Electronic Supplementary Material (ESI) for RSC Advances.

Short and Efficient Synthesis of a Daunosamine Donor from L-Fucal.

SUPPLEMENTARY INFORMATION

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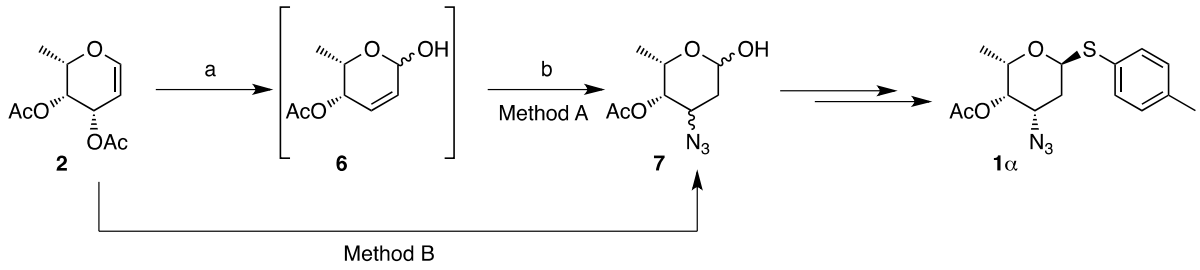
1. Summary. Optimizations of 1,4-addition with azide in Route C.



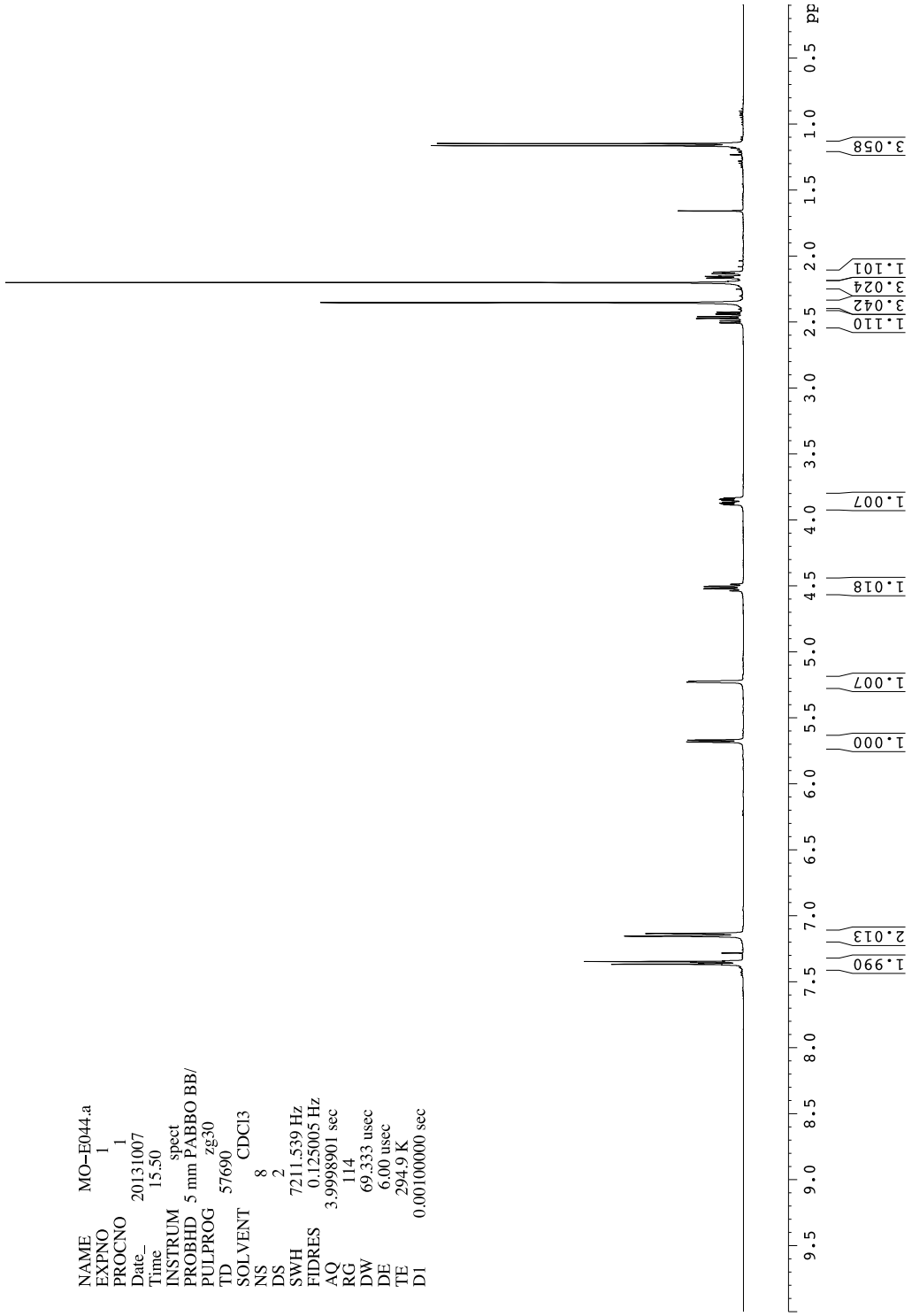
Scheme S3: Optimization of synthesis of **6**. a) H_2O, 100 °C microwave. b) NaN_3, HOAc. Method A: sequential reaction. Method B: one-pot reaction.

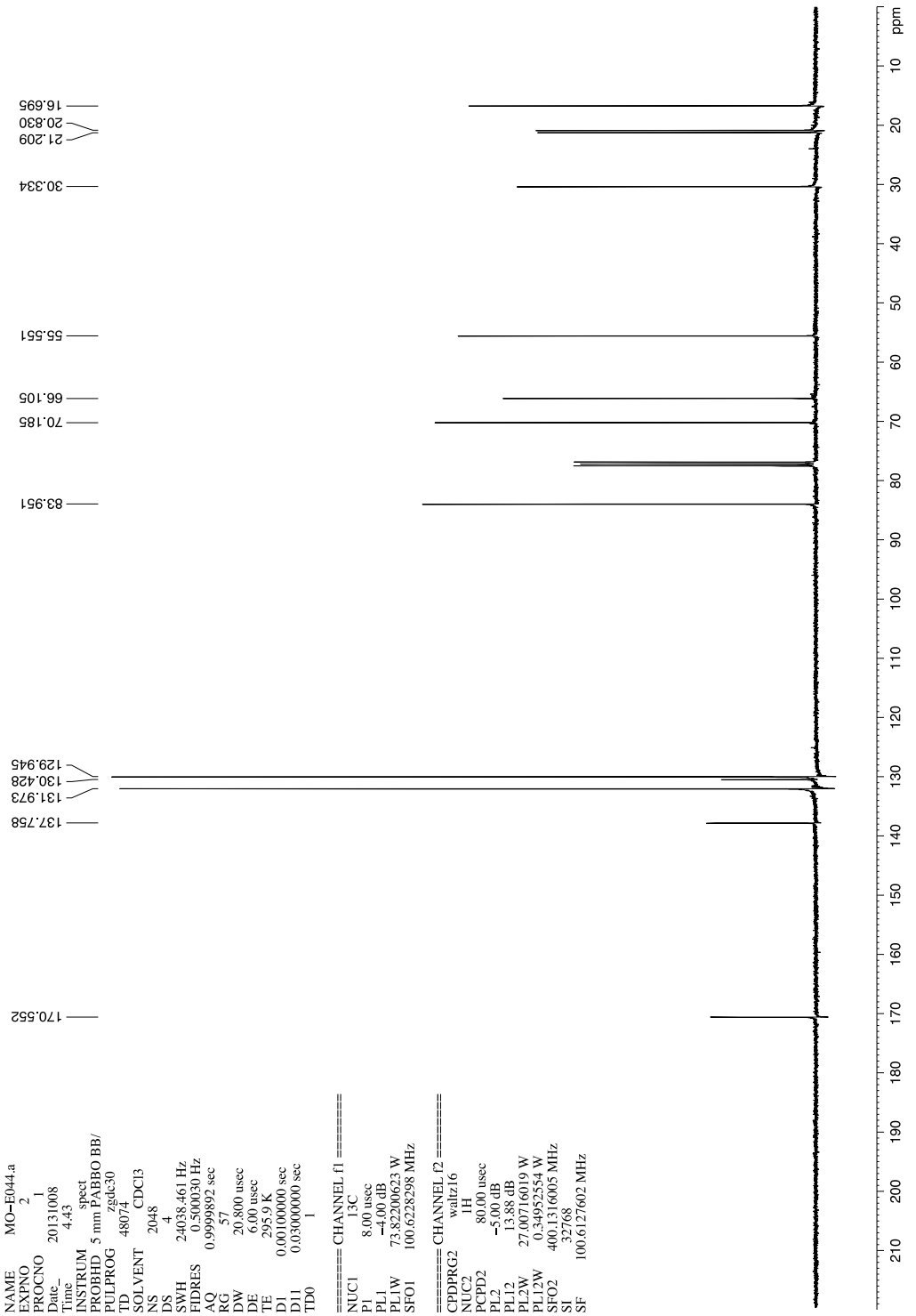
Table 1. Conditions for optimizing

Method	Time (min.)	Temp. (°C)	Conc. (M)	equiv. N_3	Yield (%)	Conv. (%)	Comment
A	1440	rt	0,25	1,6	16		
A	10	100	0,25	1,6		19	trace **5**
A	15	100	0,25	1,6	17		
A	30	100	0,25	1,6	16		
A	10	100	0,25	4,0	30		
A	10	100	0,25	6,0	32		
A	10	100	0,50	4,0	29		
B	20	100	0,25	1,6		22	15 mol% **5**
B	25	100	0,25	1,6		20	8 mol% **5**
B	30	100	0,25	1,6		18	trace **5**
B	10	120	0,25	1,6	8		

2. NMR of 1α.

(Fan, E.; Shi, W.; Lowary, T. L. *J. Org. Chem.* **2007**, *72*, 2917-2928.)

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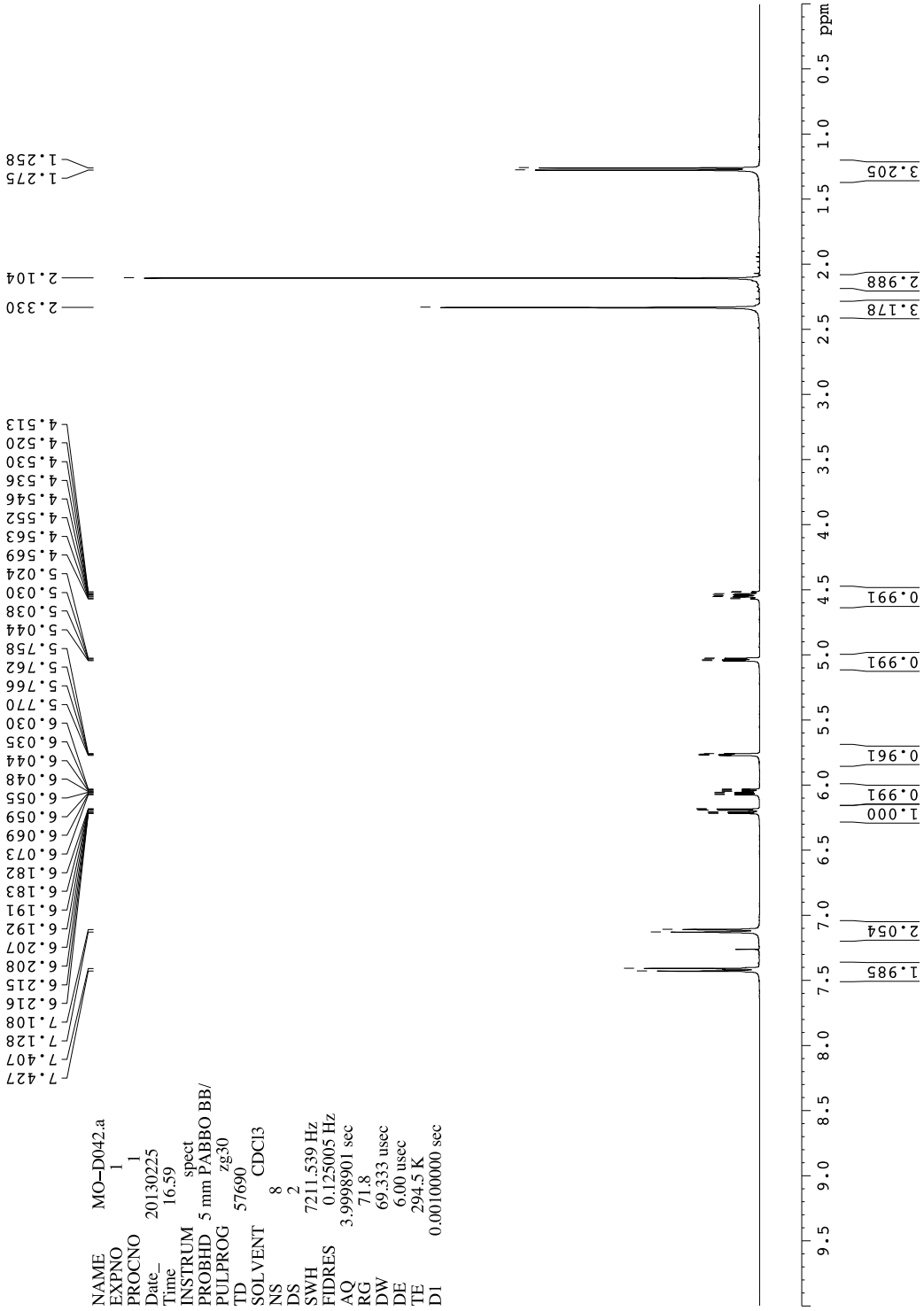
21.209
20.830
16.695
ppm

3. NMR of 5.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6.183
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6.059
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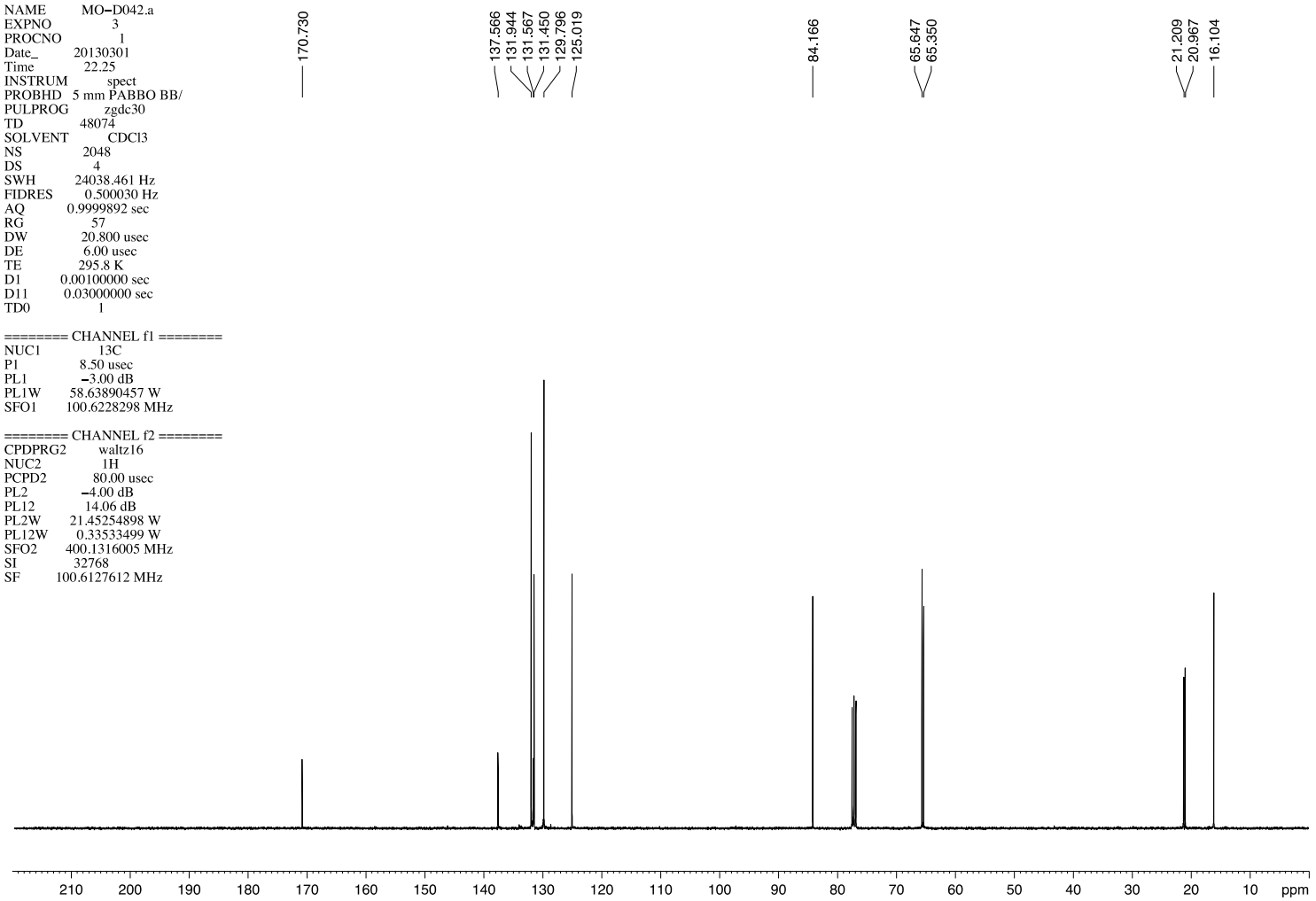
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65.350
21.209
20.967
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20
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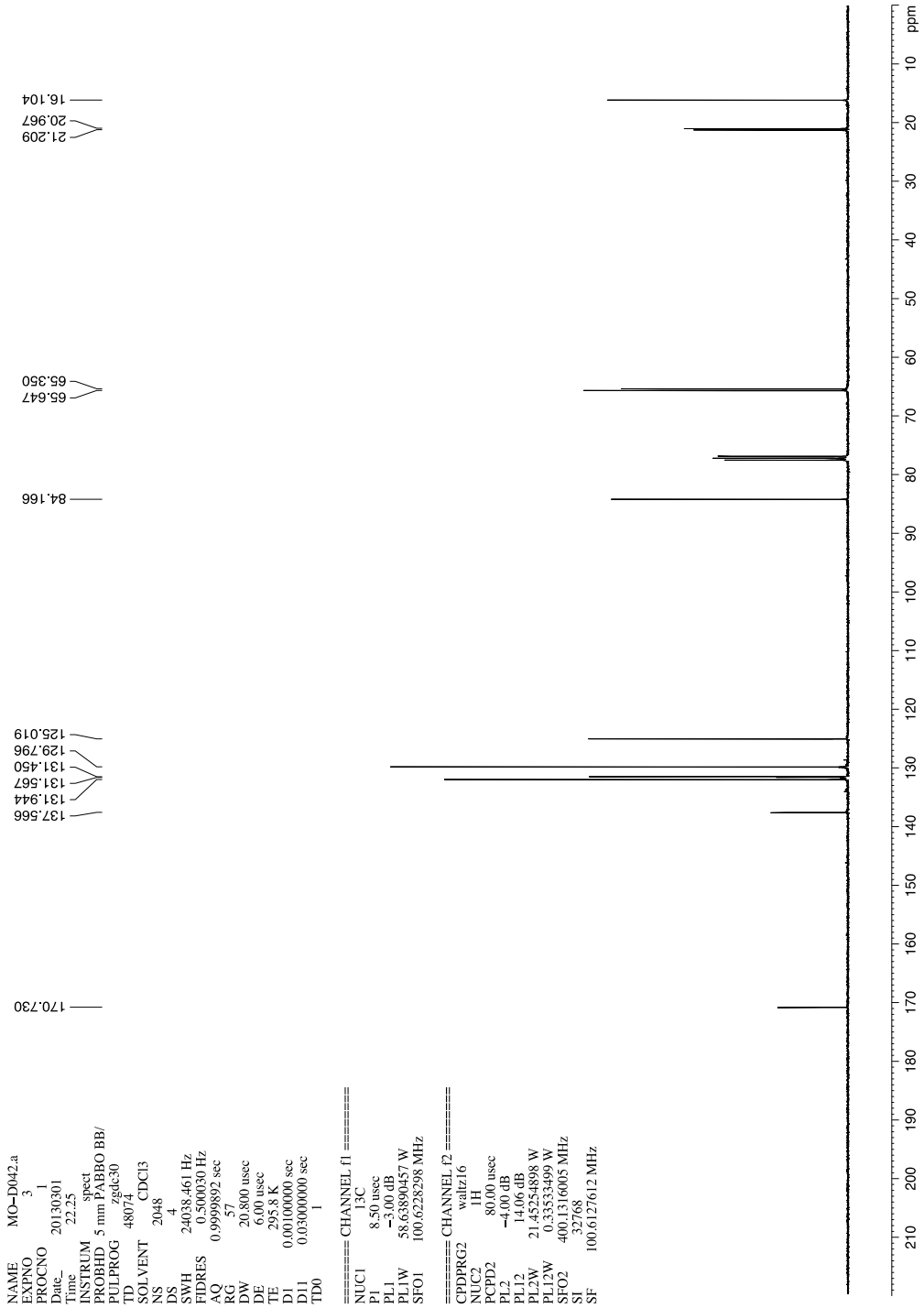
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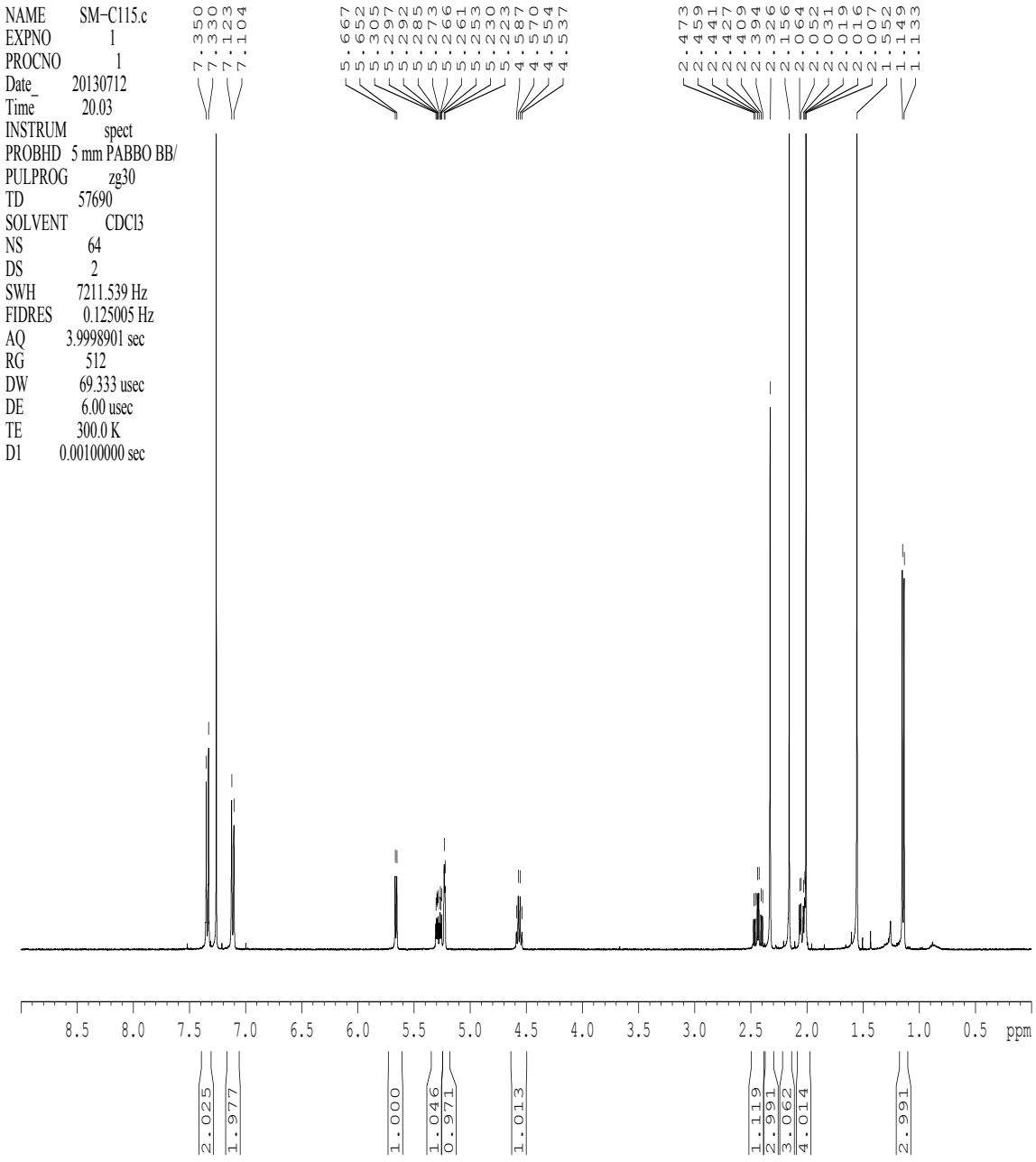
20.967
16.104
ppm

4. NMR of 9.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7.104
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5.305
5.297
5.292
5.285
5.273
5.266
5.261
5.253
5.230
5.223
4.587
4.570
4.554
4.537
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2.459
2.441
2.427
2.409
2.394
2.326
2.156
2.064
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2.031
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2.016
2.007
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1.149
1.133
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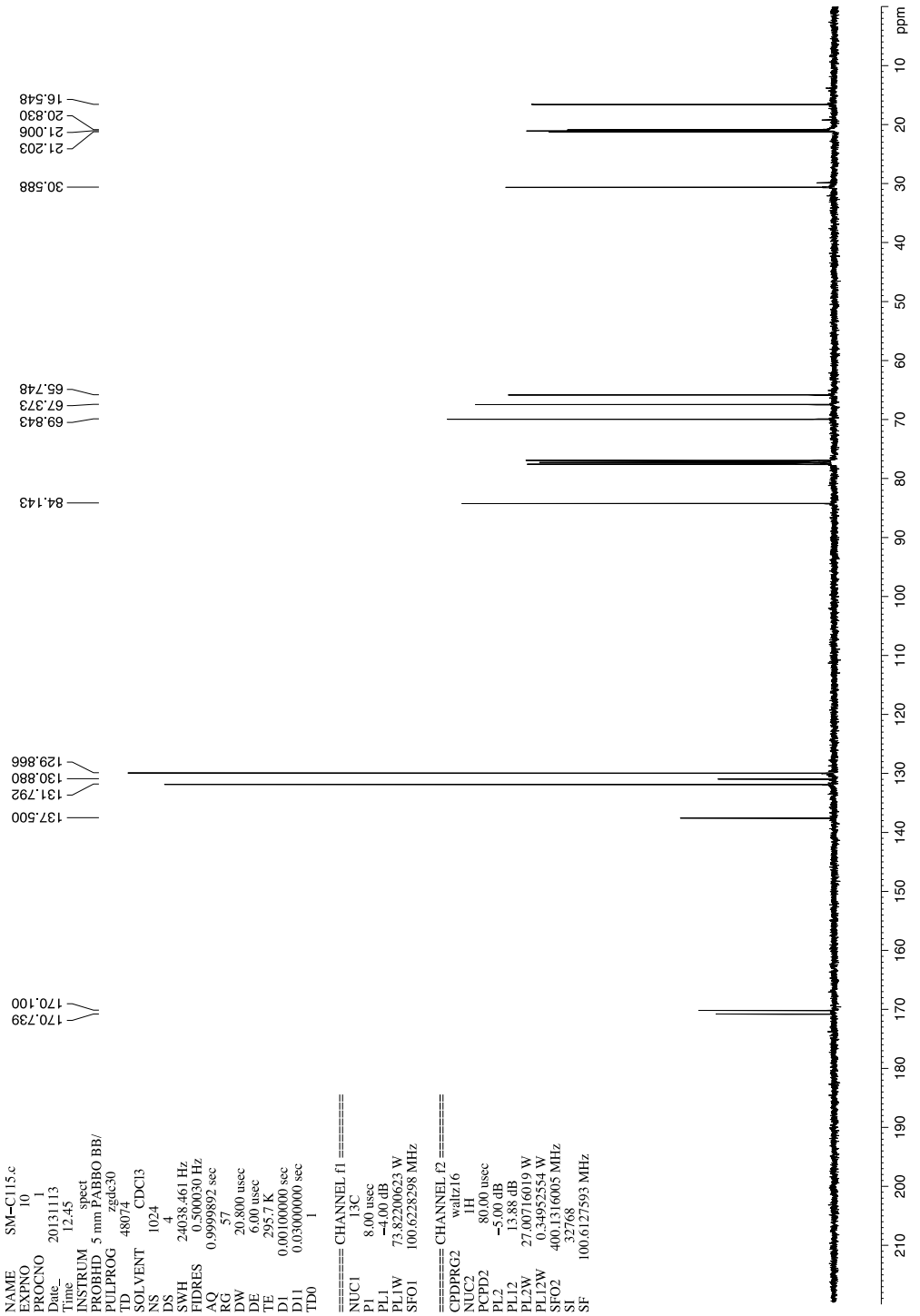
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D11 0.03000000 sec
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PL1 -4.00 dB
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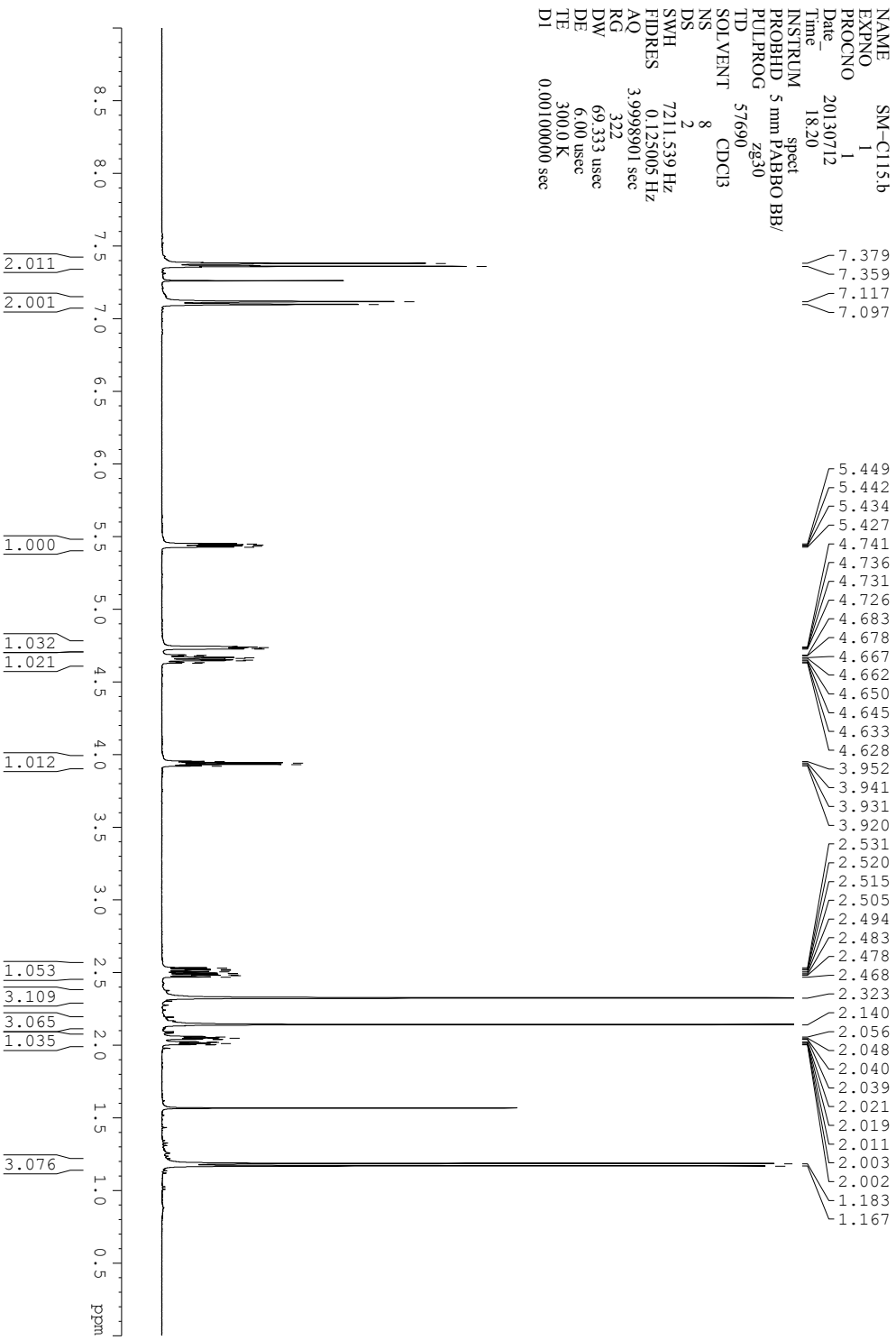
5. NMR of 10α.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SOLVENT CDCl3
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RG 322
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DE 6.00 usec
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4.662
4.650
4.645
4.633
4.628
3.952
3.941
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3.920
2.531
2.520
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2.494
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2.048
2.040
2.039
2.021
2.019
2.011
2.003
2.002
1.183
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2.011
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2.0
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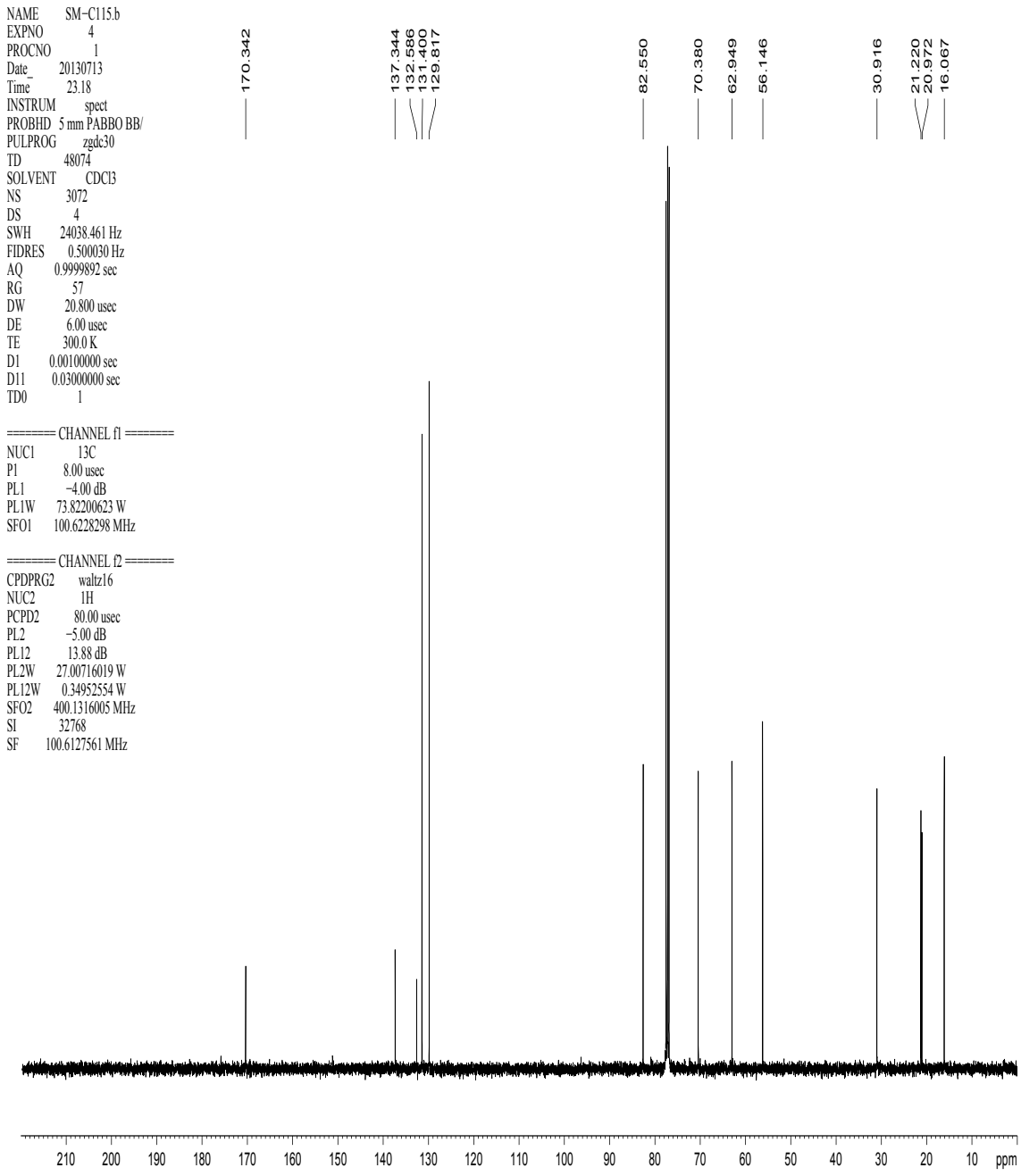
1.0
0.5
ppm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SOLVENT CDCl3
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FIDRES 0.500030 Hz
AQ 0.9999892 sec
RG 57
DW 20.800 usec
DE 6.00 usec
TE 300.0 K
D1 0.00100000 sec
D11 0.03000000 sec
TD0 1
======= CHANNEL f1 =======
NUC1 13C
P1 8.00 usec
PL1 -4.00 dB
PL1W 73.82200623 W
SFO1 100.6228298 MHz
======= CHANNEL f2 =======
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -5.00 dB
PL12 13.88 dB
PL2W 27.00716019 W
PL12W 0.34952554 W
SFO2 400.1316005 MHz
SI 32768
SF 100.6127561 MHz
170.342
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131.400
129.817
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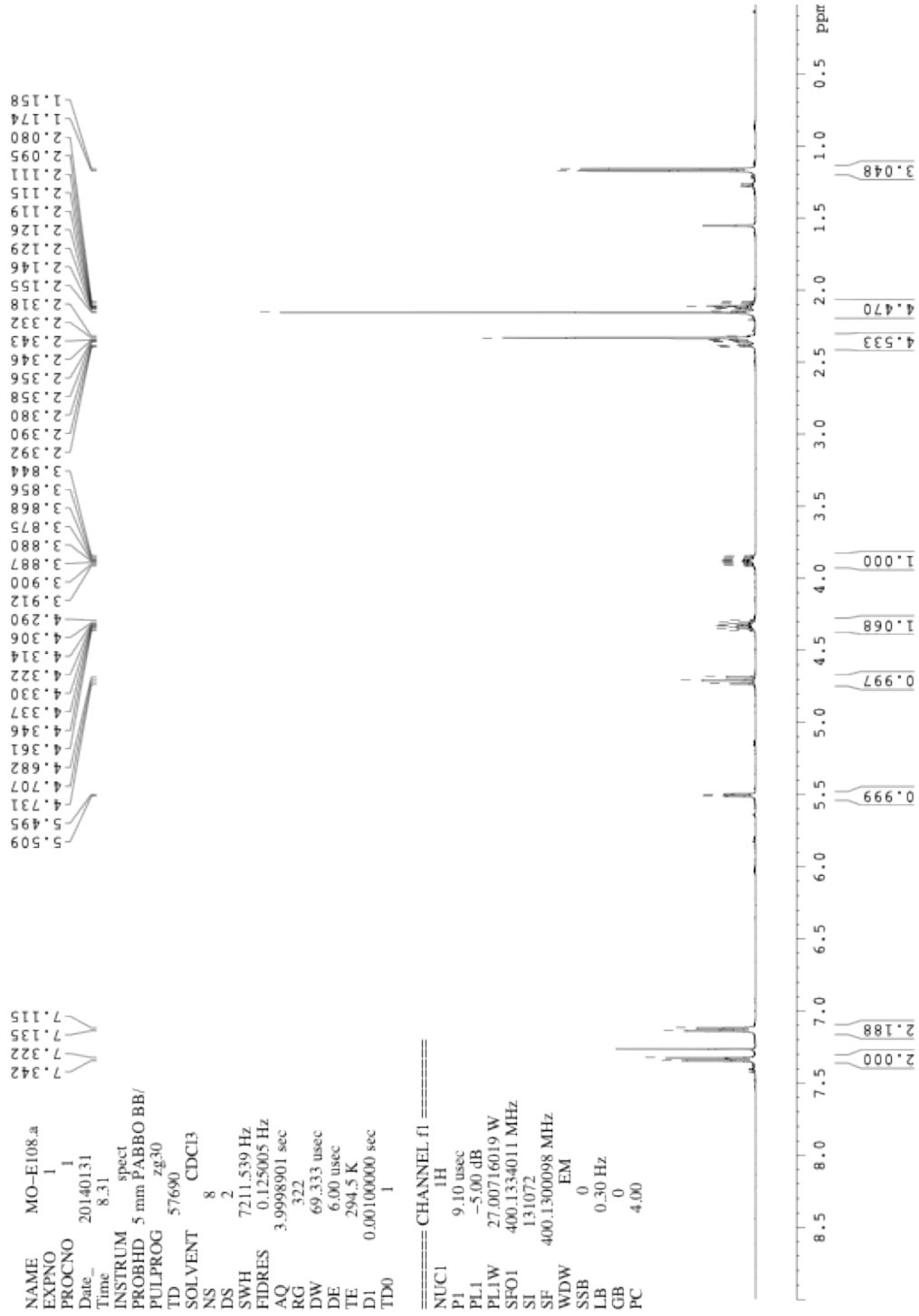
6. NMR of 12α.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RG 322
DW 69.333 usec
DE 6.00 usec
TE 294.5 K
D1 0.001000000 sec
TD0 1
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P1 9.10 usec
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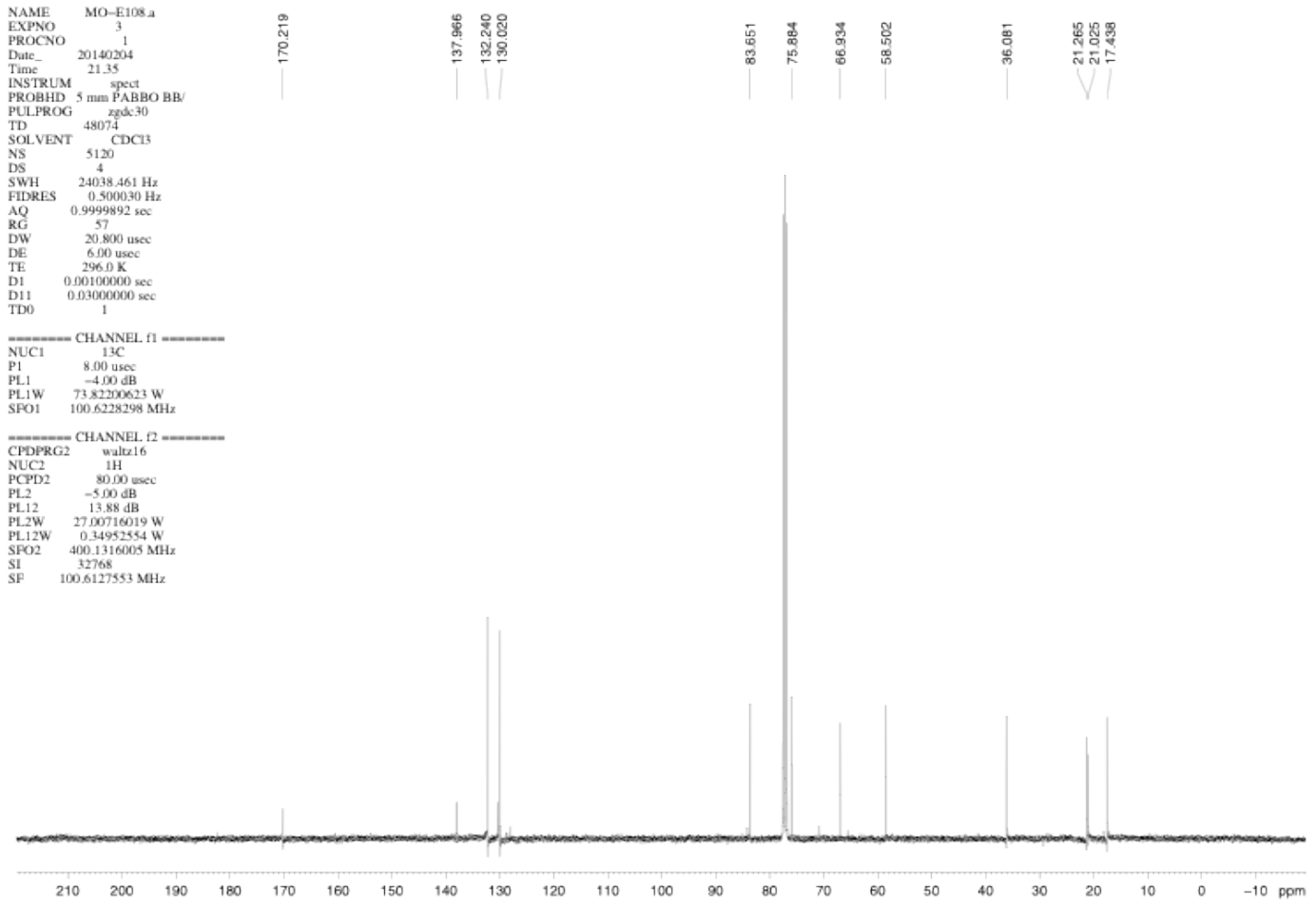
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D11 0.03000000 sec
TD0 1
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NUC1 13C
P1 8.00 usec
PL1 -4.00 dB
PL1W 73.82200623 W
SFO1 100.6228298 MHz
======== CHANNEL f2 ========
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -5.00 dB
PL12 13.88 dB
PL2W 27.00716019 W
PL12W 0.34952554 W
SFO2 400.1316005 MHz
SI 32768
SF 100.6127553 MHz
170.219
137.866
132.240
130.020
83.651
75.884
66.934
58.502
36.081
21.265
21.025
17.438
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