Supporting Information-II

Two-step, High-yielding Total Synthesis of Antibiotic Pyrones

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CONTENTS **Page No**

Table S1. Correlation of Natural and Synthetic NMR Data of Compound **7ab** (Isogermicidin B):[1]

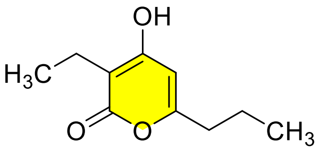
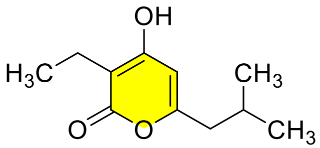
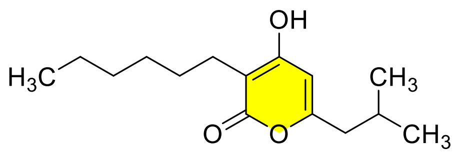
<table>
<tr><td colspan="2" rowspan="6">
3-ethyl-4-hydroxy-6-propyl-2*H*-pyran-2-one (**7ab**)
(Isogermicidin B)</td><td>Isolated compound ^{13}C NMR (125 MHz, CD_3OD)</td><td>Present synthetic compound ^{13}C NMR (125 MHz, CD_3OD)</td></tr>
<tr><td>168.9 (C)</td><td>168.8 (C)</td></tr>
<tr><td>168.0 (C)</td><td>167.6 (C)</td></tr>
<tr><td>165.0 (C)</td><td>165.0 (C)</td></tr>
<tr><td>105.3 (C)</td><td>105.3 (C)</td></tr>
<tr><td>101.6 (CH)</td><td>101.3 (CH)</td></tr>
<tr><td>Isolated compound ^{1}H NMR (500 MHz, CD_3OD)</td><td>Present synthetic compound ^{1}H NMR (500 MHz, CD_3OD)</td><td>36.3 (CH_2)</td><td>36.3 (CH_2)</td></tr>
<tr><td>5.98 (1H, s)</td><td>6.00 (1H, s)</td><td>21.4 (CH_2)</td><td>21.3 (CH_2)</td></tr>
<tr><td>2.44 (2H, t, *J* = 7.5 Hz)</td><td>2.46 (2H, t, *J* = 7.5 Hz)</td><td>17.4 (CH_2)</td><td>17.3 (CH_2)</td></tr>
<tr><td>2.39 (2H, q, *J* = 7.5 Hz)</td><td>2.41 (2H, q, *J* = 7.5 Hz)</td><td>13.8 (CH_3)</td><td>13.7 (CH_3)</td></tr>
<tr><td>1.67 (2H, m)</td><td>1.69 (2H, sext, *J* = 7.5 Hz)</td><td>12.9 (CH_3)</td><td>12.9 (CH_3)</td></tr>
<tr><td>1.03 (3H, t, *J* = 7.4 Hz)</td><td>1.05 (3H, t, *J* = 7.5 Hz)</td><td></td><td></td></tr>
<tr><td>0.98 (3H, t, *J* = 7.4 Hz)</td><td>0.99 (3H, t, *J* = 7.5 Hz)</td><td></td><td></td></tr>
</table>

Table S2. Correlation of Natural and Synthetic NMR Data of Compound **7bb** (Isogermicidin A):[1]

 3-ethyl-4-hydroxy-6-isobutyl-2*H*-pyran-2-one (**7bb**) (Isogermicidin A)		Isolated compound ^{13}C NMR (125 MHz, CD_3OD)	Present synthetic compound ^{13}C NMR (125 MHz, CD_3OD)
		168.9 (C)	168.8 (C)
		167.9 (C)	167.5 (C)
		164.3 (C)	164.3 (C)
		105.3 (C)	105.3 (C)
		102.5 (CH)	102.2 (CH)
Isolated compound ^{1}H NMR (500 MHz, CD_3OD)	Present synthetic compound ^{1}H NMR (500 MHz, CD_3OD)	43.6 (CH_2)	43.5 (CH_2)
5.97 (1H, s)	5.99 (1H, s)	28.3 (CH)	28.1 (CH)
2.39 (2H, q, J = 7.4 Hz)	2.42 (2H, q, J = 7.5 Hz)	22.6 (2 x CH_3)	22.5 (2 x CH_3)
2.32 (2H, d, J = 7.2 Hz)	2.35 (2H, d, J = 7.0 Hz)	17.4 (CH_2)	17.3 (CH_2)
2.03 (1H, m)	2.05 (1H, nonet, J = 7.0 Hz)	12.9 (CH_3)	12.9 (CH_3)
1.04 (3H, t, J = 7.4 Hz)	1.05 (3H, t, J = 7.5 Hz)		
0.96 (3H, d, J = 6.7 Hz)	0.98 (6H, d, J = 6.5 Hz)		

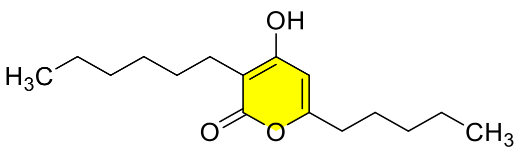
0.96 (3H, d, *J* = 6.7 Hz)			

Table S3. Correlation of Natural and Synthetic NMR Data of Compound **7bc** (Photopyrone A):[2]

<table>
<tr><td colspan="2" rowspan="6">
3-Hexyl-4-hydroxy-6-isobutyl-2*H*-pyran-2-one (**7bc**)
(Photopyrone A)</td><td>Isolated compound ^{13}C NMR (125 MHz, CD_3OD)</td><td>Present synthetic compound ^{13}C NMR (125 MHz, CD_3OD)</td></tr>
<tr><td>174.1 (C)</td><td>168.3 (C)</td></tr>
<tr><td>170.3 (C)</td><td>167.1 (C)</td></tr>
<tr><td>164.0 (C)</td><td>163.7 (C)</td></tr>
<tr><td>105.3 (CH)</td><td>103.5 (C)</td></tr>
<tr><td>103.2 (C)</td><td>101.5 (CH)</td></tr>
<tr><td>Isolated compound ^{1}H NMR (500 MHz, CD_3OD)</td><td>Present synthetic compound ^{1}H NMR (500 MHz, CD_3OD)</td><td>43.1 (CH_2)</td><td>42.9 (CH_2)</td></tr>
<tr><td>5.91 (1H, s)</td><td>5.94 (1H, s)</td><td>32.7 (CH_2)</td><td>32.4 (CH_2)</td></tr>
<tr><td>2.34 (2H, dd, *J* = 7.8, 7.2 Hz)</td><td>2.34 (2H, t, *J* = 7.5 Hz)</td><td>30.0 (CH_2)</td><td>29.7 (CH_2)</td></tr>
<tr><td>2.27 (2H, d, *J* = 7.2 Hz)</td><td>2.29 (2H, d, *J* = 7.5 Hz)</td><td>28.9 (CH_2)</td><td>28.4 (CH_2)</td></tr>
<tr><td>2.01 (1H, sept, *J* = 7.0 Hz)</td><td>2.00 (1H, nonet, *J* = 6.5 Hz)</td><td>27.6 (CH)</td><td>27.6 (CH)</td></tr>
</table>

1.43 (2H, m)	1.42 (2H, quint, *J* = 7.0 Hz)	23.6 (CH_2)	23.4 (CH_2)
1.29 (2H, m)	1.32-1.24 (6H, m)	23.1 (CH_2)	23.2 (CH_2)
1.29 (2H, m)		22.1 (CH_3)	21.9 (CH_3)
1.29 (1H, m)		22.1 (CH_3)	21.9 (CH_3)
0.94 (3H, d, *J* =6.8 Hz)	0.92 (3H, d, *J* = 7.0 Hz)	13.9 (CH_3)	13.9 (CH_3)
0.94 (3H, d, *J* = 6.8 Hz)	0.92 (3H, d, *J* = 7.0 Hz)		
0.88 (3H, d, *J* = 6.8 Hz)	0.86 (3H, t, *J* = 6.0 Hz)		

Table S4. Correlation of Natural and Synthetic NMR Data of Compound **7cc** (Pseudopyronine A):[3]



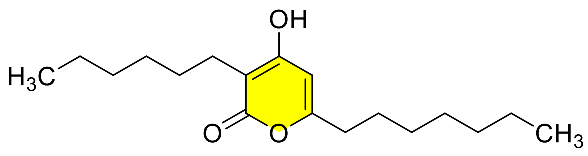
3-Hexyl-4-hydroxy-6-pentyl-2*H*-pyran-2-one (**7cc**)

(Pseudopyrinone A)

Isolated compound ^{13}C NMR (100 MHz, CD_3OD)	Present synthetic compound ^{13}C NMR (125 MHz, CD_3OD)
168.8 (C)	169.1 (C)
167.7 (C)	168.0 (C)
165.1 (C)	165.4 (C)
103.9 (C)	104.2 (C)
101.0 (CH)	101.3 (CH)

Isolated compound ^{1}H NMR (400 MHz, CD_3OD)	Present synthetic compound ^{1}H NMR (500 MHz, CD_3OD)	34.2 (CH_2)	34.5 (CH_2)
5.98 (1H, s)	6.02 (1H, s)	32.9 (CH_2)	33.2 (CH_2)
2.46 (2H, t, *J* = 7.6 Hz)	2.50 (2H, t, *J* = 7.5 Hz)	32.2 (CH_2)	32.5 (CH_2)
2.37 (2H, t, *J* = 7.5 Hz)	2.41 (2H, t, *J* = 8.0 Hz)	30.2 (CH_2)	30.5 (CH_2)
1.70-1.60 (2H, m)	1.69 (2H, quint, *J* = 7.5 Hz)	29.0 (CH_2)	29.2 (CH_2)
1.50-1.40 (2H, m)	1.49 (2H, quint, *J* = 7.5 Hz)	27.6 (CH_2)	27.9 (CH_2)
1.40-1.32 (10H, m)	1.44-1.33 (10H, m)	23.9 (CH_2)	24.1 (CH_2)
0.92 (3H, t, *J* = 7.0 Hz)	0.96 (3H, t, *J* = 7.5 Hz)	23.7 (CH_2)	23.9 (CH_2)
0.89 (3H, t, *J* = 7.0 Hz)	0.93 (3H, t, *J* = 6.5 Hz)	23.4 (CH_2)	23.6 (CH_2)
		14.4 (CH_3)	14.7 (CH_3)
		14.2 (CH_3)	14.5 (CH_3)

Table S5. Correlation of Natural and Synthetic NMR Data of Compound **7gc** (Pseudopyronine B):[4]

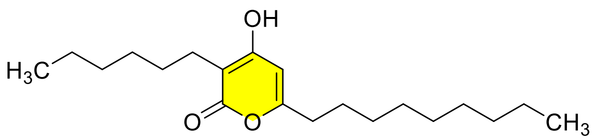


6-heptyl-3-hexyl-4-hydroxy-2*H*-pyran-2-one (**7gc**)
(Pseudopyronine B)

		Isolated compound ^{13}C NMR (100 MHz, DMSO-d_6)	Present synthetic compound ^{13}C NMR (125 MHz, DMSO-d_6)
		165.0 (C)	164.8 (C)
		164.8 (C)	164.8 (C)
		162.6 (C)	162.7 (C)
		101.3 (C)	101.4 (C)
		99.2 (CH)	99.2 (CH)
Isolated compound ^{1}H NMR (400 MHz, DMSO-d_6)	Present synthetic compound ^{1}H NMR (500 MHz, DMSO-d_6)	32.6 (CH_2)	32.6 (CH_2)
	11.02 (1H, br s)	31.2 (CH_2)	31.16 (CH_2)
5.94 (1H, s)	5.96 (1H, s)	31.1 (CH_2)	31.11 (CH_2)
2.37 (2H, t, *J* = 8.0 Hz)	2.39 (2H, t, *J* = 7.5 Hz)	28.6 (CH_2)	28.5 (CH_2)
2.24 (2H, t, *J* = 8.0 Hz)	2.24 (2H, t, *J* = 7.5 Hz)	28.6 (CH_2)	28.3 (CH_2)
1.51 (2H, t, *J* = 8.0 Hz)	1.52 (2H, quint, *J* = 7.0 Hz)	28.2 (CH_2)	28.2 (CH_2)
1.35 (2H, t, *J* = 8.0 Hz)	1.35 (2H, quint, *J* = 7.0	27.5 (CH_2)	27.5 (CH_2)

	Hz)		
1.28 (2H, m)	1.31-1.17 (14H, m)	26.2 (CH_2)	26.2 (CH_2)
1.26 (2H, m)		22.7 (CH_2)	22.6 (CH_2)
1.26 (2H, m)		22.0 (CH_2)	22.05 (CH_2)
1.26 (2H, m)		22.0 (CH_2)	22.02 (CH_2)
1.26 (2H, m)		14.0 (CH_3)	13.9 (CH_3)
1.25 (2H, m)		13.8 (CH_3)	13.9 (CH_3)
1.25 (2H, m)			
0.84 (3H, m)	0.97-0.73 (6H, m)		
0.84 (3H, m)			

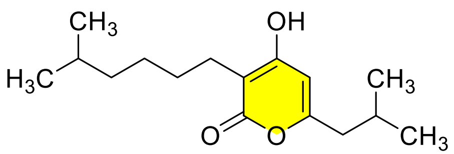
Table S6. Correlation of Natural and Synthetic NMR Data of Compound **7jc** (Pseudopyronine C):[4]

 3-Hexyl-4-hydroxy-6-nonyl-2*H*-pyran-2-one (**7jc**) (Pseudopyrinone C)	Isolated compound ^{13}C NMR (100 MHz, DMSO-d_6)	Present synthetic compound ^{13}C NMR (100 MHz, DMSO-d_6)
	166.9 (C)	164.7 (C)
	165.1 (C)	164.7 (C)

		162.0 (C)	162.7 (C)
		101.5 (C)	101.3 (C)
		100.4 (CH)	99.2 (CH)
Isolated compound ^{1}H NMR (400 MHz, DMSO-d_6)	Present synthetic compound ^{1}H NMR (500 MHz, DMSO-d_6)	32.6 (CH_2)	32.5 (CH_2)
	11.01 (1H, br s)	31.2 (CH_2)	31.2 (CH_2)
5.86 (1H, s)	5.98 (1H, s)	31.2 (CH_2)	31.1 (CH_2)
2.34 (2H, t, J = 8.0Hz)	2.41 (2H, t, J = 7.5 Hz)	28.8 (CH_2)	28.8 (CH_2)
2.22 (2H, t, J = 8.0 Hz)	2.26 (2H, t, J = 7.5 Hz)	28.6 (CH_2)	28.62 (CH_2)
1.50 (2H, t, J =8.0 Hz)	1.54 (2H, quint, J = 6.5 Hz)	28.6 (CH_2)	28.6 (CH_2)
1.34 (2H, t, J =8.0 Hz)	1.38 (2H, quint, J = 6.5 Hz)	28.6 (CH_2)	28.5 (CH_2)
1.28 (2H, m)		28.2 (CH_2)	28.2 (CH_2)

1.28 (2H, m)	1.28-1.23 (18H, m)	27.7 (CH_2)	27.4 (CH_2)
1.26 (2H, m)		26.2 (CH_2)	26.2 (CH_2)
1.26 (2H, m)		22.8 (CH_2)	22.6 (CH_2)
1.26 (2H, m)		22.1 (CH_2)	22.05 (CH_2)
1.26 (2H, m)		22.1 (CH_2)	22.03 (CH_2)
1.25 (2H, m)		13.9 (CH_3)	13.9 (CH_3)
1.24 (2H, m)		13.9 (CH_3)	13.9 (CH_3)
1.23 (2H, m)			
0.85 (3H, m)	0.96-0.78 (6H, m)		
0.85 (3H, m)			

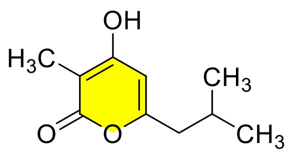
Table S7. Correlation of Natural and Synthetic NMR Data of Compound **7bd** (Photopyrone B):[2]

 4-Hydroxy-6-isobutyl-3-(5-methylhexyl)-2*H*-pyran-2-one (**7bd**) (Photopyrone B)	Isolated compound ^{13}C NMR (125 MHz, CD_3OD)	Present synthetic compound ^{13}C NMR (100 MHz, CD_3OD)
	167.6 (C)	167.5 (C)
	166.9 (C)	166.3 (C)
	162.7 (C)	162.8 (C)

		102.4 (C)	102.5 (C)
		101.0 (CH)	100.6 (CH)
Isolated compound ^{1}H NMR (500 MHz, CD_3OD)	Present synthetic compound ^{1}H NMR (500 MHz, CD_3OD)	42.0 (CH_2)	42.0 (CH_2)
5.96 (1H, s)	5.97 (1H, s)	38.7 (CH_2)	38.6 (CH_2)
2.37 (2H, dd, *J* = 7.6, 7.3 Hz)	2.37 (2H, t, *J* = 8.0 Hz)	27.9 (CH_2)	27.8 (CH_2)
2.31 (2H, d, *J* = 7.0 Hz)	2.33 (2H, d, *J* = 7.5 Hz)	27.7 (CH)	27.7 (CH)
2.02 (1H, sept, *J* = 7.0 Hz)	2.03 (1H, nonet, *J* = 7.0 Hz)	26.9 (CH_2)	26.9 (CH_2)
1.52 (1H, sept, *J* = 6.7 Hz)	1.52 (1H, nonet, *J* = 6.5 Hz)	26.7 (CH)	26.7 (CH)
1.43 (2H, m)	1.44 (2H, quint, *J* = 7.5 Hz)	22.5 (CH_2)	22.5 (CH_2)
1.31 (2H, m)	1.36-1.28 (2H, m)	21.6 (CH_3)	21.6 (CH_3)
1.19 (2H, m)	1.20 (2H, q, *J* = 6.5 Hz)	21.6 (CH_3)	21.6 (CH_3)
0.94 (3H, d, *J* =6.7 Hz)	0.95 (6H, d, *J* =7.0 Hz)	21.0 (CH_3)	21.1 (CH_3)
0.94 (3H, d, *J* = 6.7 Hz)		21.0 (CH_3)	21.1 (CH_3)

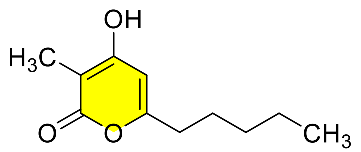
0.86 (3H, d, *J* = 6.7 Hz)	0.87 (6H, d, *J* = 6.5 Hz)		
0.86 (3H, d, *J* = 6.7 Hz)			

Table S8. Correlation of Natural and Synthetic NMR Data of Compound **7bh** (Germicidin I):[5]

		Isolated compound ^{13}C NMR (125 MHz, DMSO-d_6)	Present synthetic compound ^{13}C NMR (100 MHz, DMSO-d_6)
 4-Hydroxy-6-isobutyl-3-methyl-2*H*-pyran-2-one (**7bh**) (Germicidin I)		168.0 (C)	165.1 (C)
		165.4 (C)	164.7 (C)
		160.3 (C)	161.6 (C)
		101.9 (CH)	100.2 (CH)
		94.7 (C)	96.6 (C)
Isolated compound ^{1}H NMR (500 MHz, DMSO-d_6)	Present synthetic compound ^{1}H NMR (500 MHz, DMSO-d_6)	41.6 (CH_2)	41.6 (CH_2)
	11.12 (1H, br s, O*H*)	26.0 (CH)	26.4 (CH)
5.86 (1H, s)	5.97 (1H, s)	21.7 (CH_3)	21.9 (CH_3)
2.21 (2H, d, *J* = 6.5 Hz)	2.28 (2H, d, *J* = 7.0 Hz)	21.7 (CH_3)	21.9 (CH_3)
1.89 (1H, m)	1.91 (1H, nonet, *J* = 7.0	8.4 (CH_3)	8.4 (CH_3)

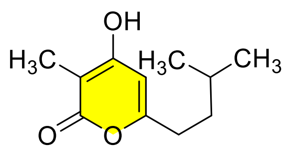
	Hz)		
1.69 (3H, s)	1.74 (3H, s)		
0.88 (3H, d, *J* = 6.5 Hz)	0.88 (6H, d, *J* = 6.5 Hz)		
0.88 (3H, d, *J* = 6.5 Hz)			

Table S9. Correlation of Natural and Synthetic NMR Data of Compound **7ch** (Violapyrone L):[6]

<table>
<tr><td colspan="2" rowspan="6">
4-Hydroxy-3-methyl-6-pentyl-2*H*-pyran-2-one (**7ch**)
(Violapyrone L)</td><td>Isolated compound ^{13}C NMR (125 MHz, DMSO-d_6)</td><td>Present synthetic compound ^{13}C NMR (125 MHz, DMSO-d_6)</td></tr>
<tr><td>165.2 (C)</td><td>167.7 (C)</td></tr>
<tr><td>165.0 (C)</td><td>167.1 (C)</td></tr>
<tr><td>163.2 (C)</td><td>164.2 (C)</td></tr>
<tr><td>99.6 (CH)</td><td>100.6 (CH)</td></tr>
<tr><td>96.3 (C)</td><td>97.7 (C)</td></tr>
<tr><td>Isolated compound ^{1}H NMR (500 MHz, DMSO-d_6)</td><td>Present synthetic compound ^{1}H NMR (500 MHz, DMSO-d_6)</td><td>32.9 (CH_2)</td><td>33.1 (CH_2)</td></tr>
<tr><td>5.98 (1H, s)</td><td>5.98 (1H, s)</td><td>30.8 (CH_2)</td><td>30.9 (CH_2)</td></tr>
<tr><td>2.40 (2H, t, *J* = 7.5 Hz)</td><td>2.36 (2H, t, *J* = 7.5 Hz)</td><td>26.3 (CH_2)</td><td>26.5 (CH_2)</td></tr>
</table>

1.74 (3H, s)	1.70 (3H, s)	22.1 (CH_2)	22.3 (CH_2)
1.53 (2H, quintet, *J* = 7.5 Hz)	1.48 (2H, quintet, *J* = 7.5 Hz)	14.1 (CH_3)	14.3 (CH_3)
1.29 (2H, m)	1.25-1.14 (4H, m)	8.7 (CH_3)	8.7 (CH_3)
1.27 (2H, m)			
0.88 (3H, t, *J* = 7.1 Hz)	0.78 (3H, t, *J* = 7.0 Hz)		

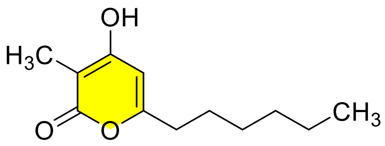
Table S10. Correlation of Natural and Synthetic NMR Data of Compound **7dh** (Violapyrone J1):[7]

<table>
<tr><td colspan="2" rowspan="6">

4-Hydroxy-6-isopentyl-3-methyl-2H-pyran-2-one (7dh)
(Violapyrone J1)</td><td>Isolated compound ^{13}C NMR (150 MHz, CD_3OD)</td><td>Present synthetic compound ^{13}C NMR (100 MHz, CD_3OD)</td></tr>
<tr><td>169.3 (C)</td><td>169.4 (C)</td></tr>
<tr><td>168.4 (C)</td><td>168.2 (C)</td></tr>
<tr><td>165.1 (C)</td><td>165.4 (C)</td></tr>
<tr><td>101.1 (CH)</td><td>101.1 (CH)</td></tr>
<tr><td>98.8 (C)</td><td>99.2 (C)</td></tr>
<tr><td>Isolated compound ^{1}H NMR</td><td>Present synthetic compound ^{1}H NMR</td><td>37.1 (CH_2)</td><td>37.3 (CH_2)</td></tr>
</table>

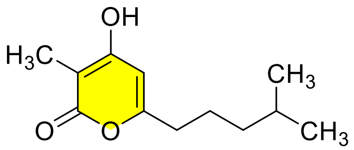
(600 MHz, CD_3OD)	(500 MHz, CD_3OD)		
5.98 (1H, s)	5.90 (1H, s)	32.2 (CH_2)	32.6 (CH_2)
2.47 (2H, t, J = 7.8 Hz)	2.39 (2H, t, J = 8.0 Hz)	28.3 (CH)	28.9 (CH)
1.83 (3H, s)	1.75 (3H, s)	22.3 (2 x CH_3)	22.9 (2 x CH_3)
1.58 (1H, m)	1.50 (1H, nonet, J = 6.5 Hz)	8.3 (CH_3)	8.5 (CH_3)
1.53 (2H, m)	1.46-1.40 (2H, m)		
0.95 (6H, d, J = 6.6 Hz)	0.84 (6H, d, J = 6.5 Hz)		

Table S11. Correlation of Natural and Synthetic NMR Data of Compound **7eh** (Violapyrone J):[8]

 6-Hexyl-4-hydroxy-3-methyl-2*H*-pyran-2-one (**7eh**) (Violapyrone J)	Isolated compound ^{13}C NMR (125 MHz, DMSO-d_6)[7]	Present synthetic compound ^{13}C NMR (125 MHz, DMSO-d_6)
	166.7 (C)	165.1 (C)
	165.2 (C)	164.8 (C)
	161.9 (C)	162.5 (C)
	100.2 (CH)	99.2 (CH)

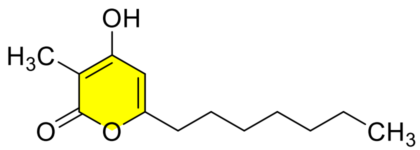
		95.5 (C)	96.5 (C)
Isolated compound [1]H NMR (500 MHz, DMSO-d_6)	Present synthetic compound [1]H NMR (500 MHz, DMSO-d_6)	32.6 (CH_2)	32.6 (CH_2)
	11.09 (1H, br s)	30.9 (CH_2)	30.9 (CH_2)
5.91 (1H, br s)	5.97 (1H, s)	27.6 (CH_2)	27.9 (CH_2)
2.37 (2H, t, *J* =7.5 Hz)	2.39 (2H, t, *J* = 7.5 Hz)	26.1 (CH_2)	26.2 (CH_2)
1.71 (3H, s)	1.73 (3H, s)	21.7 (CH_2)	21.9 (CH_2)
1.51(2H, m)	1.51 (2H, quint, *J* = 7.5 Hz)	13.7 (CH_3)	13.8 (CH_3)
1.27 (2H, m)	1.32-1.19 (6H, m)	8.3 (CH_3)	8.3 (CH_3)
1.26 (2H, m)			
1.26 (2H, m)			
0.85 (3H, t, *J* = 6.5 Hz)	0.84 (3H, t, *J* = 7.0 Hz)		

Table S12. Correlation of Natural and Synthetic NMR Data of Compound **7fh** (Violapyrone A):[9]

		Isolated compound ^{13}C NMR (150 MHz, DMSO-d_6)	Present synthetic compound ^{13}C NMR (125 MHz, DMSO-d_6)
 4-Hydroxy-3-methyl-6-(4-methylpentyl)-2*H*-pyran-2-one (**7fh**) (Violapyrone A)		165.6 (C)	165.1 (C)
		165.5 (C)	164.8 (C)
		162.9 (C)	162.5 (C)
		99.8 (CH)	99.2 (CH)
		96.9 (C)	96.5 (C)
Isolated compound ^{1}H NMR (600 MHz, DMSO-d_6)	Present synthetic compound ^{1}H NMR (500 MHz, DMSO-d_6)	38.0 (CH_2)	37.5 (CH_2)
5.96 (1H, s)	5.95 (1H, s)	33.2 (CH_2)	32.8 (CH_2)
2.37 (2H, t, *J* = 7.3 Hz)	2.36 (2H, t, *J* = 7.5 Hz)	27.7 (CH)	27.2 (CH)
1.72 (3H, s)	1.71 (3H, s)	24.6 (CH_2)	24.2 (CH_2)
1.51 (2H, m)	1.54-1.45 (3H, m)	22.8 (2 x CH_3)	22.4 (2 x CH_3)
1.50 (1H, m)		8.8 (CH_3)	8.3 (CH_3)
1.15 (2H, q, *J* = 6.9 Hz)	1.14 (2H, q, *J* = 7.0 Hz)		

0.84 (6H, d, *J* = 6.6 Hz)	0.83 (6H, d, *J* = 6.5 Hz)		

Table S13. Correlation of Natural and Synthetic NMR Data of Compound **7gh** (Violapyrone I):[11]

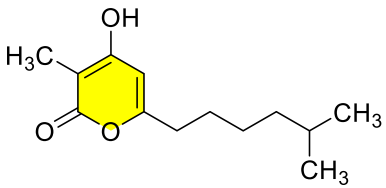


6-Heptyl-4-hydroxy-3-methyl-2*H*-pyran-2-one (**7gh**)
(Violapyrone I)

		Isolated compound ^{13}C NMR (125 MHz, CD_3OD)	Present synthetic compound ^{13}C NMR (100 MHz, CD_3OD)
		169.2 (C)	169.2 (C)
		168.0 (C)	167.9 (C)
		165.0 (C)	165.0 (C)
		101.1 (CH)	101.1 (CH)
		99.0 (C)	99.1 (C)
Isolated compound ^{1}H NMR (500 MHz, CD_3OD)	Present synthetic compound ^{1}H NMR (500 MHz, CD_3OD)	34.4 (CH_2)	34.4 (CH_2)
5.99 (1H, s)	5.99 (1H, s)	33.0 (CH_2)	32.9 (CH_2)
2.48-2.45 (2H, t, *J* = 8.1 Hz)	2.47 (2H, t, *J* = 7.5 Hz)	30.2 (CH_2)	30.2 (CH_2)
1.85 (3H, s)	1.85 (3H, s)	30.1 (CH_2)	30.1 (CH_2)
1.65-1.62 (2H, m)	1.69-1.59 (2H, m)	28.1 (CH_2)	28.1 (CH_2)

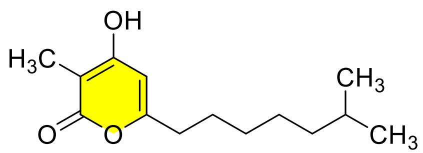
1.35-1.30 (8H, m)	1.38-1.27 (8H, m)	23.8 (CH_2)	23.8 (CH_2)
0.91-0.89 (3H, t, J = 6.9 Hz)	0.90 (3H, t, J = 7.0 Hz)	14.6 (CH_3)	14.5 (CH_3)
		8.4 (CH_3)	8.4 (CH_3)

Table S14. Correlation of Natural and Synthetic NMR Data of Compound **7hh** (Violapyrone B):[9]

 4-hydroxy-3-methyl-6-(5-methylhexyl)-2*H*-pyran-2-one (**7hh**) (Violapyrone B)		Isolated compound ^{13}C NMR (125 MHz, DMSO-d_6)[7]	Present synthetic compound ^{13}C NMR (125 MHz, DMSO-d_6)
		165.2 (C)	165.1 (C)
		164.9 (C)	164.9 (C)
		162.6 (C)	162.5 (C)
		99.2 (CH)	99.2 (CH)
		96.6 (C)	96.5 (C)
Isolated compound ^{1}H NMR (500 MHz, DMSO-d_6)	Present synthetic compound ^{1}H NMR (500 MHz, DMSO-d_6)	38.1 (CH_2)	38.0 (CH_2)
11.1 (1H, br s)	11.1 (1H, br s)	32.6 (CH_2)	32.6 (CH_2)

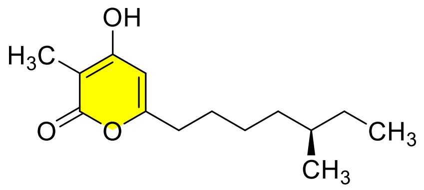
5.98 (1H, br s)	5.98 (1H, s)	27.4 (CH)	27.3 (CH)
2.41 (2H, t, J = 7.3 Hz)	2.41 (2H, t, J = 7.5 Hz)	26.6 (CH_2)	26.5 (CH_2)
1.74 (3H, s)	1.74 (3H, s)	26.1 (CH_2)	26.0 (CH_2)
1.50 (2H, m)	1.50 (3H, quint, J = 7.5 Hz)	22.5 (2 x CH_3)	22.5 (2 x CH_3)
1.49 (1H, m)		8.4 (CH_3)	8.4 (CH_3)
1.27 (2H, m)	1.28 (2H, quint, J = 7.0 Hz)		
1.16 (2H, m)	1.16 (2H, q, J = 8.0 Hz)		
0.85 (6H, d, J = 6.6 Hz)	0.84 (6H, d, J = 6.5 Hz)		

Table S15. Correlation of Natural and Synthetic NMR Data of Compound **7ih** (Violapyrone H):[10]

 4-hydroxy-3-methyl-6-(6-methylheptyl)-2*H*-pyran-2-one (**7ih**) (Violapyrone H)	Isolated compound ^{13}C NMR (100 MHz, CD_3OD)	Present synthetic compound ^{13}C NMR (125 MHz, CD_3OD)
	169.9 (C)	169.1 (C)
	169.5 (C)	167.9 (C)
	164.8 (C)	164.9 (C)

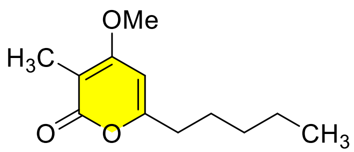
		102.0 (CH)	101.0 (CH)
		98.7 (C)	98.9 (C)
Isolated compound ^{1}H NMR (400 MHz, CD_3OD)	Present synthetic compound ^{1}H NMR (500 MHz, CD_3OD)	40.1 (CH_2)	40.0 (CH_2)
5.96 (1H, s)	6.01 (1H, s)	34.4 (CH_2)	34.2 (CH_2)
2.46 (2H, t, *J* = 7.5 Hz)	2.49 (2H, t, *J* = 7.5 Hz)	30.4 (CH_2)	30.2 (CH_2)
1.84 (3H, s)	1.87 (3H, s)	29.7 (CH)	29.1 (CH)
1.64 (2H, m)	1.66 (2H, quint, *J* = 7.5 Hz)	28.3 (CH_2)	28.2 (CH_2)
1.53 (1H, m)	1.55 (1H, septet, *J* = 6.5 Hz)	28.1 (CH_2)	28.0 (CH_2)
1.34 (2H, m)	1.36 (4H, quint, *J* = 3.5 Hz)	23.1 (2 x CH_3)	23.0 (2 x CH_3)
1.34 (2H, m)		8.4 (CH_3)	8.2 (CH_3)
1.19 (2H, m)	1.21 (2H, m)		
0.88 (6H, d, *J* = 6.5 Hz)	0.90 (6H, d, *J* = 7.0 Hz)		

Table S16. Correlation of Natural and Synthetic NMR Data of Compound (-)-**7lh** [(-)-Violapyrone C]:[11]

 (*R*)-4-hydroxy-3-methyl-6-(5-methylheptyl)- 2*H*-pyran-2-one ((-)-**7lh**) (Violapyrone C)		Isolated compound ^{13}C NMR (125 MHz, CD_3OD)	Present synthetic compound ^{13}C NMR (125 MHz, CD_3OD)
		169.3 (C)	169.2 (C)
		168.2 (C)	168.0 (C)
		165.0 (C)	165.0 (C)
		101.3 (CH)	101.1 (CH)
		99.0 (C)	99.0 (C)
Isolated compound ^{1}H NMR (500 MHz, CD_3OD)	Present synthetic compound ^{1}H NMR (500 MHz, CD_3OD)	37.5 (CH_2)	37.4 (CH_2)
5.99 (1H, s)	6.01 (1H, s)	35.7 (CH)	35.6 (CH)
2.47 (2H, t, *J* = 7.5 Hz)	2.49 (2H, t, *J* = 7.5 Hz)	34.4 (CH_2)	34.3 (CH_2)
1.85 (3H, s)	1.87 (3H, s)	30.7 (CH_2)	30.6 (CH_2)
1.62 (2H, m)	1.70-1.58 (2H, m)	28.4 (CH_2)	28.3 (CH_2)
1.36 (2H, m)	1.45-1.30 (5H, m)	27.6 (CH_2)	27.5 (CH_2)
1.33 (2H, m)		19.7 (CH_3)	19.6 (CH_3)

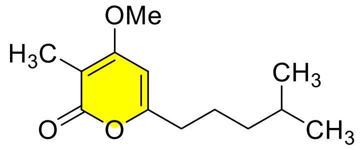
1.32 (1H, m)		11.9 (CH_3)	11.8 (CH_3)
1.15 (2H, m)	1.22-1.11 (2H, m)	8.4 (CH_3)	8.3 (CH_3)
0.87 (3H, t, *J* = 7.0 Hz)	0.93-0.85 (6H, m)		
0.86 (3H, d, *J* = 6.5 Hz)			

Table S17. Correlation of Natural and Synthetic NMR Data of Compound **11ch** (Childinin G):[12,13]

 4-Methoxy-3-methyl-6-pentyl-2*H*-pyran-2-one **(11ch)** (Childinin G)		Isolated compound ^{13}C NMR (150 MHz, $CDCl_3$)	Present synthetic compound ^{13}C NMR (125 MHz, $CDCl_3$)
		166.2 (C)	165.9 (C)
		166.0 (C)	165.8 (C)
		164.6 (C)	164.4 (C)
		94.3 (C)	100.8 (C)
		94.3 (CH)	94.1 (CH)
Isolated compound ^1H NMR (600 MHz, $CDCl_3$)	Present synthetic compound ^1H NMR (500 MHz, $CDCl_3$)	56.3 (CH_3)	56.1 (CH_3)

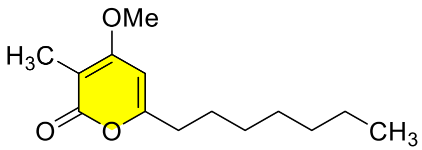
5.99 (1H, s)	5.99 (1H, s)	34.3 (CH_2)	34.1 (CH_2)
3.87 (3H, s)	3.87 (3H, s)	31.3 (CH_2)	31.1 (CH_2)
2.47 (2H, t, *J* = 7.9 Hz)	2.48 (2H, t, *J* = 8.0 Hz)	26.9 (CH_2)	26.7 (CH_2)
1.90 (3H, s)	1.90 (3H, s)	22.5 (CH_2)	22.2 (CH_2)
1.66 (2H, m)	1.67 (2H, quint, *J* = 7.5 Hz)	14.1 (CH_3)	13.8 (CH_3)
1.32 (4H, m)	1.37-1.29 (4H, m)	8.6 (CH_3)	8.3 (CH_3)
0.89 (3H, t, *J* = 7.1 Hz)	0.90 (3H, t, *J* = 7.0 Hz)		

Table S18. Correlation of Natural and Synthetic NMR Data of Compound **11fh** (Violapyrone Q):[13]

<table>
<tr><td colspan="2" rowspan="6">
4-Methoxy-3-methyl-6-(4-methylpentyl)
-2H-pyran-2-one (11fh)
(Violapyrone Q)</td><td>Isolated compound ^{13}C NMR (125 MHz, DMSO-d_6)</td><td>Present synthetic compound ^{13}C NMR (125 MHz, DMSO-d_6)</td></tr>
<tr><td>166.6 (C)</td><td>166.6 (C)</td></tr>
<tr><td>165.4 (C)</td><td>164.9 (C)</td></tr>
<tr><td>164.4 (C)</td><td>164.5 (C)</td></tr>
<tr><td>95.5 (C)</td><td>99.1 (C)</td></tr>
<tr><td>95.1 (CH)</td><td>95.3 (CH)</td></tr>
<tr><td>Isolated compound ^{1}H NMR (500 MHz, DMSO-d_6)</td><td>Present synthetic compound ^{1}H NMR (500 MHz, DMSO-d_6)</td><td>56.0 (CH_3)</td><td>57.2 (CH_3)</td></tr>
<tr><td>6.48 (1H, s)</td><td>6.48 (1H, s)</td><td>38.0 (CH_2)</td><td>38.1 (CH_2)</td></tr>
<tr><td>3.95 (3H, s)</td><td>3.88 (3H, s)</td><td>33.6 (CH_2)</td><td>33.8 (CH_2)</td></tr>
<tr><td>2.44 (2H, t, J = 7.5 Hz)</td><td>2.48 (2H, t, J = 7.5 Hz)</td><td>27.6 (CH)</td><td>27.6 (CH)</td></tr>
<tr><td>1.73 (3H, s)</td><td>1.76 (3H, s)</td><td>24.6 (CH_2)</td><td>24.8 (CH_2)</td></tr>
<tr><td>1.59 (2H, m)</td><td rowspan="2">1.62-1.53 (3H, m)</td><td>22.8 (CH_3)</td><td>22.8 (CH_3)</td></tr>
<tr><td>1.53 (1H, m)</td><td>22.8 (CH_3)</td><td>22.8 (CH_3)</td></tr>
<tr><td>1.16 (2H, m)</td><td>1.19 (2H, q, J = 7.0 Hz)</td><td>9.0 (CH_3)</td><td>8.8 (CH_3)</td></tr>
</table>

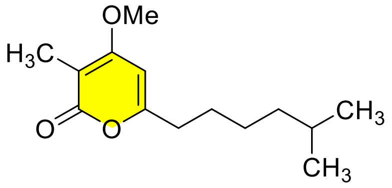
0.86 (3H, d, *J* = 6.5 Hz)	0.87 (3H, d, *J* = 7.0 Hz)		
0.86 (3H, d, *J* = 6.5 Hz)	0.87 (3H, d, *J* = 7.0 Hz)		

Table S19. Correlation of Natural and Synthetic NMR Data of Compound **11gh** (Violapyrone S):[13]

 6-Heptyl-4-methoxy-3-methyl-2*H*-pyran-2-one (**11gh**) (Violapyrone S)		Isolated compound ^{13}C NMR (125 MHz, DMSO-d$_6$)	Present synthetic compound ^{13}C NMR (125 MHz, DMSO-d$_6$)
		166.3 (C)	166.2 (C)
		164.7 (C)	164.5 (C)
		164.2 (C)	164.1 (C)
		98.8 (C)	98.6 (C)
		94.9 (CH)	94.9 (CH)
Isolated compound ^{1}H NMR (500 MHz, DMSO-d$_6$)	Present synthetic compound ^{1}H NMR (500 MHz, DMSO-d$_6$)	56.8 (CH_3)	56.7 (CH_3)
6.47 (1H, s)	6.43 (1H, s)	33.2 (CH_2)	33.1 (CH_2)
3.85 (3H, s)	3.85 (3H, s)	31.3 (CH_2)	31.1 (CH_2)
2.46 (2H, t, *J* = 7.5 Hz)	2.48-2.43 (2H, m)	28.5 (CH_2)	28.3 (CH_2)

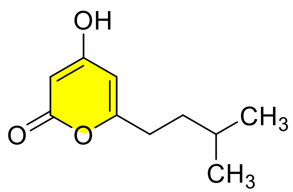
1.75 (3H, s)	1.73 (3H, s)	28.4 (CH_2)	28.3 (CH_2)
1.58 (2H, m)	1.55 (2H, quint, *J* = 7.0 Hz)	26.5 (CH_2)	26.5 (CH_2)
1.29 (2H, m)	1.28-1.21 (8H, m)	22.4 (CH_2)	22.0 (CH_2)
1.28 (2H, m)		14.2 (CH_3)	13.9 (CH_3)
1.26 (2H, m)		8.6 (CH_3)	8.3 (CH_3)
1.22 (2H, m)			
0.83 (3H, d, *J* = 6.7 Hz)	0.83 (3H, t, *J* = 7.0 Hz)		

Table S20. Correlation of Natural and Synthetic NMR Data of Compound **11hh** (Violapyrone R):[13,14]

 4-Methoxy-3-methyl-6-(5-methylhexyl) -2*H*-pyran-2-one (**11hh**) (Violapyrone R)		Isolated compound ^{13}C NMR (125 MHz, DMSO-d_6)	Present synthetic compound ^{13}C NMR (125 MHz, DMSO-d_6)
		166.2 (C)	166.3 (C)
		164.5 (C)	164.6 (C)
		164.2 (C)	164.2 (C)
		98.6 (C)	98.7 (C)
		95.0 (CH)	95.0 (CH)
Isolated compound ^{1}H NMR (500 MHz, DMSO-d_6)	Present synthetic compound ^{1}H NMR (500 MHz, DMSO-d_6)	56.9 (CH_3)	56.8 (CH_3)
6.48 (1H, s)	6.48 (1H, s)	38.1 (CH_2)	38.1 (CH_2)
3.87 (3H, s)	3.87 (3H, s)	33.3 (CH_2)	33.2 (CH_2)
2.50 (2H, t, *J* = 7.5 Hz)	2.49 (2H, t, *J* = 7.5 Hz)	27.4 (CH)	27.4 (CH)
1.75 (3H, s)	1.75 (3H, s)	26.8 (CH_2)	26.8 (CH_2)
1.53 (2H, m)	1.60 - 1.47 (3H, m)	26.1 (CH_2)	26.2 (CH_2)
1.47 (1H, m)		22.6 (CH_3)	22.5 (CH_3)

1.29 (2H, m)	1.30 (2H, m)	22.6 (CH_3)	22.5 (CH_3)
1.18 (2H, m)	1.18 (2H, m)	8.7 (CH_3)	8.5 (CH_3)
0.86 (3H, dd, J = 15.6, 7.0 Hz)	0.85 (3H, d, J = 6.5 Hz)		
0.86 (3H, dd, J = 15.6, 7.0 Hz)	0.85 (3H, d, J = 6.5 Hz)		

Table S21. Correlation of Natural and Synthetic NMR Data of Compound **3d** (Fistupyrone):[14]

<table>
<tr><td colspan="2" rowspan="6">
4-Hydroxy-6-isopentyl-2H-pyran-2-one (3d)
(Fistupyrone)</td><td>Isolated compound ¹³C NMR (100 MHz, CDCl3)</td><td>Present synthetic compound ¹³C NMR (100 MHz, CDCl3)</td></tr>
<tr><td>172.7 (C)</td><td>172.6 (C)</td></tr>
<tr><td>168.4 (C)</td><td>168.3 (C)</td></tr>
<tr><td>167.6 (C)</td><td>167.5 (C)</td></tr>
<tr><td>101.2 (CH)</td><td>101.1 (CH)</td></tr>
<tr><td>89.7 (CH)</td><td>89.6 (CH)</td></tr>
<tr><td>Isolated compound ¹H NMR (400 MHz, CDCl3)</td><td>Present synthetic compound ¹H NMR (500 MHz, CDCl3)</td><td>35.5 (CH2)</td><td>35.5 (CH2)</td></tr>
</table>

6.01 (1H, s)	5.99 (1H, s)	31.6 (CH_2)	31.5 (CH_2)
5.58 (1H, s)	5.58 (1H, d, *J* = 1.5 Hz)	27.5 (CH)	27.4 (CH)
2.49 (2H, t, *J* = 7.8 Hz)	2.48 (2H, t, *J* = 7.5 Hz)	22.2 (2 x CH_3)	22.1 (2 x CH_3)
1.57 (1H, m)	1.59 (1H, nonet, *J* = 6.5 Hz)		
1.53 (2H, m)	1.52 (2H, q, *J* = 8.0 Hz)		
0.91 (6H, d, *J* = 6.4 Hz)	0.91 (6H, d, *J* = 6.5 Hz)		

Table S22: Correlation of Natural and Synthetic HRMS values for Photopyrone C, E, G.[2]

Photopyrone	Product Number	Molecular formula	Calcd. [M+H] (m/z)	Isolated compound HR ESI MS (m/z)	Present synthetic compound HR ESI MS (m/z)
C	**7be**	$C_{17}H_{28}O_3$	281.211121	281.2115	281.2117
E	**7bf**	$C_{19}H_{32}O_3$	309.242421	309.2428	309.2430
G	**7bg**	$C_{21}H_{36}O_3$	337.273721	337.2741	337.2743

23. References:

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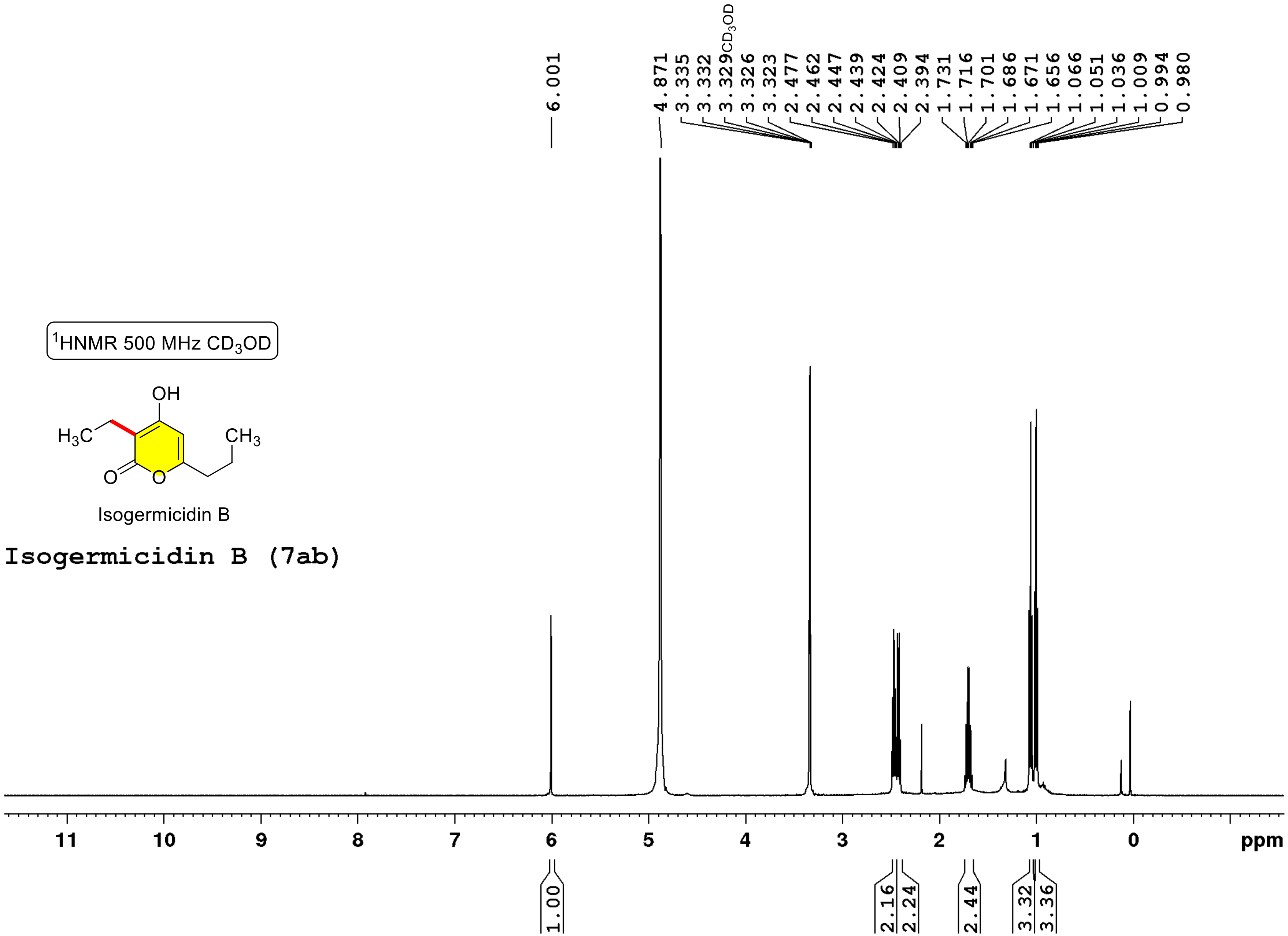
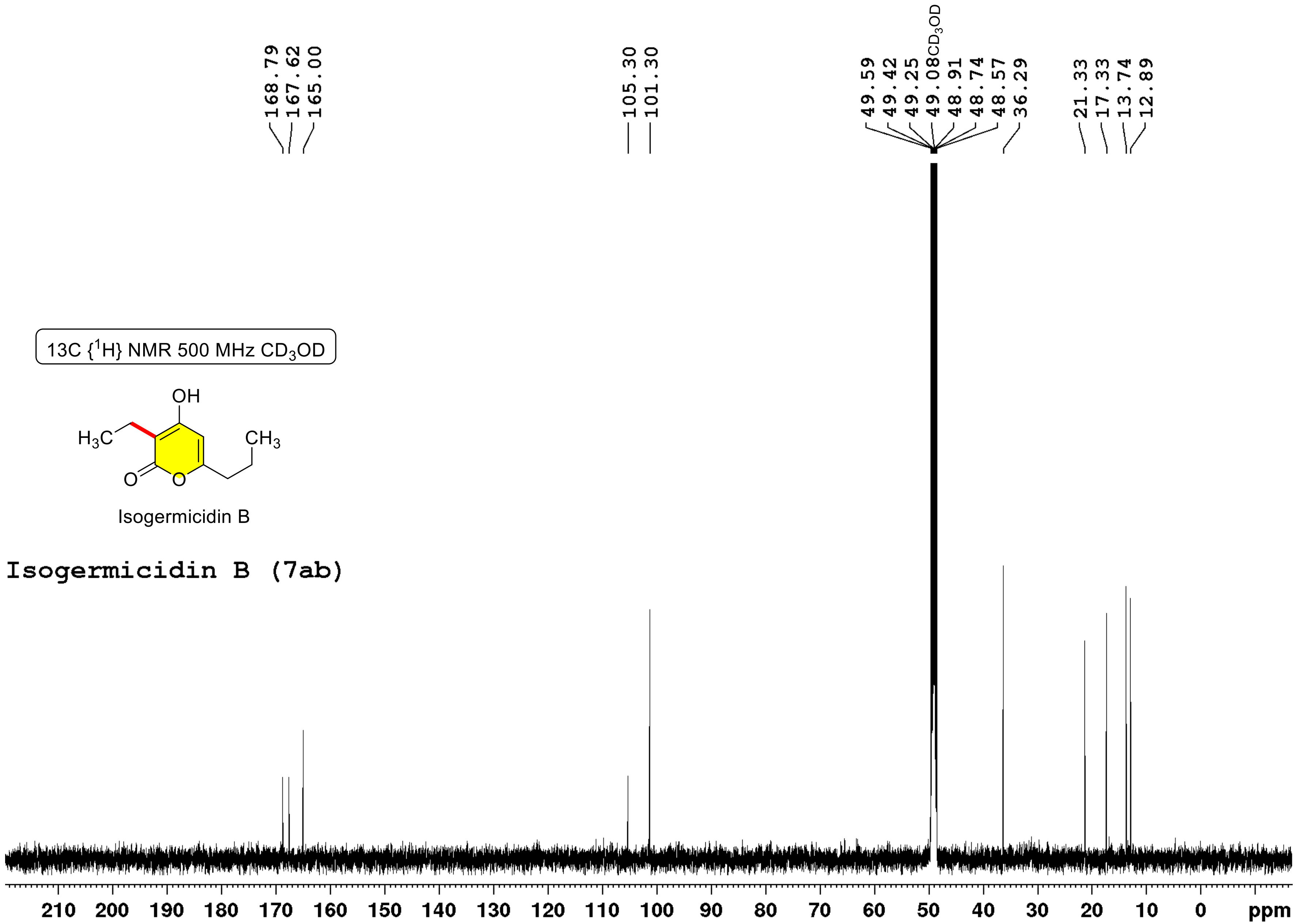
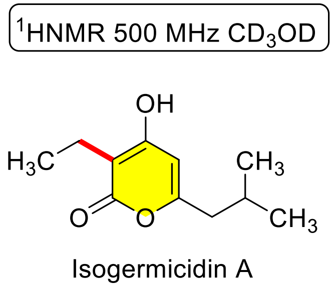


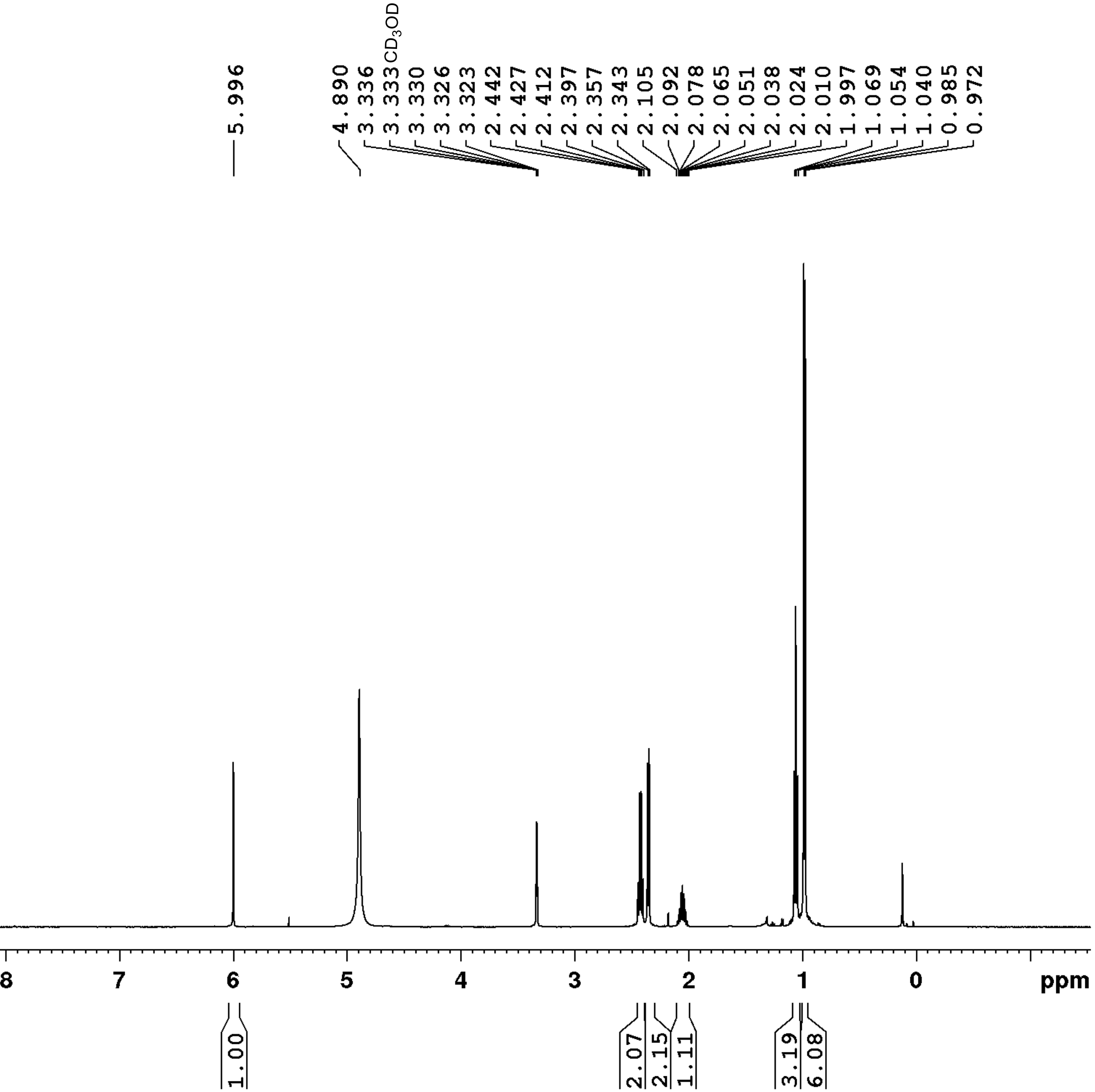
Isogermicidin B (7ab)

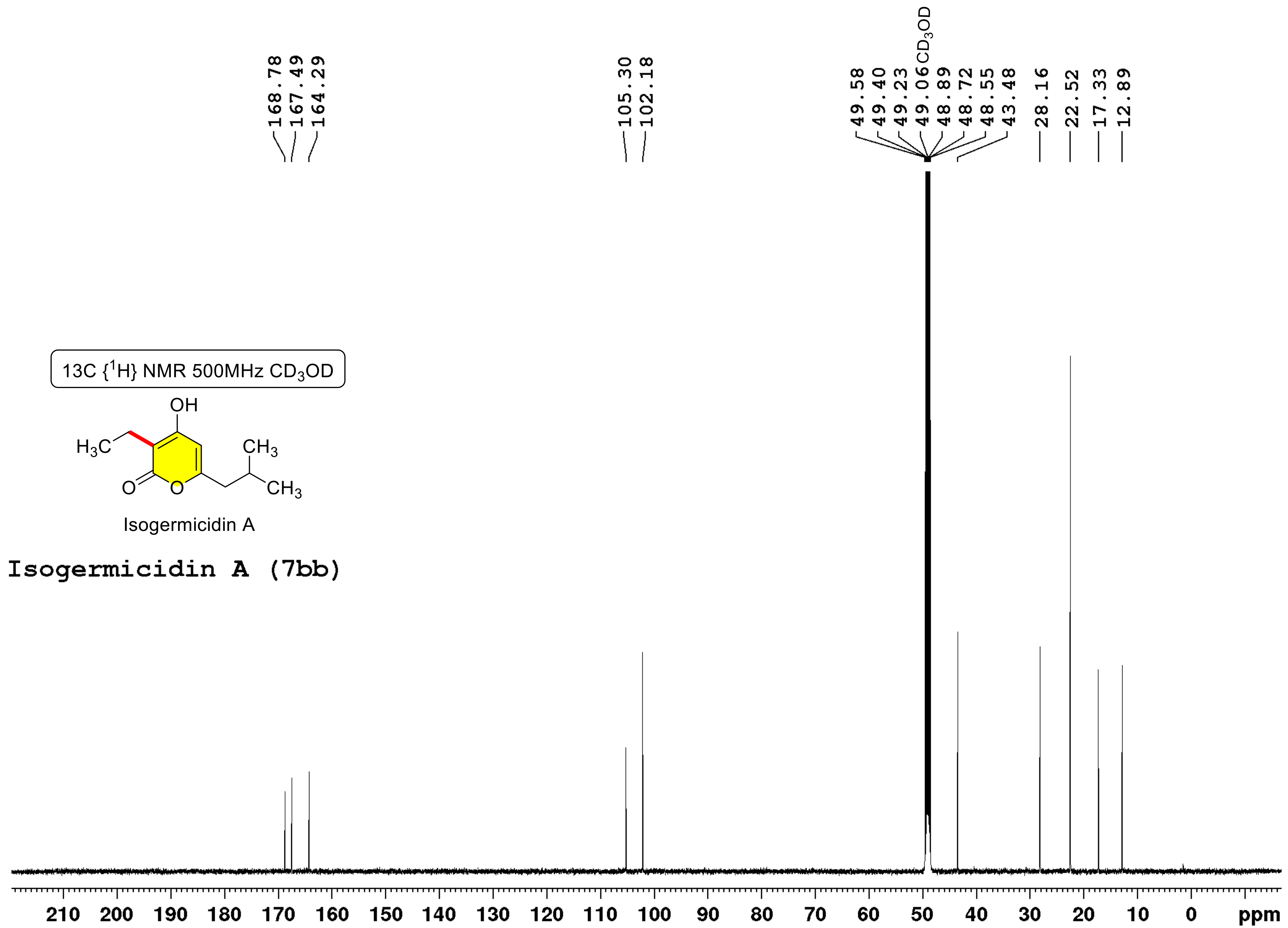


168.79
167.62
165.00
105.30
101.30
49.59
49.42
49.25
49.08 CD$_3$OD
48.91
48.74
48.57
36.29
21.33
17.33
13.74
12.89
13C {1H} NMR 500 MHz CD$_3$OD
OH
H_3C
CH_3
O
O
Isogermicidin B
Isogermicidin B (7ab)
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 ppm

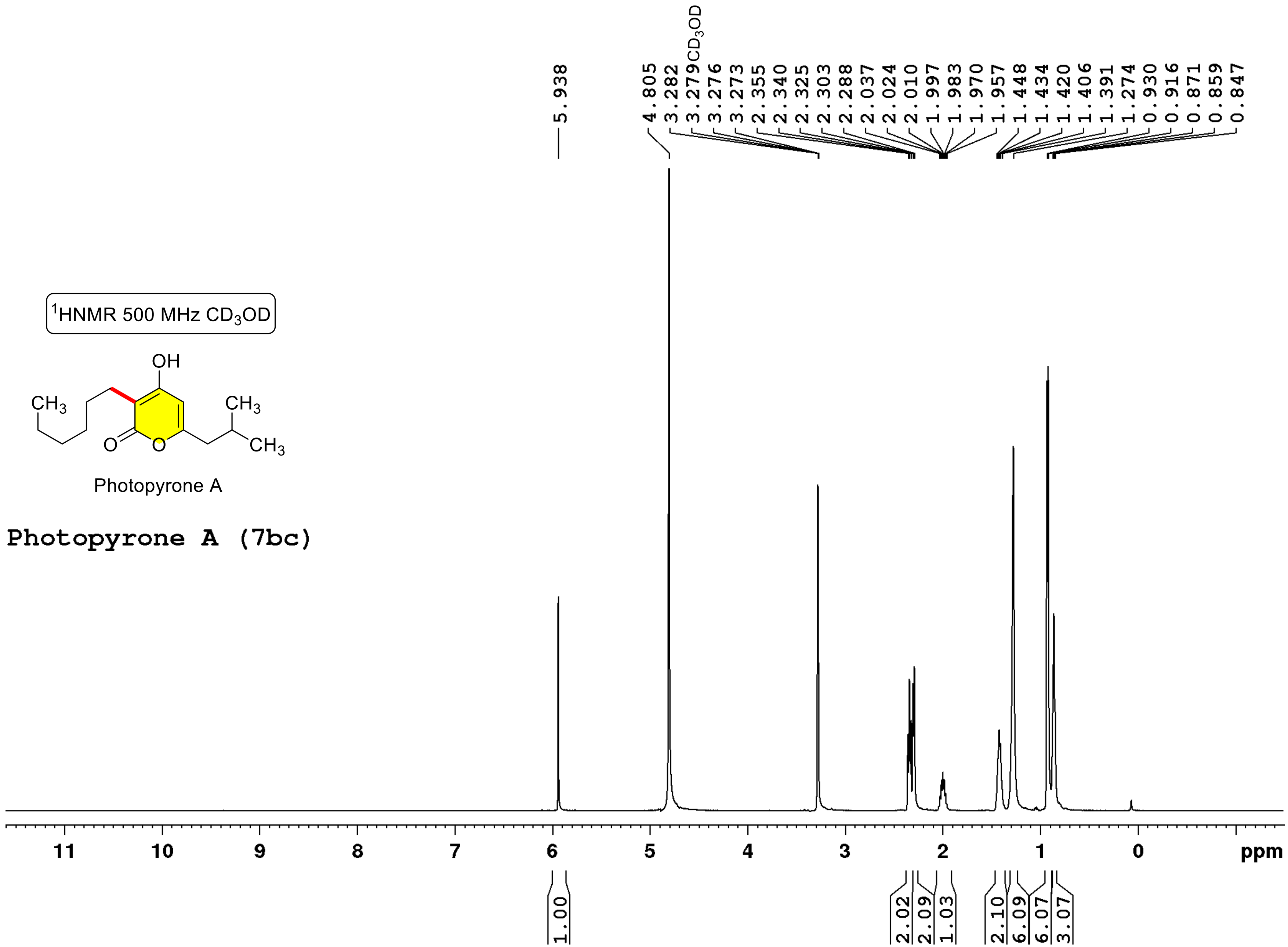


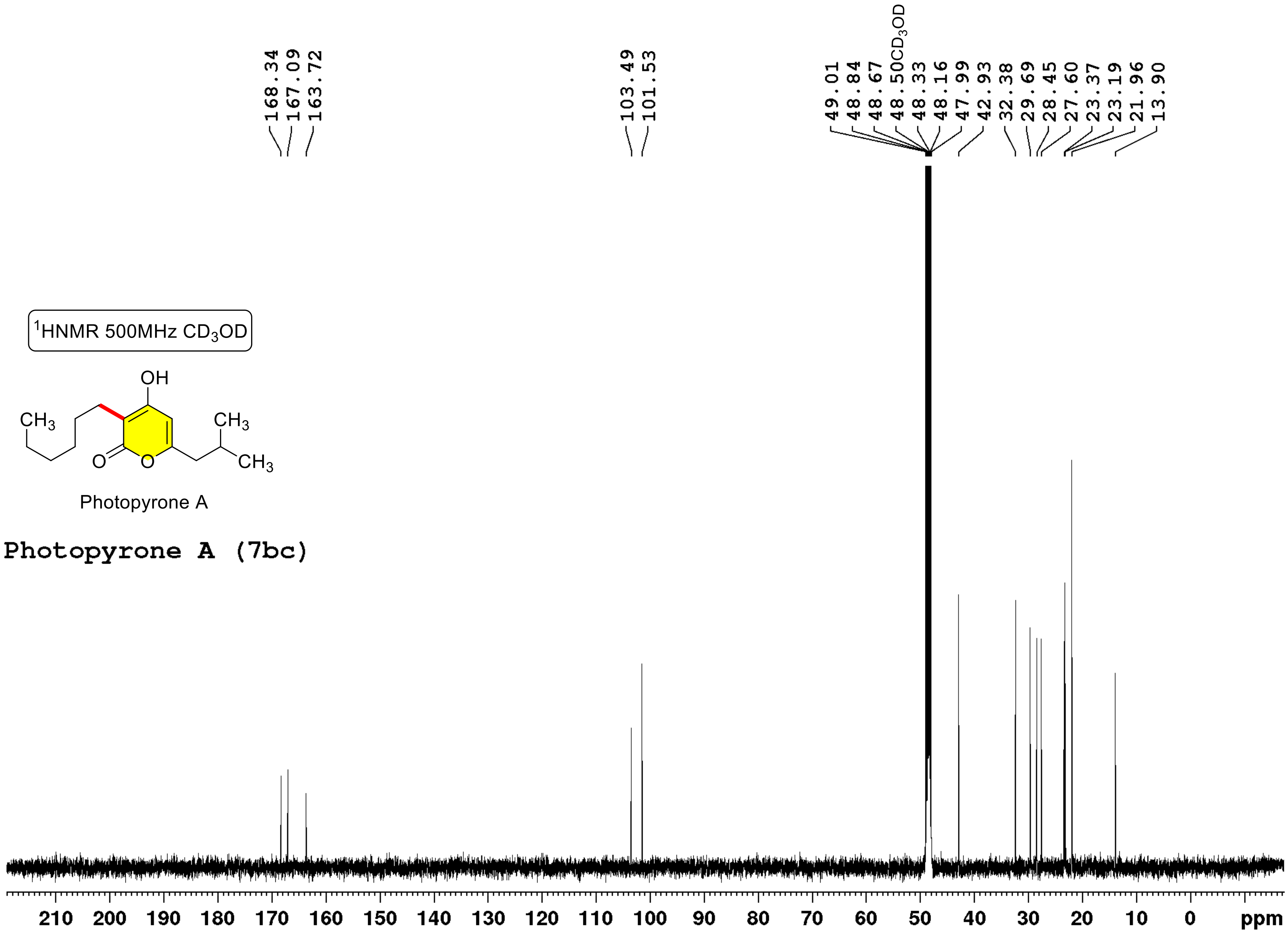
Isogermicidin A (7bb)



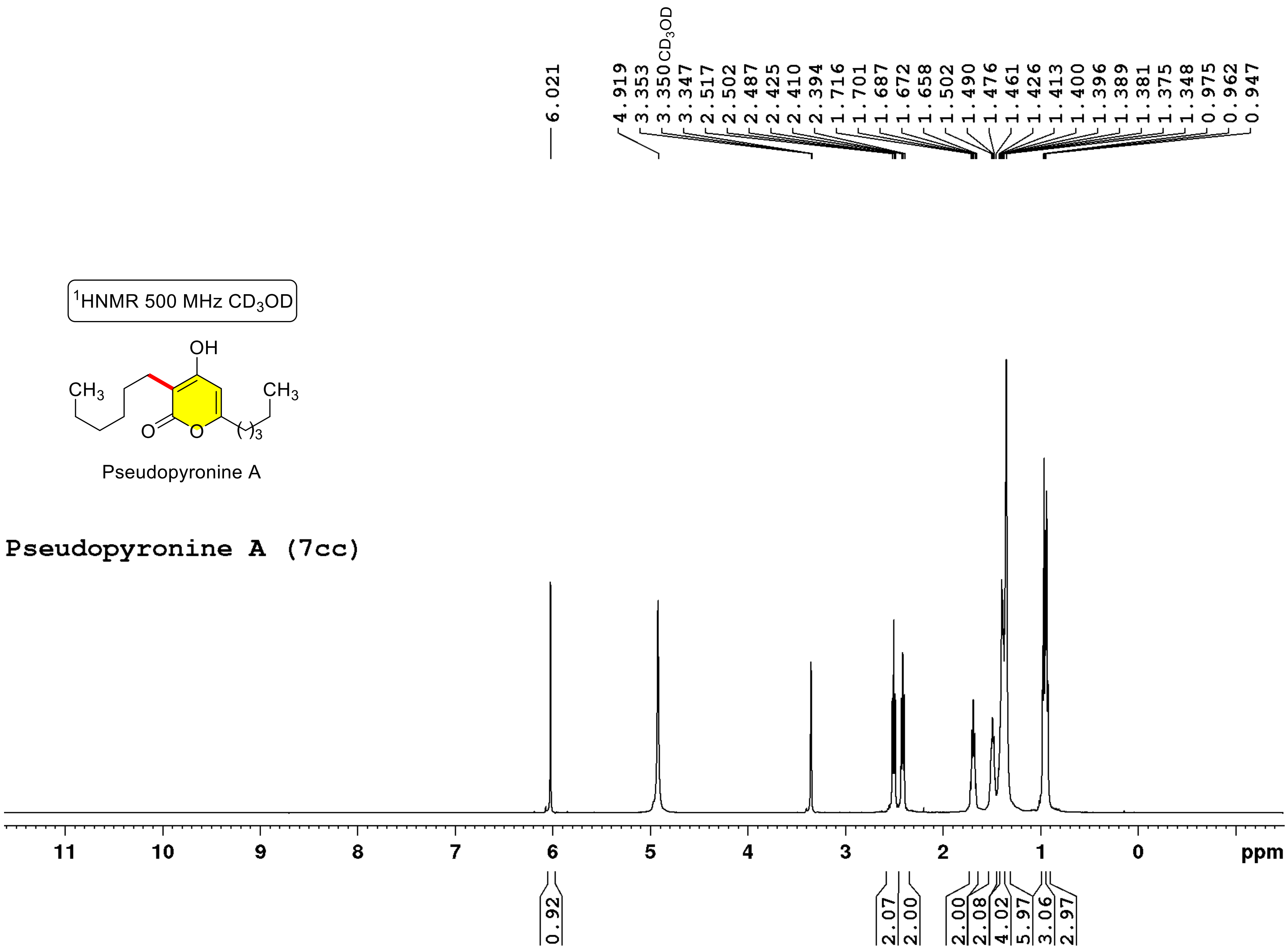


Isogermicidin A (7bb)

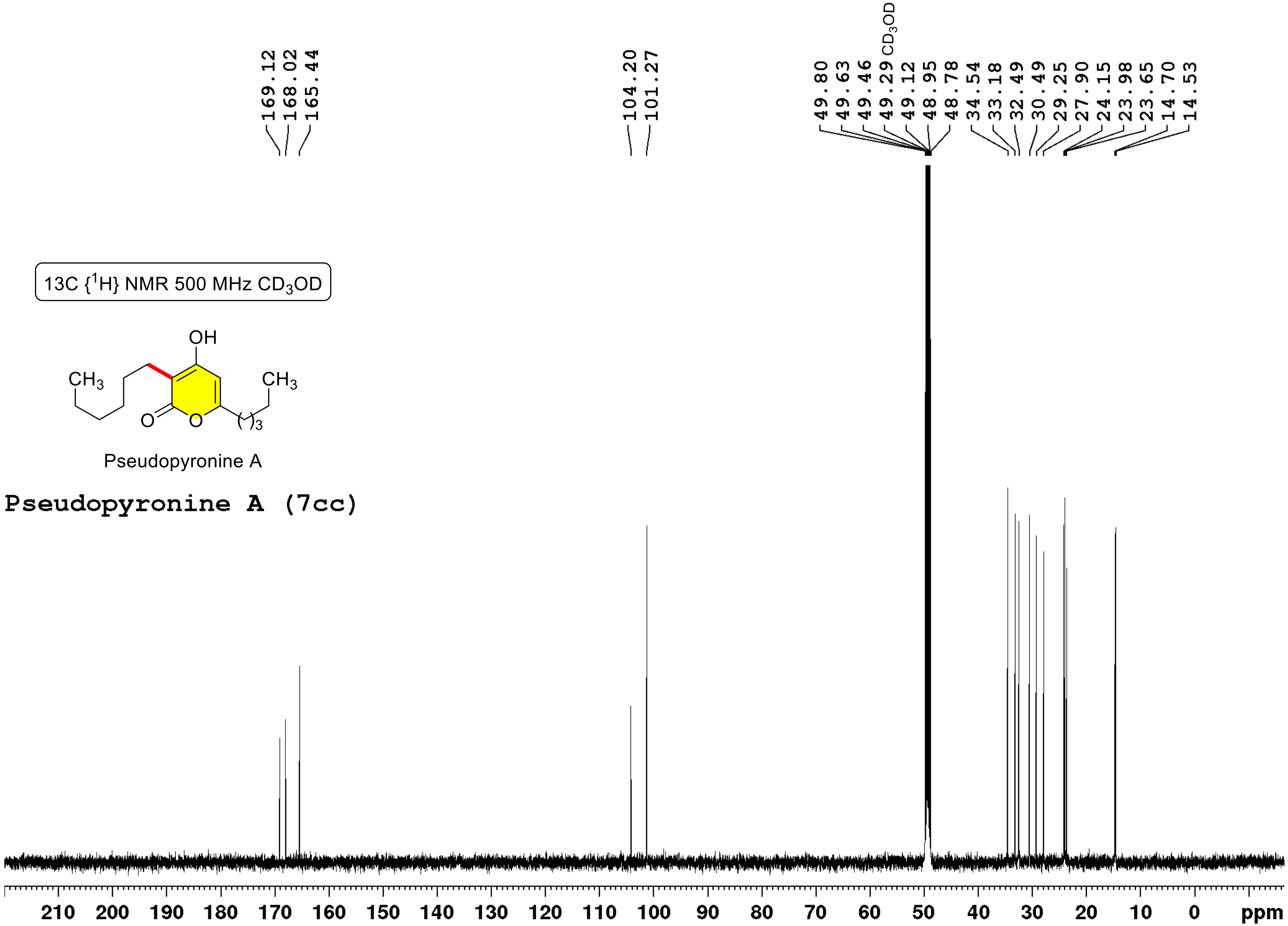

5.938
4.805
3.282
3.279CD3OD
3.276
3.273
2.355
2.340
2.325
2.303
2.288
2.037
2.024
2.010
1.997
1.983
1.970
1.957
1.448
1.434
1.420
1.406
1.391
1.274
0.930
0.916
0.871
0.859
0.847
1HNMR 500 MHz CD3OD
OH
CH3
CH3
O
O
CH3
Photopyrone A
Photopyrone A (7bc)
11
10
9
8
7
6
5
4
3
2
1
0
ppm
1.00
2.02
2.09
1.03
2.10
6.09
6.07
3.07

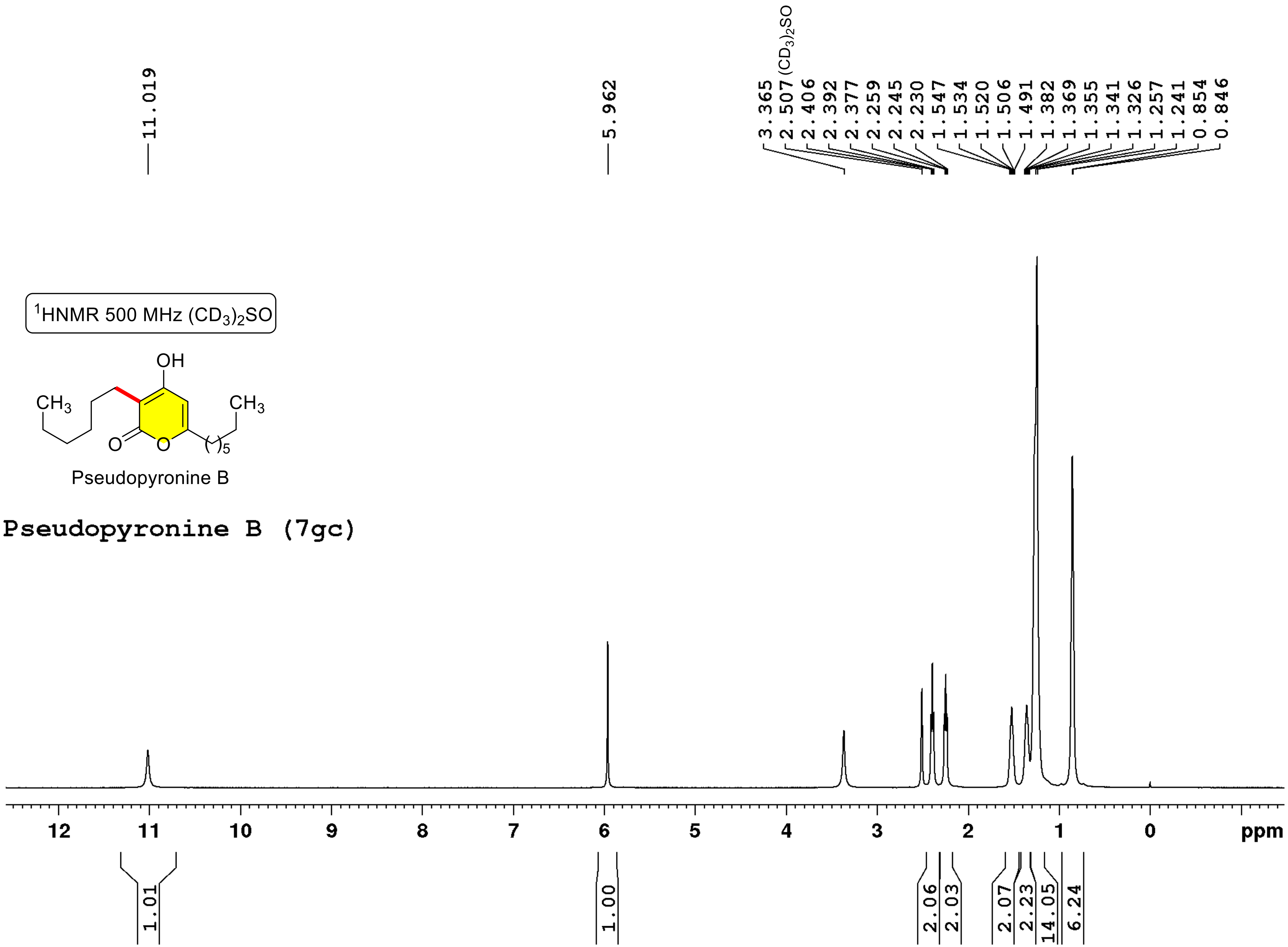


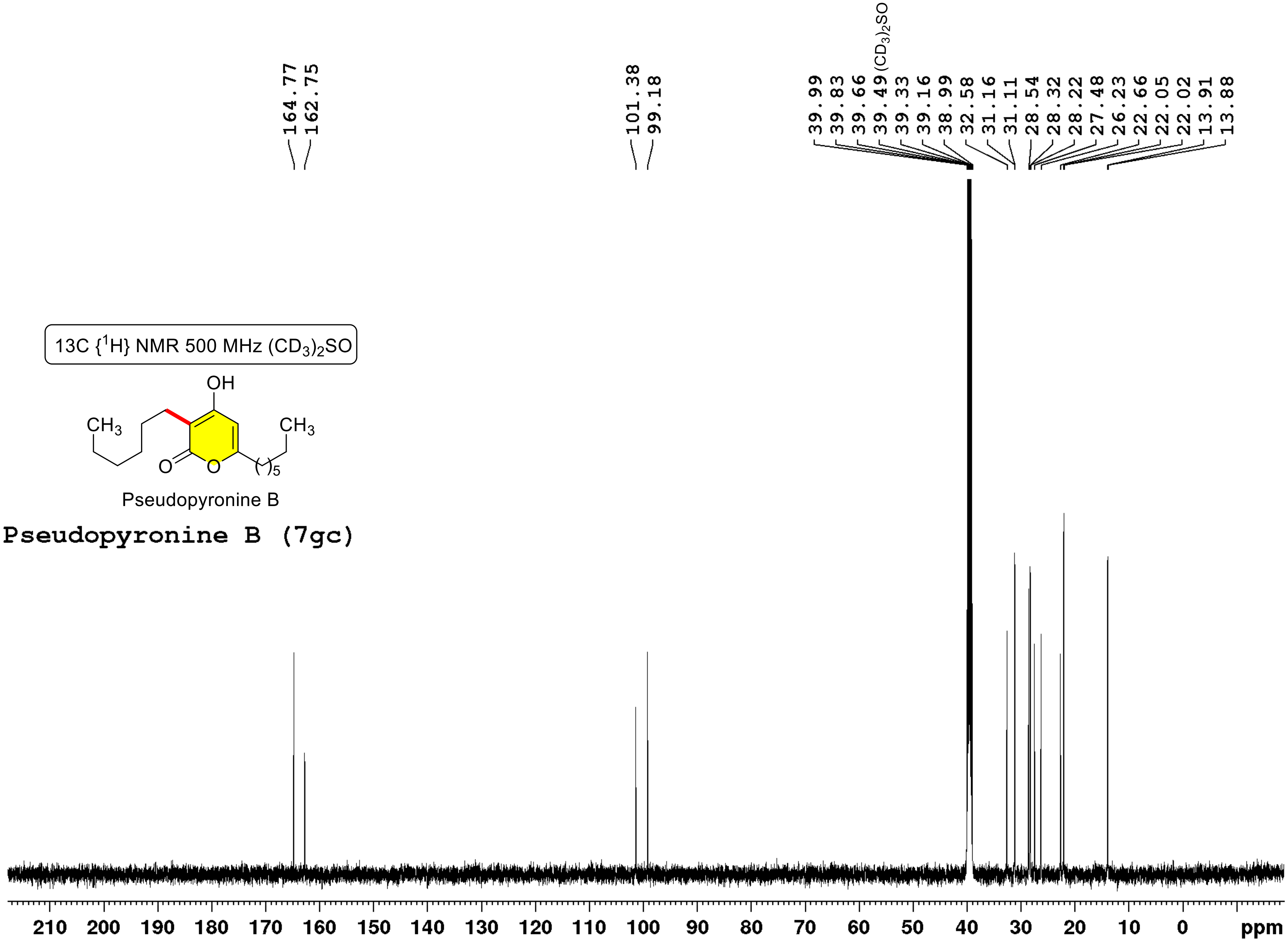
Photopyrone A (7bc)



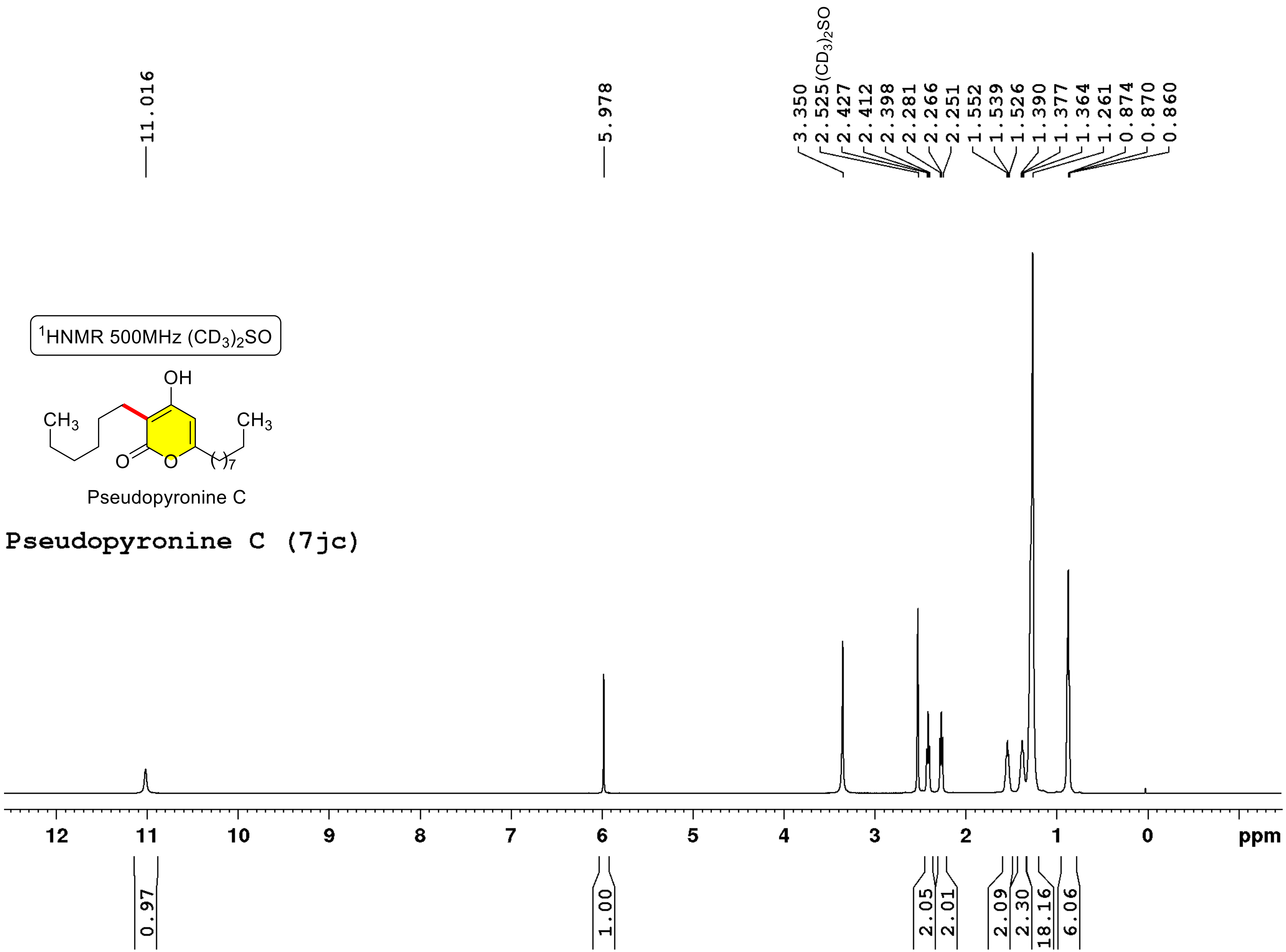
6.021
4.919
3.353
3.350 CD$_3$OD
3.347
2.517
2.502
2.487
2.425
2.410
2.394
1.716
1.701
1.687
1.672
1.658
1.502
1.490
1.476
1.461
1.426
1.413
1.400
1.396
1.389
1.381
1.375
1.348
0.975
0.962
0.947
^{1}HNMR 500 MHz CD$_3$OD
OH
CH$_3$
CH$_3$
O
O
3
Pseudopyronine A
Pseudopyronine A (7cc)
11
10
9
8
7
6
5
4
3
2
1
0
ppm
0.92
2.07
2.00
2.00
2.08
4.02
5.97
3.06
2.97


169.12
168.02
165.44
104.20
101.27
49.80
49.63
49.46
49.29 CD3OD
49.12
48.95
48.78
34.54
33.18
32.49
30.49
29.25
27.90
24.15
23.98
23.65
14.70
14.53
13C {1H} NMR 500 MHz CD3OD
OH
CH3
CH3
O
O
( )3
Pseudopyronine A
Pseudopyronine A (7cc)
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 ppm

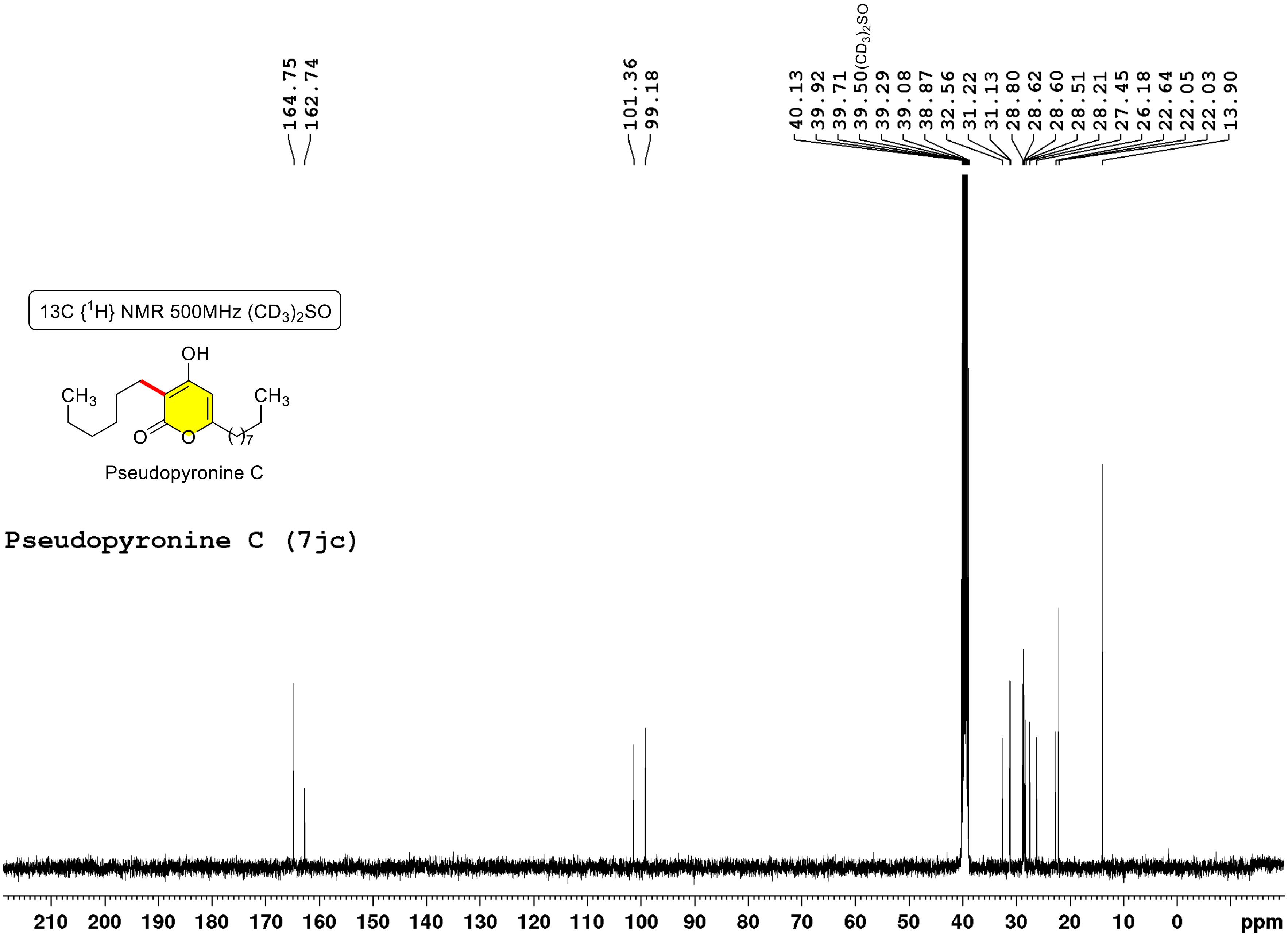

11.019
5.962
3.365
2.507 (CD3)2SO
2.406
2.392
2.377
2.259
2.245
2.230
1.547
1.534
1.520
1.506
1.491
1.382
1.369
1.355
1.341
1.326
1.257
1.241
0.854
0.846
1HNMR 500 MHz (CD3)2SO
OH
CH3
CH3
O
O
5
Pseudopyronine B
Pseudopyronine B (7gc)
12
11
10
9
8
7
6
5
4
3
2
1
0
ppm
1.01
1.00
2.06
2.03
2.07
2.23
14.05
6.24

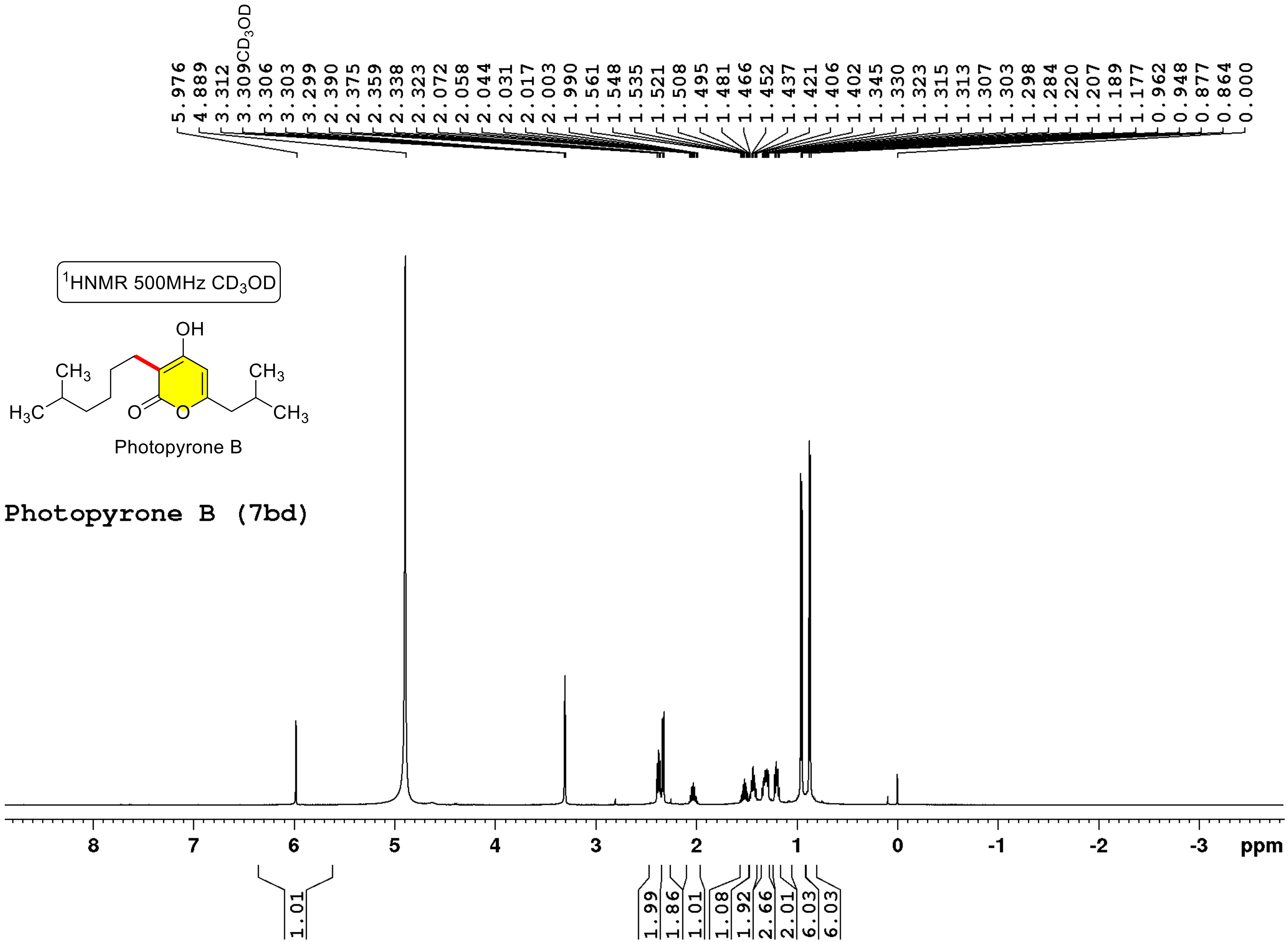


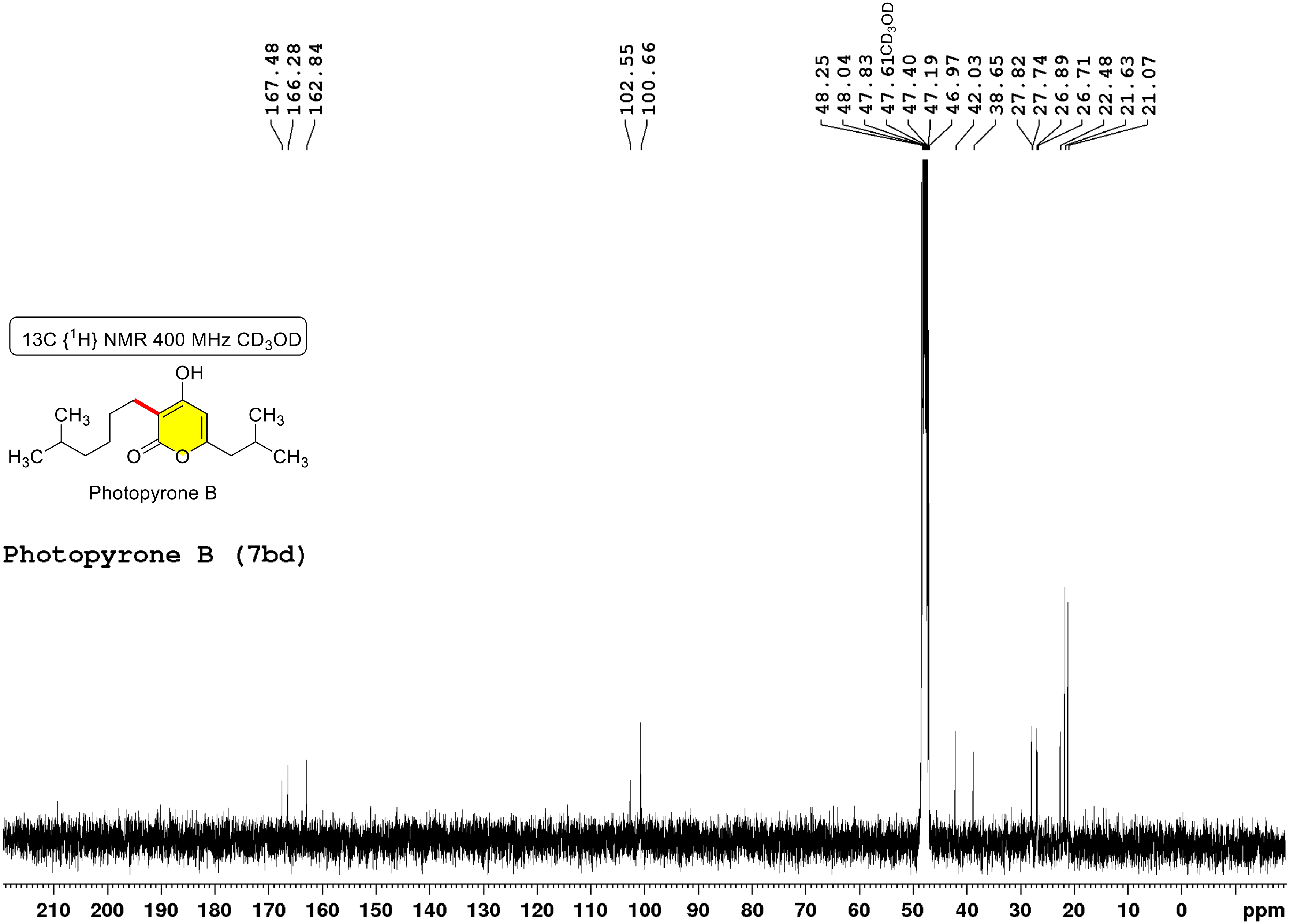
Pseudopyronine B (7gc)



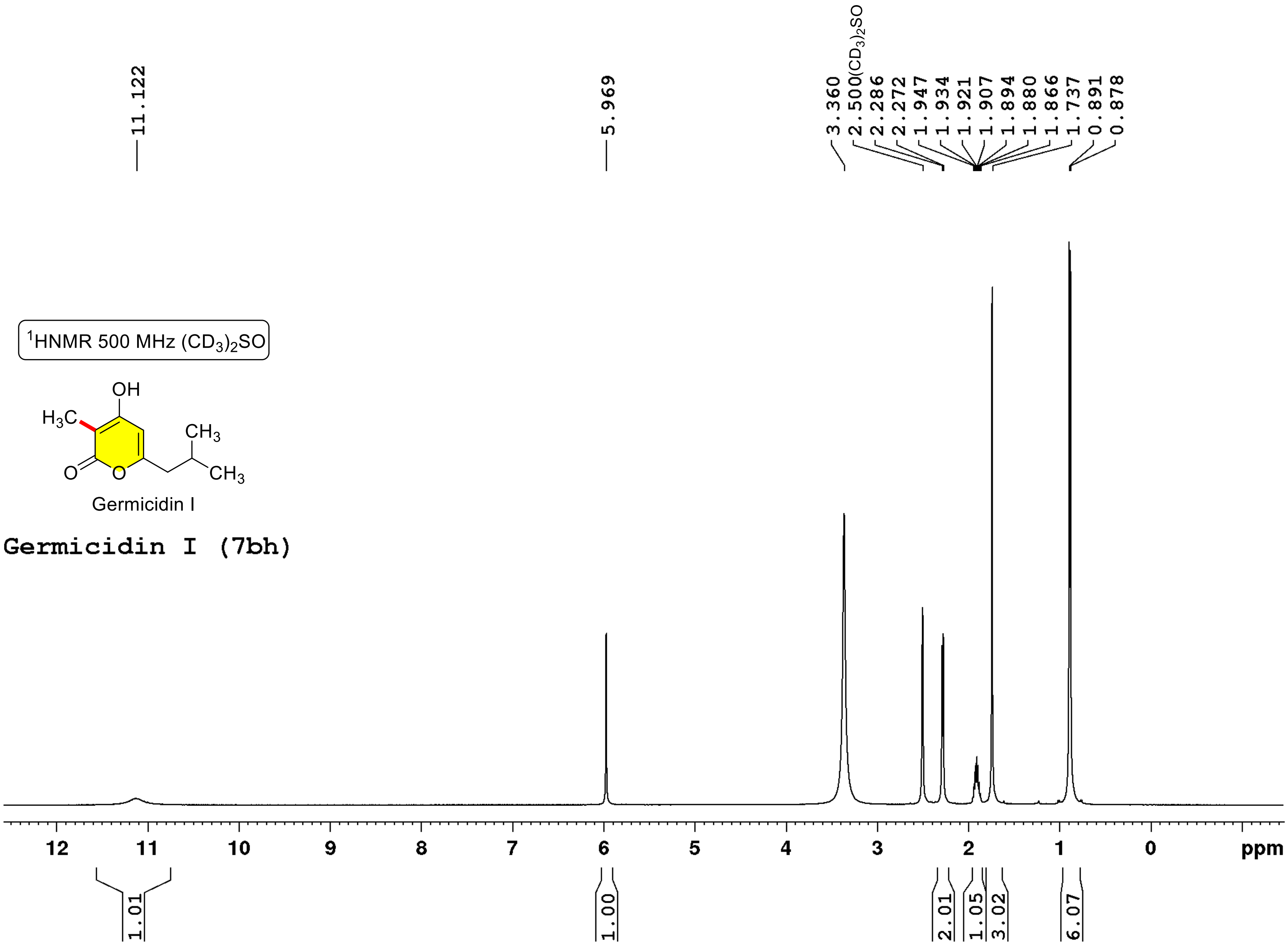
Pseudopyronine C (7jc)


164.75
162.74
101.36
99.18
40.13
39.92
39.71
39.50 (CD3)2SO
39.29
39.08
38.87
32.56
31.22
31.13
28.80
28.62
28.60
28.51
28.21
27.45
26.18
22.64
22.05
22.03
13.90
13C {1H} NMR 500MHz (CD3)2SO
OH
CH3
CH3
O
O
( )7
Pseudopyronine C
Pseudopyronine C (7jc)
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 ppm

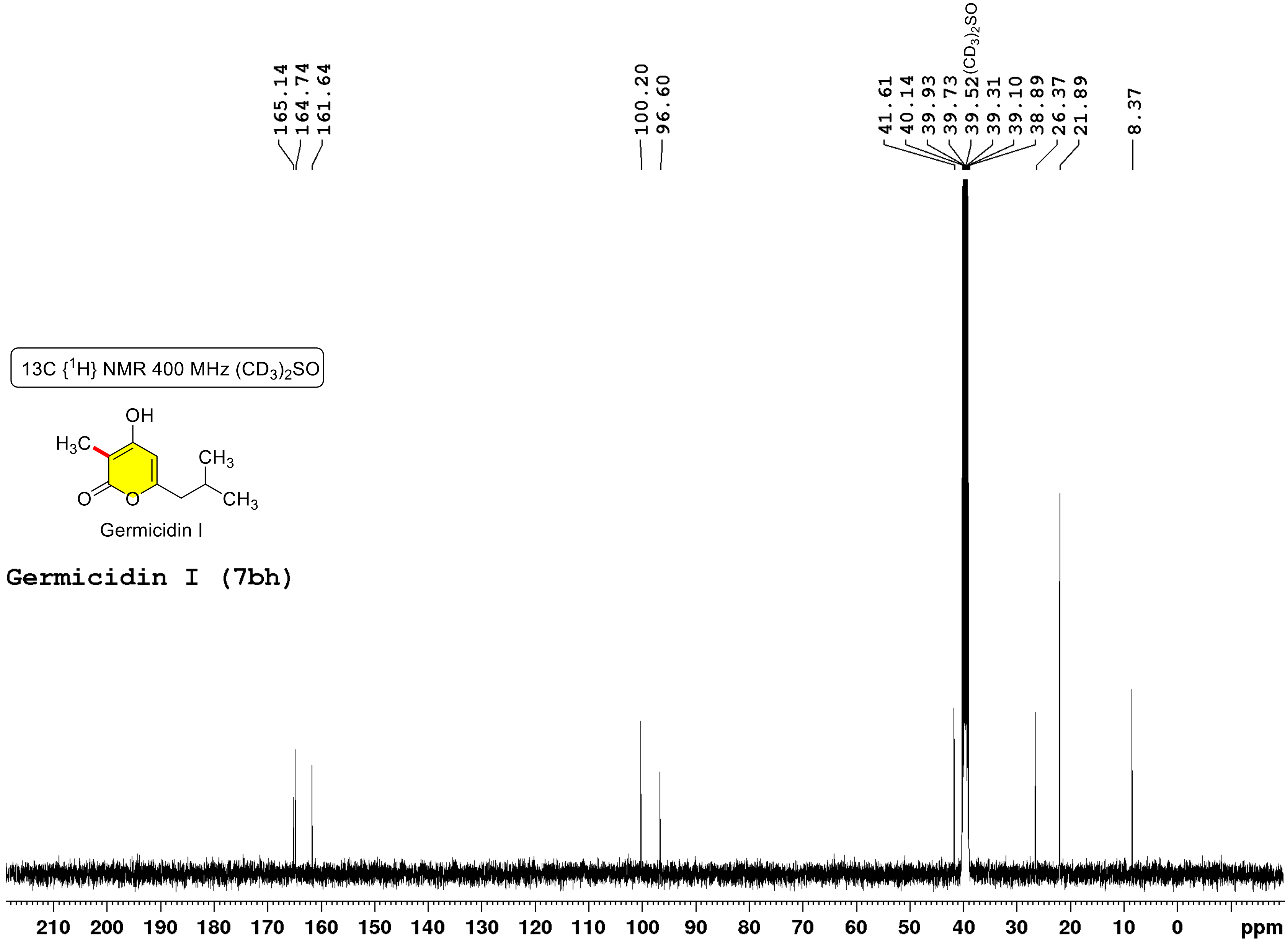

5.976
4.889
3.312
3.309CD3OD
3.306
3.303
3.299
2.390
2.375
2.359
2.338
2.323
2.072
2.058
2.044
2.031
2.017
2.003
1.990
1.561
1.548
1.535
1.521
1.508
1.495
1.481
1.466
1.452
1.437
1.421
1.406
1.402
1.345
1.330
1.323
1.315
1.313
1.307
1.303
1.298
1.284
1.220
1.207
1.189
1.177
0.962
0.948
0.877
0.864
0.000
1HNMR 500MHz CD3OD
OH
CH3
CH3
H3C
O
O
CH3
Photopyrone B
Photopyrone B (7bd)
8
7
6
5
4
3
2
1
0
-1
-2
-3
ppm
1.01
1.99
1.86
1.01
1.08
1.92
2.66
2.01
6.03
6.03



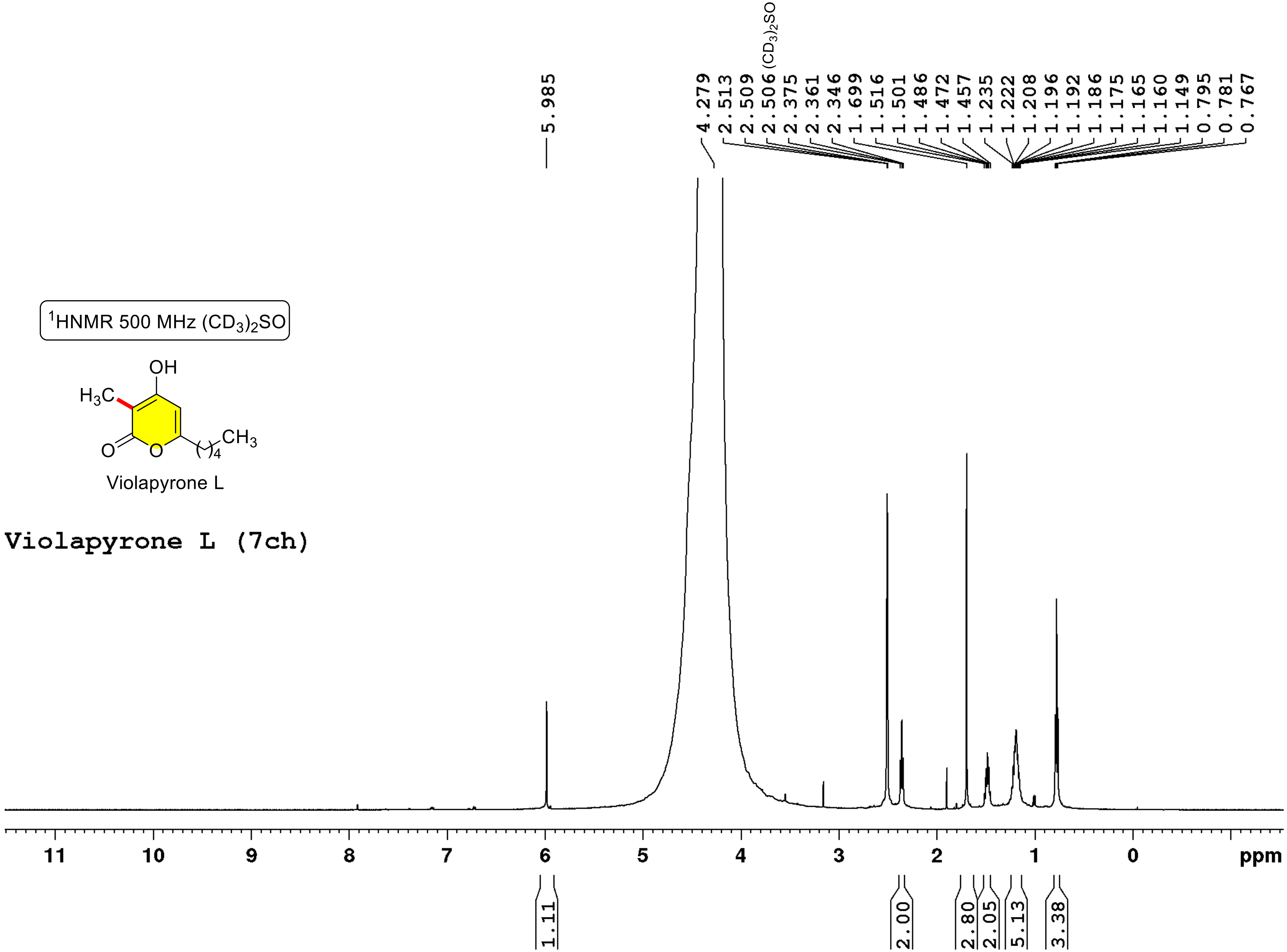
Photopyrone B (7bd)



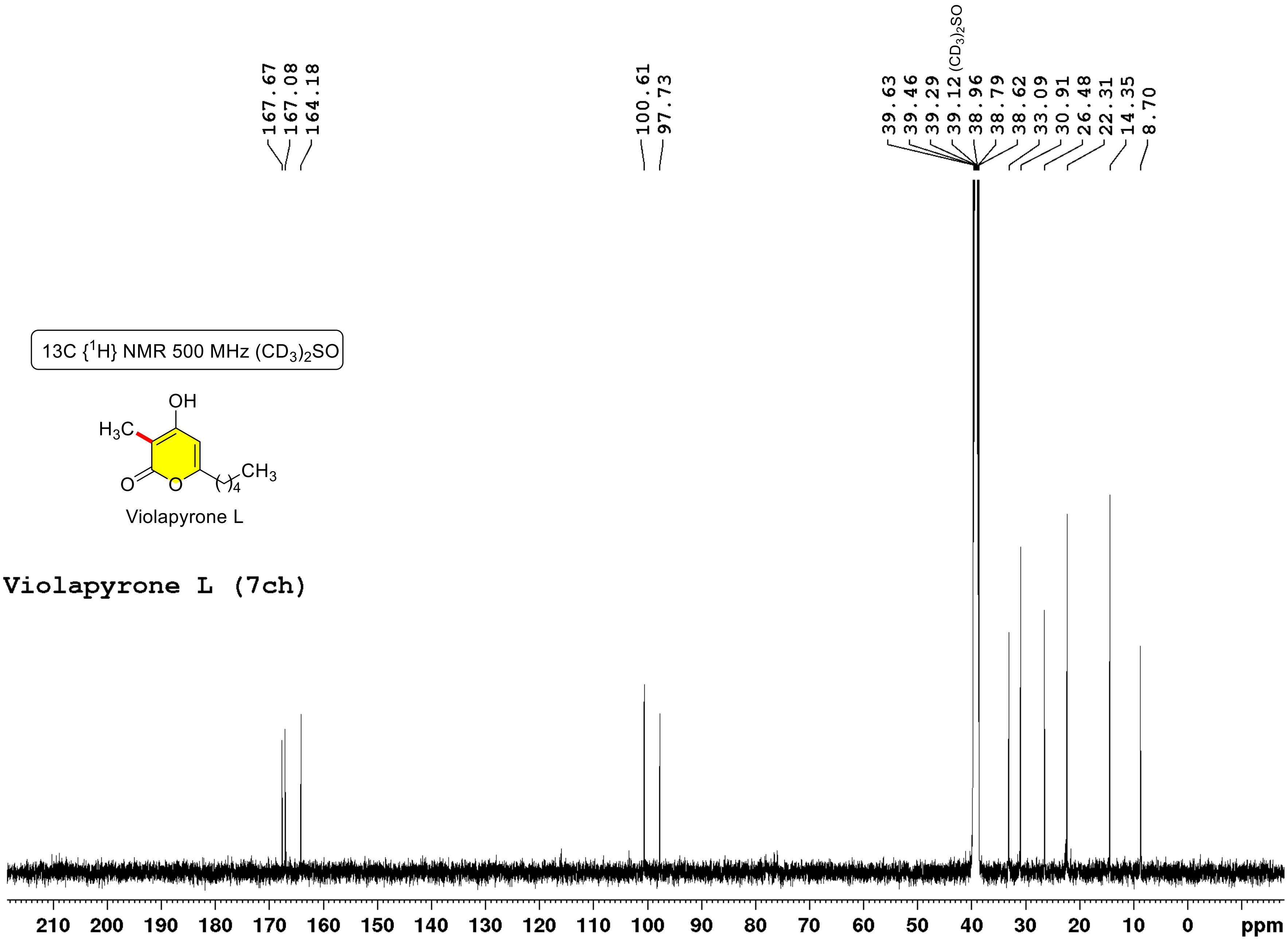
11.122
5.969
3.360
2.500(CD3)2SO
2.286
2.272
1.947
1.934
1.921
1.907
1.894
1.880
1.866
1.737
0.891
0.878
1HNMR 500 MHz (CD3)2SO
OH
H3C
CH3
CH3
O
O
Germicidin I
Germicidin I (7bh)
12
11
10
9
8
7
6
5
4
3
2
1
0
ppm
1.01
1.00
2.01
1.05
3.02
6.07

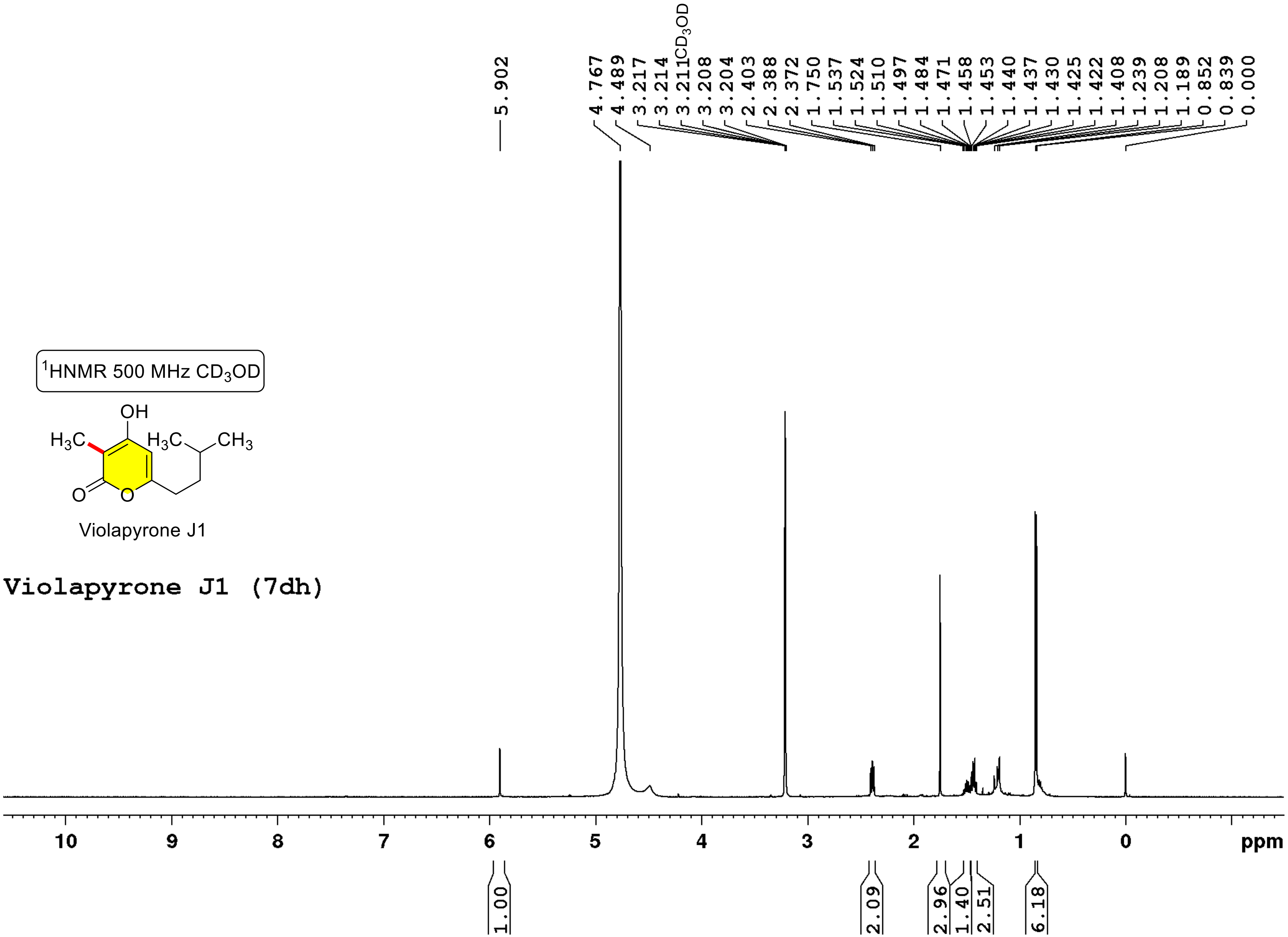


Germicidin I (7bh)

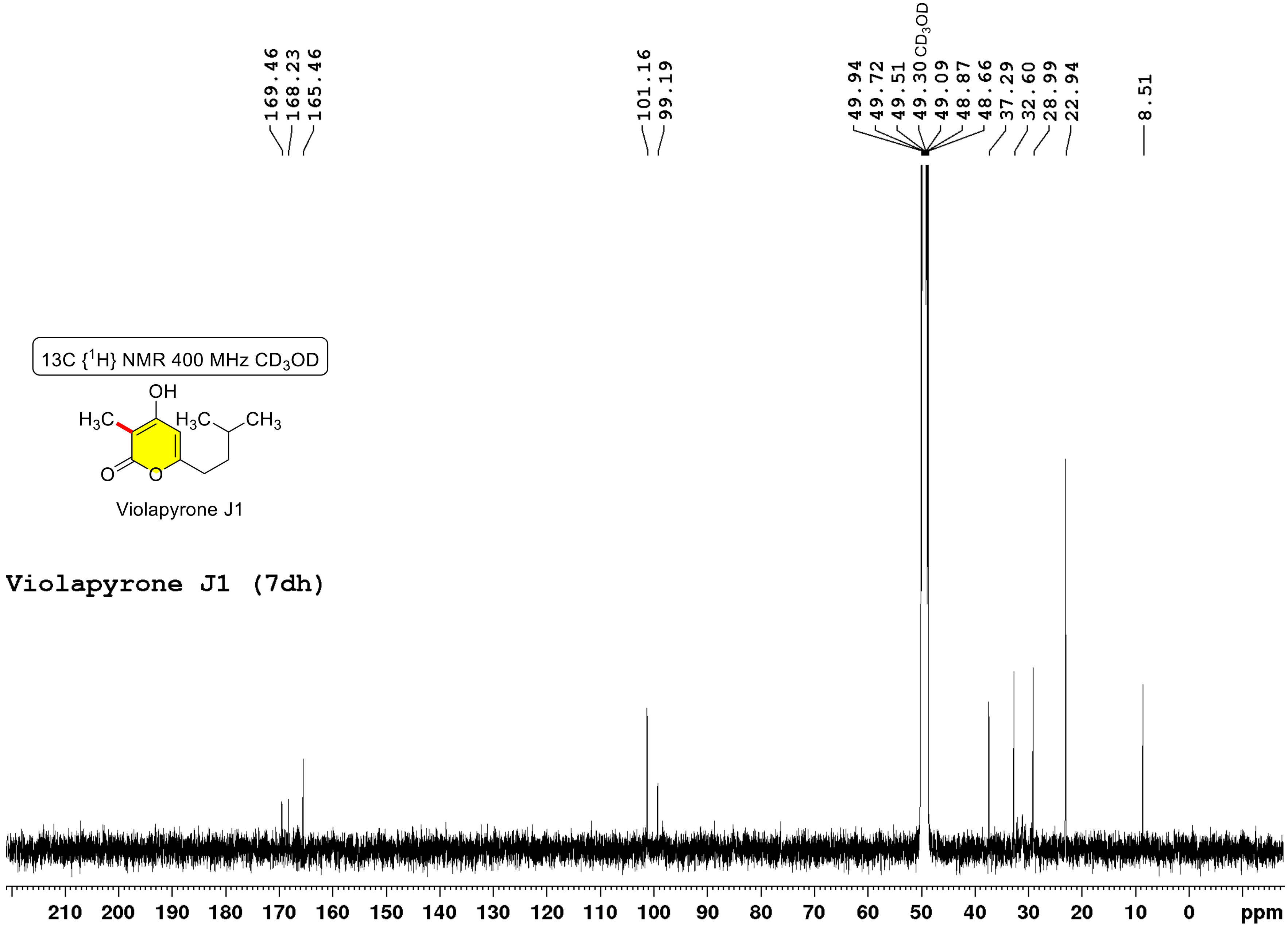


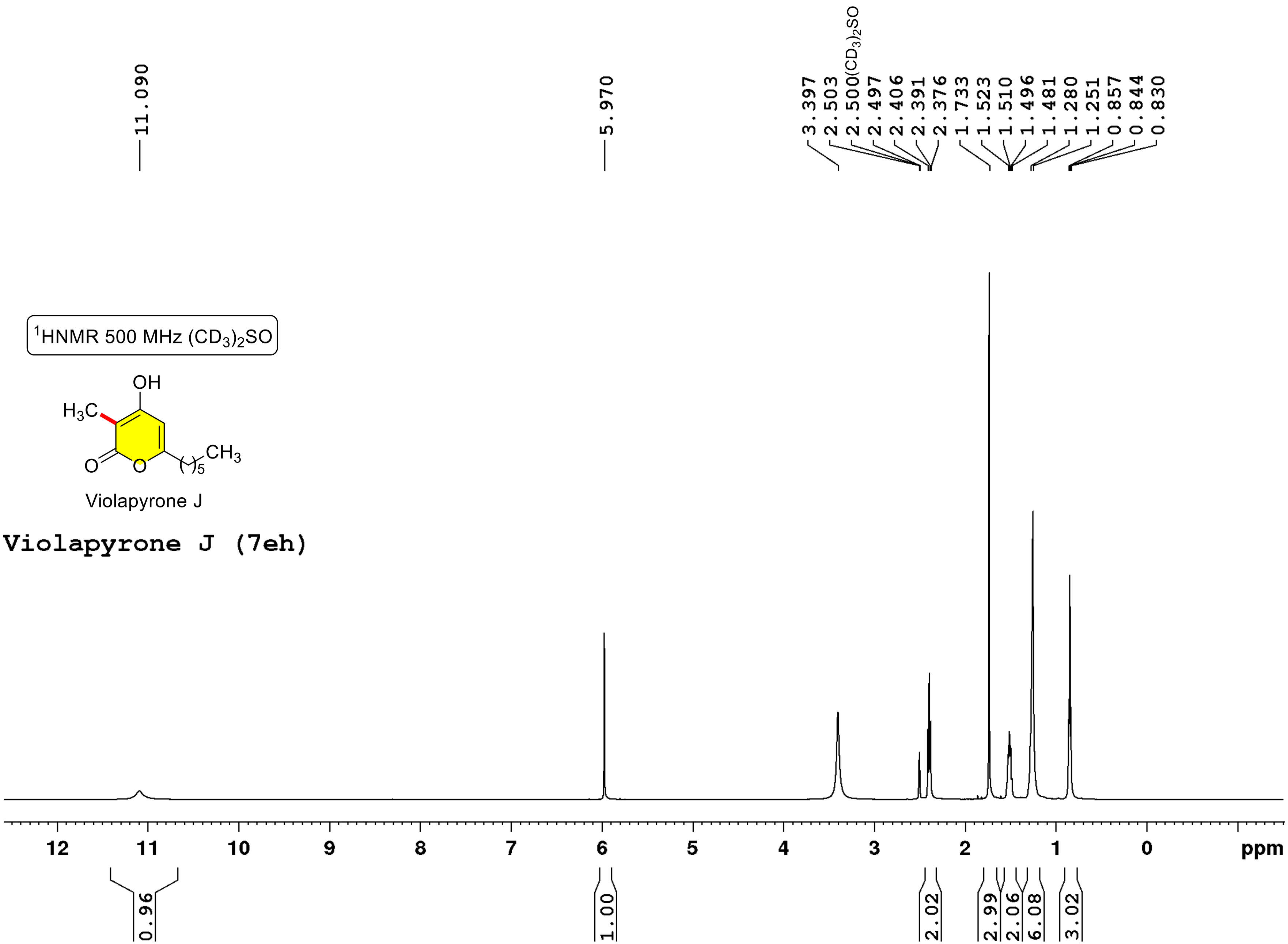
^{1}HNMR 500 MHz $(CD_3)_2SO$
OH
H_3C
CH_3
O
O
4
Violapyrone L
Violapyrone L (7ch)
5.985
4.279
2.513
2.509
2.506 $(CD_3)_2SO$
2.375
2.361
2.346
1.699
1.516
1.501
1.486
1.472
1.457
1.235
1.222
1.208
1.196
1.192
1.186
1.175
1.165
1.160
1.149
0.795
0.781
0.767
11
10
9
8
7
6
5
4
3
2
1
0
ppm
1.11
2.00
2.80
2.05
5.13
3.38

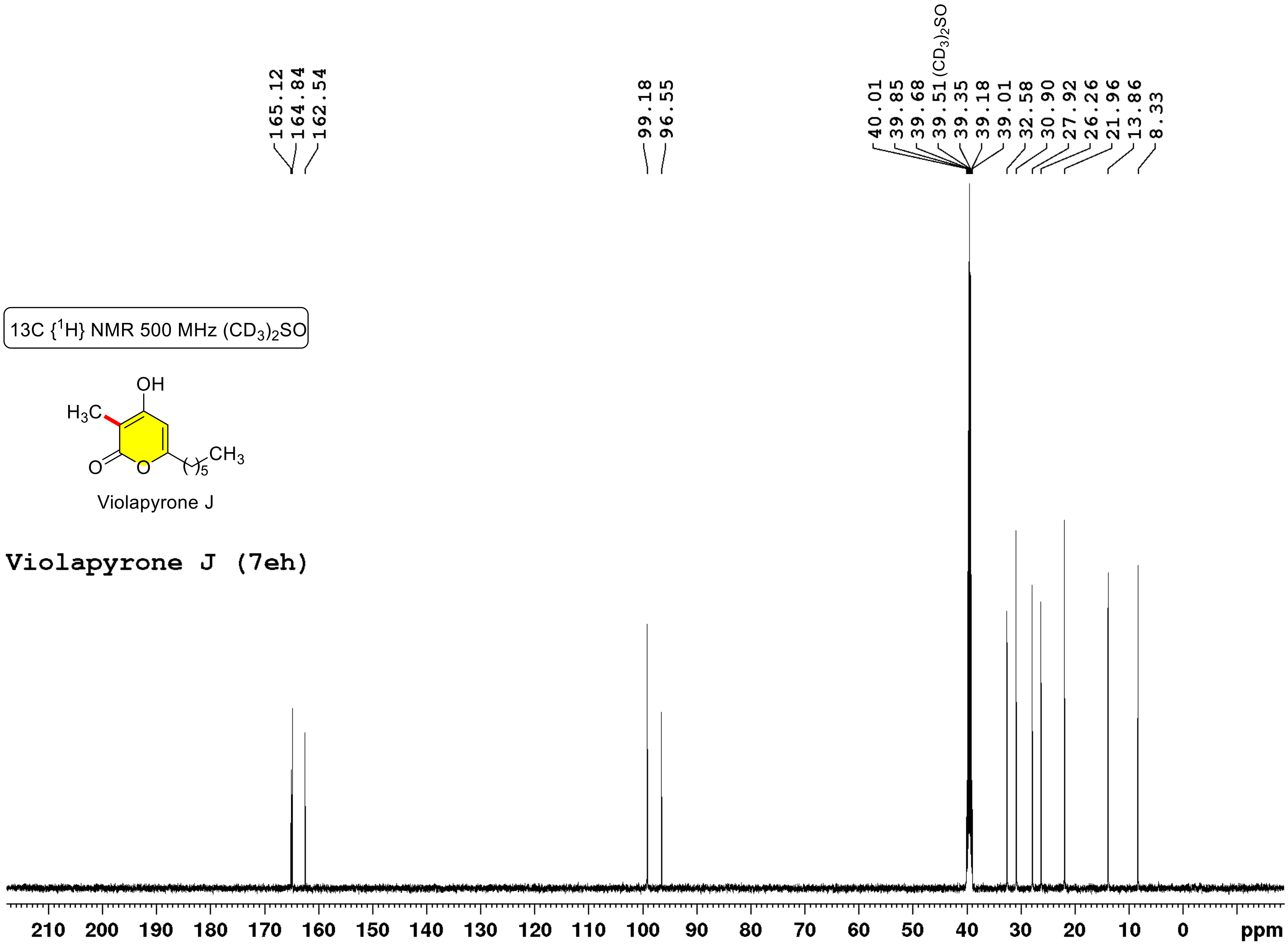

167.67
167.08
164.18
100.61
97.73
39.63
39.46
39.29
39.12 (CD3)2SO
38.96
38.79
38.62
33.09
30.91
26.48
22.31
14.35
8.70
13C {1H} NMR 500 MHz (CD3)2SO
OH
H3C
O
O
CH3
4
Violapyrone L
Violapyrone L (7ch)
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 ppm



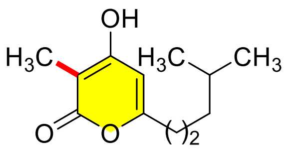
5.902
4.767
4.489
3.217
3.214
3.211 CD3OD
3.208
3.204
2.403
2.388
2.372
1.750
1.537
1.524
1.510
1.497
1.484
1.471
1.458
1.453
1.440
1.437
1.430
1.425
1.422
1.408
1.239
1.208
1.189
0.852
0.839
0.000
1HNMR 500 MHz CD3OD
OH
H3C
H3C
CH3
O
O
Violapyrone J1
Violapyrone J1 (7dh)
10
9
8
7
6
5
4
3
2
1
0
ppm
1.00
2.09
2.96
1.40
2.51
6.18


169.46
168.23
165.46
101.16
99.19
49.94
49.72
49.51
49.30 CD3OD
49.09
48.87
48.66
37.29
32.60
28.99
22.94
8.51
13C {1H} NMR 400 MHz CD3OD
OH
H3C
H3C
CH3
O
O
Violapyrone J1
Violapyrone J1 (7dh)
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 ppm


11.090
5.970
3.397
2.503
2.500(CD3)2SO
2.497
2.406
2.391
2.376
1.733
1.523
1.510
1.496
1.481
1.280
1.251
0.857
0.844
0.830
1HNMR 500 MHz (CD3)2SO
OH
H3C
CH3
O
O
5
Violapyrone J
Violapyrone J (7eh)
12
11
10
9
8
7
6
5
4
3
2
1
0
ppm
0.96
1.00
2.02
2.99
2.06
6.08
3.02

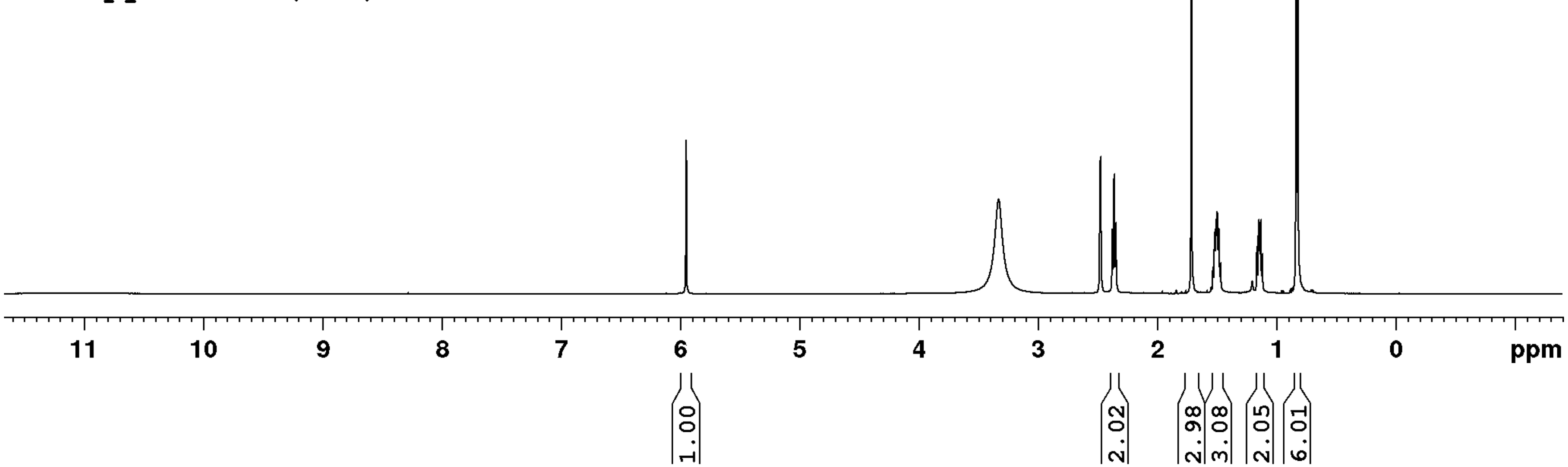

165.12
164.84
162.54
99.18
96.55
40.01
39.85
39.68
39.51 (CD3)2SO
39.35
39.18
39.01
32.58
30.90
27.92
26.26
21.96
13.86
8.33
13C {1H} NMR 500 MHz (CD3)2SO
OH
H3C
O
O
CH3
5
Violapyrone J
Violapyrone J (7eh)
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 ppm

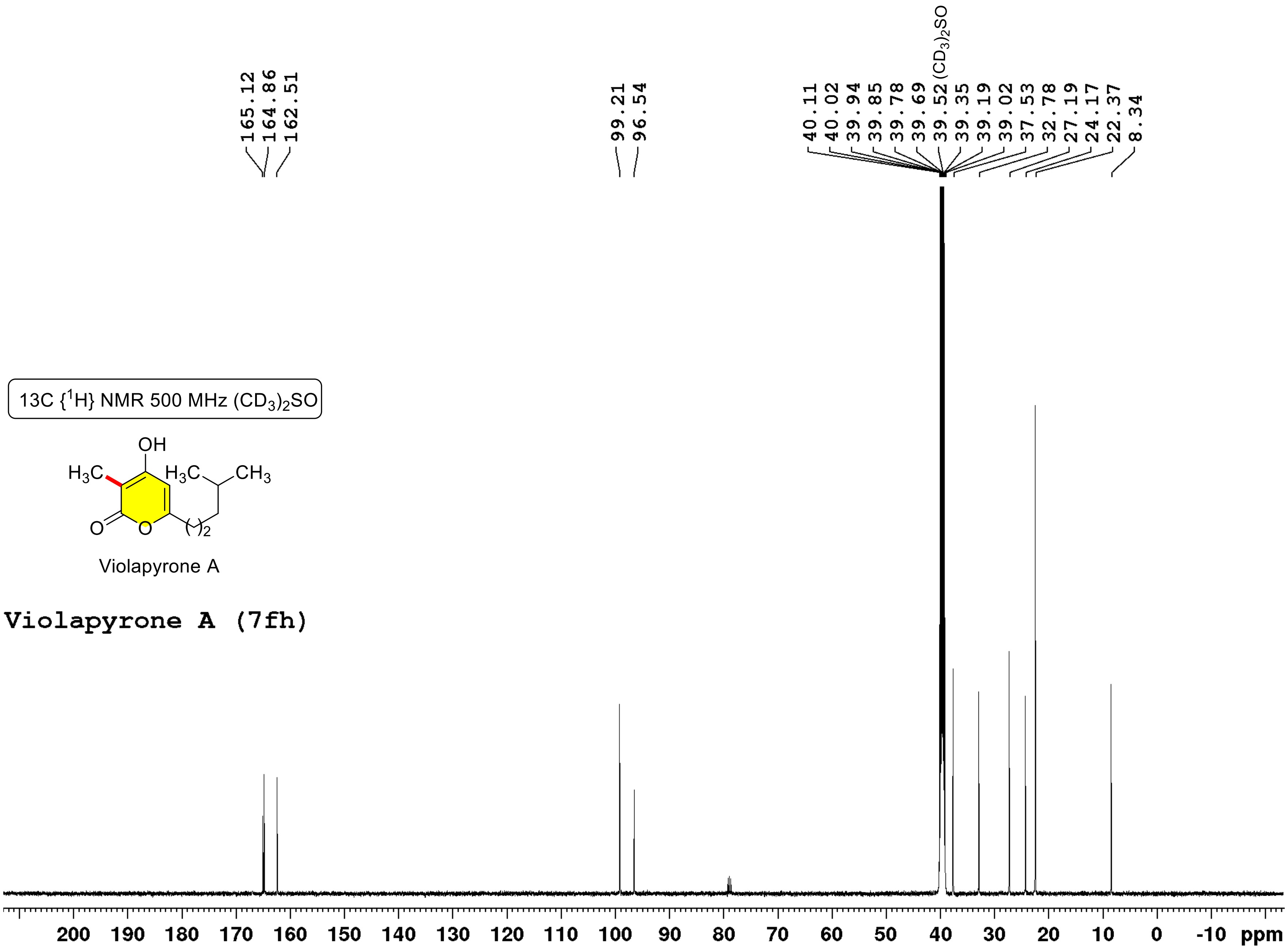
^{1}HNMR 500 MHz $(CD_3)_2SO$



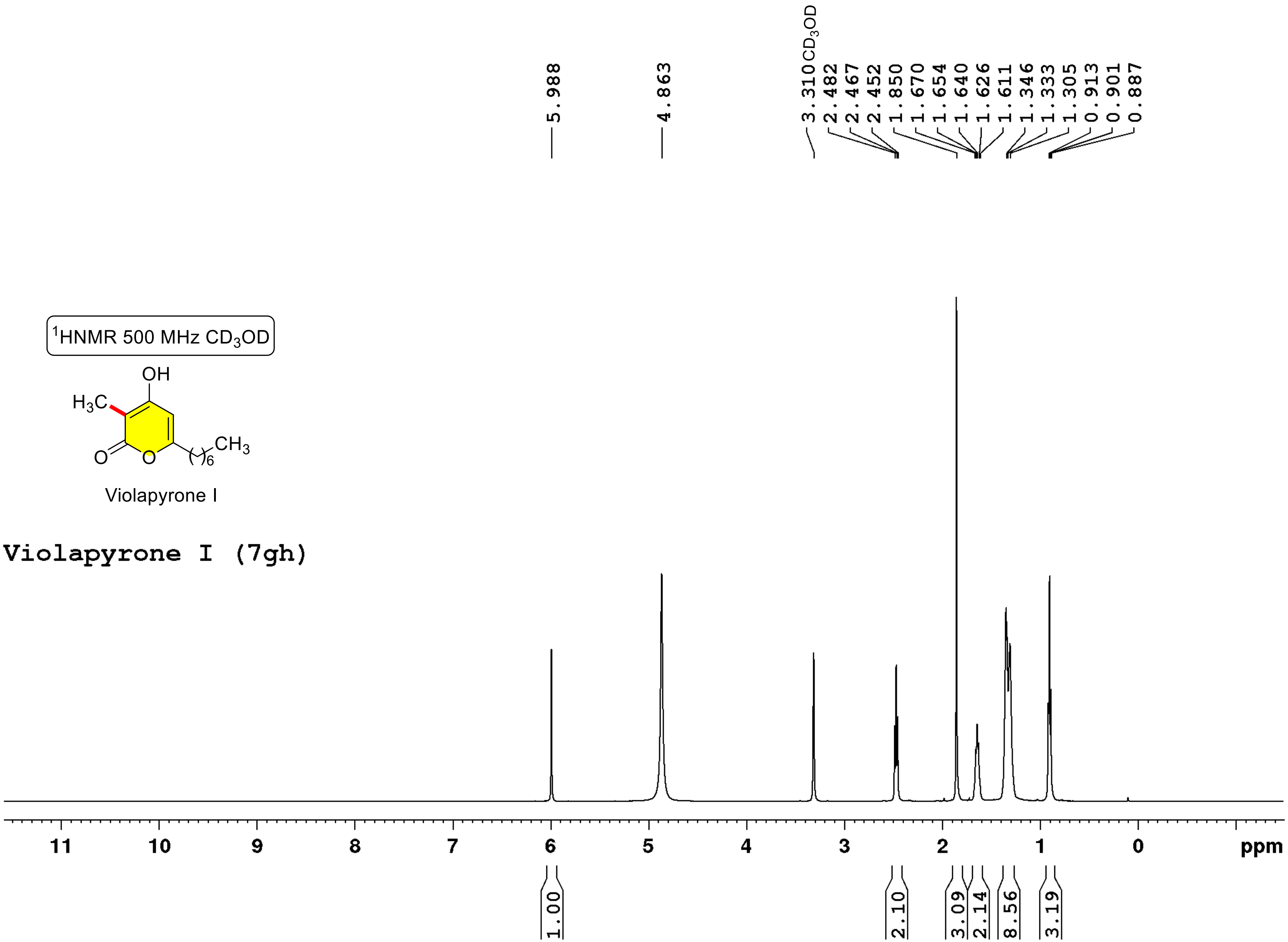
Violapyrone A

Violapyrone A (7fh)



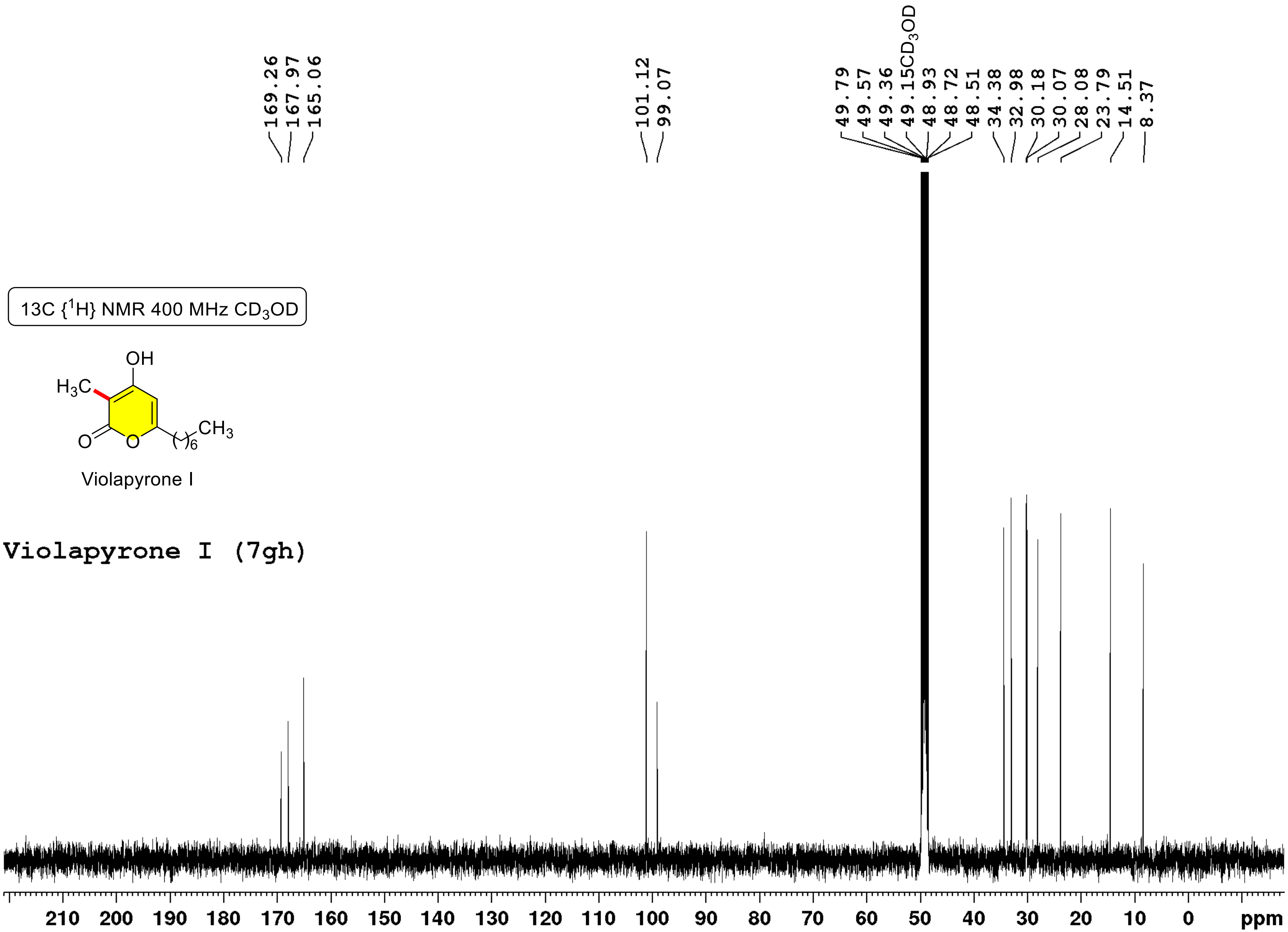


Violapyrone A (7fh)

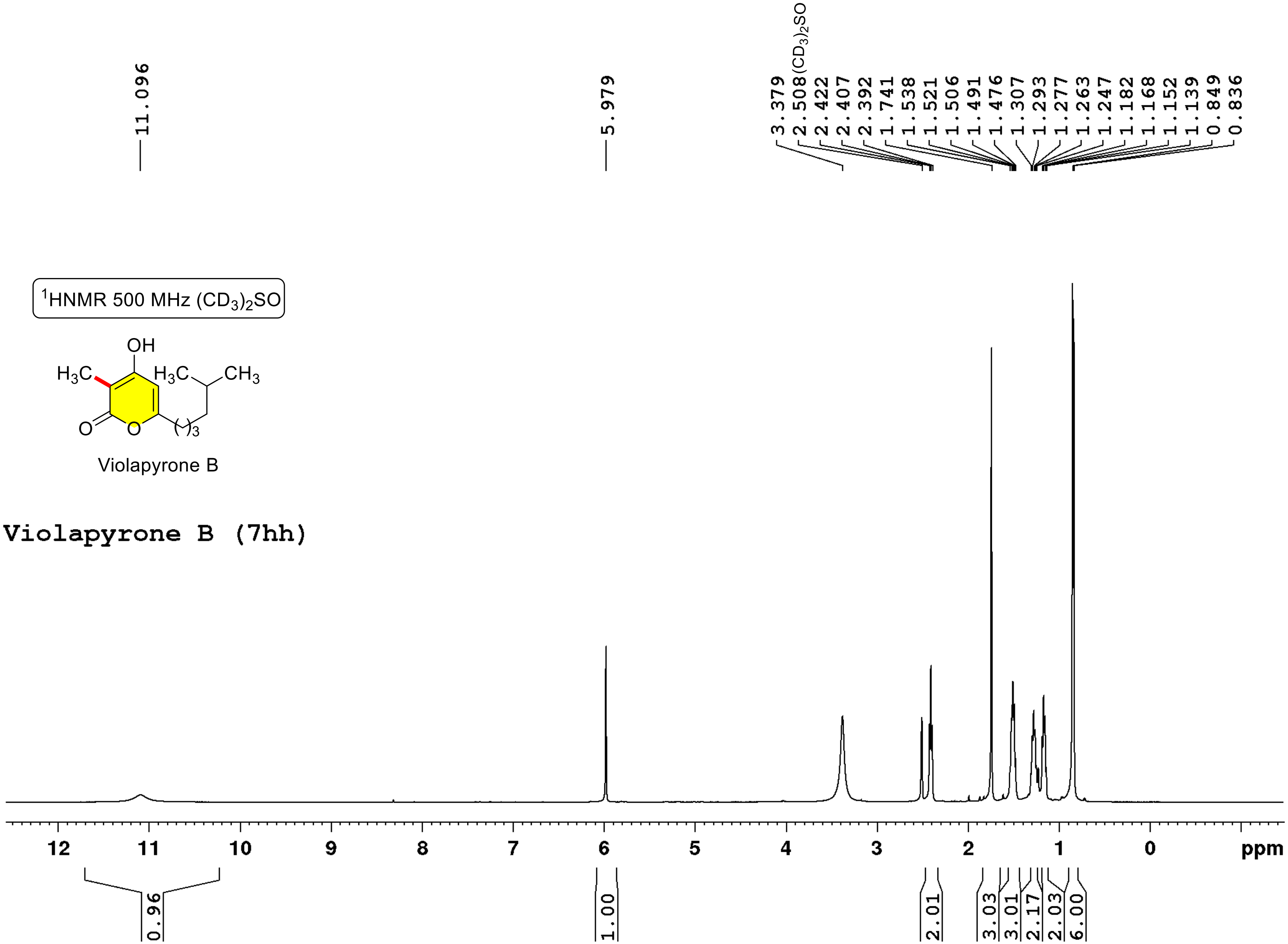


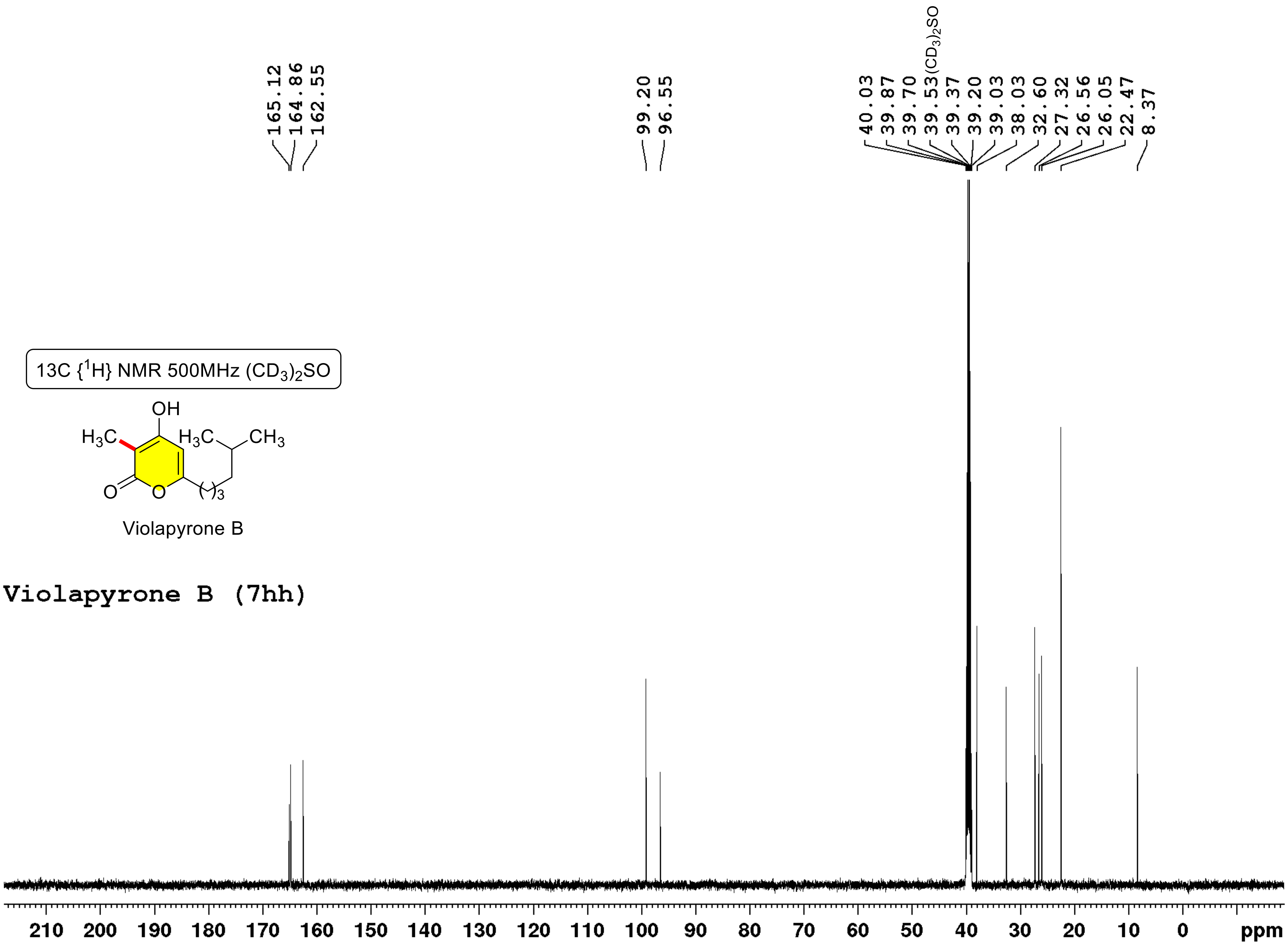
Violapyrone I

Violapyrone I (7gh)

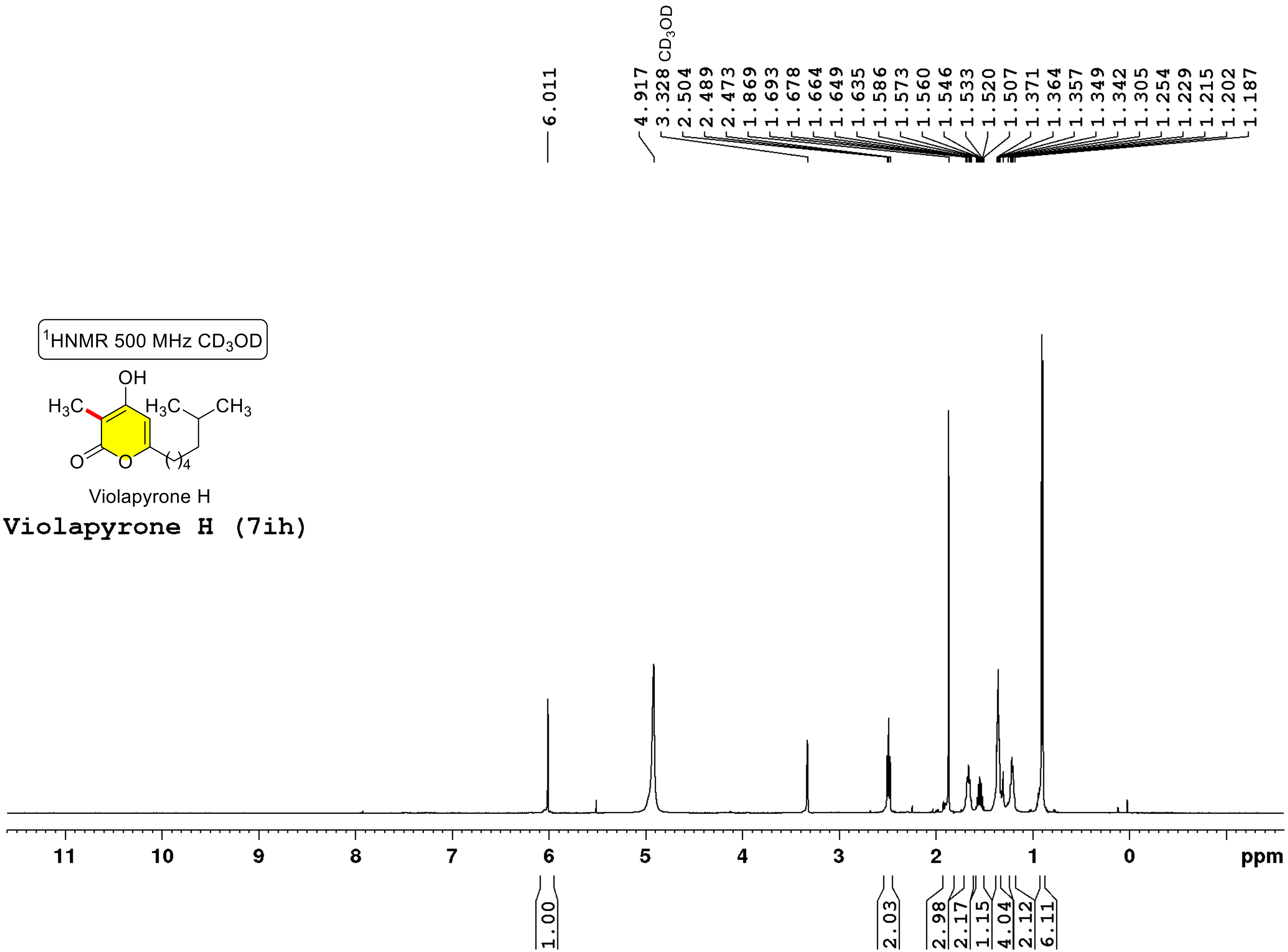


Violapyrone I (7gh)


11.096
5.979
3.379
2.508(CD3)2SO
2.422
2.407
2.392
1.741
1.538
1.521
1.506
1.491
1.476
1.307
1.293
1.277
1.263
1.247
1.182
1.168
1.152
1.139
0.849
0.836
1HNMR 500 MHz (CD3)2SO
OH
H3C
H3C
CH3
O
O
( )3
Violapyrone B
Violapyrone B (7hh)
12 11 10 9 8 7 6 5 4 3 2 1 0 ppm
0.96
1.00
2.01
3.03
3.01
2.17
2.03
6.00

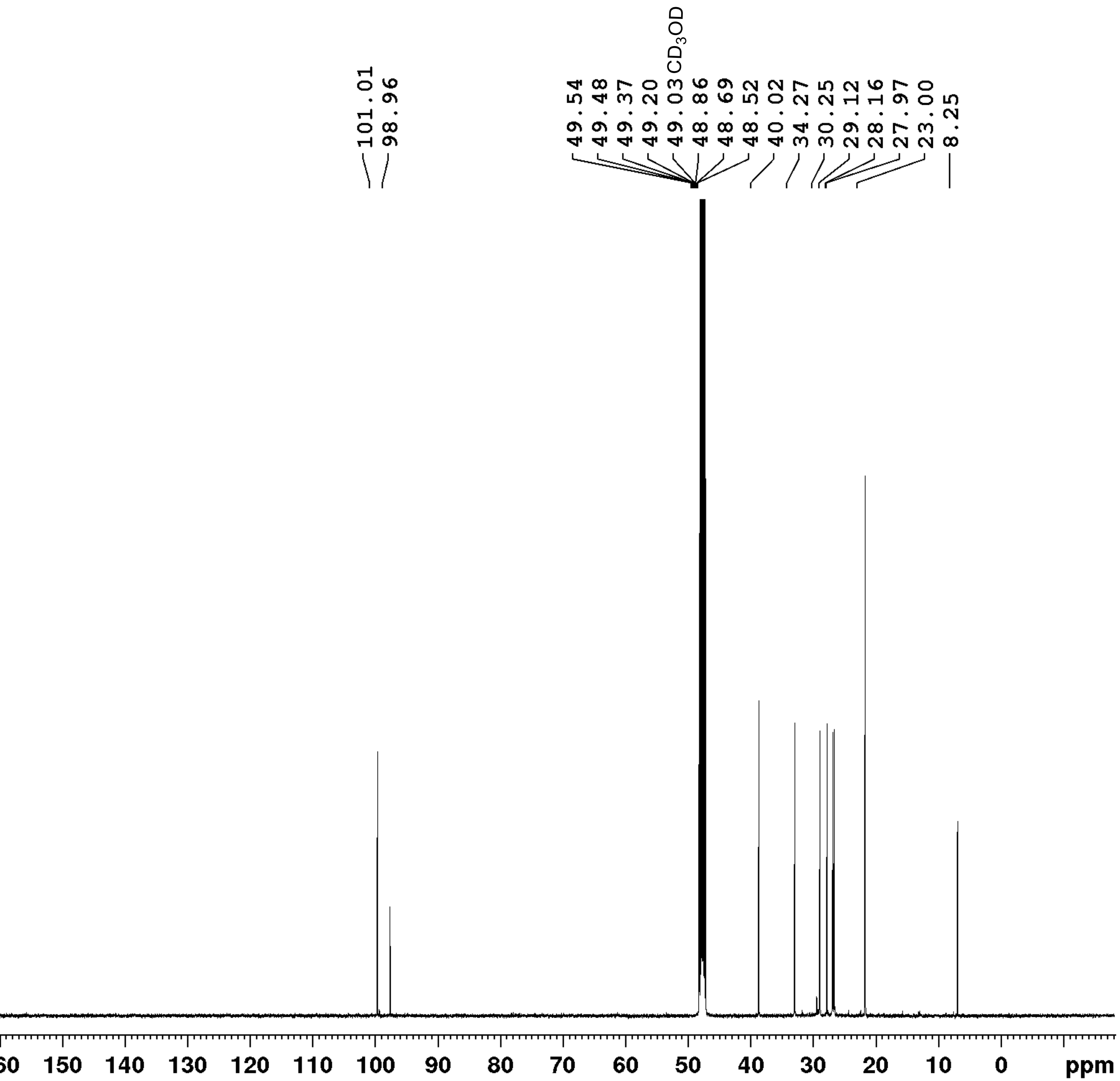


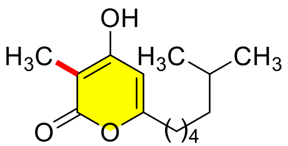
Violapyrone B (7hh)



Violapyrone H

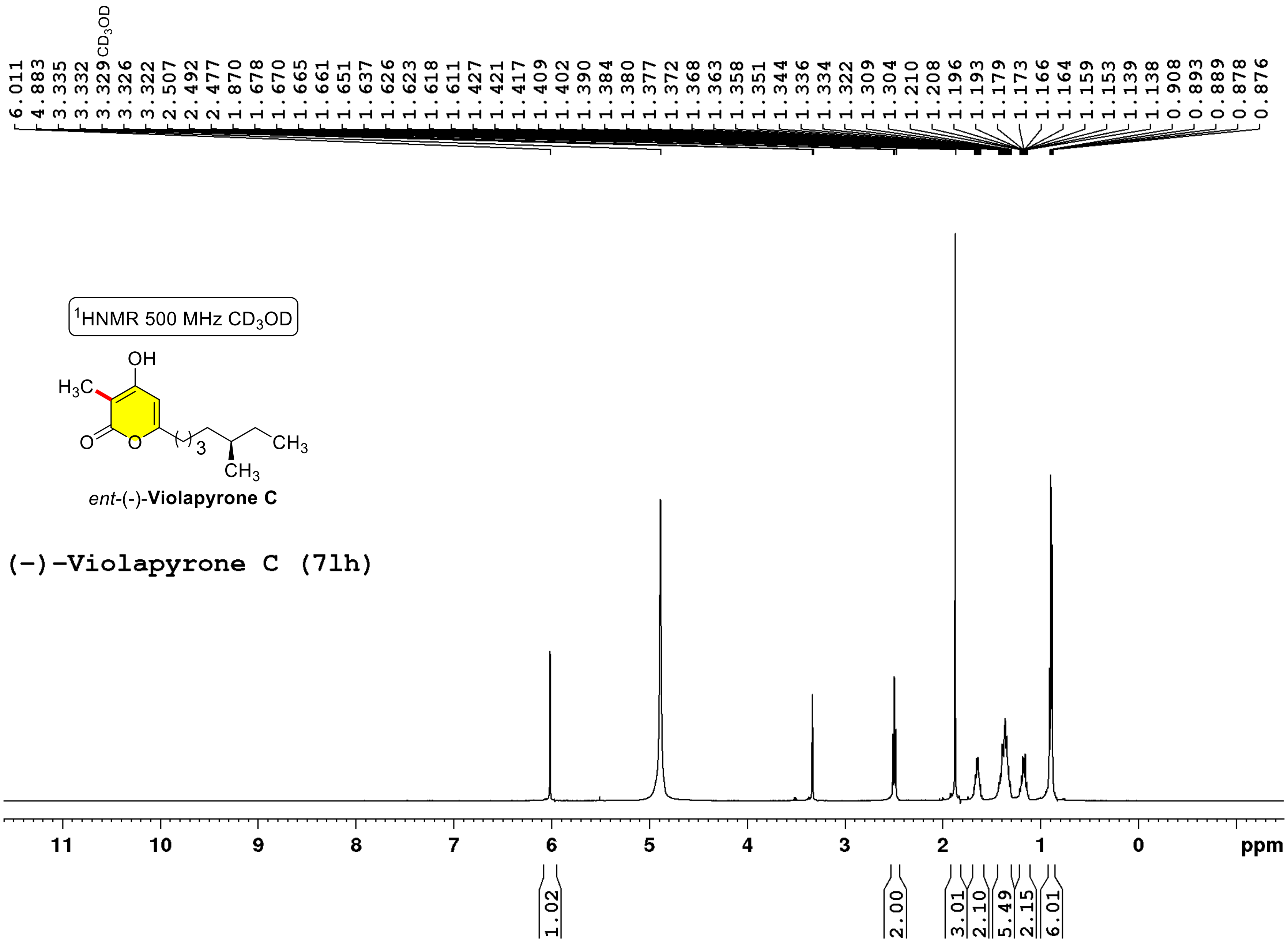
Violapyrone H (7ih)





Violapyrone H

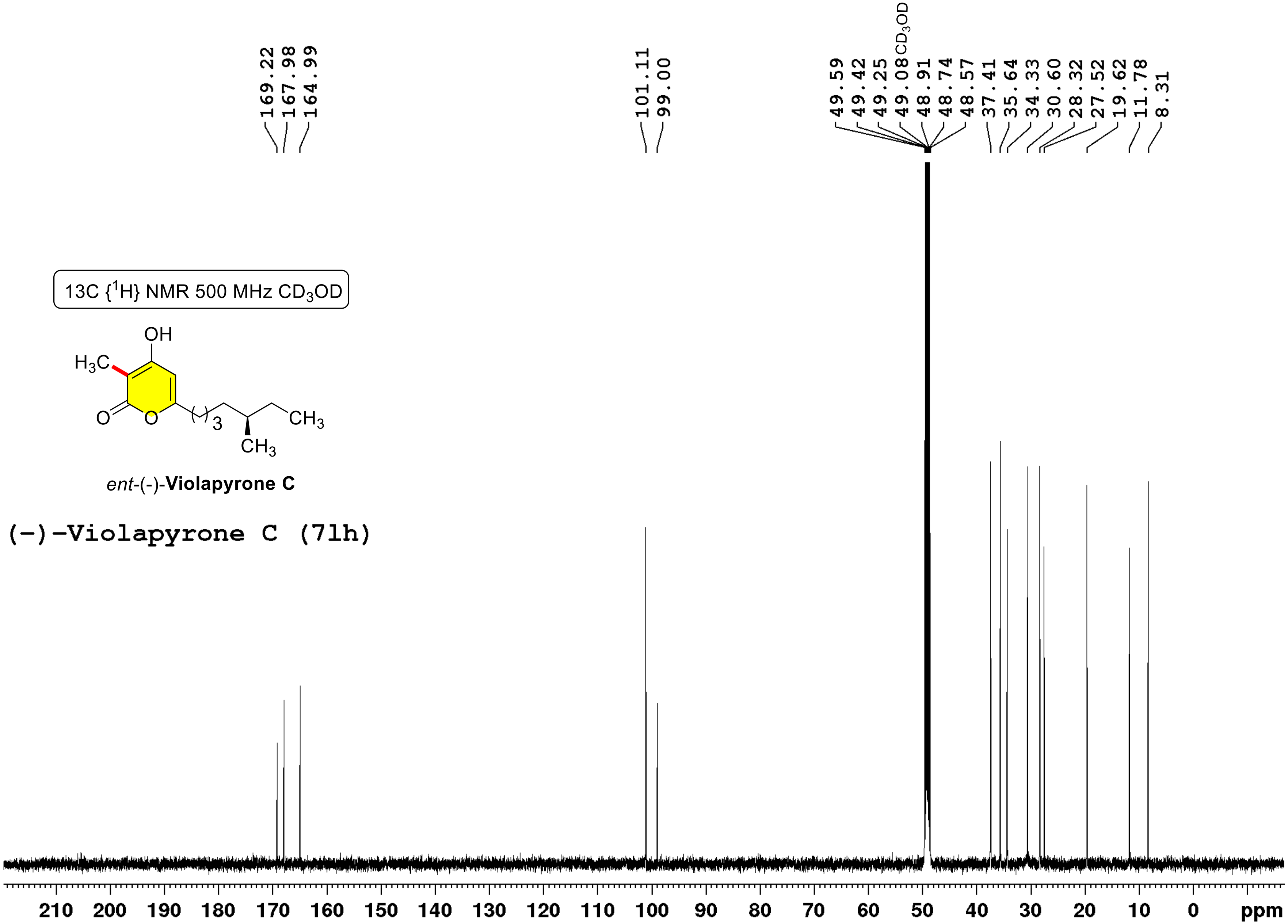
Violapyrone H (7ih)

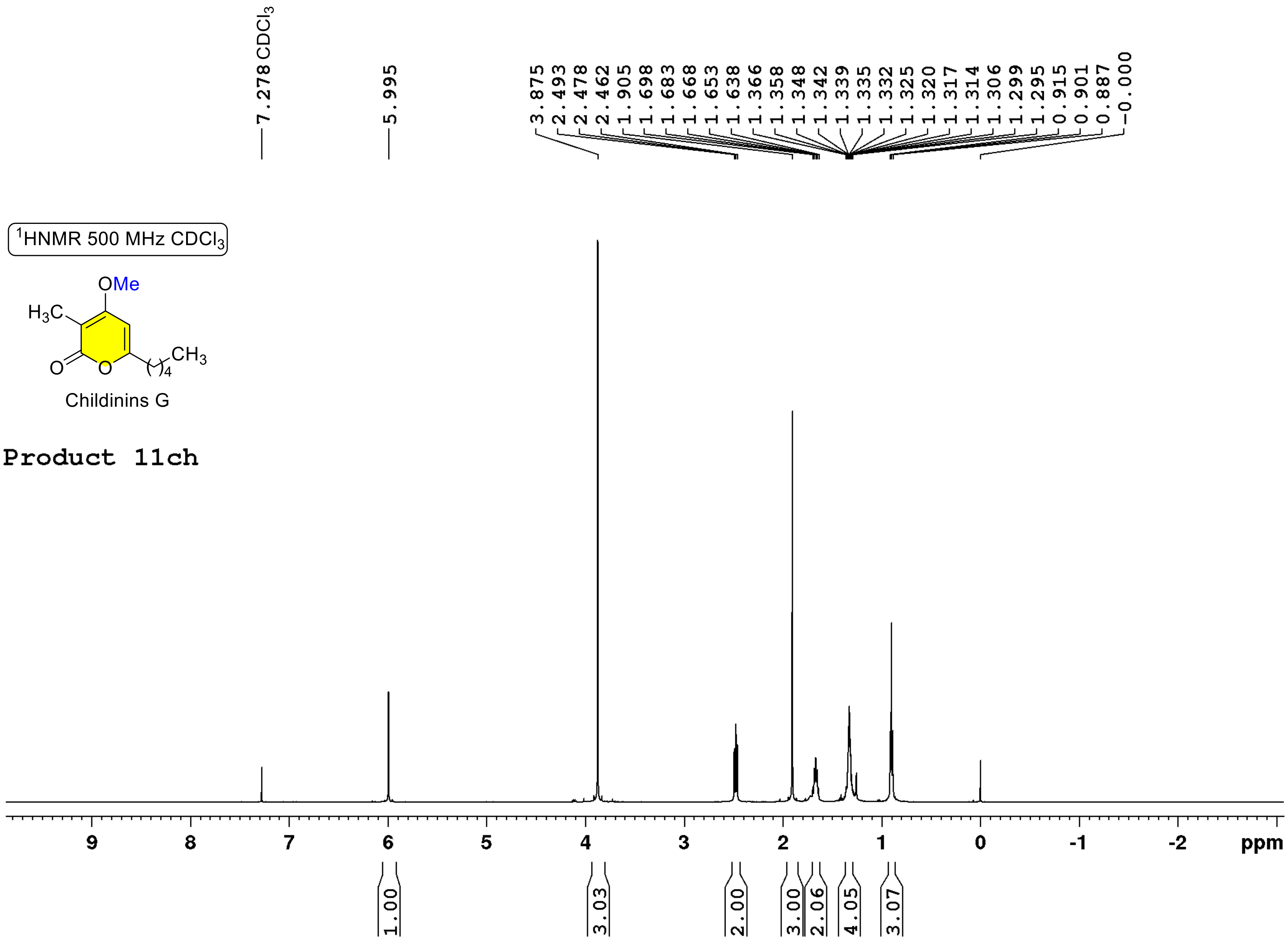

6.011
4.883
3.335
3.332
3.329 CD3OD
3.326
3.322
2.507
2.492
2.477
1.870
1.678
1.670
1.665
1.661
1.651
1.637
1.626
1.623
1.618
1.611
1.427
1.421
1.417
1.409
1.402
1.390
1.384
1.380
1.377
1.372
1.368
1.363
1.358
1.351
1.344
1.336
1.334
1.322
1.309
1.304
1.210
1.208
1.196
1.193
1.179
1.173
1.166
1.164
1.159
1.153
1.139
1.138
0.908
0.893
0.889
0.878
0.876
1HNMR 500 MHz CD3OD
OH
H3C
O
O
3
CH3
CH3
ent-(-)-Violapyrone C
(-)-Violapyrone C (71h)
11
10
9
8
7
6
5
4
3
2
1
0
ppm
1.02
2.00
3.01
2.10
5.49
2.15
6.01

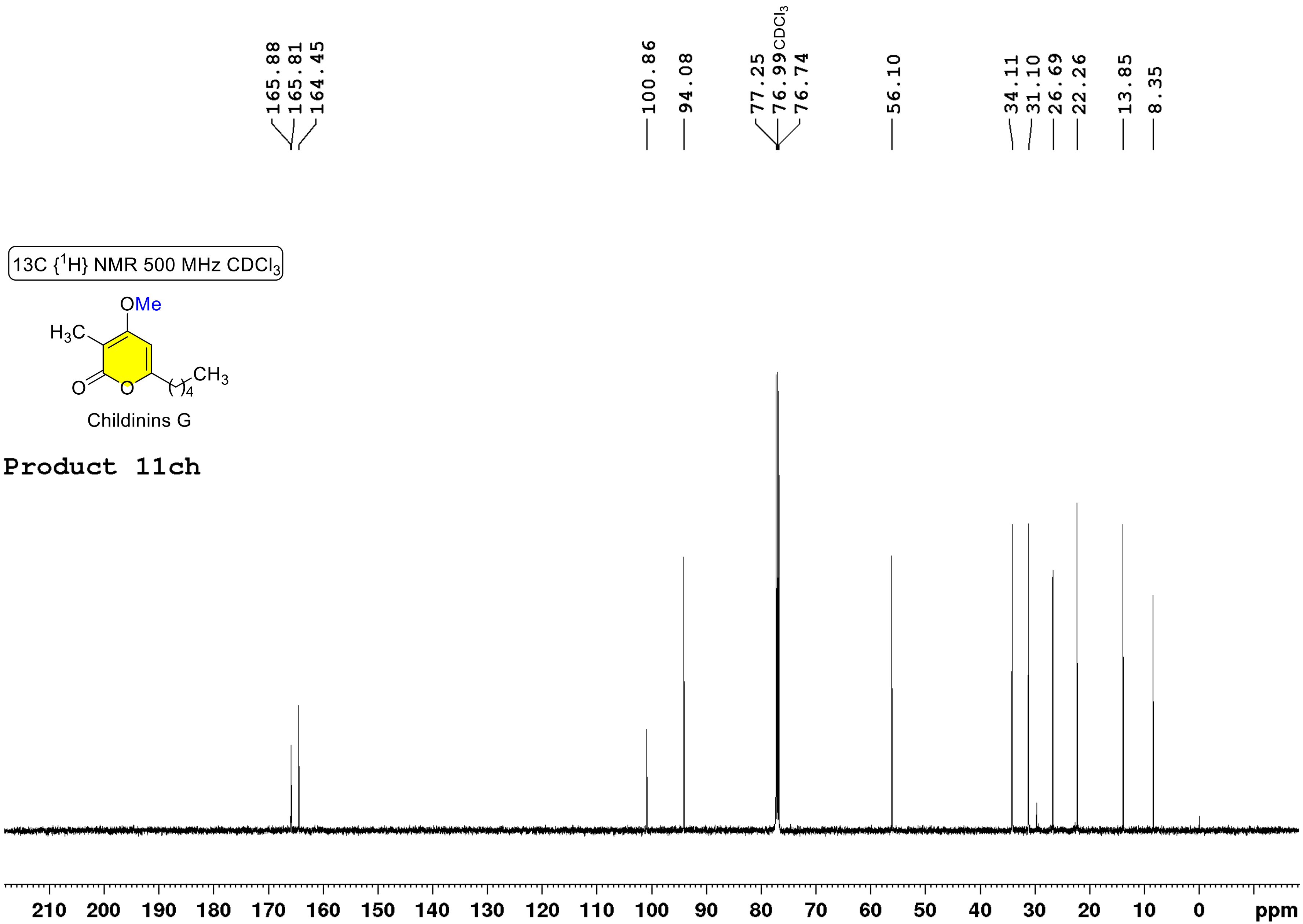
13C {[1]H} NMR 500 MHz CD_3OD

ent-(-)-**Violapyrone C**

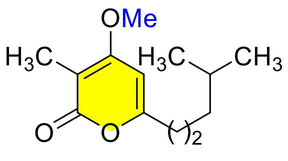
(–)-Violapyrone C (7lh)




7.278 CDCl3
5.995
3.875
2.493
2.478
2.462
1.905
1.698
1.683
1.668
1.653
1.638
1.366
1.358
1.348
1.342
1.339
1.335
1.332
1.325
1.320
1.317
1.314
1.306
1.299
1.295
0.915
0.901
0.887
-0.000
1HNMR 500 MHz CDCl3
OMe
H3C
O
O
CH3
4
Childinins G
Product 11ch
9
8
7
6
5
4
3
2
1
0
-1
-2
ppm
1.00
3.03
2.00
3.00
2.06
4.05
3.07

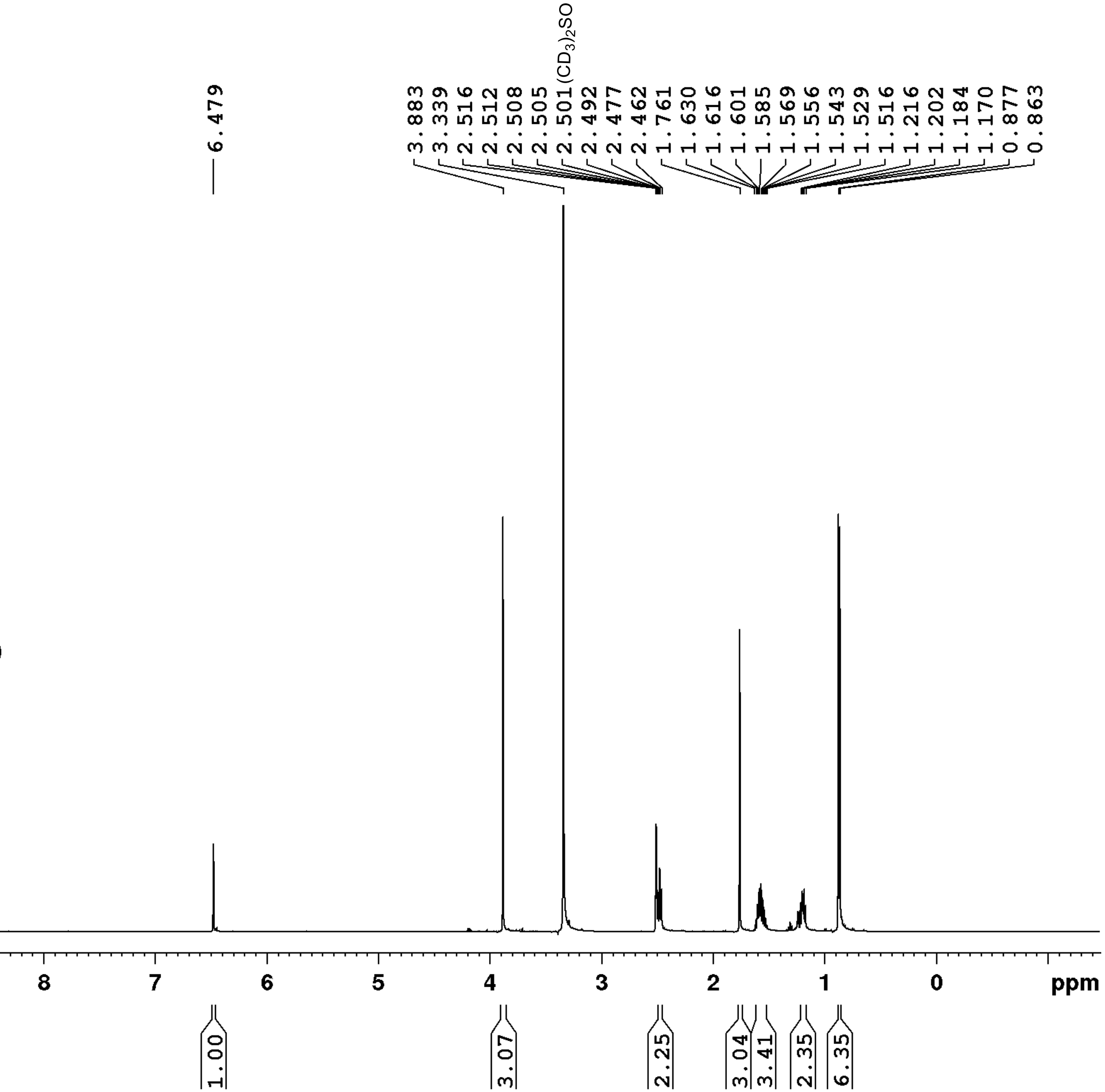

165.88
165.81
164.45
100.86
94.08
77.25
76.99 CDCl3
76.74
56.10
34.11
31.10
26.69
22.26
13.85
8.35
13C {1H} NMR 500 MHz CDCl3
OMe
H3C
O
O
CH3
4
Childinins G
Product 11ch
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 ppm

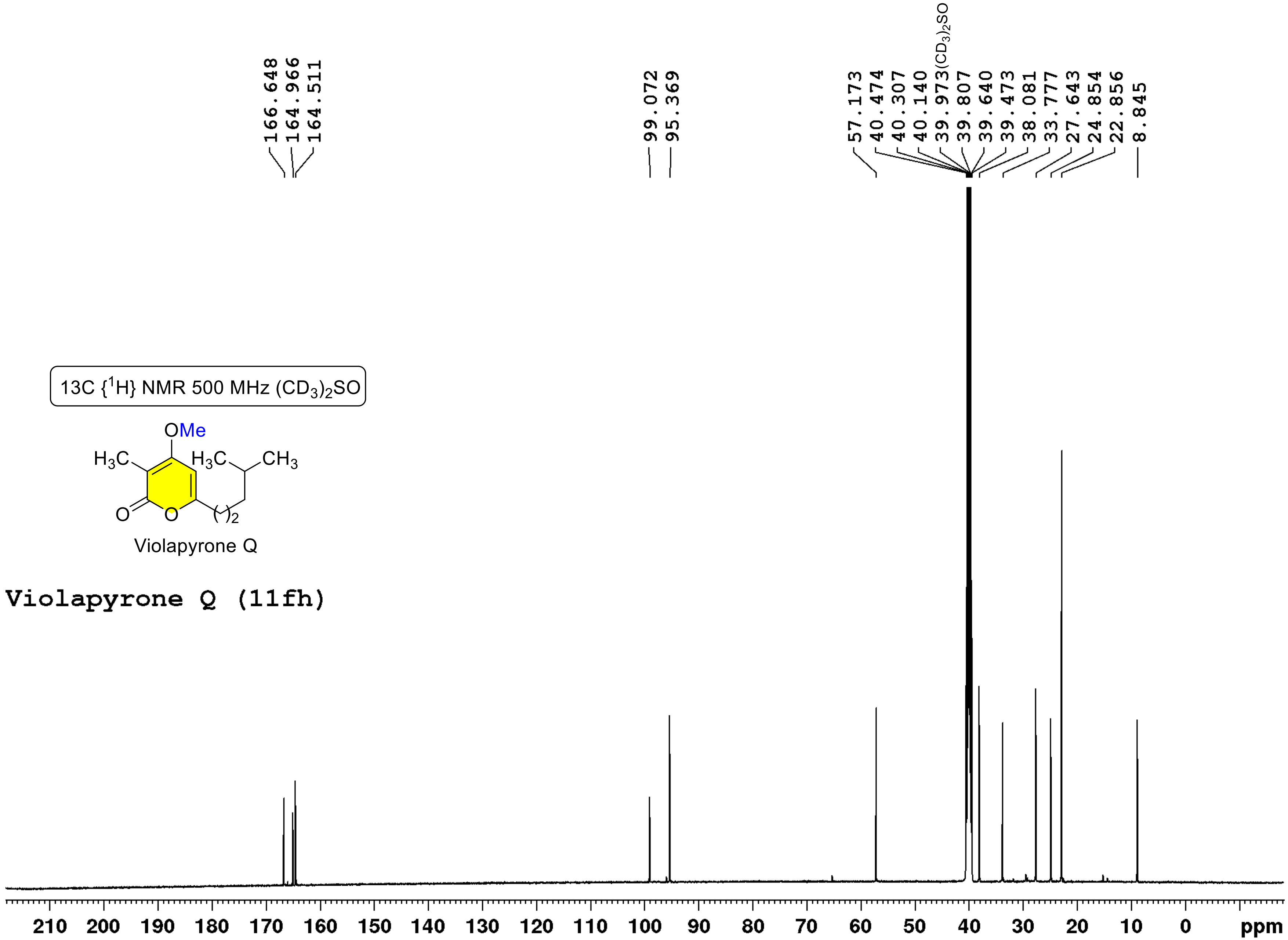
$^{1}HNMR$ 500 MHz $(CD_3)_2SO$

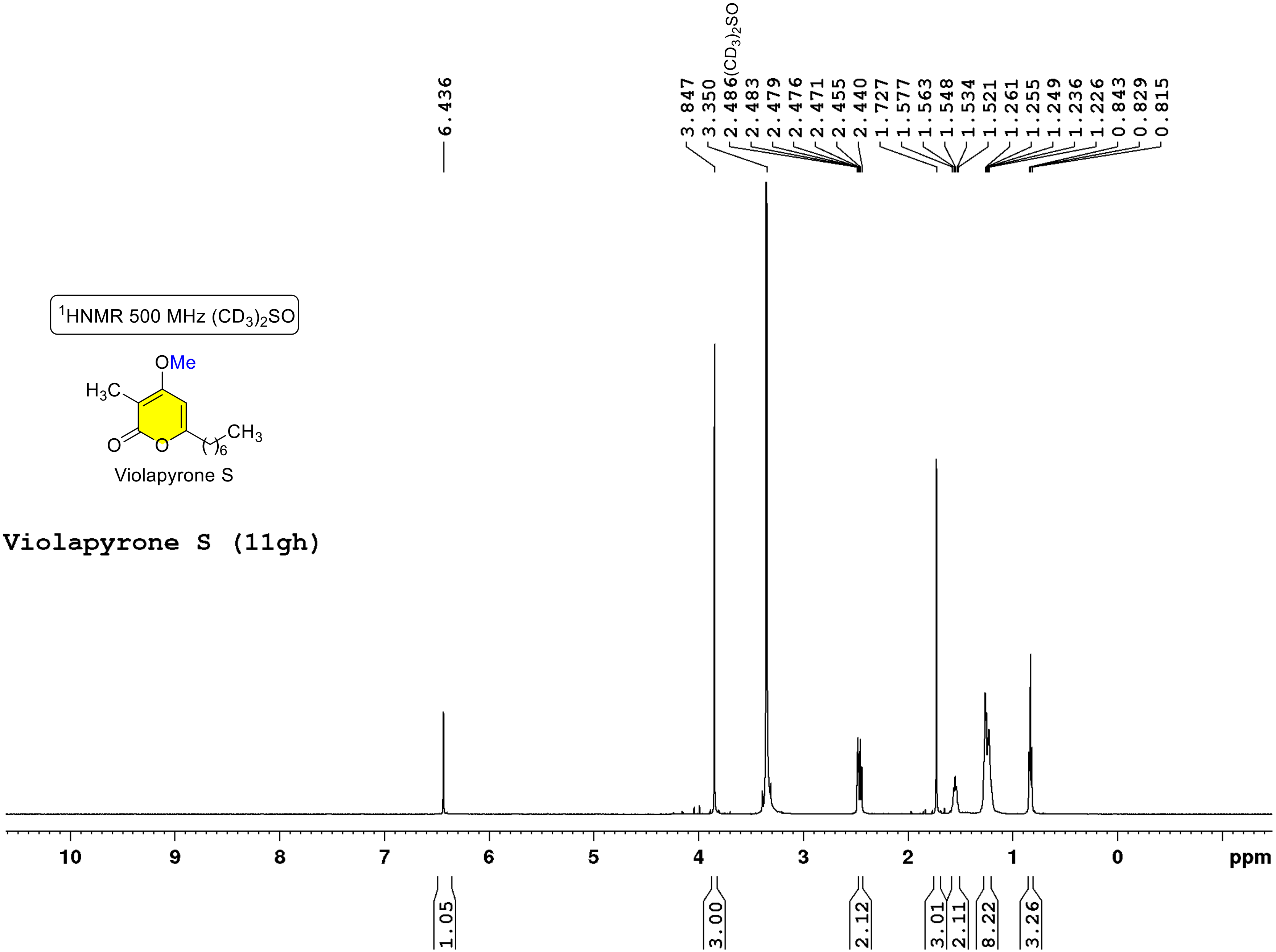


Violapyrone Q

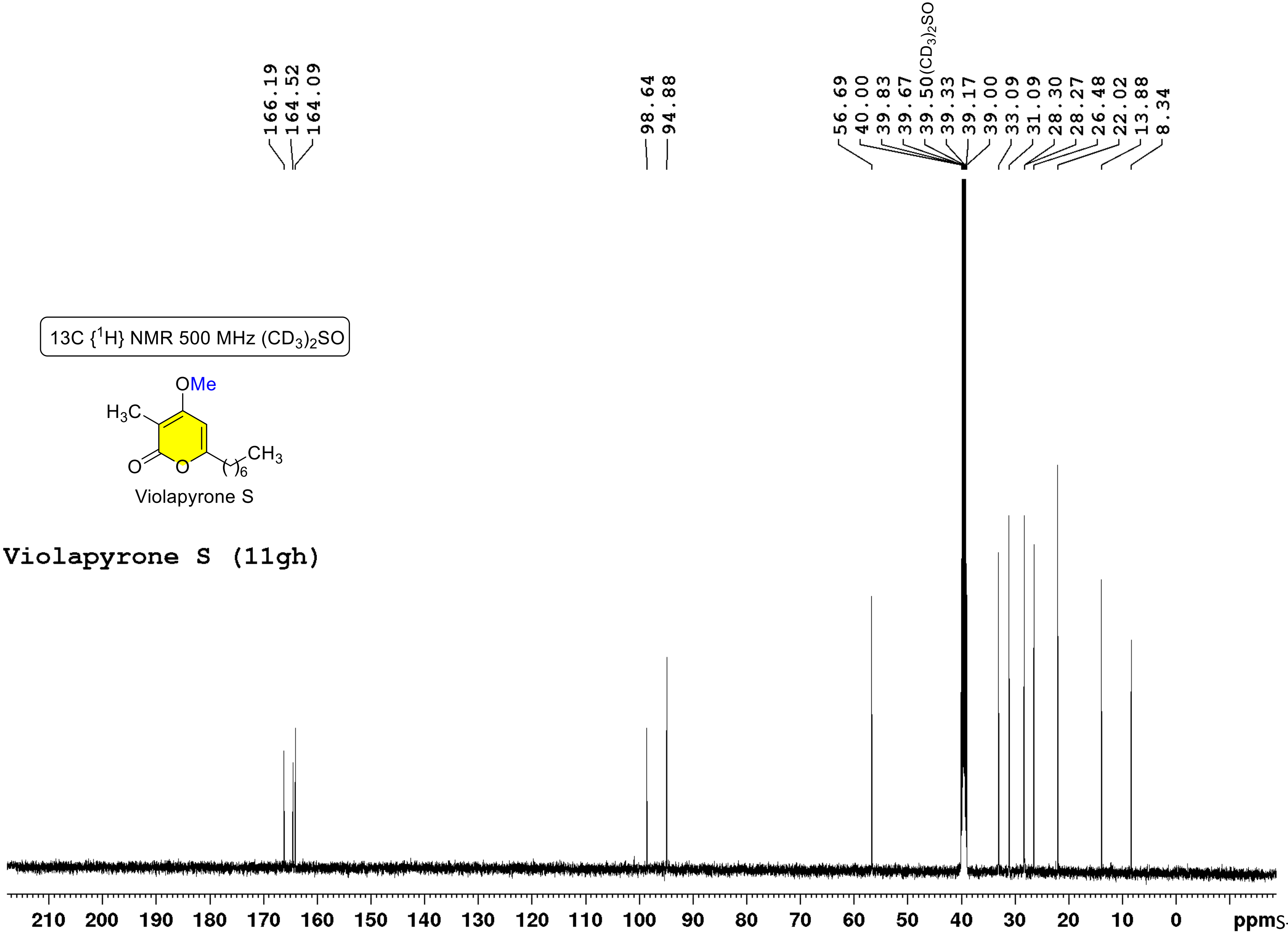
Violapyrone Q (11fh)



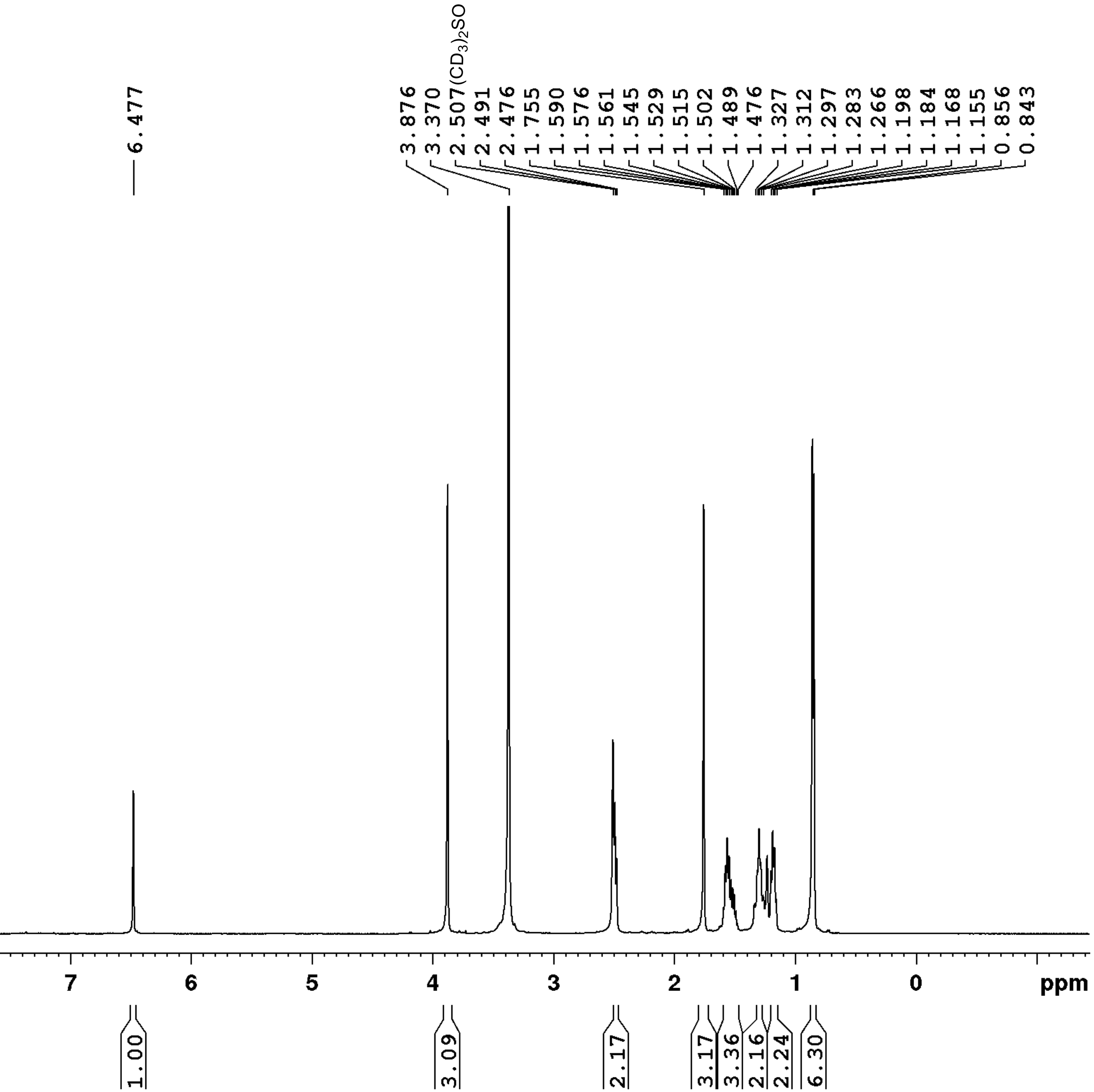

166.648
164.966
164.511
99.072
95.369
57.173
40.474
40.307
40.140
39.973(CD3)2SO
39.807
39.640
39.473
38.081
33.777
27.643
24.854
22.856
8.845
13C {1H} NMR 500 MHz (CD3)2SO
OMe
H3C
H3C
CH3
O
O
( )2
Violapyrone Q
Violapyrone Q (11fh)
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 ppm



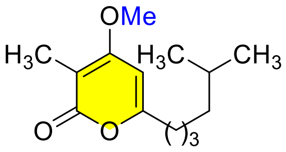
6.436
3.847
3.350
2.486(CD3)2SO
2.483
2.479
2.476
2.471
2.455
2.440
1.727
1.577
1.563
1.548
1.534
1.521
1.261
1.255
1.249
1.236
1.226
0.843
0.829
0.815
1HNMR 500 MHz (CD3)2SO
OMe
H3C
O
O
CH3
6
Violapyrone S
Violapyrone S (11gh)
10
9
8
7
6
5
4
3
2
1
0
ppm
1.05
3.00
2.12
3.01
2.11
8.22
3.26



Violapyrone S (11gh)

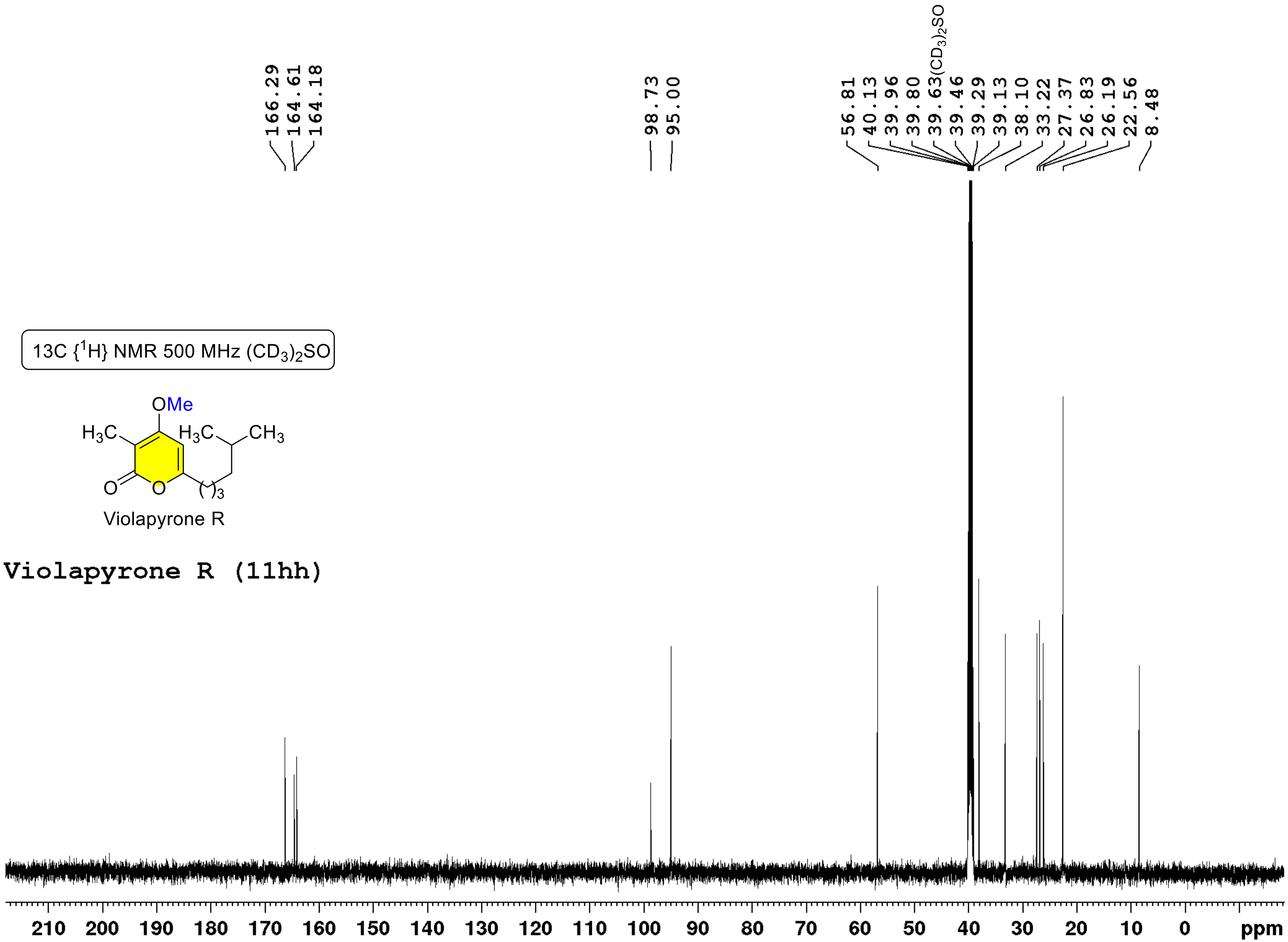


^{1}HNMR 500 MHz $(CD_3)_2SO$



Violapyrone R

Violapyrone R (11hh)



Violapyrone R (11hh)