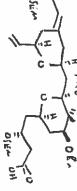
Electronic Supplementary Material (ESI) for Organic & Biomolecular Chemistry. This journal is © The Royal Society of Chemistry 2017
Some limitations of an approach to the assembly of bryostatins by ring-closing metathesis
Raphaël Dumeunier, Thomas Gregson, Somhairle MacCormick, Hiroki Omori and Eric J. Thomas*
Supplementary data
Copies of <sup>1</sup> H and <sup>13</sup> C NMR spectra of some key compounds –in numerical order

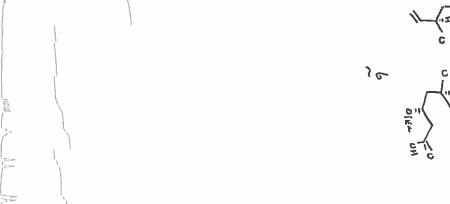
Automation directory: /data/mardata/Jan26 Pile : 0703

Pulse Sequence: s2pul

Solvent: C6D6
DATE Jan 26 2005
Sample 87
File: 0703
IMOVA-300 "ratty"

16 repatitions
OBSERVE E1, 29,8459062 MHz
DATA PROCESSING
FT size 6536
Total time 1 min, 16 sec Relax. delay 1.000 sec Pulse 45.0 degrees Acq. time 3.744 sec Nidth 4797.6 Hz





11.63

0.24 0.41

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64.06

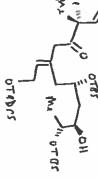
21.20

0

Pulse Sequence: s2pul Automation directory: /data/nmrdata/Mar09 File: 2102

Solvent: cdcl3
Ambient temperature
Sample #21
File: 2102
INOVA-300 "ratty"

Relax. dalay 1.000 sec
Pulse 45.0 degrees
Acq. time 3.744 sec
Width 4797.6 Hz
16 repetitions
OSERVE H1. 29.8458792 MHX
DATA PROCESSING
FT size 55516
Total time 1 min, 16 sec





13.39

10.0

4.92

81.67

83

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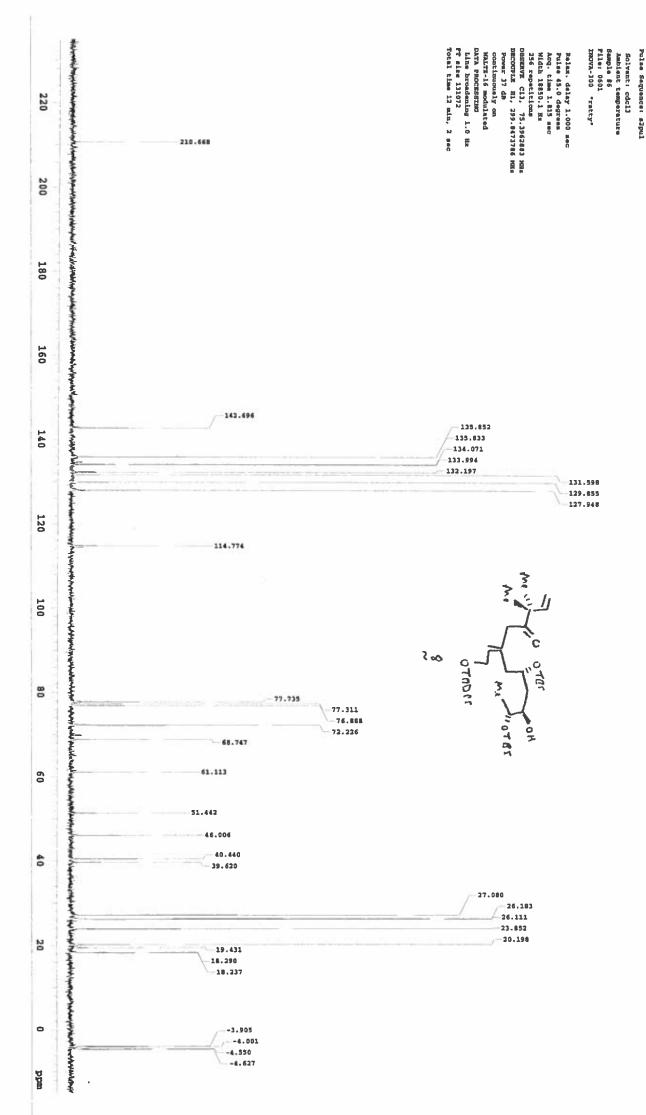
mdd

9

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pad=2 run with finds0 before acquisition

Automation directory: /data/mardsts/Mar10 File : 0601



Automation directory: /data/mardata/Jan28 File : 0501

Pulse Sequence: s2pul

Solvant: C5D6
DATE Jan 28 2005 -Sample #5
File: 0501
THOYA-300 \*ratty\*

Relax. delay 1.000 sec
Pulse 45.0 degrees
Acq. time 3.74d sec
Width 4797.6 Hz
32 repetitions
OSSENVE H1, 29,8459062 MER
DATA PROCESSING
FT else 5536
Total time 2 min, 32 sec

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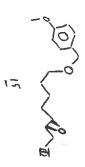
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81.04

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Relax. dalay 1.000 sec pulse 45.0 degrees Acq. time 3.744 sec Width 4797.6 Hz 16 repetitions OSERVY R1, 239.8458792 MEX DATA PROCESSING PT size 6535 Total time 1 min, 16 sec



10

0.16

0.46

8.96

19.8

0.52

0.27

47.55

N

32.50

0.72

0.13

Automation directory: /data/mardata/Apr28
File: 3102
Pulse Sequence: s2pul
Solvent: cdcll
Bolvent: cdcll
DATE Apr 28 2005
Example 831
File: 3102
IMOVA-300 "ratty"

Relax. delay 1.000 sec
Pulse 45.0 degrees
Ang. time 1.815 sec
Width 18850.1 Hz
256 repetitions
OBSERVE C13, 75.3963883 Mix
DECOUPLE H1, 299.8473786 Mix
POWER 37 dB
CONTINUOUSLY ON
WALTZ-16 modulated
ANTA PROCESSING
Line broadening 1.0 Hz
FF size 111072
Total time 12 min, 2 sec

15 T

159.402 130.885 -129.512 114.042 77.731 77.308 76.884 72.844 62.761 55.558 31.761 29.720 22.914

5.327

220

200

180

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140

120

100

80

60

6

20

0

Automation directory: /data/nmrdata/May09 File: 0902

Pulse Sequence: s2pul

Solvant: cdcl3

DATE Hay 9 2005

Sample 89

File: 0902

INDVA-300 "zatty"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 1.815 sec

Width 1850.1 Rs

256 repetitions

OBSENVE Cl3, 75.396288 HRz

DECOUPLE H1, 29.8473786 HRz

POWET 37 dB

continuously on

WALTZ-16 modulated

DATA PROCESSING

Line broadsaing 1.0 Rz

Fr size 1.13172

Total time 12 min, 2 sec

17 July 20 Jul

77.693

77.266 76.842

22.254

73.298 72.760 70.143 35.486

159.322

- 113.130

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80

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6

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2.68 -9.61		Automation directory: /data/mardata/May23 File: 1301 Pulse Sequence: s2pul Solvent: cdc13 DATE May 23 2005 Sample: \$3 File: 3301 INCVA-300 "ratty" Ralam. delay 1.000 sec Pulse: 45.0 degrees Acq. time 1.744 sec Midth 4797.6 Bz 16 repatitions 056HWW E1, 299.8458792 MHz DATA PROCESSING FT size 5536 Total time 1 min, 16 sec
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0.15		75 1078
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0.00 3.16 0.48		
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0.00		

Automation directory: /data/nordata/May23 File: 1302 Pulse Sequence: s2pul Solvant: cdcl3 DATE May 23 2005 Sample 83 File: 1302 File: 1302

07E

5.128

Relax. delay 1.000 sec Pulse 45.0 degrees Arq. time 1.815 sec Width 1880.1 Hz

256 repetitions
OBSERVE C13, 75.3962883 MER
DECOUPLE M1, 299.8473786 MER
Prover 37 dm

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continuously on MALTS-16 modulated DATA PROCESSING Line broadening 1.0 Hz FT mine 131072 Total time 12 min, 2 sec

141.468 114.420 -77.685 -77.262 76.838 73.680 44.064 30.540 29.937 18.046

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220

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Ralax. delay 1.000 sec Palse 45.0 degrees Ang. time 3.746 sec Width 4797.6 Ex 16 repatitions OBSERVE E1, 299.6458792 MER DATA PROCESSING FT else 45516 Total time 1 min, 16 sec

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0.06		
		-

0.07

Automation directory: /data/pmrdata/Nay27 File : 4901

Solvent: C6D6 DATE Hay 27 2005 Sample 849 File: 4901 IMOVA-300 "ratty"

Pulse Sequence: s2pul

Relax. delay 1.000 sec Pulse 45.0 degrees Acq. time 3.744 sec Nidth 4797.6 Hz

16 repetitions
OBSENVE BI, 299.8459062 MEX
DATA PROCESSING
FT size 65536
Fotal time 1 min, 16 sec

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U

0.00

23.18

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1.32

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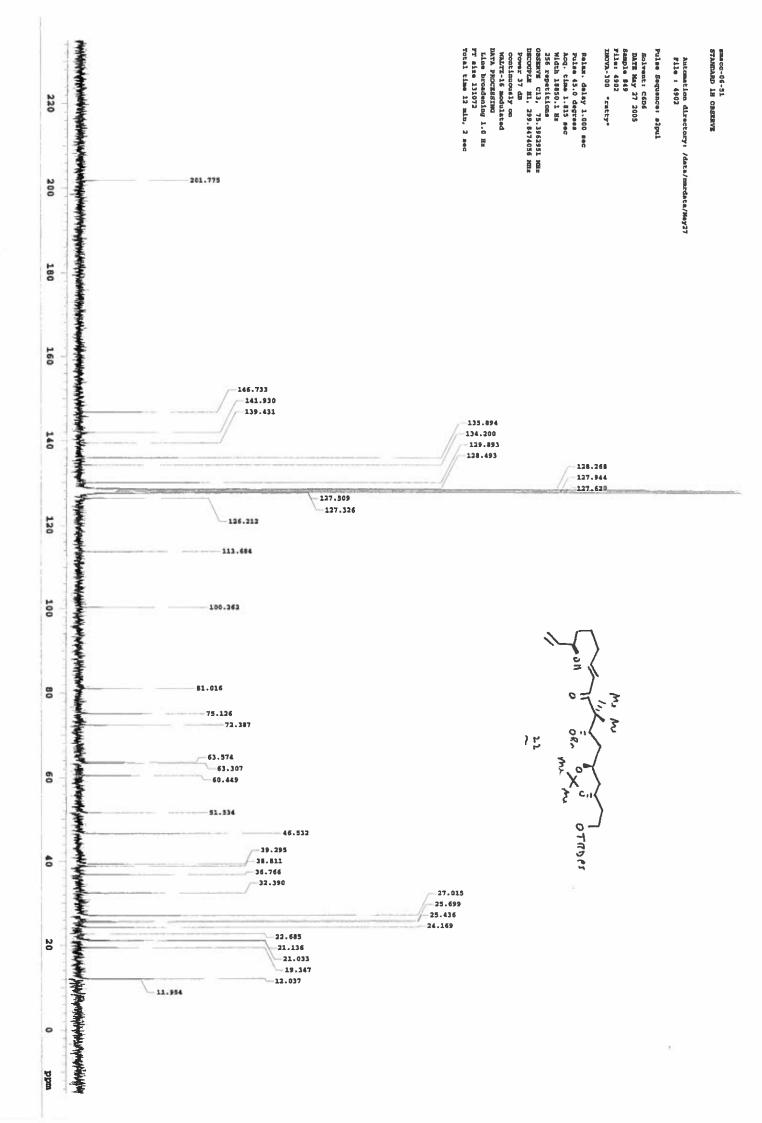
12.95

0.22

60.53

0.64

mad



Automation directory: /data/nmrdate/Ney31 File: 1001

Pulse Sequence: s2pul

Bolvent: cdcl3
DATE Hay 31 2005
Sample #10
File: 1001
THOVA-300 Tatty

16 repetitions
DASHAVE H1, 299.8458792 MR
DAYA PROCESSING
FT size 6536
Foral time 1 min, 16 sec Relax. dalay 1.000 eec Pulse 45.0 degrees Acq. time 3.744 sec Width 4797.6 Hz

123

0.11

7.78

4.62

1.05

4.49

20.71

1.13

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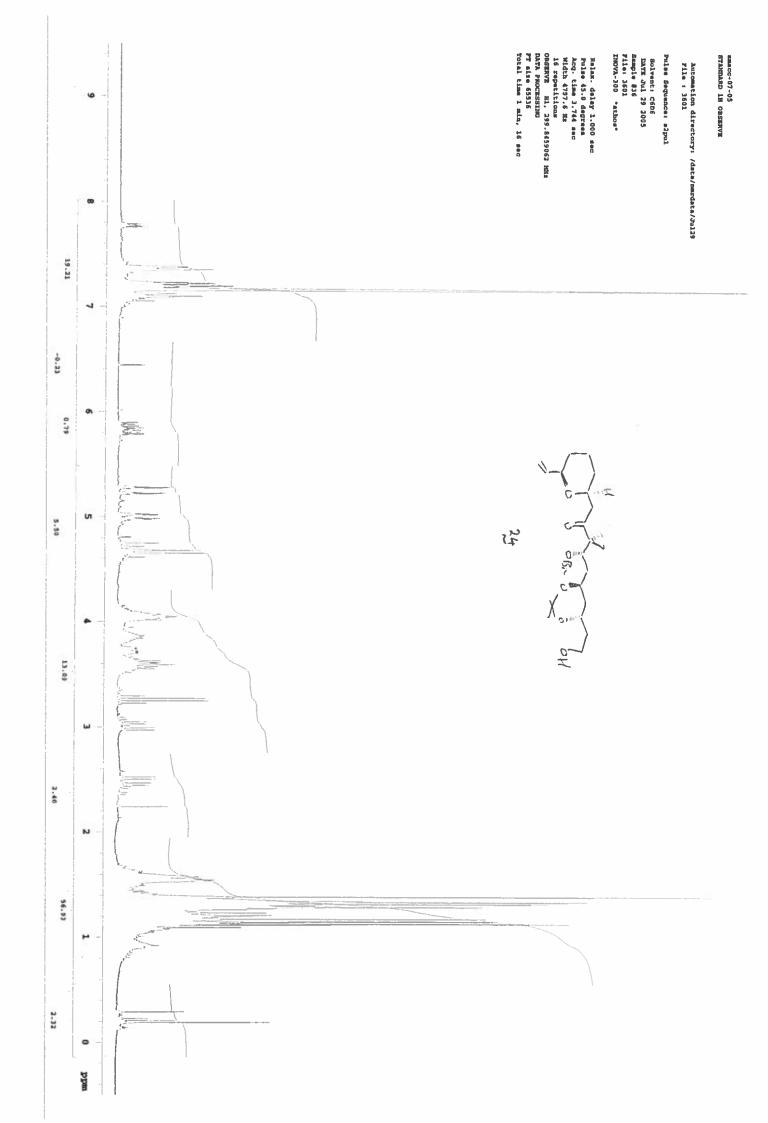
0

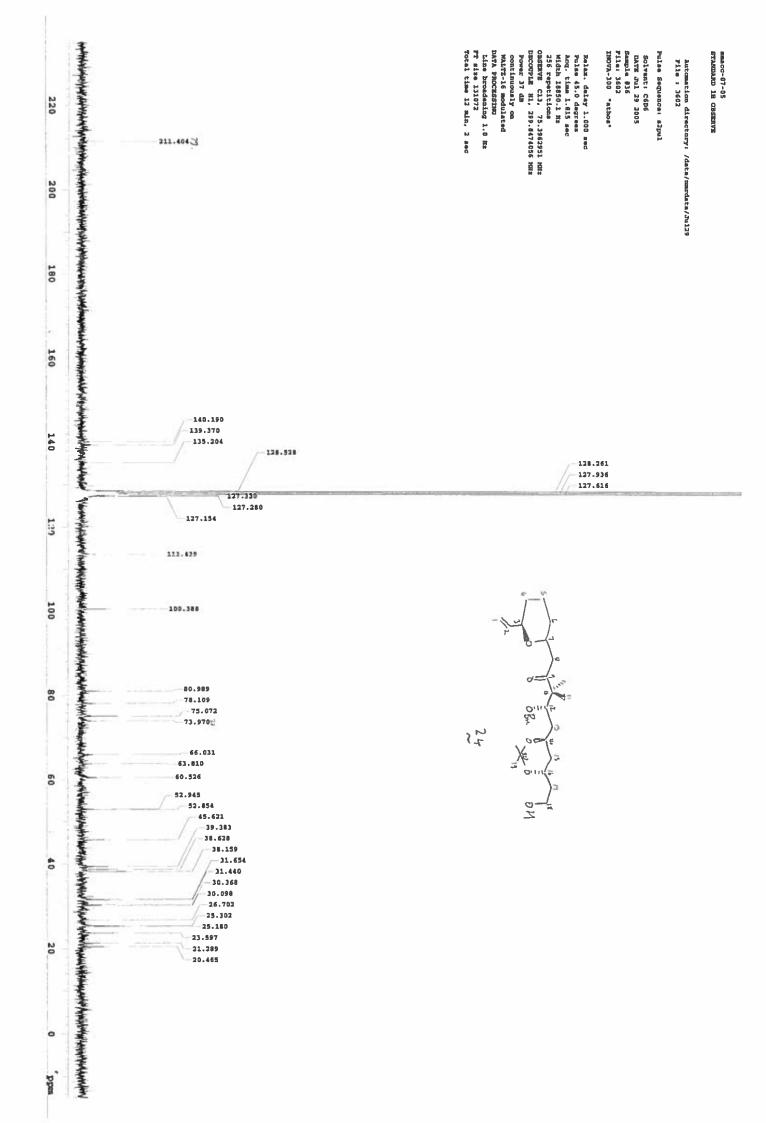
PPB

6.12

Automation directory: /data/mardata/Jun03 Fils : 4002

```
Relaw. delay 1.000 sec
Pulse 45.0 degrees
Acq. time 1.815 sec
Width 18850.1 Hz
256 repetitions
OBSTRIVE C13, 75.3982991 MHz
DECOUPLE H1, 299.8474056 MHz
POWER 7 dB
continuously on
WALTZ-16 modulated
DATA PROCESSING
Line broadening 1.0 Hz
FT size 131072
Total time 12 min, 2 sec
                                                                                                                                                                                                                                                            Solvent: C6D6
DATE Jun 3 2005
Sample $40
Pile: 4002
IMOVA-300 "ratty"
                                                                                                                                                                                                                                                                                   Pulse Sequence: =2pul
220
200
180
160
                                                               140.209
140
                                                                                                             135.902
                                                                                                             134.204
                                                                                                              129.866
                                                                                                              128.501
                                                                                                                                                                                                                                               128.268
                                                                                                                                                                                                                                               127_948
                                                                             127.292
120
                                                   113.424
100
                                                  100.306
                                                           81.058
80
                                                           78.098
                                                          -75.023
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                                                             -74.000
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                                                        63.768
                                                         63.280
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60
                                                        60.469
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                                                              45.647
                                                                 39.349
                                                               38.929
                                                                     31.681
6
                                                                   31.452
                                                                30.365
30.105
                                                                                                       27.015
                                                                                                      25.592
                                                                                                   25.310
                                                             23.616
                                                           21.171
20
                                                            20.629
                                                             19.351
                                                         1.298
0
                                                   0.490
```







PPR

-0.63	Automation directory: /data/nmrdata/Jun22  Pile: 1302  Pule Exquence: eSpul  Solvent: cSp6  Lar. Jun 2 3005  Sample Sl  File: 1302  File: 1302  File: 1302  Ralam. dalay 1.000 sac  Pulse 45.0 degrees  Acq. timm 3.744 sac  Hddth 4797.6 Hz  13 repetitions  DARREVER HJ. 299.8459062 MHz  Taiss 65358  Total time 3 min, 12 sac
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16.13	
<b>u</b>	
N - 22	
19,10	
0 ppm	

-4.123 -4.310 tig 593 13C OBSERVE

Automation directory: /data/mardata/Apris File: 2702

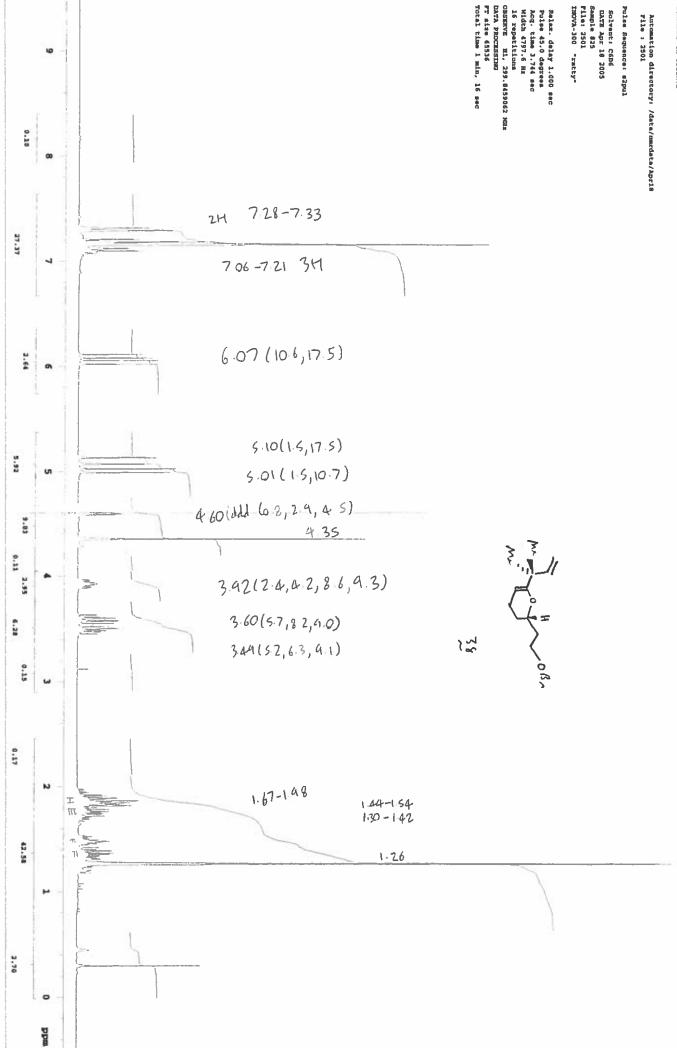
Pulse Sequence: #2pul Solvent: C6D6 BATE Apr 18 2005 Sample #37 Fils: 2702 THOWN-JOD Fratty\*

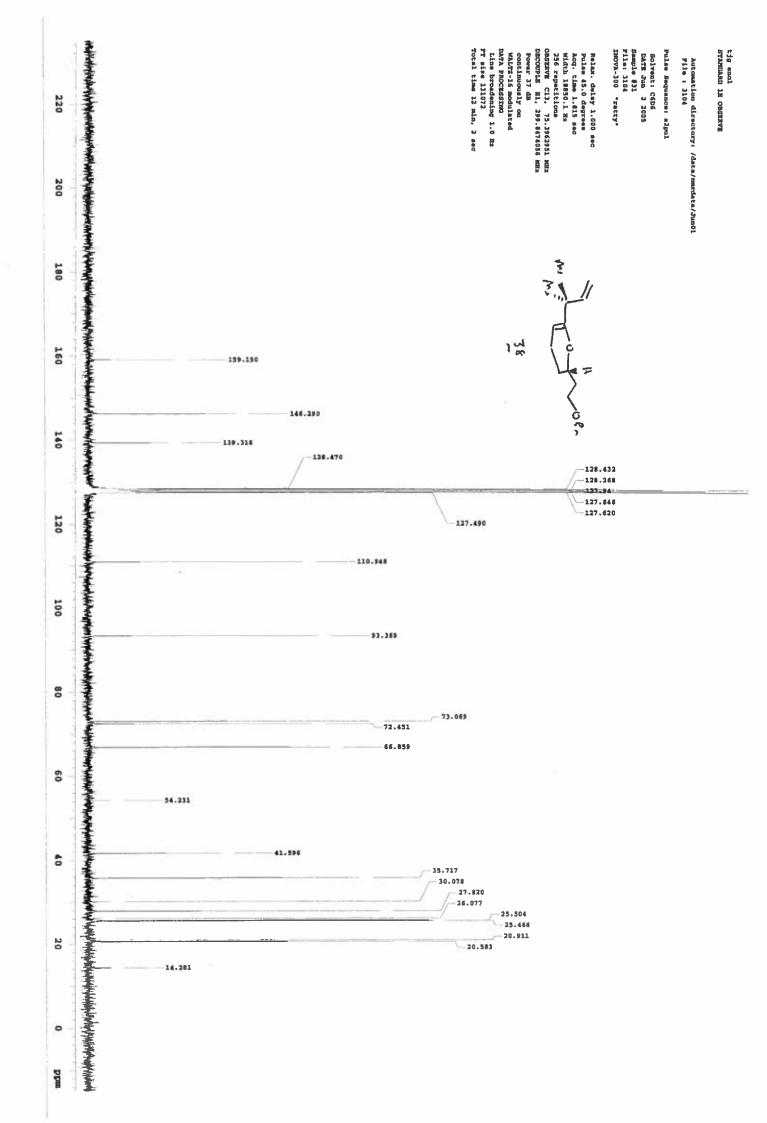
Relax. delay 1.000 sec Pulse 45.0 degrees Acq. time 3.744 sec Width 3061.7 Hz 16 repetitions OBSERVE N1, 29.8459062 MHz DATA PROCESSING PT size 32768 Total time 1 min, 16 sec

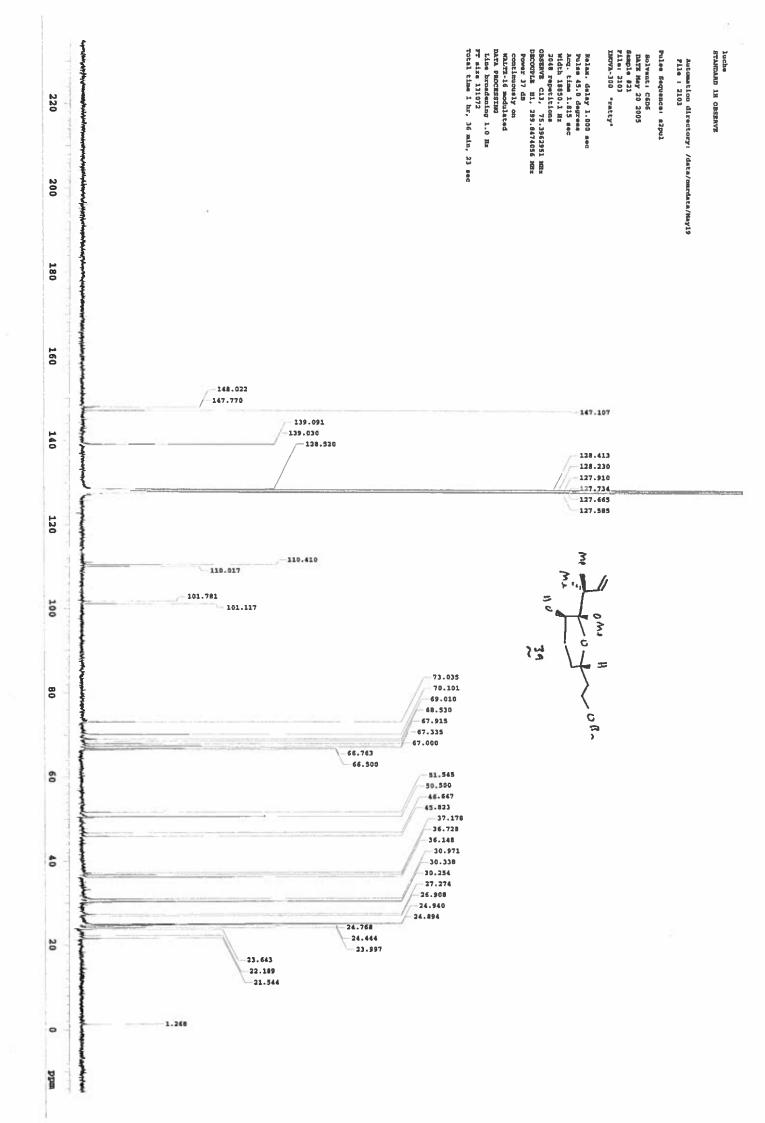
OH OH

1냋

0.05 0.06 2.54 5.89 u 6.08 7.97 0.01 54.78 1.69 -0.03 ٥ ppm







Automation directory: /data/mardata/Nay17 File : 1502

Solvant: C6D6
DATE May 18 2005
Sample \$16
File: 1602
IMOVA-30D "ratty"

Pulse Sequence: e2pul

Relax. delay 1.000 sec
Pulse 45.0 degrees
Ang. time 3.744 sec
Width 4797.6 Hz
16 repetitions
OBSENTE H1. 299.8459062 HHz
DATA PROCESSING
FT size 5536
Total time 1 min, 16 sec

75

23.17

2.14

6.13

0.02

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40.80

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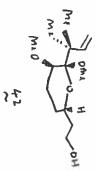
0

Automation directory: /data/mardata/Jun16 File : 2703

Pulsa Sequence: s2pul

Solvent: C6D6 DATE Jun 16 2005 Eurole #27 File: 2703 IMUVA-300 "ratty"

Relax. delay 1.000 sec
Pulse 45.0 degrees
Acq. time 3.744 sec
Width 2763.1 Hz
16 repetitions
OBSENVE H1. 299.8459062 NHz
DATA PROCESSING
PT eize 32768
Total time 1 min, 16 sec



-0.00

5.04

2.51

5.25

0.03

26.87

0.13

59.64

0.52

-

mdd

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0.02

Pulse Sequence: s2pul

Solvant: C6D6
DATE Jun 16 2005
Esample 827
File: 2704
HROVA-300 "ratty"
Walam. delay 1.000 sec
Pulse 45.0 degrees
Acq. time 1.815 sec
Width 18950.1 Ex
256 repetitions
DRERVE C13, 75.3962951 HHz
DRCOUPLE E1, 299.8474056 HER
Proces 37 dbs
continuously on
MALTZ-16 modulated
DATA PROCESSING
Line broadening 1.0 Hz
FF size 11172
Fotal time 12 min, 2 sec

mi do 42 ot

128.264 127.940 127.616

147.393

110.181

101.655

220

200

180

160

140

120

100

80

60

40

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mag

80,234

54.700 50.534

60.182

32.234 -31.059 -30.098 -24.650 -24.543 -23.261

\*\*ARRIMAND AR OBSERVE
Automation directory: /data/mardata/Hari8
File : 1802

Pulse Sequence: s2pul

Solvent: cdcl3
DATE Har 18 2005
Sample \$18
File: 1802
INUVA-300 "athos"

Relax. delay 1.000 sec
Pulse 45.0 degrees
Anc. time 1.815 sec
Midth 1885.1 Hz
256 repetitions
OBSENVE C13, 75.396283 NEX
DECOUPLE H1, 299.8473786 NEX
POWNE 37 dB
continuoualy on
MALTS-16 modulated
DAYA PROCESSING
Line broadening 1.0 Ex
PT size 131072
Total time 12 min, 3 asc

200

77.689
77.266
76.842

61.735

38.441 --- 37.346 ---- 33.851

25.004

220

200

180

160

140

120

100

80

60

40

20

mdd

Automation directory: /data/mardata/Mar31 File : 2001

Pulse Sequence: s2pul Solvent: cdcl3 DATE Mar 31 2005 Semple 820 File: 2001 File: 2001

Relax. delay 1.000 sec Pulse 45.0 degrees Acq. time 3.744 sec Width 4797, 6 Hz 16 repetitions OBSENVE H1, 29.8458792 MEX DATA PROCESSING PT size 45536 Total time 1 min, 16 sec

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UI

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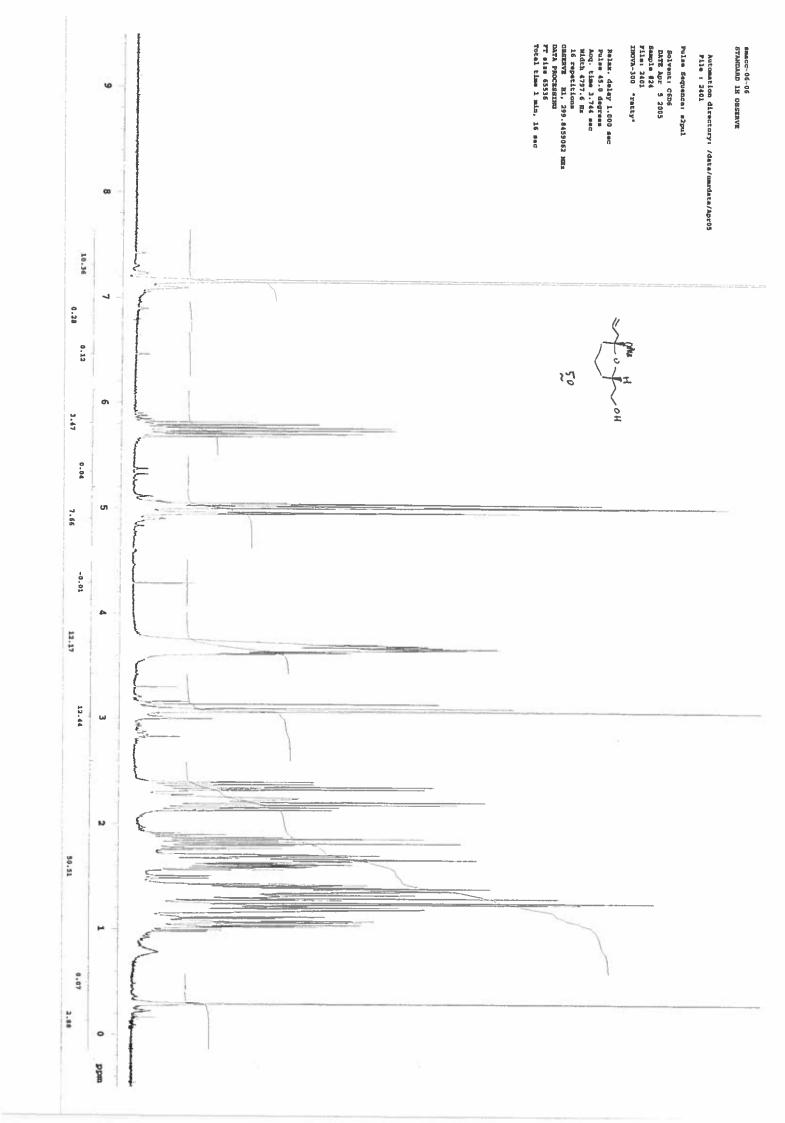
0.17

0

mdd

Automation directory: /data/nurdatm/Jul25 File : 1402

220	Pulse Sequence: s2pul Solvent: cdcll DANTE Jul 25 2005 Sample 814 Fils: 1002 INDVA-300 *athos*  Relax. delay 1.000 sec Pulse 45.0 degrees Acq. time 1.815 sec Width 1850.1 hs 128 repetitions OBSERVE C13, 75.3963881 HHz DECOUPLE M1, 299.8473786 HHs DOWN PROCESSING Line broadening 1.0 Hs FT size 131072 Total time 17 min, 7 sec
200	1 85 NSI 2 STATE OF THE PROPERTY OF THE PROPER
180	
160	The state of the s
140	130.946
120	118.956
100	
80	77.697 77.273 76.850
60	60.407
40	42.710 41.611 40.571 77.090 29.319 27.930
20	20.709 -19.782 19.682 -19.003 -10.156 -14.567
1111111	-14.567 -12.232 -11.679 -7.192 -5.308
0	<b>{</b>
ppm	



ppm

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was the field of t			Ralam. delay 1.000 sec Phiss 45.0 degrees Acq. time 3.744 sec Width 4797.6 Mm 16 repetitions OBSERVE H1, 259.8459062 MM DRAL PROCESSING PT size 6536 Total time 1 min, 16 sec	standand 1H observe  Automation directory: /data/mardata/Jull1 File : 2201  Pulse Sequence: s2pul Solvent: C5D6 Darg Jul 11 2005 Sample 322 File: 2201 INOVA-200 "ratty"	
A principle describes and data and elements	0.12			30cm/Jul11	
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And the second second	1.00				
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	19.61				
ent entre de la maj mara el maj entre al libra entre el maj entre el m	1.17	N			
	42.30	H -			
	0.83				
•	9.54				