

53187x125m/sorenson/h1/dmso
STANDARD 1H OBSERVE

exp2 stdih

SAMPLE
date Aug 13 96

solvent dms

file /home/aut~

o/auto_13.08.96/10~

01

ACQUISITION

sfreq 400.084

tn 81

at 3.004

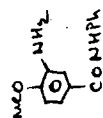
sw 8000.0

pw 4.2

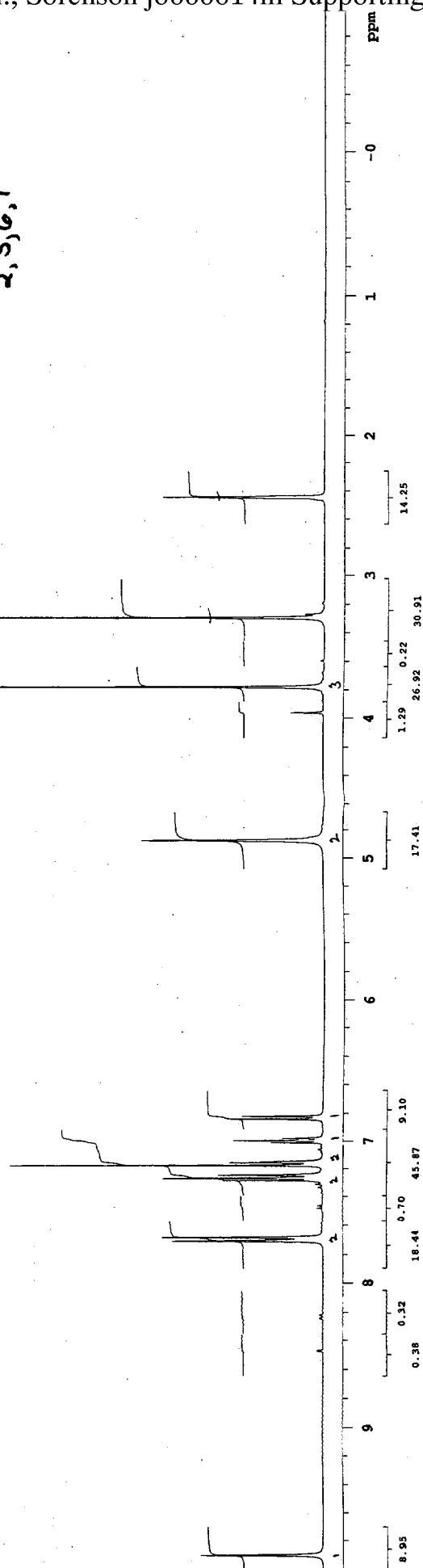
dl 1.000

nc 32

INDEX	FREQUENCY (PPM)	FREQUENCY (Hz)	HEIGHT
1	9.894	3958.405	30.8
2	7.703	3081.669	37.5
3	7.613	3073.856	47.5
4	7.289	2916.381	2.3
5	7.278	2911.986	25.1
6	7.260	2904.417	40.3
7	7.239	2896.116	26.4
8	7.171	2861.447	78.9
9	7.152	2859.250	23.6
10	7.147	2856.270	15.8
11	6.866	2798.945	13.2
12	6.894	2798.945	22.5
13	6.878	2791.621	10.3
14	6.143	2737.664	23.0
15	6.122	2729.363	20.4
16	4.475	1950.287	45.7
17	3.961	1584.553	8.3
18	3.777	1511.064	132.0
19	3.291	1316.722	23.5
20	3.267	1307.281	44.8
21	2.447	979.066	31.7
22	2.443	977.557	40.7
23	2.439	975.892	29.3



Substrate
Entries
2, 5, 6, 7



S41

Mod 733734/HI/dmsd

Barton, HI CNGRIVE

exp2 #2pul

SAMPLE

user roderick sore-

nson

date Feb 21 2000

solvent dmsd

spin not used

gain not used

temp not used

file /export/home/-

auto/2000221/3301

sample auto_21feb2-

000-1315122

plotter alchemy

ACQUISITION

seqfil #2pul

tn H1

sfreq 400.123

sw 8001.6

at 4.095

up 65536

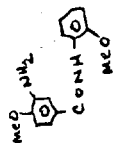
zb 4400

bs 8

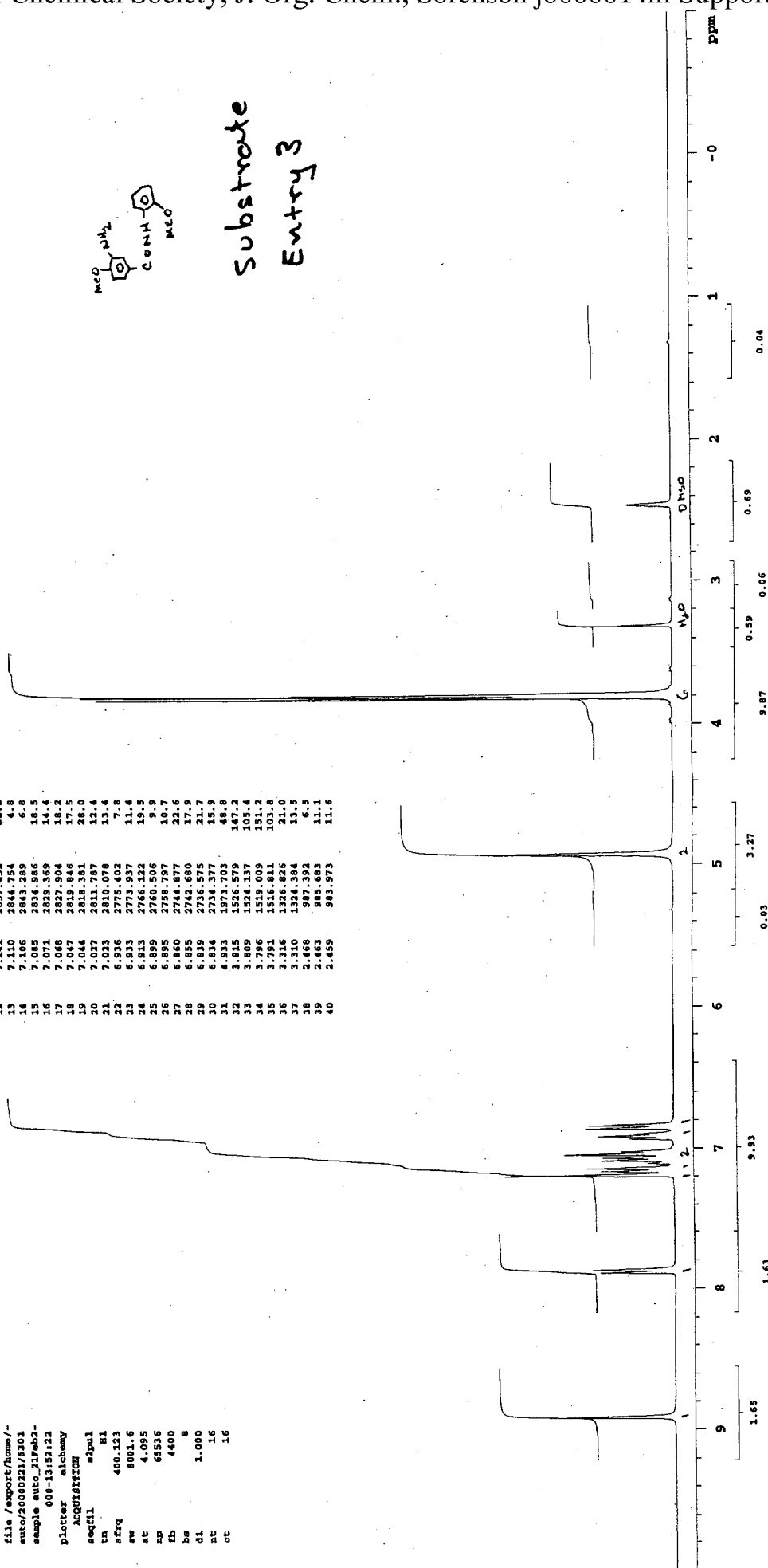
dl 1.000

st 16

ct 16

Substrate
Entry 3

INDEX	(PPM)	(HZ)	HEIGHT
1	7.834	3158.844	28.2
2	7.833	3158.059	12.0
3	7.889	3156.593	19.1
4	7.873	3150.244	15.8
5	7.869	3148.535	20.9
6	7.198	2879.918	22.0
7	7.192	2877.720	43.2
8	7.187	2875.523	25.4
9	7.168	2868.197	14.5
10	7.162	2865.755	18.8
11	7.148	2859.894	17.2
12	7.141	2857.452	22.2
13	7.110	2844.754	4.8
14	7.095	2841.385	6.0
15	7.082	2838.386	14.5
16	7.071	2835.359	14.4
17	7.068	2827.904	18.2
18	7.047	2819.846	17.5
19	7.044	2818.381	28.0
20	7.027	2811.787	12.4
21	7.023	2810.078	13.4
22	6.936	2775.402	7.8
23	6.933	2773.937	11.4
24	6.913	2766.122	19.5
25	6.899	2760.506	9.9
26	6.895	2758.797	10.7
27	6.860	2744.877	12.6
28	6.835	2742.860	21.6
29	6.835	2734.575	21.7
30	6.814	2734.377	15.9
31	4.933	1973.703	48.8
32	3.915	1526.579	147.2
33	3.809	1524.137	105.4
34	3.796	1519.009	151.2
35	3.791	1516.811	103.8
36	3.316	1326.826	21.0
37	3.310	1324.384	13.5
38	2.468	987.392	6.5
39	2.463	985.683	11.1
40	2.459	983.973	11.6



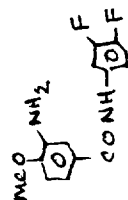
S42

10
4

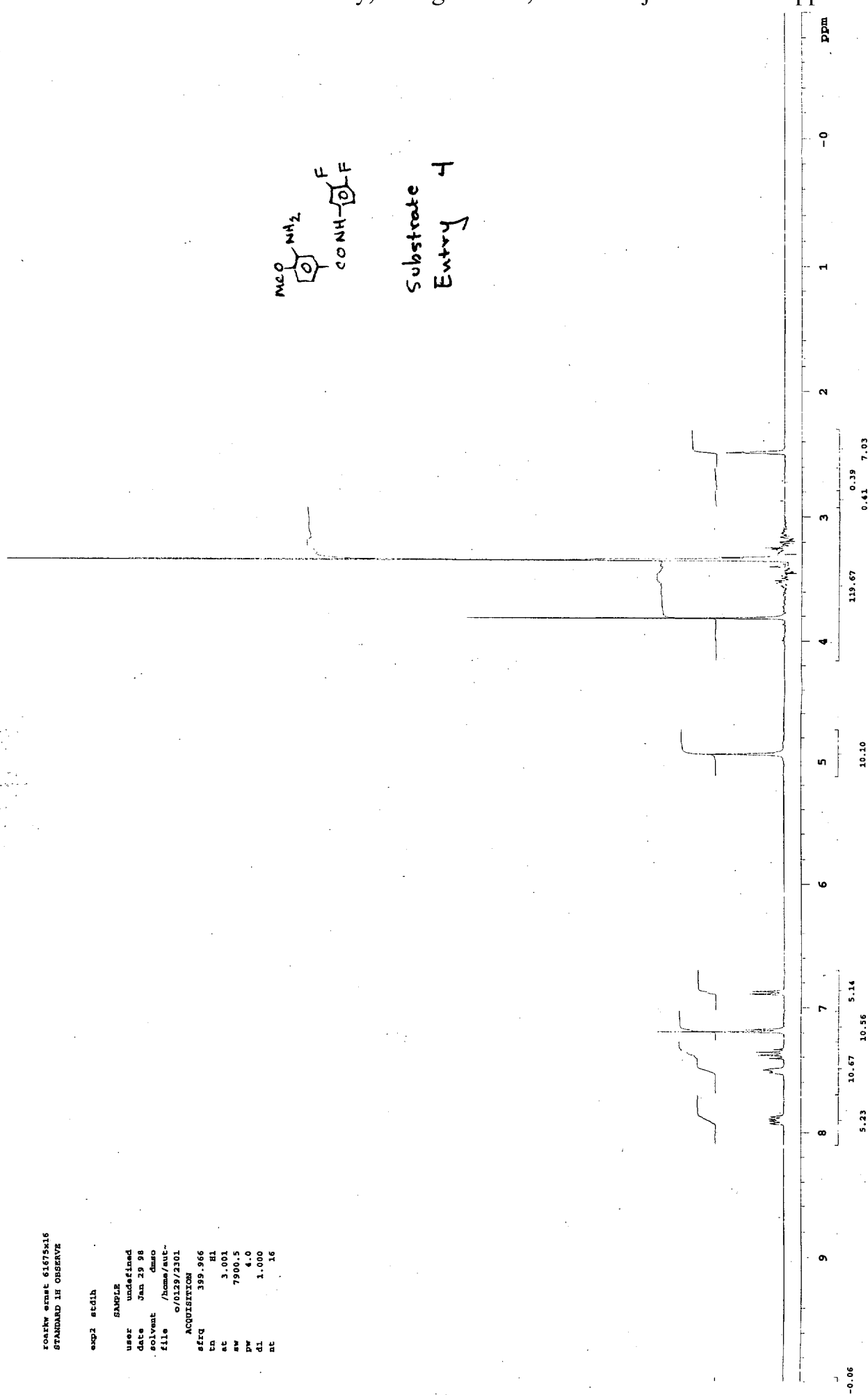
10175418
STANDARD IN OBSERVE

exp2 stdih

SAMPLE
user undefined
date Jan 29 98
solvent dmsd
file /home/aut-
o/0129/2301
ACQUISITION
sfrq 399.966
tn H1
at 3.001
sw 7900.5
pw 4.0
d1 1.000
nt 16



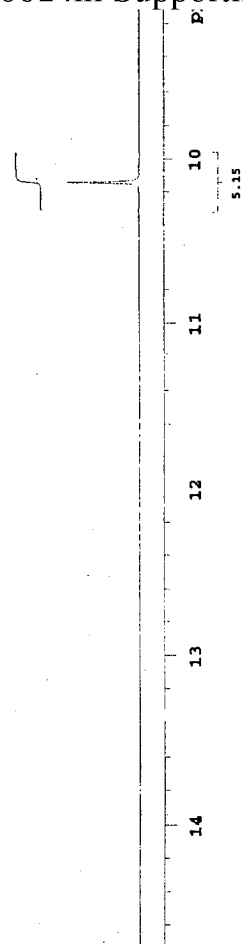
Substrate
Entry 4



S43

INDEX	(PPM)	(HZ)	HEIGHT
1	10.144	4057.216	14.7
2	7.532	3172.342	3.7
3	7.525	3169.931	4.3
4	7.513	3164.866	3.9
5	7.507	3162.081	4.2
6	7.499	3156.439	4.4
7	7.492	3153.366	3.8
8	7.479	3148.954	4.2
9	7.520	3007.664	4.3
10	7.516	3006.217	3.7
11	7.508	3002.842	4.1
12	7.497	2998.743	6.2
13	7.493	2997.055	5.0
14	7.409	2963.300	4.4
15	7.386	2954.137	7.6
16	7.383	2952.912	6.9
17	7.359	2943.329	8.1
18	7.337	2934.766	9.1
19	7.315	2927.706	37.2
20	7.295	2870.231	11.5
21	7.176	2868.302	8.6
22	6.892	2756.668	10.3
23	6.871	2747.988	9.7
24	4.938	1974.989	22.7
25	3.817	1526.766	93.3
26	3.500	1399.942	3.4
27	3.447	1378.724	-3.7
28	3.396	1358.471	4.6
29	3.394	1357.506	4.7
30	3.346	1328.052	73.5
31	3.346	1328.052	13.5
32	3.314	1325.439	4.6
33	3.296	1318.447	-3.8
34	3.256	1302.292	4.2
35	3.251	1300.122	3.5
36	3.245	1297.952	5.9
37	3.193	1276.976	-3.1
38	3.168	1267.090	-3.0
39	2.487	994.636	11.6
40	2.483	992.948	17.4
41	2.478	991.260	14.6
42			

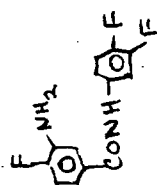
Substrate
Entry H



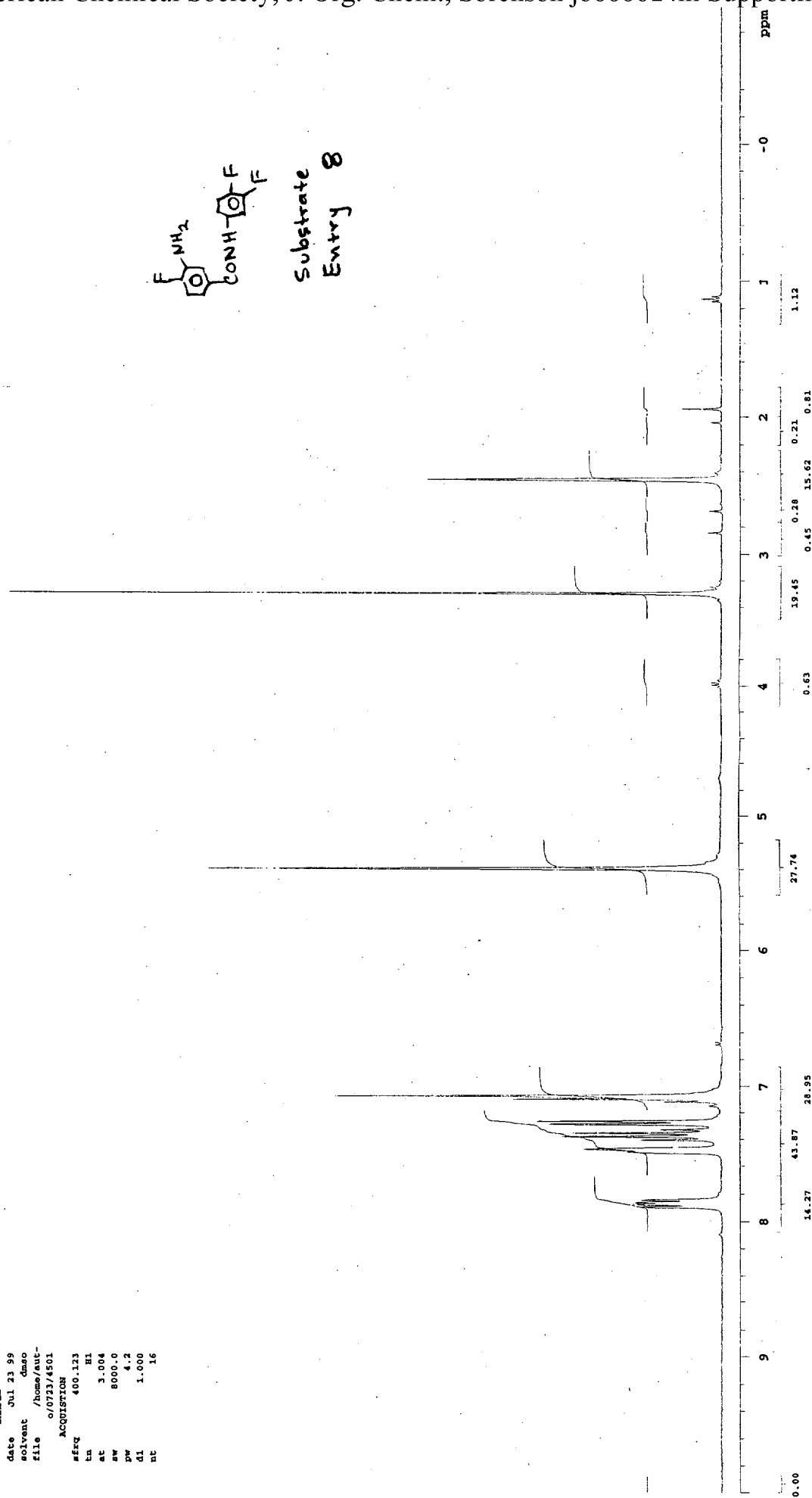
howard roark ernst 67333x13b
chem400 1H OBSERVE

exp2 std1h

SAMPLE
date Jul 23 99
solvent /home/dmso
file o/0723/4501
ACQUISITION
#freq 400.123
tn H1
at 3.004
sw 8000.0
pw 4.2
dl 1.000
nt 16



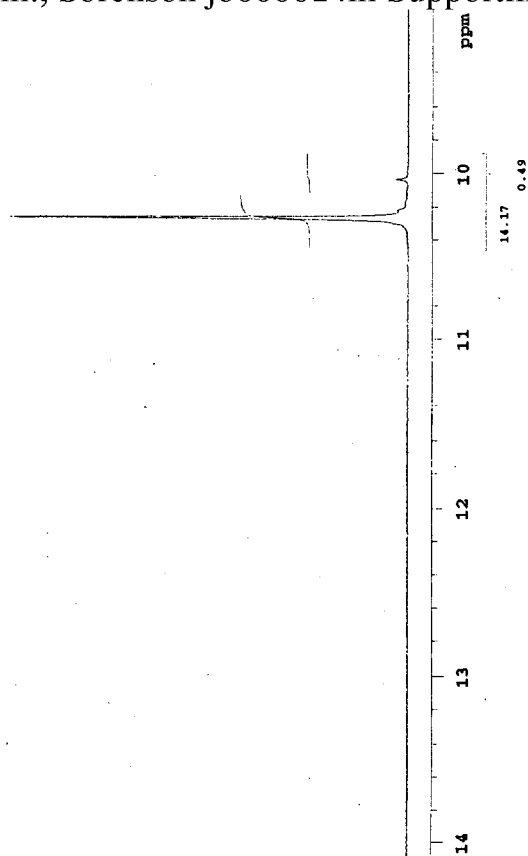
Substrate
Entry 8



545

INDEX	(PPM)	(HZ)	HEIGHT
1	10.266	4107.436	81.6
2	7.896	3159.321	20.4
3	7.891	3157.368	21.6
4	7.878	3151.996	22.6
5	7.872	3149.799	23.8
6	7.863	3146.137	24.4
7	7.857	3143.660	22.9
8	7.844	3138.568	21.7
9	7.839	3136.615	20.8
10	7.489	2996.718	25.5
11	7.468	2987.929	37.1
12	7.403	2962.049	21.7
13	7.379	2952.527	43.0
14	7.354	2942.517	40.0
15	7.331	2933.240	16.5
16	7.289	2916.638	46.5
17	7.269	2908.337	49.8
18	7.149	2860.484	31.5
19	7.137	2847.783	15.5
20	7.096	2828.863	56.3
21	7.070	2826.989	104.2
22	5.391	2157.093	138.7
23	3.301	1320.642	192.0
24	3.250	1300.377	3.4
25	2.845	1138.263	3.8
26	2.686	1074.540	3.4
27	2.459	983.717	79.2
28	2.041	816.476	2.9
29	1.944	777.901	10.6
30	1.128	451.475	5.6

Substrate
Entry 8



S416

Rod 5301x42A/H1/dmso
barton: H1 OBSERVE

exp2 s2pul

SAMPLE

user roderick sore~

date Mar 3 2000

solvent dmsd

spin not used

gain not used

temp not used

file /export/home/~

auto/20000303/1101

sample auto_03Mar2~

000-08:41:39

plotter alchemyl

ACQUISITION

seqf11 s2pul

tr H1

sw 400.123

at 8001.6

np 4.095

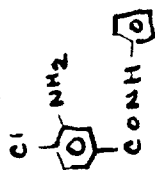
fb 65536

bs 4400

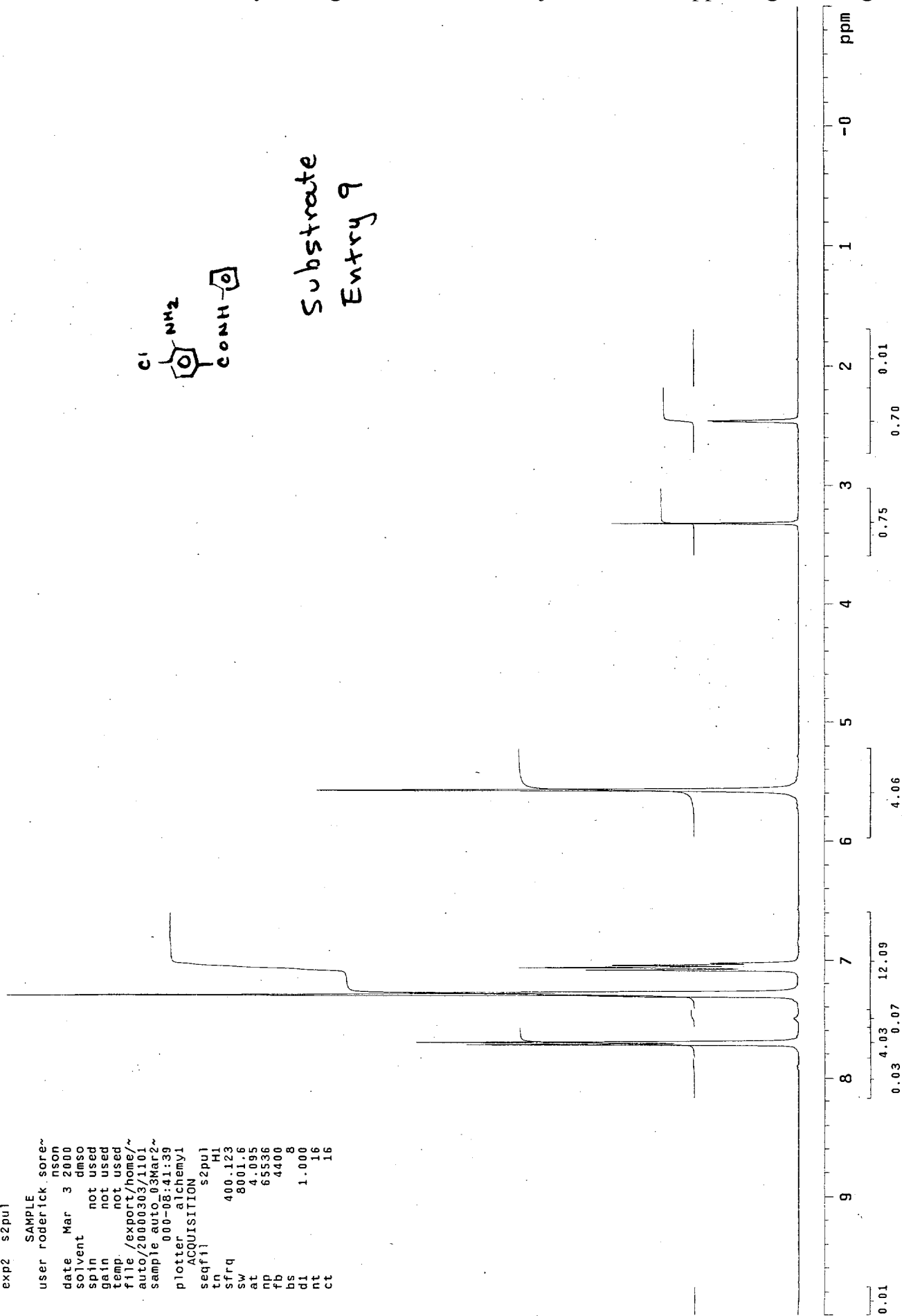
di 8

nt 1.000

ct 16



Substrate
Entry 9



S 47

548

Rod 5301x42A/H1/dmsd
barton: H1 OBSERVE

exp2 s2pul

SAMPLE
user roderick sore~
date Mar 3 2000
solvent dmsd
spin not used
gain not used
temp not used
file /export/home/~
auto/20000303/1101
sample auto_03Mar2~
plotter alchemyl
ACQUISITION
seqf11 s2pul
tn H1
sfrq 400.123
sw 8001.6
at 4.095
np 65336
fb 4400
bs 8
di 1.000
nt 16
ct 16

INDEX	(PPM)	(HZ)	HEIGHT
1	7.723	3090.172	63.5
2	7.703	3082.113	73.1
3	7.317	2927.781	33.5
4	7.313	2926.071	38.2
5	7.304	2922.653	100.9
6	7.300	2920.699	151.2
7	7.296	2919.478	134.5
8	7.284	2914.350	74.4
9	7.278	2912.152	75.7
10	7.089	2836.451	26.0
11	7.084	2834.498	40.7
12	7.063	2826.195	53.5
13	7.046	2819.113	35.7
14	7.044	2818.381	35.8
15	7.030	2813.008	12.2
16	7.027	2811.787	17.1
17	7.025	2810.810	16.9
18	5.577	2231.575	92.0
19	3.325	1330.489	35.7
20	3.321	1328.779	29.7
21	2.463	985.439	16.3
22	2.459	983.729	17.3

10.120

Substrate
Entry 9

16 15 14 13 12 11 10 ppm

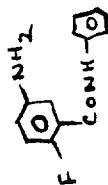
ROD 5301x28A/HI/dmsO
barton: HI OBSERVE

exp2 s2pul

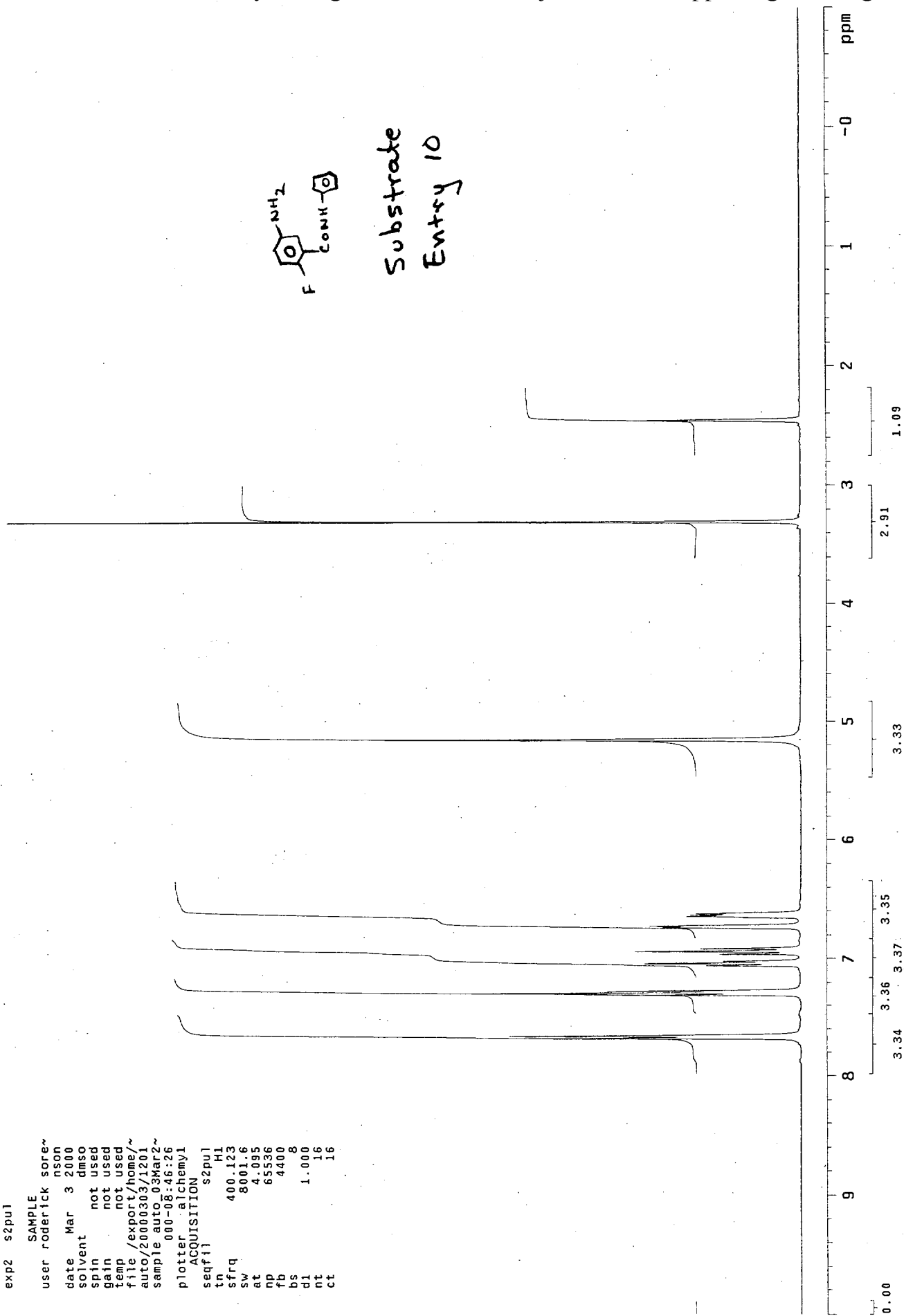
SAMPLE

```
user roderick sore~
nson
date Mar 3 2000
solvent dms0
spin not used
gain not used
temp not used
file /export/home/~
auto/20000303/1201
sample auto 03mar2~
000-08:46:26
```

plotter	alchemy	ACQUISITION
seqfil	s2pul	
tn	H1	
sfrq	400.123	
sw	8001.6	
at	4.095	
np	65536	
fb	4400	
bs	8	
d1	1.000	
nt	16	
ct	16	



Substrate
Entry 10

 $\frac{5}{2} \sqrt{}$

Rod 5301x28A/H1/dmso
barton: H1 OBSERVE

exp2 s2pu1

SAMPLE
user roderick sore~
date Mar 3 2000
solvent dmsd
spin not used
gain not used
temp not used
file /export/home/~
auto/20000303/1201
sample auto_03Mar2~
000-08:46:26
plotter alchemyl
ACQUISITION
seqf11 s2pu1
tn H1
sfrq 400.123
sw 8001.6
at 4.095
np 65936
fb 4400
bs 8
dl 1.000
nt 16
ct 16

INDEX	(PPM)	(HZ)	HEIGHT
1	7.682	3073.566	47.6
2	7.661	3065.508	55.8
3	7.313	2926.071	27.3
4	7.309	2924.362	29.6
5	7.291	2917.280	59.2
6	7.278	2912.152	19.5
7	7.273	2910.199	37.0
8	7.066	2827.172	16.9
9	7.063	2826.195	18.1
10	7.047	2819.846	29.7
11	7.045	2818.869	29.8
12	7.044	2818.381	29.7
13	7.032	2813.497	10.6
14	7.029	2812.520	14.8
15	7.026	2811.299	14.8
16	6.965	2786.879	15.5
17	6.961	2785.414	14.0
18	6.940	2776.867	31.6
19	6.918	2768.076	19.1
20	6.914	2766.611	16.5
21	6.748	2699.945	16.2
22	6.741	2697.259	26.4
23	6.734	2694.329	27.3
24	6.726	2691.398	28.8
25	6.661	2665.025	11.1
26	6.653	2662.095	15.9
27	6.650	2660.629	21.9
28	6.643	2657.943	18.4
29	6.639	2656.234	21.0
30	6.631	2653.303	17.2
31	6.628	2651.838	20.0
32	6.621	2649.152	15.3
33	5.157	2063.568	79.2
34	3.314	1326.093	151.2
35	3.309	1324.140	123.5
36	2.467	987.148	16.4
37	2.463	985.439	27.7
38	2.459	983.729	29.0

Substrate
Entry 10

10.195

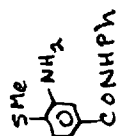
16 15 14 13 12 11 10 ppm

S50

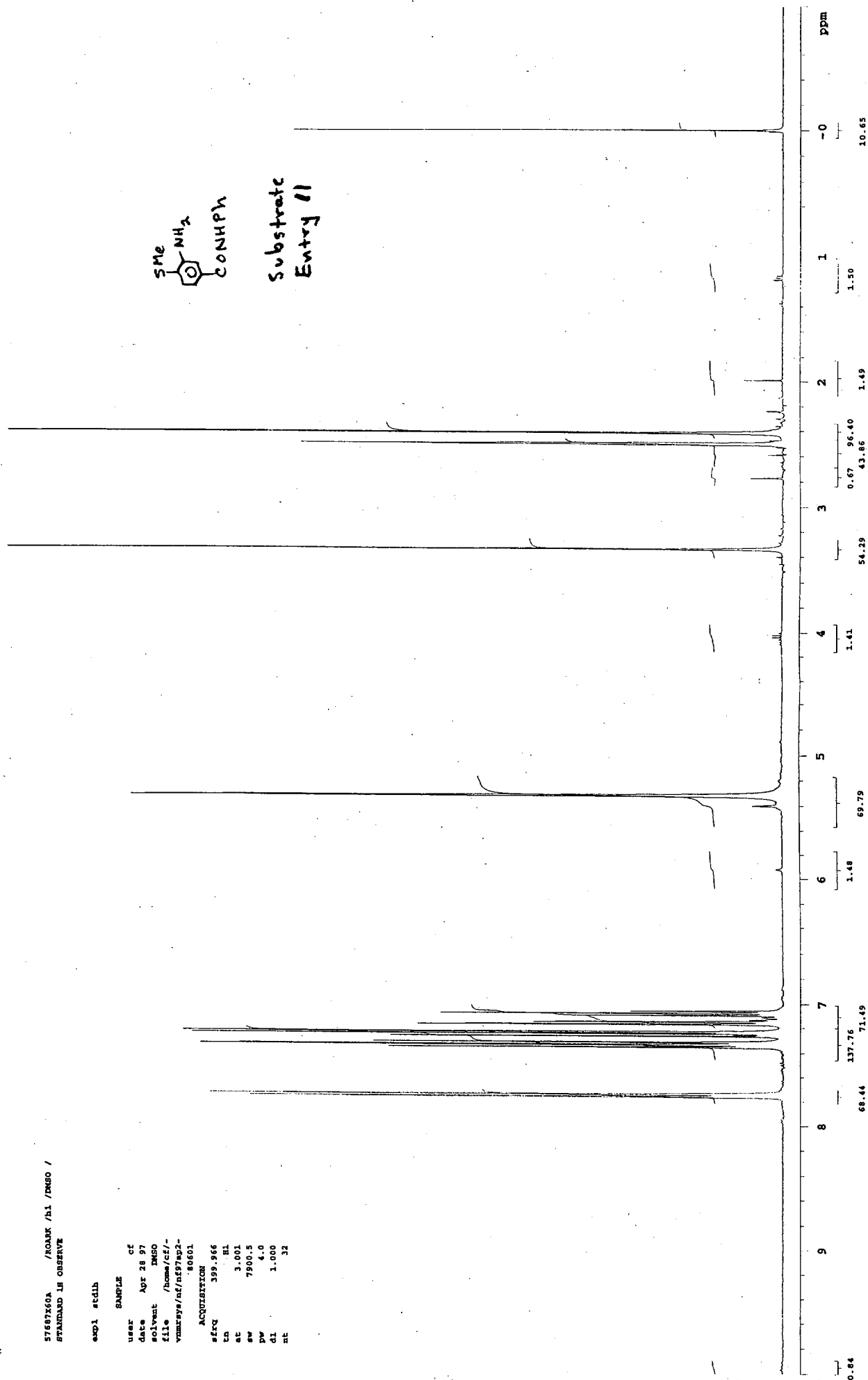
5769760A /ROARK /H1 /DMSO /
STANDARD 1H OBSERVE

exp1 std1h

SAMPLE
user cf
date Apr 28 97
solvent DMSO
file /home/cf/-
vnmrsw/nd/n597sp2-
80801
ACQUISITION
#frq 399.966
tn H1
at 3.001
sw 7900.5
pw 4.0
dl 1.000
nt 32



Substrate
Entry 11



5769760A

Substrate
Entry 11

INDEX	FREQUENCY (PPM)	FREQUENCY (Hz)	HEIGHT
1	10.081	4032.084	121.0
2	7.764	3105.498	123.7
3	7.762	3104.534	156.9
4	7.743	3097.059	168.4
5	7.741	3096.095	146.8
6	7.349	2939.372	115.8
7	7.347	2938.408	144.4
8	7.330	2931.899	171.3
9	7.313	2925.148	47.6
10	7.309	2923.460	120.2
11	7.264	2905.377	115.2
12	7.254	2901.278	8.5
13	7.244	2897.179	173.6
14	7.232	2892.598	157.8
15	7.227	2890.669	176.2
16	7.170	2867.763	107.4
17	7.165	2865.835	93.4
18	7.150	2859.807	73.3
19	7.145	2857.879	168.5
20	7.131	2852.322	10.0
21	7.129	2851.368	9.1
22	7.116	2846.063	4.9
23	7.112	2844.376	5.9
24	7.108	2842.929	6.4
25	7.095	2837.625	38.2
26	7.092	2836.660	58.2
27	7.089	2835.455	35.1
28	7.074	2829.186	100.6
29	7.058	2822.917	31.2
30	7.055	2821.711	44.9
31	7.052	2820.747	25.3
32	5.424	2159.884	8.7
33	5.400	2159.884	8.7
34	5.314	2135.385	192.1
35	4.037	1614.714	2.9
36	4.019	1607.481	2.9
37	3.341	1336.232	649.0
38	2.771	1108.383	9.5
39	2.589	1035.327	4.5
40	2.511	1004.465	48.6
41	2.507	1002.536	103.3
42	2.502	1000.848	141.9
43	2.498	999.160	48.5
44	2.474	989.516	4.0
45	2.474	989.516	4.0
46	2.415	965.887	1054.8
47	2.386	954.314	3.7
48	2.359	943.705	2.1
49	2.299	919.594	2.2
50	2.238	895.001	5.0
51	1.990	795.904	11.4
52	1.192	476.675	3.2
53	1.174	469.682	6.1
54	1.156	462.449	3.3
55	0.008	3.376	4.2
56	0.008	3.376	144.2
57	-0.008	-3.376	6.0

ppm

10 11 12 13 14

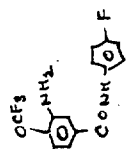
36.37

557

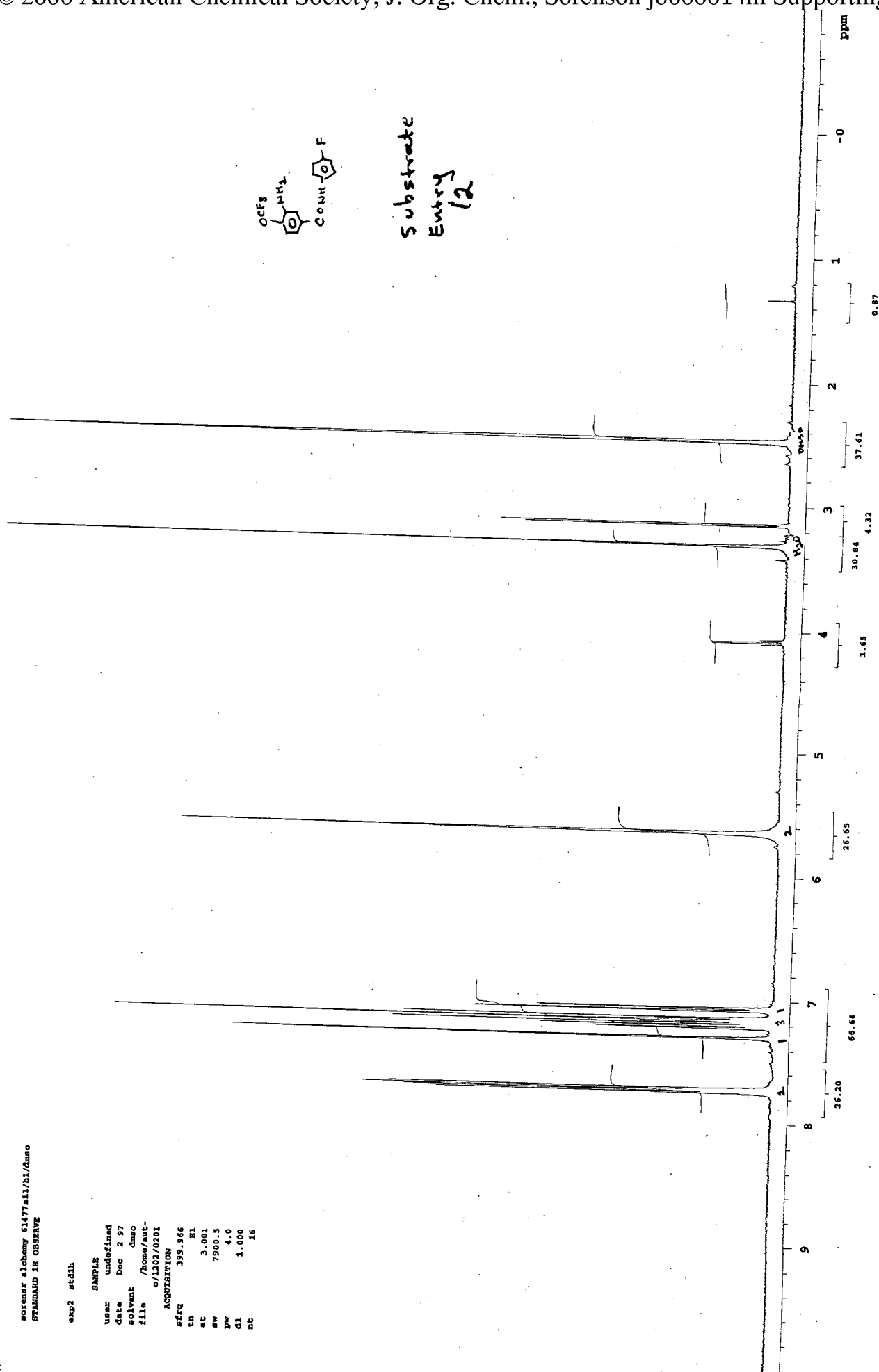
exp2 stdlh

exp2 stdlh

SAMPLE
user undefined
date Dec 2 97
solvent dmsc
file o/1202/0201
ACQUISITION
sfreq 399.966
ch H1
at 3.001
sw 7900.5
pw 4.0
d1 1.000
nt 16



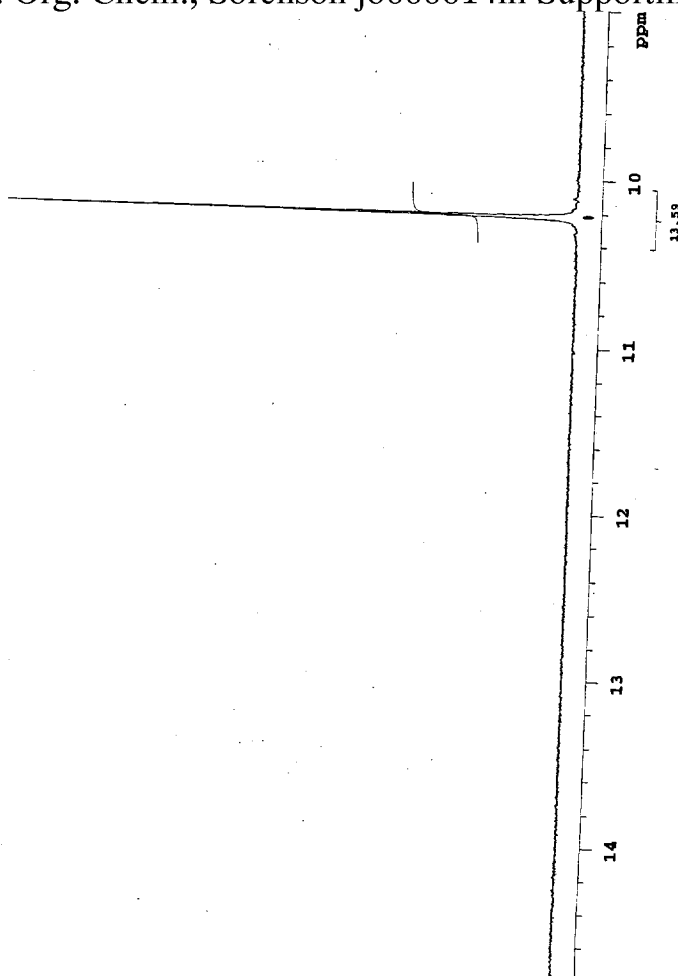
Substrate
Entry
12



553

554

Substrate
Entry
12

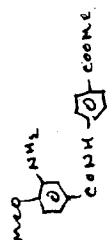


INDEX	(PPM)	(Hz)	HEIGHT
1	10.221	4088.078	114.7
2	7.763	3104.831	8.7
3	7.754	3101.215	97.8
4	7.748	3099.045	40.7
5	7.741	3096.151	107.7
6	7.736	3093.981	61.4
7	7.731	3092.052	119.3
8	7.724	3089.159	41.3
9	7.718	3086.989	111.6
10	7.709	3083.373	13.4
11	7.707	3082.552	145.4
12	7.702	3080.382	157.6
13	7.700	3080.126	46.2
14	7.724	3080.126	52.5
15	7.706	3082.287	67.3
16	7.703	3080.840	67.3
17	7.194	2877.464	15.9
18	7.185	2873.848	111.0
19	7.179	2871.437	38.9
20	7.172	2868.543	18.7
21	7.168	2866.856	38.7
22	7.162	2864.686	192.0
23	7.157	2862.757	49.2
24	7.146	2858.176	34.4
25	7.142	2857.765	107.9
26	7.140	2857.389	12.9
27	7.082	2836.839	87.2
28	7.077	2836.539	87.0
29	7.062	2824.661	69.1
30	7.056	2822.250	174.5
31	5.646	2258.053	6.9
32	4.105	1642.016	21.1
33	4.092	1636.712	20.7
34	4.079	1631.408	7.4
35	4.066	1626.344	3.5
36	3.414	1365.463	881.4
37	3.316	1326.403	2.5
38	3.288	1307.114	76.8
39	3.113	1262.288	84.0
40	3.113	1262.288	84.0
41	2.492	996.565	190.1
42	2.487	994.877	275.1
43	2.483	992.948	205.0
44	2.478	991.260	100.7
45	2.474	989.572	8.2
46	1.336	534.357	

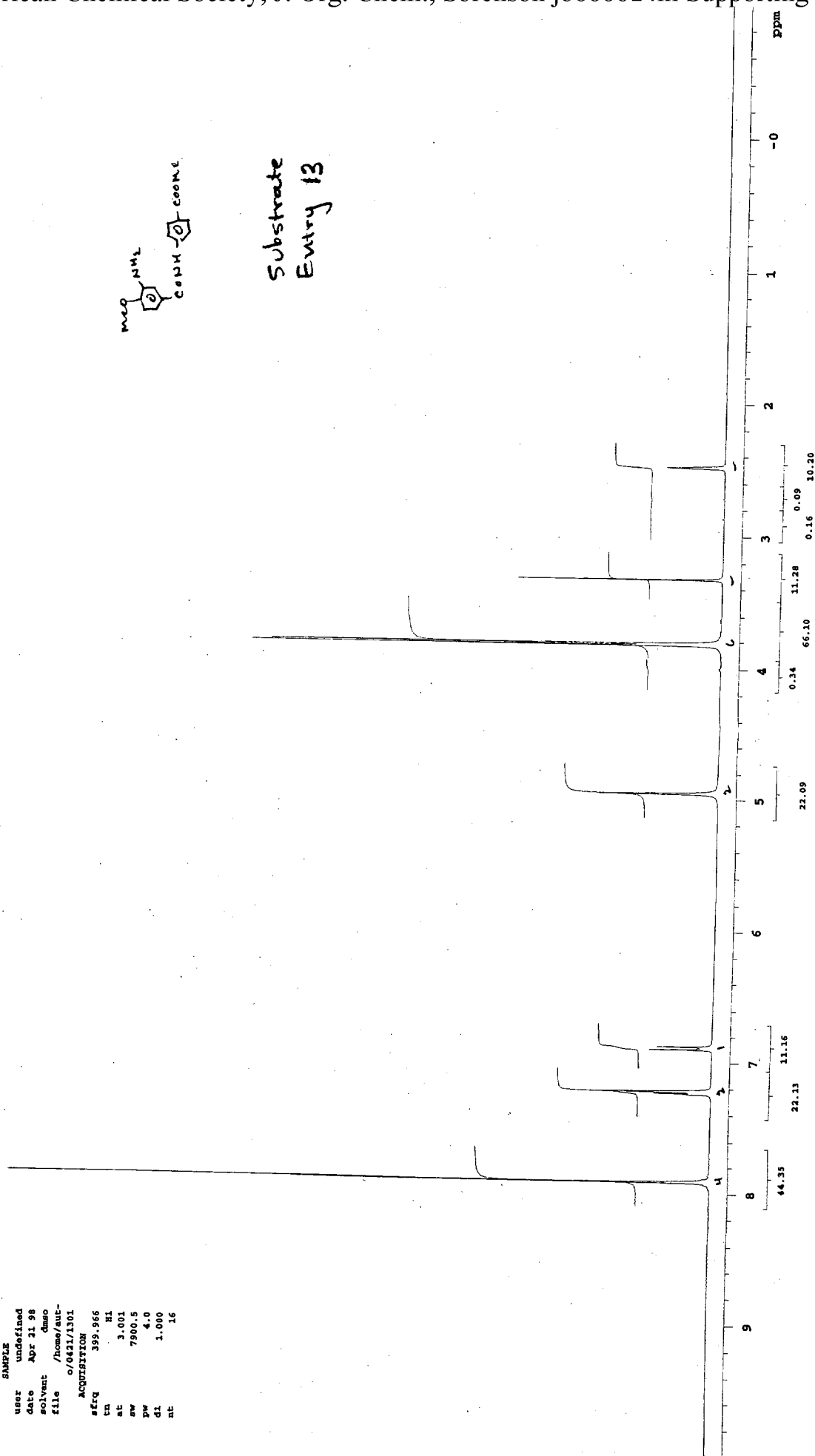
roderrick sorenson alchemy 61477x65w/h1/d
msd
STANDARD 1H OBSERVE

exp2 std1h

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date Apr 11 98
solvent dmsd
file /home/aut-
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ACQUISITION
sfrq 399.966
tn h1
at 3.001
sw 7900.5
pw 4.0
dl 1.000
nt 16



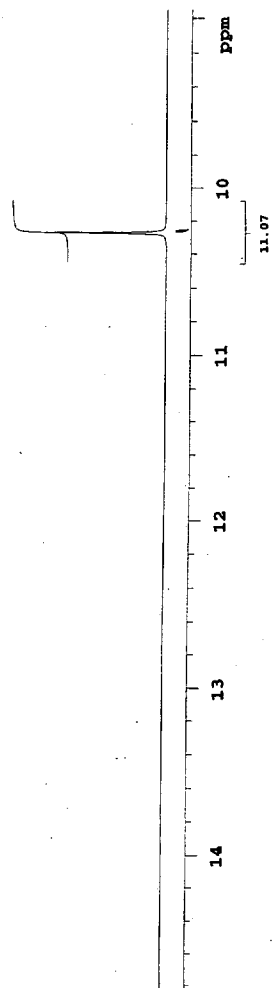
Substrate
Entry 13



555

INDEX	(PPM)	(Hz)	HEIGHT
1	15.269	4107.167	151.7
2	7.910	3183.903	159.0
3	7.238	2894.824	11.8
4	7.232	2892.413	15.7
5	7.223	2889.038	20.3
6	7.218	2886.868	34.8
7	7.210	2883.733	8.7
8	6.900	2759.803	17.2
9	6.892	2756.127	4.3
10	6.886	2754.016	4.1
11	6.878	2750.882	15.3
12	4.950	1279.812	32.5
13	3.823	1029.177	129.0
14	3.811	1028.114	123.7
15	3.746	988.184	56.1
16	2.782	728.795	21.9
17	2.482	693.707	21.9
18	2.478	691.039	21.9

Substrate
Entry 13



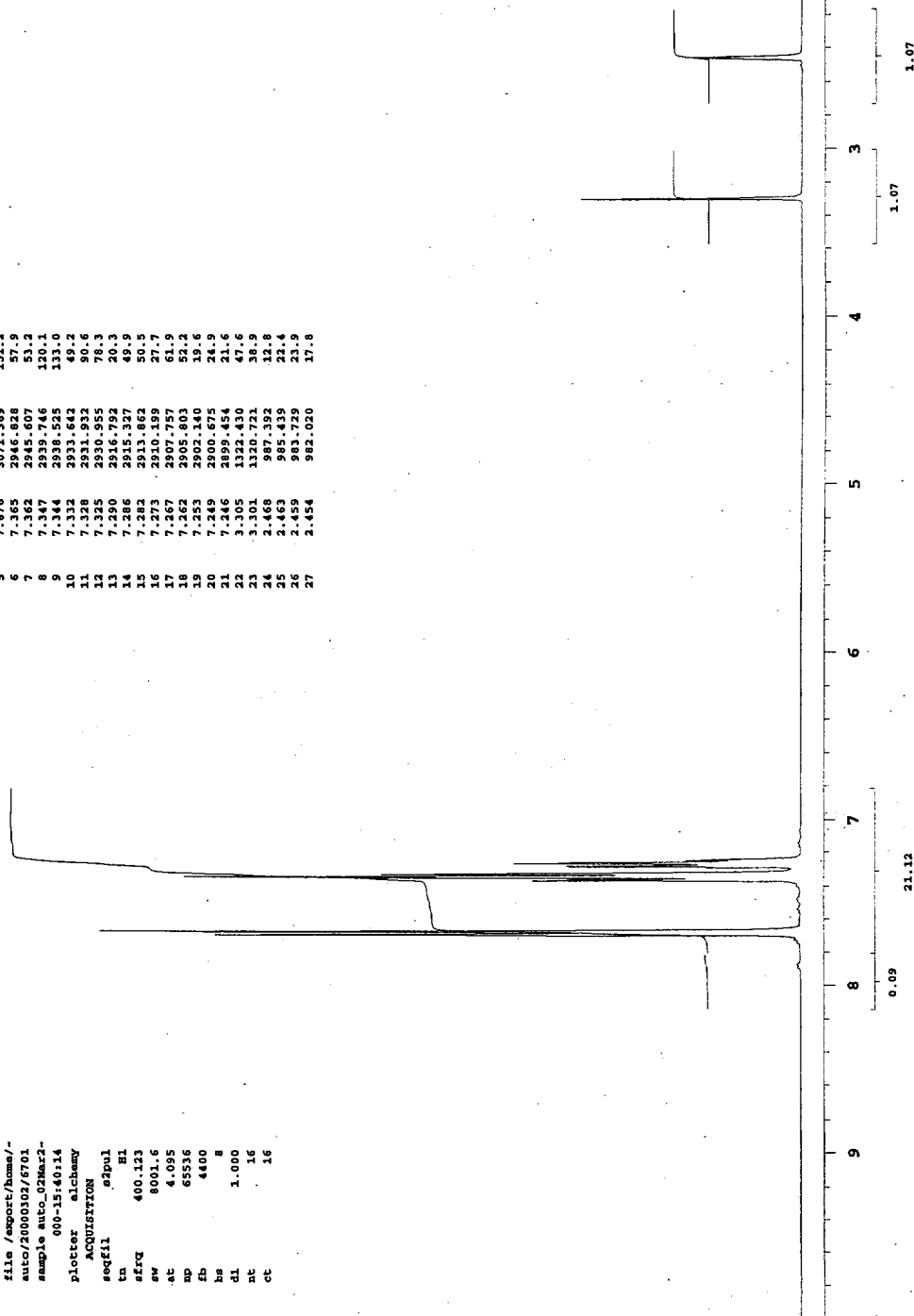
551

ROD B1P3/H1/dmsc
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 date Mar 2 2000
 solvent dmsc
 spin not used
 gain not used
 temp not used
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 plotter alchemy
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 tn B1
 srfq 400.123
 sr 8001.6
 ac 4.095
 ap 65536
 fs 4400
 bs 8
 di 1.000
 nt 16
 ct 16

INDEX	(PPM)	(HZ)	HEIGHT
1	7.639	3050.646	71.0
2	7.638	3050.643	121.4
3	7.631	3077.239	106.4
4	7.679	3072.590	128.9
5	7.676	3071.369	131.2
6	7.365	2946.828	57.9
7	7.362	2945.607	53.2
8	7.347	2939.746	120.1
9	7.344	2938.525	133.0
10	7.332	2933.642	49.2
11	7.328	2931.932	90.6
12	7.325	2930.955	78.3
13	7.290	2916.792	20.3
14	7.286	2915.327	49.9
15	7.282	2913.862	50.5
16	7.277	2907.289	51.7
17	7.267	2907.787	61.9
18	7.262	2905.803	92.2
19	7.253	2902.140	19.6
20	7.249	2900.675	24.9
21	7.246	2899.454	21.6
22	3.305	1322.430	47.6
23	3.301	1320.721	38.9
24	2.468	987.392	12.8
25	2.463	985.439	22.4
26	2.459	983.739	23.9
27	2.454	982.020	17.8



Triphenylbismuthane



57447X29 /SORENSEN /h1 /TMGO /
STANDARD 1H OBSERVE

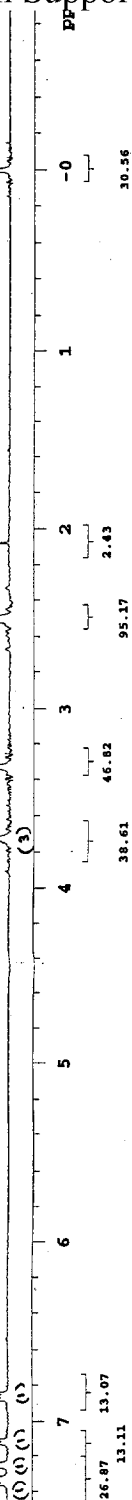
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date Dec 9 96
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file /home/cf/-
vnmrpy/nf/nf9640-
92401
ACQUISITION
#freq 399.966
ta H1
at 3.001
sw 7900.5
pw 4.0
di 1.000
nt 32

INDEX	FREQUENCY (PPM)	FREQUENCY (Hz)	HEIGHT
1	7.361	2944.195	5.2
2	7.357	2942.508	5.7
3	7.339	2935.274	9.5
4	7.343	2938.764	6.9
5	7.328	2927.076	7.3
6	7.253	2905.135	11.2
7	7.259	2907.902	11.1
8	7.245	2896.455	11.6
9	7.242	2892.332	15.0
10	7.131	2844.135	12.8
11	7.111	2844.135	12.8
12	6.879	2751.307	7.9
13	6.861	2744.074	14.7
14	6.859	2743.351	13.5
15	6.843	2736.841	7.3
16	3.724	1489.337	119.8
17	3.329	1331.651	192.0
18	2.511	1004.224	35.3
19	2.502	998.607	78.2
20	2.498	998.607	110.2
21	2.493	997.231	80.4
22	2.076	830.142	9.6
23	2.076	830.142	9.6
24	0.008	1.376	2.5
25	-0.000	-0.000	143.0
26	-0.008	-3.134	7.8



Tris(2-methoxyphenyl)bismuthane



580

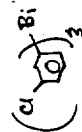
5747119 /SORENSEN /A1 /DMSO /
STANDARD IN OBSERVE

exp2 stdch

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user cf
date Nov 10 96
solvent DMSO
file /home/cf/-
vmsrcy/nt/nf96v1-
90701

ACQUISITION
sfrq 199.966
tn H1
at 1.001
sw 7900.5
pw 4.0
dl 1.000
nt 32

INDEX	FREQUENCY (PPM)	FREQUENCY (Hz)	HEIGHT
1	7.800	3120.206	169.9
2	7.796	3119.733	158.7
3	7.796	3118.036	183.6
4	7.755	3101.881	5.2
5	7.734	3093.442	5.0
6	7.716	3086.209	2.7
7	7.707	3082.592	2.3
8	7.695	3077.770	3.8
9	7.691	3076.324	4.8
10	7.687	3074.636	5.1
11	7.678	3070.778	104.5
12	7.675	3069.814	147.5
13	7.673	3068.848	88.1
14	7.660	3062.545	127.6
15	7.657	3062.580	178.9
16	7.655	3061.616	101.6
17	7.655	3061.616	2.1
18	7.616	3046.185	3.0
19	7.584	3033.406	2.3
20	7.527	3010.501	2.3
21	7.507	3002.544	4.6
22	7.498	2998.927	2.4
23	7.489	2995.313	4.9
24	7.476	2990.347	114.7
25	7.457	2982.532	132.0
26	7.438	2975.057	142.6
27	7.423	2968.789	3.1
28	7.408	2962.711	105.5
29	7.375	2948.716	113.2
30	7.370	2947.571	112.4
31	7.367	2946.606	96.9
32	7.355	2941.784	76.1
33	7.352	2940.579	72.6
34	7.350	2939.614	80.2
35	7.347	2938.409	61.5
36	7.347	2938.409	1337.5
37	7.327	2930.687	9.8
38	7.307	2922.489	2.4
39	7.2891	2916.213	3.5
40	7.2822	2914.488	38.0
41	7.280	2913.500	77.5
42	7.280	2913.500	103.4
43	7.280	2913.500	71.7
44	7.2501	2900.125	3.5
45	7.168	2847.079	14.8
46	7.1358	2832.980	2.3
47	7.1230	2823.106	4.3
48	0.0008	3.334	113.4
49	0.000	0.000	3.5
50	-0.008	-3.376	



Tris(3-chlorophenyl)bismuthane

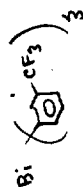
57447X14 /SORENSEN /A1 /EMSO /
STANDARD IN OBSERVE

exp1 stdlh

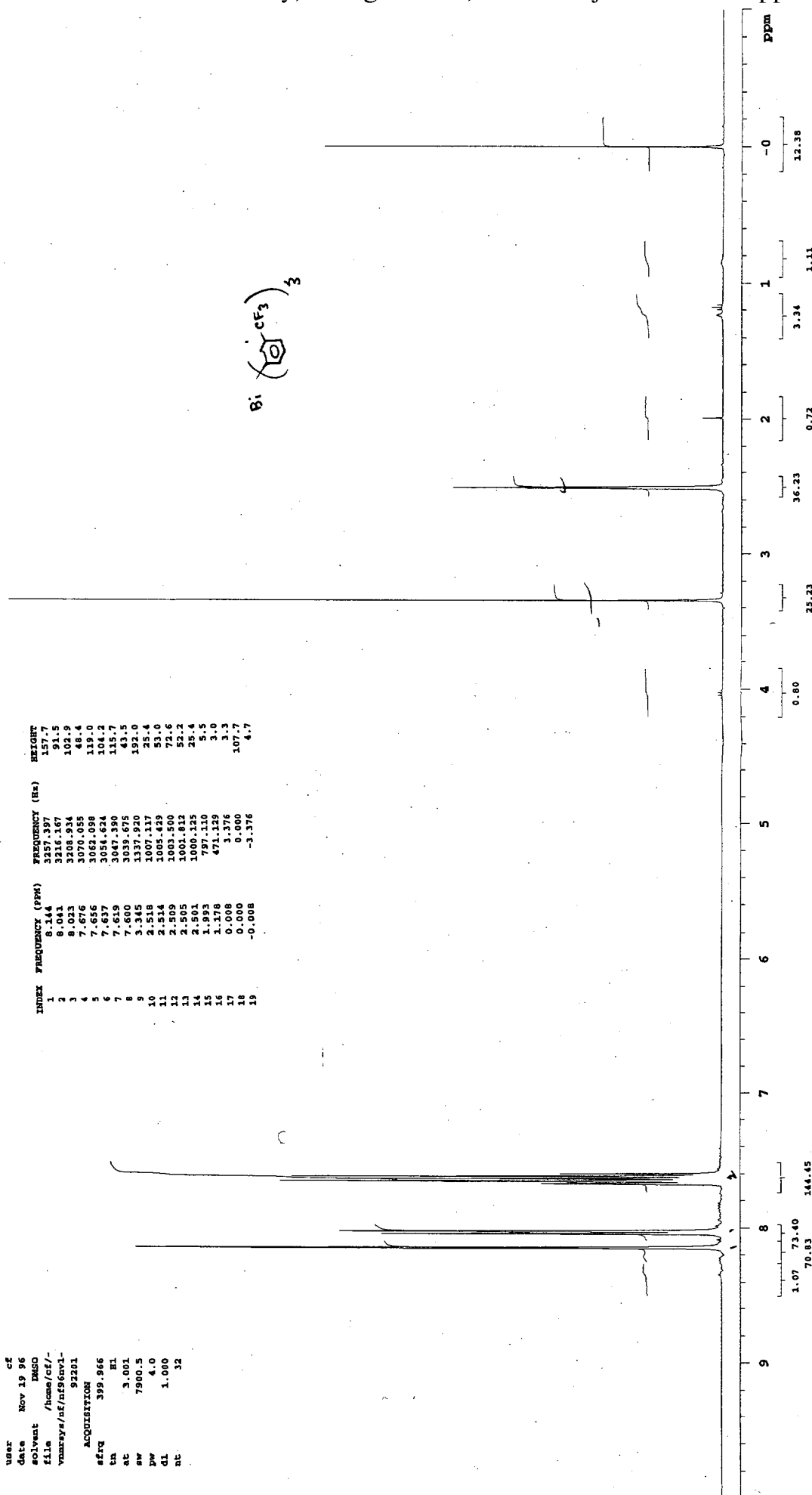
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ACQUISITION
sfrq 399.966
tn H1
at 3.001
sw 7500.5
pw 4.0
d1 1.000
nt 32

INDEX	FREQUENCY (PPM)	FREQUENCY (Hz)	HEIGHT
1	8.144	3215.167	157.7
2	8.081	3215.167	91.5
3	7.756	3208.934	102.9
4	7.676	3206.055	48.4
5	7.656	3202.098	119.0
6	7.637	3204.624	104.2
7	7.619	3207.390	115.7
8	7.600	3209.675	43.5
9	3.345	1337.920	192.0
10	2.518	1007.117	25.4
11	2.514	1005.429	53.0
12	2.509	1003.500	72.6
13	2.505	1001.812	52.4
14	2.501	1000.125	22.4
15	1.993	797.130	5.5
16	1.178	471.130	3.0
17	0.000	0.000	3.3
18	0.000	0.000	107.7
19	-0.008	-3.376	4.7



Tris(3-trifluoromethyl-phenyl)-
bismuthane



57417x49 /SORENSEN /b1 /MMSO /
STANDARD 1H OBSERVE

exp1 std1h

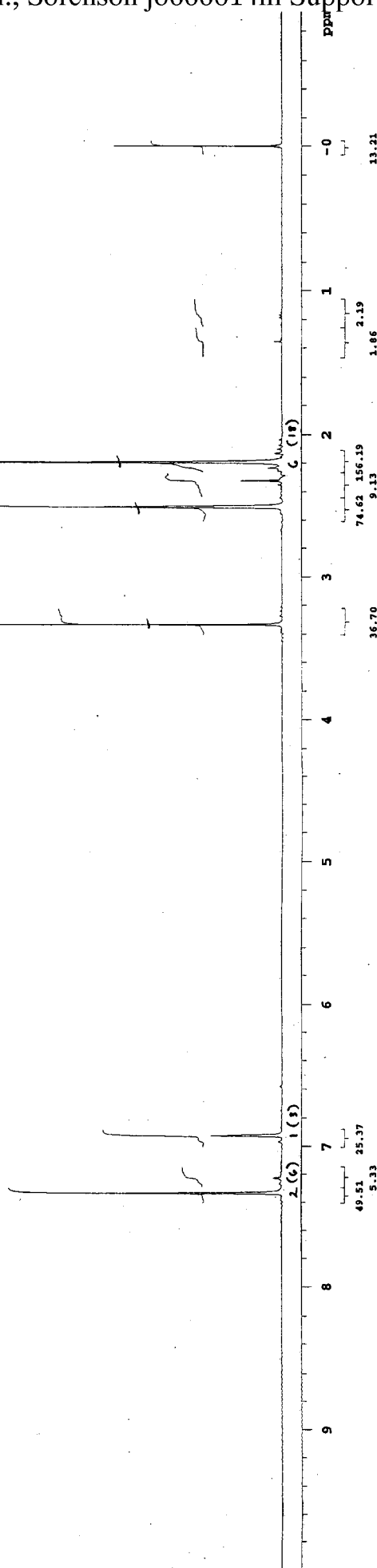
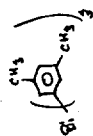
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user: cf
date: Feb 14 97
solvent: DMSO
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vname: /at/n597fbl-
40301

ACQUISITION

sfreq: 399.966
tn: H1
at: 1.001
sw: 7900.5
pw: 4.0
d1: 1.000
nt: 32

INDEX	FREQUENCY (PPM)	FREQUENCY (Hz)	HEIGHT
1	7.327	2930.934	40.2
2	7.327	2930.452	38.9
3	7.325	2889.704	2.4
4	6.925	2769.632	18.3
5	3.332	1332.615	95.5
6	2.511	1004.224	17.7
7	2.507	1002.536	36.9
8	2.502	1000.607	51.2
9	2.498	998.519	36.6
10	2.493	997.231	17.9
11	2.321	928.515	10.7
12	2.233	893.072	3.7
13	2.194	877.400	192.0
14	1.353	542.015	47.2
15	-0.000	-0.000	43.0



Tris(3,5-dimethylphenyl)bismuthane
Compound 23

S 61

roderick sorenson alchemy 61477ml10/bl/a

mdo
auto60 STANDARD IN OBSERVE

exp2 stdh

SAMPLE

user undefined

date Oct 8 98

solvent dmsd

file c:/home/aut-

c/1008/0701

ACQUISITION

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at 3.001

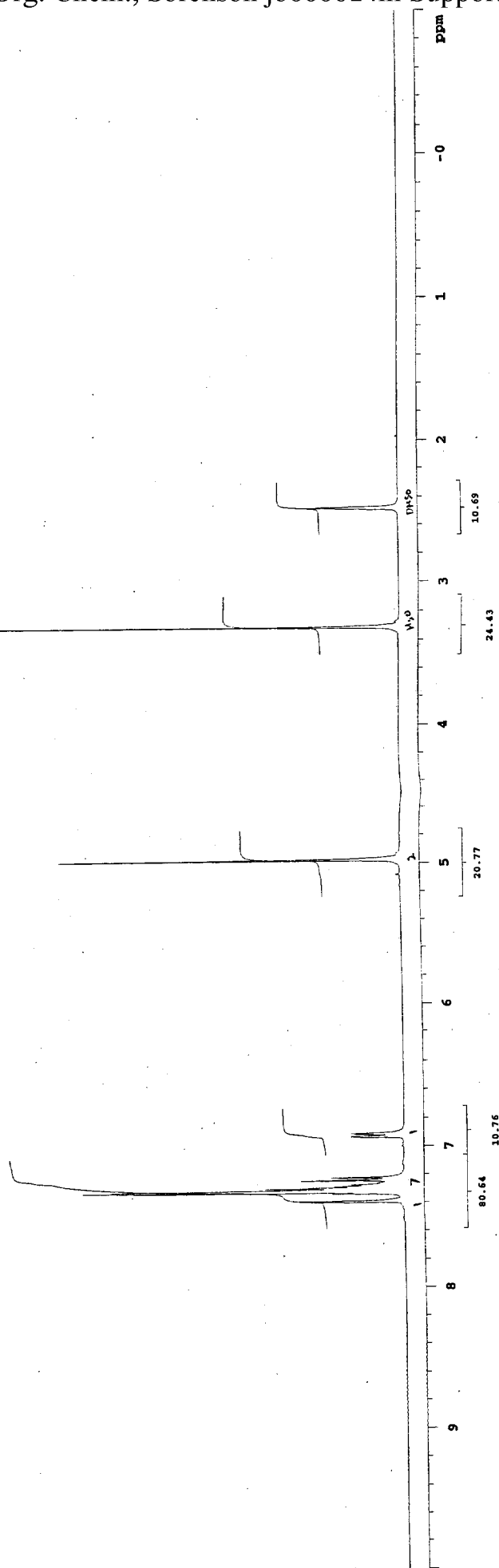
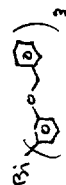
sw 7500.5

pw 5.0

d1 1.000

nt 16

INDEX	(PPM)	(HZ)	HEIGHT
1	7.396	2958.236	24.0
2	7.391	2956.066	27.6
3	7.337	2914.366	18.7
4	7.246	2910.025	89.2
5	7.116	2877.113	82.0
6	7.110	2874.456	81.0
7	7.299	2913.177	15.0
8	7.292	2915.524	24.7
9	7.284	2913.390	18.0
10	7.273	2909.050	12.0
11	7.270	2907.603	13.6
12	7.261	2903.987	7.0
13	7.253	2901.093	5.7
14	7.241	2896.271	26.4
15	7.224	2885.279	18.7
16	6.933	2773.064	13.0
17	6.929	2771.376	13.7
18	6.915	2765.811	12.4
19	6.913	2764.866	12.7
20	6.903	2761.188	13.4
21	4.978	1993.144	47.4
22	3.316	1326.403	182.0
23	2.489	995.359	18.5
24	2.484	993.671	26.0
25	2.480	991.984	20.8



Tris(3-benzyloxyphenyl)bismuthane
Compound 24

S 62

- Entry 1 3-phenylamino-*N*-phenyl-benzamide
 Calculated for $C_{19}H_{16}N_2O$: C, 79.14; H, 5.59; N, 9.71.
 Found: C, 79.17; H, 5.42; N, 9.63.
- Entry 2 4-methoxy-3-phenylamino-*N*-phenyl-benzamide
 Calculated for $C_{20}H_{18}N_2O_2$: C, 75.45; H, 5.70; N, 8.80.
 Found: C, 74.66; H, 5.43; N, 8.67.
- Entry 3 4-methoxy-3-phenylamino-*N*-(2-methoxyphenyl)-benzamide
 Calculated for $C_{21}H_{20}N_2O_3$: C, 72.40; H, 5.79; N, 8.04
 Found: C, 72.39; H, 5.74; N, 7.93
- Entry 4 3-(3-benzyloxy-phenylamino)-*N*-(3,4-difluorophenyl)-4-methoxy-benzamide
 Calculated for $C_{27}H_{22}F_2N_2O_2$: C, 70.43; H, 4.82; N, 6.08.
 Found: C, 70.07; H, 4.79; N, 5.89.
- Entry 5 3-(2-methoxy-phenylamino)-4-methoxy-*N*-phenyl-benzamide
 Calculated for $C_{21}H_{20}N_2O_3$: C, 72.40; H, 5.79; N, 8.04.
 Found: C, 72.13; H, 5.73; N, 7.94.
- Entry 6 3-(3-chloro-phenylamino)-4-methoxy-*N*-phenyl-benzamide
 Calculated for $C_{20}H_{17}ClN_2O_2$: C, 68.09; H, 4.86; N, 7.94.
 Found: C, 67.91; H, 4.71; N, 7.80.
- Entry 7 3-(3,5-dimethyl-phenylamino)-4-methoxy-*N*-phenyl-benzamide
 Calculated for $C_{22}H_{22}N_2O_2 \cdot 0.5CH_2Cl_2$: C, 75.52; H, 6.35; N, 7.99.
 Found: C, 75.56; H, 6.32; N, 7.92.
- Entry 8 4-fluoro-3-(3-trifluoromethyl-phenylamino)-*N*-(3,4-difluorophenyl)-benzamide
 Calculated for $C_{20}H_{12}F_6N_2O \cdot 0.2C_6H_{14}$: C, 59.56; H, 3.16; N, 6.55.
 Found: C, 59.41; H, 3.56; N, 6.53.
- Entry 9 4-chloro-3-phenylamino-*N*-phenyl-benzamide
 Calculated for $C_{19}H_{15}ClN_2O$: C, 70.70; H, 4.68; N, 8.68.
 Found: C, 70.61; H, 4.69; N, 8.31.
- Entry 10 3-phenylamino-4-fluoro-*N*-phenylbenzamide
 Calculated for $C_{19}H_{15}FN_2O$: C, 74.50; H, 4.94; N, 9.14.
 Found: C, 74.21; H, 4.96; N, 9.00.
- Entry 11 4-methylsulfanyl-3-(3-trifluoromethyl-phenylamino)-*N*-phenyl-benzamide
 Calculated for $C_{21}H_{17}F_3N_2OS$: C, 62.68; H, 4.26; N, 6.96.
 Found: C, 62.34; H, 4.11; N, 6.87.
- Entry 12 3-(3-trifluoromethyl-phenylamino)-4-trifluoromethoxy-*N*-(4-fluorophenyl)-benzamide
 Calculated for $C_{21}H_{13}F_7N_2O_2$: C, 55.03; H, 2.86; N, 6.11.
 Found: C, 55.04; H, 2.91; N, 6.02.
- Entry 13 3-(3-trifluoromethyl-phenylamino)-4-methoxy-*N*-(4-carbomethoxyphenyl)-benzamide
 Calculated for $C_{23}H_{19}F_3N_2O_4$: C, 62.16; H, 4.31; N, 6.30.
 Found: C, 62.31; H, 4.18; N, 6.26.

64

Cmpd 15 3-methoxy-4-phenylamino-*N*-phenylbenzamide

Calculated for $C_{20}H_{18}N_2O_2$: C, 75.45; H, 5.70; N, 8.80.

Found: C, 75.28; H, 5.61; N, 8.59.

m.p. 158–159°C

Cmpd 17 2-phenylamino-*N*-phenylbenzamide

Calculated for $C_{19}H_{16}N_2O$: C, 79.14; H, 5.59; N, 9.71.

Found: C, 78.85; H, 5.67; N, 9.63.

m.p. 119–120°C

Cmpd 20 4-methoxy-3-phenylamino-*N*-cyclopropylbenzamide

Calculated for $C_{17}H_{18}N_2O_2$: C, 72.32; H, 6.43; N, 9.92.

C, 72.20; H, 6.53; N, 9.70.

m.p. 176–178°C

Cmpd 22 3-phenylamino-*N*-methylbenzamide

Calculated for $C_{14}H_{14}N_2O$: C, 74.31; H, 6.24; N, 12.38.

C, 74.36; H, 6.23; N, 12.35.

m.p. 144–146°C

Cmpd 23 Tris(3,5-dimethylphenyl)bismuthane

Calculated for $C_{24}H_{27}Bi$: C, 54.96; H, 5.19.

C, 54.88; H, 4.91.

m.p. 119–120°C

Cmpd 24 Tris(3-benzyloxyphenyl)bismuthane

Calculated for $C_{39}H_{33}BiO_3$: C, 61.74; H, 4.38.

C, 61.71; H, 4.41.

m.p. 112–113°C