

p-tolylboronic acid + 4-bromoacetophenone  
STANDARD 1H OBSERVE

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_28Jun2013

Pulse Sequence: s2pul1

Solvent: cdcl3

Ambient temperature

Sample #1

File: 0501

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 3.000 sec

Width 4800.8 Hz

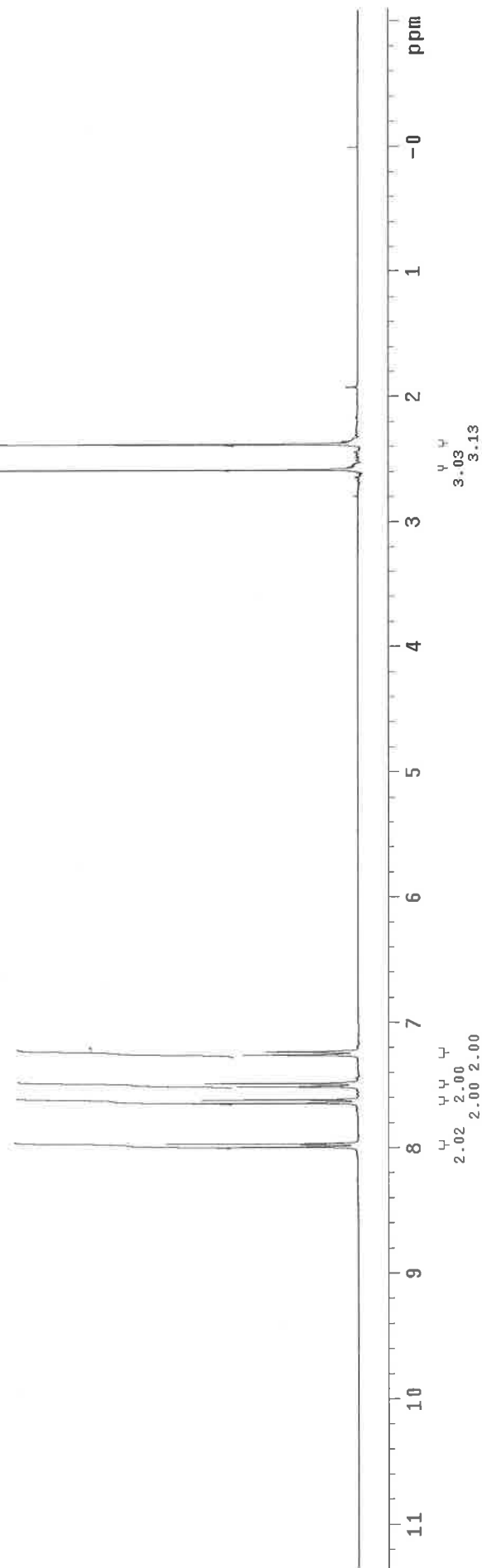
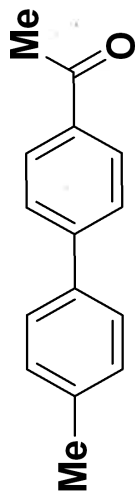
8 repetitions

OBSERVE H1, 300.0308979 MHz

DATA PROCESSING

FT size 32768

Total time 0 min, 46 sec



p-tolylboronic acid + 4-bromoacetophenone  
STANDARD 1H OBSERVE

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_28jun2013

Pulse Sequence: s2pul

Solvent: cdc13

Ambient temperature

Sample #1

File: 0501

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 3.000 sec

Width 4800.8 Hz

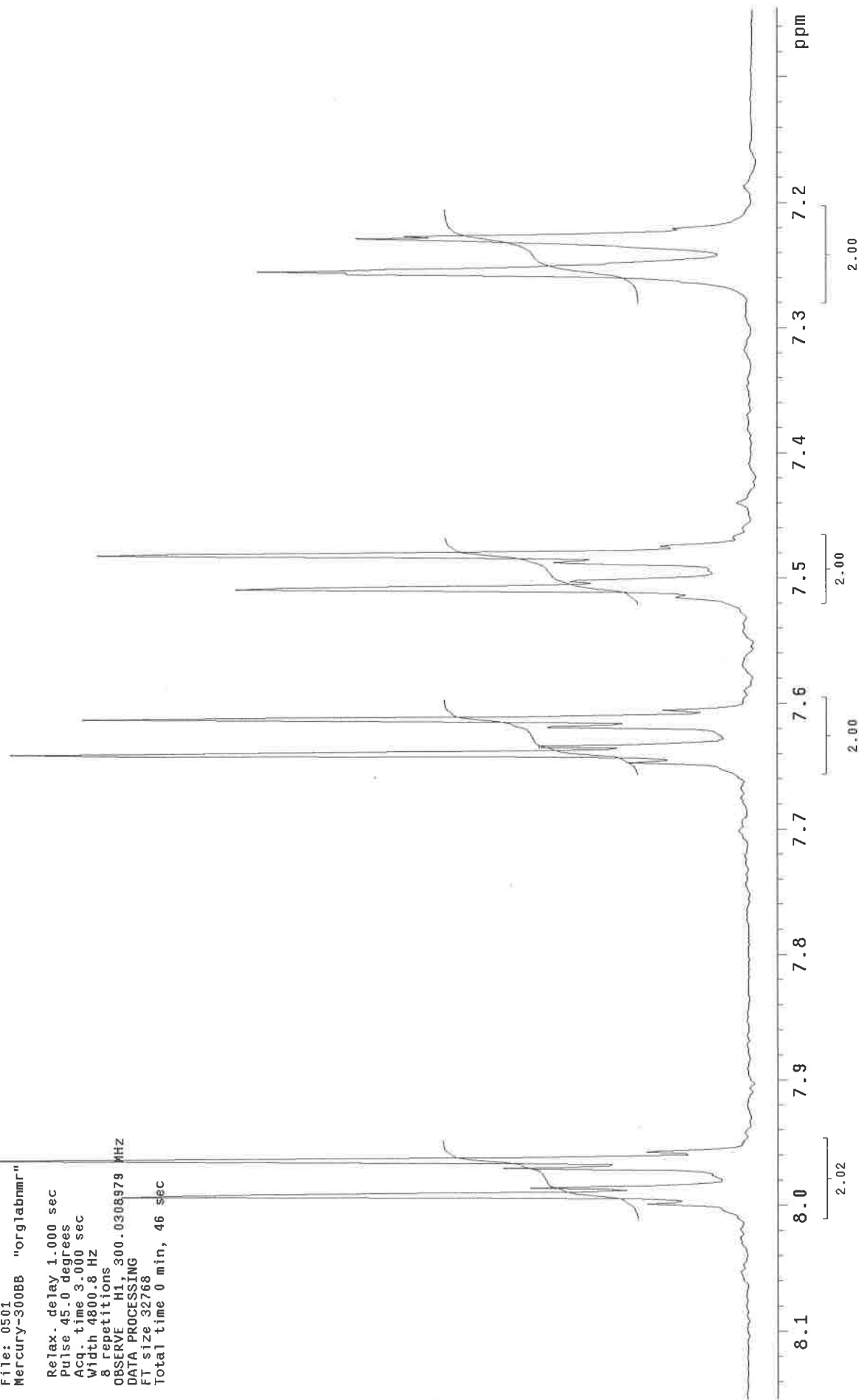
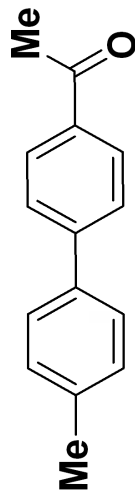
8 repetitions

OBSERVE H1, 300.0308979 MHz

DATA PROCESSING

FT size 32768

Total time 0 min, 46 sec



p-tolylboronic acid + 4-bromoacetophenone  
STANDARD 1H OBSERVE

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_28Jun2013

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 0502

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 1.000 sec

Width 18867.9 Hz

64 repetitions

OBSERVE C13, 75.4428085 MHz

DECOUPLE H1, 300.0323276 MHz

Power 38 dB

continuously on

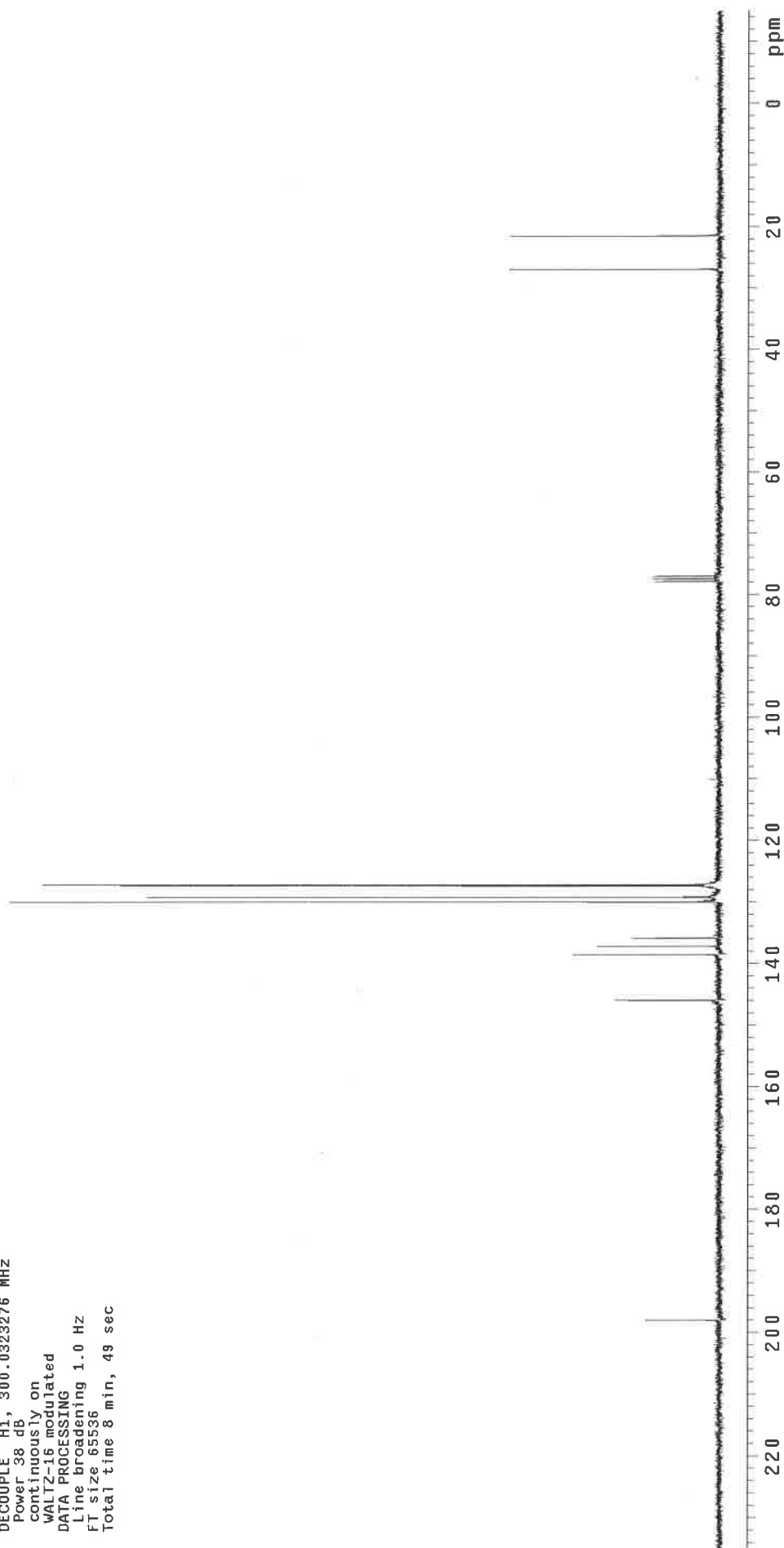
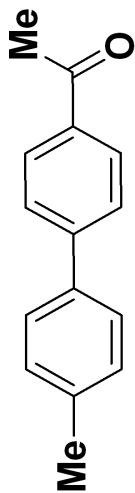
WALTZ-16 modulated

DATA PROCESSING

Line broadening 1.0 Hz

FT size 65536

Total time 8 min, 49 sec



p-tolylboronic acid + 4-bromoacetophenone  
STANDARD 1H OBSERVE

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_28Jun2013

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 0502

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 1.000 sec

Width 18867.9 Hz

64 repetitions

OBSERVE C13, 75.4428085 MHz

DECOUPLE H1, 300.0323276 MHz

Power 38 dB

continuously on

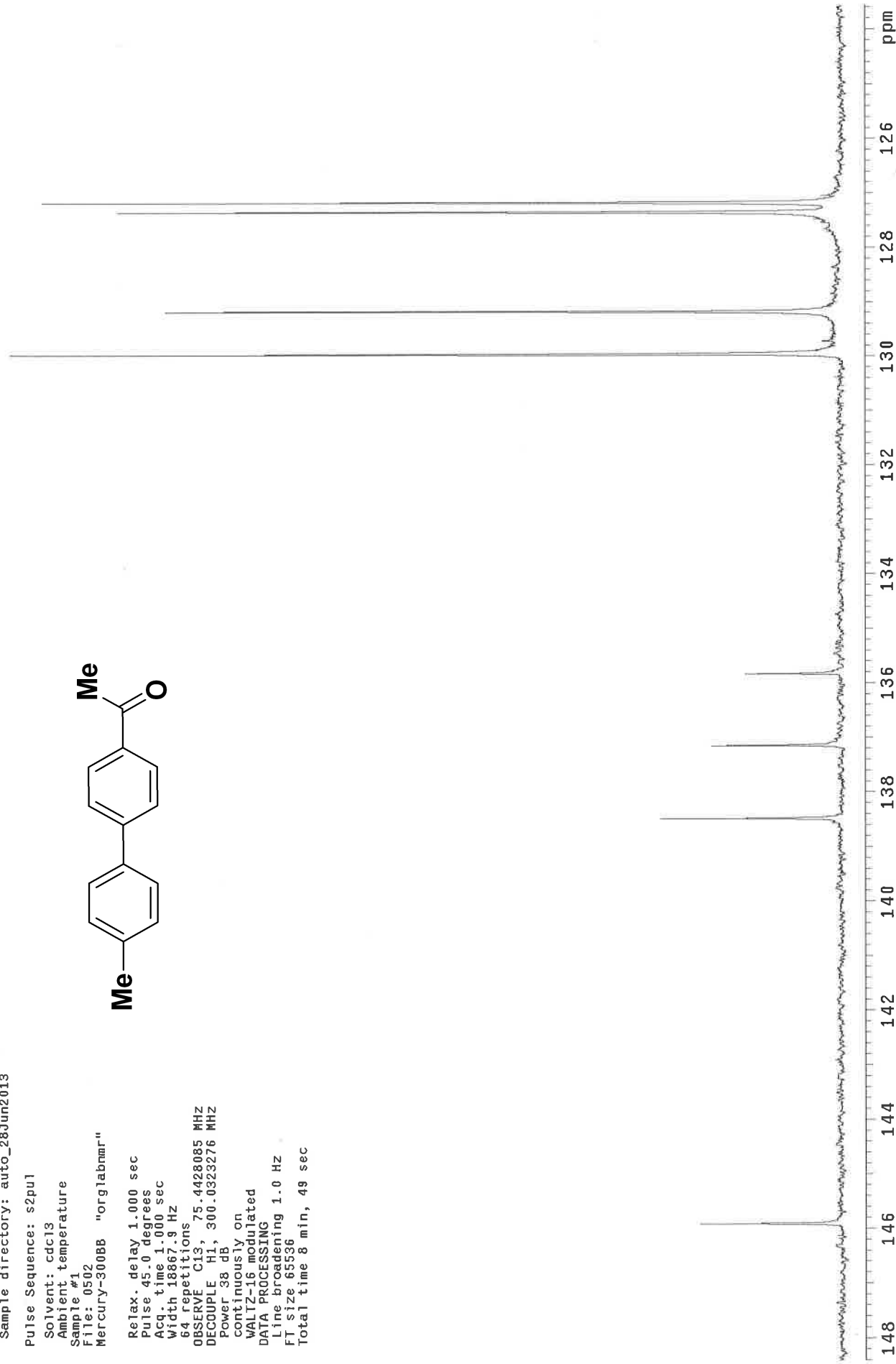
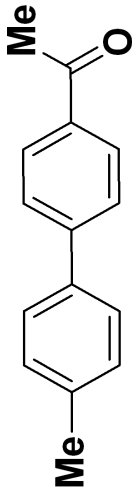
WALTZ-16 modulated

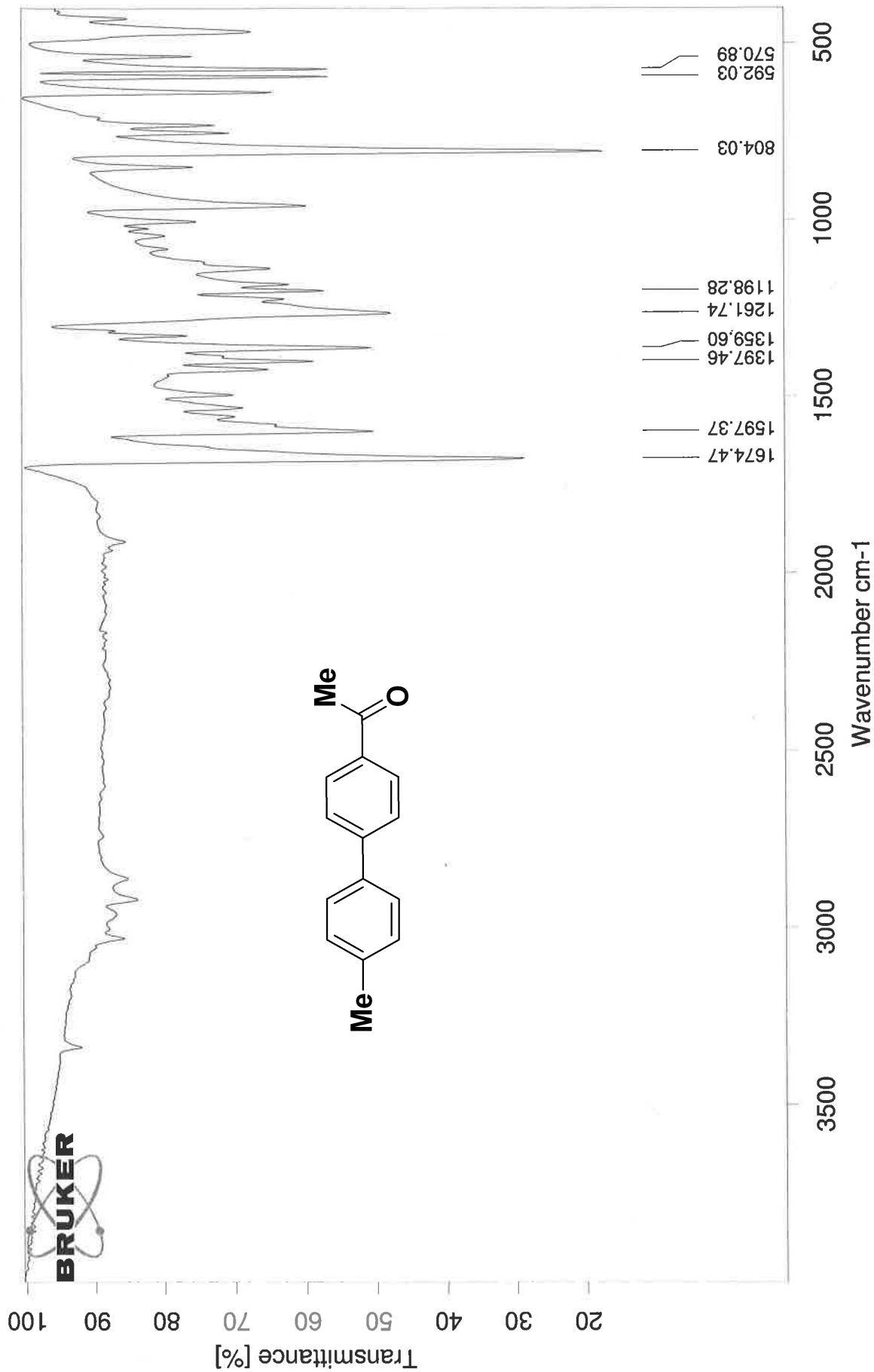
DATA PROCESSING

Line broadening 1.0 Hz

FT size 65536

Total time 8 min, 49 sec





C:\FT-IR Data\Student\p-tolylboronic acid + 4'-bromoacetophenone.0

100%T

Instrument type and / or accessory

7/16/2013

p-tolylboronic acid + 1-bromo-4-fluorobenzene  
STANDARD 1H OBSERVE

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_28Jun2013

Pulse Sequence: s2pu1

Solvent: cdcl3

Ambient temperature

Sample #1

File: 0101

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 3.000 sec

Width 4800.8 Hz

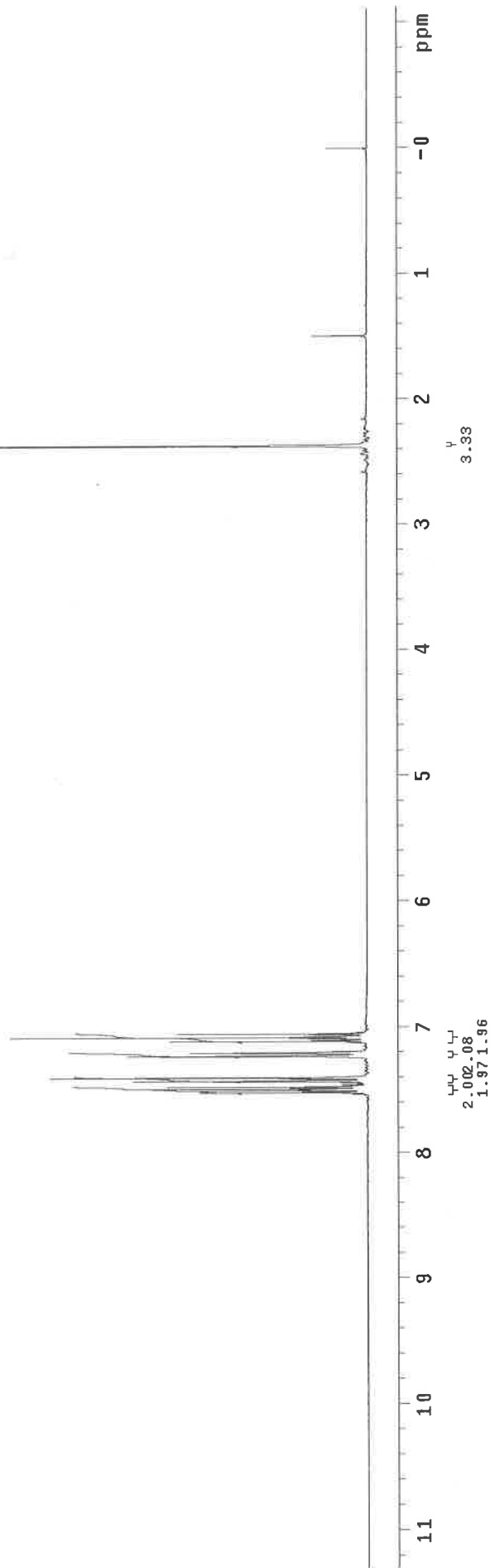
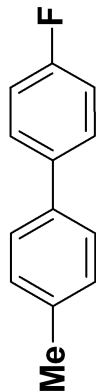
8 repetitions

OBSERVE H1 300.0309061 MHZ

DATA PROCESSING

FI size 32768

Total time 0 min, 46 sec



p-tolylboronic acid + 1-bromo-4-fluorobenzene  
STANDARD 1H OBSERVE

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_28Jun2013

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 0101

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 3.000 sec

Width 4800.8 Hz

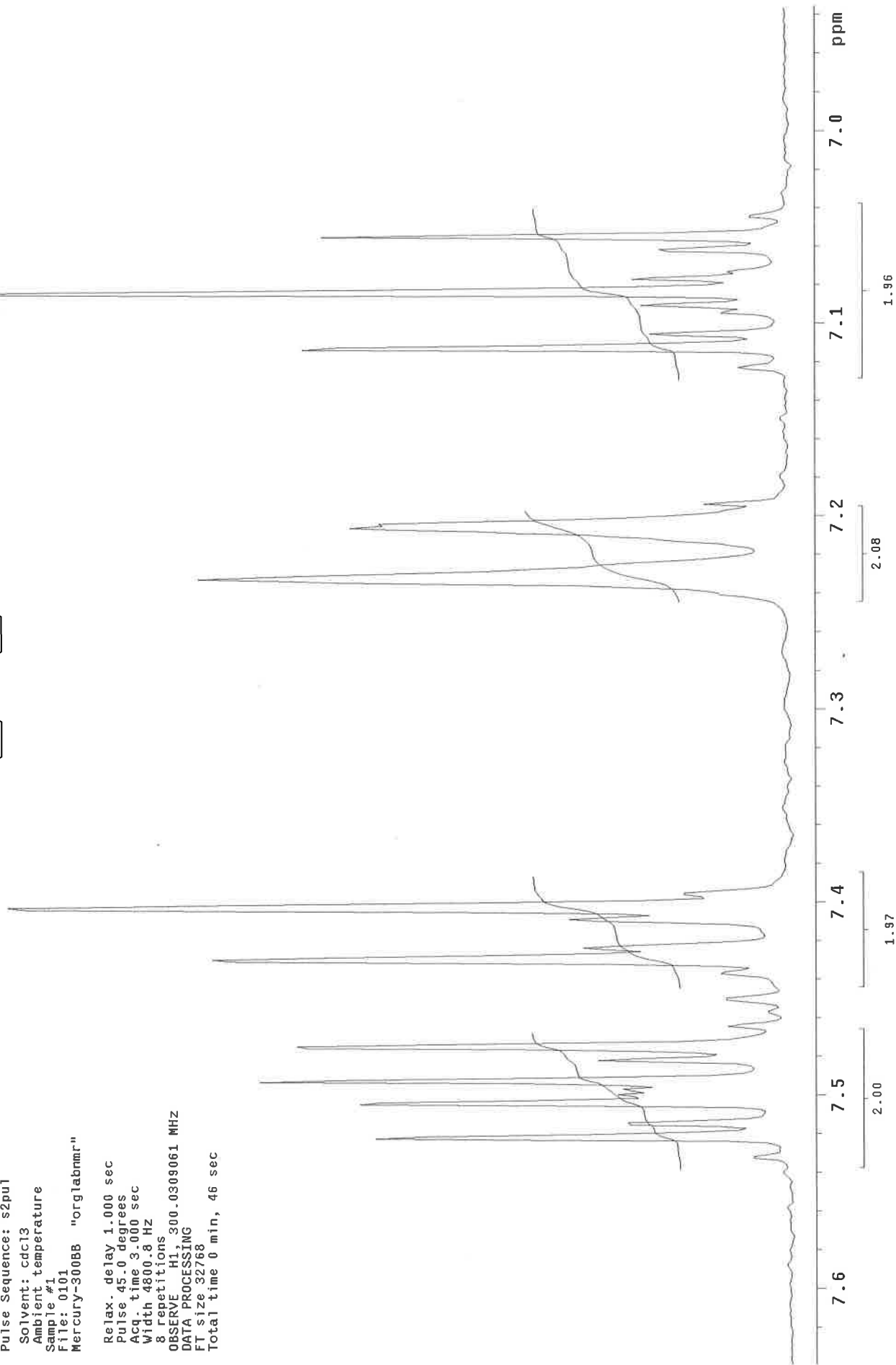
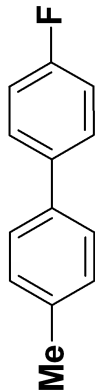
8 repetitions

OBSERVE H1 300.0309061 MHz

DATA PROCESSING

FT size 32768

Total time 0 min, 46 sec



p-tolylboronic acid + 1-bromo-4-fluorobenzene  
STANDARD 1H OBSERVE

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_28Jun2013

Pulse Sequence: s2pul

Solvent: cdc13

Ambient temperature

Sample #1

File: 0102

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 1.000 sec

Width 18867.9 Hz

64 repetitions

OBSERVE C13, 75.4428199 MHz

DECOUPLE H1, 300.0323276 MHz

Power 38 dB

continuously on

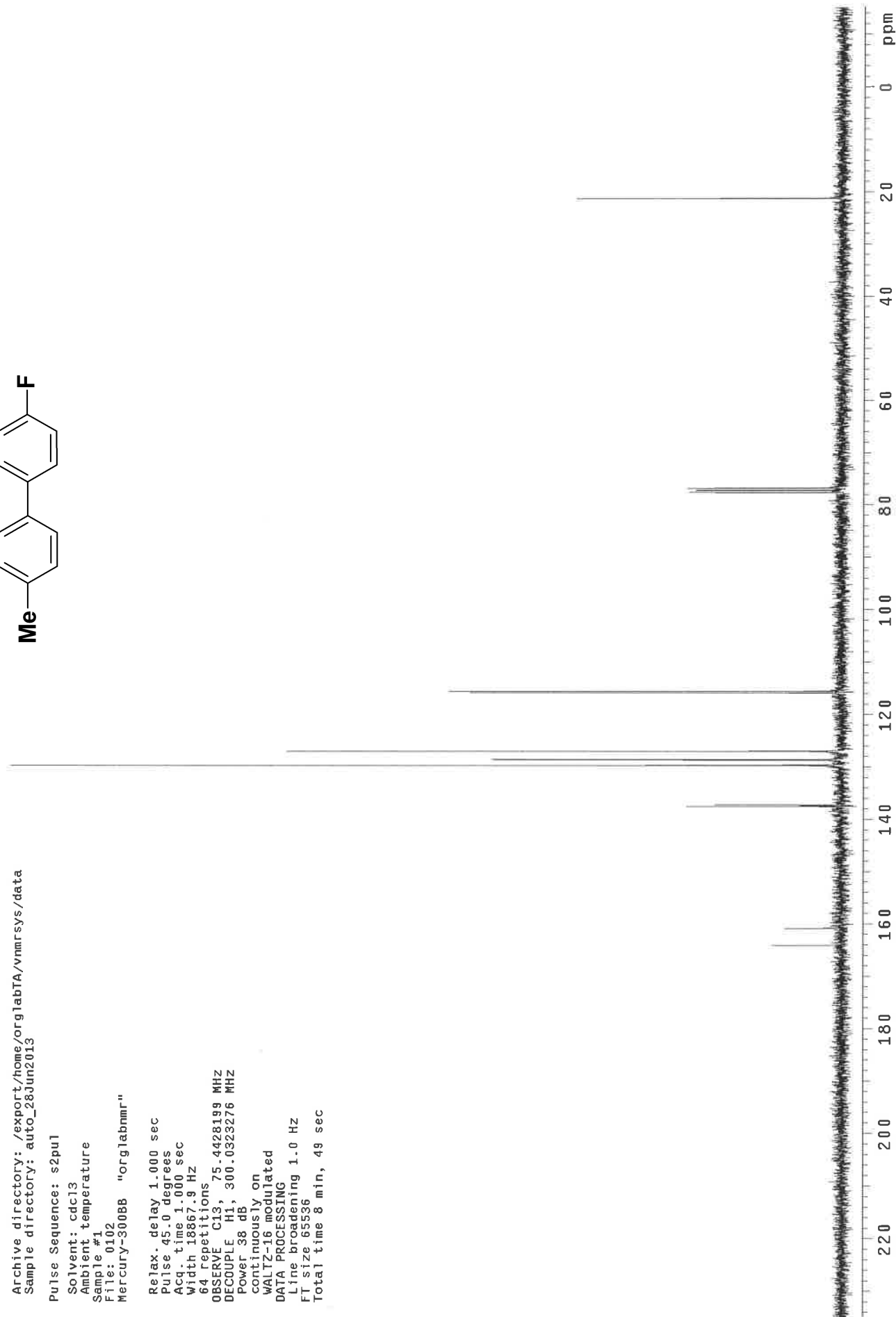
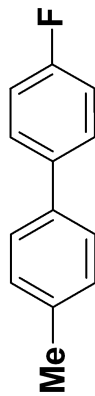
WALTZ-16 modulated

DATA PROCESSING

Line broadening 1.0 Hz

FT size 65536

Total time 8 min, 49 sec



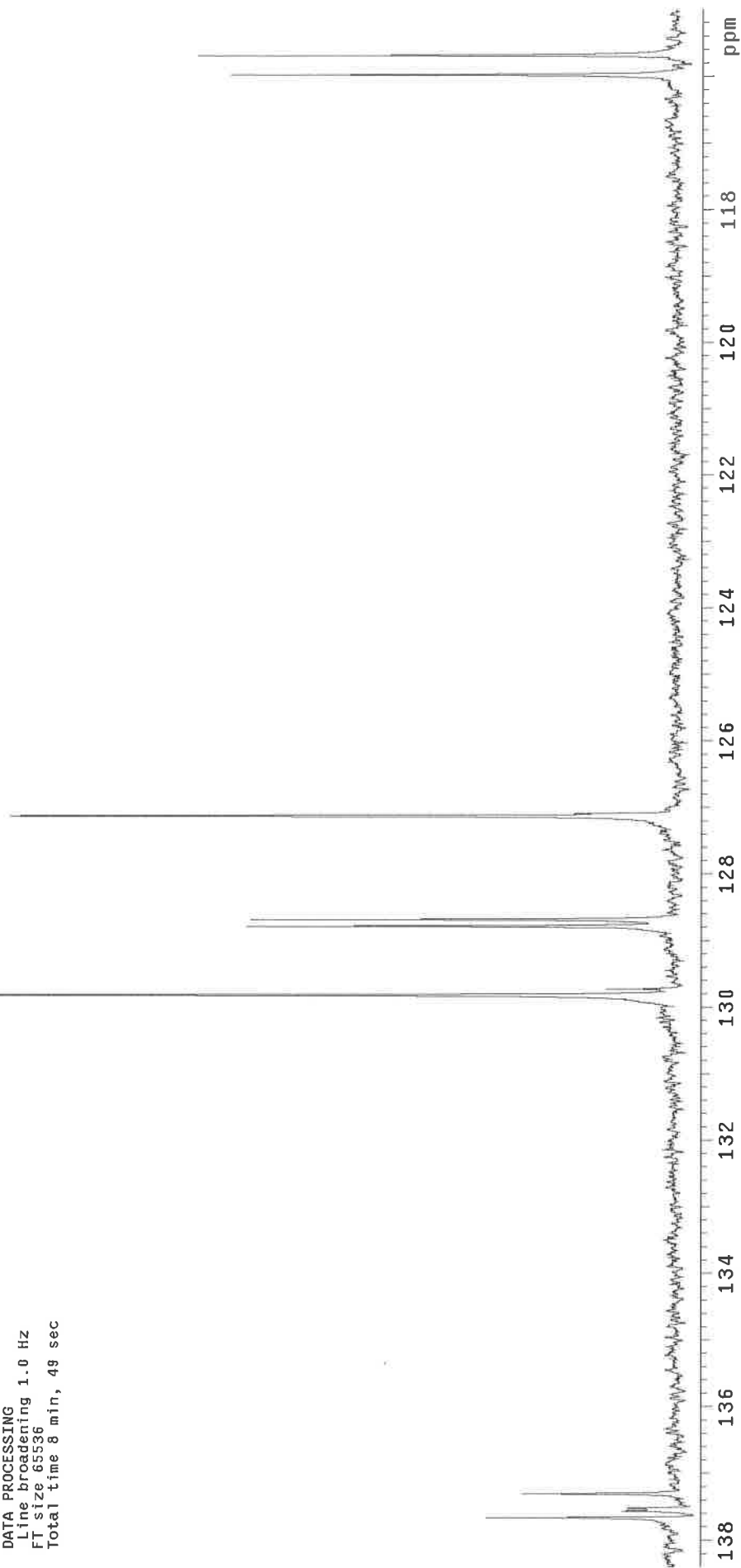
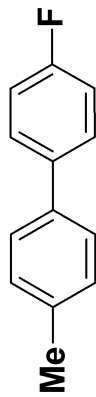


p-tolylboronic acid + 1-bromo-4-fluorobenzene  
STANDARD 1H OBSERVE

Archive directory: /export/home/orglab/TA/vnmr/sys/data  
Sample directory: auto\_28Jun2013

Pulse Sequence: s2pul  
Solvent: cdcl3  
Ambient temperature  
Sample #1  
File: 0102  
Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec  
Pulse 45.0 degrees  
Acq. time 1.000 sec  
Width 18867.9 Hz  
64 repetitions  
OBSERVE C13, 75.4428085 MHz  
DECOUPLE H1, 300.0323276 MHz  
Power 38 dB  
continuously on  
WALTZ-16 modulated  
DATA PROCESSING  
Line broadening 1.0 Hz  
FT size 65536  
Total time 8 min, 49 sec



p-tolylboronic acid + 1-bromo-4-fluorobenzene

19F OBSERVE

STANDARD PARAMETERS

Archive directory: /export/home/orglabTA/vnmrsys/data

Sample directory: auto\_28Jun2013

Pulse Sequence: s2pu1

Solvent: cdcl3

Ambient temperature

Sample #1

File: 0103

Mercury-300BB "orglabnmr"

Relax. delay 1.500 sec

Pulse 30.0 degrees

Acq. time 0.300 sec

Width 50000.0 Hz

16 repetitions

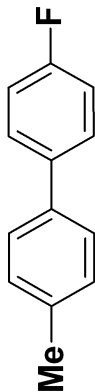
OBSERVE F19, 282.312060 MHz

DATA PROCESSING

Line broadening 0.3 Hz

FT size 32768

Total time 0 min, 46 sec



-20 -40 -60 -80 -100 -120 -140 -160 -180 ppm

p-tolylboronic acid + 1-bromo-4-methoxybenzene  
STANDARD 1H OBSERVE

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_28Jun2013

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 0201

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 3.000 sec

Width 4800.8 Hz

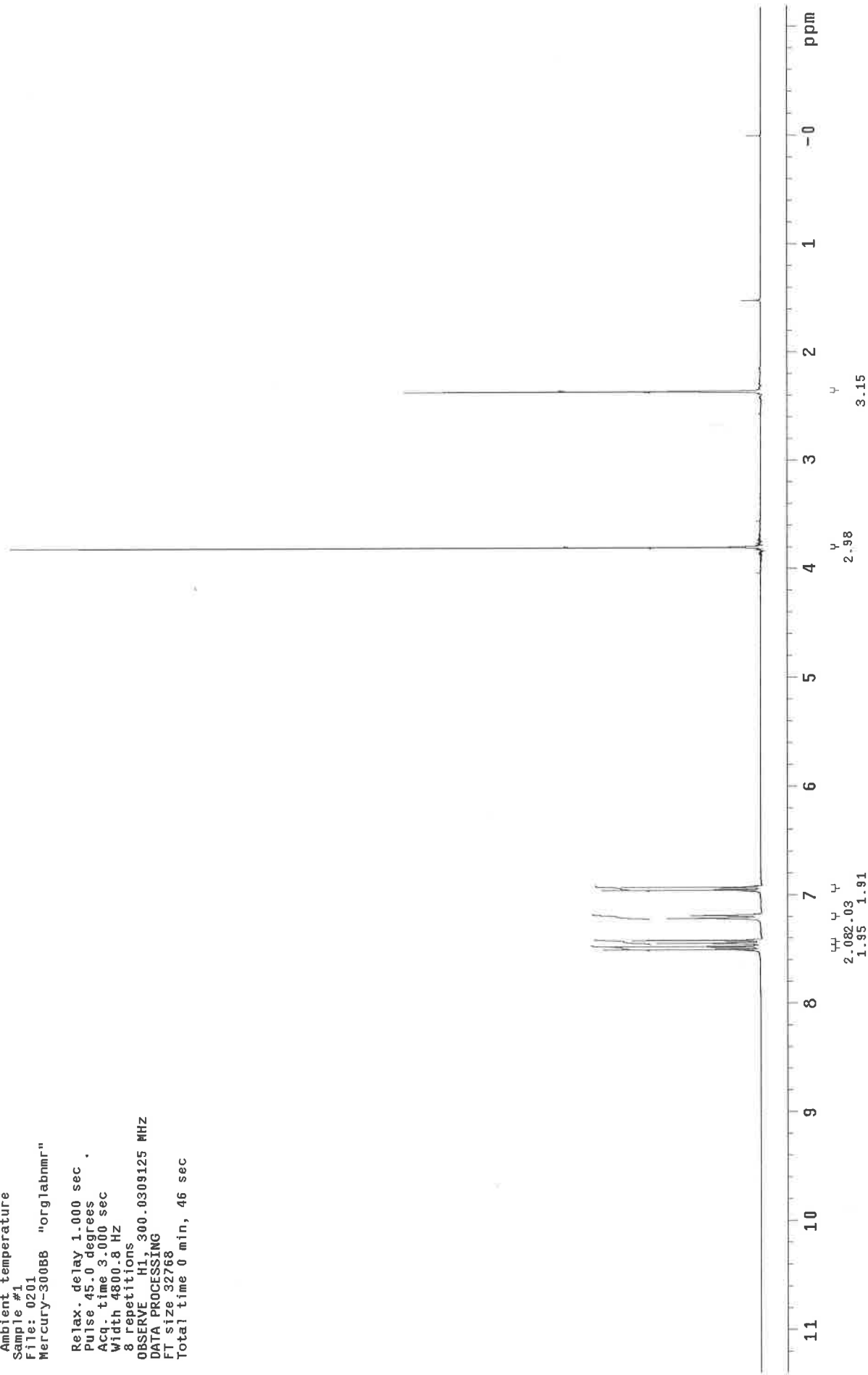
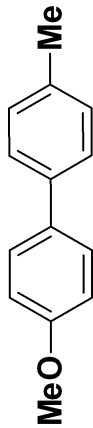
8 repetitions

OBSERVE H1, 300.0309125 MHz

DATA PROCESSING

FT size 32768

Total time 0 min, 46 sec

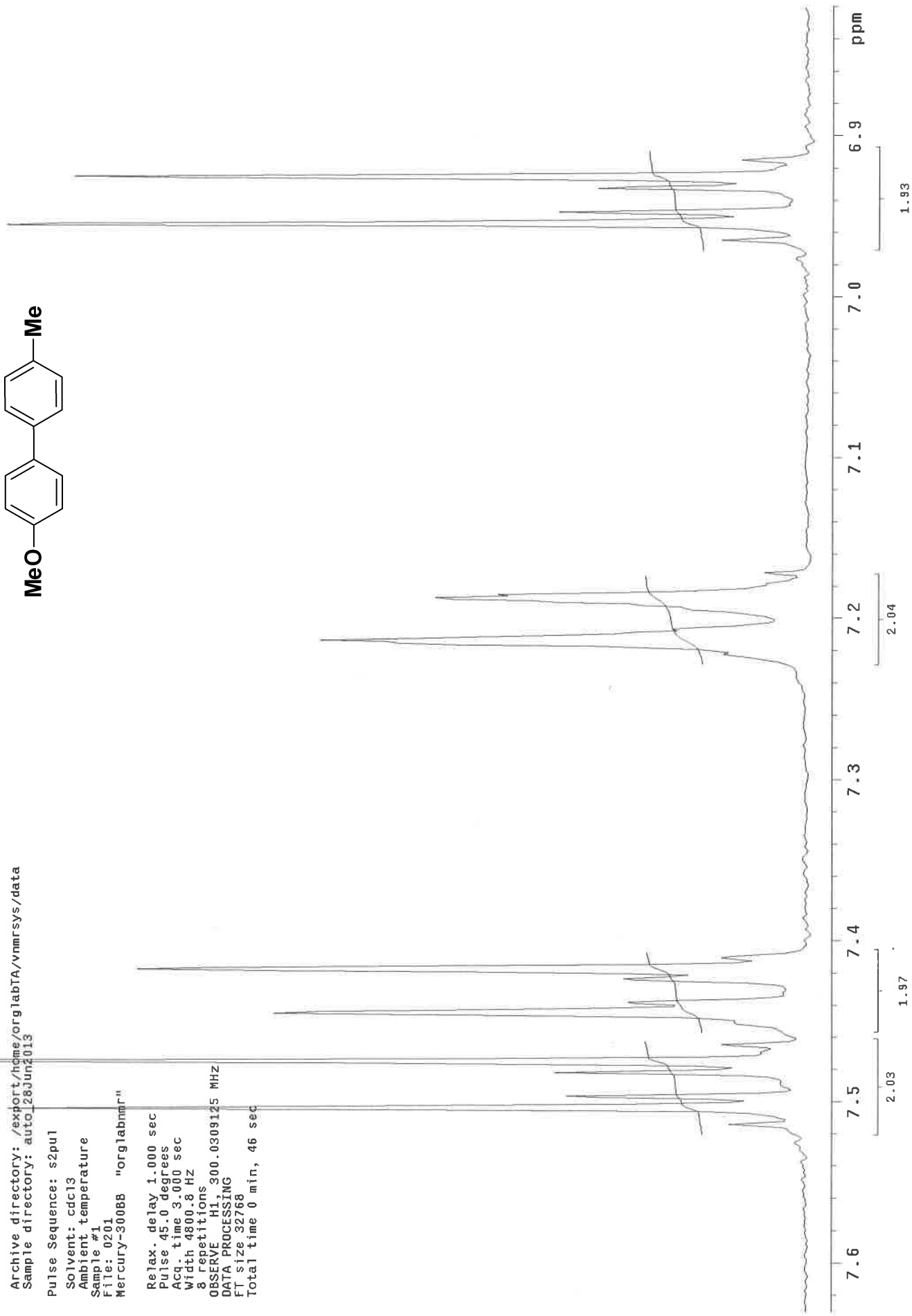
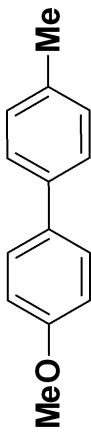


p-tolylboronic acid + 1-bromo-4-methoxybenzene  
STANDARD 1H OBSERVE

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_28Jun2013

Pulse Sequence: s2pul  
Solvent: cdc13  
Ambient temperature  
Sample #1  
File: 0201  
Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec  
Pulse 45.0 degrees  
Acq. time 3.000 sec  
Width 4800.8 Hz  
8 repetitions  
OBSERVE H1, 300.0309125 MHZ  
DATA PROCESSING  
FT size 32768  
Total time 0 min, 46 sec



p-tolylboronic acid + 1-bromo-4-methoxybenzene  
STANDARD 1H OBSERVE

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_28Jun2013

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 0202

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 1.000 sec

Width 18867.9 Hz

64 repetitions

OBSERVE C13, 75.4428085 MHz

DECOUPLE H1, 300.0323276 MHz

Power 38 dB

continuously on

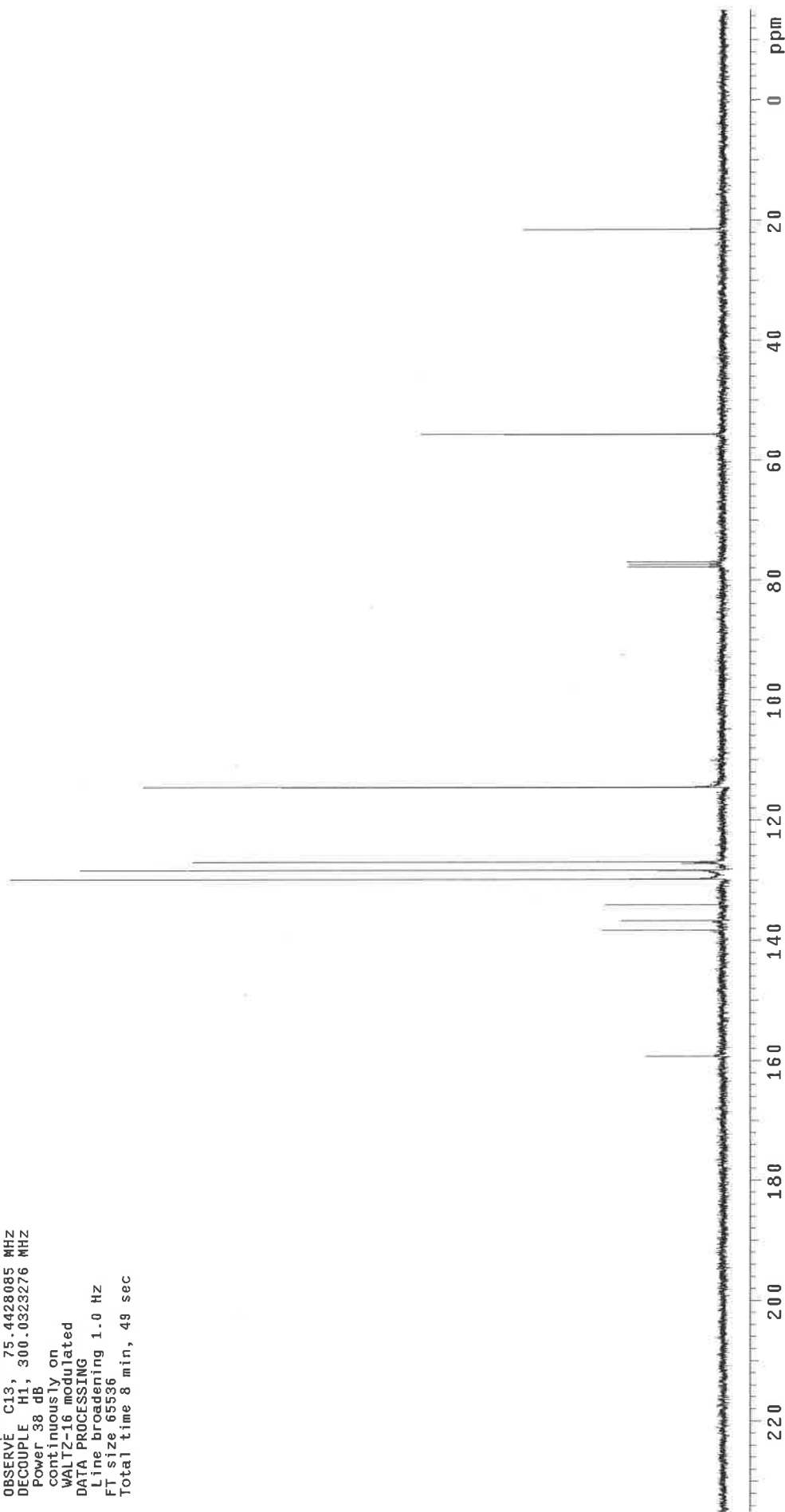
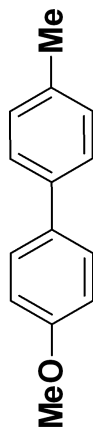
WALTZ-16 modulated

DATA PROCESSING

Line broadening 1.0 Hz

FT size 65536

Total time 8 min, 49 sec



p-tolylboronic acid + 1-bromo-4-methoxybenzene  
STANDARD 1H OBSERVE

Archive directory: /export/home/orglabTA/vnmrSYS/data  
Sample directory: auto\_28jun2013

Pulse Sequence: s2pul

Solvent: cdc13

Ambient temperature

Sample #1

File: 0202

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 1.000 sec

Width 18867.9 Hz

64 repetitions

OBSERVE C13, 75.4428085 MHz

DECOUPLE H1, 300.0323276 MHz

Power 38 dB

continuously on

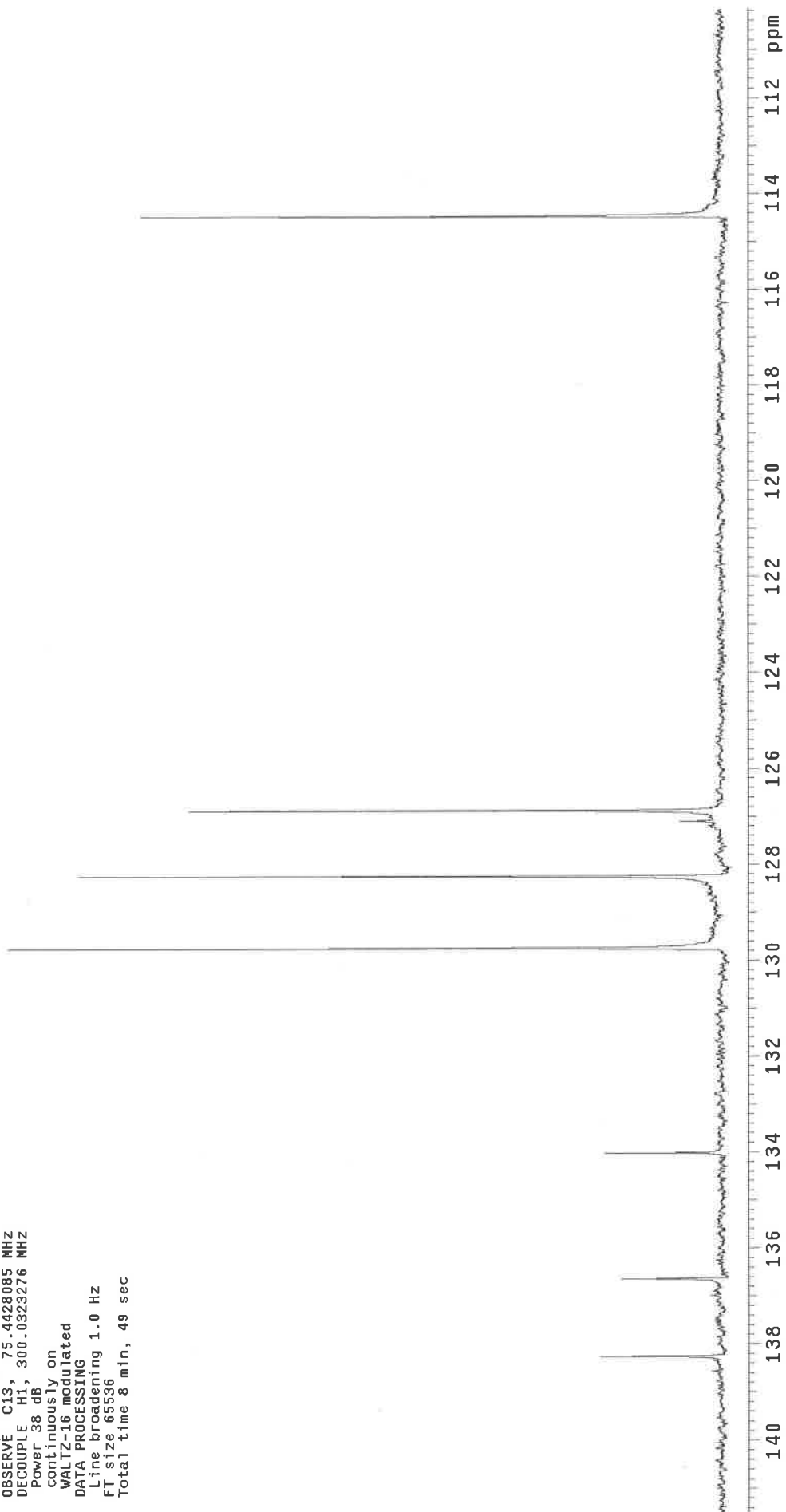
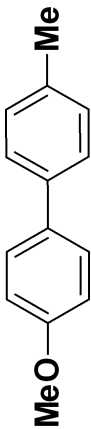
WALTZ-16 modulated

DATA PROCESSING

Line broadening 1.0 Hz

FT size 65536

Total time 8 min, 49 sec



p-tolylboronic acid + 1-bromo-4-methylbenzene  
STANDARD 1H OBSERVE

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_28Jun2013

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 0301

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 3.000 sec

Width 4800.8 Hz

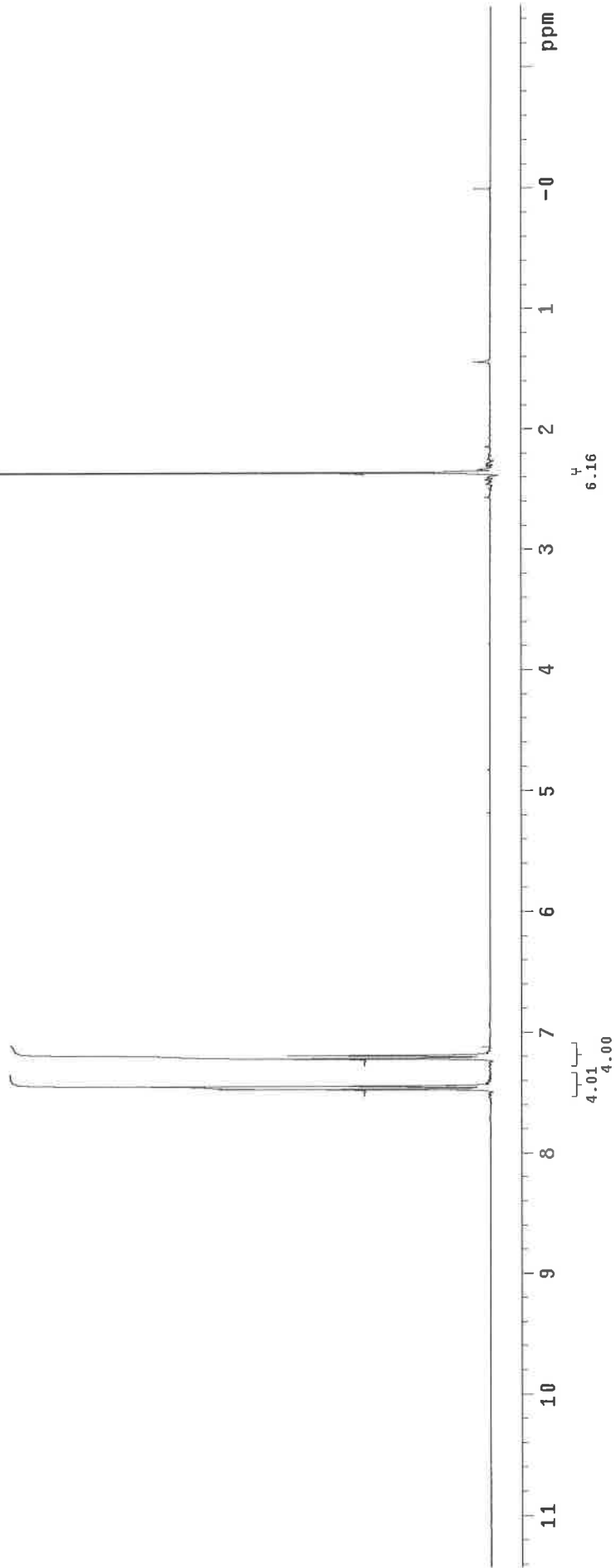
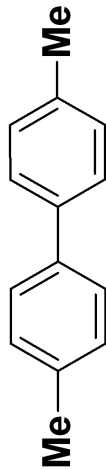
8 repetitions

OBSERVE H1, 300.0309289 MHz

DATA PROCESSING

FT size 32768

Total time 0 min, 46 sec



p-tolylboronic acid + 1-bromo-4-methylbenzene  
STANDARD 1H OBSERVE

Archive directory: /export/home/orglabIA/vnmrsys/data  
Sample directory: auto\_28Jun2013

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 0301

Mercury-30088 "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 3.000 sec

Width 4800.8 Hz

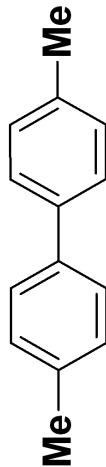
8 repetitions

OBSERVE H1, 300.0309289 MHz

DATA PROCESSING

F1 size 32768

Total time 0 min, 46 sec





p-tolylboronic acid + 1-bromo-4-methylbenzene  
STANDARD 1H OBSERVE

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_28Jun2013

Pulse Sequence: s2pul

Solvent: cdc13

Ambient temperature

Sample #1

File: 0302

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 1.000 sec

Width 18867.9 Hz

64 repetitions

OBSERVE C13, 75.442811 MHz

DECOUPLE H1, 300.0323276 MHz

Power 38 dB

continuously on

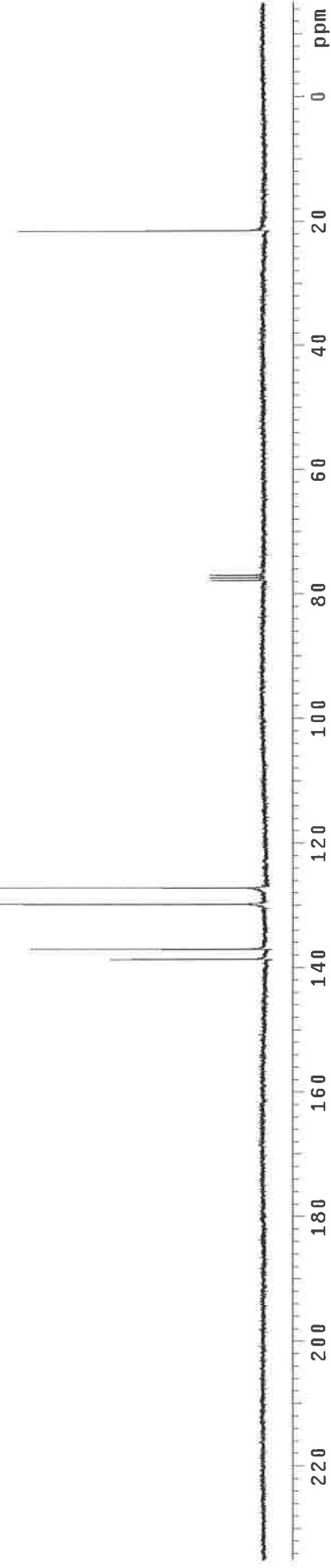
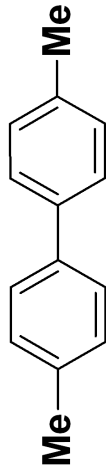
WALTZ-16 modulated

DATA PROCESSING

Line broadening 1.0 Hz

FT size 65536

Total time 8 min, 49 sec



p-tolylboronic acid + 4-bromobenzonitrile  
STANDARD 1H OBSERVE

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_28Jun2013

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 0401

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 3.000 sec

Width 4800.8 Hz

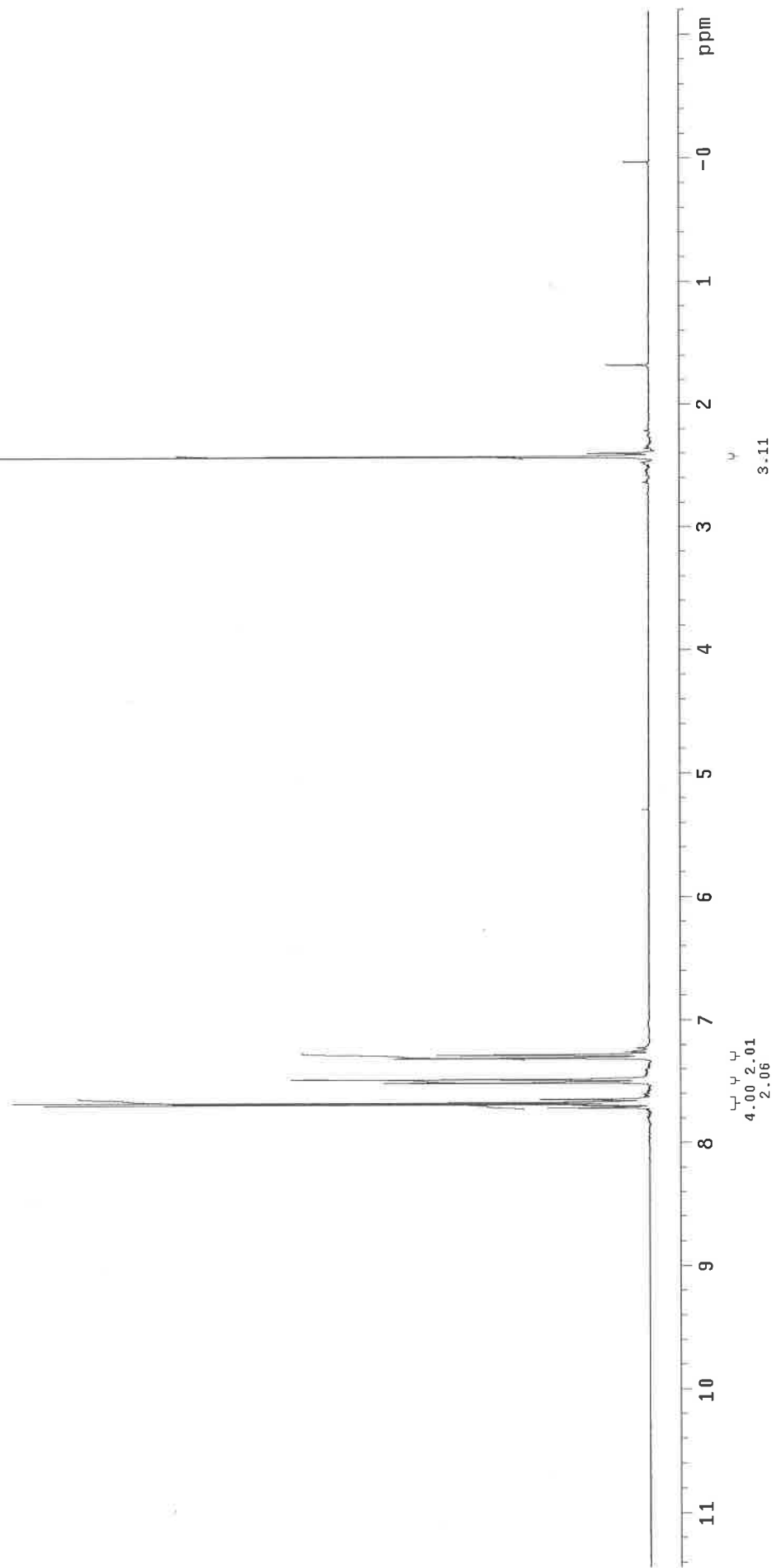
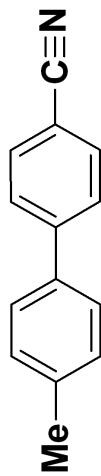
8 repetitions

OBSERVE H1, 300.030868 MHz

DATA PROCESSING

FT size 32768

Total time 0 min, 46 sec



p-tolylboronic acid + 4-bromobenzonitrile  
STANDARD 1H OBSERVE

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_28Jun2013

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 0401

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 3.000 sec

Width 4800.8 Hz

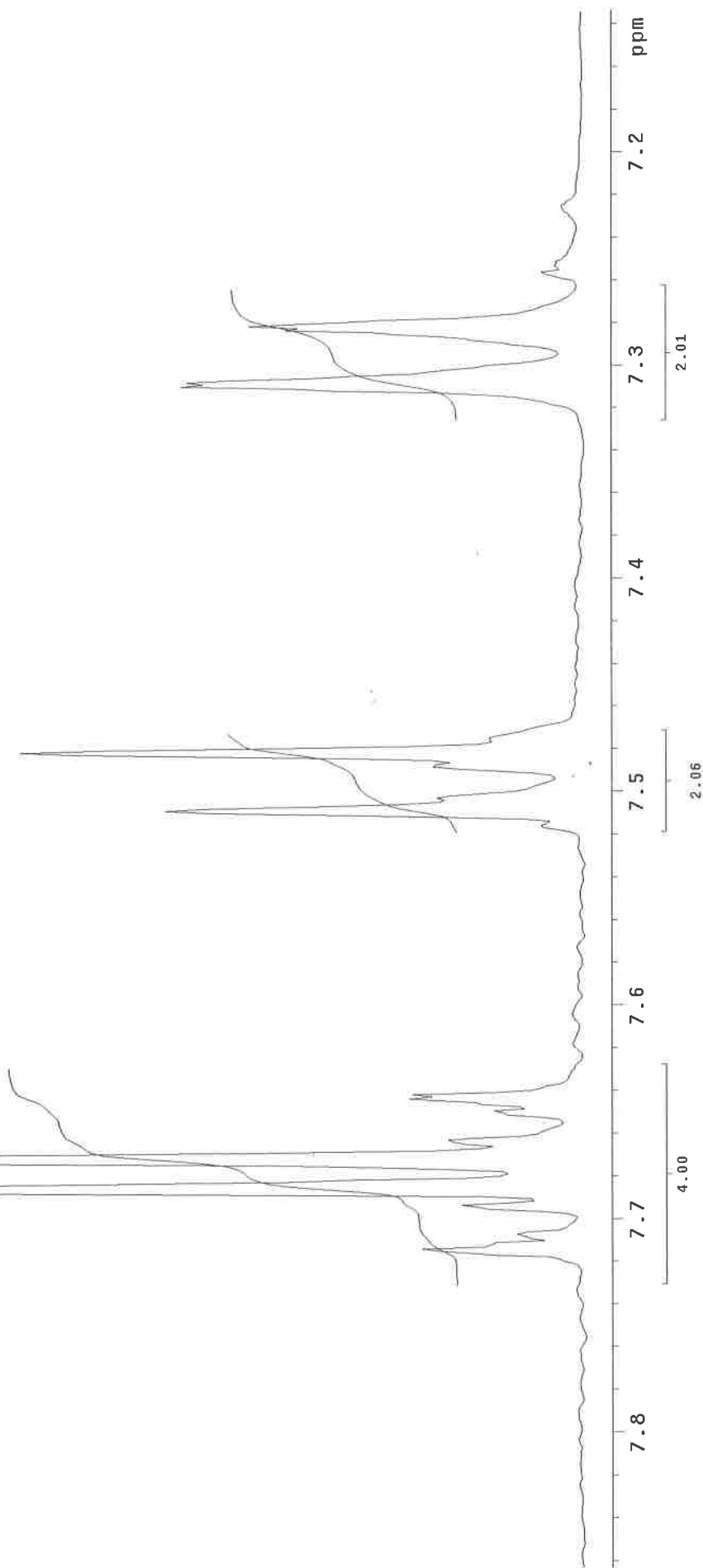
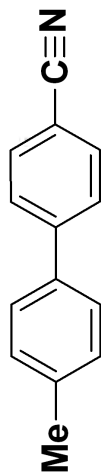
8 repetitions

OBSERVE H1, 300.0308868 MHz

DATA PROCESSING

FT size 32768

Total time 0 min, 46 sec



Automation directory: /export/home/orglabTA/AUTO/auto\_28.06.13  
File : 0403

Solvent: cdc13

Sample #4

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Мерcury-300BB "orglabnmr"

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Pulse 45.0 degrees

Width 18867.9 Hz

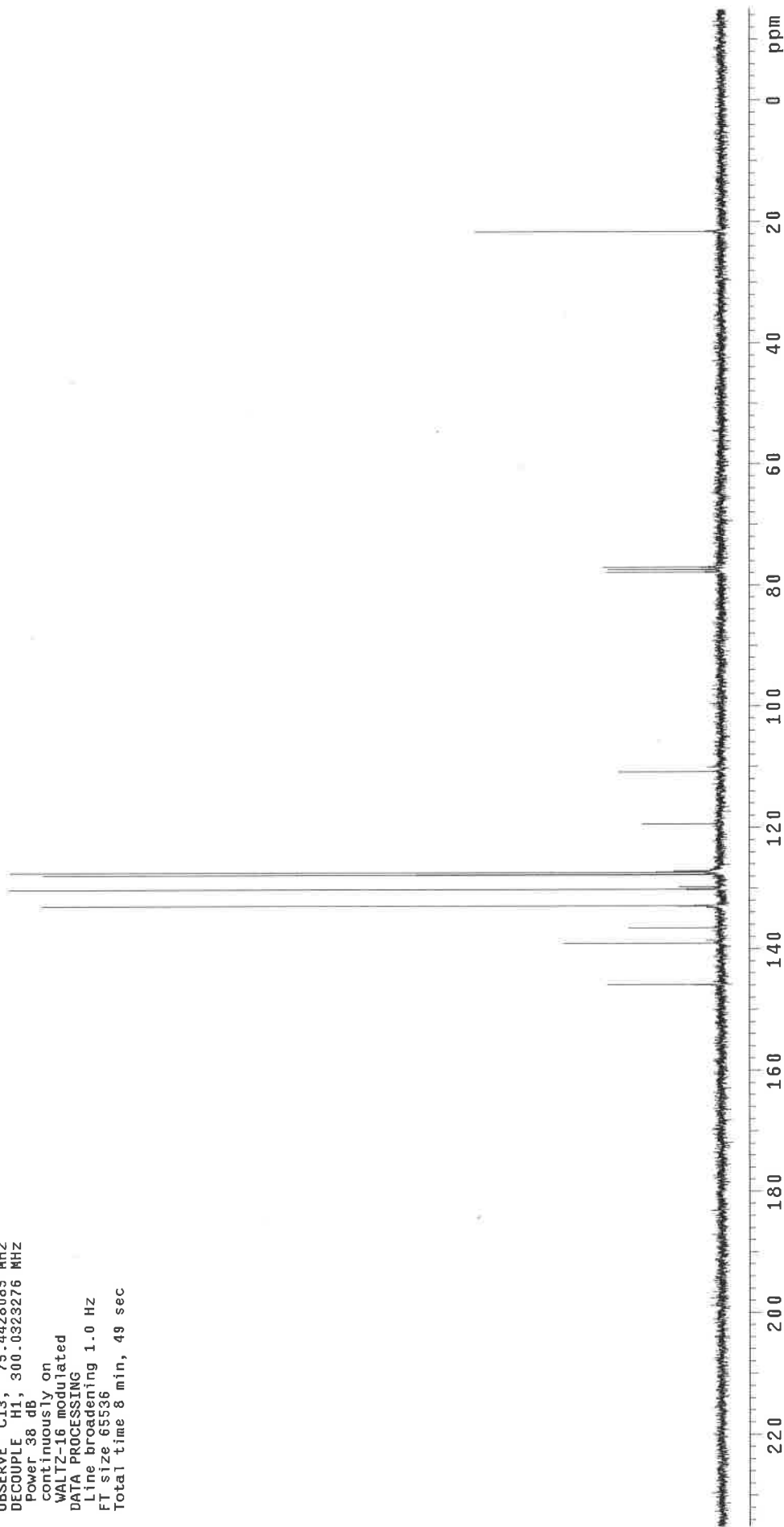
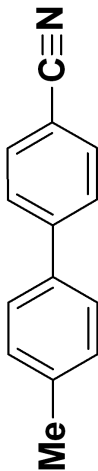
COUPLE H1, 300.0323276 MHZ

continuously

## DATA PROCESSING

size 0330  
total time 8 min. 49 sec

2000



p-tolylboronic acid + 4-bromobenzonitrile  
STANDARD 1H OBSERVE

Archive directory: /export/home/orglabITA/vnmrsys/data  
Sample directory: auto\_28Jun2013

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 0402

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 1.000 sec

Width 18867.9 Hz

64 repetitions

OBSERVE C13, 75.4428085 MHz

DECOUPLE H1, 300.0323276 MHz

Power 38 dB

continuously on

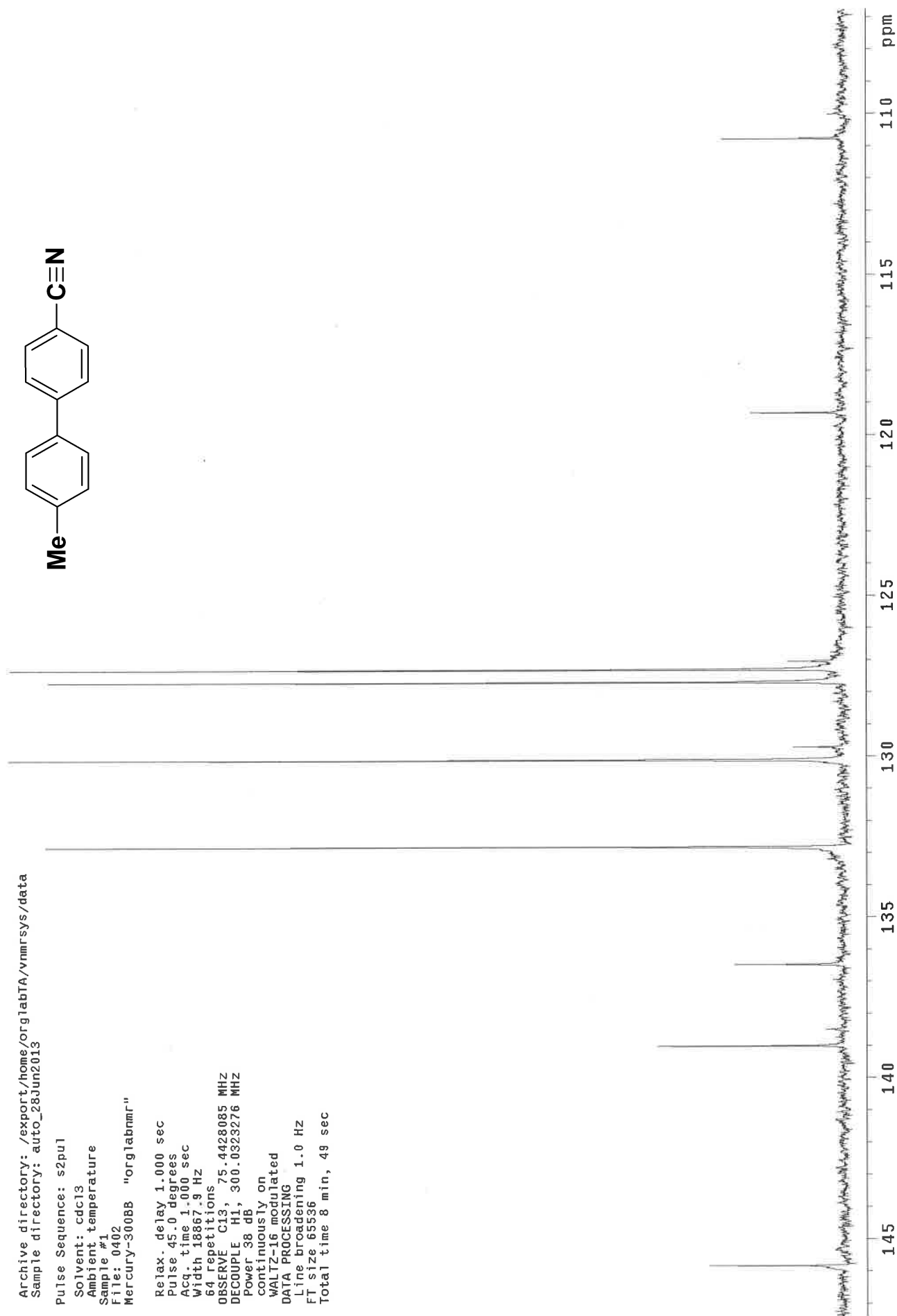
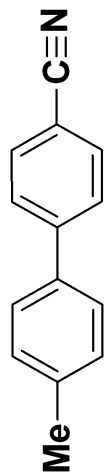
WALTZ-16 modulated

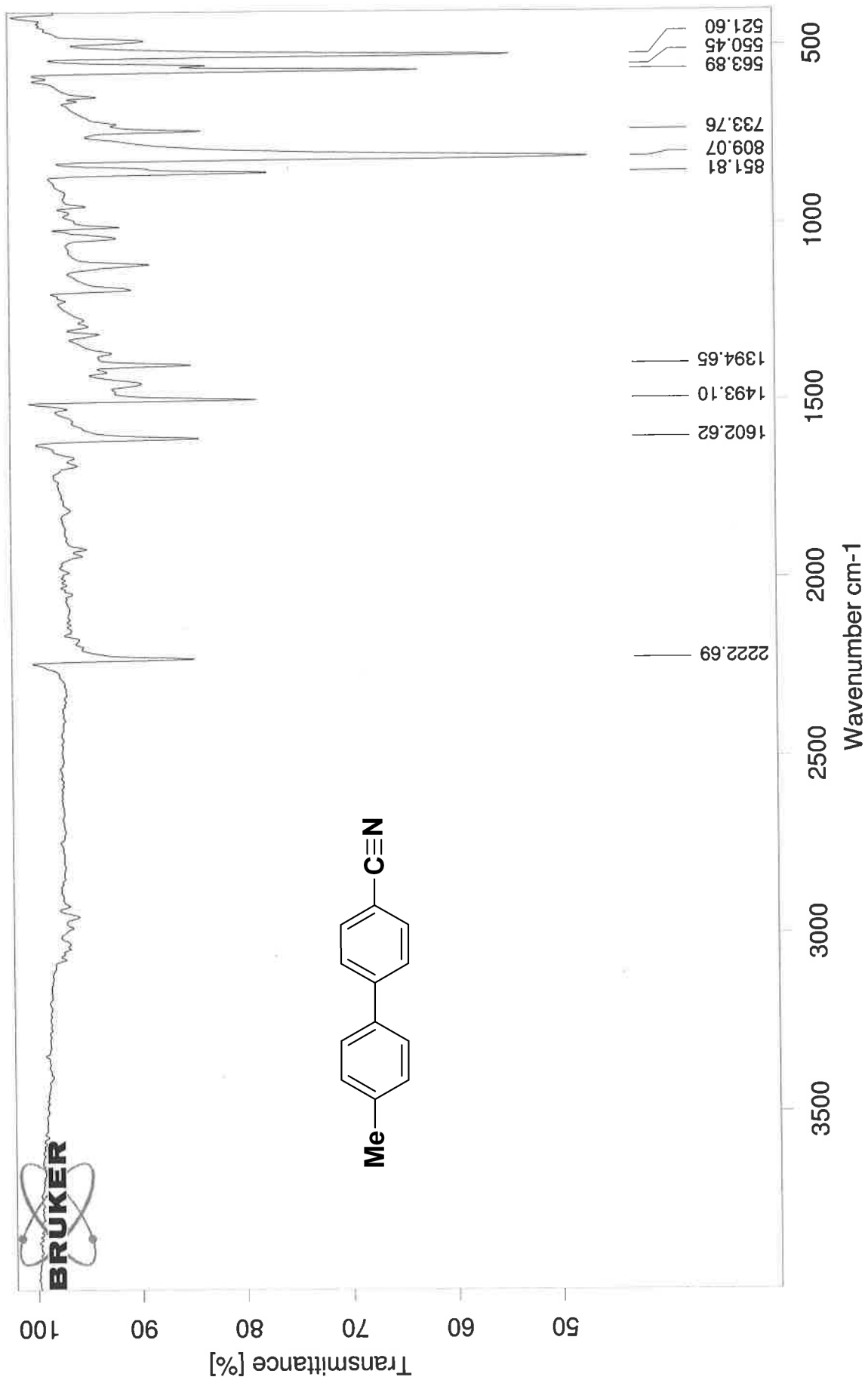
DATA PROCESSING

Line broadening 1.0 Hz

FT size 65536

Total time 8 min, 49 sec





p-tolylboronic acid + bromobenzene

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_22Jul2013

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 6201

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 3.000 sec

Width 4800.8 Hz

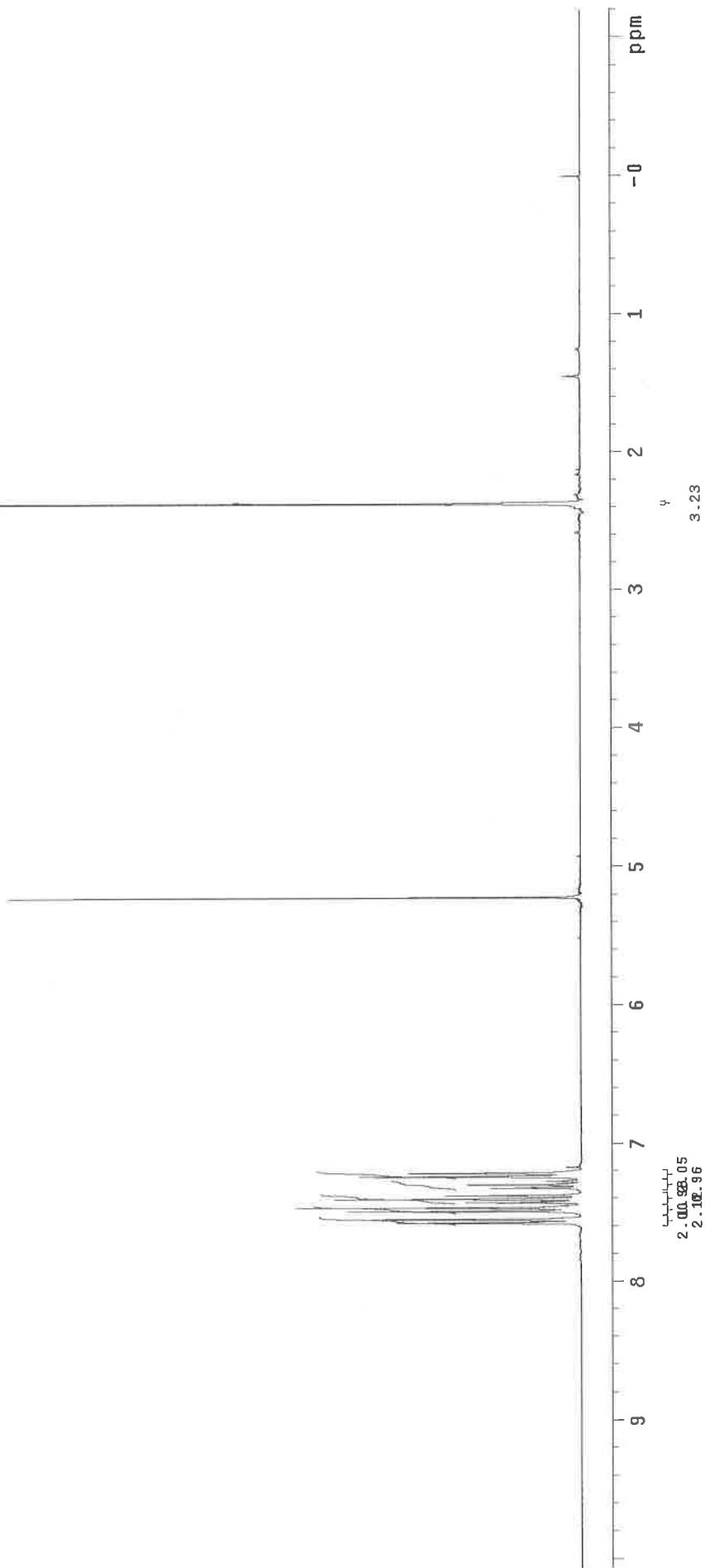
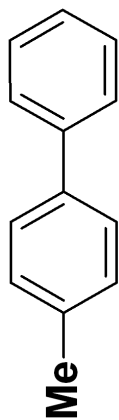
8 repetitions

OBSERVE H1, 300.0309128 MHz

DATA PROCESSING

FT size 32768

Total time 0 min, 46 sec



p-tolylboronic acid + bromobenzene

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_22Jul2013

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 6201

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 3.000 sec

Width 4800.8 Hz

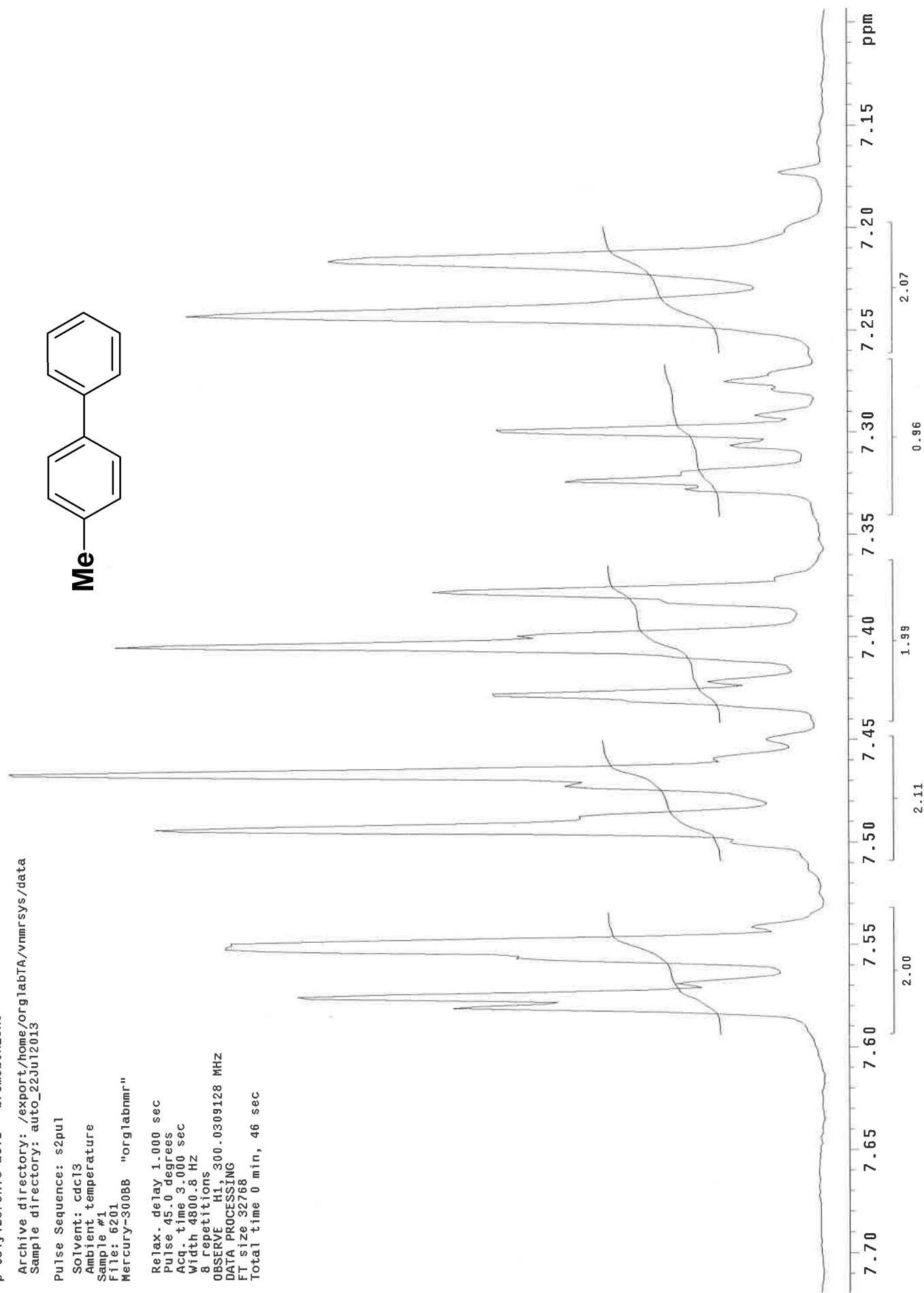
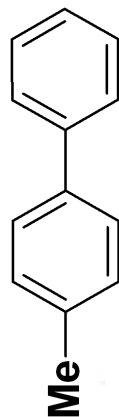
8 repetitions

OBSERVE H1, 300.0309128 MHz

DATA PROCESSING

FT size 32788

Total time 0 min, 46 sec





p-methoxyboronic acid + 4'-bromoacetophenone

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_23Apr2013

Pulse Sequence: s2pul

Solvent: cdc13

Ambient: temperature

Sample #1

File: 5102

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 3.000 sec

Width 4800.8 Hz

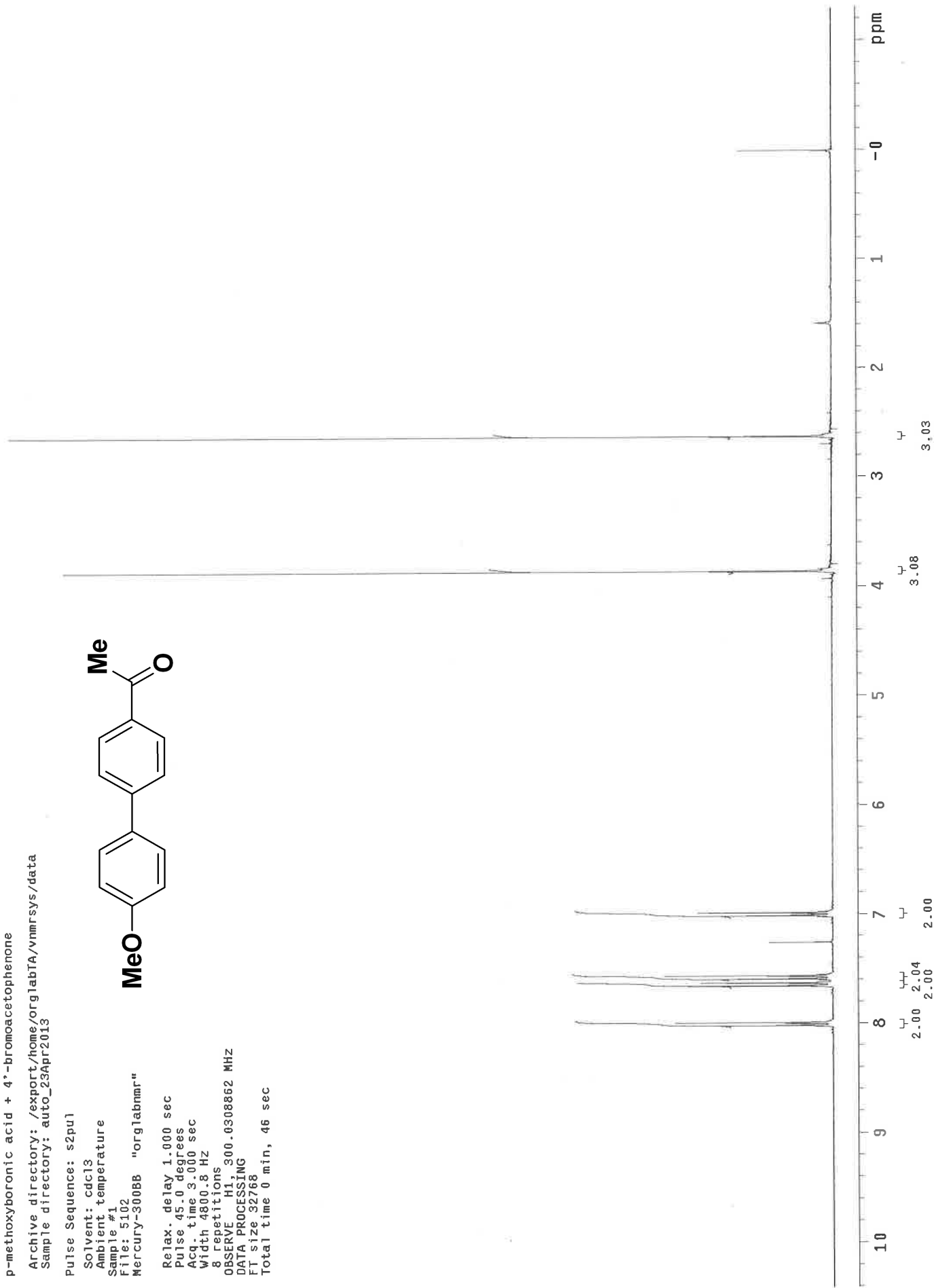
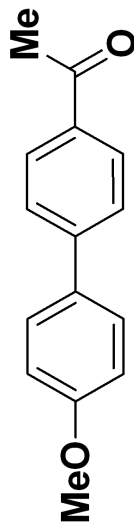
8 repetitions

OBSERVE H1, 300.0308862 MHz

DATA PROCESSING

FT size 32768

Total time 0 min, 46 sec



p-methoxyboronic acid + 4'-bromoacetophenone

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_23Apr2013

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 5102

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 3.000 sec

Width 4800.8 Hz

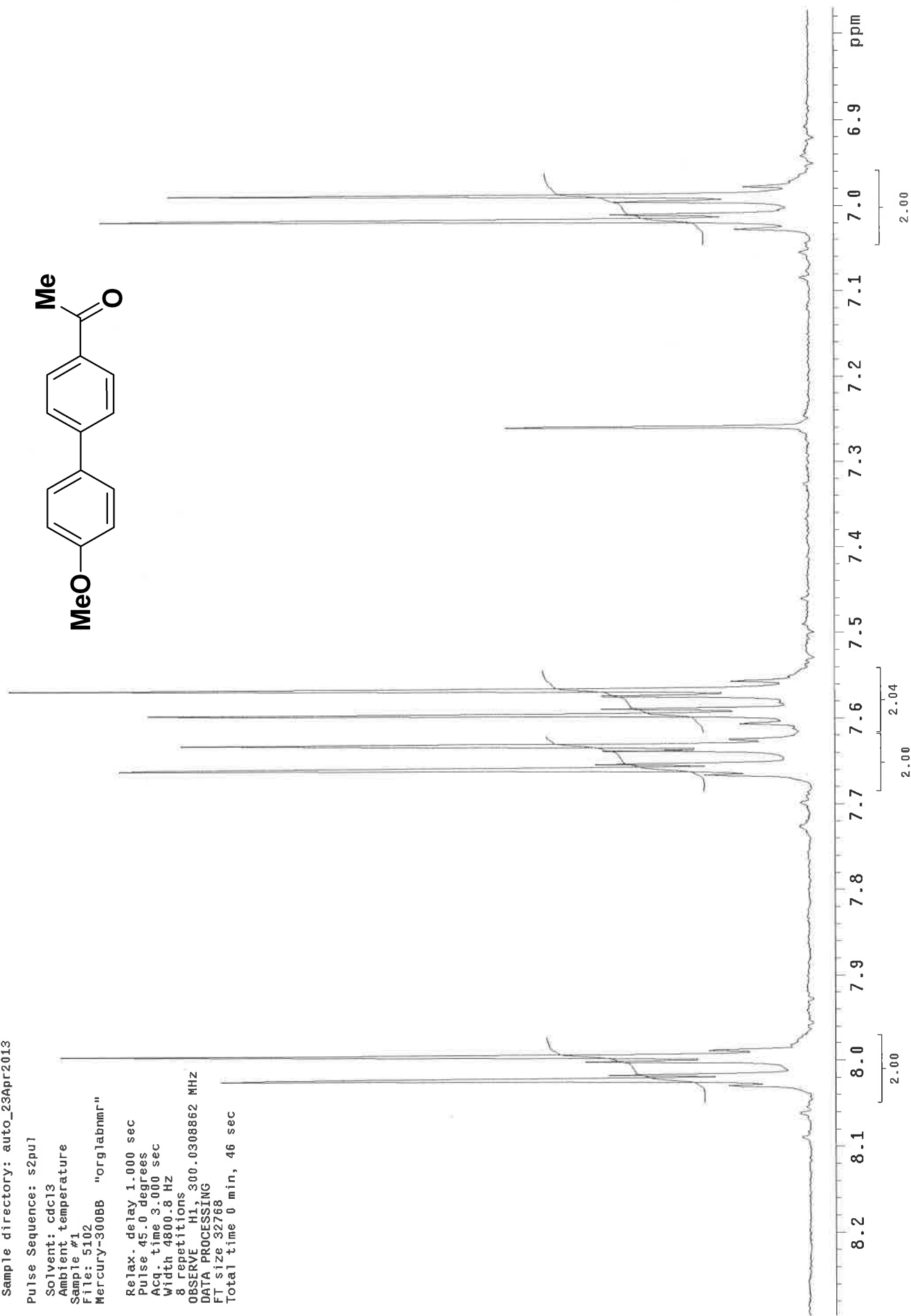
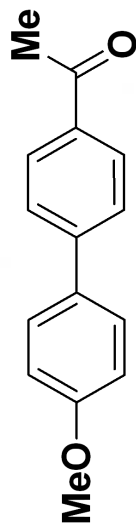
8 repetitions

OBSERVE H1, 300.0308862 MHz

DATA PROCESSING

FT size 32768

Total time 0 min, 46 sec



4-methoxyphenylboronic acid + 4'-bromoacetophenone  
STANDARD 1H OBSERVE

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_12Jul2013

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 0203

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 1.000 sec

Width 18867.9 Hz

256 repetitions

OBSERVE C13, 75.4428085 MHz

DECOUPLE H1, 300.0323276 MHz

Power 38 dB

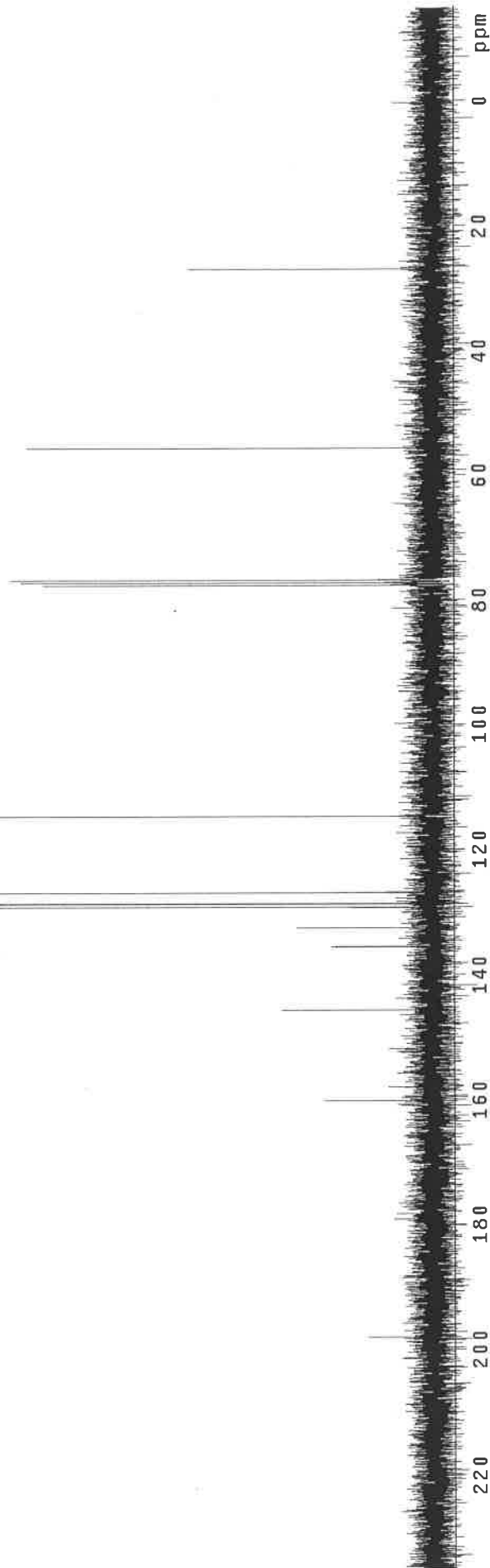
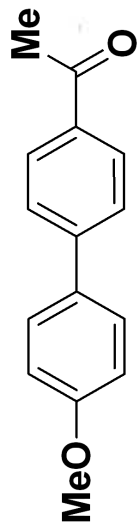
continuously on

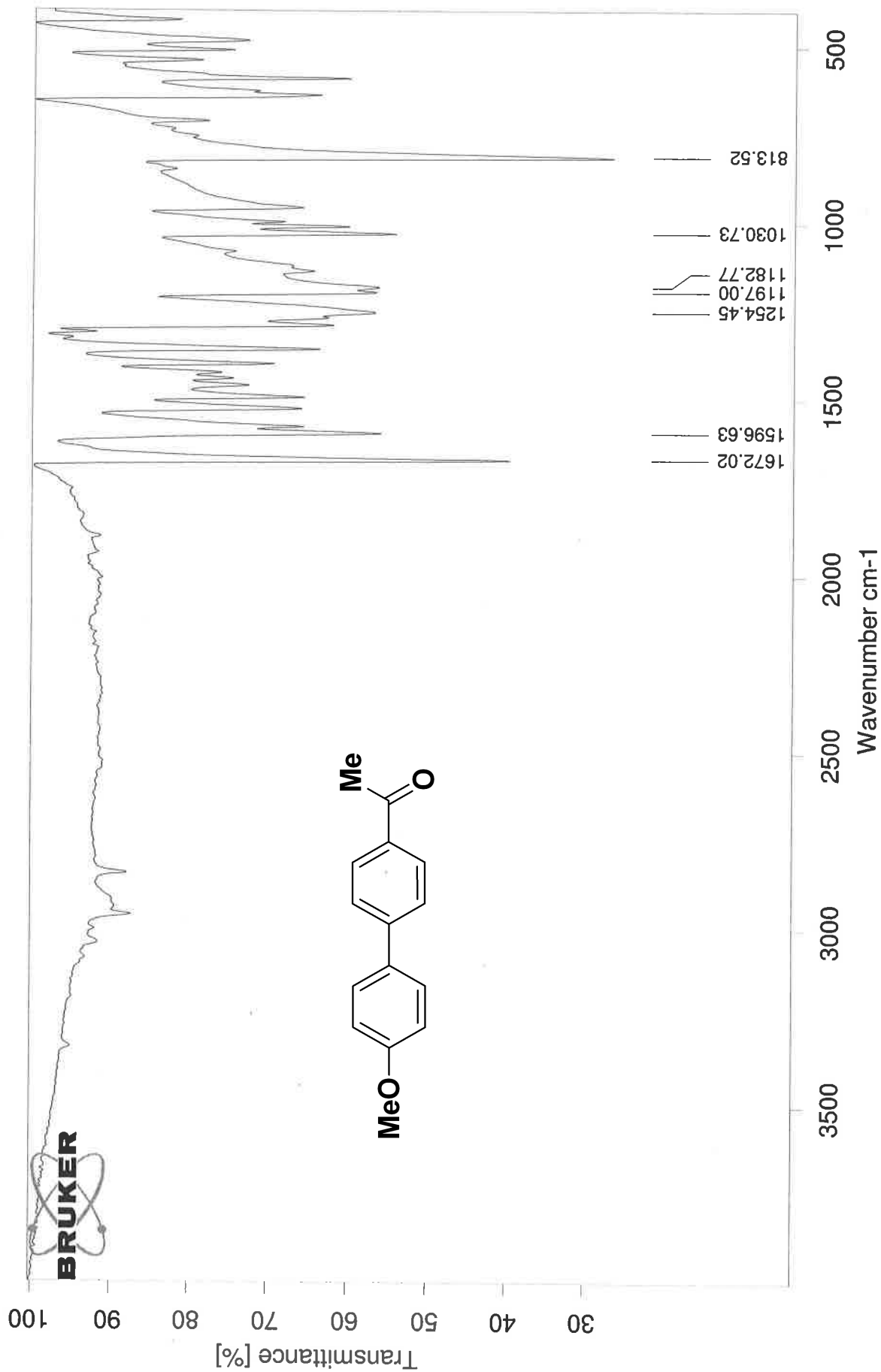
WALTZ-16 modulated

DATA PROCESSING

FT size 65536

Total time 8 min, 49 sec





C:\FT-IR Data\Student\4-methoxyphenylboronic acid + 4'-bromoacetophenone.0

100%T

Instrument type and / or accessory

7/16/2013

p-Methoxyphenylboronic acid + 1-fluoro-4-bromobenzene  
STANDARD 1H OBSERVE

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_30Jun2013

Pulse Sequence: s2pu1

Solvent: cdcl3

Ambient temperature

Sample #1

File: 3301

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 3.000 sec

Width 4800.8 Hz

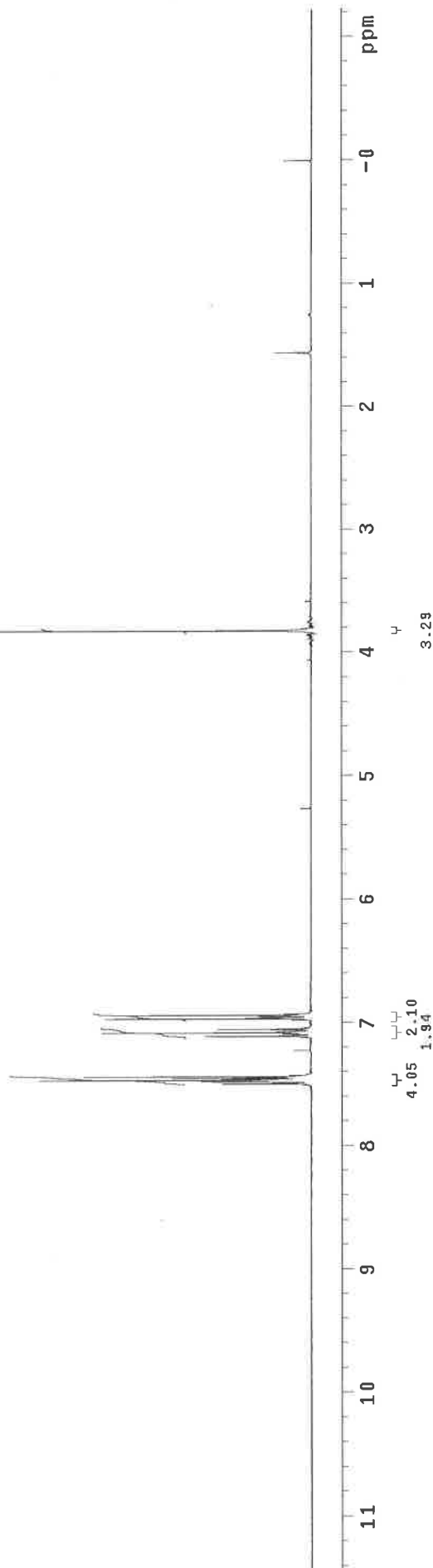
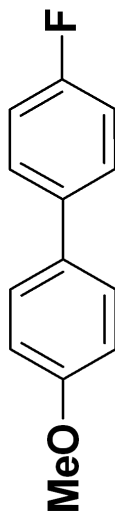
8 repetitions

OBSERVE H1: 300.0308967 MHz

DATA PROCESSING

FT size 32788

Total time 0 min, 46 sec



p-Methoxyphenylboronic acid + 1-fluoro-4-bromobenzene  
STANDARD 1H OBSERVE

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_30Jun2013

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 3301

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 3.000 sec

Width 4800.8 Hz

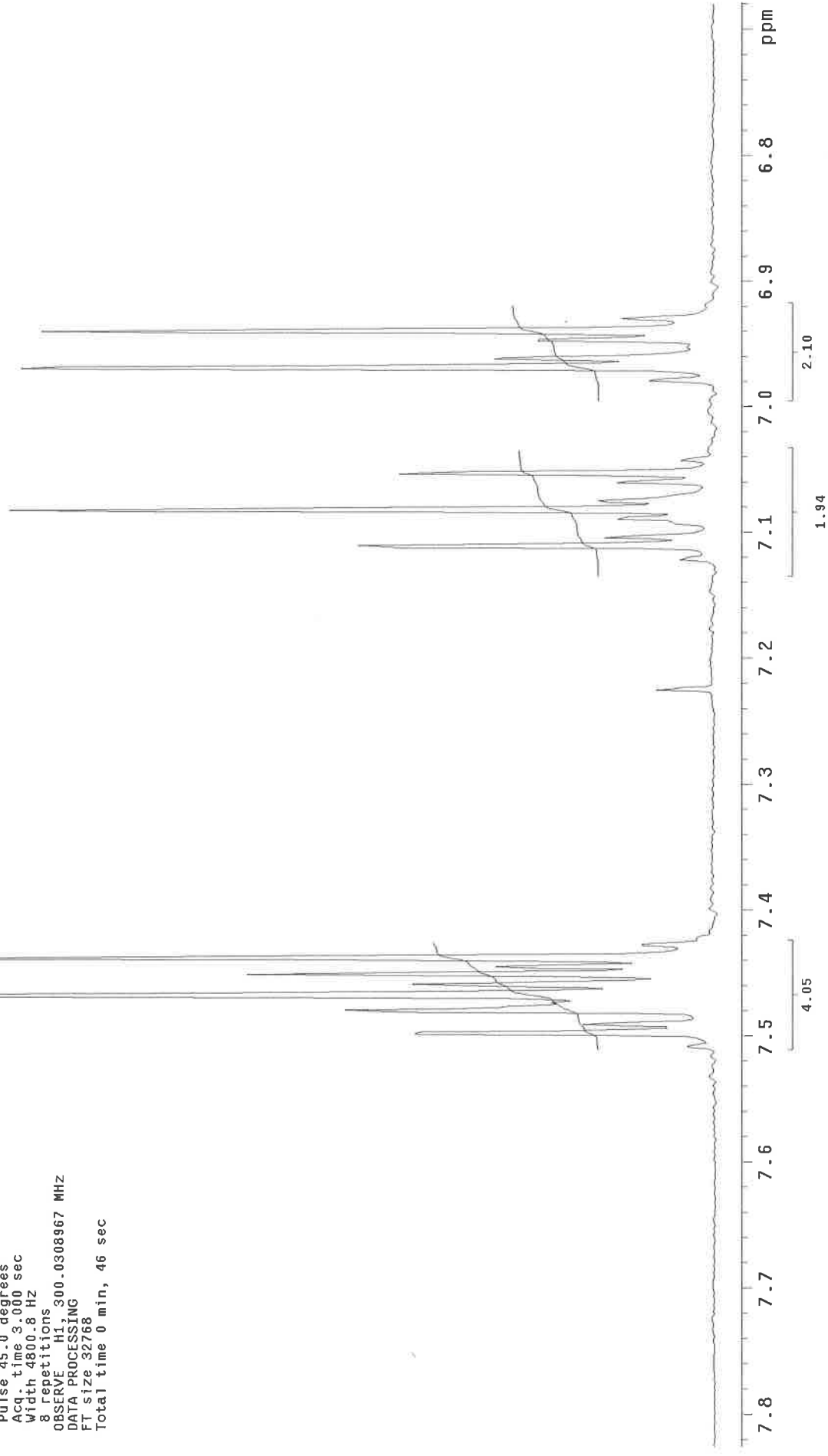
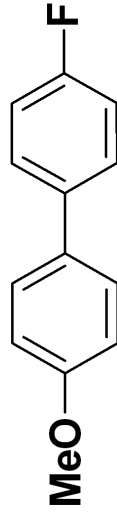
8 repetitions

OBSERVE H1 300.0308967 MHZ

DATA PROCESSING

FT size 32768

Total time 0 min, 46 sec



p-Methoxyphenylboronic acid + 1-fluoro-4-bromobenzene  
STANDARD 1H OBSERVE

Automation directory: /export/home/orglabTA/AUTO/auto\_30.06.13  
File : 3303

Pulse Sequence: s2pul

Solvent: cdc13

Ambient temperature

Sample #33

File: 3302

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 1.000 sec

Width 18867.3 Hz

64 repetitions

OBSERVE C13, 75.4428085 MHz

DECOUPLE H1, 300.0323276 MHz

Power 38 dB

continuously on

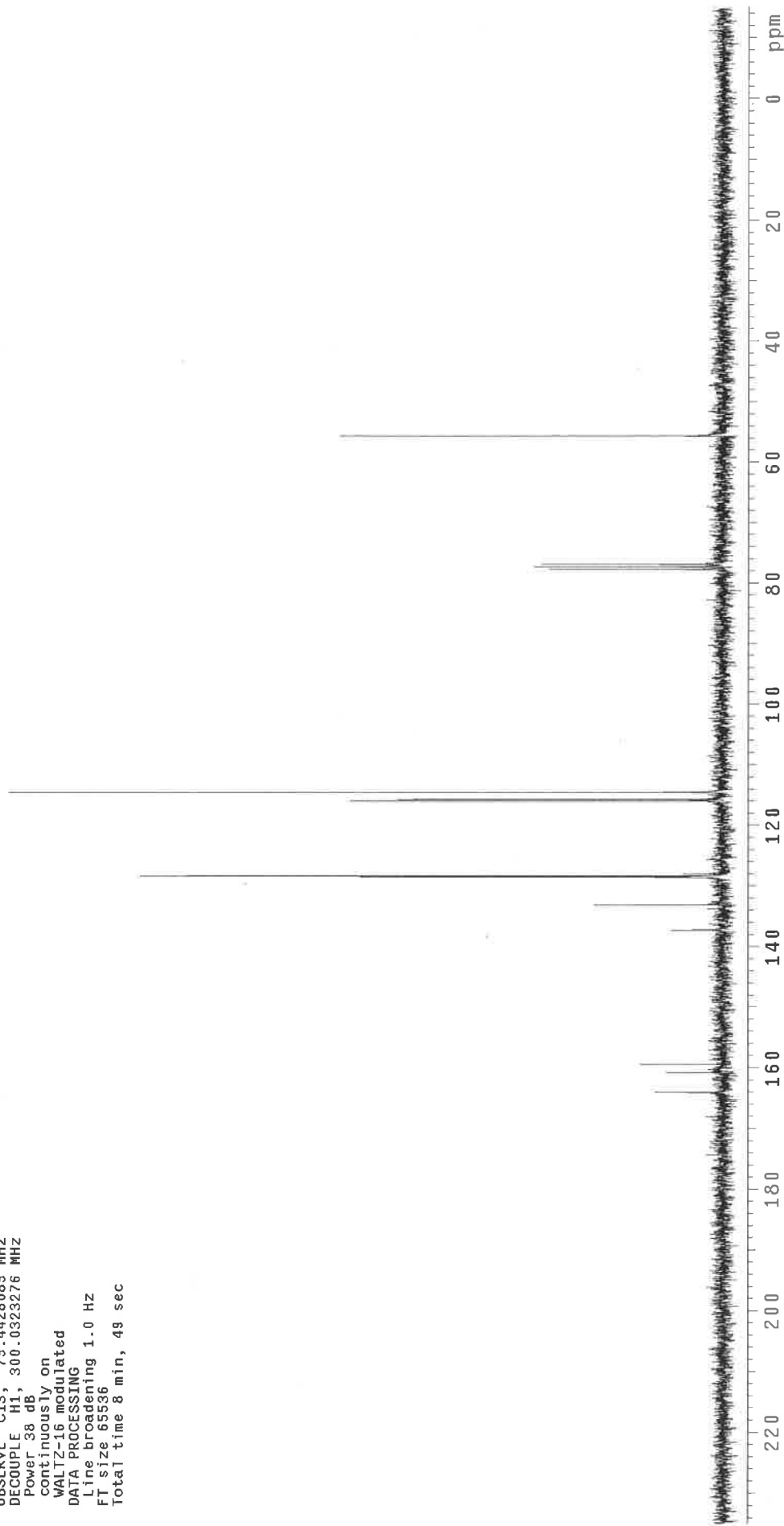
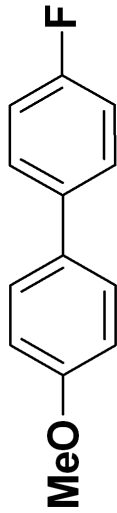
WALTZ-16 modulated

DATA PROCESSING

Line broadening 1.0 Hz

FT size 65536

Total time 8 min, 49 sec



p-Methoxyphenylboronic acid + 1-fluoro-4-bromobenzene  
STANDARD 1H OBSERVE

Archive directory: /export/home/orglabIA/vnmrsys/data  
Sample directory: auto\_30Jun2013

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 3302

Mercury-30088 "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 1.000 sec

Width 18867.9 Hz

64 repetitions

OBSERVE C13, 75.4428085 MHz

DECOUPLE H1, 300.0323276 MHz

Power 38 dB

continuously on

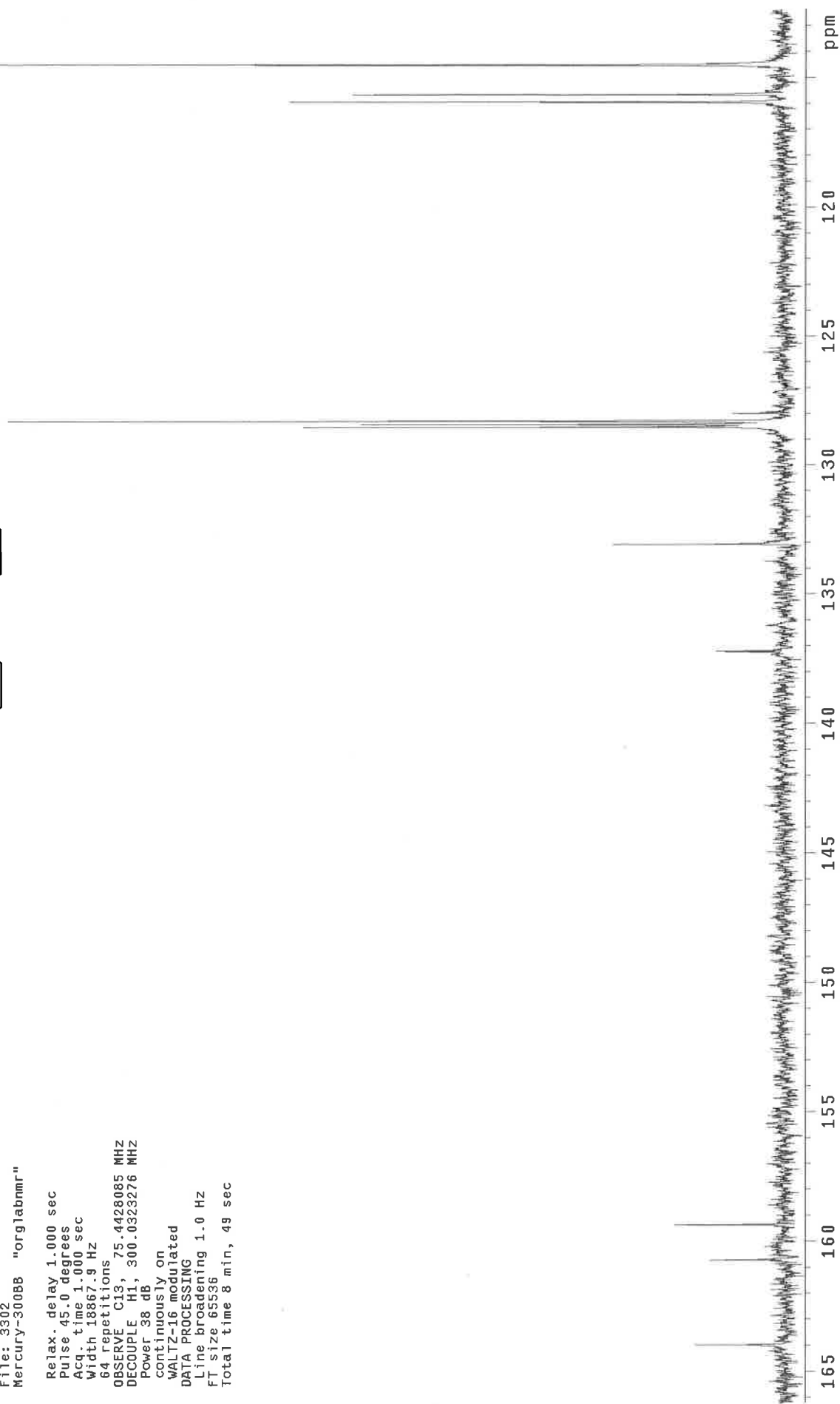
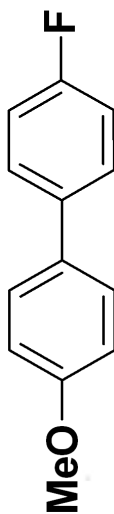
WALTZ-16 modulated

DATA PROCESSING

Line broadening 1.0 Hz

FT size 65536

Total time 8 min, 49 sec





p-Methoxyphenylboronic acid + 1-fluoro-4-bromobenzene  
STANDARD 1H OBSERVE

Automation directory: /export/home/orglabTA/AUTO/auto\_30.06.13  
File : 3304

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #33

File: 3303

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 35.0 degrees

Acq. time 0.300 sec

Width 50000.0 Hz

16 repetitions

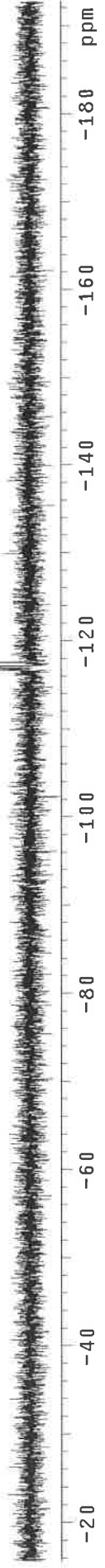
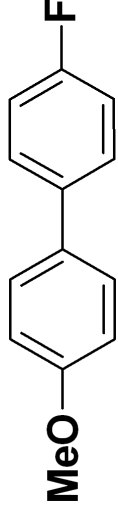
OBSERVE F19, 282.3112060 MHz

DATA PROCESSING

Line broadening 0.3 Hz

FT size 32768

Total time 0 min, 36 sec

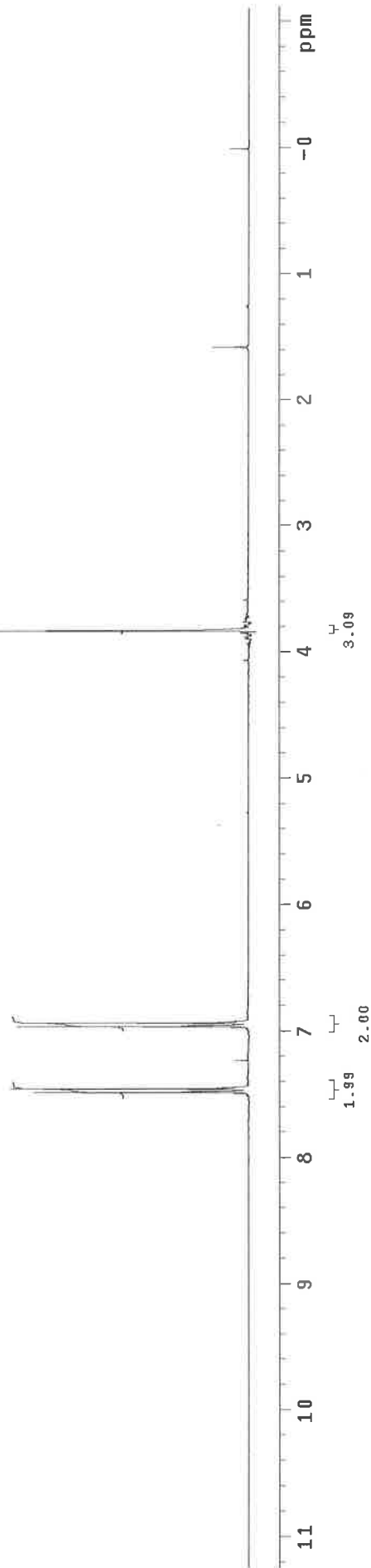
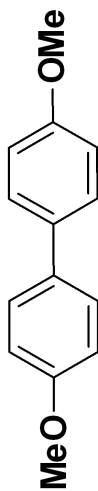


p-Methoxyphenylboronic acid + 4-bromoanisole  
STANDARD 1H OBSERVE

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_30jun2013

Pulse Sequence: s2pul  
Solvent: cdcl3  
Ambient temperature  
Sample #1  
File: 3401  
Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec  
Pulse 45.0 degrees  
Acq. time 3.000 sec  
Width 4800.8 Hz  
8 repetitions  
OBSERVE H1, 300.0308944 MHz  
DATA PROCESSING  
F1 size 32768  
Total time 0 min, 46 sec



p-Methoxyphenylboronic acid + 4-bromoanisole  
STANDARD 1H OBSERVE

Archive directory: /export/home/orglabTA/vnmr/sys/data  
Sample directory: auto\_30jun2013

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 3401

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 3.000 sec

Width 4800.8 Hz

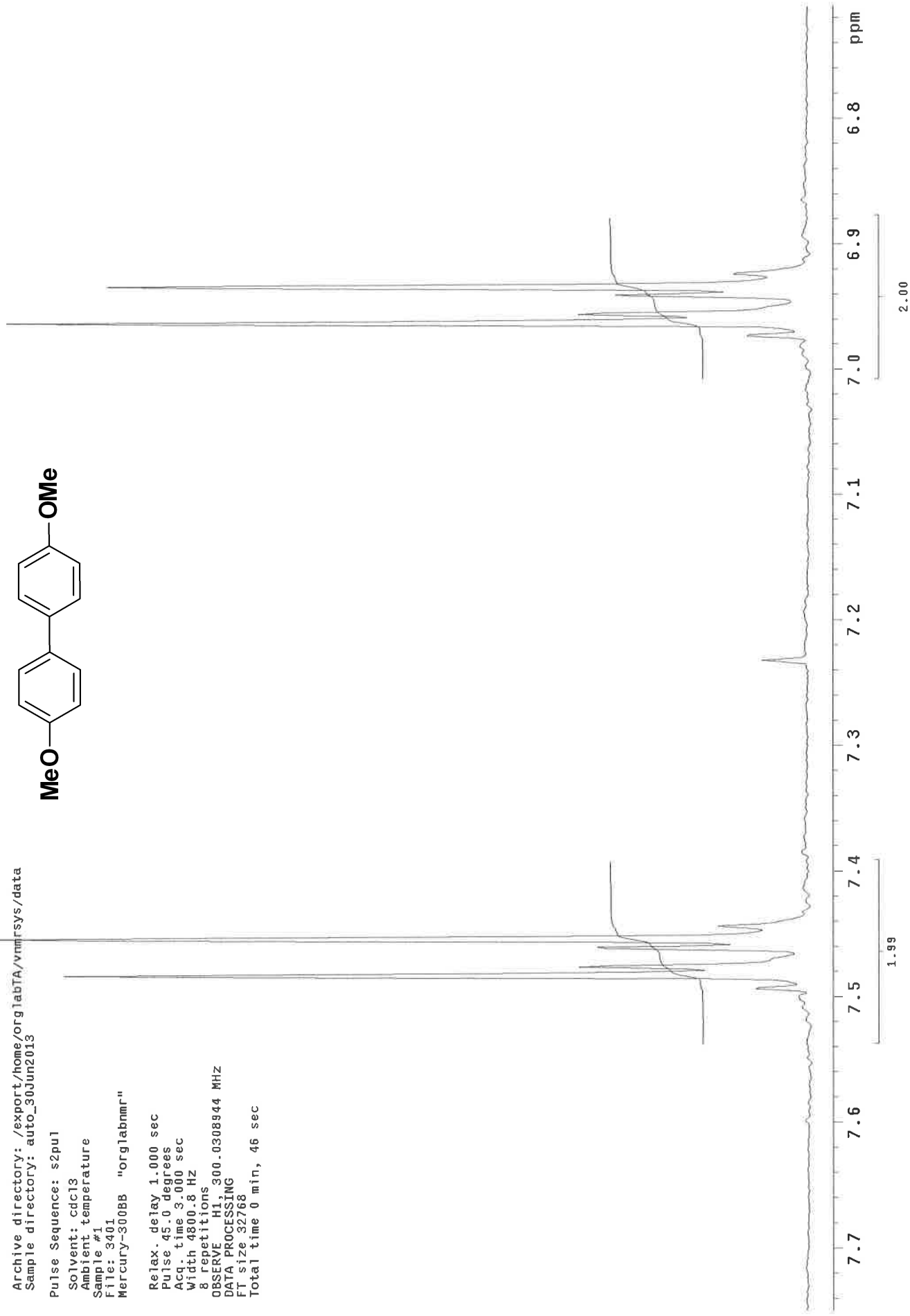
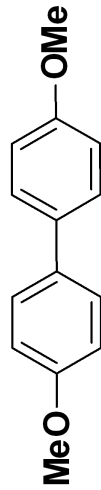
8 repetitions

OBSERVE H1 300.0308944 MHz

DATA PROCESSING

FT size 32768

Total time 0 min, 46 sec



4-methoxyphenylboronic acid + 4-bromoanisole

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_30Jun2013

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 3404

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 1.000 sec

Width 18867.9 Hz

64 repetitions

OBSERVE C13, 75.4428085 MHz

DECOUPLE H1, 300.0323276 MHz

Power 38 dB

continuously on

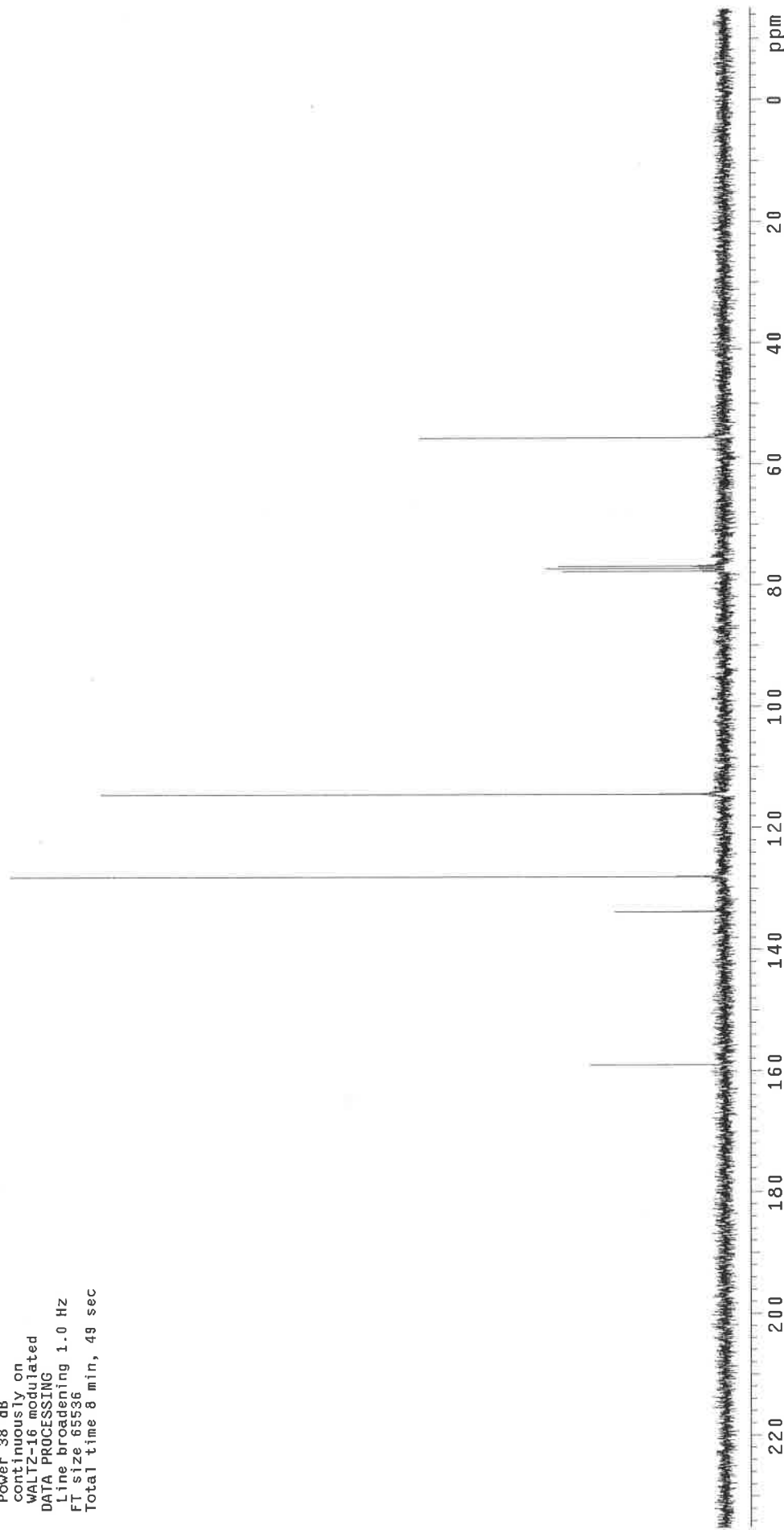
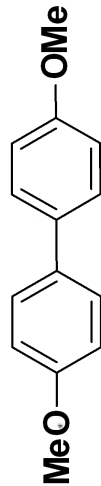
WALTZ-16 modulated

DATA PROCESSING

Line broadening 1.0 Hz

FT size 65536

Total time 8 min, 49 sec



4-methoxyphenylboronic acid + 4-bromobenzonitrile  
Archive directory: /export/home/orglabTA/vmrsys/data  
Sample directory: auto\_03Jul2013

Solvent: cdc13

Sample #1

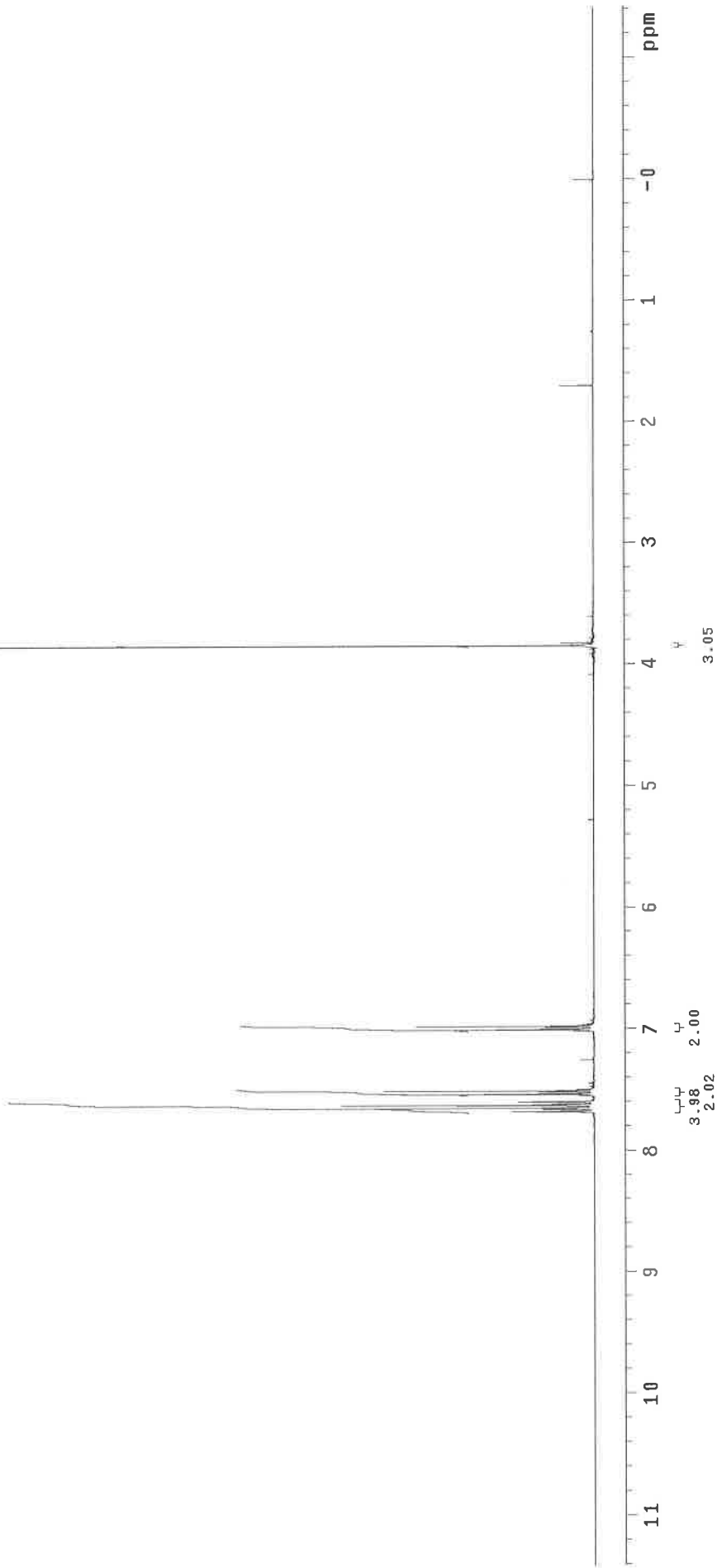
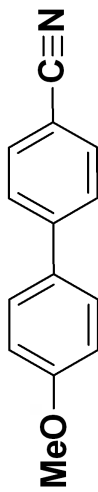
Relax. delay 1.000 sec

Acq. time 3.000 sec

8 repetitions

## DATA PROCESSING

Total time 0 min, 46 sec



## 4-Methoxyphenylboronic acid + 1-bromo-4-cyanobenzene

Archive directory: /export/home/orglabTA/vnmrsys/data

Sample directory: auto\_03Jul2013

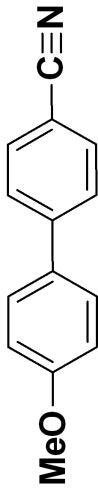
Pulse Sequence: s2put

Solvent: cdc13

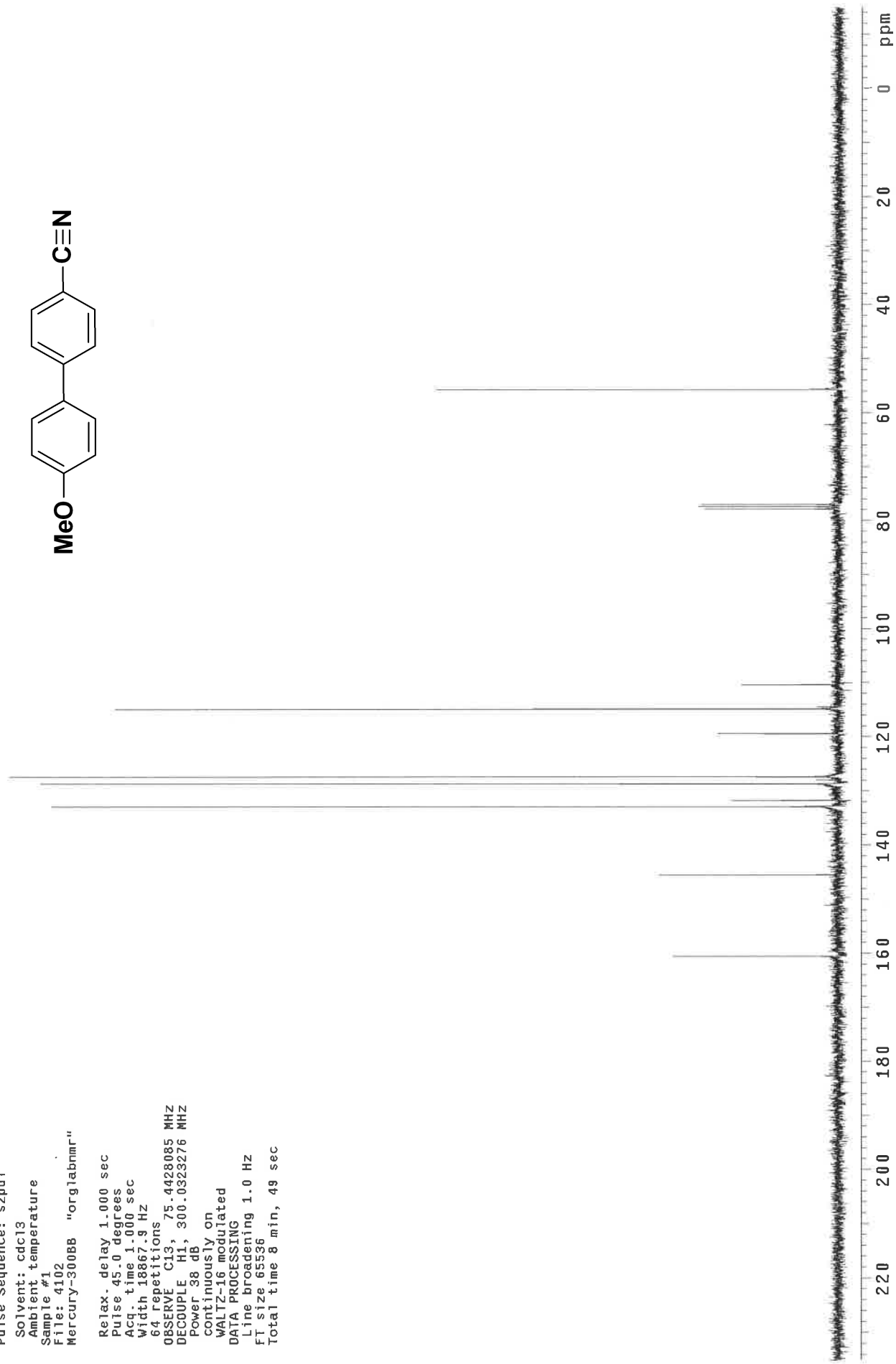
Ambient temperature

Sample #1

Мерсугу-300BB "org7abnmr"



Relax. delay 1.000 sec  
Pulse 45.0 degrees  
Acq. time 1.000 sec  
Width 18867.9 Hz  
64 repetitions  
OBSERVE C13, 75.4428085 MHz  
DECOUPLE H1, 300.0323276 MHz  
Power 38 dB  
continuously on  
WALTZ-16 modulated  
DATA PROCESSING  
Line broadening 1.0 Hz  
FT size 65536  
Total time 8 min, 49 sec



4-Methoxyphenylboronic acid + 1-bromo-4-cyanobenzene  
Archive directory: /export/home/orglabTA/vnmrSYS/data  
Sample directory: auto\_03Jul2013

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 4102

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 1.000 sec

Width 18867.9 Hz

64 repetitions

OBSERVE C13, 75.4428085 MHz

DECOUPLE H1, 300.0323276 MHz

Power 38 dB

continuously on

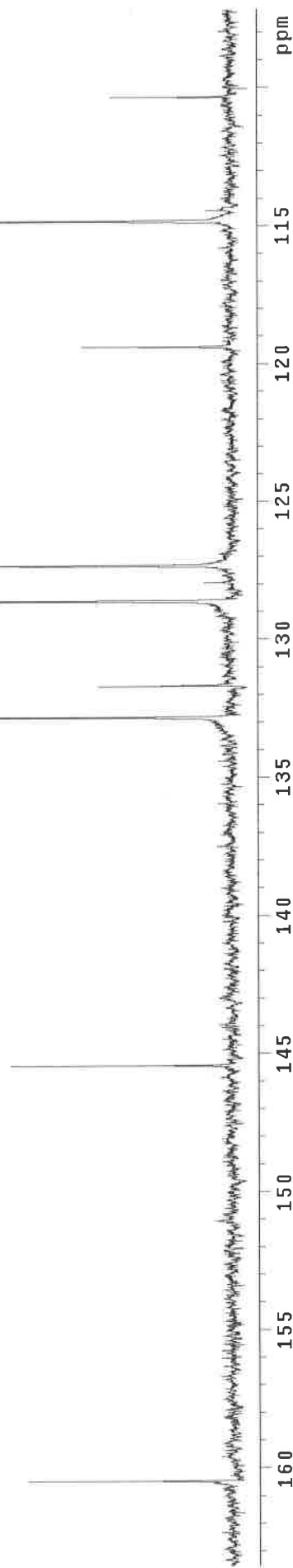
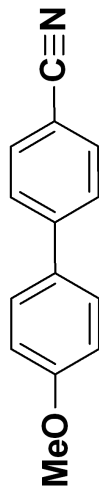
WALTZ-16 modulated

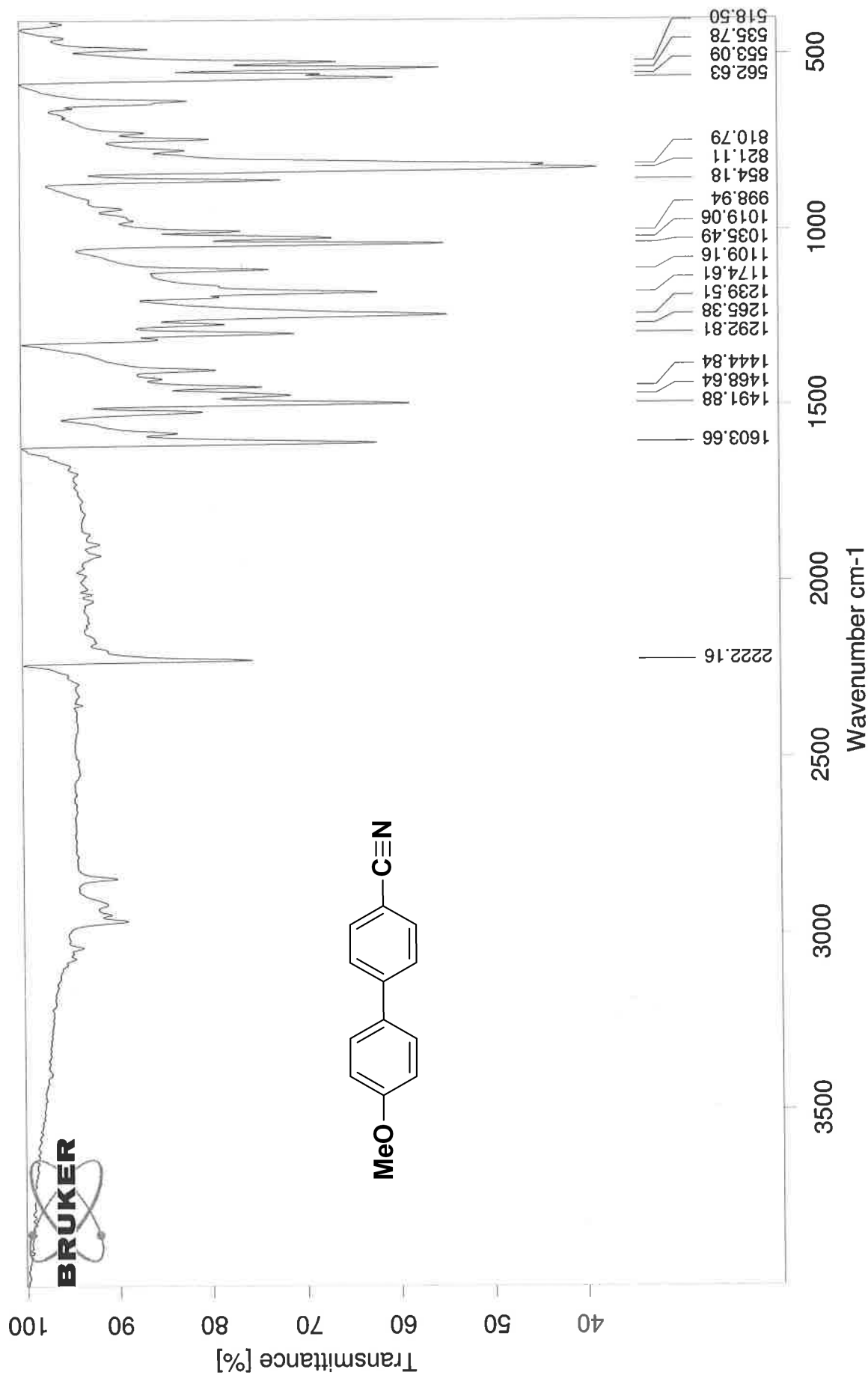
DATA PROCESSING

Line broadening 1.0 Hz

FT size 65536

Total time 8 min, 49 sec





C:\FT-IR Data\Student\p-methoxyphenylboronic acid + 1-bromo-4-cyanobenzene.1

100%T

Instrument type and / or accessory

7/16/2013



Phenylboronic acid + 4'-acetylbromobenzene

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_05Aug2011

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 3001

Mercury-300B8 "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 3.000 sec

Width 4800.8 Hz

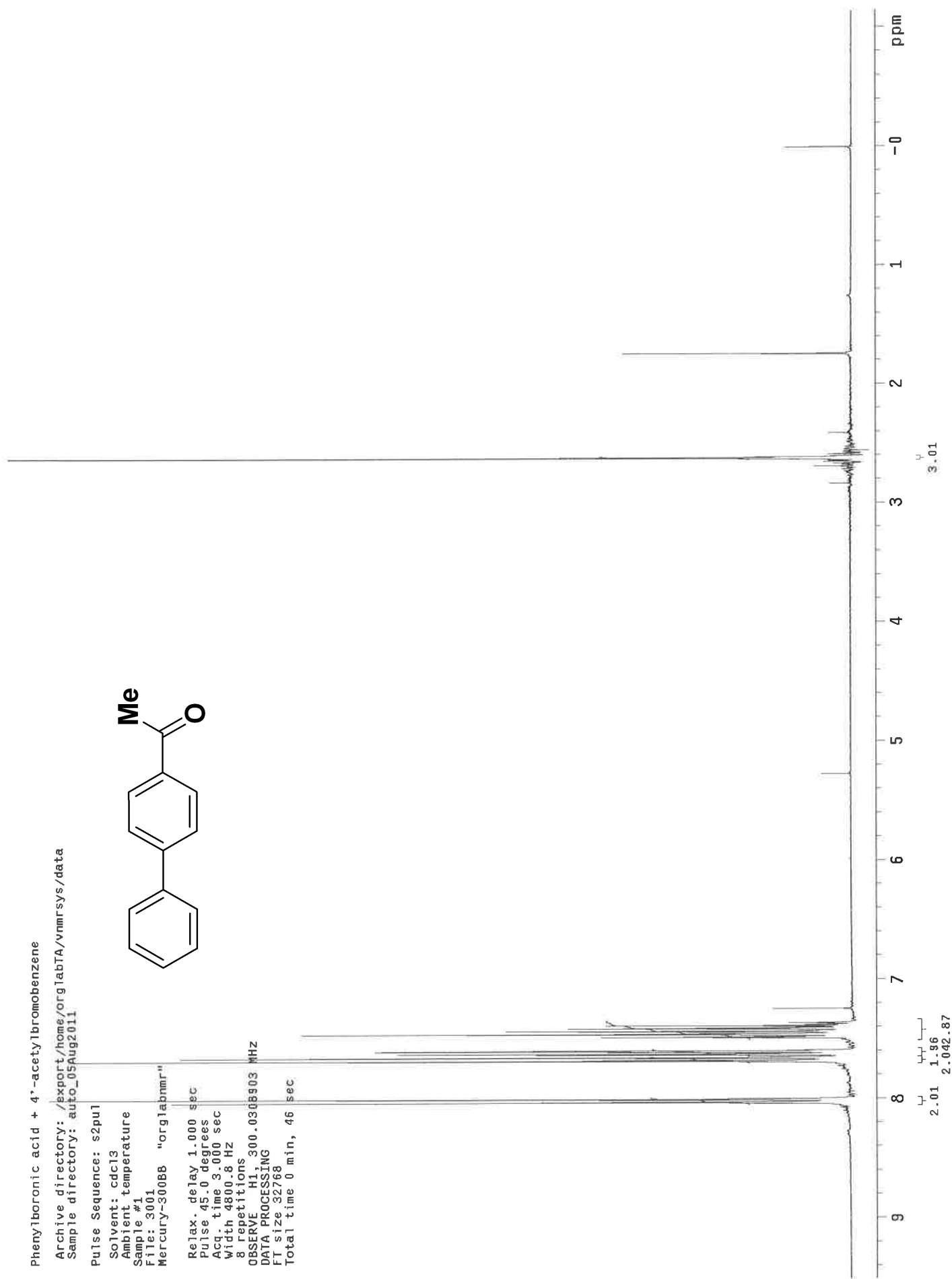
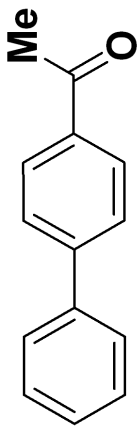
8 repetitions

OBSERVE H1, 300.0308903 MHz

DATA PROCESSING

FT size 32768

Total time 0 min, 46 sec



Phenylboronic acid + 4'-acetylbromobenzene

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_05Aug2011

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 3001

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 3.000 sec

Width 4800.8 Hz

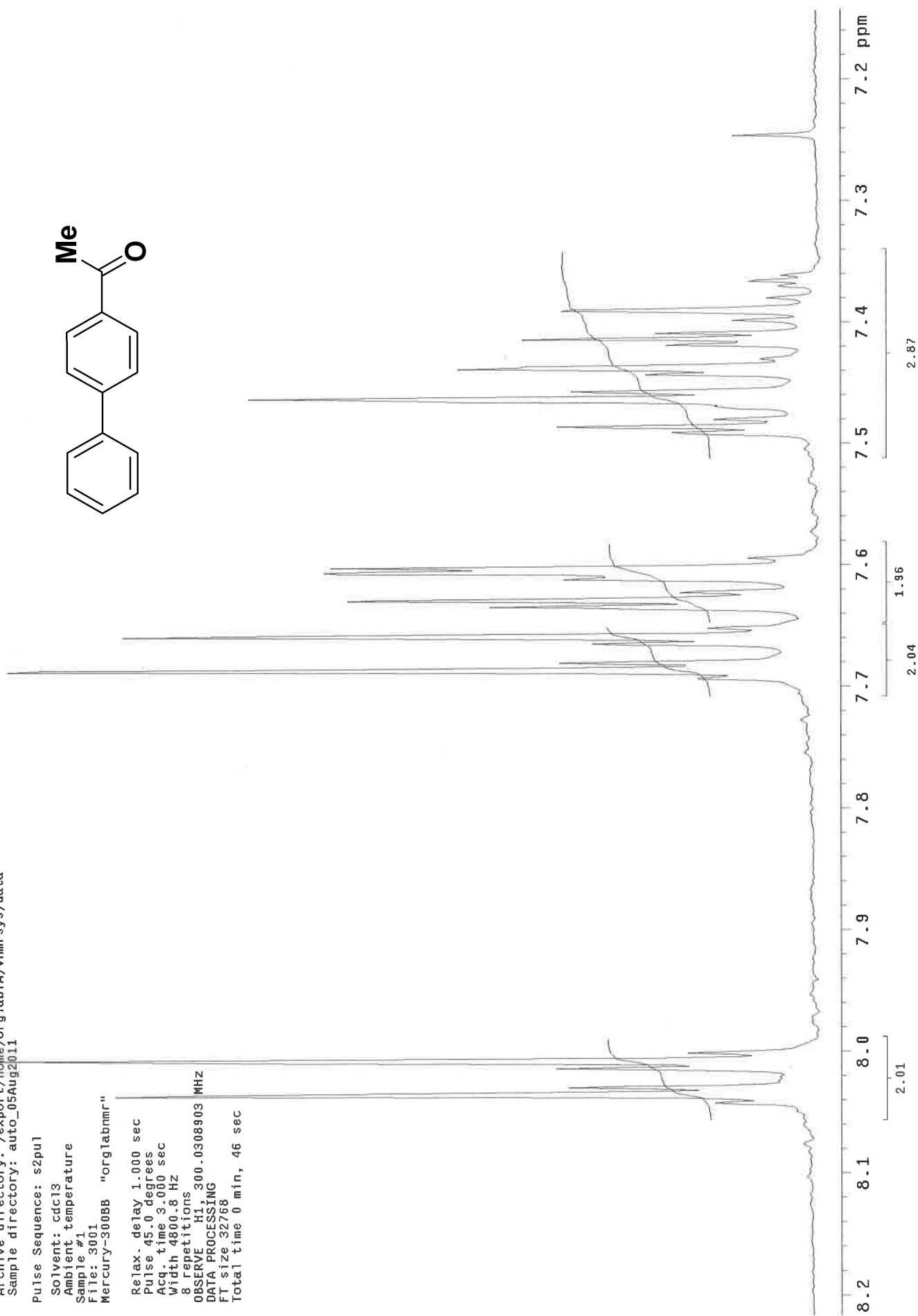
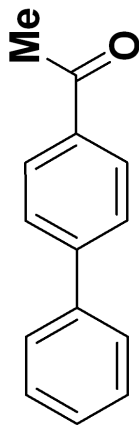
8 repetitions

OBSERVE H1, 300.0308903 MHz

DATA PROCESSING

FT size 32768

Total time 0 min, 46 sec



Phenylboronic acid +4'-acetylbromobenzene

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_05Aug2011

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 3002

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 1.000 sec

Width 13867.9 Hz

64 repetitions

OBSERVE C13, 75.4428085 MHz

DECOUPLE H1, 300.0323276 MHz

Power 38 dB

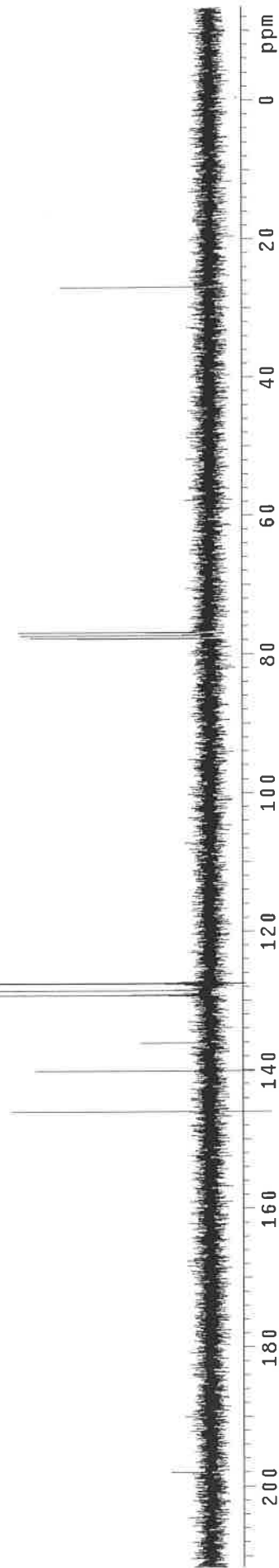
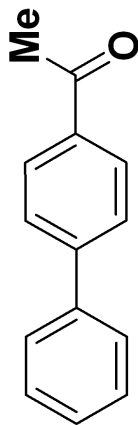
continuously on

WALTZ-16 modulated

DATA PROCESSING

FT size 65536

Total time 8 min, 49 sec



Phenylboronic acid +4'-acetylbromobenzene

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_05Aug2011

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 3002

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 1.000 sec

Width 18867.9 Hz

64 repetitions

OBSERVE C13, 75.4428085 MHz

DECOUPLE H1, 300.0323276 MHz

Power 38 dB

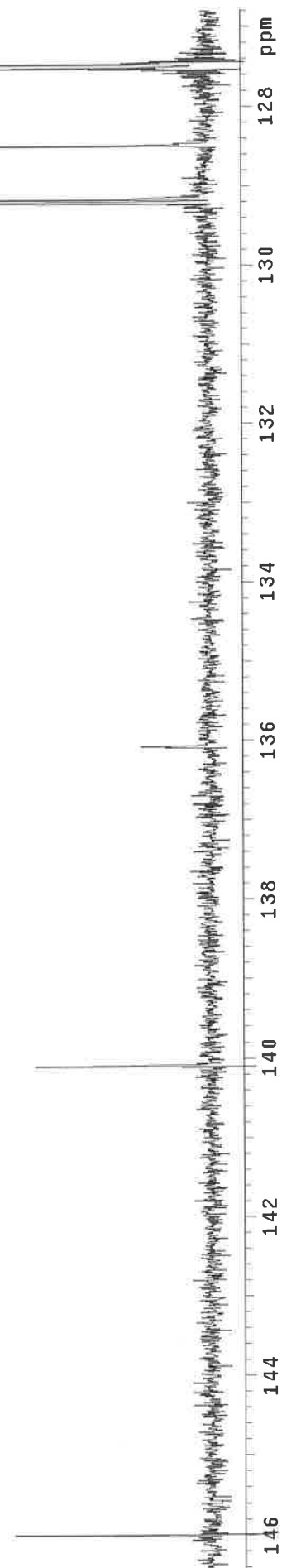
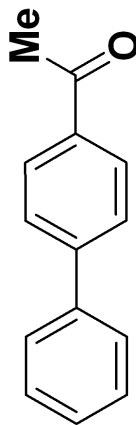
continuously on

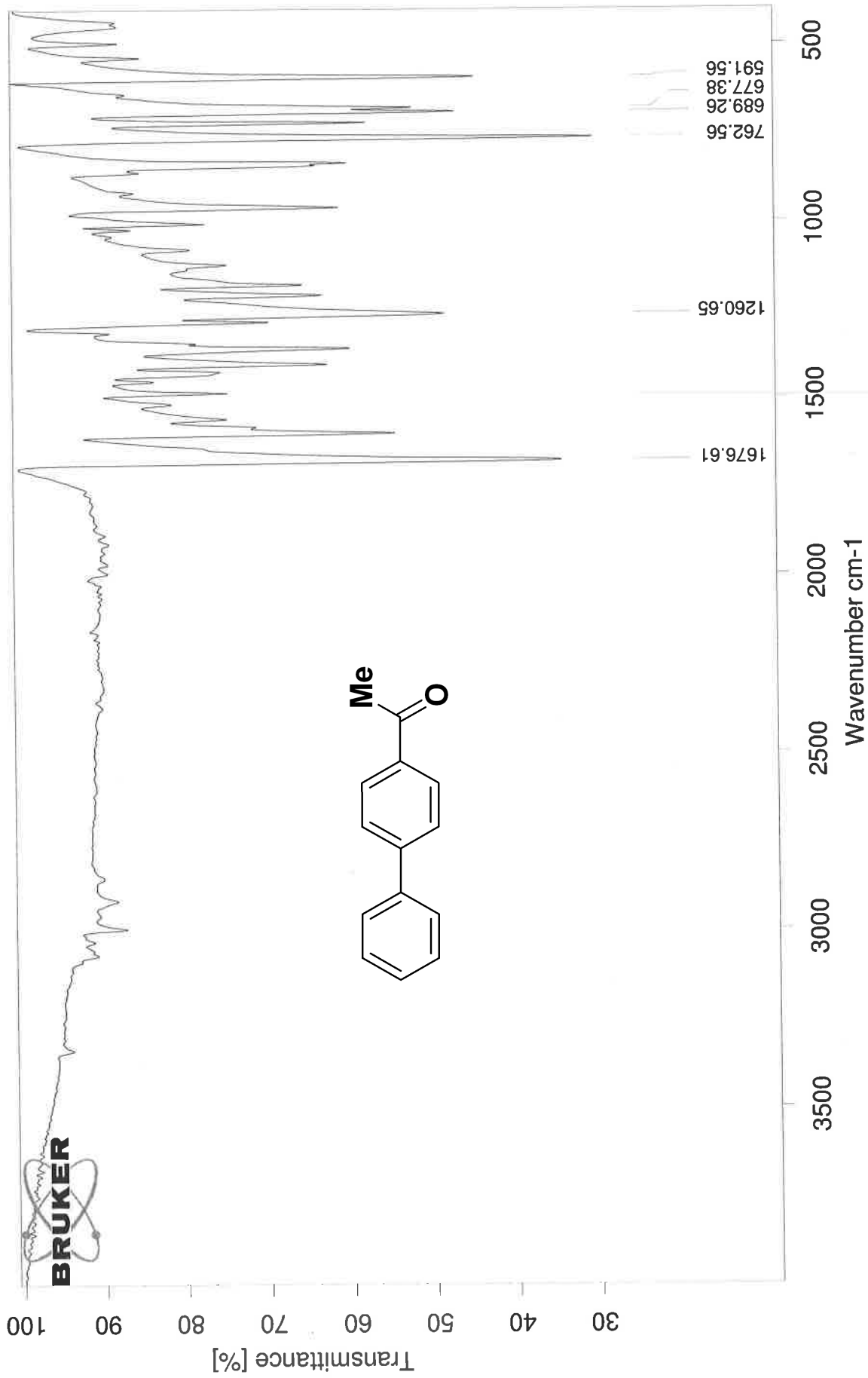
WALTZ-16 modulated

DATA PROCESSING

FT size 65536

Total time 8 min, 49 sec





C:\FT-IR Data\Student\Phenylboronic acid + 4'-bromoacetophenone.0	100%T	Instrument type and / or accessory	7/22/2013
-------------------------------------------------------------------	-------	------------------------------------	-----------

Phenylboronic acid + 1-bromo-4-cyanobenzene

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_05Aug2011

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 2901

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 3.000 sec

Width 4800.8 Hz

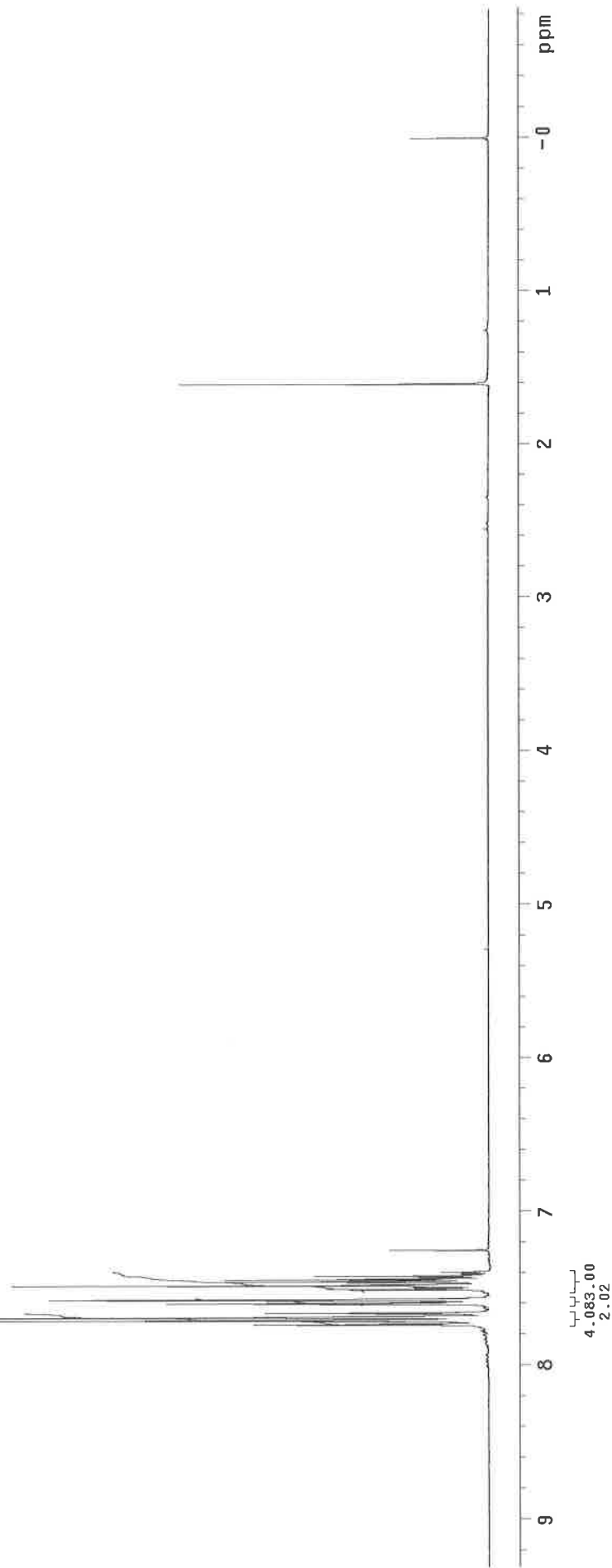
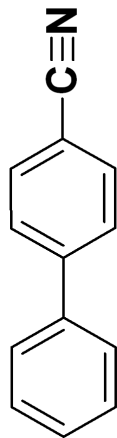
8 repetitions

OBSERVE H1, 300.0308882 MHz

DATA PROCESSING

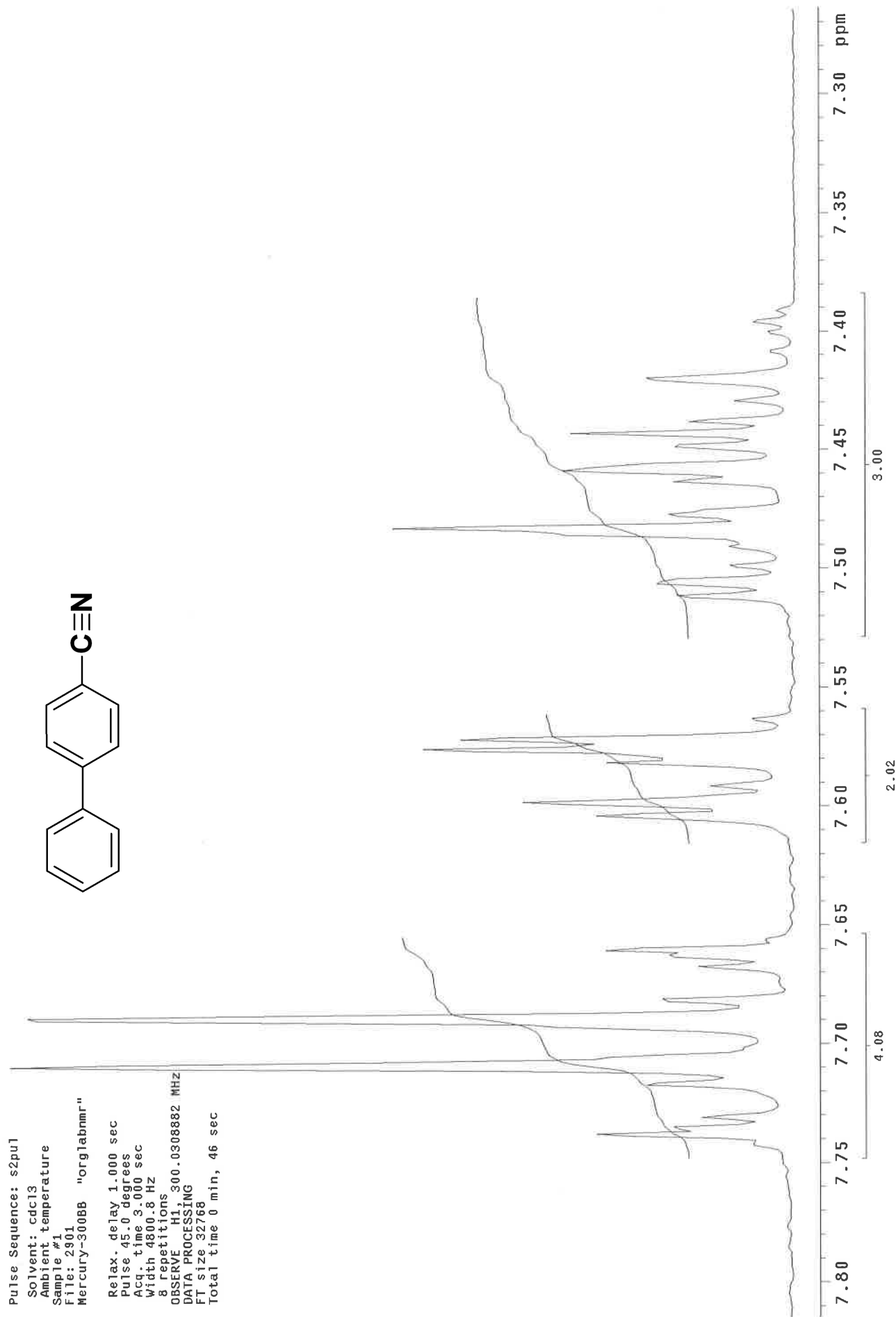
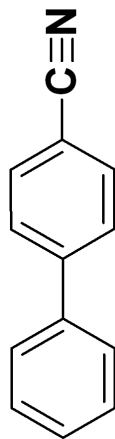
FT size 32768

Total time 0 min, 46 sec



Phenylboronic acid + 1-bromo-4-cyanobenzene  
Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_05Aug2011

Pulse Sequence: s2pu1  
Solvent: cdcl3  
Ambient temperature  
Sample #1  
File: 2901  
Mercury-300BB "orglabnmr"  
  
Relax. delay 1.000 sec  
Pulse 45.0 degrees  
Acq. time 3.000 sec  
Width 4800.8 Hz  
8 repetitions  
OBSERVE H1, 300.0308882 MHz  
DATA PROCESSING  
FT size 32768  
Total time 0 min, 46 sec



Phenylboronic acid + 1-bromo-4-cyanobenzene

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_05Aug2011

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 2902

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 1.000 sec

Width 18867.9 Hz

256 Repetitions

OBSERVE C13, 75.4428085 MHz

DECOUPLE H1, 300.0323276 MHz

Power 38 dB

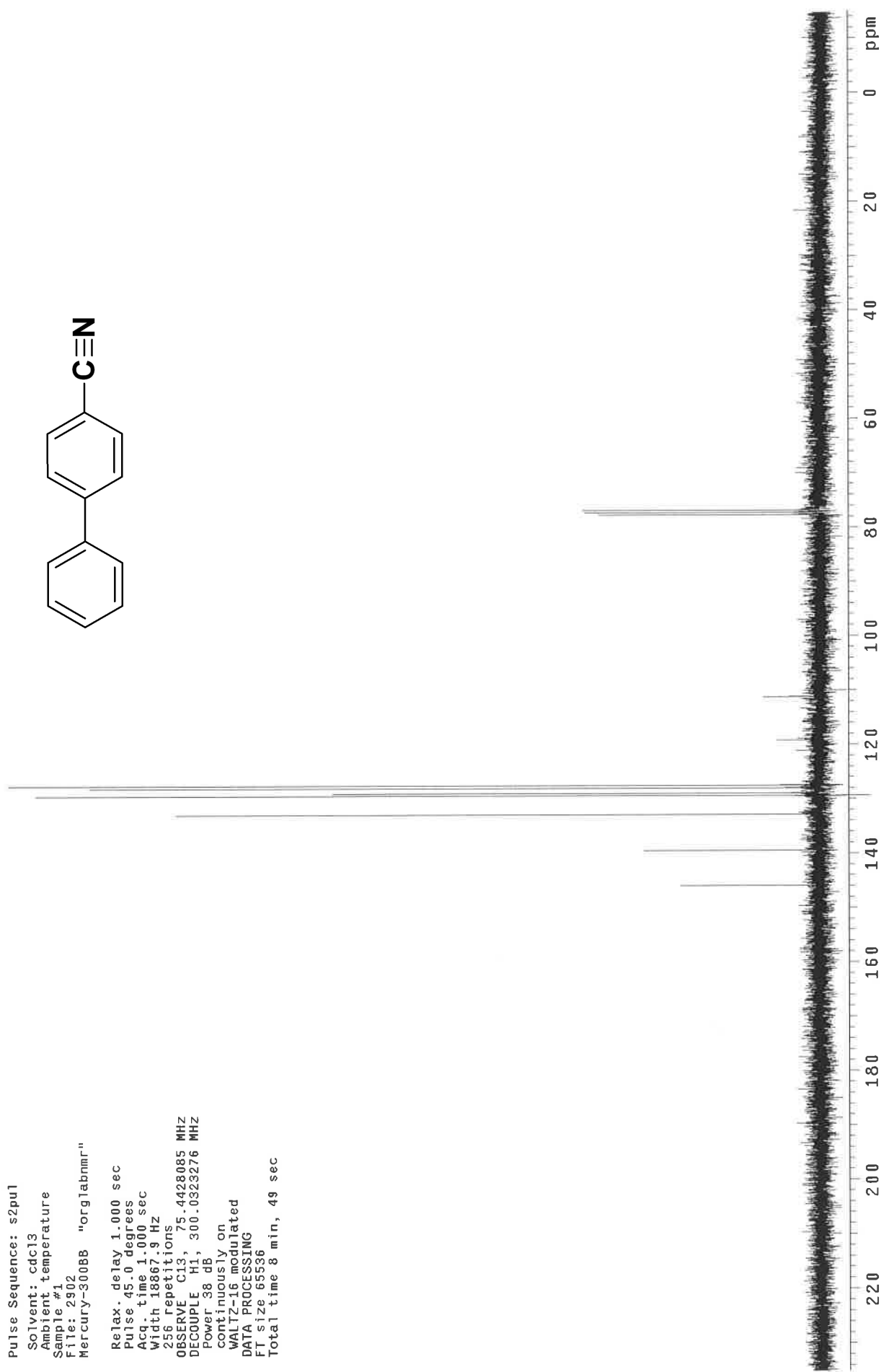
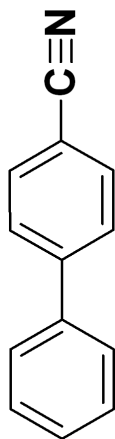
continuously on

WALTZ-16 modulated

DATA PROCESSING

FT size 65536

Total time 8 min, 49 sec





Phenylboronic acid + 1-bromo-4-cyanobenzene

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_05Aug2011

Pulse Sequence: s2pul

Solvent: cdc13

Ambient temperature

Sample #1

File: 2502

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 1.000 sec

Width 18867.9 Hz

256 repetitions

OBSERVE C13, 75.4428085 MHz

DECOUPLE H1, 300.0323276 MHz

Power 38 dB

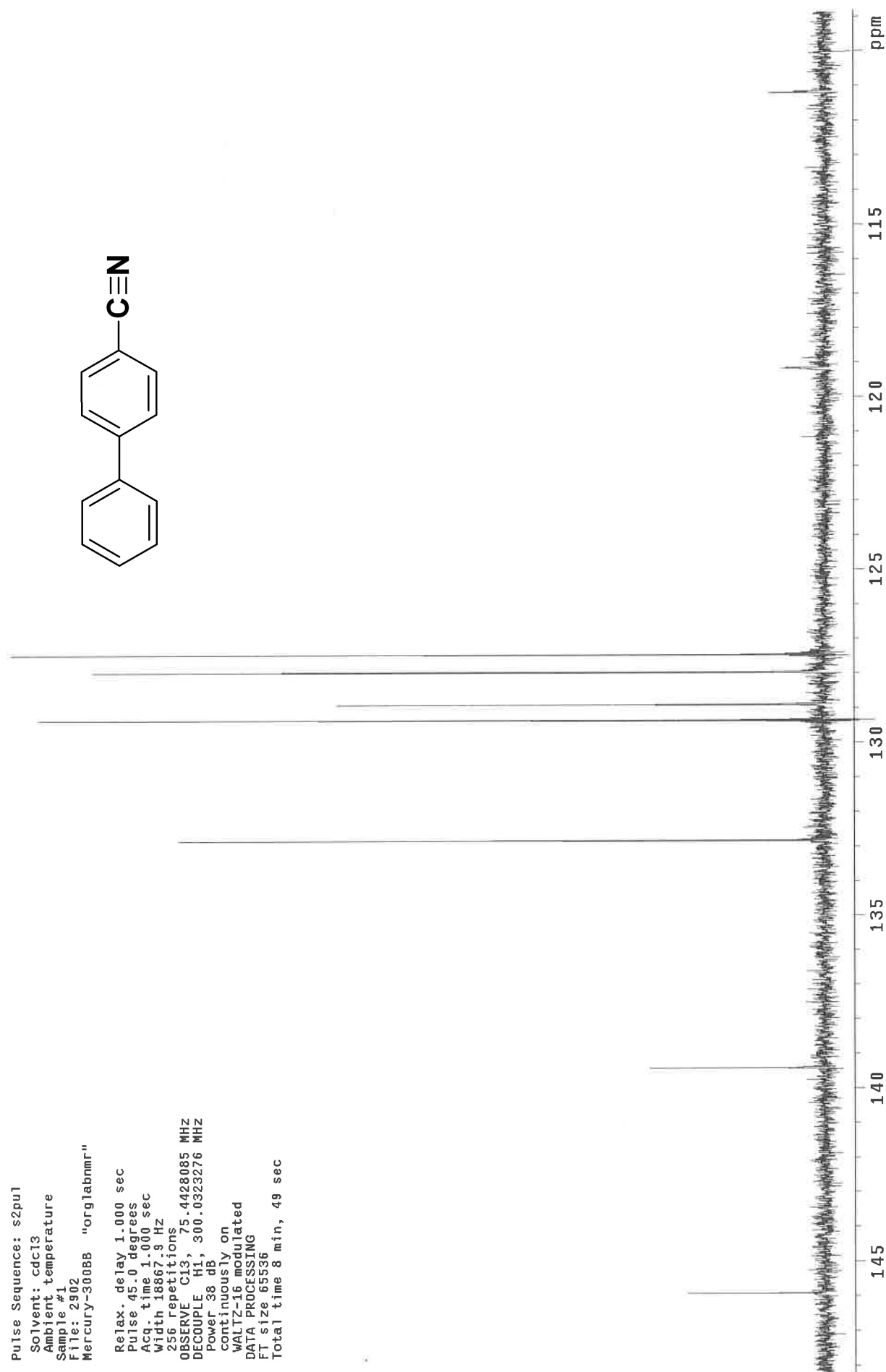
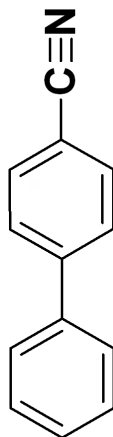
continuously on

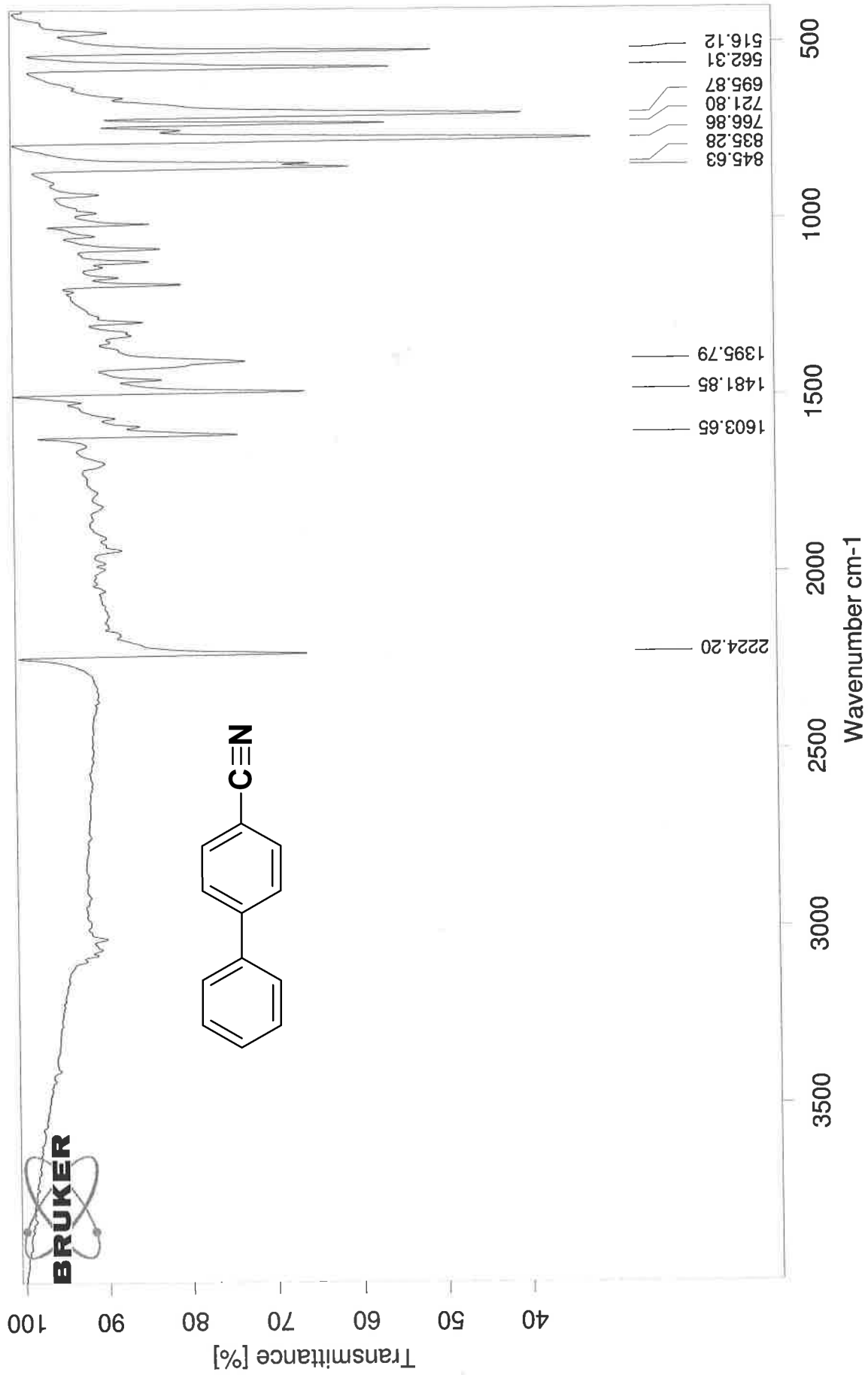
WALTZ-16 modulated

DATA PROCESSING

FT size 65536

Total time 8 min, 49 sec





C:\FT-IR Data\Student\Phenylboronic acid + 4-bromobenzonitrile.0

100%T

Instrument type and / or accessory

7/22/2013

Phenylboronic acid + 4-bromoanisole

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_05Aug2011

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 2801

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 3.000 sec

Width 4800.8 Hz

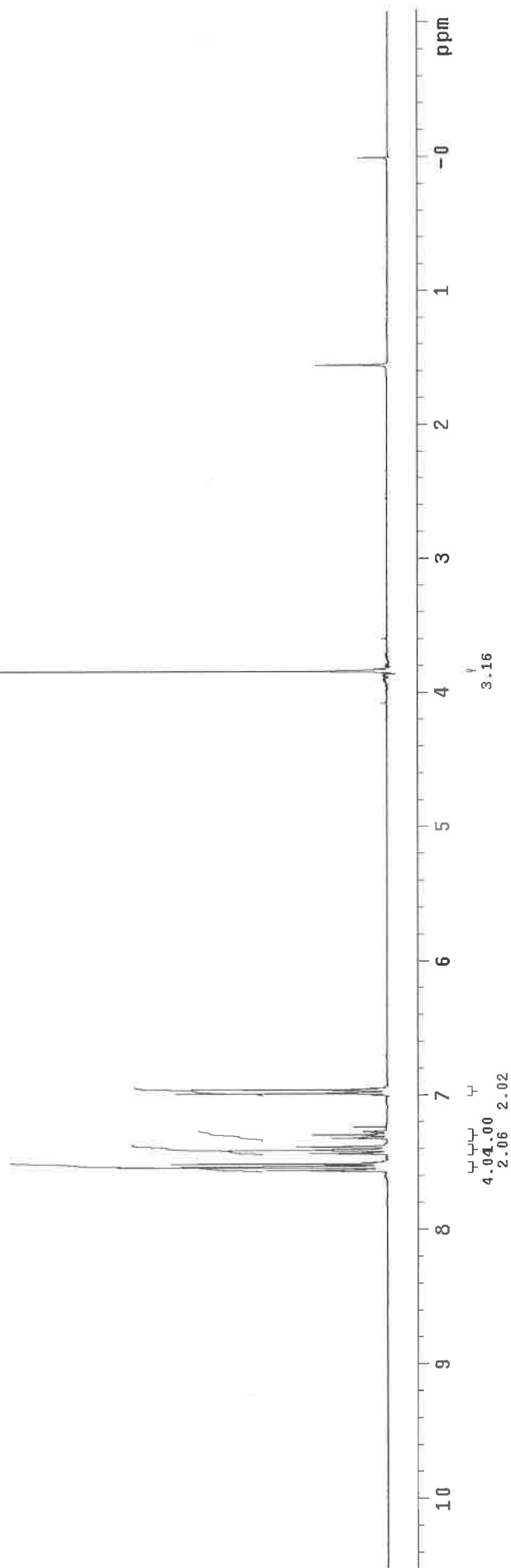
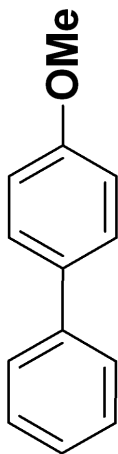
8 repetitions

OBSERVE H1, 300.0308941 MHz

DATA PROCESSING

FT size 32768

Total time 0 min, 46 sec



Phenylboronic acid + 4-bromoanisole

Archive directory: /export/home/orglabTA/vnmrSYS/data  
Sample directory: auto\_05Aug2011

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 2801

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 3.000 sec

Width 4800.8 Hz

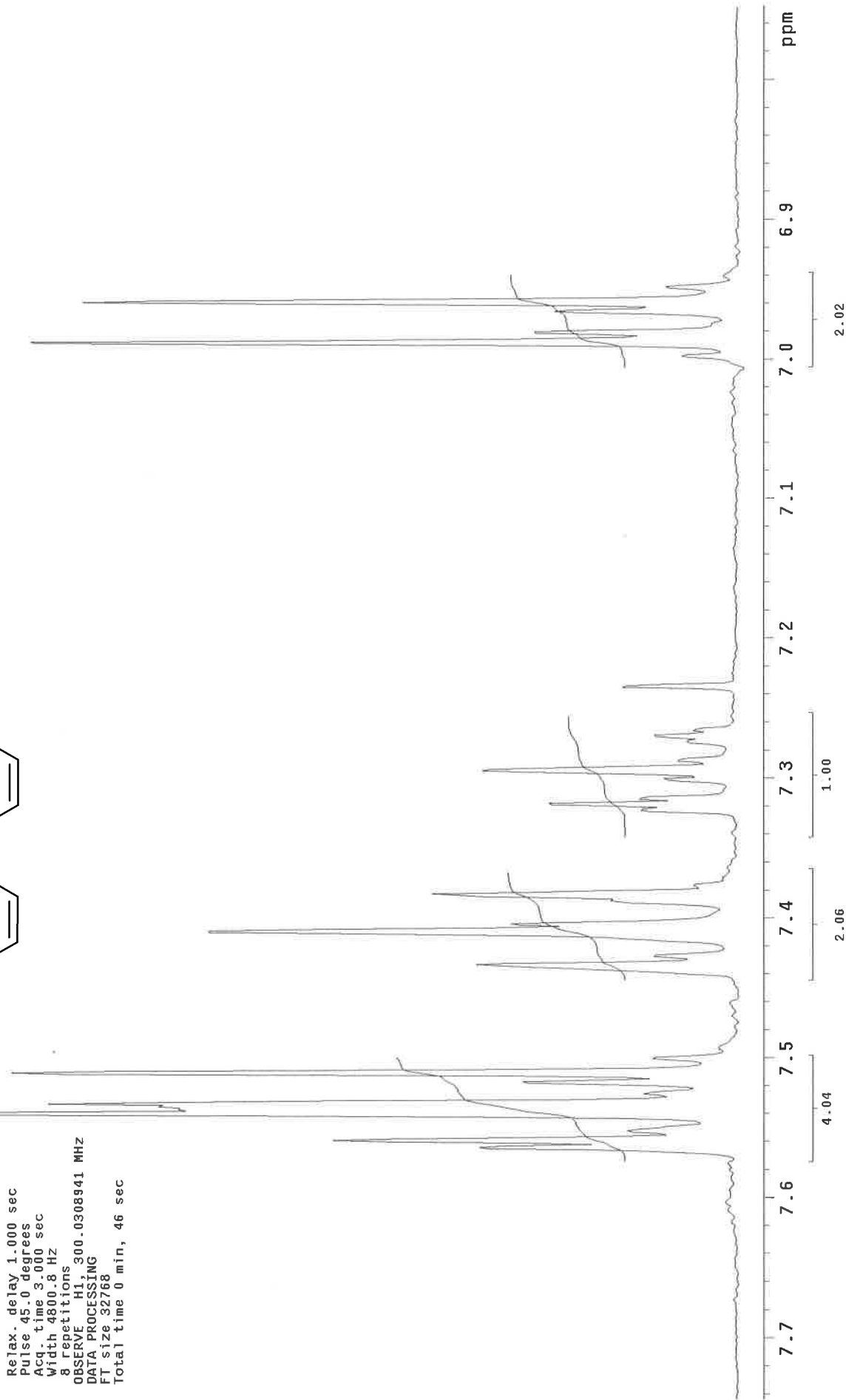
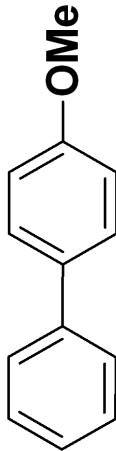
8 repetitions

OBSERVE H1, 300.0308941 MHz

DATA PROCESSING

FT size 32768

Total time 0 min, 46 sec



Phenylboronic acid + 4-bromoanisole

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_05Aug2011

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 2802

Mercury-300SB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 1.000 sec

Width 18867.9 Hz

256 repetitions

OBSERVE C13, 75.4428085 MHz

DECOUPLE H1, 300.0323276 MHz

Power 38 dB

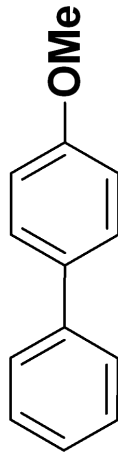
continuously on

WALTZ-16 modulated

DATA PROCESSING

FT size 65536

Total time 8 min, 49 sec



Phenylboronic acid + 1-bromo-4-fluorobenzene  
STANDARD 1H OBSERVE

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_12Jul2013

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 0102

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 3.000 sec

Width 4800.8 Hz

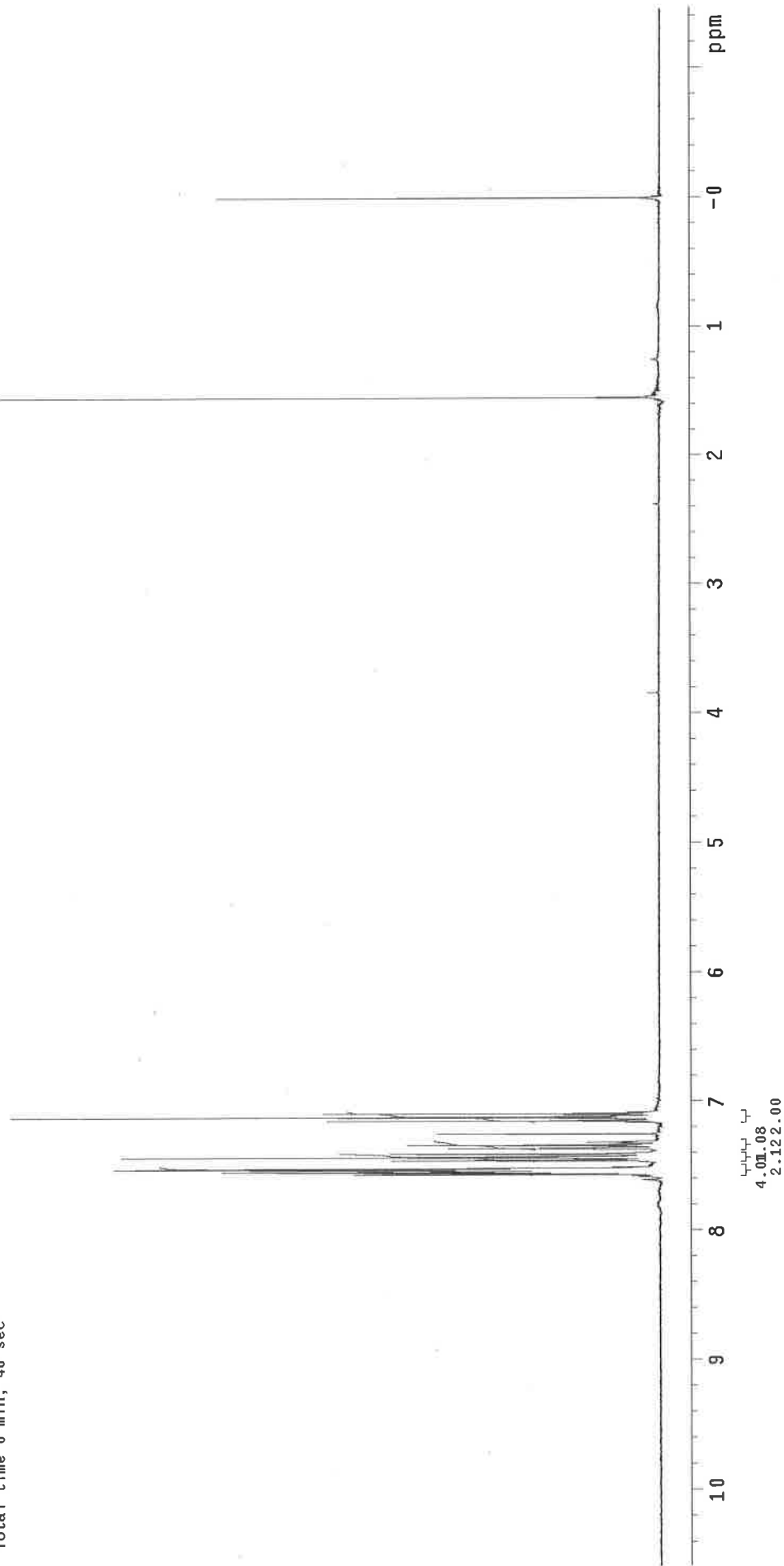
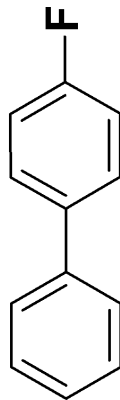
8 repetitions

OBSERVE H1, 300.0308894 MHz

DATA PROCESSING

FT size 32768

Total time 0 min, 46 sec



Phenylboronic acid + 1-bromo-4-fluorobenzene  
STANDARD 1H OBSERVE

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_12Jul2013

Pulse Sequence: s2pu1

Solvent: cdcl3

Ambient temperature

Sample #1

File: 0102

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 3.000 sec

Width 4800.8 Hz

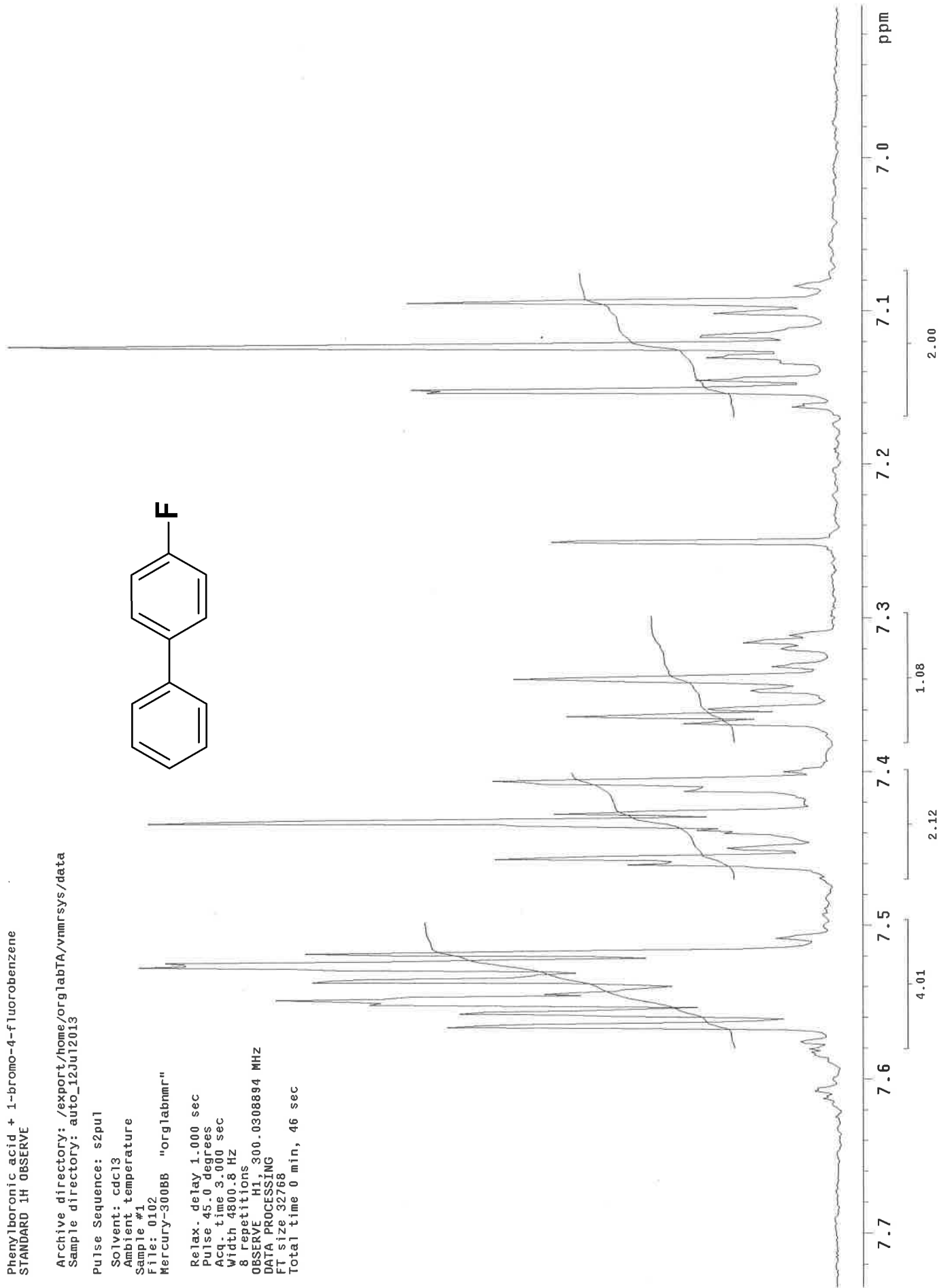
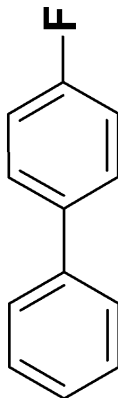
8 repetitions

OBSERVE H1, 300.0308894 MHz

DATA PROCESSING

FT size 32768

Total time 0 min, 46 sec



Phenylboronic acid + 1-bromo-4-fluorobenzene

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_03Jul2013

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 4202

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 1.000 sec

Width 18867.9 Hz

128 repetitions

OBSERVE C13, 75.4428085 MHz

DECOUPLE H1, 300.0323276 MHz

Power 38 dB

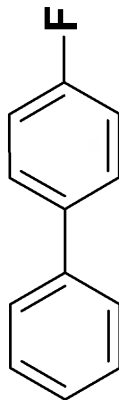
continuously on

WALTZ-16 modulated

DATA PROCESSING

FT size 65536

Total time 8 min, 49 sec





Phenylboronic acid + 1-bromo-4-fluorobenzene

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_03Jul2013

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 4202

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 1.000 sec

Width 18867.9 Hz

128 repetitions

OBSERVE C13, 75.4428085 MHz

DECOUPLE H1, 300.0323276 MHz

Power 38 dB

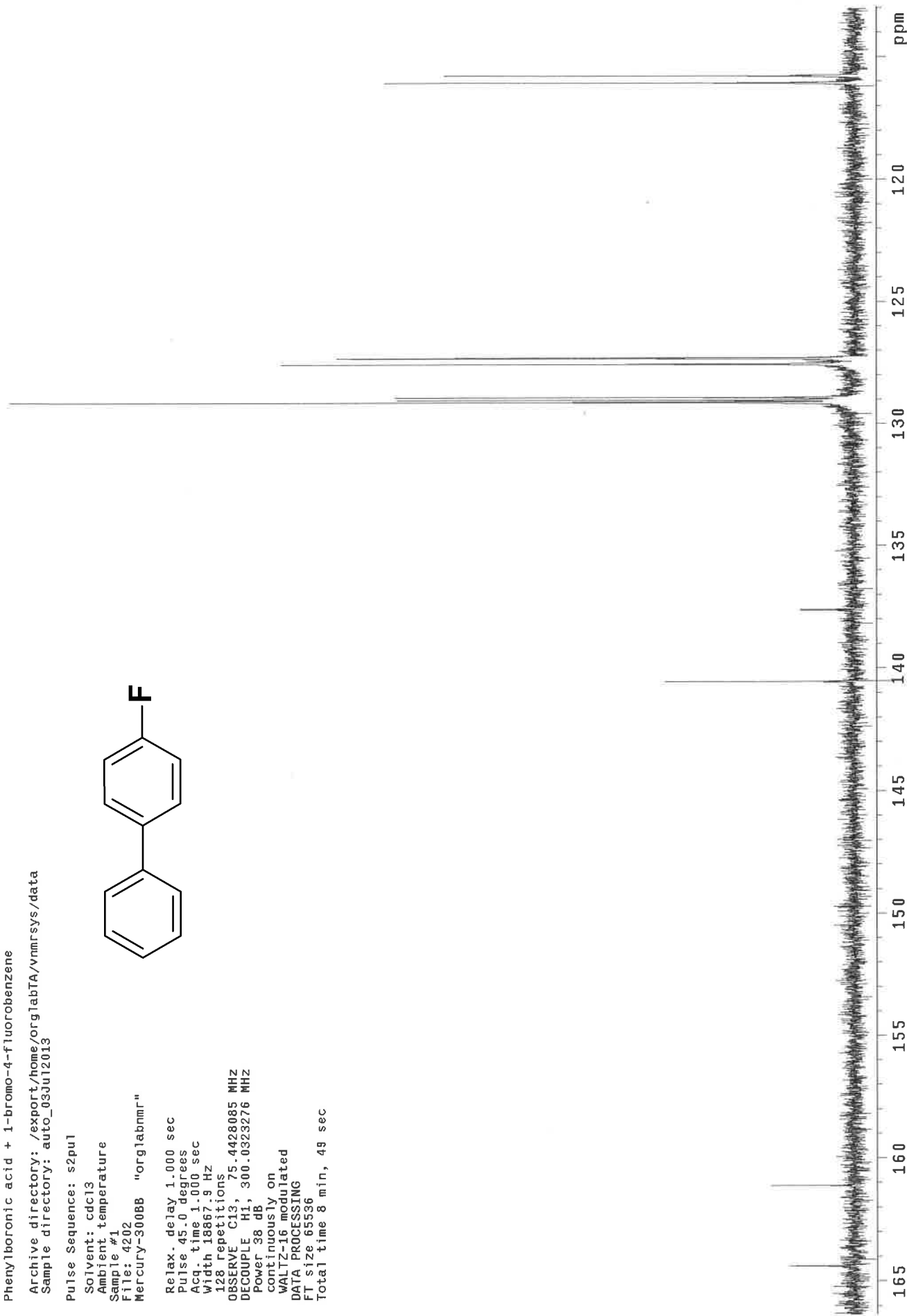
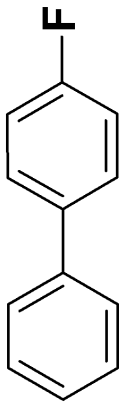
continuously on

WALTZ-16 modulated

DATA PROCESSING

FT size 65536

Total time 8 min, 49 sec



Phenylboronic acid + 1-bromo-4-fluorobenzene  
STANDARD 1H OBSERVE

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_12Jul2013

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 0104

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 35.0 degrees

Acq. time 0.300 sec

Width 50000.0 Hz

16 repetitions

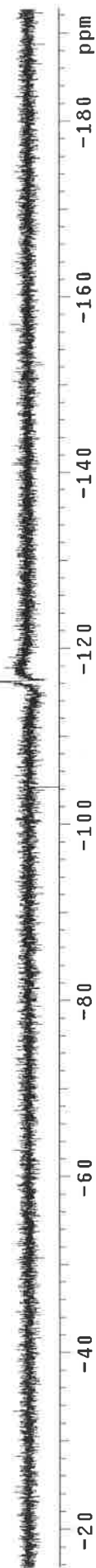
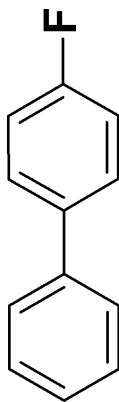
OBSERVE F19, 282.3112060 MHz

DATA PROCESSING

Line broadening 0.3 Hz

FT size 32768

Total time 0 min, 36 sec



Phenylboronic acid + 1-bromo-4-methylbenzene  
STANDARD 1H OBSERVE

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_17Jul2013

Pulse Sequence: s2pul

Solvent: cdc13

Ambient temperature

Sample #1

File: 2501

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 3.000 sec

Width 4800.8 Hz

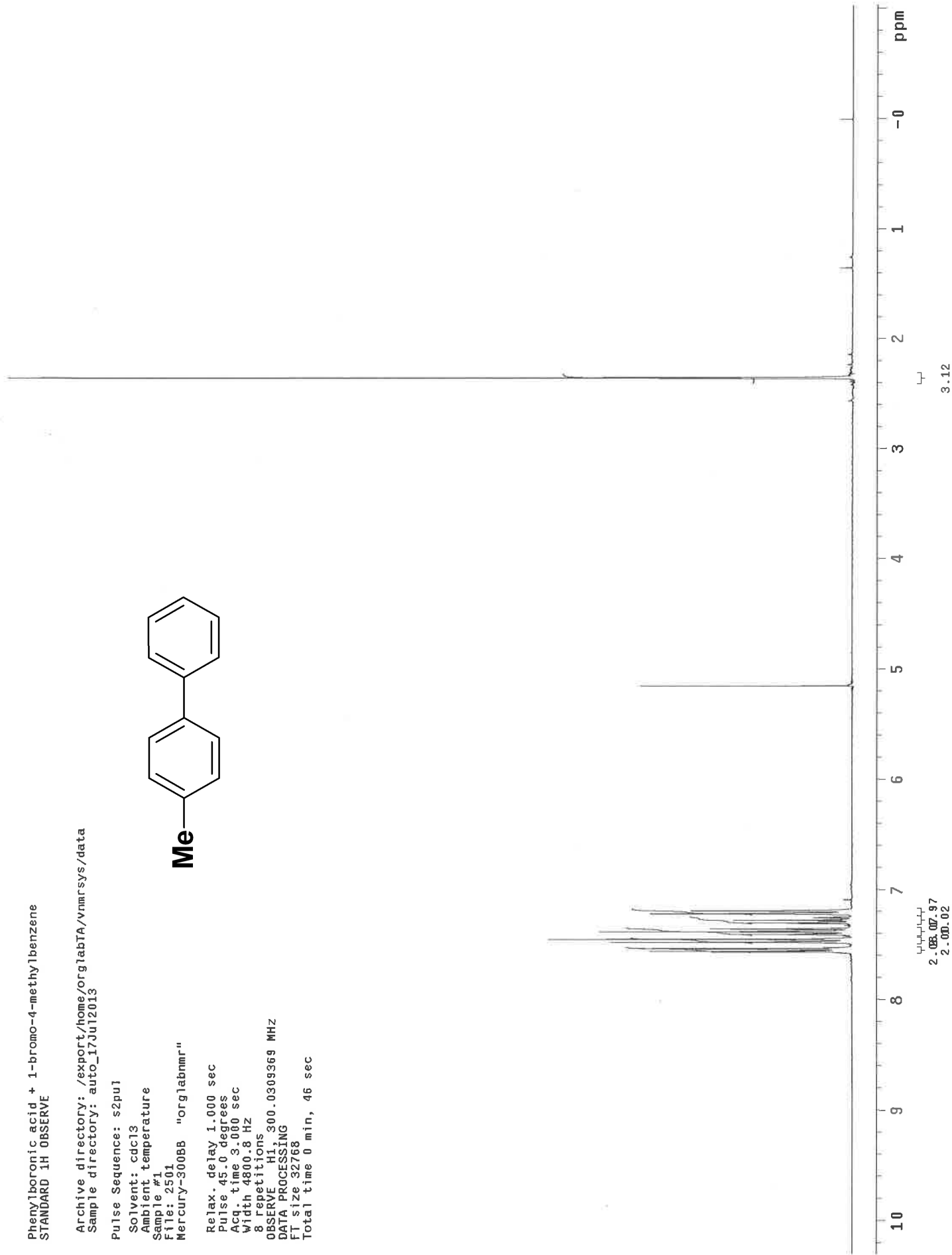
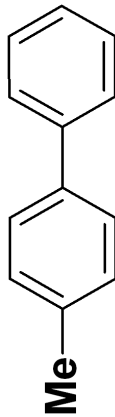
8 repetitions

OBSERVE H1, 300.0309369 MHz

DATA PROCESSING

FT size 32768

Total time 0 min, 46 sec



Phenylboronic acid + 1-bromo-4-methylbenzene  
STANDARD 1H OBSERVE

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_17Jul2013

Pulse Sequence: s2pu1

Solvent: cdcl3

Ambient temperature

Sample #1

File: 2501

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 3.000 sec

Width 4800.8 Hz

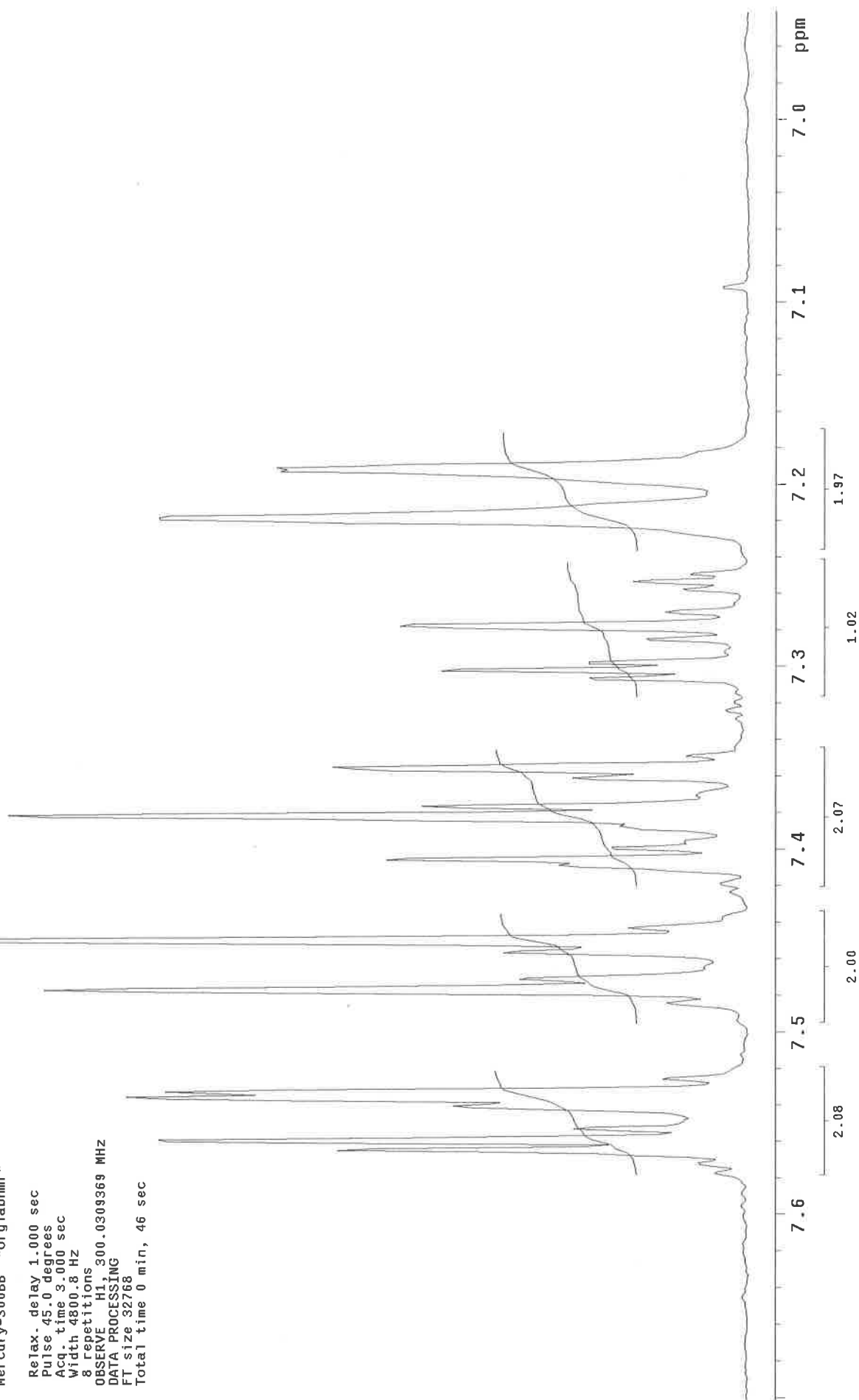
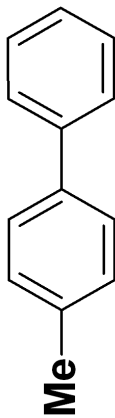
8 repetitions

OBSERVE H1, 300.0309369 MHz

DATA PROCESSING

FT size 32768

Total time 0 min, 46 sec



Phenylboronic acid + 1-bromo-4-methylbenzene  
STANDARD 1H OBSERVE

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_17Jul2013

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 2502

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 1.000 sec

Width 18867.9 Hz

64 repetitions

OBSERVE C13, 75.4428085 MHz

DECOUPLE H1, 300.0323276 MHz

Power 38 dB

continuously on

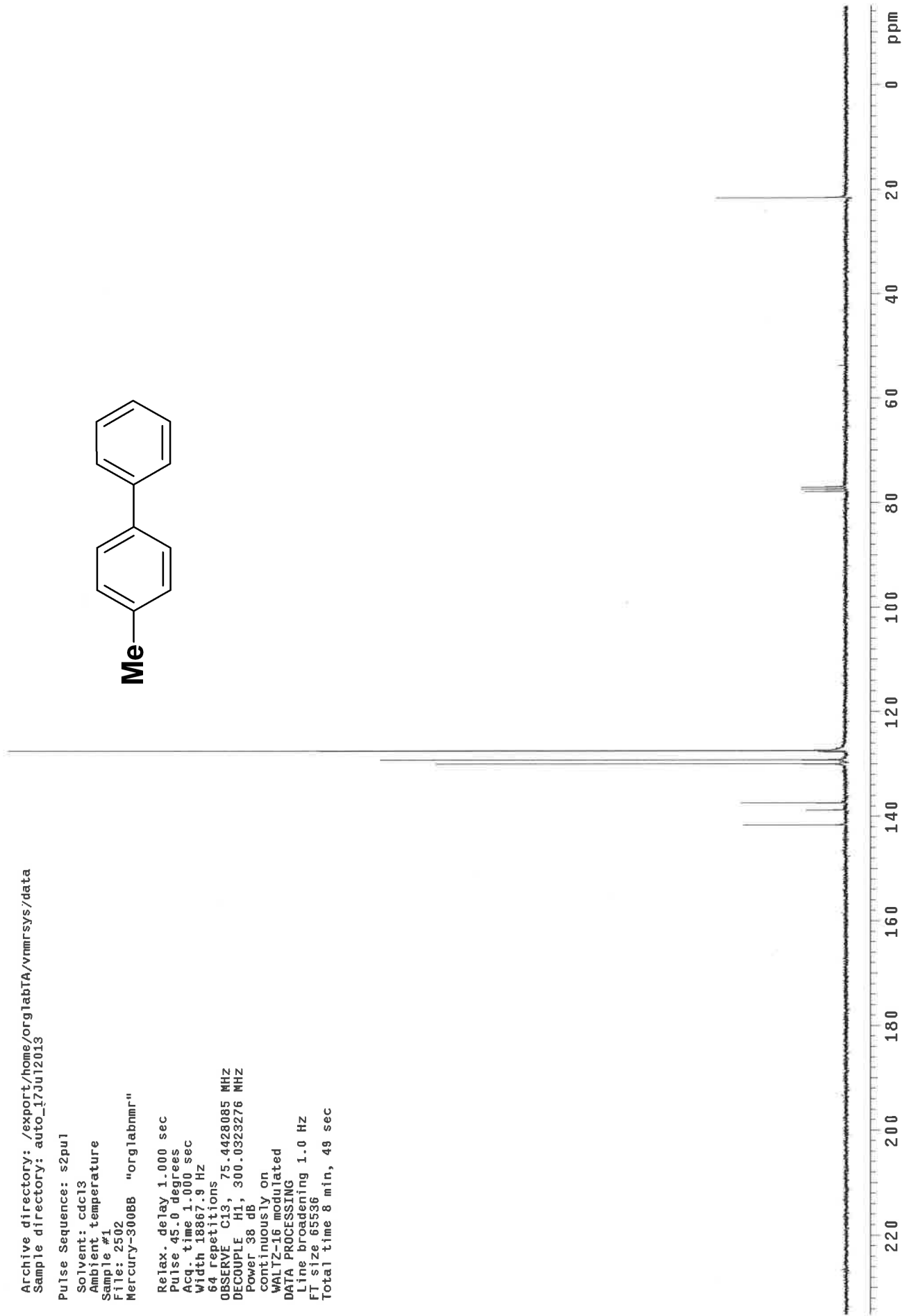
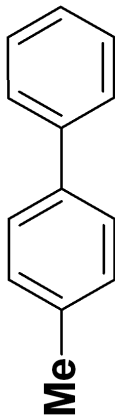
WALTZ-16 modulated

DATA PROCESSING

Line broadening 1.0 Hz

FT size 65536

Total time 8 min, 49 sec



Phenylboronic acid + 1-bromo-4-methylbenzene  
STANDARD 1H OBSERVE

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_17Jul2013

Pulse Sequence: s2pu1

Solvent: cdcl3

Ambient temperature

Sample #1

File: 2502

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 1.000 sec

Width 18867.9 Hz

64 repetitions

OBSERVE C13, 75.4428085 MHz

DECOUPLE H1, 300.0323276 MHz

Power 38 dB

continuously on

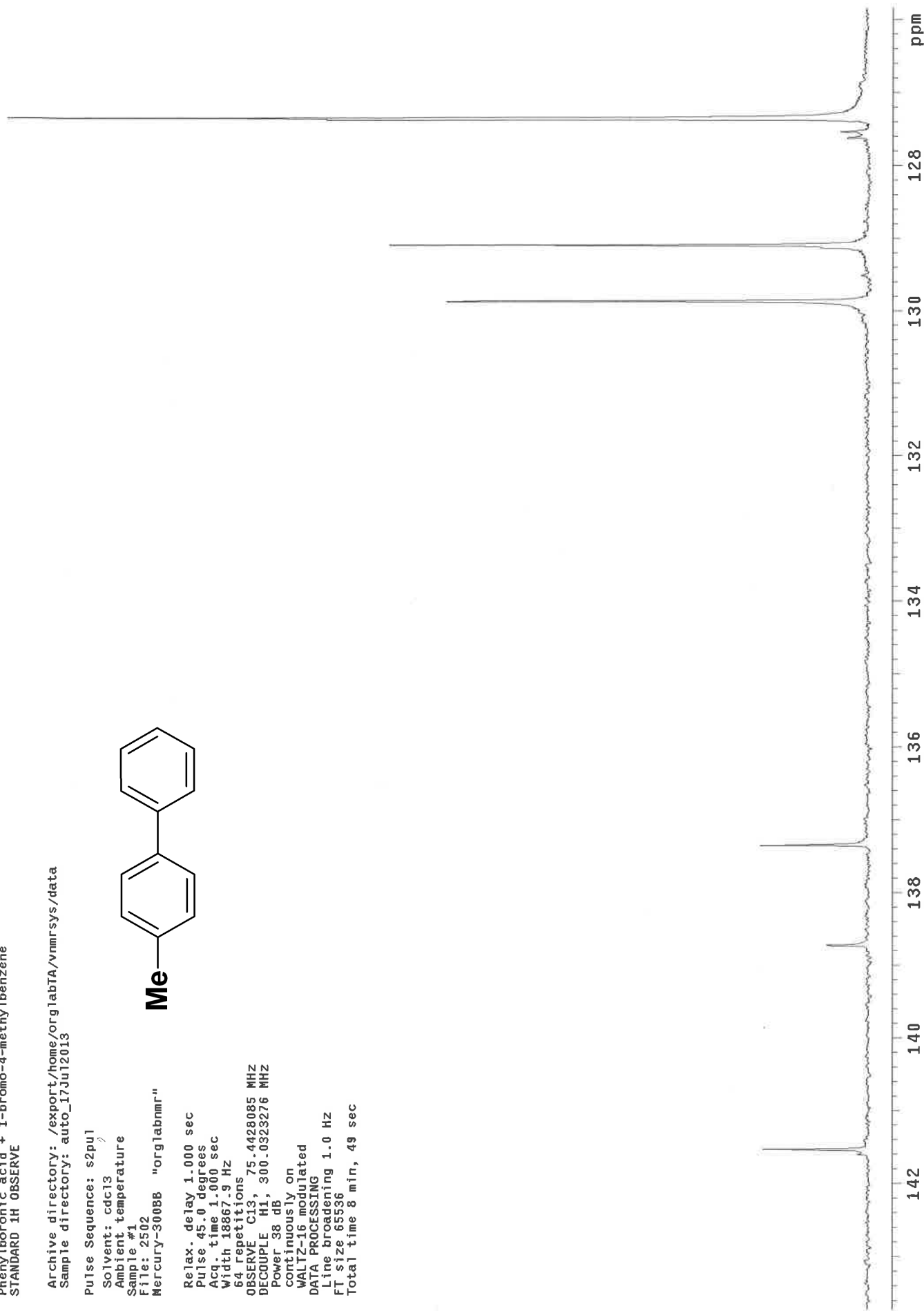
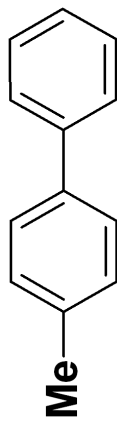
WALTZ-16 modulated

DATA PROCESSING

Line broadening 1.0 Hz

FT size 65536

Total time 8 min, 49 sec



Phenylboronic acid + bromobenzene

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_05Aug2011

Pulse Sequence: s2pul

Solvent: cdcl3

Ambient temperature

Sample #1

File: 2501

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 3.000 sec

Width 4800.8 Hz

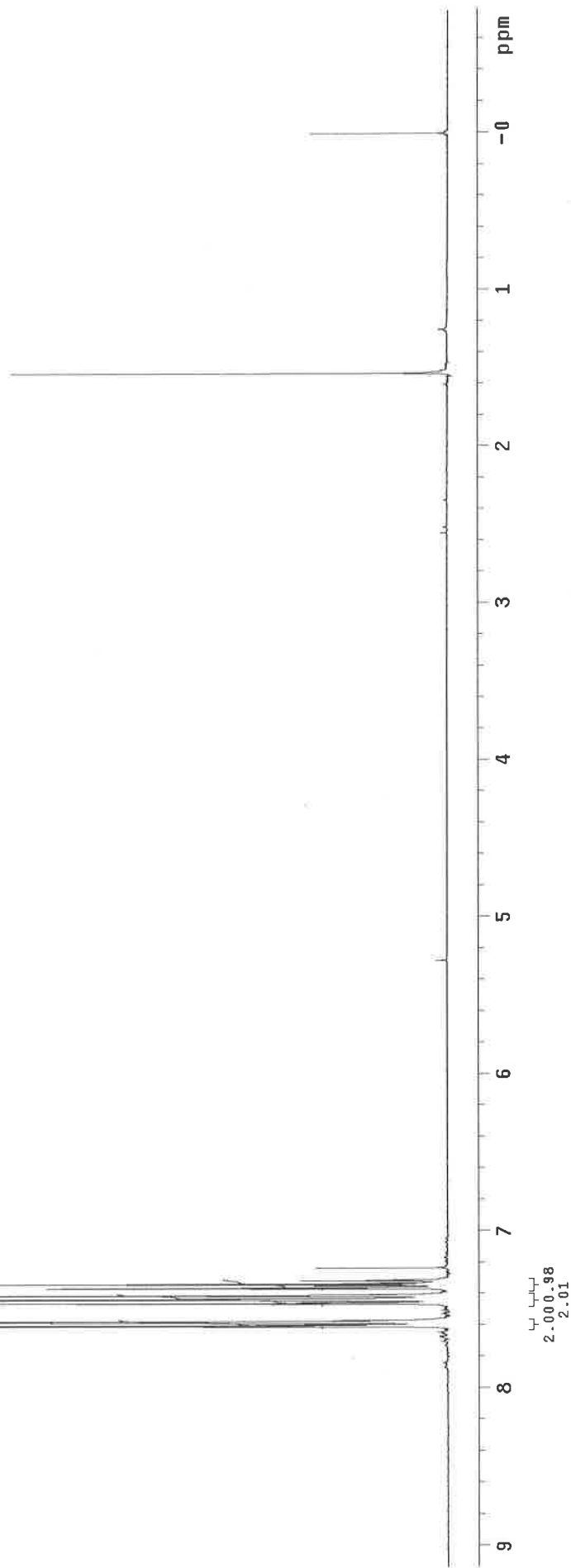
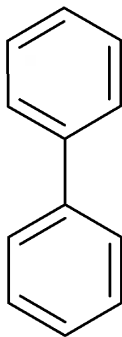
8 repetitions

OBSERVE H1, 300.0308932 MHz

DATA PROCESSING

FT size 32768

Total time 0 min, 46 sec



Phenylboronic acid + bromobenzene

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_05Aug2011

Pulse Sequence: s2pu1

Solvent: cdc13

Ambient temperature

Sample #1

File: 2601

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 3.000 sec

Width 4800.8 Hz

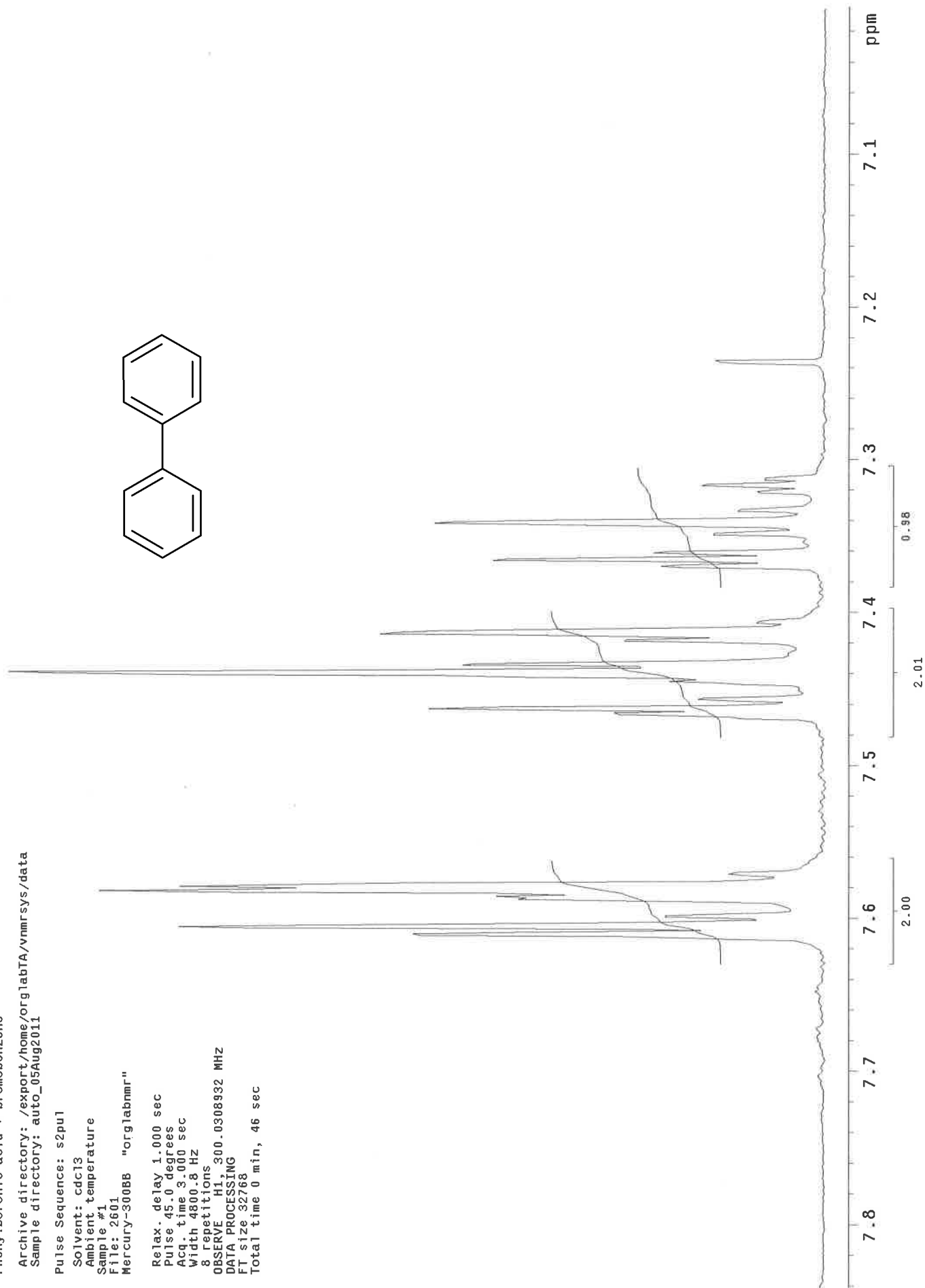
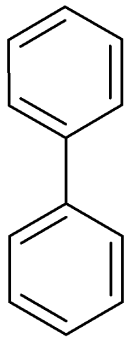
8 repetitions

OBSERVE H1, 300.0308932 MHz

DATA PROCESSING

FT size 32768

Total time 0 min, 46 sec





Phenylboronic acid + bromobenzene

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_05Aug2011

Pulse Sequence: s2pul

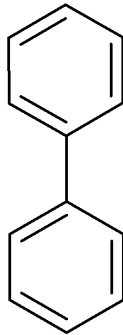
Solvent: cdcl3

Ambient temperature

Sample #1

File: 2602

Mercury-300BB "orglabnmr"



Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 1.000 sec

Width 18867.9 Hz

128 repetitions

OBSERVE C13, 75.4428085 MHz

DECOUPLE H1, 300.0323276 MHz

Power 38 dB

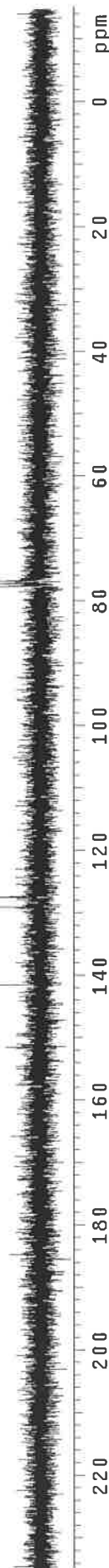
continuously on

WALTZ-16 modulated

DATA PROCESSING

FT size 65536

Total time 8 min, 49 sec



Phenylboronic acid + bromobenzene

Archive directory: /export/home/orglabTA/vnmrsys/data  
Sample directory: auto\_05Aug2011

Pulse Sequence: s2pul

Solvent: cdc13

Ambient temperature

Sample #1

File: 2602

Mercury-300BB "orglabnmr"

Relax. delay 1.000 sec

Pulse 45.0 degrees

Acq. time 1.000 sec

Width 18867.9 Hz

128 repetitions

OBSERVE C13, 75.4428085 MHz

DECOUPLE H1, 300.0323276 MHz

Power 38 dB

continuously on

WALTZ-16 modulated

DATA PROCESSING

FT size 65536

Total time 8 min, 49 sec

