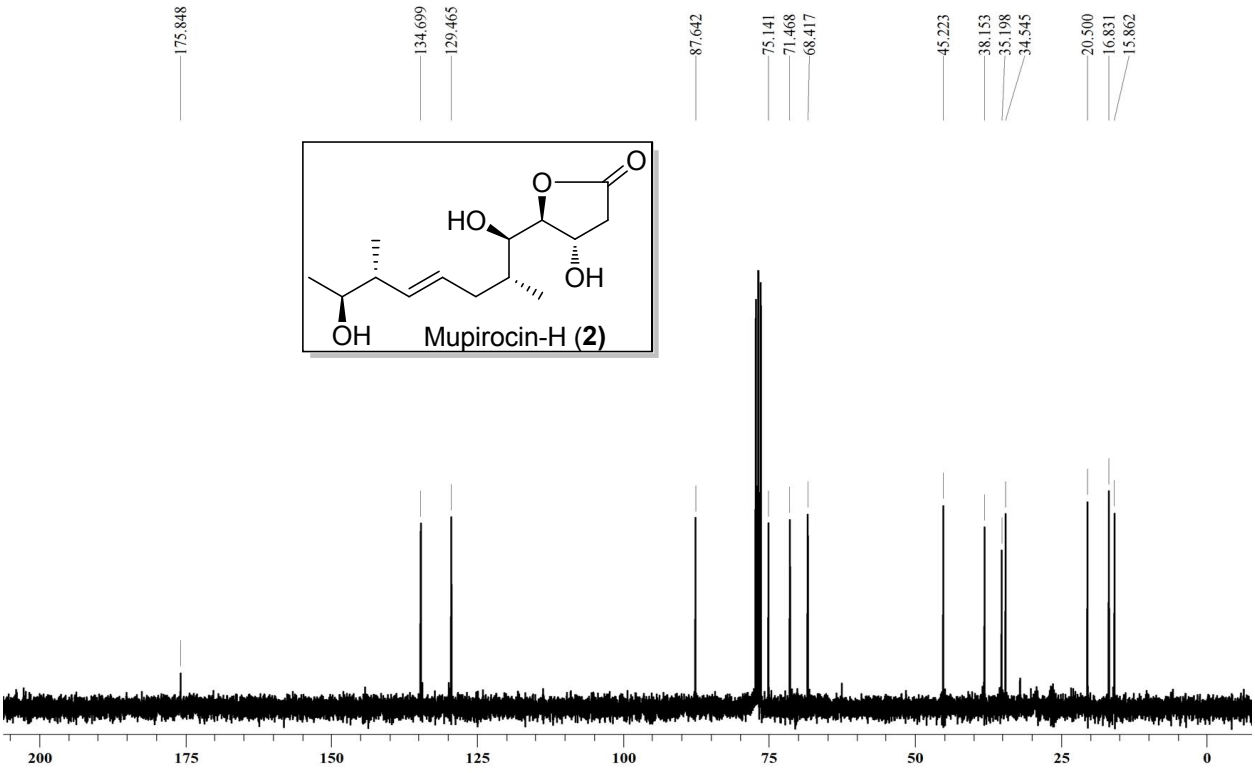
^{1}H NMR Spectrum of 17 (500 MHz, $CDCl_3$)



^{13}C NMR Spectrum of 17 (125 MHz, $CDCl_3$)



^{1}H NMR Spectrum of 2 (500 MHz, $CDCl_3$)



^{13}C NMR Spectrum of 2 (75 MHz, $CDCl_3$)

References:

1. Udawant, S.; Chakraborty, T. K. *J. Org. Chem.* **2011**, *76*, 6331-6337.
2. Zhao, C.; Yuan, Z.; Zhang, Y.; Ma, B.; Li, H.; Tang, S.; Xie X.; X. She. *Org. Chem. Front.* **2014**, *1*, 105-108.
3. Wu, J.; Cooper, S. M.; Cox, R. J.; Crosby, J.; Crump, M. P.; Hothersall, J.; Simpson, T. J.; Thomas, C. M.; Willis, C. L. *Chem. Commun*. **2007**, 2040-2042