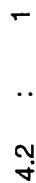


Total Synthesis of (-)-Salicylihalamide A

Barry B. Snider* and Fengbin Song

*Department of Chemistry MS015, Brandeis University, Waltham, MA
02454-9110*

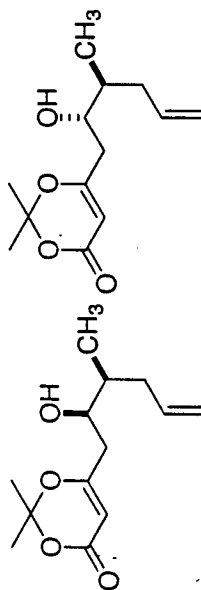
snider@brandeis.edu



13

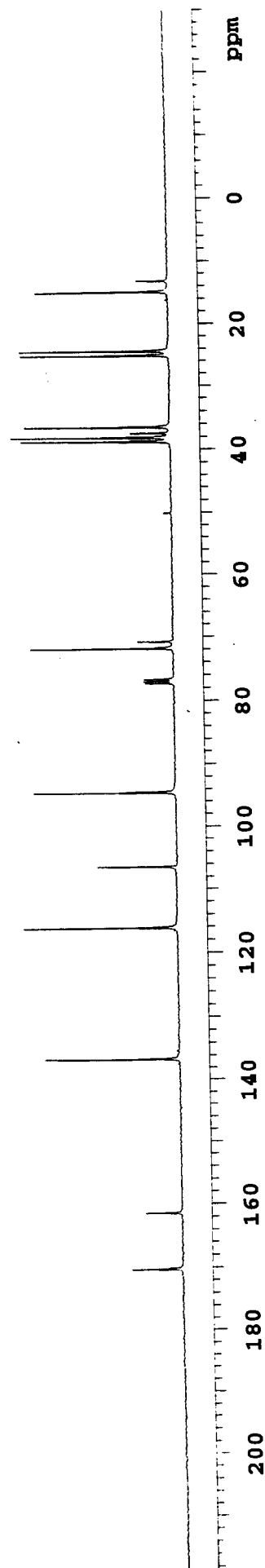


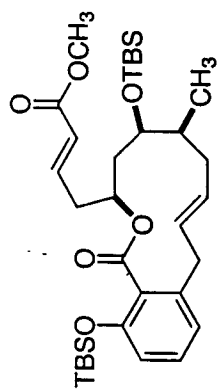
INDEX	FREQUENCY	PPM	HEIGHT
1	17119.754	170.315	8.2
2	16226.324	161.427	5.8
3	13731.437	136.607	21.7
4	11673.726	116.136	24.9
5	10696.370	106.412	12.9
6	9506.911	94.579	22.9
7	9495.467	94.465	7.4
8	7771.934	77.319	4.6
9	7739.890	77.000	4.8
10	7707.845	76.681	4.8
11	7223.364	71.861	23.1
12	7118.075	70.814	5.7
13	3897.609	38.775	8.8
14	3888.454	38.684	24.2
15	3837.335	38.176	8.0
16	3827.417	38.077	25.8
17	3763.328	37.439	6.4
18	3667.195	36.483	23.5
19	2522.750	25.097	24.2
20	2450.269	24.376	24.3
21	1500.380	14.926	21.6
22	1327.951	13.211	5.1



4.2 : 1

13

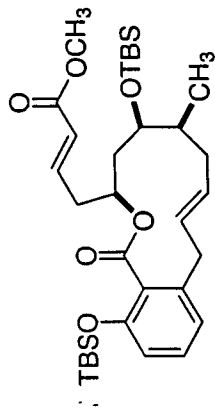




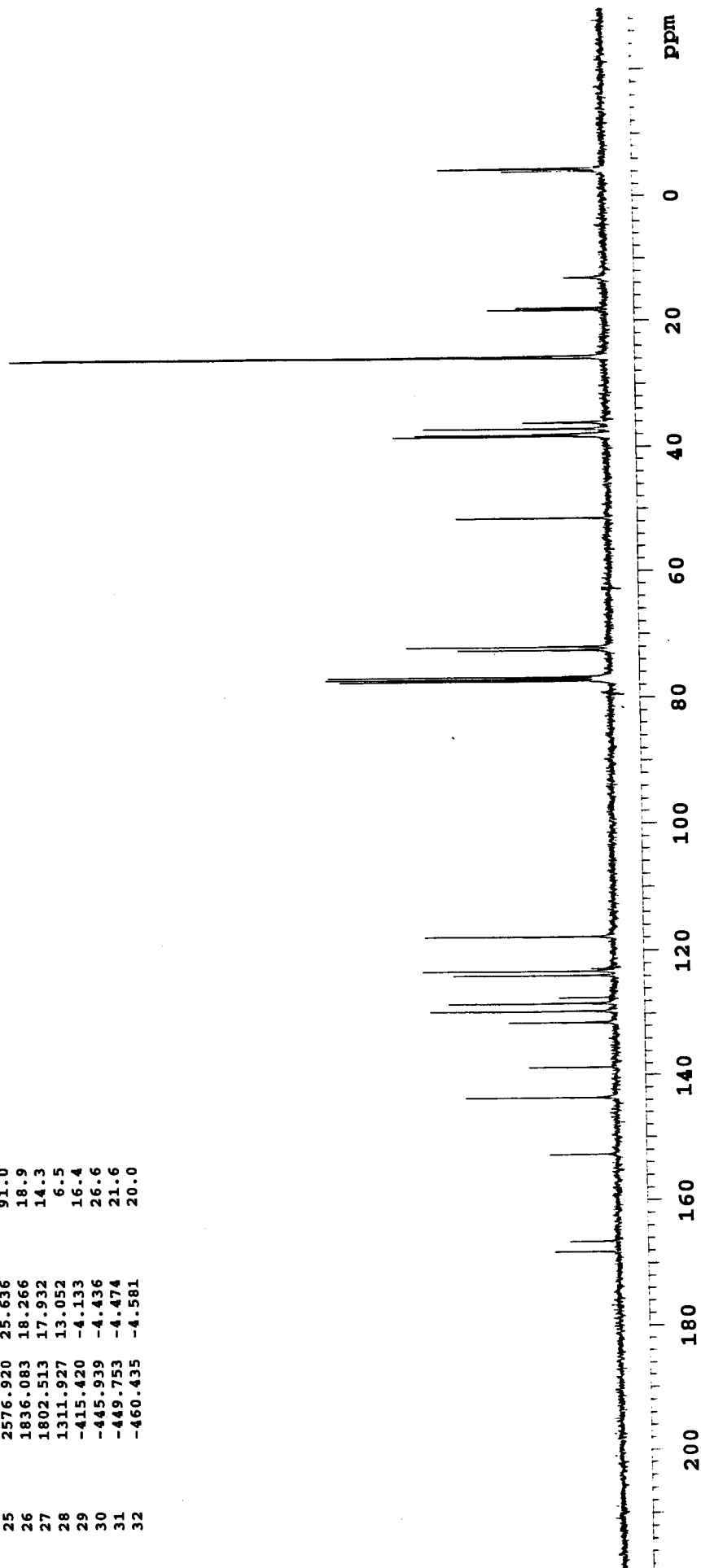
18



INDEX	FREQUENCY	PPM	HEIGHT
1	16899.256	168.122	10.2
2	16735.219	166.490	7.8
3	15346.627	152.675	10.9
4	14431.072	143.567	24.2
5	13942.775	138.709	14.0
6	13202.702	131.347	17.1
7	13020.354	129.533	29.8
8	12893.702	128.273	26.8
9	12802.146	127.362	9.0
10	12448.895	123.847	25.9
11	12380.228	123.164	30.9
12	11839.287	117.783	30.5
13	7771.170	77.311	43.7
14	7739.125	76.992	45.9
15	7707.081	76.674	45.5
16	7285.163	72.476	24.4
17	7230.229	71.930	32.7
18	5168.704	51.421	24.5
19	3847.253	38.274	34.5
20	3826.653	38.069	30.9
21	3812.156	37.925	12.0
22	3725.179	37.060	29.5
23	3629.045	36.103	13.4
24	2595.231	25.819	96.3
25	2576.920	25.636	91.0
26	1836.083	18.266	18.9
27	1802.513	17.932	14.3
28	1311.927	13.052	6.5
29	-415.420	-4.133	16.4
30	-445.939	-4.436	26.6
31	-449.753	-4.474	21.6
32	-460.435	-4.581	20.0

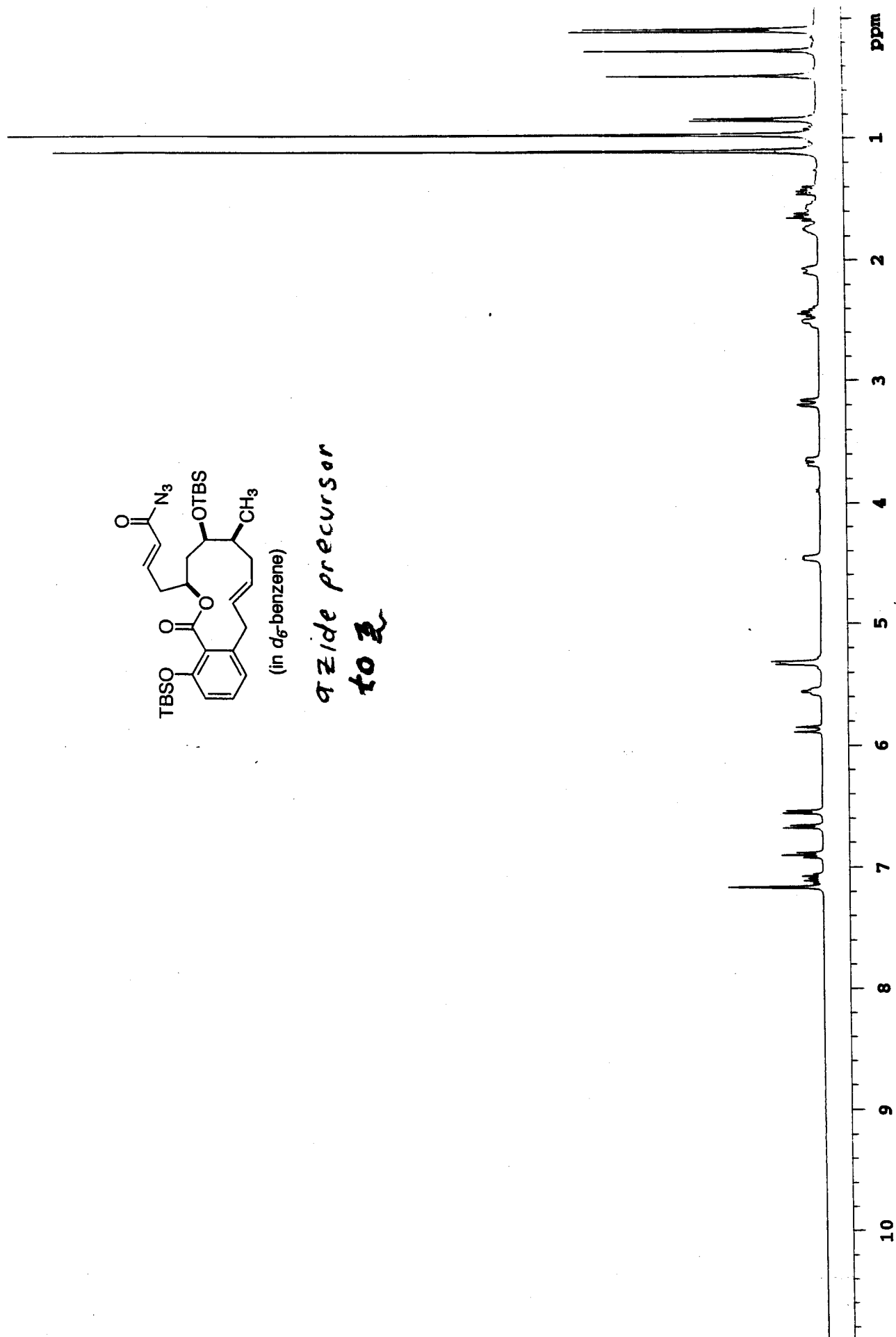


18

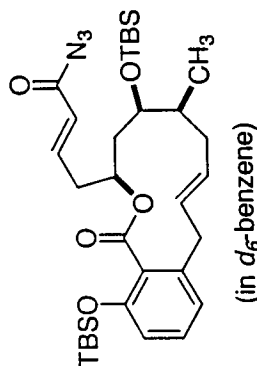




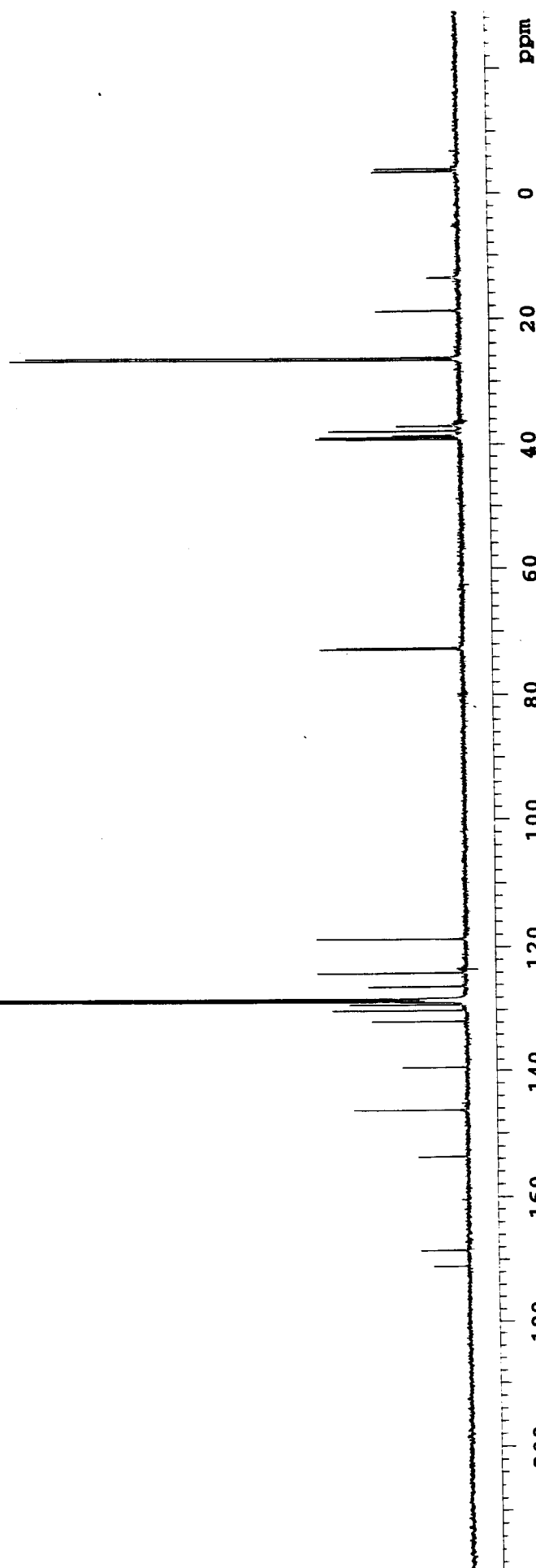
azide precursor
to 3



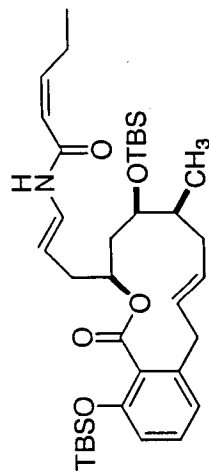
INDEX	FREQUENCY	PPM	HEIGHT
1	17191.826	171.032	5.7
2	16934.709	168.474	7.8
3	15442.353	153.628	8.0
4	14700.753	146.250	18.3
5	14013.324	139.411	10.5
6	13251.887	131.836	15.4
7	13074.116	130.067	21.7
8	12981.035	129.141	18.9
9	12944.413	128.777	10.6
10	12929.917	128.633	162.2
11	12905.502	128.390	171.7
12	12881.087	128.147	176.7
13	12687.295	126.219	15.8
14	12466.798	124.026	24.0
15	11930.436	118.690	24.1
16	7314.511	72.768	23.1
17	7290.859	72.533	20.3
18	3937.638	39.173	23.3
19	3904.831	38.847	22.7
20	3876.601	38.566	10.9
21	3802.594	37.830	21.2
22	3721.719	37.025	10.3
23	2669.594	26.558	72.8
24	2635.260	26.217	70.2
25	1892.898	18.831	13.5
26	1878.401	18.687	12.3
27	1361.113	13.541	5.2
28	-359.368	-3.575	13.9
29	-371.576	-3.697	13.2
30	-404.383	-4.023	13.4
31	-412.776	-4.106	13.1



azide precursor
103

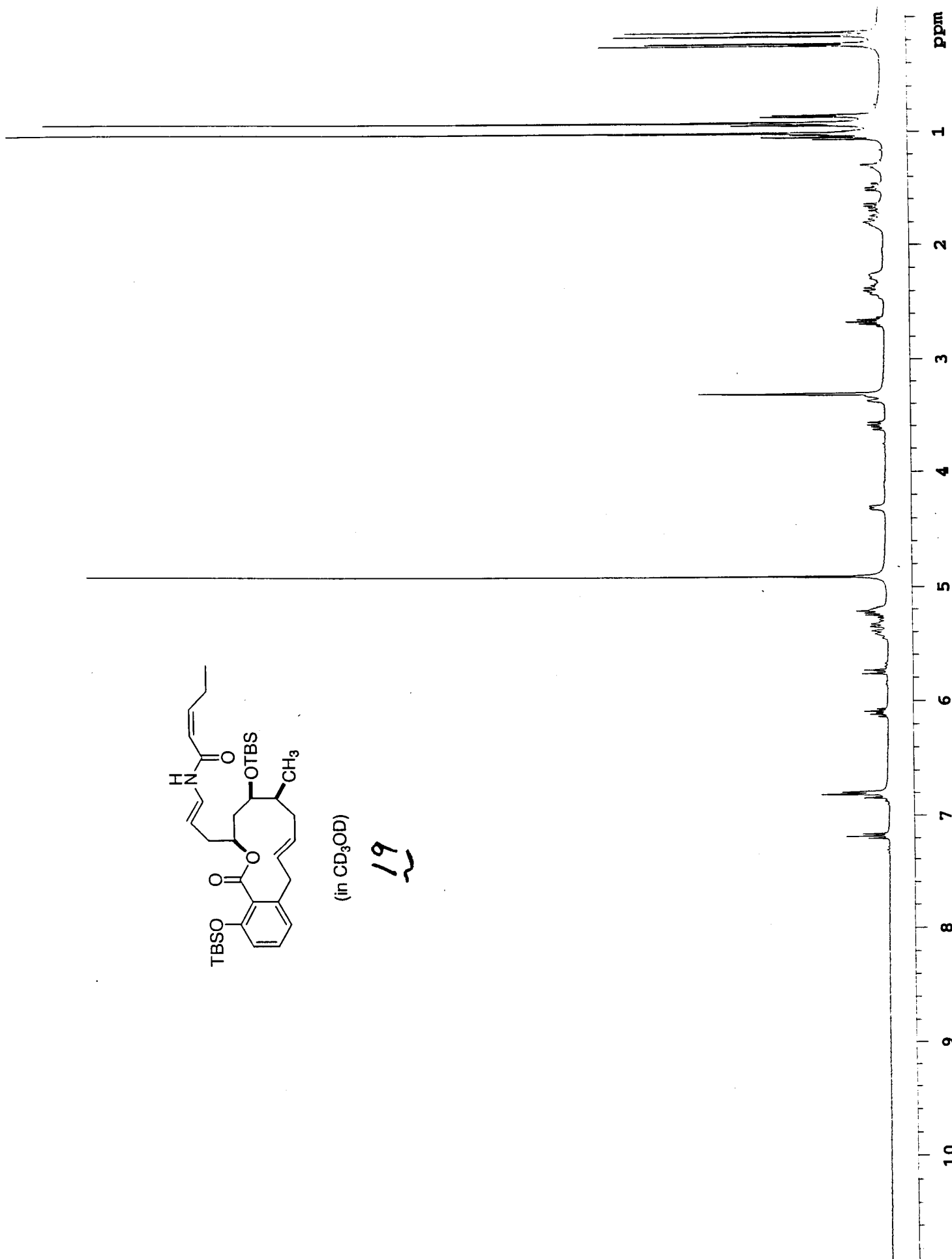


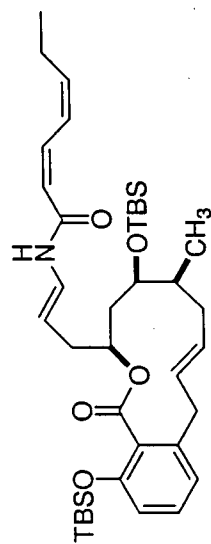




(in CD₃OD)

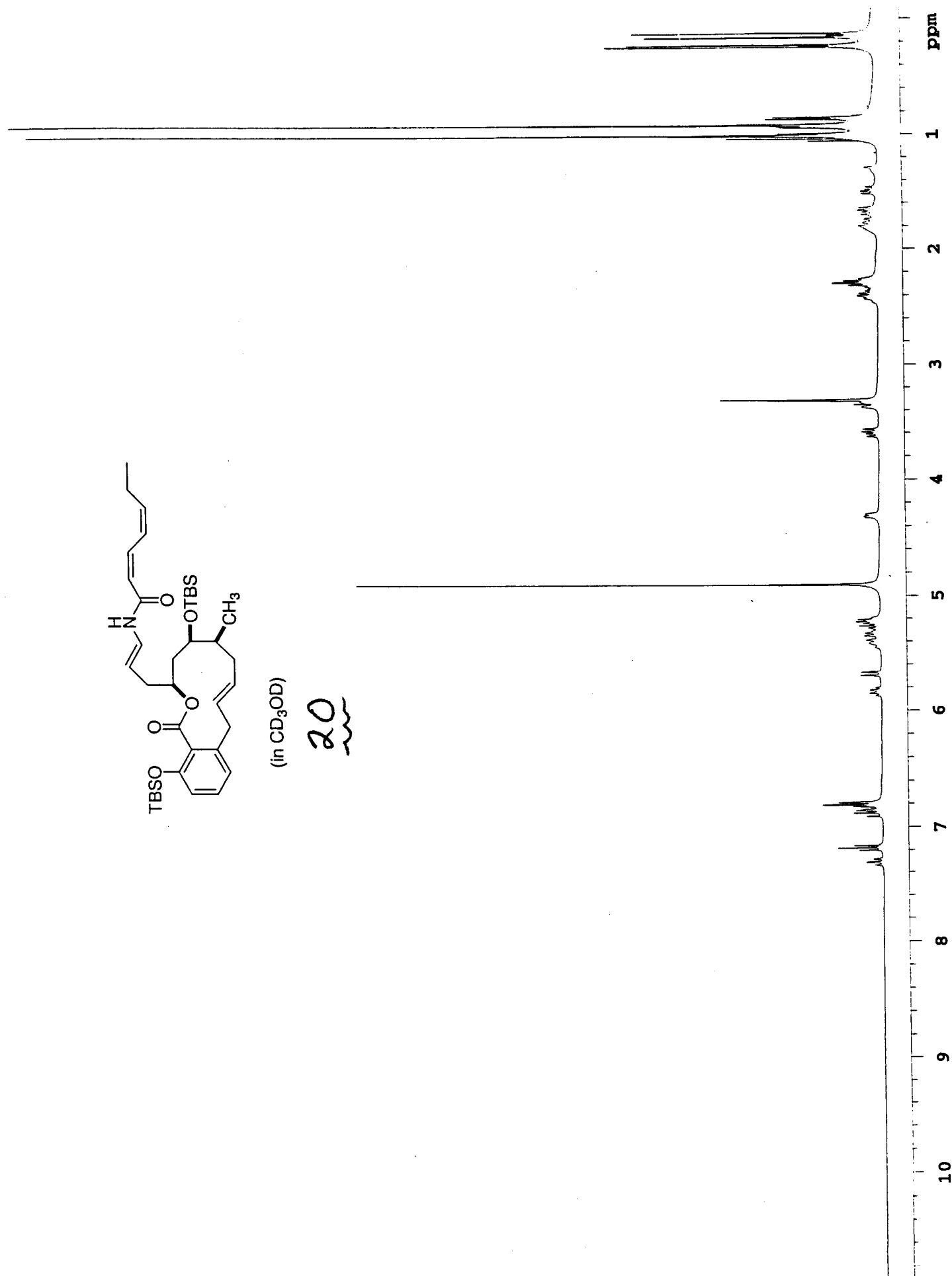
19





(in CD₃OD)

20



INDEX FREQUENCY PPM HEIGHT INDEX FREQUENCY PPM HEIGHT

1 17134.143 170.458 7.240

2 16683.232 165.972 6.9

3 15499.877 154.200 7.6

4 14351.618 142.776 14.5

5 14070.848 139.983 11.0

6 13861.796 137.903 14.6

7 13329.248 132.605 11.9

8 13160.634 130.928 17.1

9 13052.293 129.850 15.2

10 12985.152 129.182 7.2

11 12766.182 127.004 14.5

12 12614.353 125.493 16.9

13 12511.353 124.468 17.7

14 12108.508 120.461 15.1

15 11971.175 119.095 18.4

16 10980.849 109.242 15.0

17 7652.806 76.133 12.5

18 7388.058 73.500 16.8

19 5004.562 49.788 125.8

20 4983.199 49.575 379.9

21 4961.836 49.363 707.0

22 4940.473 49.150 807.4

23 4919.110 48.937 741.7

24 4897.747 48.725 381.9

25 4876.384 48.512 119.8

26 3931.836 39.116 23.0

27 3895.977 38.759 18.1

28 3776.192 37.567 17.5

29 3702.948 36.839 8.1

30 2677.525 26.637 71.0

31 2659.977 26.463 66.0

32 2177.785 21.666 16.4

33 1950.422 19.404 9.7

34 1916.852 19.070 11.6

35 1459.837 14.523 14.3

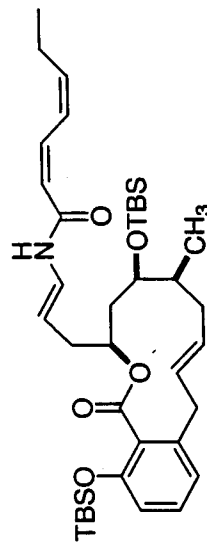
36 1363.704 13.567 5.8

37 -368.222 -3.663 15.3

38 -378.903 -3.769 17.4

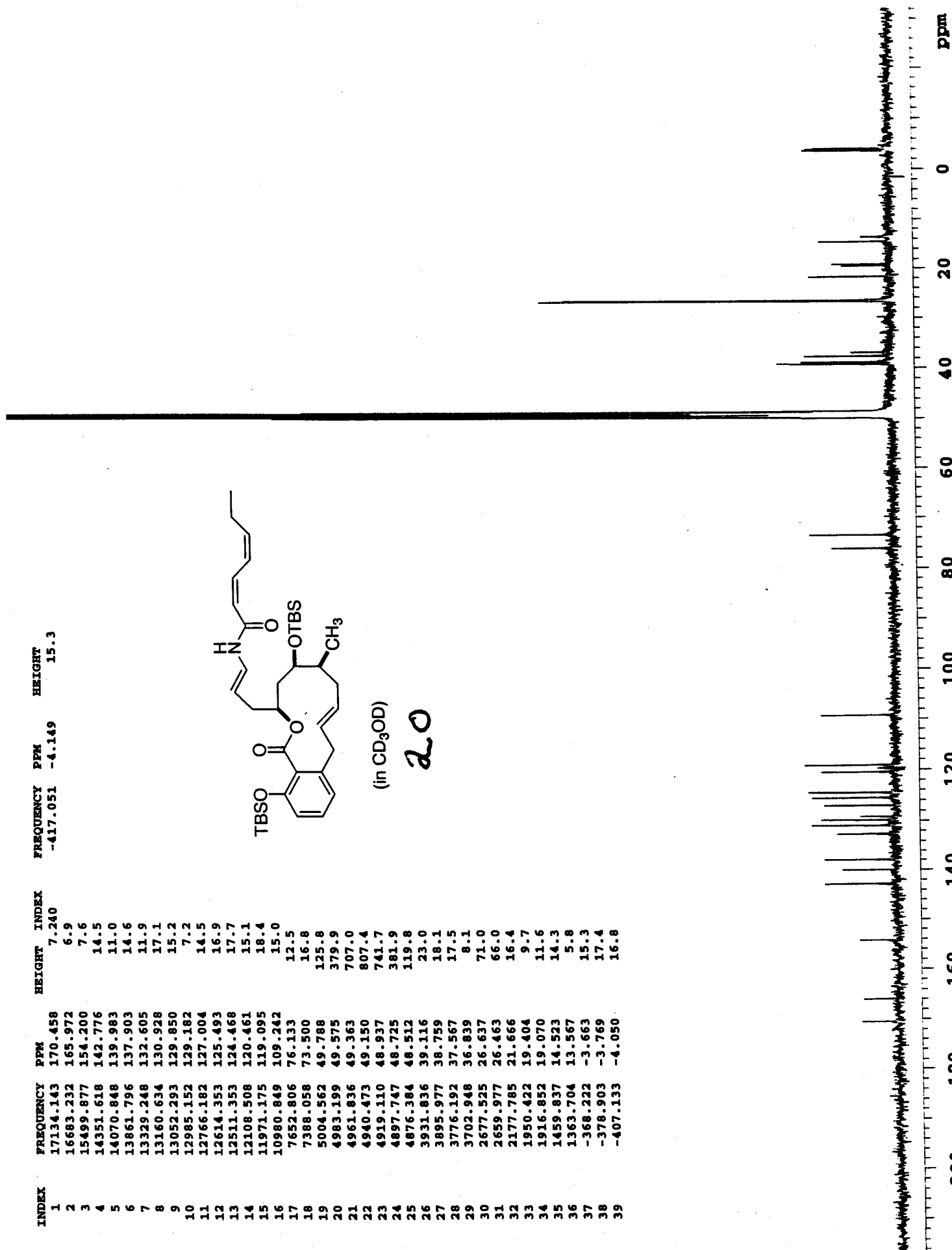
39 -407.133 -4.050 16.8

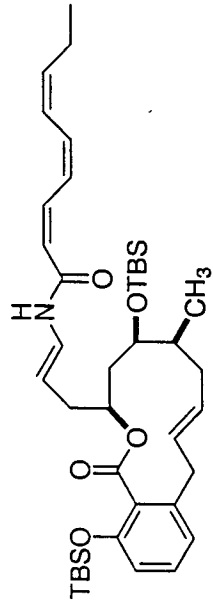
-417.051 -4.149 15.3



(in CD₃OD)

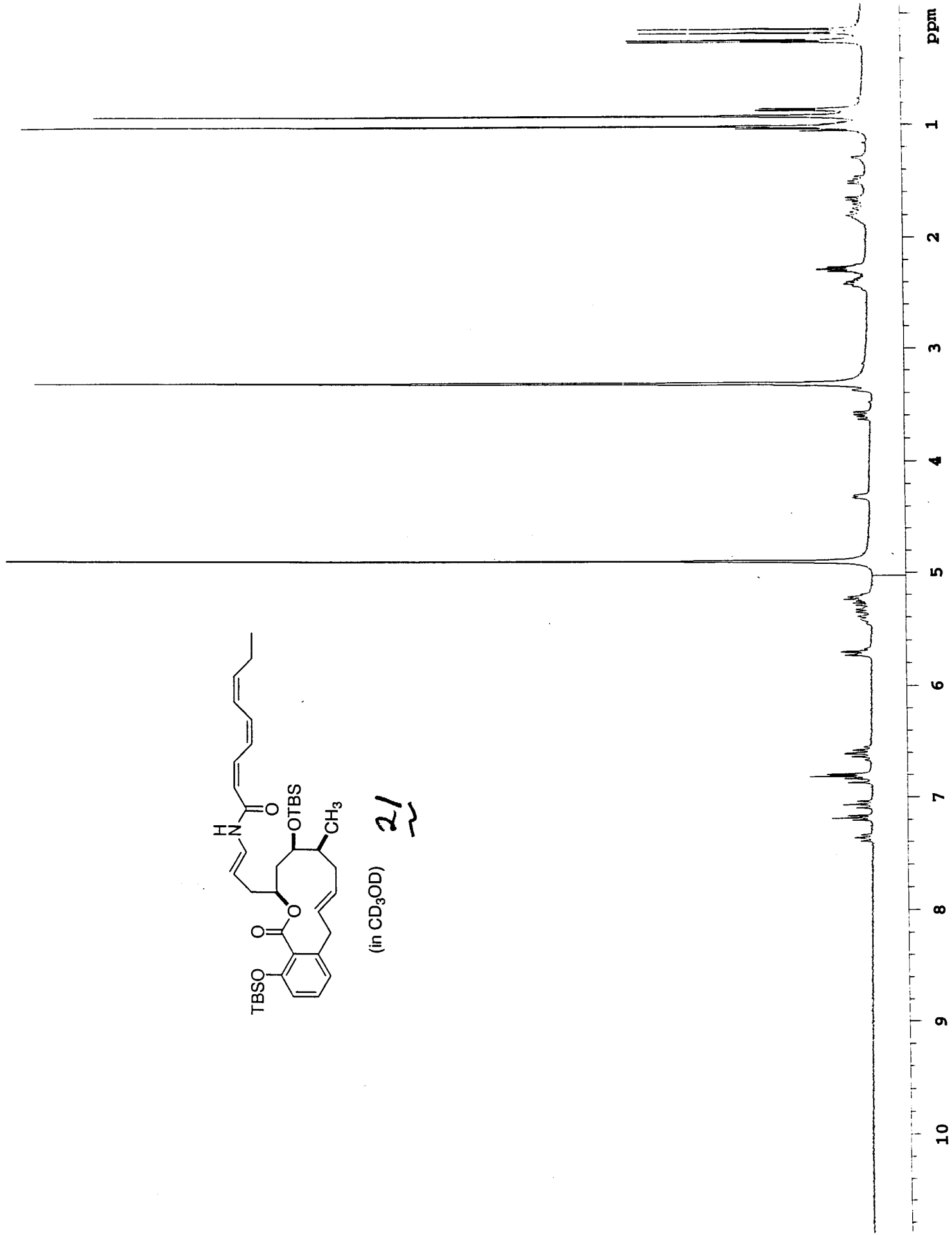
20

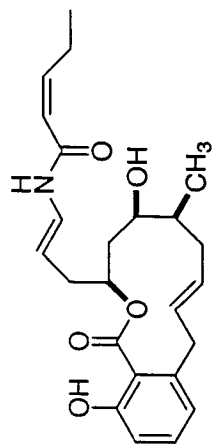




(in CD₃OD)

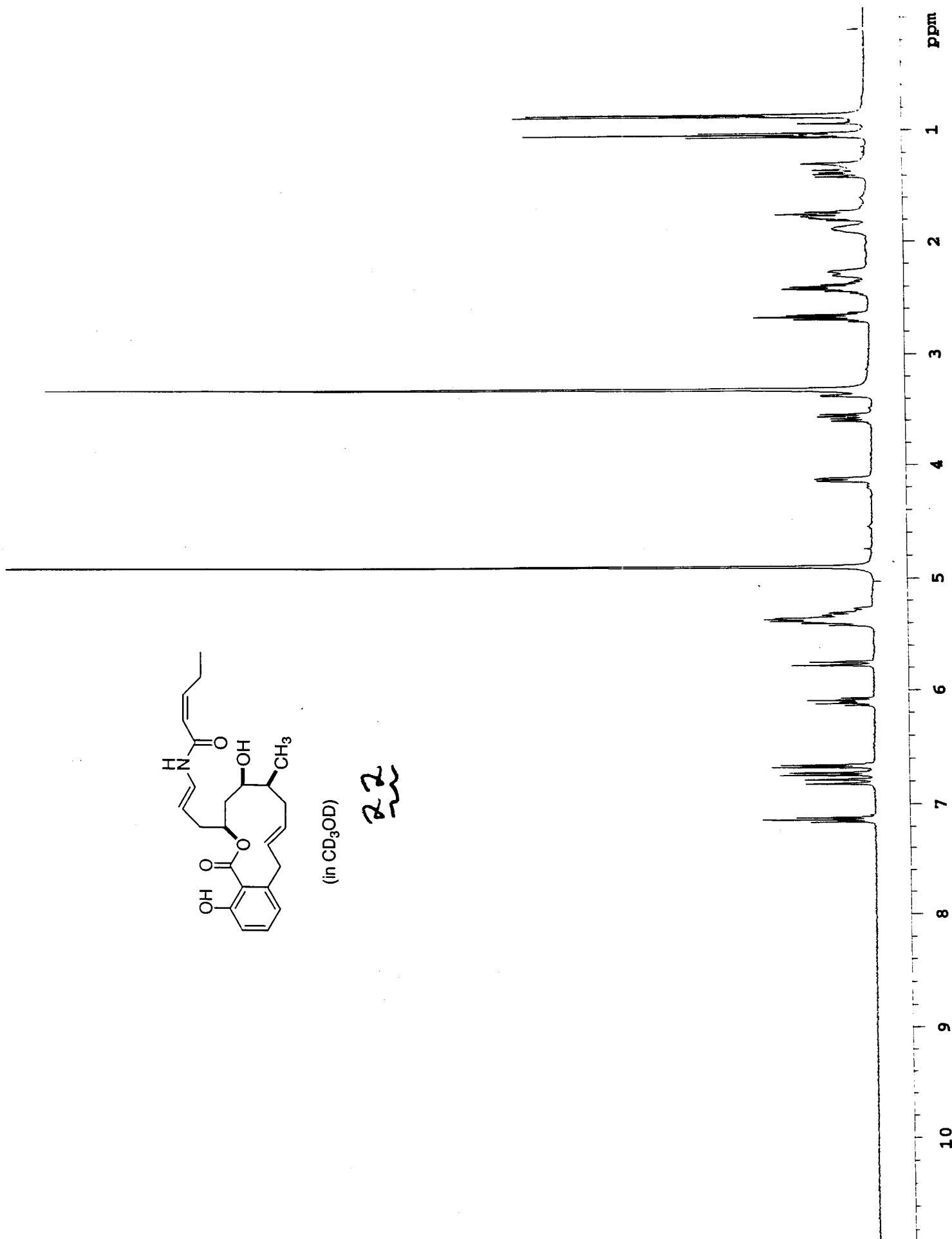
21



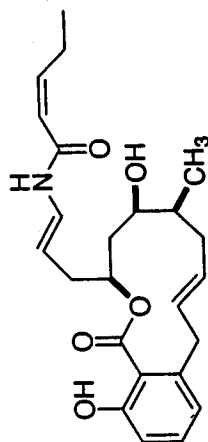


(in CD₃OD)

22

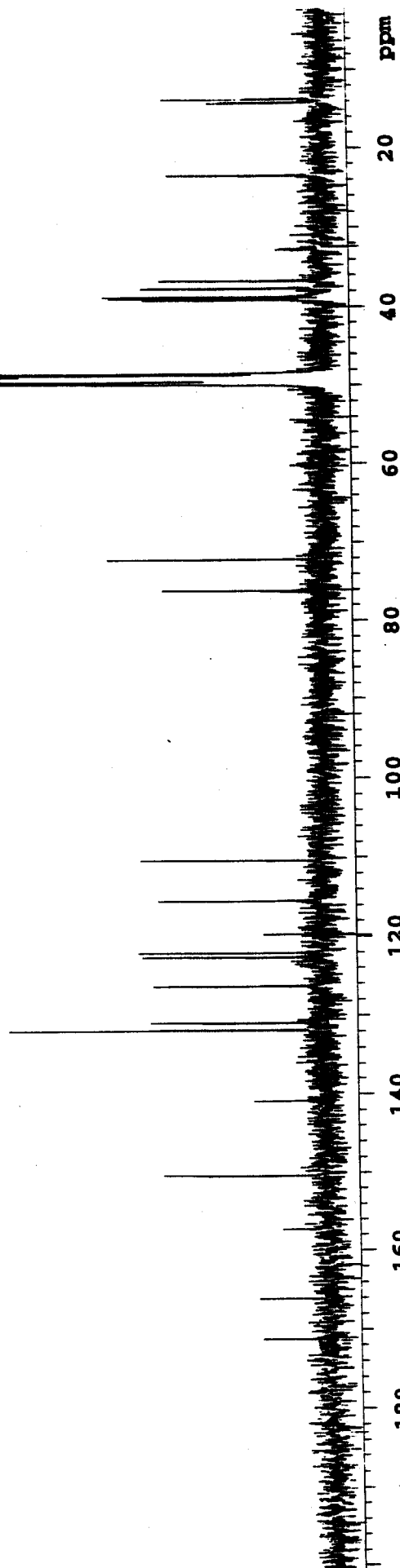


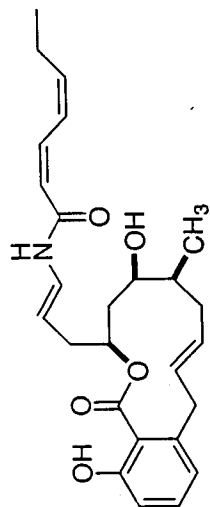
INDEX	FREQUENCY	PPM	HEIGHT
1	17208.914	171.202	11.0
2	16687.811	166.018	11.5
3	15810.403	157.289	7.6
4	15113.055	150.351	26.7
5	14155.537	140.826	12.0
6	13248.374	131.801	51.2
7	13157.582	130.897	28.5
8	12693.700	126.283	28.1
9	12324.427	122.609	29.7
10	12267.967	122.047	30.3
11	12036.789	119.747	7.4
12	12032.975	119.709	10.1
13	11604.189	115.444	27.0
14	11091.479	110.343	29.8
15	7654.332	76.149	25.9
16	7251.487	72.141	34.6
17	5004.562	49.788	369.2
18	4983.199	49.575	1038.2
19	4961.836	49.363	2029.7
20	4940.473	49.150	2477.6
21	4919.110	48.937	2219.0
22	4897.747	48.725	1039.7
23	4876.384	48.512	332.8
24	3929.547	39.093	28.6
25	3912.762	38.926	33.9
26	3891.399	38.713	34.9
27	3785.347	37.658	28.8
28	3688.451	36.694	25.8
29	2355.555	23.434	24.4
30	1423.215	14.159	17.7
31	1377.437	13.703	25.0



(in CD₃OD)

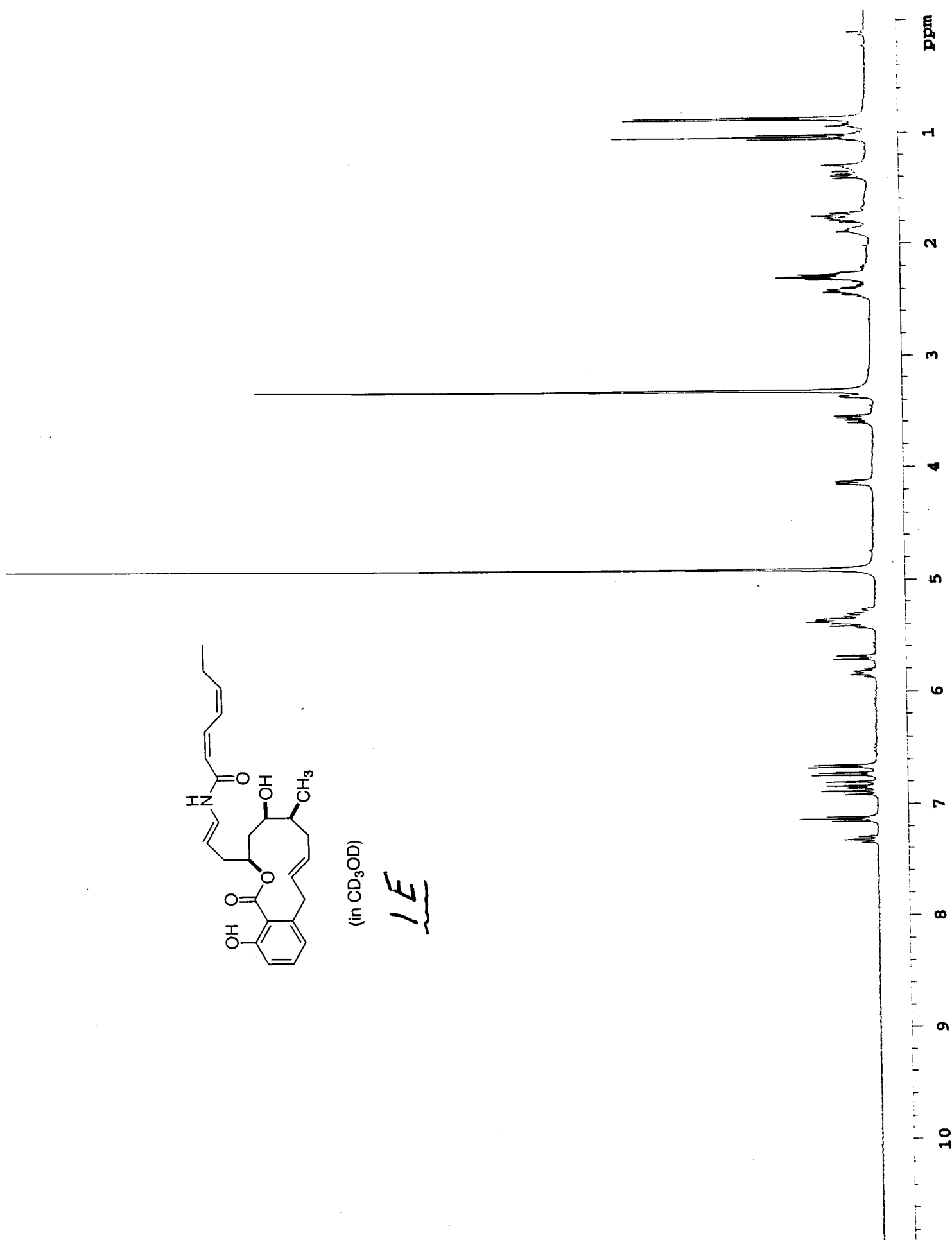
22



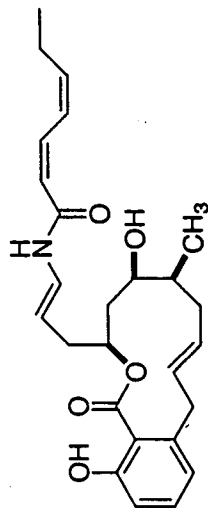


(in CD₃OD)

1E

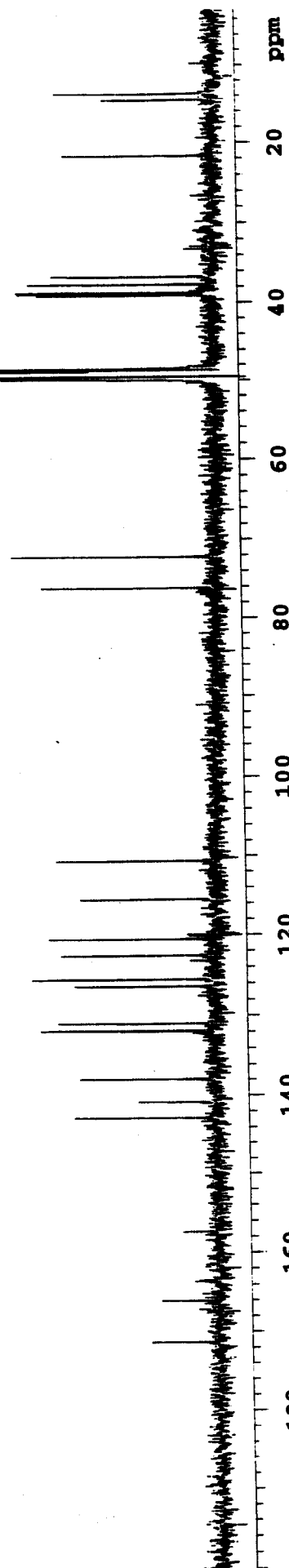


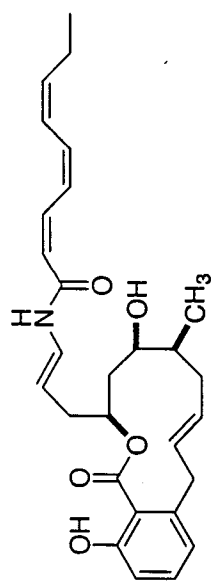
INDEX	FREQUENCY	PPM	HEIGHT
1	17211.203	171.225	11.4
2	16687.811	166.018	9.7
3	15815.744	157.342	6.1
4	14351.618	142.776	23.4
5	14152.485	140.795	13.0
6	13860.271	137.888	22.3
7	13249.900	131.816	26.5
8	13246.085	131.778	28.6
9	13156.818	130.890	25.7
10	12700.567	126.351	23.1
11	12614.353	125.493	29.9
12	12318.322	122.548	25.2
13	12112.322	120.499	27.1
14	11606.479	115.466	21.9
15	11115.130	110.578	25.8
16	7653.568	76.141	27.5
17	7252.250	72.149	32.3
18	5004.562	49.788	416.1
19	4983.199	49.575	1151.6
20	4977.095	49.514	-6.2
21	4961.836	49.363	2269.1
22	4940.473	49.150	2881.0
23	4919.110	48.937	2594.1
24	4897.747	48.725	1169.3
25	4876.384	48.512	366.3
26	3929.547	39.093	27.7
27	3911.999	38.918	30.8
28	3890.636	38.706	31.1
29	3789.925	37.704	29.1
30	3690.740	36.717	25.3
31	2177.022	21.658	23.2
32	1459.074	14.516	16.8
33	1377.437	13.703	24.5



(in CD₃OD)

1E





(in CD₃OD)

23 ~

