

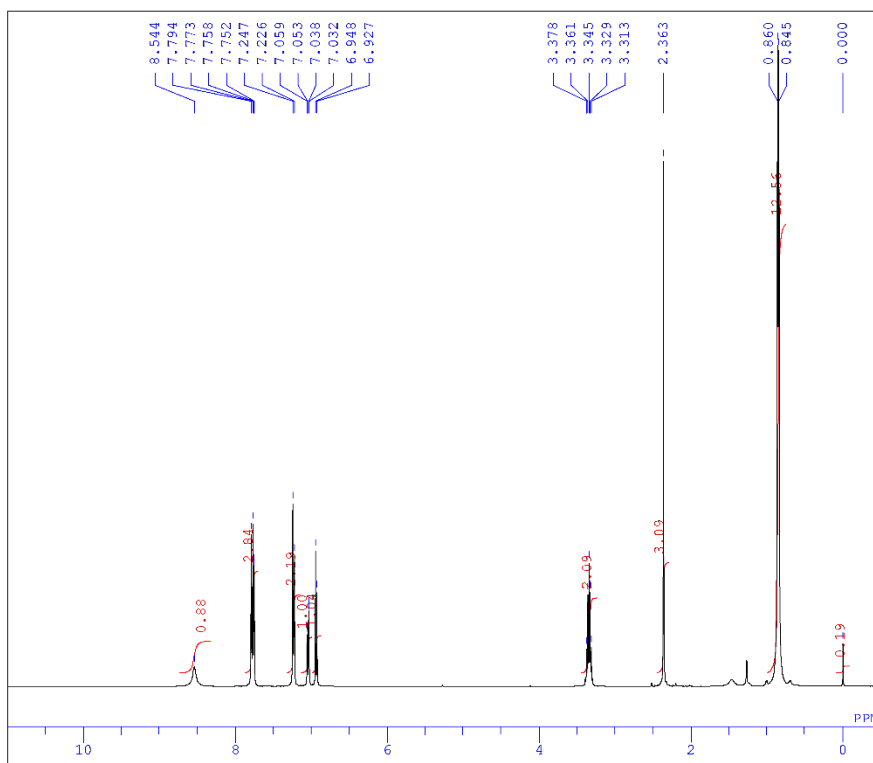
Electronic Supplementary Information

Dirhodium(II)-Catalyzed *ortho* C–H Amination of Sterically Congested *N,N*- Dialkylanilines

Motoki Ito,^{*} Tomoya Nakagawa, Kazuhiro Higuchi and Shigeo Sugiyama^{*}

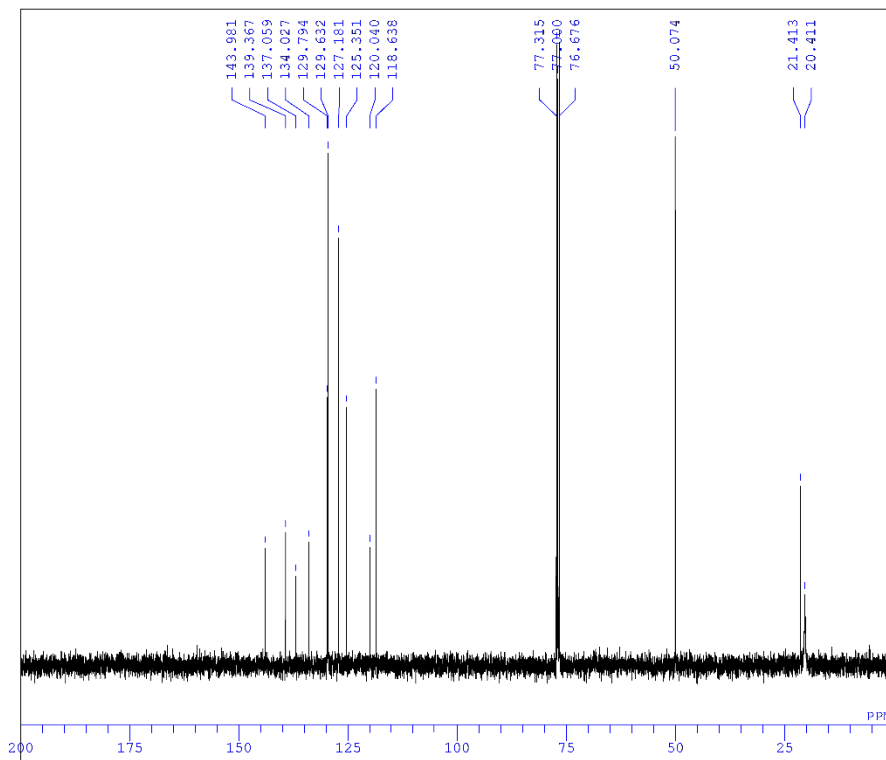
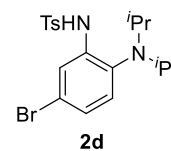
Meiji Pharmaceutical University, 2-522-1 Noshio Kiyose, Tokyo 204-8588, Japan

N,N-Diisopropyl-2-(tosylamido)-4-bromoaniline (2d)



```

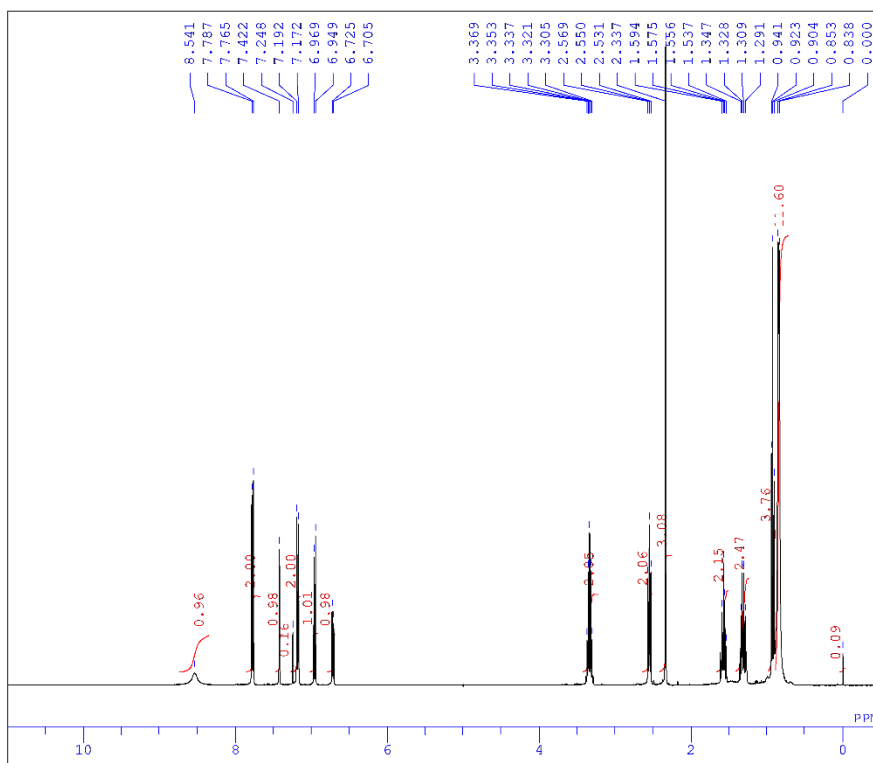
DFILE 4-BrC6H4NiPr2+TsNIF
COMNT single pulse
DATIM 2018-03-16 11:11:18
OBNUC 1H
EXMOD single_pulse.jxp
OBFRQ 399.78 MHz
OBSET 4.19 KHz
OBFIN 7.29 Hz
POINT 26214
FREQU 6002.40 Hz
SCANS 8
ACQTM 4.3673 sec
PD 2.0000 sec
PW1 3.35 usec
IRNUC 1H
CTEMP 60.0 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 1.20 Hz
RCAIN 34
    
```



```

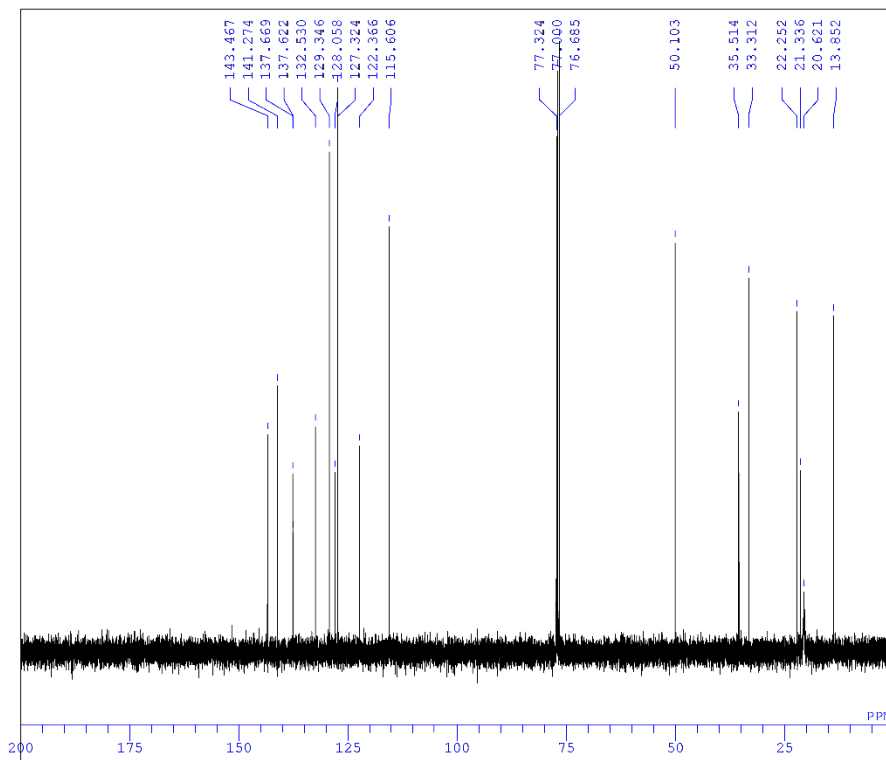
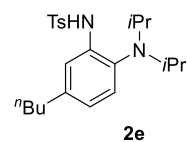
DFILE 4-BrC6H4NiPr2+TsNIF
COMNT single pulse
DATIM 2017-06-08 09:18:19
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EXMOD single_pulse_dec
OBFRQ 100.53 MHz
OBSET 5.35 KHz
OBFIN 5.86 Hz
POINT 26214
FREQU 25125.63 Hz
SCANS 180
ACQTM 0.0000 sec
PD 1.7000 sec
PW1 3.53 usec
IRNUC 1H
CTEMP 50.0 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 1.20 Hz
RCAIN 58
    
```

N,N-Diisopropyl-2-(tosylamido)-4-butylaniline (**2e**)



```

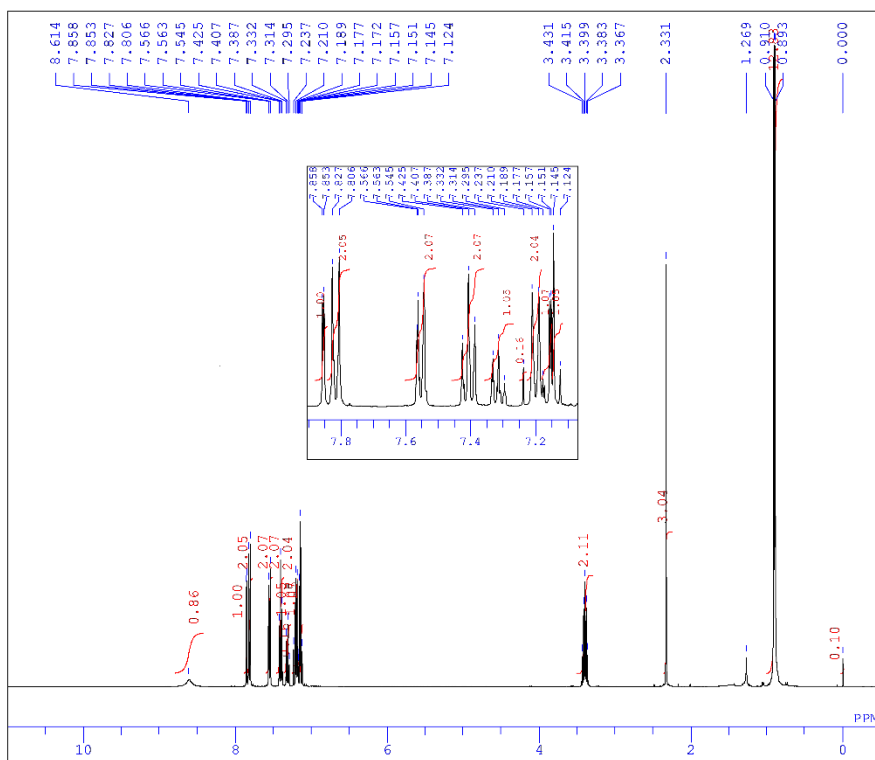
DFILE 4-nBuC6H4NiPr2+TsNI
COMNT single pulse
DATIM 2017-06-20 15:30:54
OBNUC 1H
EXMOD single_pulse.jxp
OBFRQ 399.78 MHz
OBSET 4.19 KHz
OBFIN 7.29 Hz
POINT 26214
FREQU 6002.40 Hz
SCANS 8
ACQTM 4.3673 sec
PD 2.0000 sec
PW1 3.05 usec
IRNUC 1H
CTEMP 60.0 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.01 Hz
RCAIN 28
    
```



```

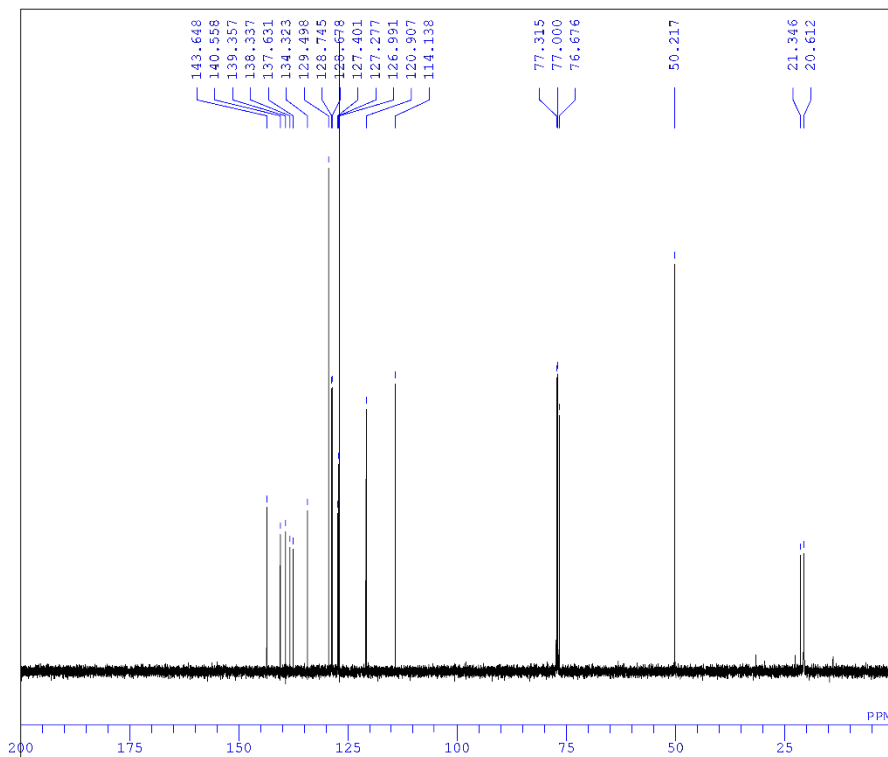
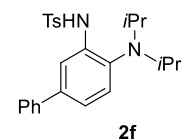
DFILE 4-nBuC6H4NiPr2+TsNI
COMNT single pulse decoup
DATIM 2017-06-20 15:32:18
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EXMOD single_pulse_dec
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OBSET 5.35 KHz
OBFIN 5.86 Hz
POINT 26214
FREQU 25125.63 Hz
SCANS 256
ACQTM 1.0433 sec
PD 1.7000 sec
PW1 3.53 usec
IRNUC 1H
CTEMP 60.0 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 0.01 Hz
RCAIN 60
    
```

N,N-Diisopropyl-2-(tosylamido)-4-phenylaniline (2f)



```

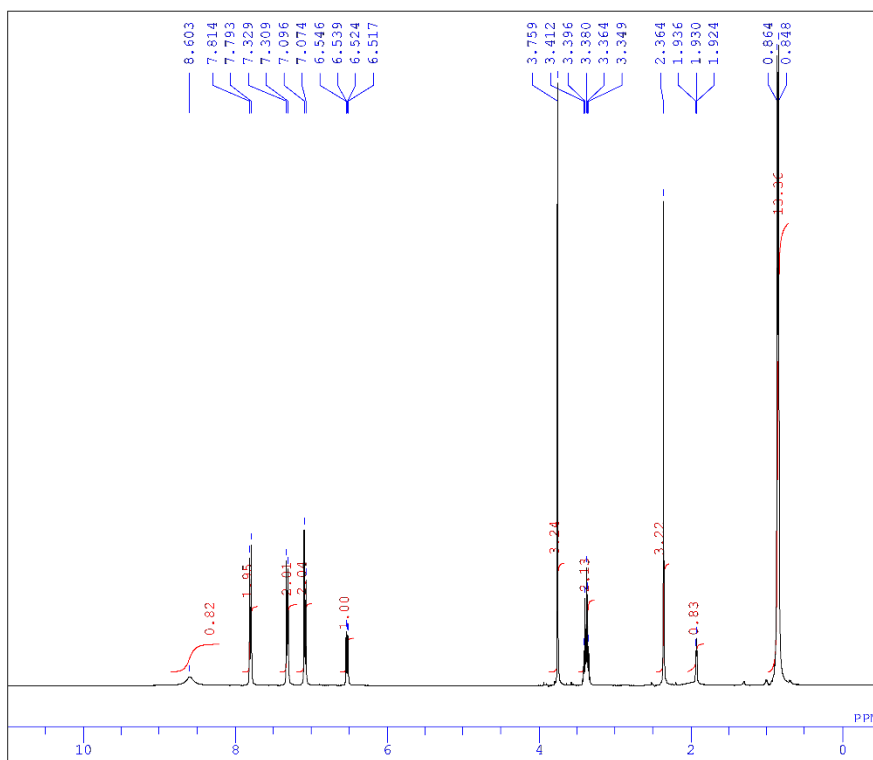
DFILE 4-PhC6H4NiPr2+TsNIF
COMNT single_pulse
DATIM 2017-06-29 15:06:59
OBNUC 1H
EXMOD single_pulse.jxp
OBFRQ 399.78 MHz
OBSET 4.19 KHz
OBFIN 7.29 Hz
POINT 26214
FREQU 6002.40 Hz
SCANS 8
ACQTM 4.3673 sec
PD 2.0000 sec
PW1 3.05 usec
IRNUC 1H
CTEMP 60.0 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.11 Hz
RCAIN 28
    
```



```

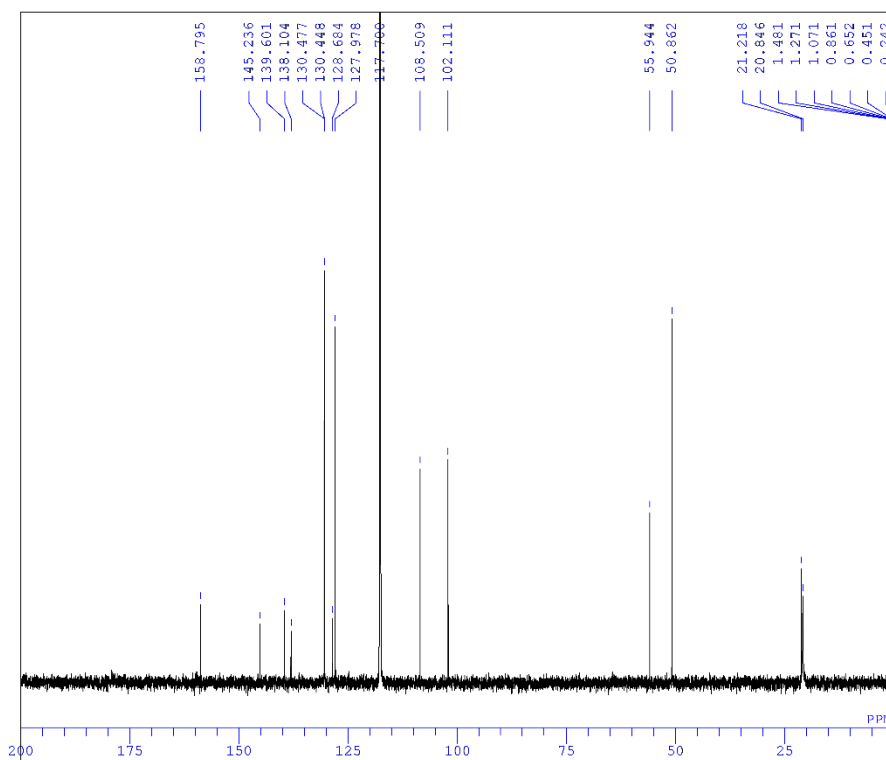
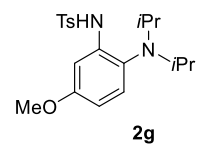
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COMNT single_pulse
DATIM 2017-06-29 15:08:20
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.53 MHz
OBSET 5.35 KHz
OBFIN 5.86 Hz
POINT 26214
FREQU 25125.63 Hz
SCANS 400
ACQTM 1.0433 sec
PD 1.7000 sec
PW1 3.53 usec
IRNUC 13C
CTEMP 60.0 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 0.11 Hz
RCAIN 60
    
```

N,N-Diisopropyl-2-(tosylamido)-4-methoxyaniline (2g)



```

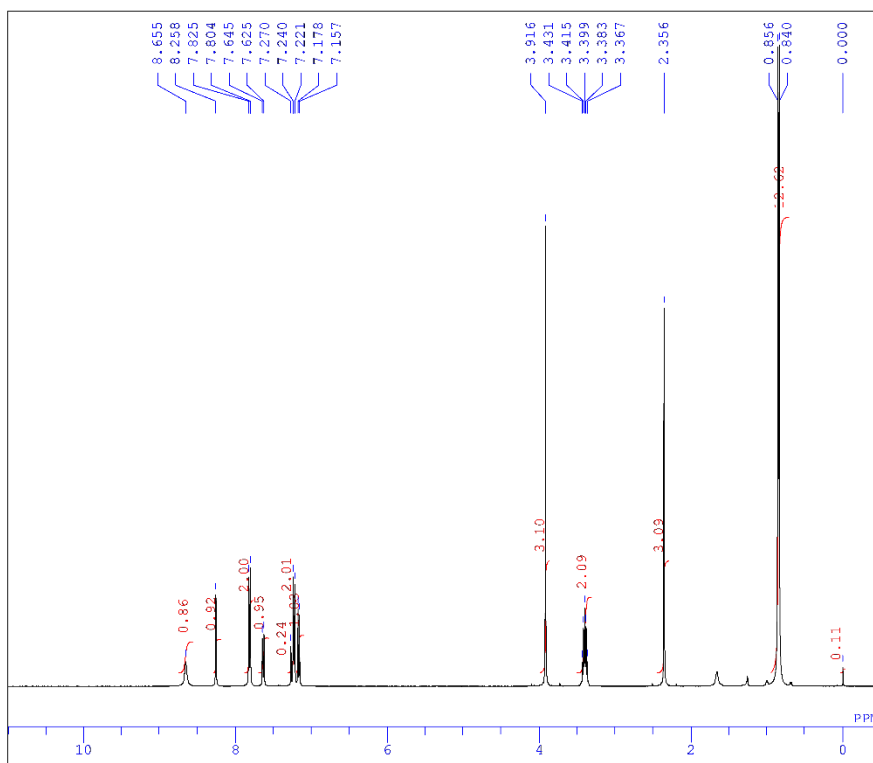
DFILE 4-MeOC6H4NiPr2+TsNI
COMNT single_pulse
DATIM 2018-03-16 11:16:21
OBNUC 1H
EXMOD single_pulse.jxp
OBFRQ 399.78 MHz
OBSET 4.19 KHz
OBFIN 7.29 Hz
POINT 26214
FREQU 6002.40 Hz
SCANS 8
ACQTM 4.3673 sec
PD 2.0000 sec
PW1 3.35 usec
IRNUC 1H
CTEMP 70.0 c
SLVNT CD3CN
EXREF 1.93 ppm
BF 1.20 Hz
RCAIN 30
    
```



```

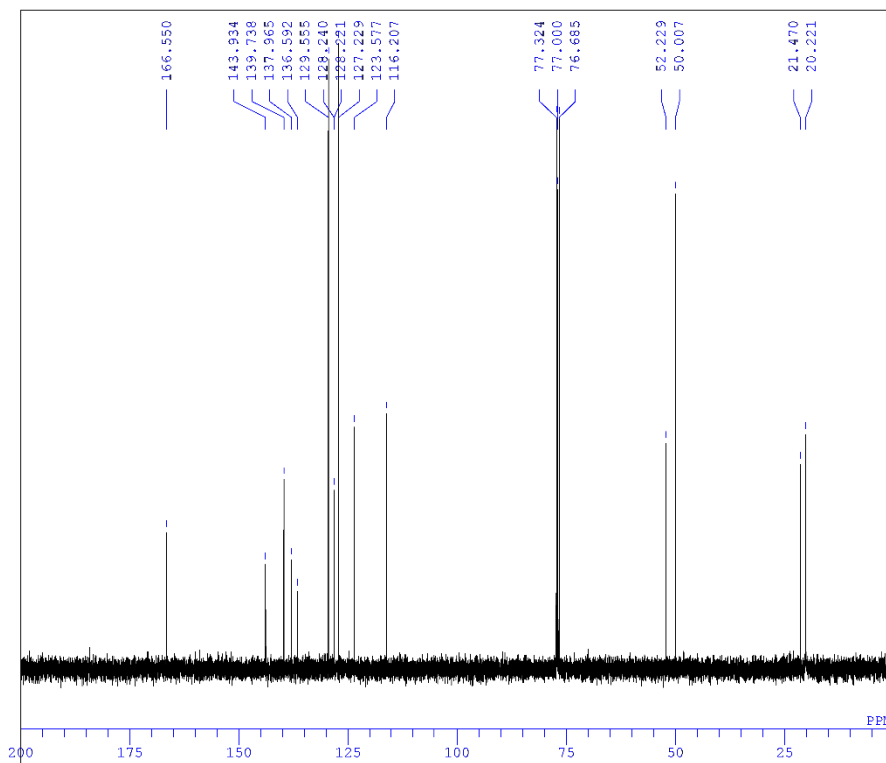
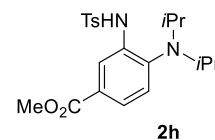
DFILE 4-MeOC6H4NiPr2+TsNI
COMNT single_pulse
DATIM 2018-03-16 11:17:44
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.53 MHz
OBSET 5.35 KHz
OBFIN 5.86 Hz
POINT 26214
FREQU 25125.63 Hz
SCANS 400
ACQTM 1.0433 sec
PD 1.7000 sec
PW1 3.53 usec
IRNUC 1H
CTEMP 70.0 c
SLVNT CD3CN
EXREF 117.70 ppm
BF 1.20 Hz
RCAIN 58
    
```

N,N-Diisopropyl-2-(tosylamido)-4-methoxycarbonylaniline (**2h**)



```

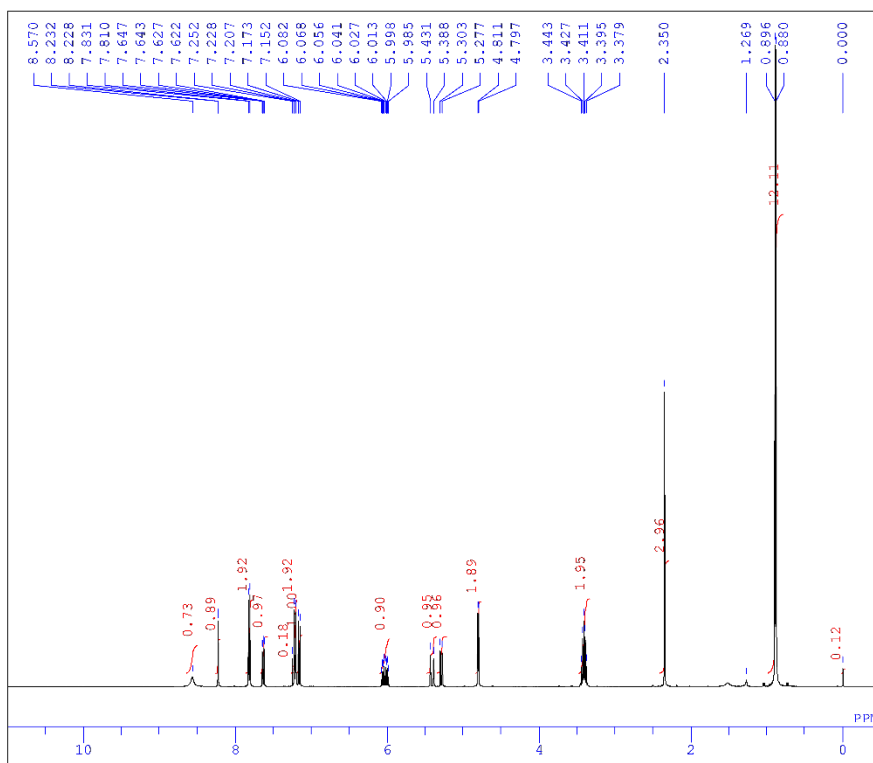
DFILE 4-MeO2CC6H4NiPr2+Ts
COMNT single_pulse
DATIM 2017-06-20 16:02:29
OBNUC 1H
EXMOD single_pulse.jxp
OBFRQ 399.78 MHz
OBSET 4.19 KHz
OBFIN 7.29 Hz
POINT 26214
FREQU 6002.40 Hz
SCANS 8
ACQTM 4.3673 sec
PD 2.0000 sec
PW1 3.05 usec
IRNUC 1H
CTEMP 23.1 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.01 Hz
RGAIN 30
    
```



```

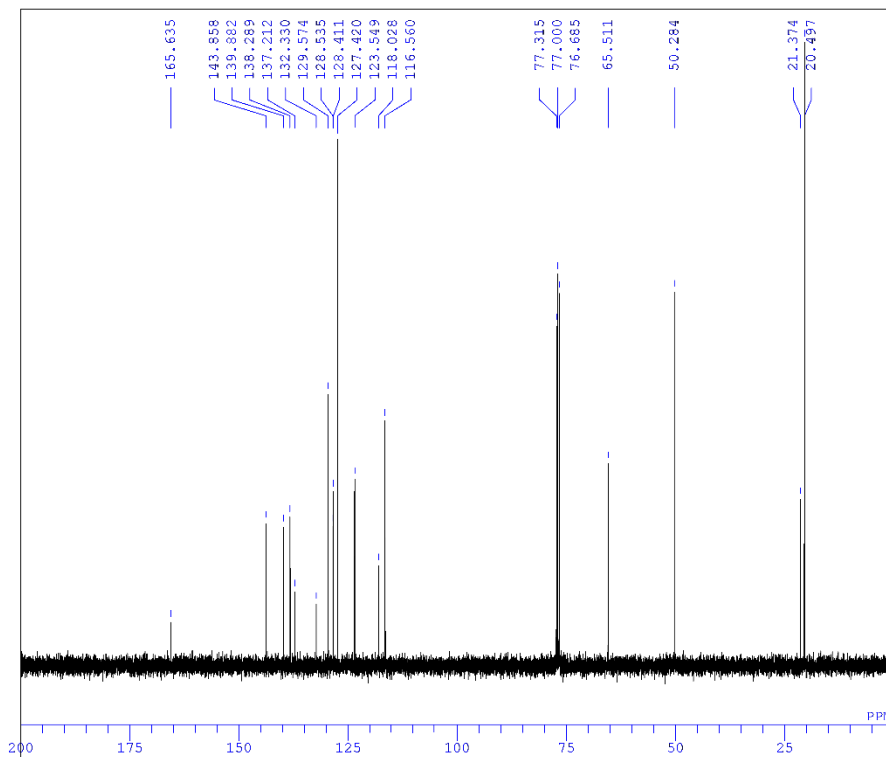
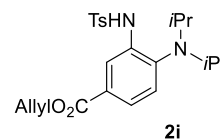
DFILE 4-MeO2CC6H4NiPr2+Ts
COMNT single_pulse
DATIM 2017-06-20 16:03:51
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.53 MHz
OBSET 5.35 KHz
OBFIN 5.86 Hz
POINT 26214
FREQU 25125.63 Hz
SCANS 256
ACQTM 1.0433 sec
PD 1.7000 sec
PW1 3.53 usec
IRNUC 1H
CTEMP 21.9 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 0.01 Hz
RGAIN 60
    
```

N,N-Diisopropyl-2-(tosylamido)-4-allyloxycarbonylaniline (2i)



```

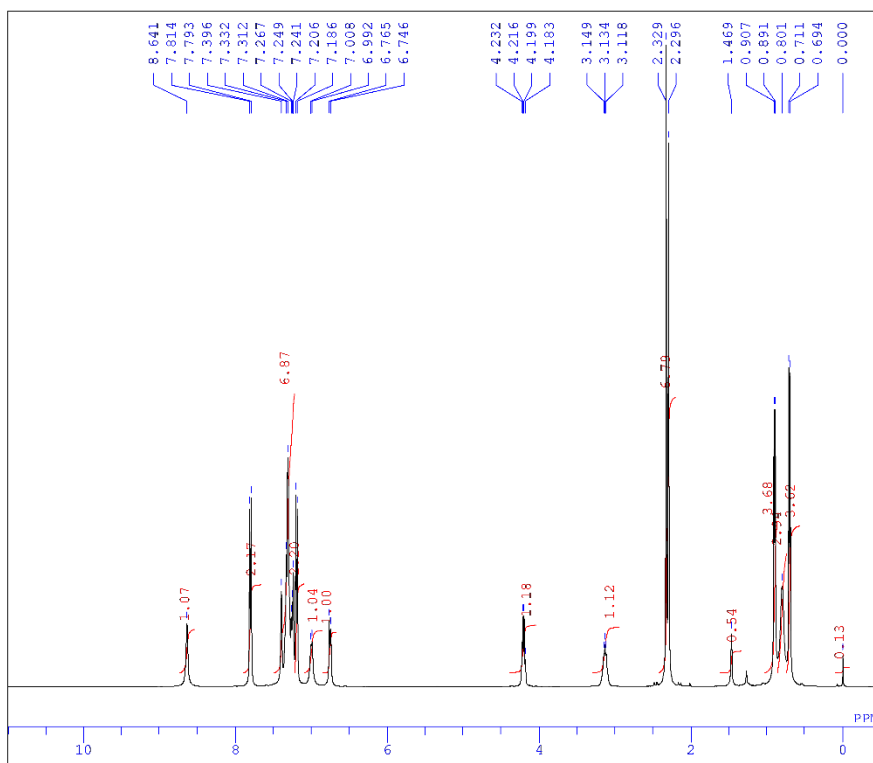
DFILE 4-AllylO2CC6H4NiPr2
COMNT single pulse
DATIM 2017-06-29 14:36:16
OBNUC 1H
EXMOD single_pulse.jxp
OBFRQ 399.78 MHz
OBSET 4.19 KHz
OBFIN 7.29 Hz
POINT 26214
FREQU 6002.40 Hz
SCANS 8
ACQTM 4.3673 sec
PD 2.0000 sec
PW1 3.05 usec
IRNUC 1H
CTEMP 60.0 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.11 Hz
RCAIN 30
    
```



```

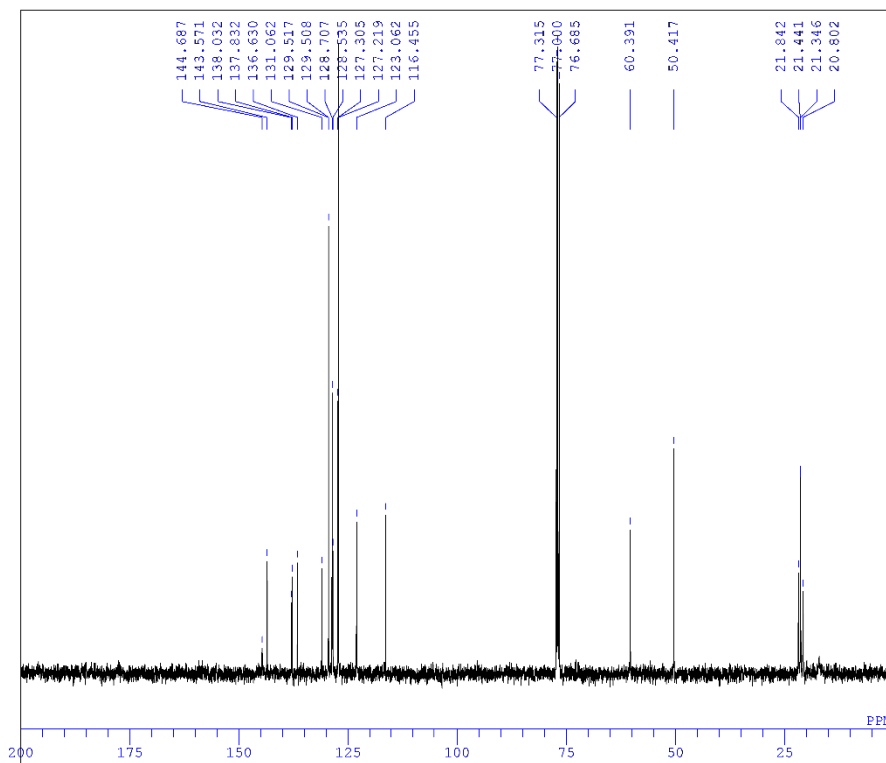
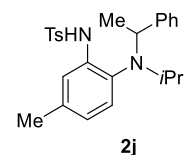
DFILE 4-AllylO2CC6H4NiPr2
COMNT single pulse
DATIM 2017-06-29 14:37:39
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.53 MHz
OBSET 5.35 KHz
OBFIN 5.86 Hz
POINT 26214
FREQU 25125.63 Hz
SCANS 200
ACQTM 1.0433 sec
PD 1.7000 sec
PW1 3.53 usec
IRNUC 1H
CTEMP 60.0 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 0.11 Hz
RCAIN 58
    
```

N-Isopropyl-N-(1-phenylethyl)-2-(tosylamido)-p-toluidine (2j)



```

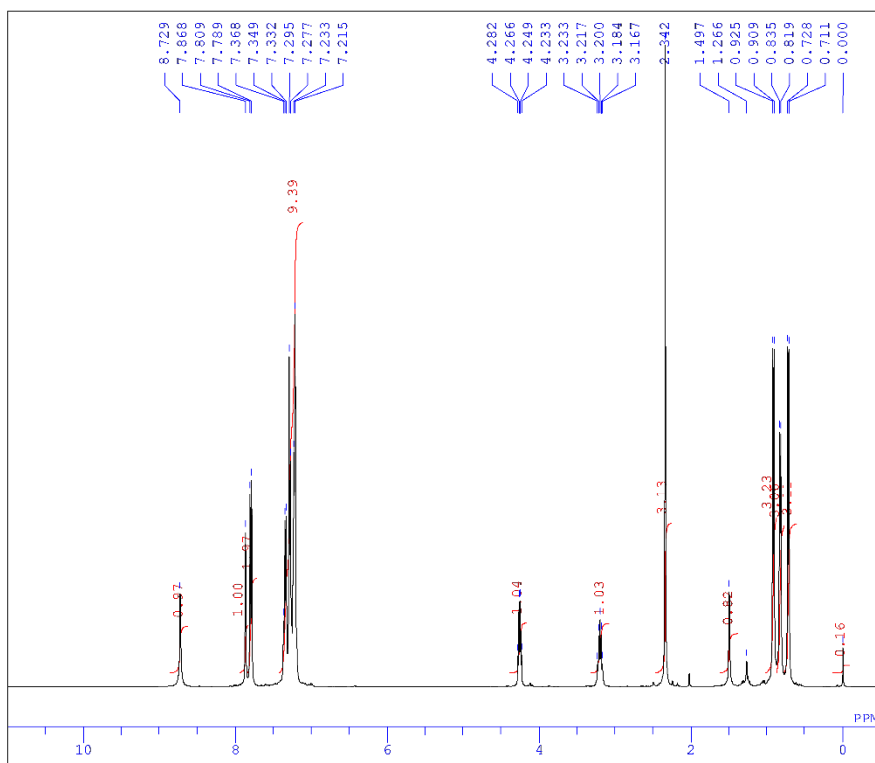
DFTILE 4-MeC6H4N(iPr)CH(Me)
COMNT single_pulse
DATIM 2017-06-26 09:02:47
OBNUC 1H
EXMOD single_pulse.jxp
OBFRQ 399.78 MHz
OBSET 4.19 KHz
OBFIN 7.29 Hz
POINT 26214
FREQU 6002.40 Hz
SCANS 8
ACQTM 4.3673 sec
PD 2.0000 sec
PW1 3.05 usec
IRNUC 1H
CTEMP 60.0 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 2.01 Hz
RGAIN 30
    
```



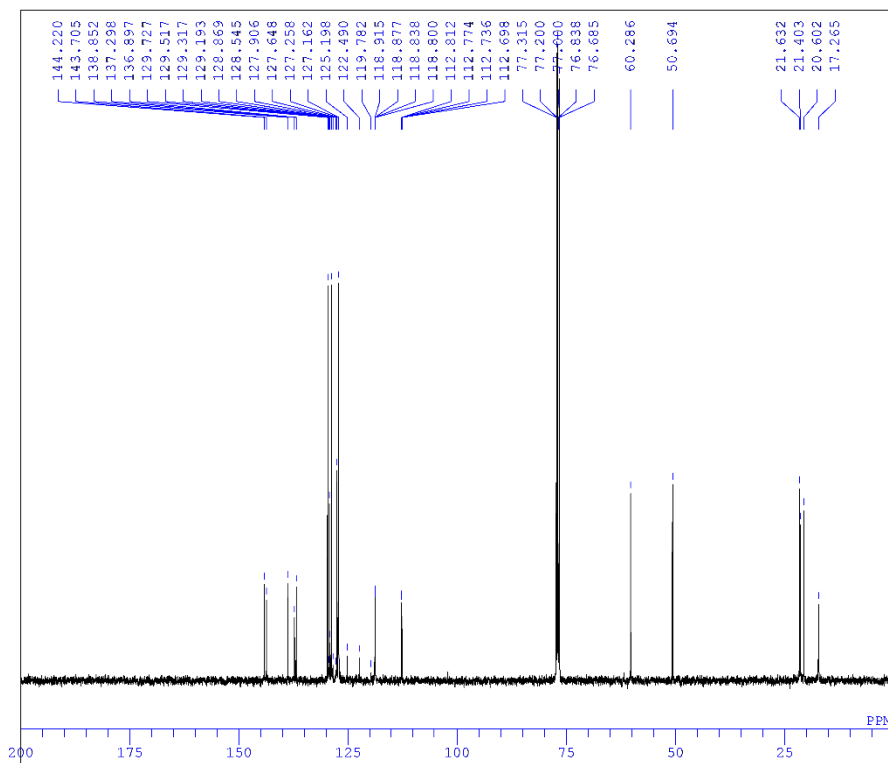
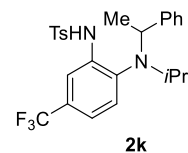
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DFTILE 4-MeC6H4N(iPr)CH(Me)
COMNT single_pulse_decoupl
DATIM 2017-06-26 09:04:08
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.53 MHz
OBSET 5.35 KHz
OBFIN 5.86 Hz
POINT 26214
FREQU 25125.63 Hz
SCANS 400
ACQTM 1.0433 sec
PD 1.7000 sec
PW1 3.53 usec
IRNUC 1H
CTEMP 60.0 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 2.01 Hz
RGAIN 60
    
```


N-Isopropyl-N-(1-phenylethyl)-2-(tosylamido)-4-trifluoromethylaniline (2k)

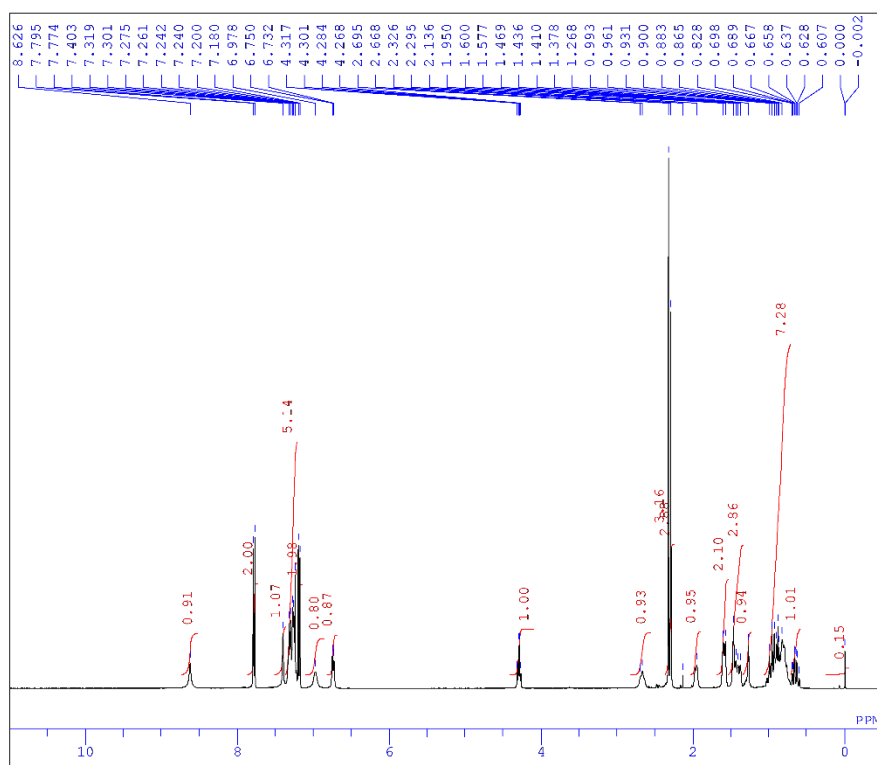


DFTILE 4-CF3C6H4N(iPr)CH(M
 COMNT single pulse decoupl
 DATIM 2017-06-26 09:54:29
 OBNUC 1H
 EXMOD single_pulse_jxp
 OBFRQ 399.78 MHz
 OBSET 4.19 KHz
 OBFIN 7.29 Hz
 POINT 26214
 FREQU 6002.40 Hz
 SCANS 8
 ACQTM 4.3673 sec
 PD 2.0000 sec
 PW1 3.05 usec
 IRNUC 1H
 CTEMP 50.0 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 2.01 Hz
 RGAIN 30

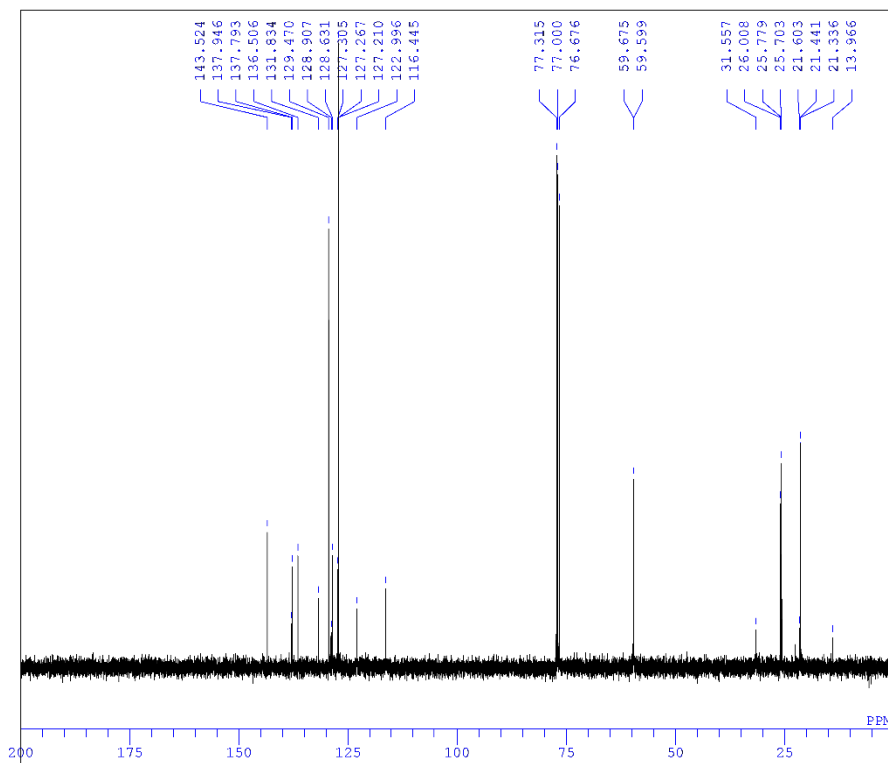
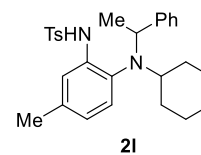


DFTILE 4-CF3C6H4N(iPr)CH(M
 COMNT single pulse decoupl
 DATIM 2017-06-26 09:55:45
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.53 MHz
 OBSET 5.35 KHz
 OBFIN 5.86 Hz
 POINT 26214
 FREQU 25125.63 Hz
 SCANS 1320
 ACQTM 1.0433 sec
 PD 1.7000 sec
 PW1 3.53 usec
 IRNUC 1H
 CTEMP 50.0 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 2.01 Hz
 RGAIN 60

N-Cyclohexyl-N-(1-phenylethyl)-2-(tosylamido)-p-toluidine (2I)

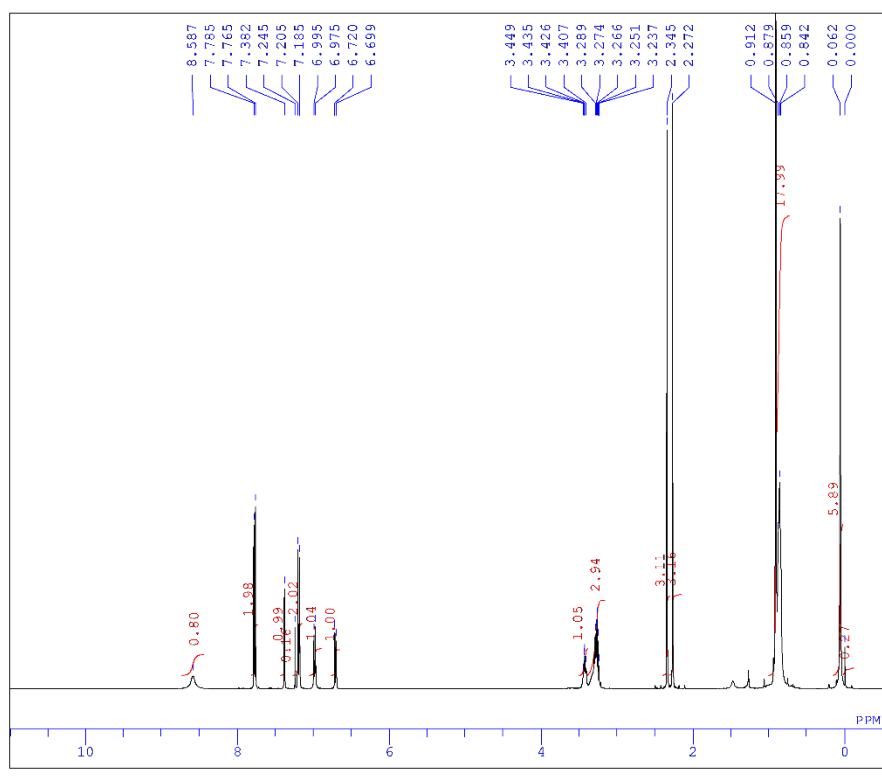


DFTI.E 4-MeC6H4N(cHex)CH(M)
 COMNT single pulse decoupl
 DATIM 2017-08-26 10:31:50
 OBNUC 1H
 EXMOD single_pulse.jxp
 OBFRQ 399.78 MHz
 OBSET 4.19 KHz
 OBFIN 7.29 Hz
 POINT 26214
 FREQU 6002.40 Hz
 SCANS 8
 ACQTM 4.3673 sec
 PD 2.0000 sec
 PW1 3.05 usec
 IRNUC 1H
 CTEMP 60.0 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.12 Hz
 RGAIN 34

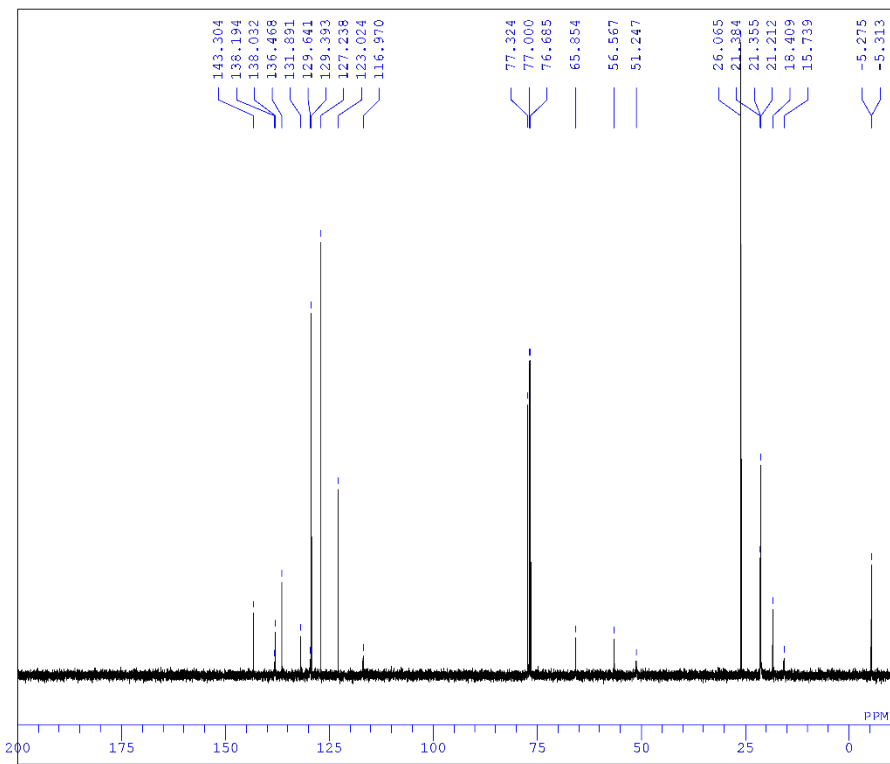
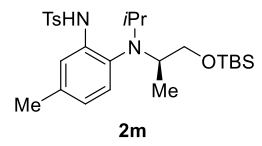


DFTI.E 4-MeC6H4N(cHex)CH(M)
 COMNT single pulse decoupl
 DATIM 2017-08-26 10:33:13
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.53 MHz
 OBSET 5.35 KHz
 OBFIN 5.86 Hz
 POINT 26214
 FREQU 25125.63 Hz
 SCANS 400
 ACQTM 1.0433 sec
 PD 1.7000 sec
 PW1 3.53 usec
 IRNUC 1H
 CTEMP 60.0 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 0.12 Hz
 RGAIN 60

(R)-N-Isopropyl-N-[1-(tert-butyldimethylsilyloxy)propan-2-yl]-2-(tosylamido)-p-toluidine (2m)

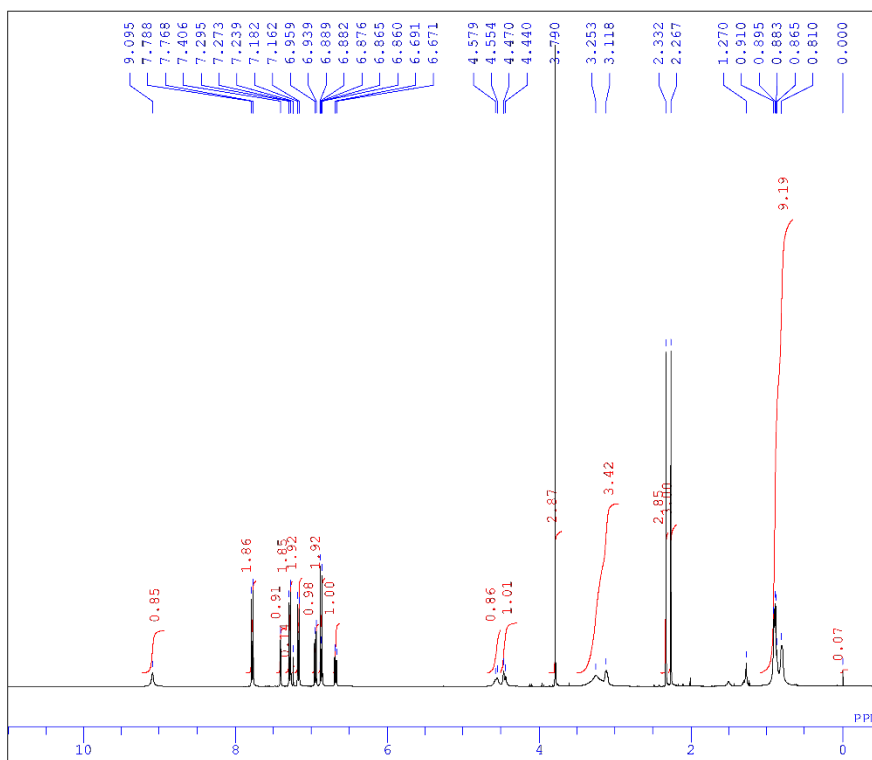


DFILF 4-MeC6H4N(iPr)CH(Me)
 COMNT single pulse
 DATIM 2017-09-15 17:15:15
 OBNUC 1H
 EXMOD single_pulse.jxp
 OBFRQ 399.78 MHz
 OBSET 4.19 KHz
 OBFIN 7.29 Hz
 POINT 26214
 FREQU 6002.40 Hz
 SCANS 16
 ACQTM 4.3673 sec
 PD 2.0000 sec
 PW1 3.05 usec
 IRNUC 1H
 CTEMP 60.0 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.12 Hz
 RCAIN 28

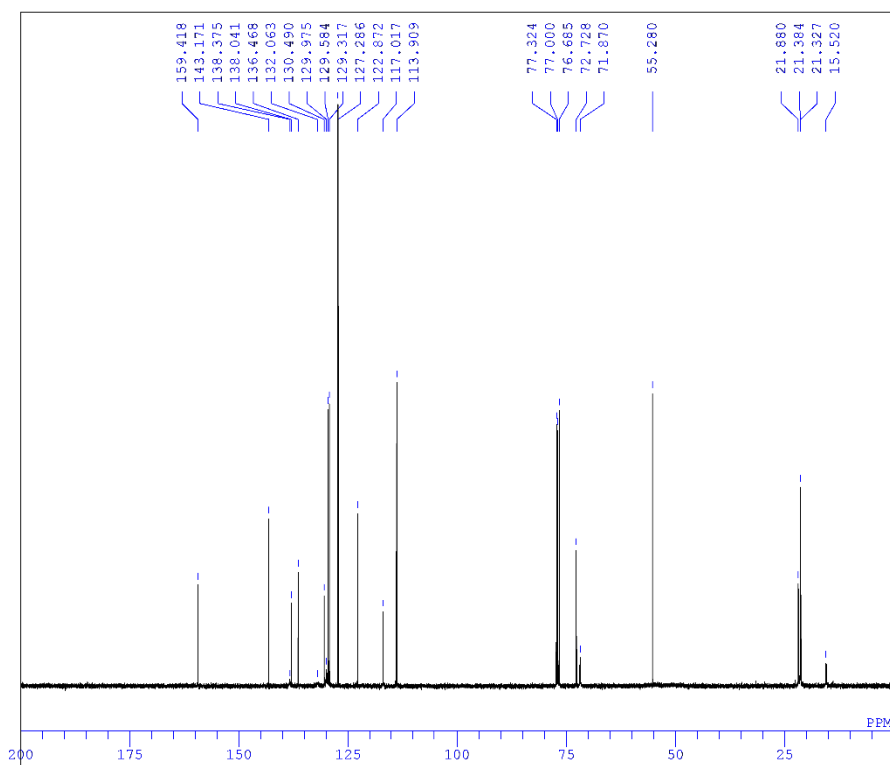
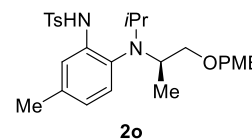


DFILF 4-MeC6H4N(iPr)CH(Me)
 COMNT single pulse
 DATIM 2017-09-15 17:17:29
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.53 MHz
 OBSET 5.35 KHz
 OBFIN 5.86 Hz
 POINT 26214
 FREQU 25125.63 Hz
 SCANS 512
 ACQTM 1.0433 sec
 PD 1.7000 sec
 PW1 3.53 usec
 IRNUC 1H
 CTEMP 60.0 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 0.12 Hz
 RCAIN 60

(R)-N-Isopropyl-N-[1-(p-methoxybenzyloxy)propan-2-yl]-2-(tosylamido)-p-toluidine (2o)

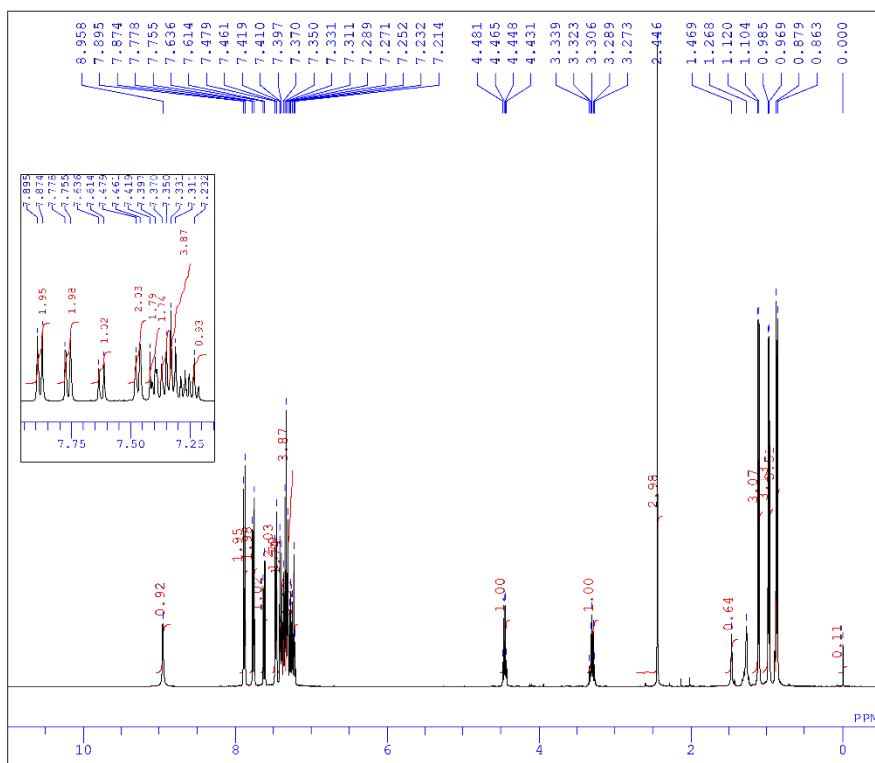


DFTILE 4-MeC6H4N(iPr)CH(Me)
 COMNT single pulse
 DATIM 2017-09-15 18:23:20
 OBNUC 1H
 EXMOD single_pulse.jxp
 OBFRQ 399.78 MHz
 OBSET 4.19 KHz
 OBFIN 7.29 Hz
 POINT 26214
 FREQU 6002.40 Hz
 SCANS 16
 ACQTM 4.3673 sec
 PD 2.0000 sec
 PW1 3.05 usec
 IRNUC 1H
 CTEMP 60.0 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.12 Hz
 RGAIN 26



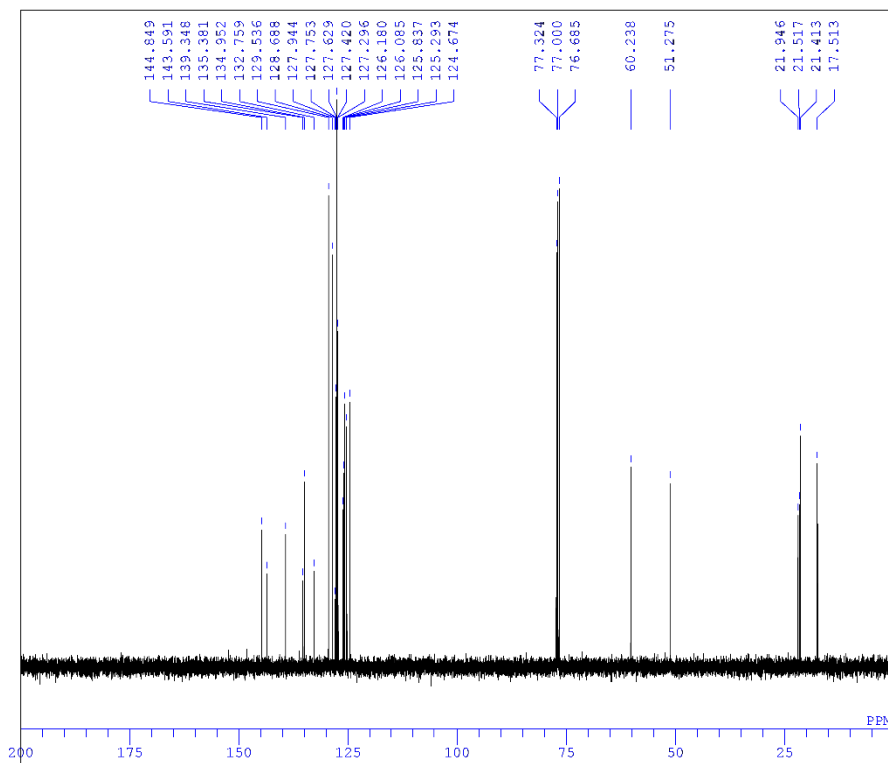
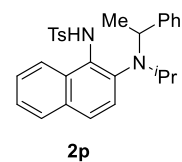
DFTILE 4-MeC6H4N(iPr)CH(Me)
 COMNT single pulse decoupl
 DATIM 2017-09-16 12:19:16
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.53 MHz
 OBSET 5.35 KHz
 OBFIN 5.86 Hz
 POINT 26214
 FREQU 25125.63 Hz
 SCANS 3600
 ACQTM 1.0433 sec
 PD 1.7000 sec
 PW1 3.53 usec
 IRNUC 1H
 CTEMP 60.0 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 0.12 Hz
 RGAIN 60

N-isopropyl-N-(1-phenylethyl)-1-(tosylamido)naphthalen-2-amine (2p)



```

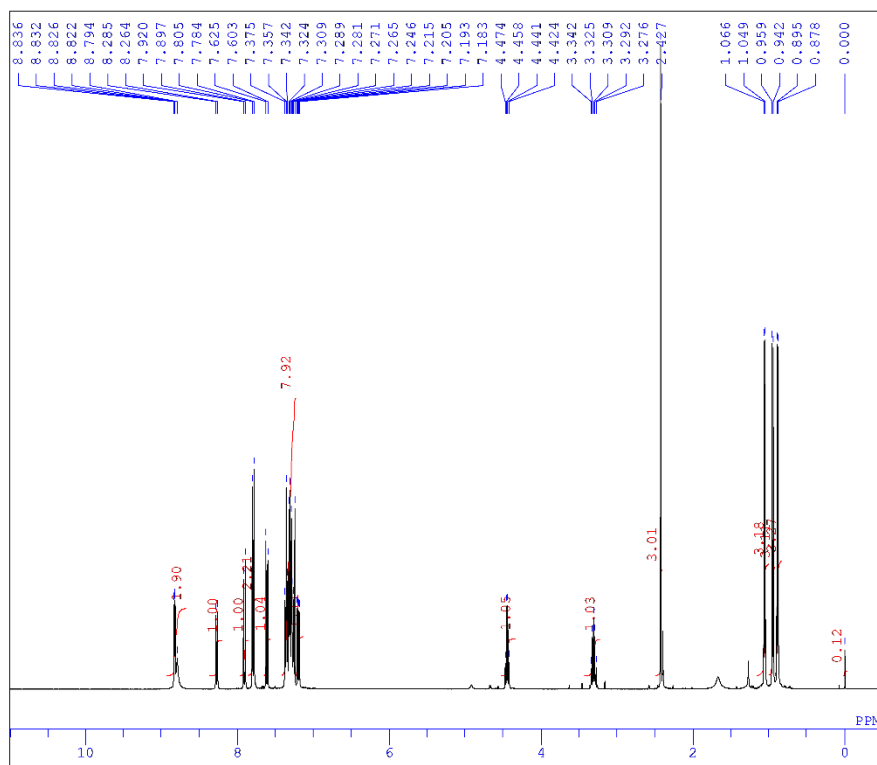
DFTILE Naphthyl-2-N(iPr)CH
COMNT single pulse decoupl
DATIM 2017-08-26 09:22:60
OBNUC 1H
EXMOD single_pulse.jxp
OBFRQ 399.78 MHz
OBSET 4.19 KHz
OBFIN 7.29 Hz
POINT 26214
FREQU 6002.40 Hz
SCANS 8
ACQTM 4.3673 sec
PD 2.0000 sec
PW1 3.05 usec
IRNUC 1H
CTEMP 50.0 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.12 Hz
RGAIN 32
    
```



```

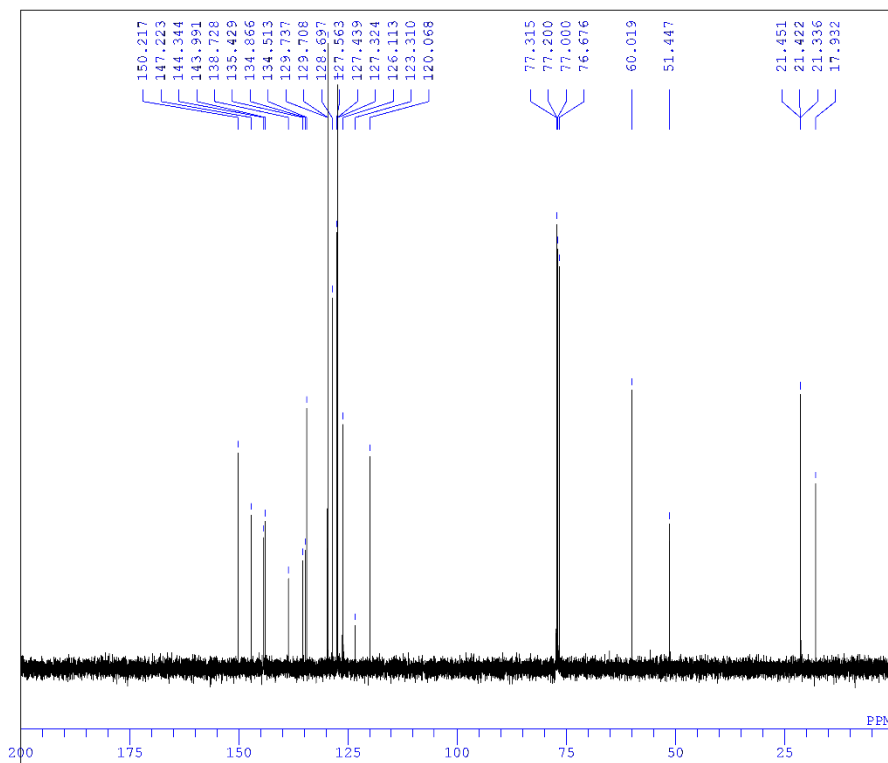
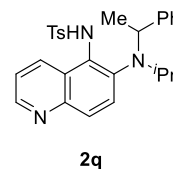
DFTILE Naphthyl-2-N(iPr)CH
COMNT single pulse decoupl
DATIM 2017-08-26 09:24:23
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.53 MHz
OBSET 5.35 KHz
OBFIN 5.86 Hz
POINT 26214
FREQU 25125.63 Hz
SCANS 400
ACQTM 1.0433 sec
PD 1.7000 sec
PW1 3.53 usec
IRNUC 1H
CTEMP 50.0 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 0.12 Hz
RGAIN 60
    
```

N-isopropyl-N-(1-phenylethyl)-5-(tosylamido)quinolin-6-amine (2q)



```

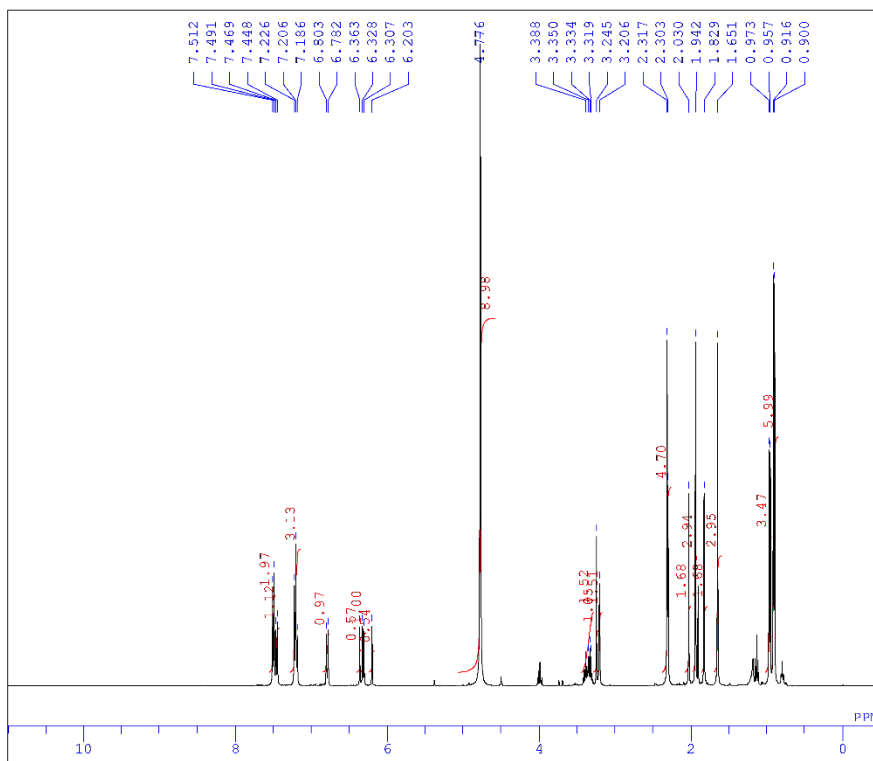
DFTI.E N-iPr-N-CH(Me)Ph-6-
COMNT single_pulse
DATIM 2017-07-06 12:47:52
OBNUC 1H
EXMOD single_pulse.jxp
OBFRQ 399.78 MHz
OBSET 4.19 KHz
OBFIN 7.29 Hz
POINT 26214
FREQU 6002.40 Hz
SCANS 8
ACQTM 4.3673 sec
PD 2.0000 sec
PW1 3.05 usec
IRNUC 1H
CTEMP 60.0 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.12 Hz
RGAIN 30
    
```



```

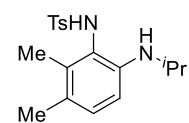
DFTI.E N-iPr-N-CH(Me)Ph-6-
COMNT single_pulse
DATIM 2017-07-06 12:49:14
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.53 MHz
OBSET 5.35 KHz
OBFIN 5.86 Hz
POINT 26214
FREQU 25125.63 Hz
SCANS 256
ACQTM 1.0433 sec
PD 1.7000 sec
PW1 3.53 usec
IRNUC 13C
CTEMP 60.0 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 0.12 Hz
RGAIN 60
    
```


***N*-Isopropyl-3,4-dimethyl-2-(tosylamido)aniline (S2r) and *N*-Isopropyl-3,4,5-trimethyl-2-(tosylamido)aniline (S2r')**



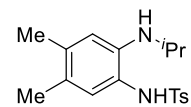
```

DFILE 3,4-Me2C6H3N(iPr)CH
COMNT single_pulse
DATIM 2017-08-18 17:49:49
OBNUC 1H
EXMOD single_pulse.jxp
OBFRQ 399.78 MHz
OBSET 4.19 KHz
OBFIN 7.29 Hz
POINT 26214
FREQU 6002.40 Hz
SCANS 16
ACQTM 4.3673 sec
PD 2.0000 sec
PW1 3.05 usec
IRNUC 1H
CTEMP 21.2 c
SLVNT CD3OD
EXREF 0.00 ppm
BF 1.20 Hz
RCAIN 30
    
```



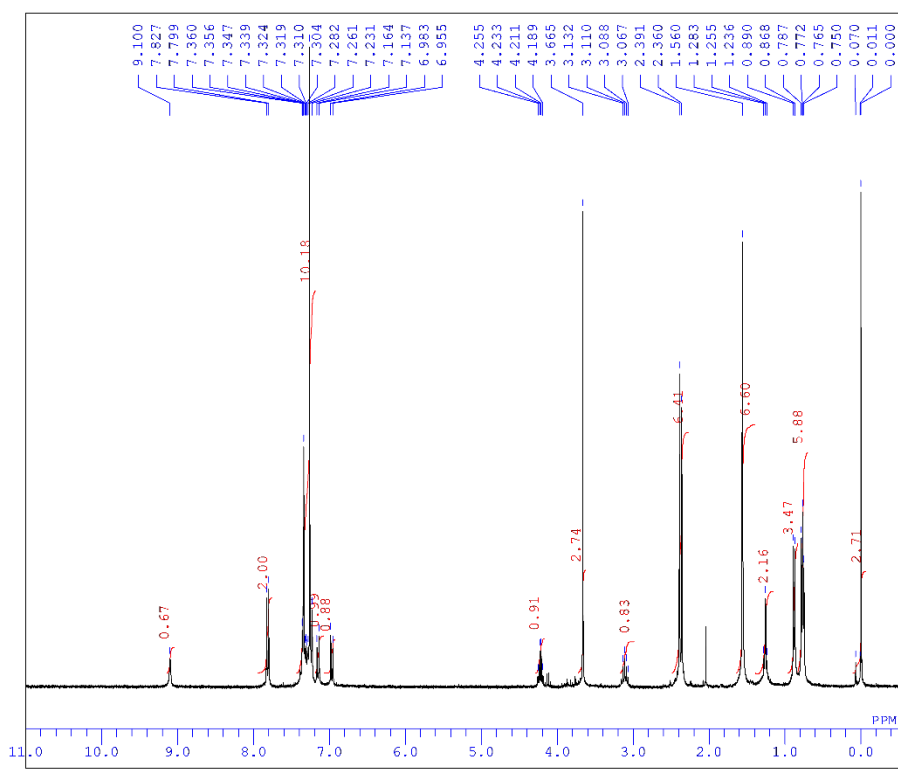
S2r

+

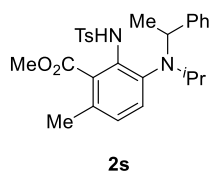


S2r'

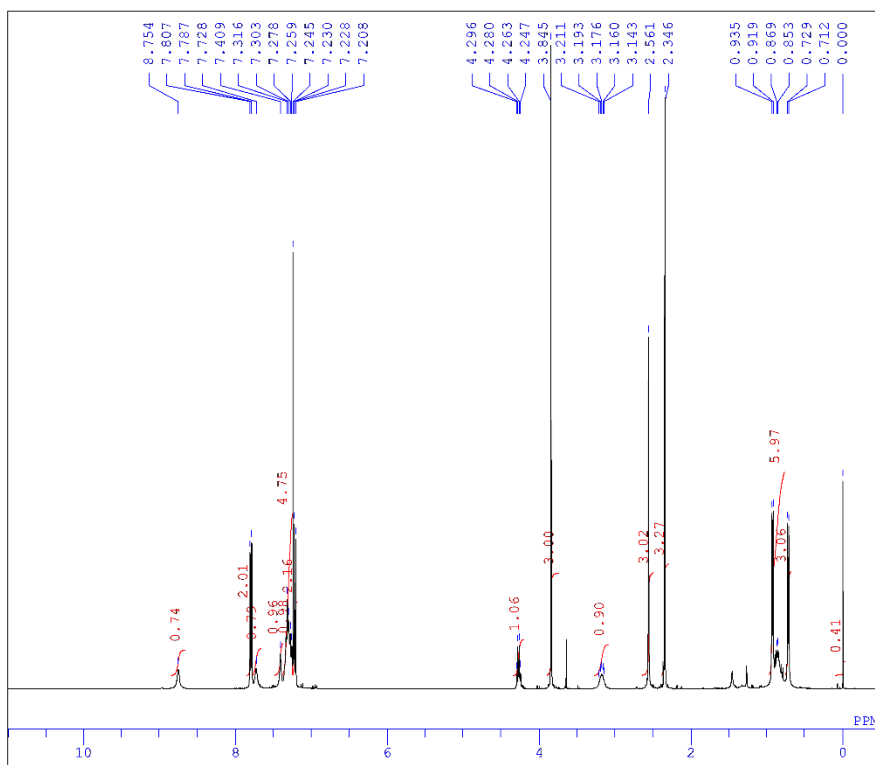
***N*-Isopropyl-*N*-(1-phenylethyl)-4-methyl-3-methoxycarbonyl-2-(tosylamido)aniline (2s)**



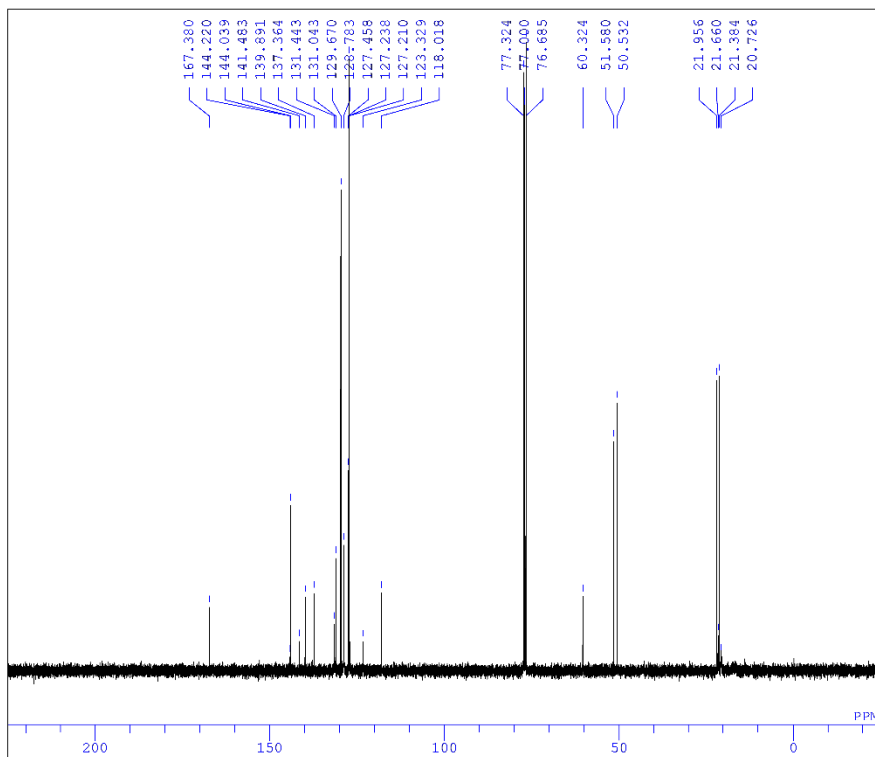
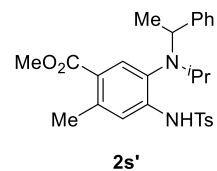
DP11E 3-MeO2C-4-MeC6H3N(i
 COMNT 3-MeO2C-4-MeC6H3N(i
 DATIM Tue Jul 04 20:11:17
 OBNUC 1H
 EXMOD NON
 OBFRQ 300.40 MHz
 OBSET 130.00 KHz
 OBFIN 1150.00 Hz
 POINT 32768
 FREQU 6006.01 Hz
 SCANS 16
 ACQTM 5.4559 sec
 PD 1.5440 sec
 PW1 5.20 usec
 IRNUC 1H
 CTEMP 25.7 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.09 Hz
 RCAIN 21



***N*-Isopropyl-*N*-(1-phenylethyl)-4-methyl-5-methoxycarbonyl-2-(tosylamido)aniline (2s')**

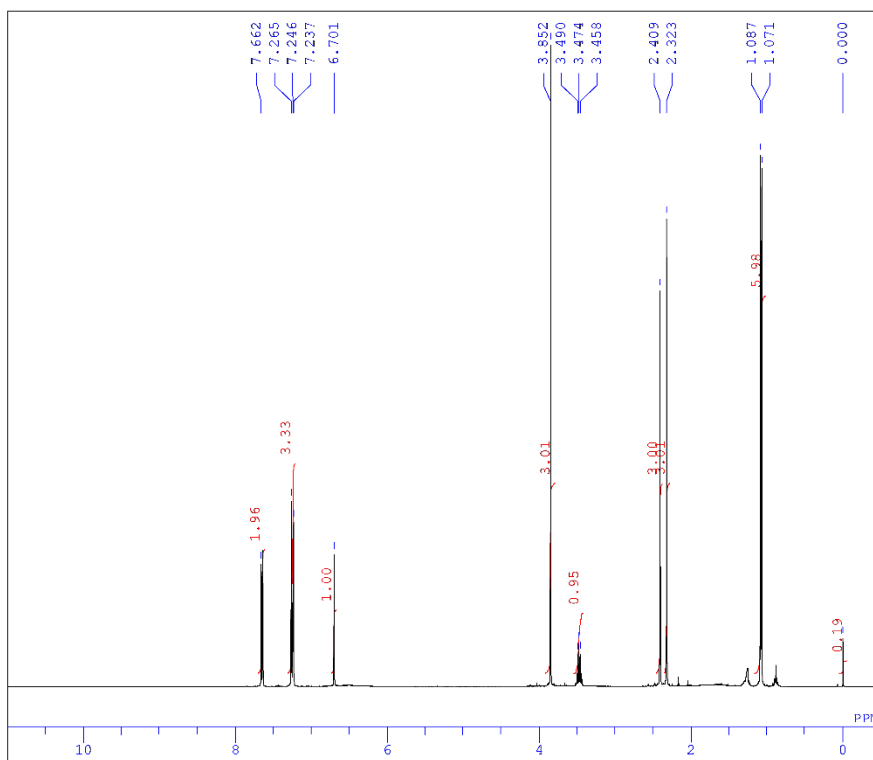


DFTILE 4-Me-3-MeO2CC6H3N(i)
 COMNT single_pulse
 DATIM 2018-03-22 11:23:32
 OBNUC 1H
 EXMOD single_pulse.jxp
 OBFRQ 399.78 MHz
 OBSET 4.19 KHz
 OBFIN 7.29 Hz
 POINT 26214
 FREQU 6002.40 Hz
 SCANS 16
 ACQTM 4.3673 sec
 PD 2.0000 sec
 PW1 3.35 usec
 IRNUC 1H
 CTEMP 60.0 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.12 Hz
 RGAIN 36

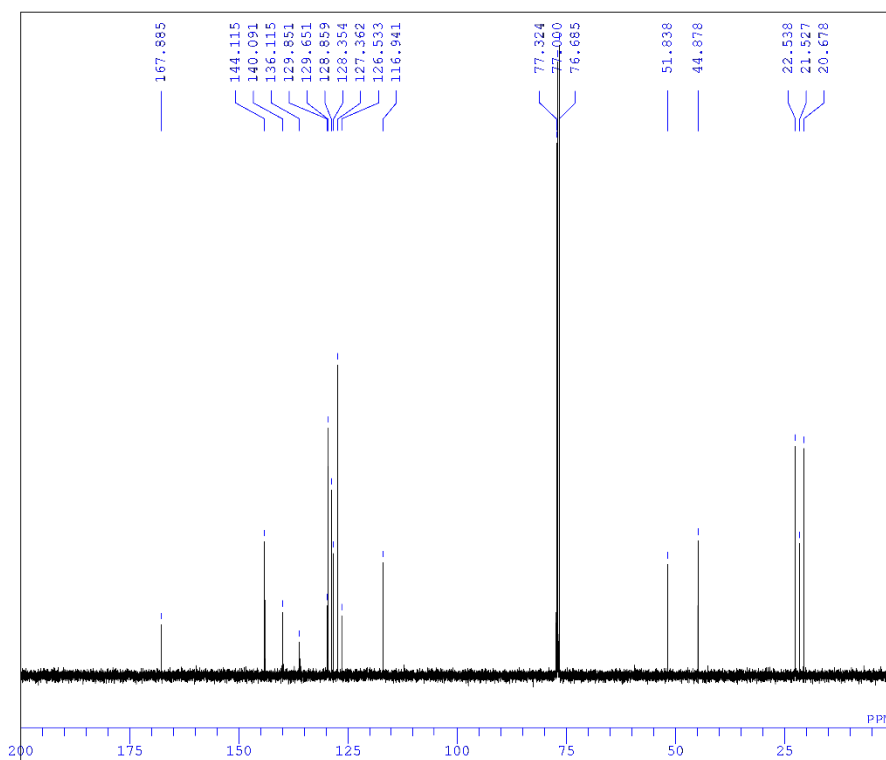
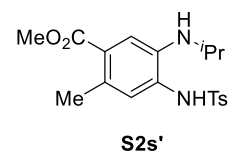


DFTILE 3-MeO2C-4-MeC6H3N(i)
 COMNT single_pulse_decoup
 DATIM 2017-07-06 14:35:24
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.53 MHz
 OBSET 5.35 KHz
 OBFIN 5.86 Hz
 POINT 26214
 FREQU 25125.63 Hz
 SCANS 1800
 ACQTM 1.0433 sec
 PD 1.7000 sec
 PW1 3.53 usec
 IRNUC 1H
 CTEMP 60.0 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 0.12 Hz
 RGAIN 60

N-Isopropyl-4-methyl-5-methoxycarbonyl-2-(tosylamido)aniline (S2s')

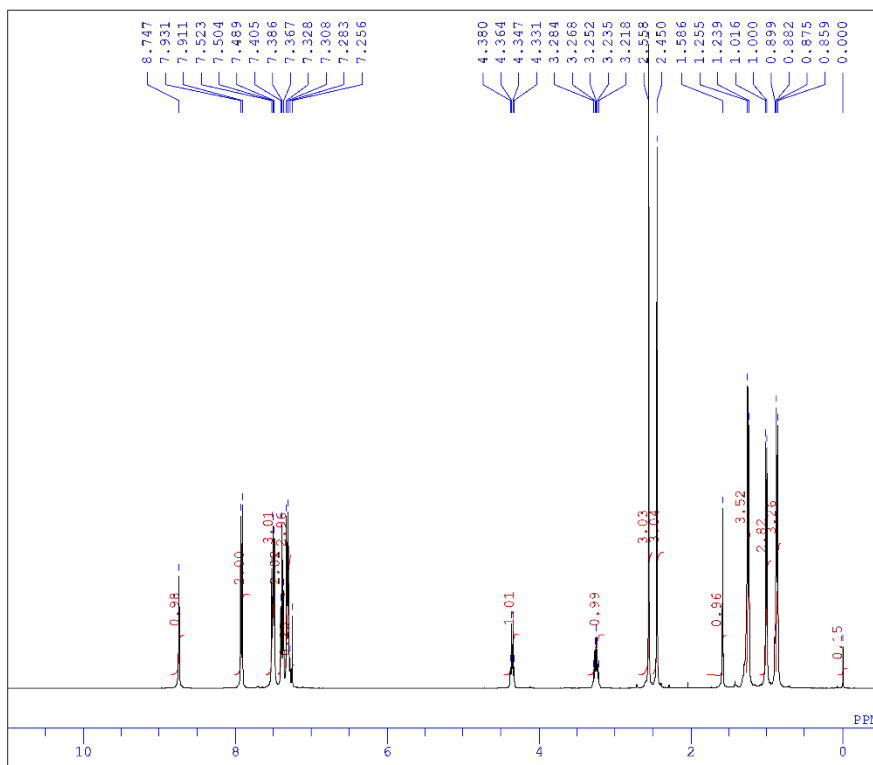


DPFILE 3-MeO2C-4-MeC6H3NH*i*
 COMNT single pulse
 DATIM 2017-07-10 11:13:07
 OBNUC 1H
 EXMOD single_pulse.jxp
 OBFRQ 399.78 MHz
 OBSET 4.19 KHz
 OBFIN 7.29 Hz
 POINT 26214
 FREQU 6002.40 Hz
 SCANS 8
 ACQTM 4.3673 sec
 PD 2.0000 sec
 PW1 3.05 usec
 IRNUC 1H
 CTEMP 22.0 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.09 Hz
 RCAIN 34

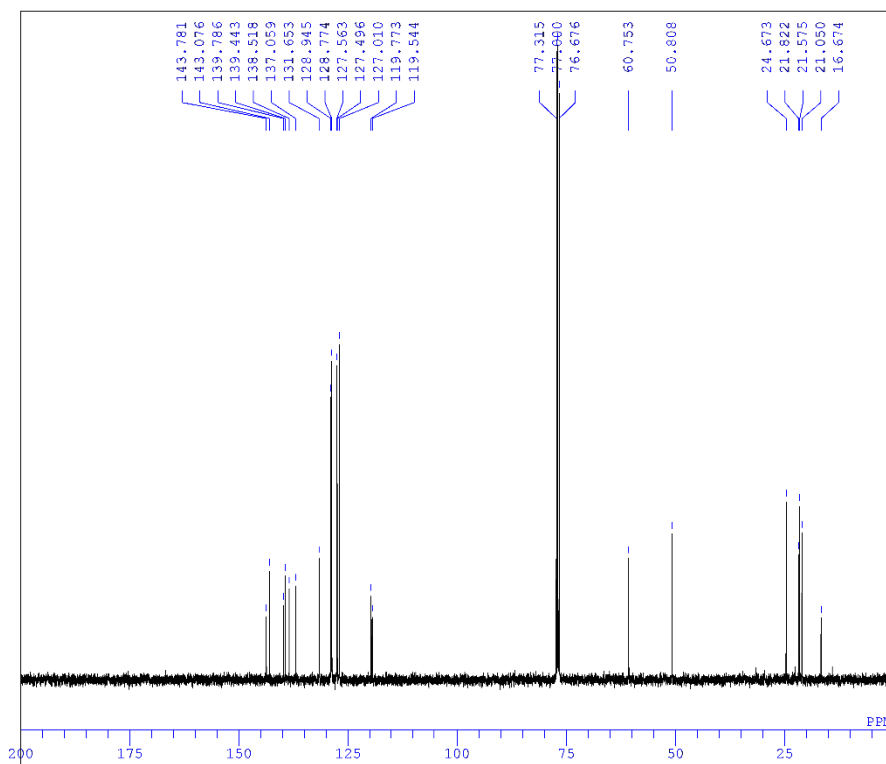
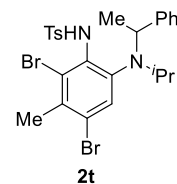


DPFILE 3-MeO2C-4-MeC6H3NH*i*
 COMNT single_pulse decoupl
 DATIM 2017-07-10 11:14:24
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.53 MHz
 OBSET 5.35 KHz
 OBFIN 5.86 Hz
 POINT 26214
 FREQU 25125.63 Hz
 SCANS 1000
 ACQTM 1.0433 sec
 PD 1.7000 sec
 PW1 3.53 usec
 IRNUC 1H
 CTEMP 22.4 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 0.09 Hz
 RCAIN 60

***N*-Isopropyl-*N*-(1-phenylethyl)-3,5-dibromo-4-methyl-2-(tosylamido)aniline (2t).**

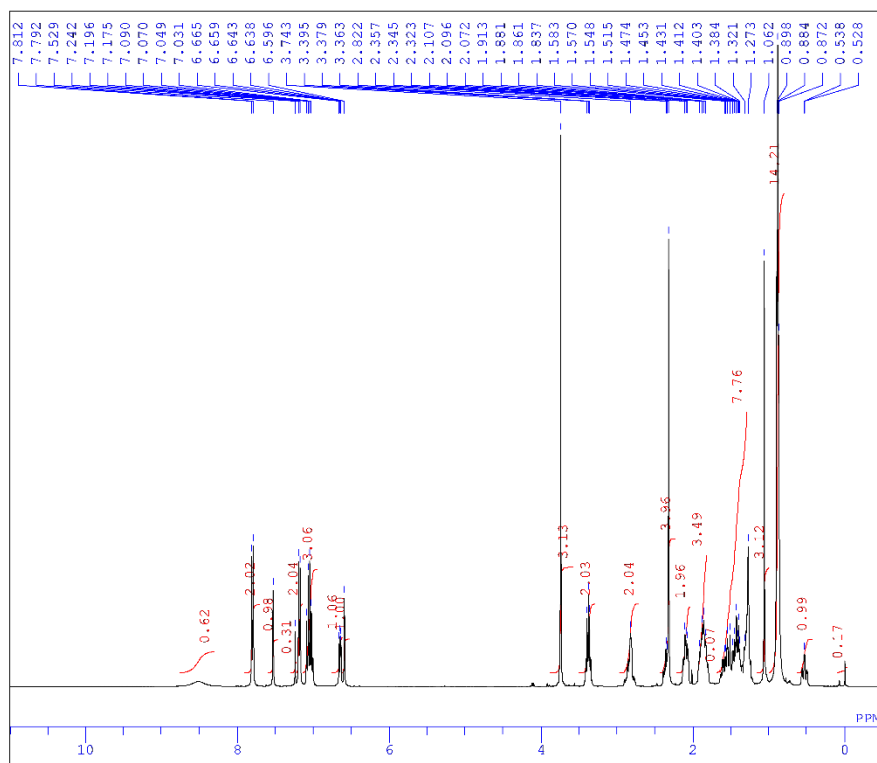


DFTIIE 3,5-Br2-4-MeC6H2N(i)
 COMNT single_pulse
 DATIM 2017-08-02 13:57:13
 OBNUC 1H
 EXMOD single_pulse.jxp
 OBFREQ 399.78 MHz
 OBSET 4.19 KHz
 OBFIN 7.29 Hz
 POINT 26214
 FREQU 6002.40 Hz
 SCANS 8
 ACQTM 4.3673 sec
 PD 2.0000 sec
 PW1 3.05 usec
 IRNUC 1H
 CTEMP 21.1 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 1.20 Hz
 RGAIN 34

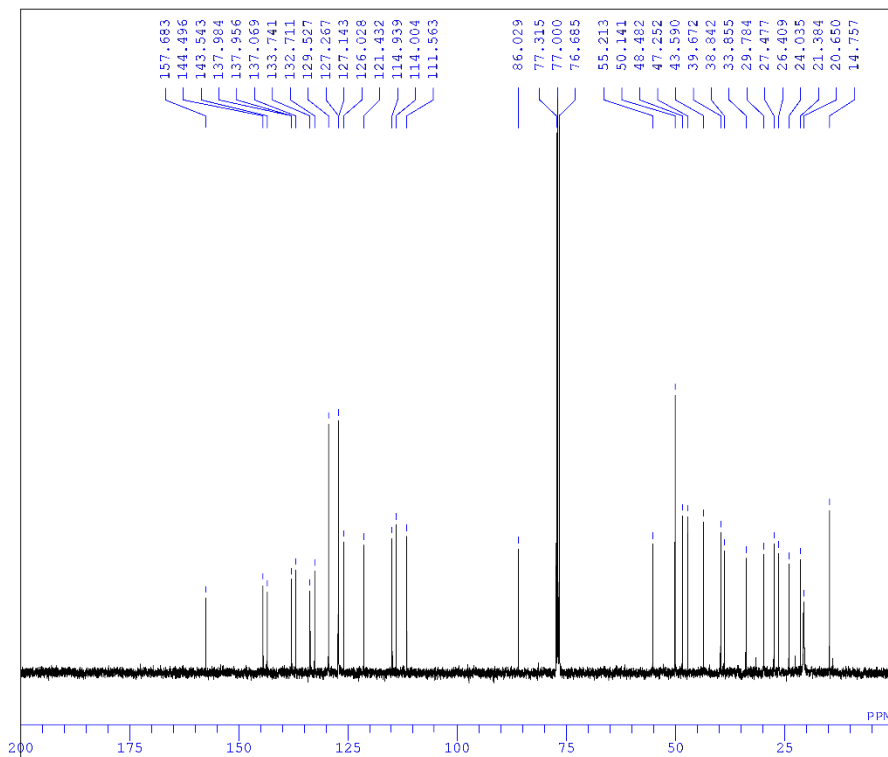
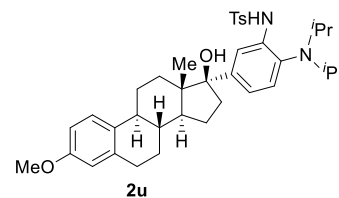


DFTIIE 3,5-Br2-4-MeC6H2N(i)
 COMNT single_pulse_decoupl
 DATIM 2017-08-02 13:58:29
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFREQ 100.53 MHz
 OBSET 5.35 KHz
 OBFIN 5.86 Hz
 POINT 26214
 FREQU 25125.63 Hz
 SCANS 400
 ACQTM 1.0433 sec
 PD 1.7000 sec
 PW1 3.53 usec
 IRNUC 13C
 CTEMP 21.3 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 1.20 Hz
 RGAIN 60

3-O-Methyl-17-[4-(diisopropylamino)-3-(tosylamido)phenyl]estradiol (2u).

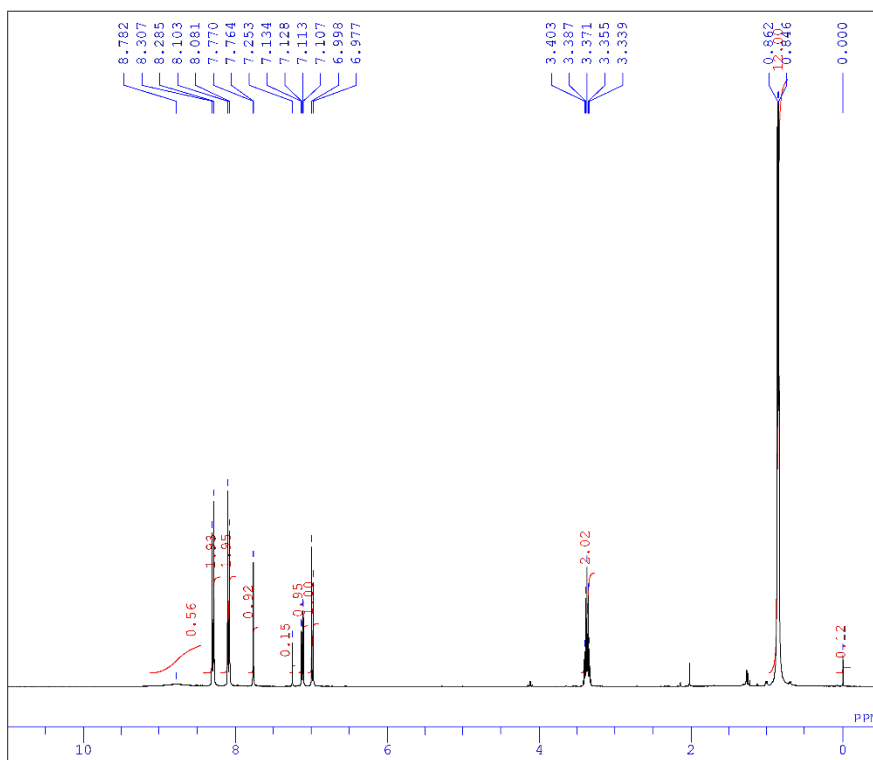


DFILF 4-(3-MeOestron)-C6H
 COMNT single pulse
 DATIM 2017-08-30 14:18:00
 OBNUC 1H
 EXMOD single_pulse.jxp
 OBFRQ 399.78 MHz
 OBSET 4.19 KHz
 OBFIN 7.29 Hz
 POINT 26214
 FREQU 6002.40 Hz
 SCANS 8
 ACQTM 4.3673 sec
 PD 2.0000 sec
 PW1 3.05 usec
 IRNUC 1H
 CTEMP 60.0 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 1.20 Hz
 RCAIN 30



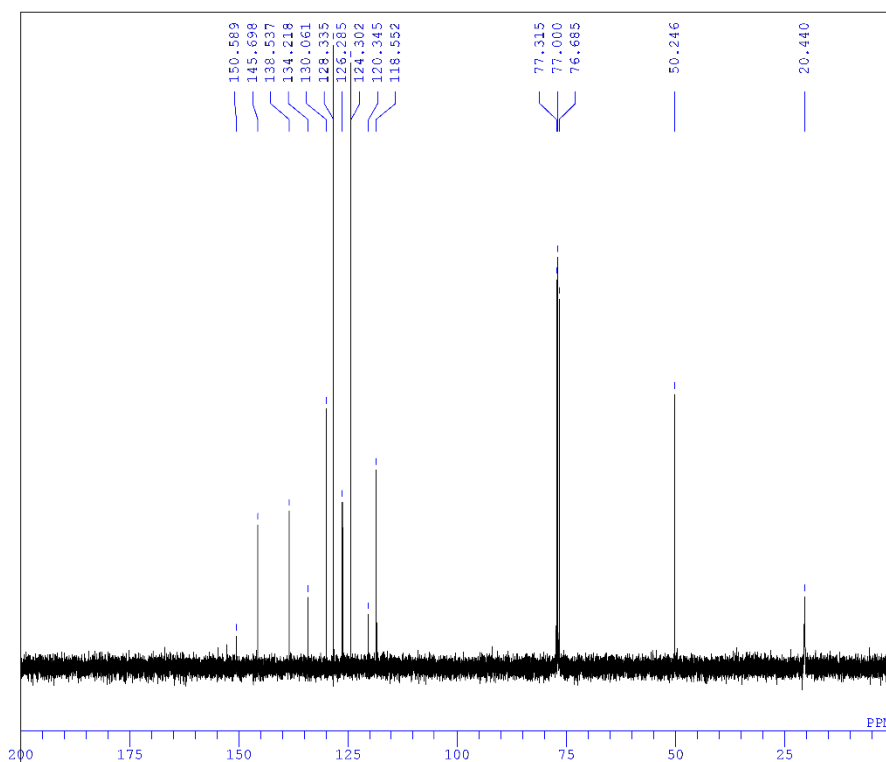
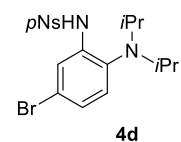
DFILF 4-(3-MeOestron)-C6H
 COMNT single_pulse_decoup
 DATIM 2017-08-30 14:19:17
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.53 MHz
 OBSET 5.35 KHz
 OBFIN 5.86 Hz
 POINT 26214
 FREQU 25125.63 Hz
 SCANS 800
 ACQTM 1.0433 sec
 PD 1.7000 sec
 PW1 3.53 usec
 IRNUC 1H
 CTEMP 60.0 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 1.20 Hz
 RCAIN 60

***N,N*-Diisopropyl-2-(*p*-nosylamido)-4-bromoaniline (4d)**



```

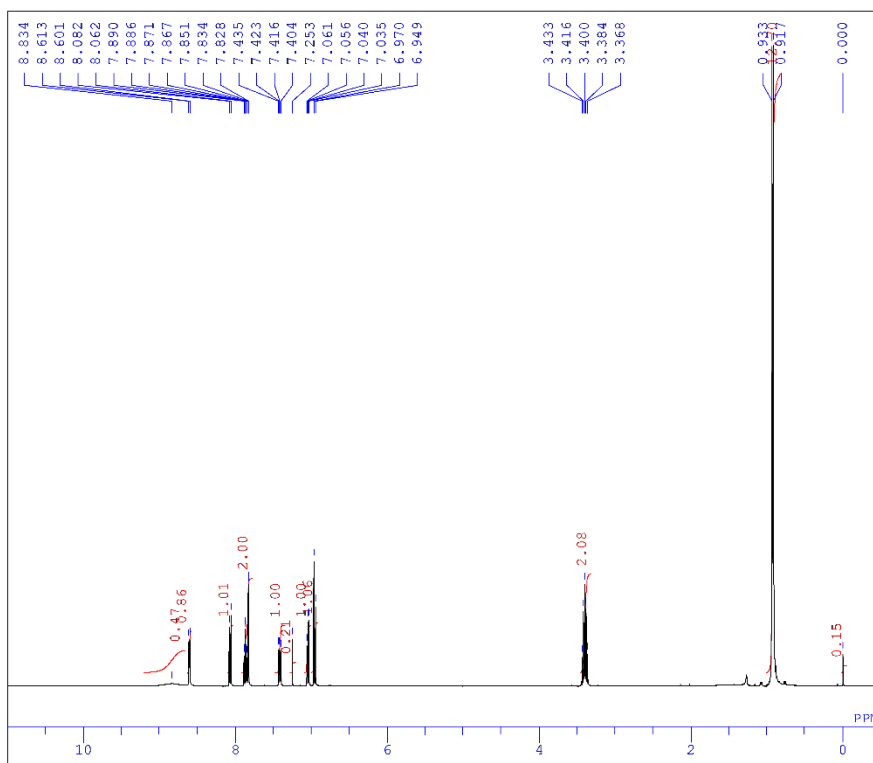
DFILE 4-BrC6H4NiPr2+pNsNI
COMNT single_pulse
DATIM 2017-06-29 14:11:29
OBNUC 1H
EXMOD single_pulse.jxp
OBFRQ 399.78 MHz
OBSET 4.19 KHz
OBFIN 7.29 Hz
POINT 26214
FREQU 6002.40 Hz
SCANS 8
ACQTM 4.3673 sec
PD 2.0000 sec
PW1 3.05 usec
IRNUC 1H
CTEMP 60.0 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.11 Hz
RGAIN 30
    
```



```

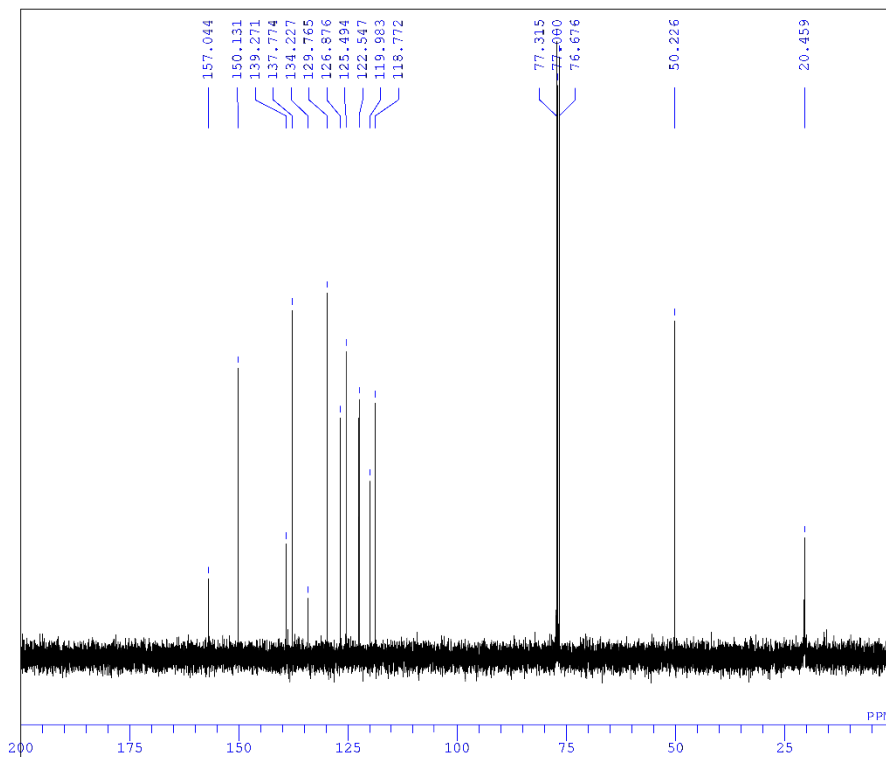
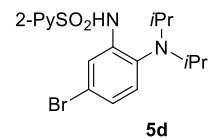
DFILE 4-BrC6H4NiPr2+pNsNI
COMNT single_pulse
DATIM 2017-06-29 14:12:46
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.53 MHz
OBSET 5.35 KHz
OBFIN 5.86 Hz
POINT 26214
FREQU 25125.63 Hz
SCANS 180
ACQTM 1.0433 sec
PD 1.7000 sec
PW1 3.53 usec
IRNUC 1H
CTEMP 60.0 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 0.11 Hz
RGAIN 60
    
```

***N,N*-Diisopropyl-2-(2-pyridinesulfonylamido)-4-bromoaniline (5d)**



```

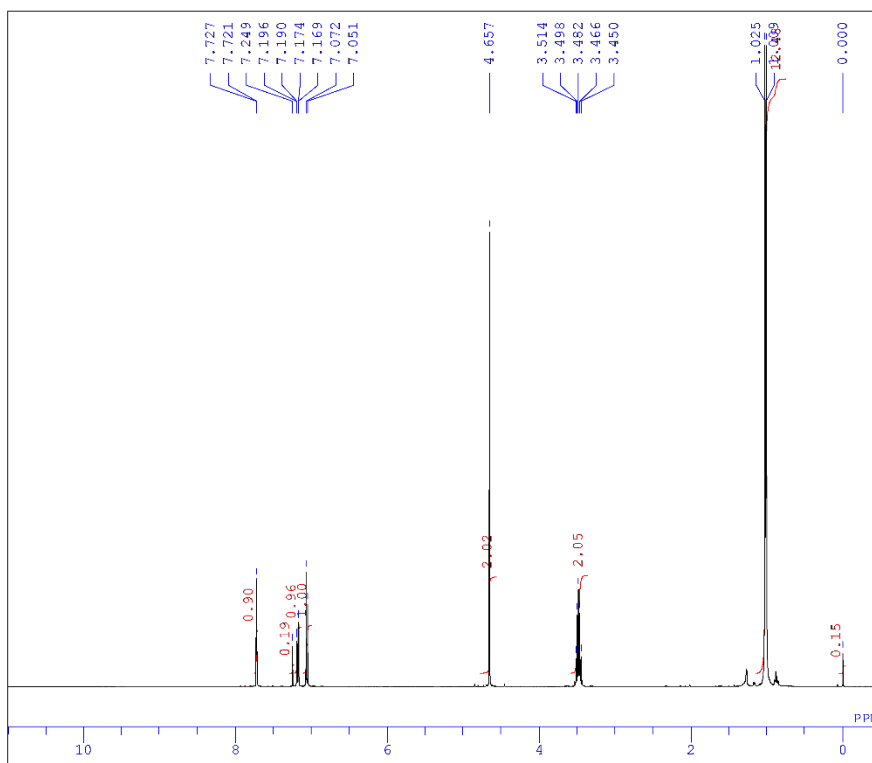
DFILE 4-BrC6H4NiPr2+2-Py8
COMNT single pulse
DATIM 2017-07-01 14:01:41
OBNUC 1H
EXMOD single_pulse.jxp
OBFRQ 399.78 MHz
OBSET 4.19 KHz
OBFIN 7.29 Hz
POINT 26214
FREQU 6002.40 Hz
SCANS 8
ACQTM 4.3673 sec
PD 2.0000 sec
PW1 3.05 usec
IRNUC 1H
CTEMP 60.0 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.11 Hz
RCAIN 34
    
```



```

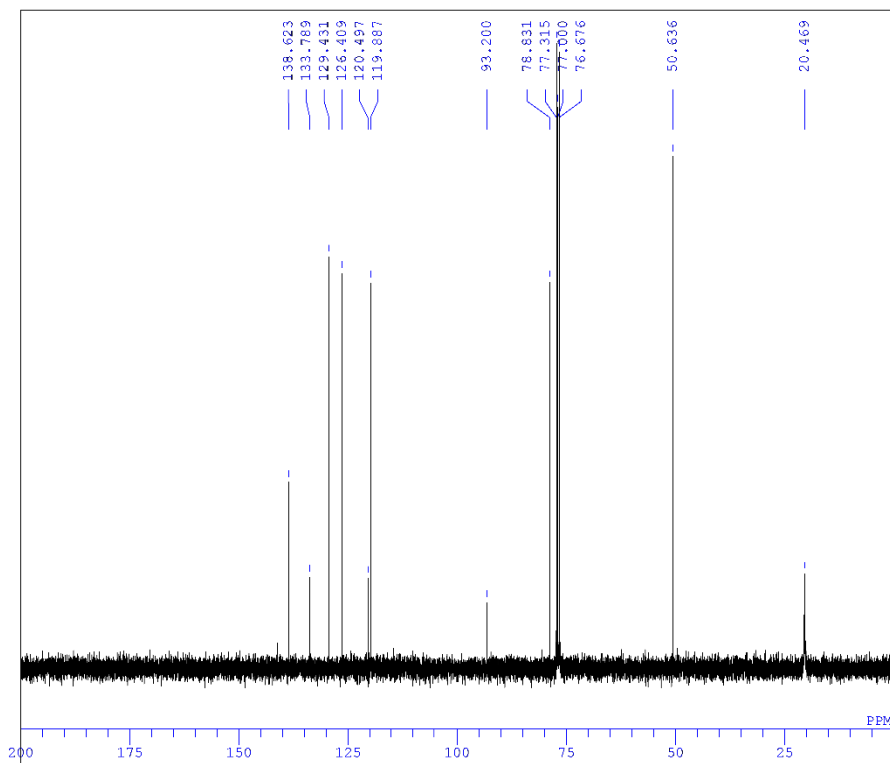
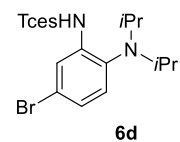
DFILE 4-BrC6H4NiPr2+2-Py8
COMNT single pulse
DATIM 2017-07-01 14:02:57
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.53 MHz
OBSET 5.35 KHz
OBFIN 5.86 Hz
POINT 26214
FREQU 25125.63 Hz
SCANS 201
ACQTM 1.0433 sec
PD 1.7000 sec
PW1 3.53 usec
IRNUC 1H
CTEMP 60.0 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 0.11 Hz
RCAIN 60
    
```


***N,N*-Diisopropyl-2-(trichloroethoxysulfonylamido)-4-bromoaniline (6d)**



```

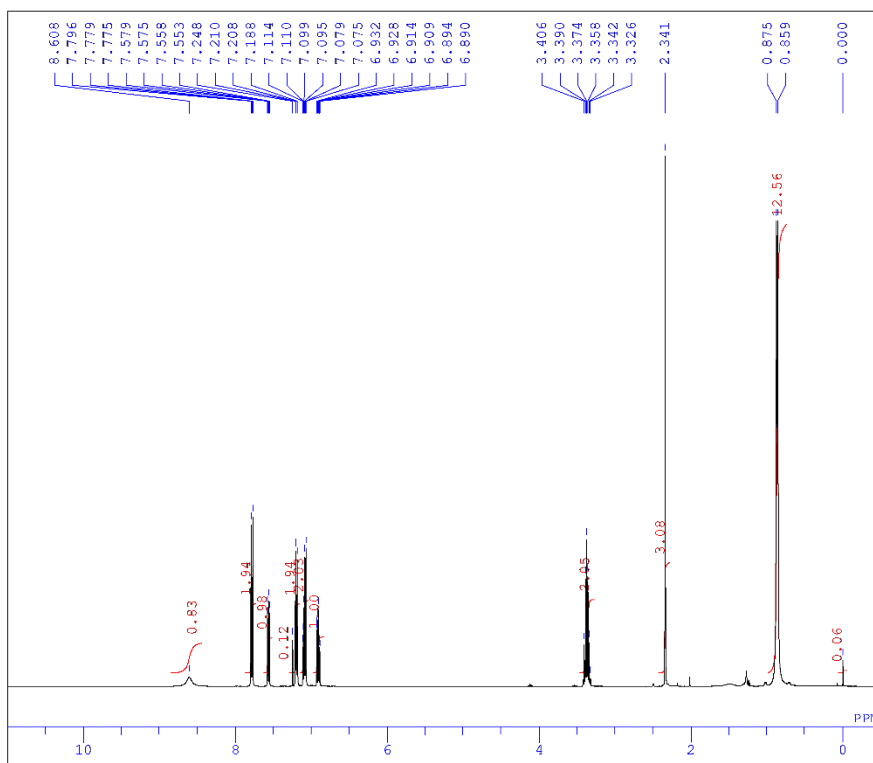
DFIIE 4-BrC6H4NiPr2+TcesN
COMNT single_pulse
DATIM 2017-07-01 14:38:01
OBNUC 1H
EXMOD single_pulse.jxp
OBFRQ 399.78 MHz
OBSET 4.19 KHz
OBFIN 7.29 Hz
POINT 26214
FREQU 6002.40 Hz
SCANS 8
ACQTM 4.3673 sec
PD 2.0000 sec
PW1 3.05 usec
IRNUC 1H
CTEMP 60.0 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.11 Hz
RGAIN 32
    
```



```

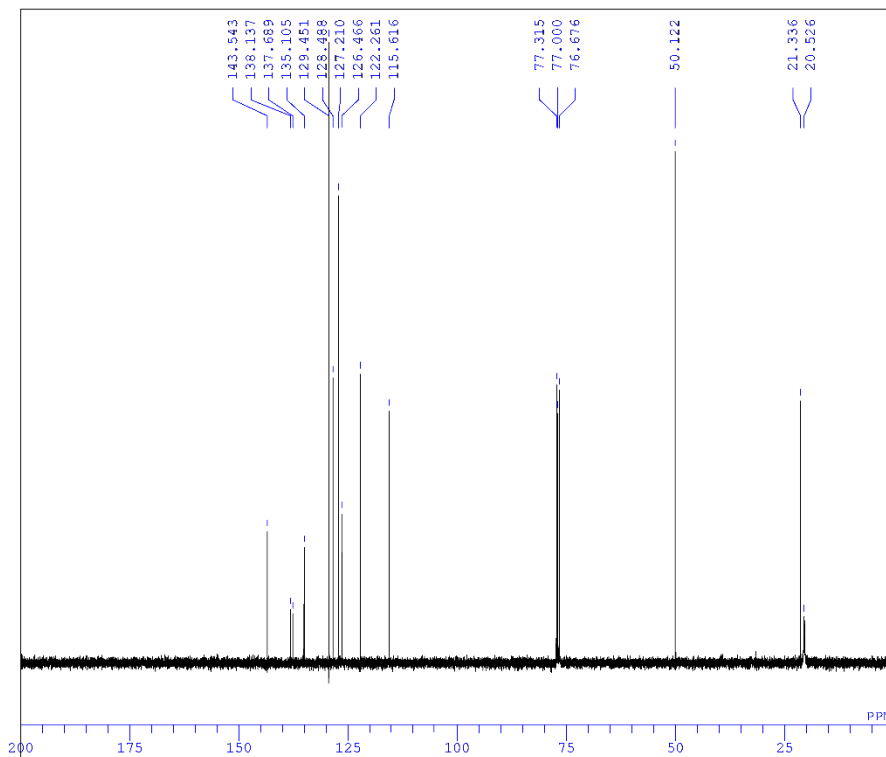
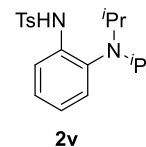
DFIIE 4-BrC6H4NiPr2+TcesN
COMNT single_pulse
DATIM 2017-07-01 14:39:24
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.53 MHz
OBSET 5.35 KHz
OBFIN 5.86 Hz
POINT 26214
FREQU 25125.63 Hz
SCANS 400
ACQTM 1.0433 sec
PD 1.7000 sec
PW1 3.53 usec
IRNUC 1H
CTEMP 60.0 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 0.11 Hz
RGAIN 60
    
```

N,N-Diisopropyl-2-(tosylamido)aniline (**2v**)



```

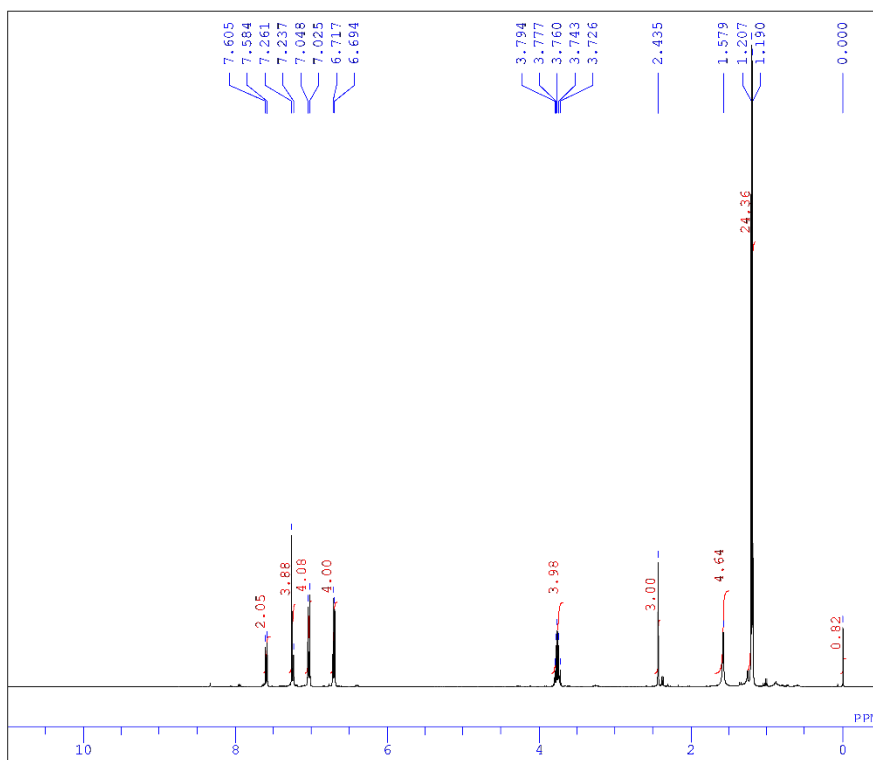
DFILE PhNiPr2+TsNiPh_E1H-
COMNT single pulse
DATIM 2017-09-20 10:12:51
OBNUC 1H
EXMOD single_pulse.jxp
OBFRQ 399.78 MHz
OBSET 4.19 KHz
OBFIN 7.29 Hz
POINT 26214
FREQU 6002.40 Hz
SCANS 16
ACQTM 4.3673 sec
PD 2.0000 sec
PW1 3.05 usec
IRNUC 1H
CTEMP 60.0 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.12 Hz
RCAIN 30
    
```



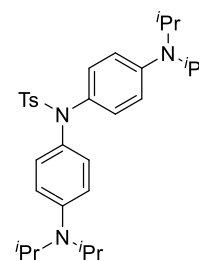
```

DFILE PhNiPr2+TsNiPh_E13C
COMNT single pulse
DATIM 2017-09-20 10:15:04
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.53 MHz
OBSET 5.35 KHz
OBFIN 5.86 Hz
POINT 26214
FREQU 25125.63 Hz
SCANS 400
ACQTM 1.0433 sec
PD 1.7000 sec
PW1 3.53 usec
IRNUC 1H
CTEMP 60.0 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 0.12 Hz
RCAIN 60
    
```

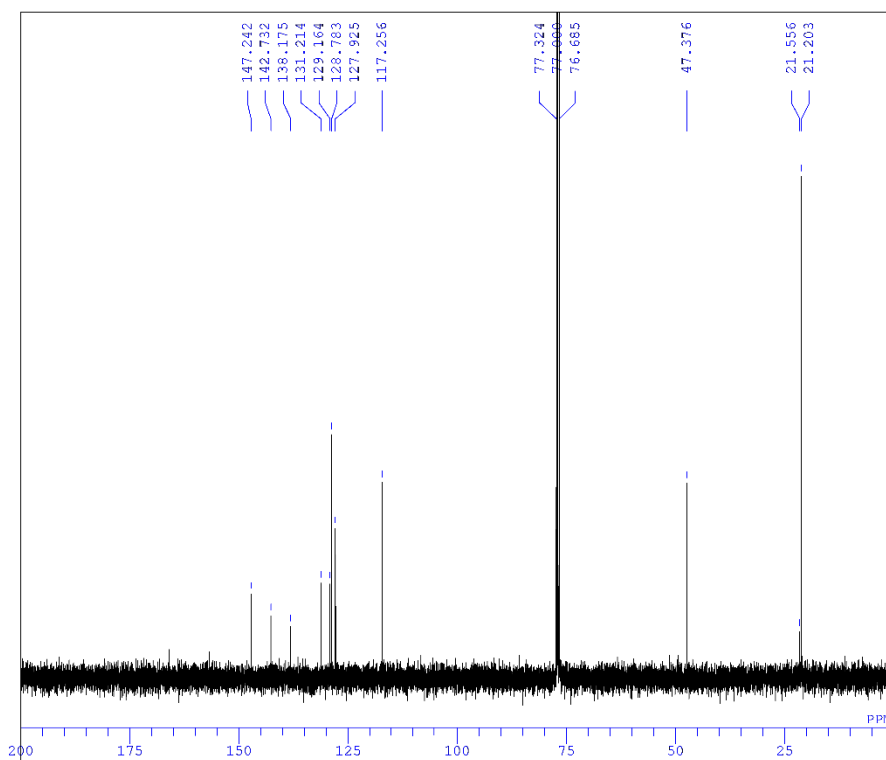
***N,N*-bis[4-(diisopropylamino)phenyl]-tosylamide (8)**



DFILE PhNiPr2+TsNIPh by-p
 COMNT single_pulse
 DATIM 2017-09-20 11:11:39
 OBNUC 1H
 EXMOD single_pulse.jxp
 OBFRQ 399.78 MHz
 OBSET 4.19 KHz
 OBFIN 7.29 Hz
 POINT 26214
 FREQU 6002.40 Hz
 SCANS 16
 ACQTM 4.3673 sec
 PD 2.0000 sec
 PW1 3.05 usec
 IRNUC 1H
 CTEMP 22.6 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.12 Hz
 RCAIN 50

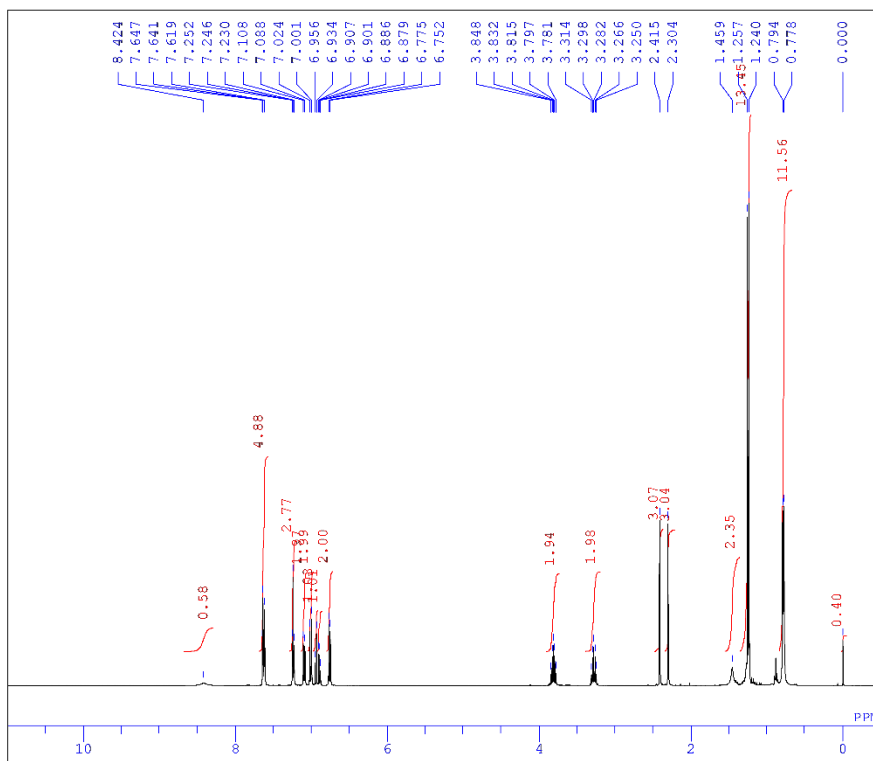


8

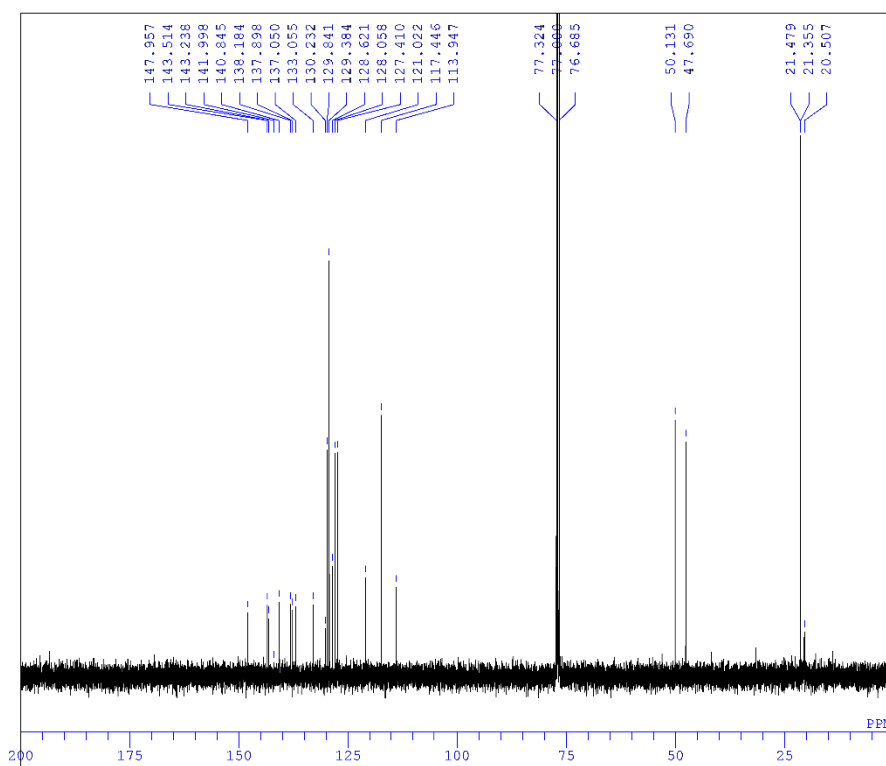
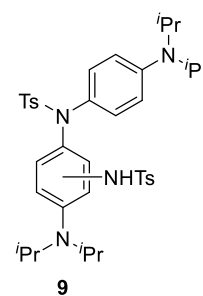


DFILE PhNiPr2+TsNIPh by-p
 COMNT single_pulse
 DATIM 2017-09-20 11:13:47
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.53 MHz
 OBSET 5.35 KHz
 OBFIN 5.86 Hz
 POINT 26214
 FREQU 25125.63 Hz
 SCANS 1280
 ACQTM 1.0433 sec
 PD 1.7000 sec
 PW1 3.53 usec
 IRNUC 1H
 CTEMP 21.5 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 0.12 Hz
 RCAIN 60

***N*-[4-(Diisopropylamino)-3-(tosylamido)phenyl]-*N*-[4-(diisopropylamino)phenyl]-tosylamide or
N-[4-(Diisopropylamino)-2-(tosylamido)phenyl]-*N*-[4-(diisopropylamino)phenyl]-tosylamide**

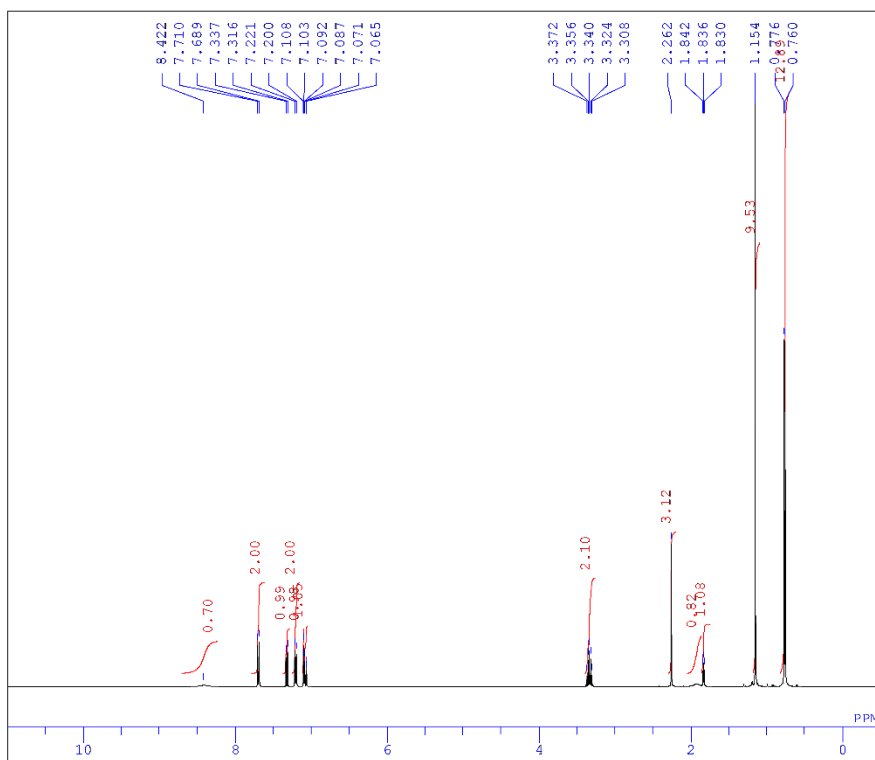


DFILE PhNiPr2+TsNIPh by-p
 COMNT single_pulse
 DATIM 2017-09-20 12:22:16
 OBNUC 1H
 EXMOD single_pulse.jxp
 OBFREQ 399.78 MHz
 OBSET 4.19 KHz
 OBFIN 7.29 Hz
 POINT 26214
 FREQU 6002.40 Hz
 SCANS 16
 ACQTM 4.3673 sec
 PD 2.0000 sec
 PW1 3.05 usec
 IRNUC 1H
 CTEMP 60.0 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.12 Hz
 RGAIN 40



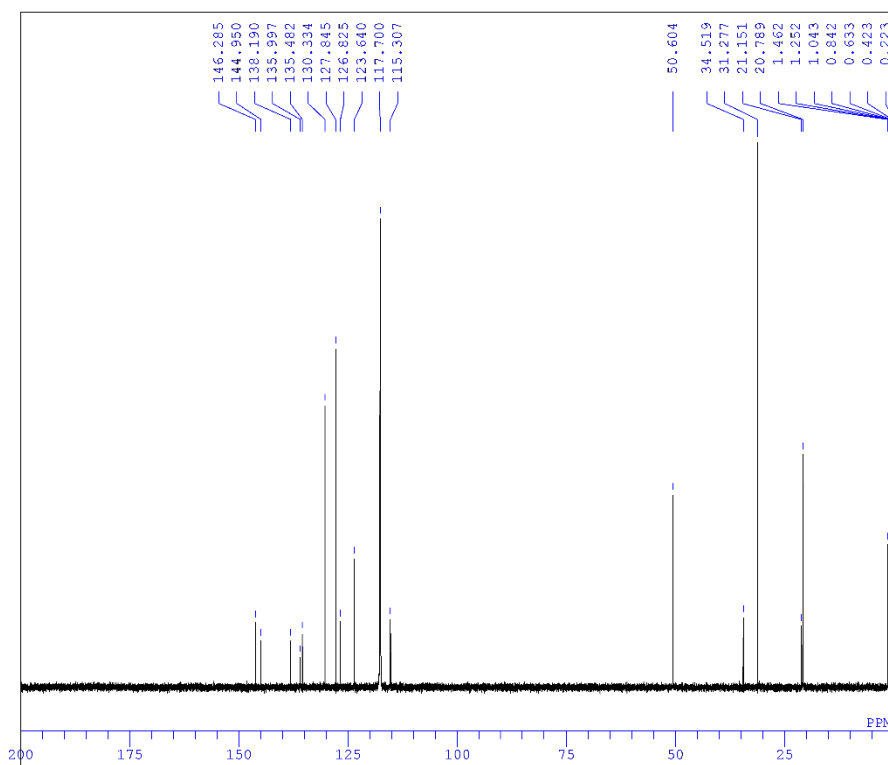
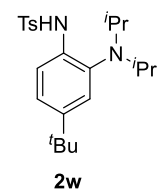
DFILE PhNiPr2+TsNIPh by-p
 COMNT single_pulse
 DATIM 2017-09-20 12:24:31
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFREQ 100.53 MHz
 OBSET 5.35 KHz
 OBFIN 5.86 Hz
 POINT 26214
 FREQU 25125.63 Hz
 SCANS 880
 ACQTM 1.0433 sec
 PD 1.7000 sec
 PW1 3.53 usec
 IRNUC 13C
 CTEMP 60.0 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 0.12 Hz
 RGAIN 58

N,N-Diisopropyl-2-(tosylamido)-5-*tert*-butylaniline (2w)



```

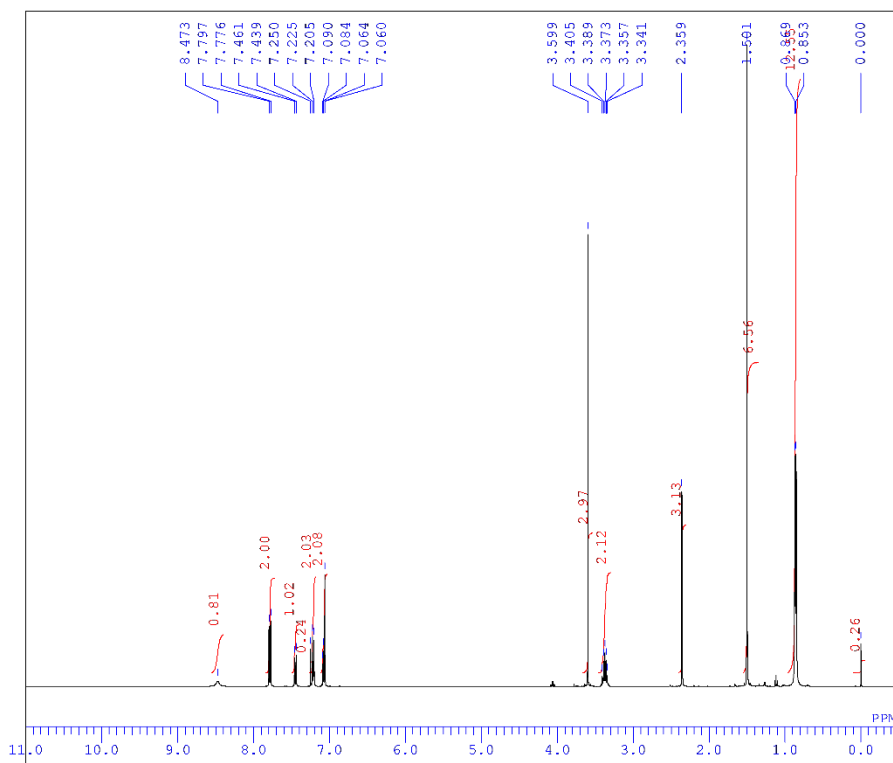
DFILE 3-tBuC6H4NiPr2+TsNI
COMNT single_pulse
DATIM 2017-10-21 11:13:01
OBNUC 1H
EXMOD single_pulse.jxp
OBFRQ 399.78 MHz
OBSET 4.19 KHz
OBFIN 7.29 Hz
POINT 26214
FREQU 6002.40 Hz
SCANS 16
ACQTM 4.3673 sec
PD 2.0000 sec
PW1 3.05 usec
IRNUC 1H
CTEMP 60.0 c
SLVNT CD3CN
EXREF 0.00 ppm
BF 0.09 Hz
RGAIN 30
    
```



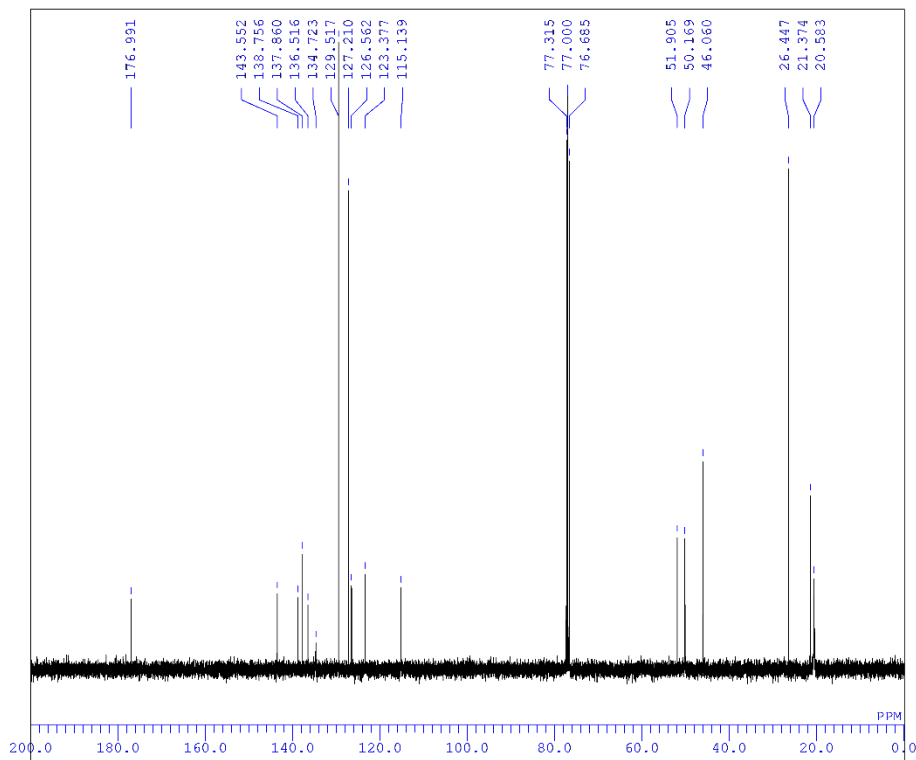
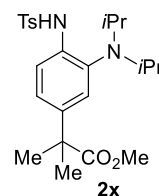
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DFILE 3-tBuC6H4NiPr2+TsNI
COMNT single_pulse
DATIM 2017-10-21 11:50:47
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.53 MHz
OBSET 5.35 KHz
OBFIN 5.86 Hz
POINT 26214
FREQU 25125.63 Hz
SCANS 800
ACQTM 1.0433 sec
PD 1.7000 sec
PW1 3.53 usec
IRNUC 1H
CTEMP 60.0 c
SLVNT CD3CN
EXREF 117.70 ppm
BF 0.09 Hz
RGAIN 60
    
```

***N,N*-Diisopropyl-2-(tosylamido)-5-[2-(methoxycarbonyl)propan-2-yl]aniline (2x)**

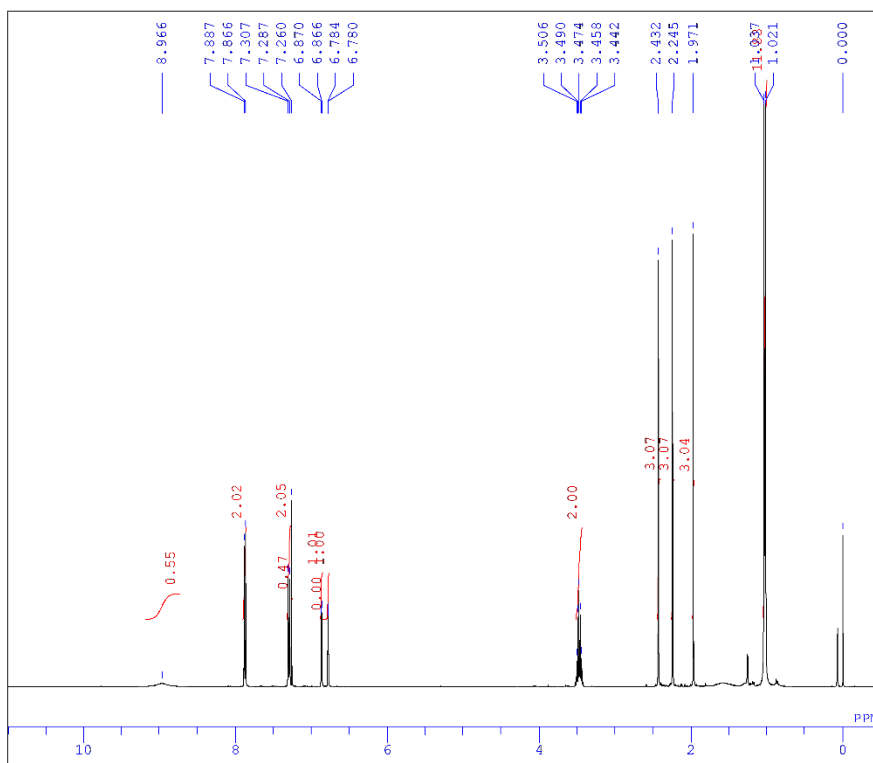


DPFILE 3-MeO2CC(Me)2C6H4Ni
 COMNT single pulse
 DATIM 2018-01-11 15:46:21
 OBNUC 1H
 EXMOD single_pulse.jxp
 OBFRQ 399.78 MHz
 OBSET 4.19 KHz
 OBFIN 7.29 Hz
 POINT 26214
 FREQU 6002.40 Hz
 SCANS 16
 ACQTM 4.3673 sec
 PD 2.0000 sec
 PW1 3.05 usec
 IRNUC 1H
 CTEMP 60.0 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.09 Hz
 RCAIN 30

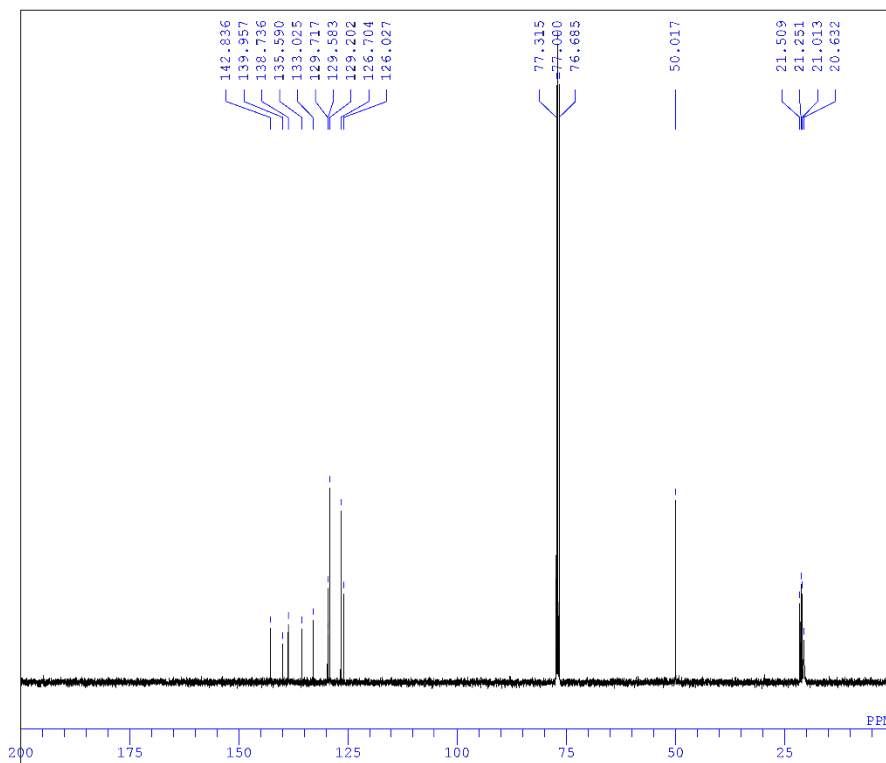
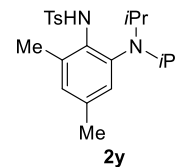


DPFILE 3-MeO2CC(Me)2C6H4Ni
 COMNT single_pulse decou
 DATIM 2018-01-11 15:48:34
 OBNUC 13C
 EXMOD single_pulse dec
 OBFRQ 100.53 MHz
 OBSET 5.35 KHz
 OBFIN 5.86 Hz
 POINT 26214
 FREQU 25125.63 Hz
 SCANS 725
 ACQTM 1.0433 sec
 PD 1.7000 sec
 PW1 3.53 usec
 IRNUC 1H
 CTEMP 60.0 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 0.09 Hz
 RCAIN 60

***N,N*-Diisopropyl-2-(tosylamido)-3,5-dimethylaniline (2y)**

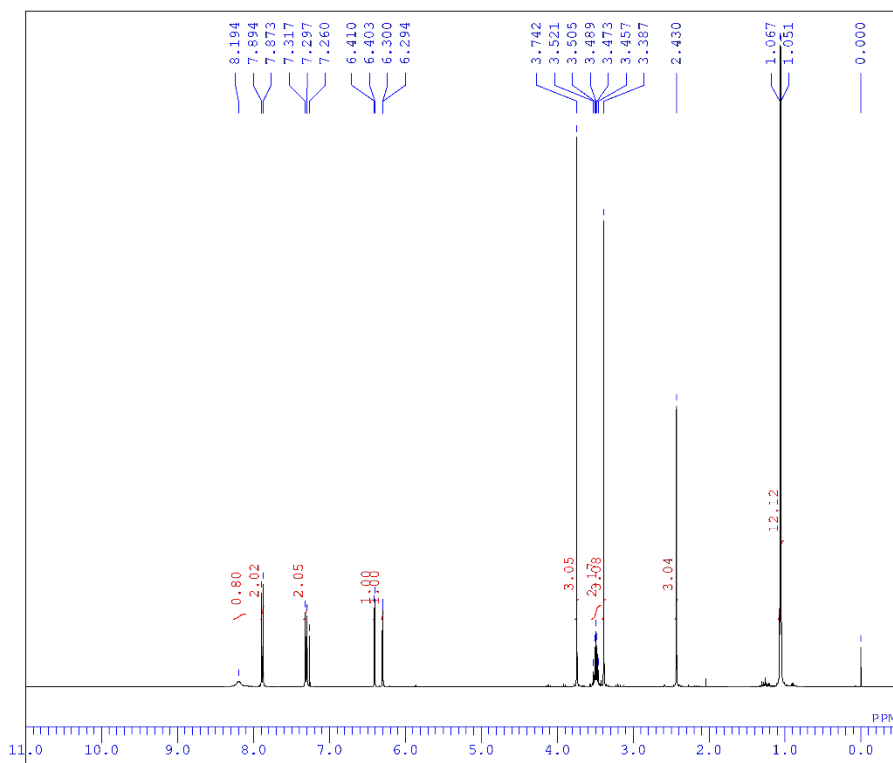


DFILE TN60_E1H-1-1.Y.als
 COMNT single pulse
 DATIM 2017-10-26 14:14:58
 OBNUC 1H
 EXMOD single_pulse.jxp
 OBFRQ 399.78 MHz
 OBSET 4.19 KHz
 OBFIN 7.29 Hz
 POINT 26214
 FREQU 6002.40 Hz
 SCANS 16
 ACQTM 4.3673 sec
 PD 2.0000 sec
 PW1 3.05 usec
 IRNUC 1H
 CTEMP 22.6 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.12 Hz
 RGAIN 38

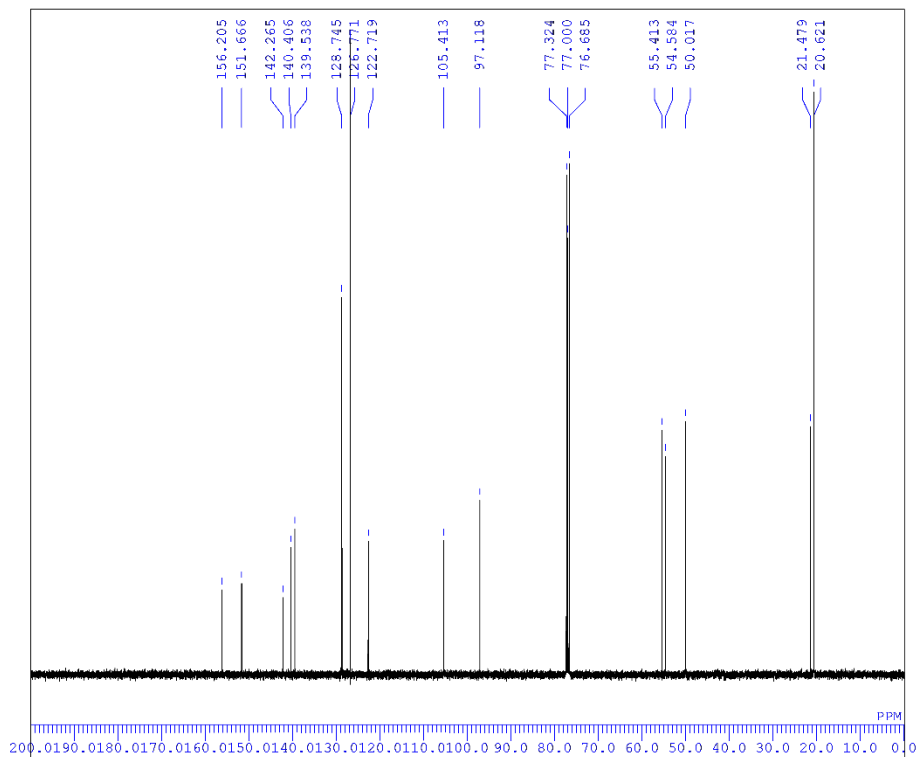
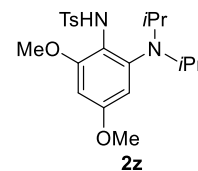


DFILE TN60_E13C-1-1.jdf
 COMNT single_pulse_decoup
 DATIM 2017-10-26 14:29:10
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.53 MHz
 OBSET 5.35 KHz
 OBFIN 5.86 Hz
 POINT 32767
 FREQU 31407.04 Hz
 SCANS 1000
 ACQTM 1.0433 sec
 PD 1.7000 sec
 PW1 3.53 usec
 IRNUC 1H
 CTEMP 21.1 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 1.20 Hz
 RGAIN 60

N,N-Diisopropyl-2-(tosylamido)-3,5-dimethylaniline (**2z**)

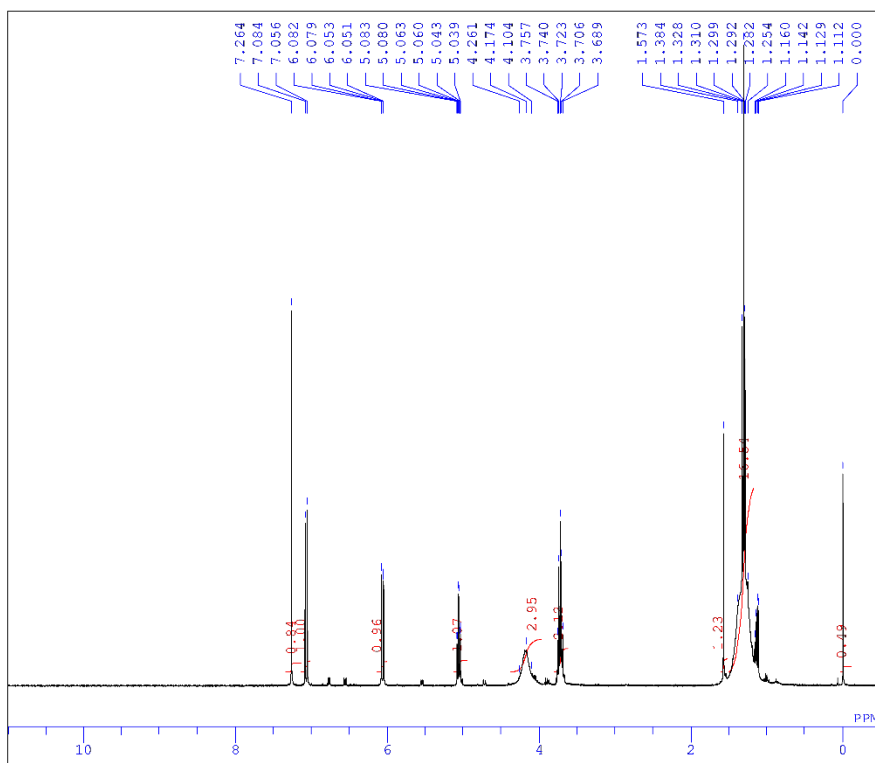


DFILE TN80_E1H-1-1 f.a1s
 COMNT single pulse
 DATIM 2017-12-07 14:14:42
 OBNUC 1H
 EXMOD single_pulse.jxp
 OBFRQ 399.78 MHz
 OBSET 4.19 KHz
 OBFIN 7.29 Hz
 POINT 26214
 FREQU 6002.40 Hz
 SCANS 16
 ACQTM 4.3673 sec
 PD 2.0000 sec
 PW1 3.05 usec
 IRNUC 1H
 CTEMP 21.9 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.12 Hz
 RCAIN 30



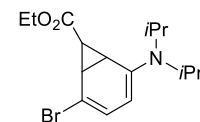
DFILE TN80_E13C-1-1 f.a1s
 COMNT single pulse decoupl
 DATIM 2017-12-07 14:21:53
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.53 MHz
 OBSET 5.35 KHz
 OBFIN 5.86 Hz
 POINT 26214
 FREQU 25125.63 Hz
 SCANS 1000
 ACQTM 1.0433 sec
 PD 1.7000 sec
 PW1 3.53 usec
 IRNUC 1H
 CTEMP 21.0 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 0.09 Hz
 RCAIN 60

Ethyl 1-Bromo-4-(diisopropylamino)bicyclo[4.1.0]hepta-2,4-diene-7-carboxylate (12)

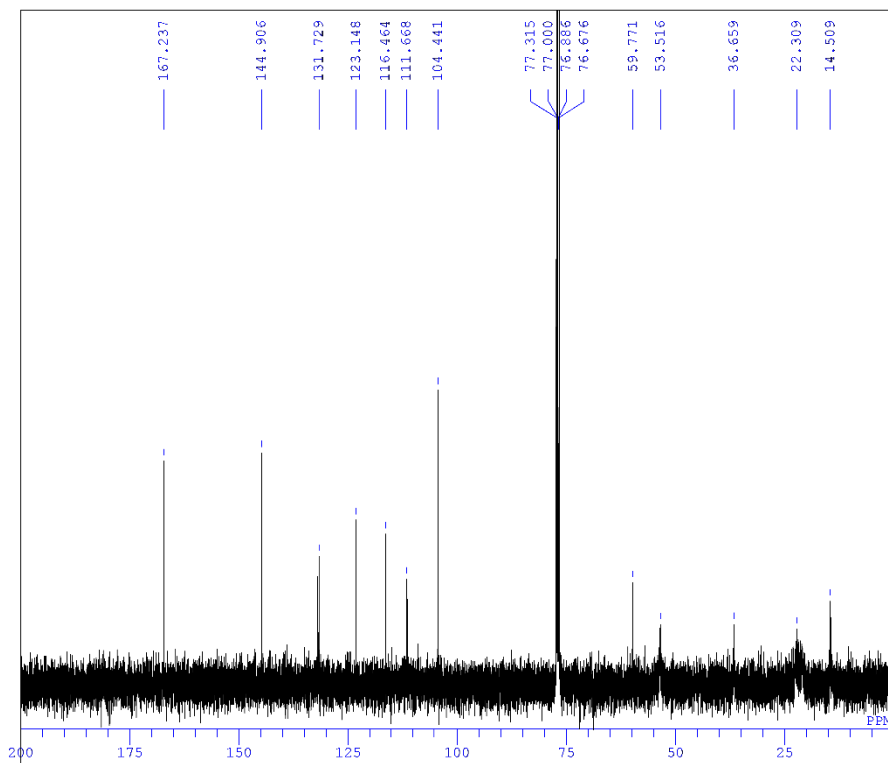


```

DFTI1E cyclopropane_E1H-1-
COMNT single pulse
DATIM 2018-04-03 13:14:10
OBNUC 1H
EXMOD single_pulse.jxp
OBFRQ 399.78 MHz
OBSET 4.19 KHz
OBFIN 7.29 Hz
POINT 26214
FREQU 6002.40 Hz
SCANS 16
ACQTM 4.3673 sec
PD 2.0000 sec
PW1 3.35 usec
IRNUC 1H
CTEMP 22.6 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.09 Hz
RGAIN 52
    
```



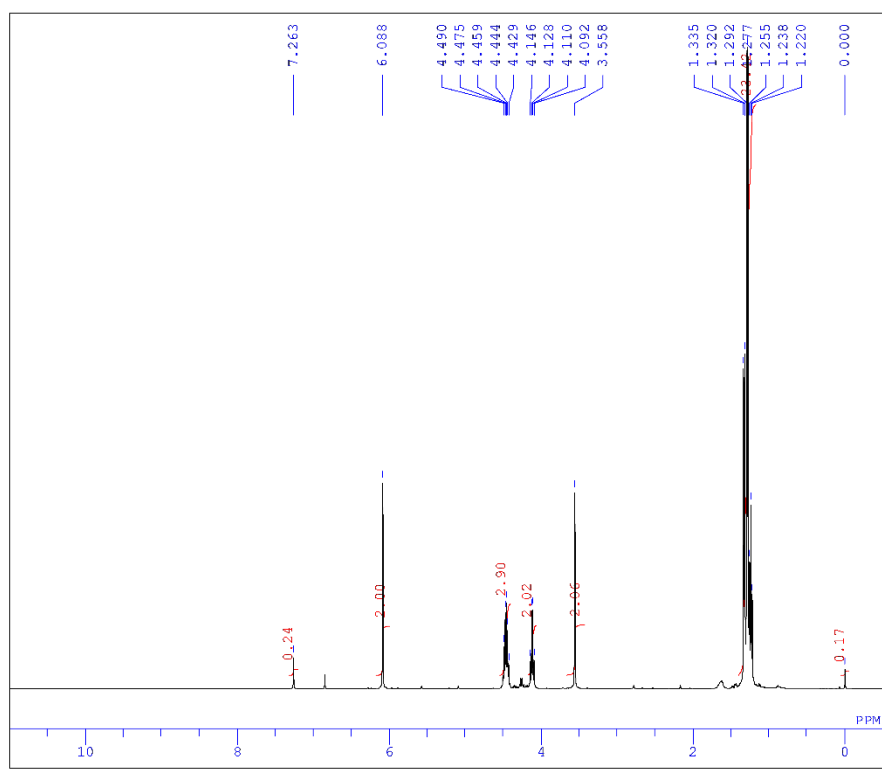
12



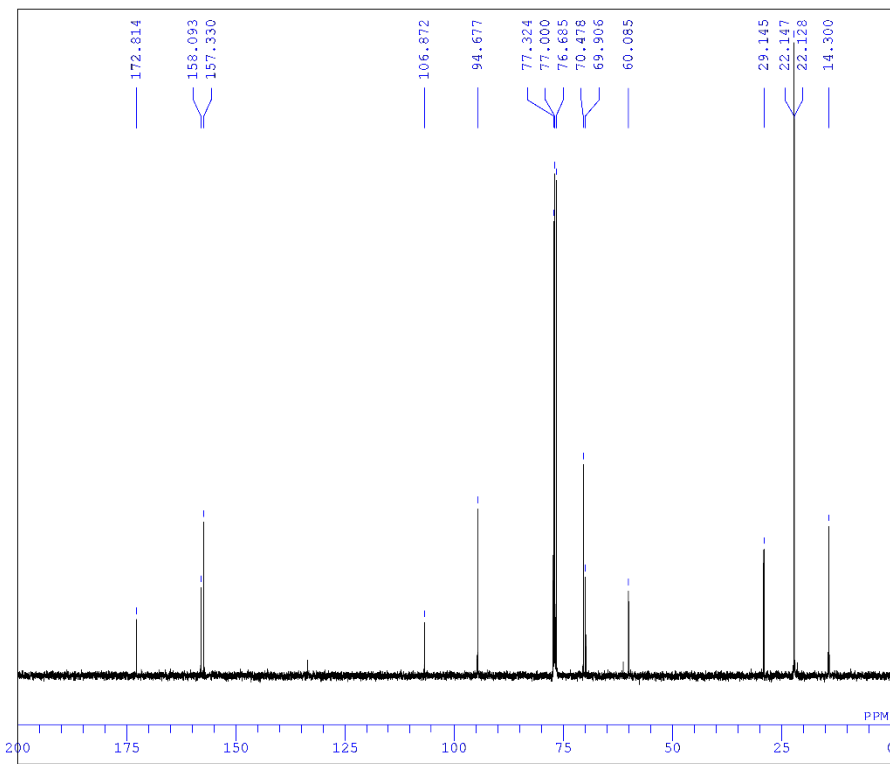
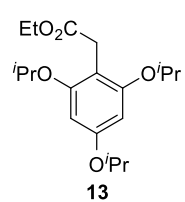
```

DFTI1E cyclopropane_E13C_c
COMNT single pulse decoup
DATIM 2018-04-03 13:16:58
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.53 MHz
OBSET 5.35 KHz
OBFIN 5.86 Hz
POINT 26214
FREQU 25125.63 Hz
SCANS 4200
ACQTM 0.0000 sec
PD 1.7000 sec
PW1 3.53 usec
IRNUC 1H
CTEMP 21.0 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 0.09 Hz
RGAIN 60
    
```

Ethyl 2-(2,4,6-Triisopropoxyphenyl)acetate (13)

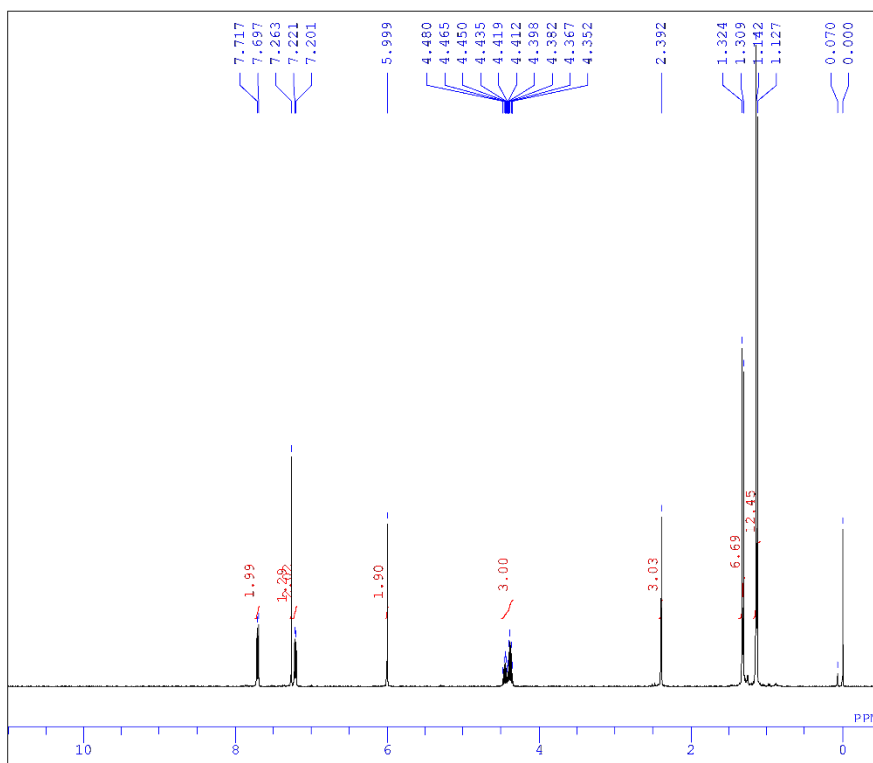


DFILE 1,3,5-(iPrO)3C6H3+F
 COMNT single pulse decoup
 DATIM 2018-03-16 12:29:51
 OBNUC 1H
 EXMOD single_pulse.jxp
 OBFRQ 399.78 MHz
 OBSET 4.19 KHz
 OBFIN 7.29 Hz
 POINT 26214
 FREQU 6002.40 Hz
 SCANS 16
 ACQTM 4.3673 sec
 PD 2.0000 sec
 PW1 3.35 usec
 IRNUC 1H
 CTEMP 22.3 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 1.20 Hz
 RCAIN 34



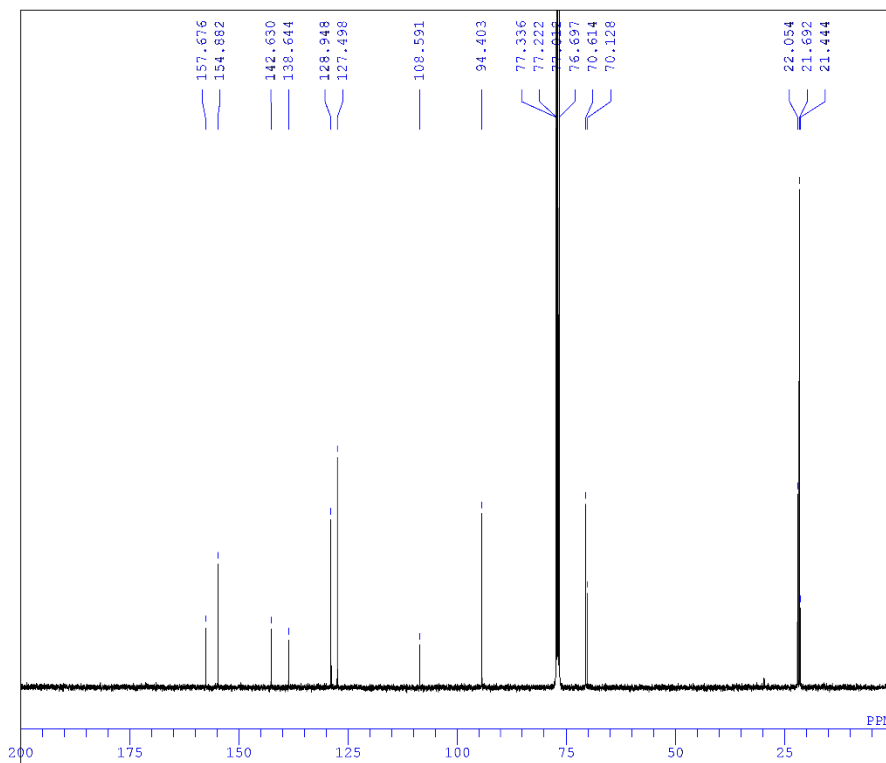
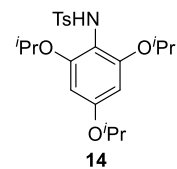
DFILE 1,3,5-(iPrO)3C6H3+F
 COMNT single pulse decoup
 DATIM 2018-03-16 12:38:57
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.53 MHz
 OBSET 5.35 KHz
 OBFIN 5.86 Hz
 POINT 26214
 FREQU 25125.63 Hz
 SCANS 600
 ACQTM 1.0433 sec
 PD 1.7000 sec
 PW1 3.53 usec
 IRNUC 1H
 CTEMP 21.6 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 1.20 Hz
 RCAIN 60

N-Tosyl-2,4,6-triisopropoxyaniline (14)



```

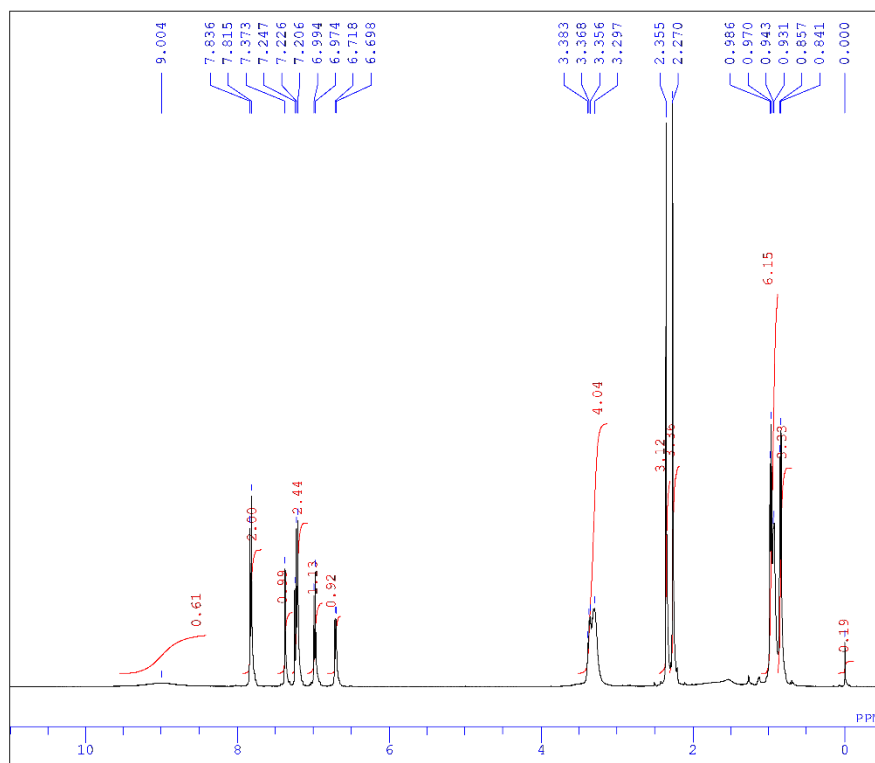
DFILE TN113_E1H-1-1 f.als
COMNT single pulse
DATIM 2018-04-05 14:18:54
OBNUC 1H
EXMOD single_pulse.jxp
OBFRQ 399.78 MHz
OBSET 4.19 KHz
OBFIN 7.29 Hz
POINT 26214
FREQU 6002.40 Hz
SCANS 16
ACQTM 4.3673 sec
PD 2.0000 sec
PW1 3.35 usec
IRNUC 1H
CTEMP 21.3 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.12 Hz
RGAIN 56
    
```



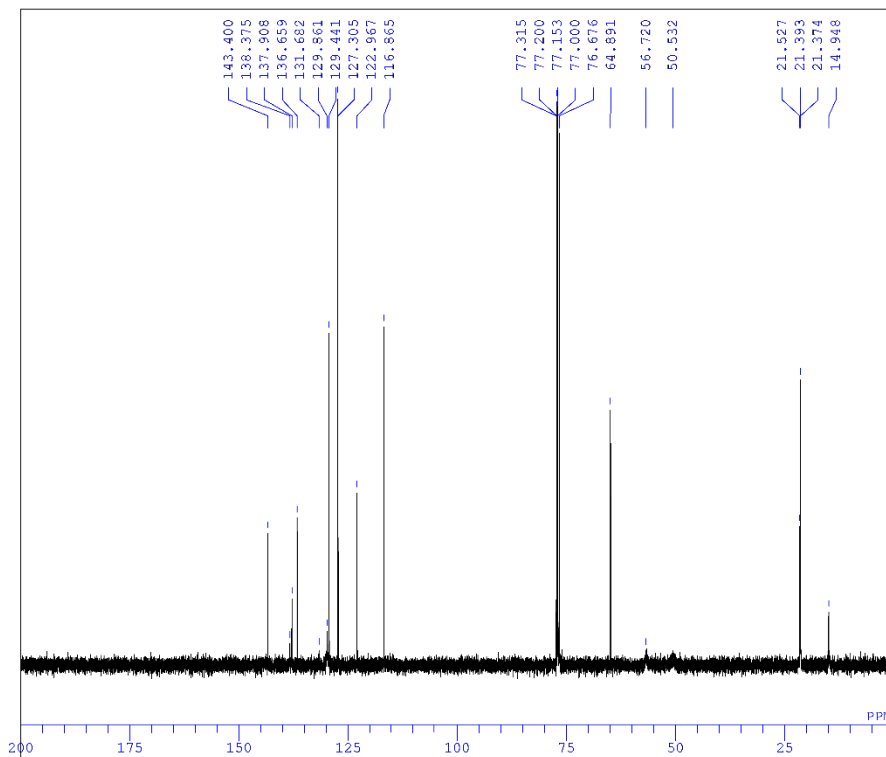
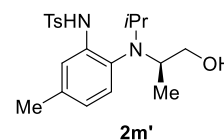
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DFILE TN113_E13C-1-1 f.a
COMNT single_pulse_decoupl
DATIM 2018-04-06 21:13:13
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.53 MHz
OBSET 5.35 KHz
OBFIN 5.86 Hz
POINT 26214
FREQU 25125.63 Hz
SCANS 10000
ACQTM 1.0433 sec
PD 1.7000 sec
PW1 3.53 usec
IRNUC 13C
CTEMP 21.3 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 1.20 Hz
RGAIN 60
    
```

(R)-N-Isopropyl-N-(1-hydroxypropan-2-yl)-2-(tosylamido)-p-toluidine (2m')

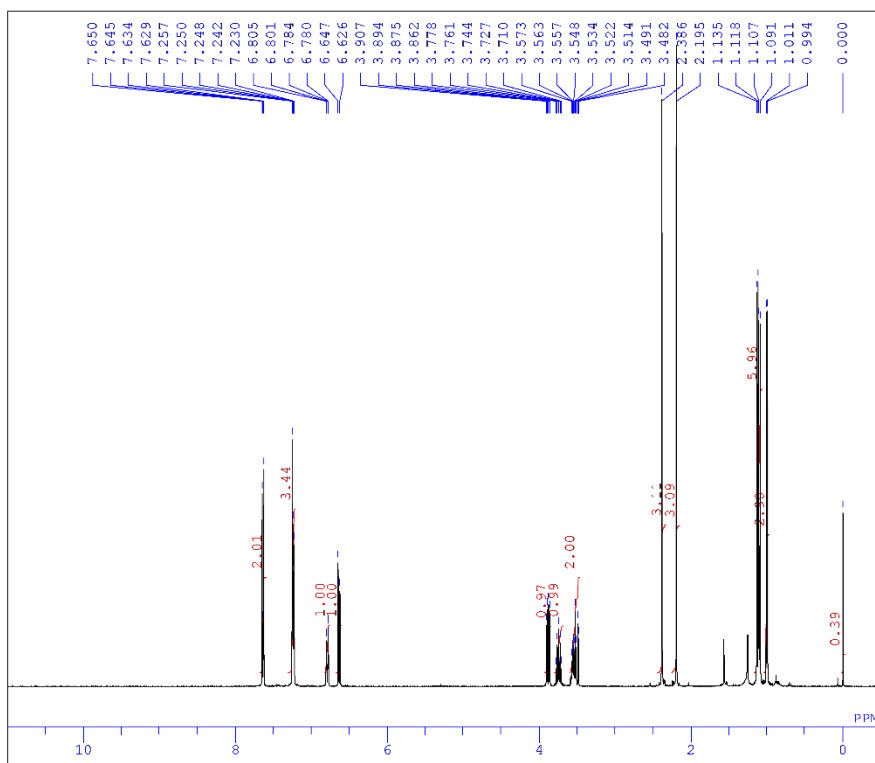


DFILE 4-MeC6H4N(iPr)CH(Me)
 COMNT single pulse
 DATIM 2018-03-19 09:42:01
 OBNUC 1H
 EXMOD single_pulse.jxp
 OBFRQ 399.78 MHz
 OBSET 4.19 KHz
 OBFIN 7.29 Hz
 POINT 26214
 FREQU 6002.40 Hz
 SCANS 16
 ACQTM 4.3673 sec
 PD 2.0000 sec
 PW1 3.35 usec
 IRNUC 1H
 CTEMP 60.0 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.12 Hz
 RCAIN 32

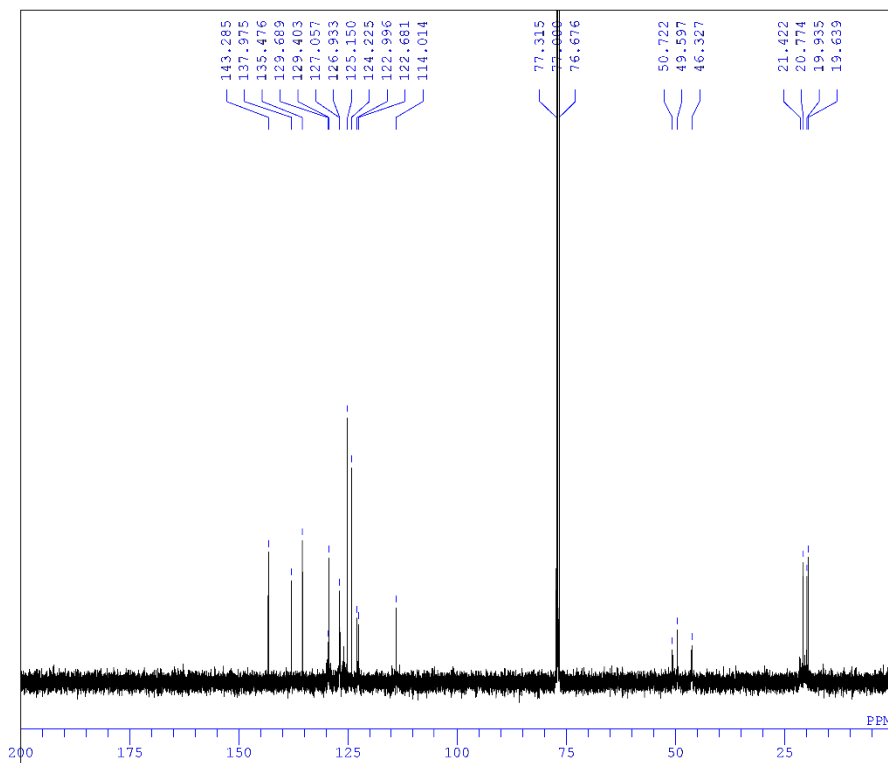
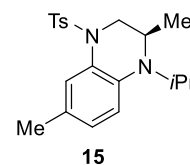


DFILE 4-MeC6H4N(iPr)CH(Me)
 COMNT single_pulse_decoup
 DATIM 2018-03-19 09:44:14
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.53 MHz
 OBSET 5.35 KHz
 OBFIN 5.86 Hz
 POINT 26214
 FREQU 25125.63 Hz
 SCANS 2000
 ACQTM 0.0000 sec
 PD 1.7000 sec
 PW1 3.53 usec
 IRNUC 1H
 CTEMP 60.0 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 0.12 Hz
 RCAIN 60

(R)-1-Isopropyl-2,6-dimethyl-4-tosyl-1,2,3,4-tetrahydroquinoxaline (15)

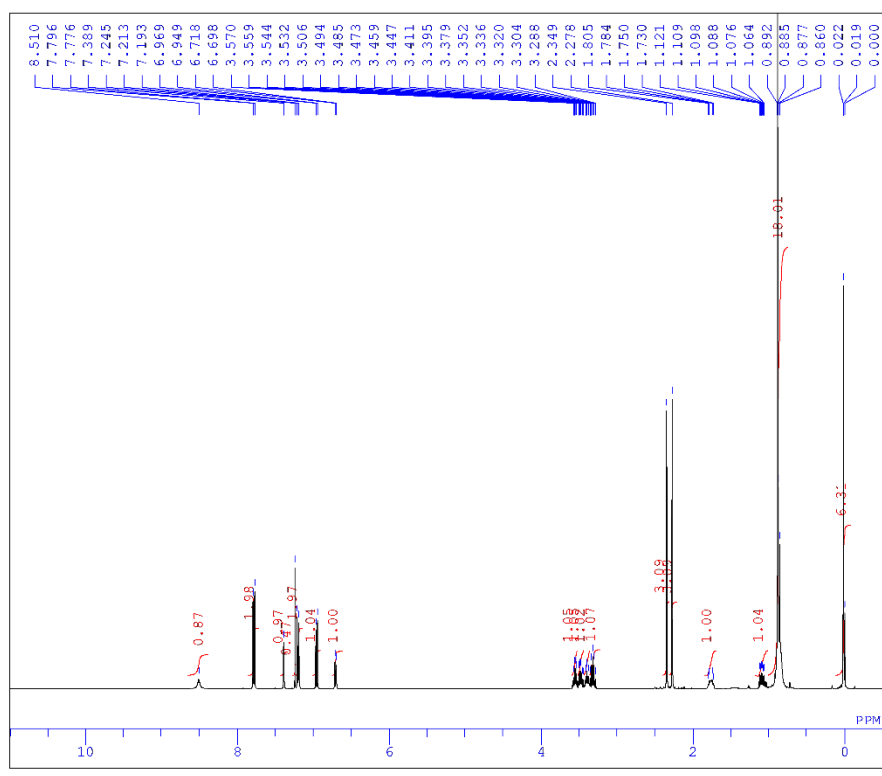


DFTI1E 6membered ring_E1H-
 COMNT single pulse
 DATIM 2018-04-02 11:15:48
 OBNUC 1H
 EXMOD single_pulse.jxp
 OBFRQ 399.78 MHz
 OBSET 4.19 KHz
 OBFIN 7.29 Hz
 POINT 26214
 FREQU 6002.40 Hz
 SCANS 16
 ACQTM 4.3673 sec
 PD 2.0000 sec
 PW1 3.35 usec
 IRNUC 1H
 CTEMP 22.1 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.09 Hz
 RGAIN 50

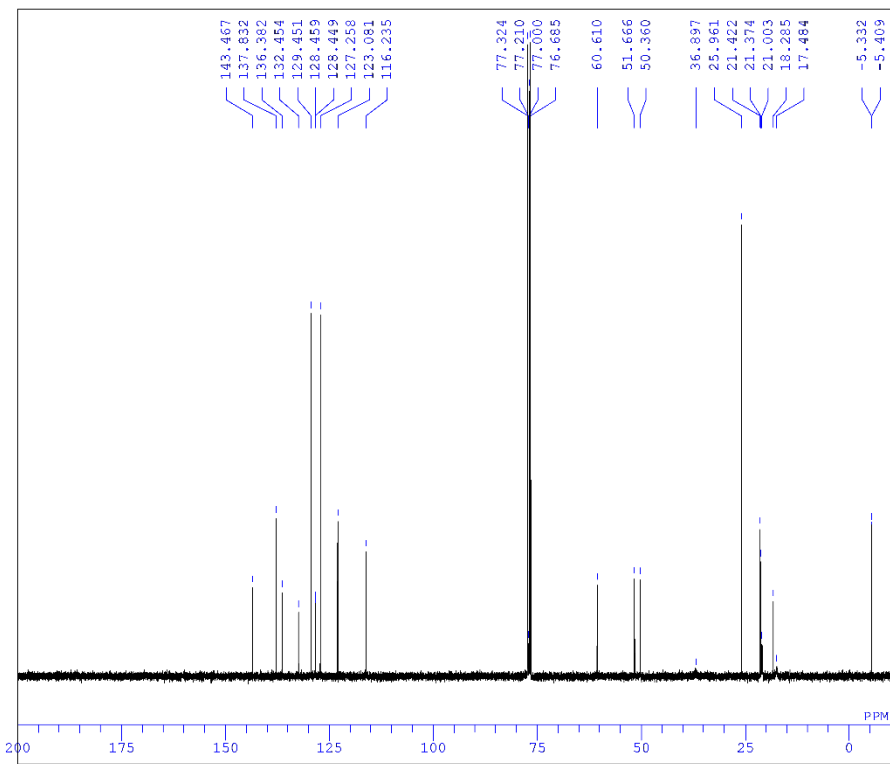
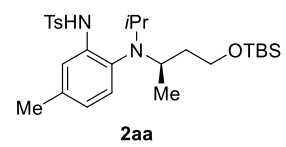


DFTI1E 6membered ring_E13C
 COMNT single_pulse_decoup
 DATIM 2018-04-02 11:17:56
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.53 MHz
 OBSET 5.35 KHz
 OBFIN 5.86 Hz
 POINT 26214
 FREQU 25125.63 Hz
 SCANS 2000
 ACQTM 1.0433 sec
 PD 1.7000 sec
 PW1 3.53 usec
 IRNUC 1H
 CTEMP 21.2 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 0.09 Hz
 RGAIN 60

(R)-N-Isopropyl-N-[4-(tert-butyldimethylsilyloxy)butan-2-yl]-2-(tosylamido)-p-toluidine (2aa)

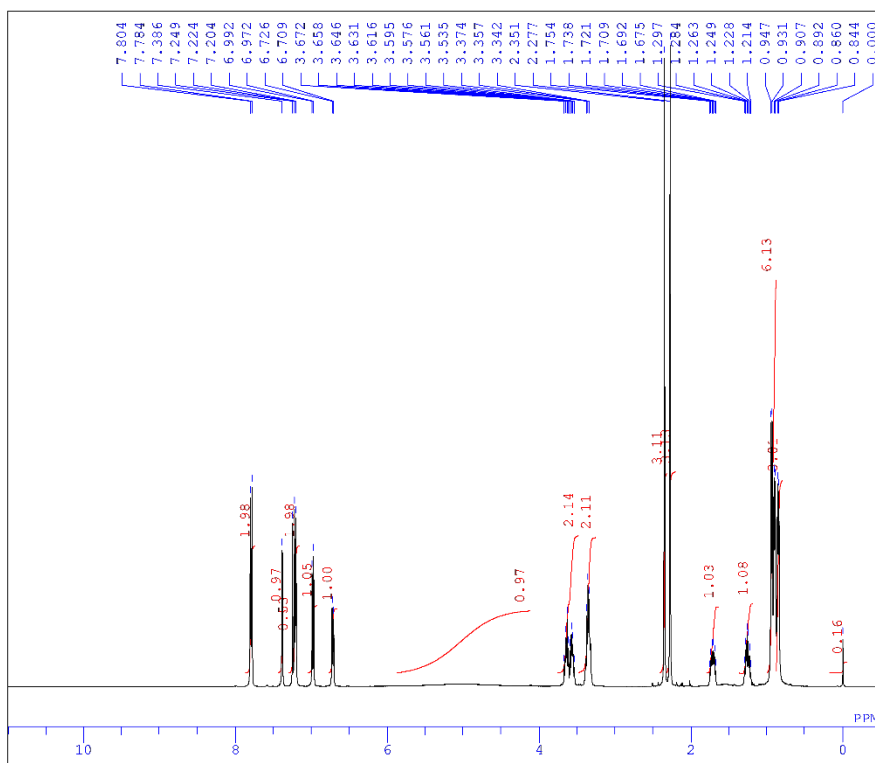


DFILF 4-MeC6H4N(iPr)CH(Me)
 COMNT single pulse
 DATIM 2018-03-19 20:15:59
 OBNUC 1H
 EXMOD single_pulse.jxp
 OBFRQ 399.78 MHz
 OBSET 4.19 KHz
 OBFIN 7.29 Hz
 POINT 26214
 FREQU 6002.40 Hz
 SCANS 16
 ACQTM 4.3673 sec
 PD 2.0000 sec
 PW1 3.35 usec
 IRNUC 1H
 CTEMP 60.0 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.12 Hz
 RCAIN 30

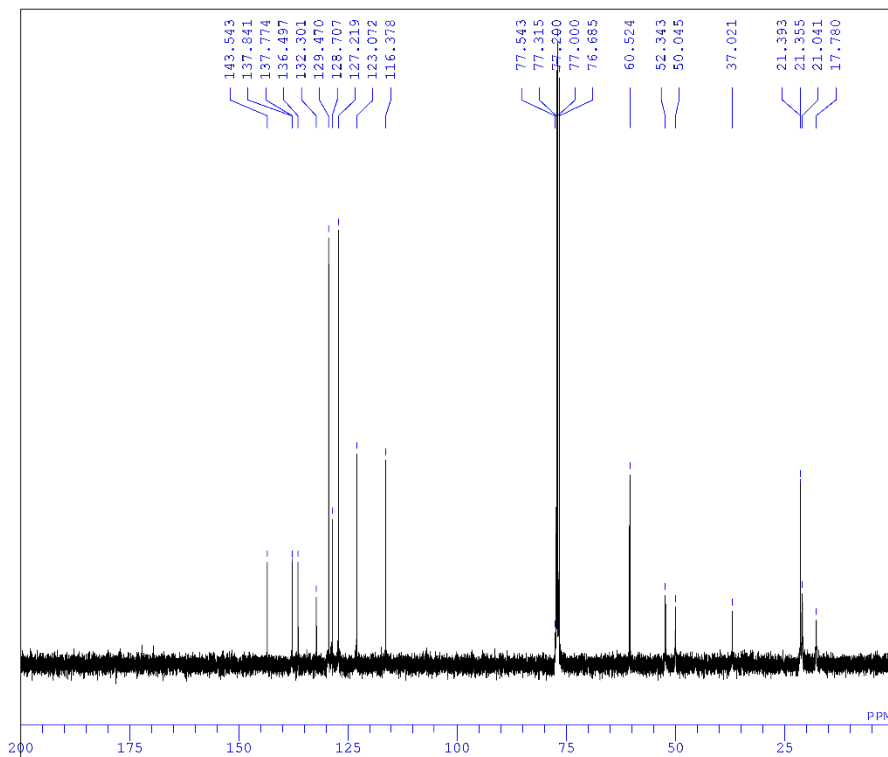
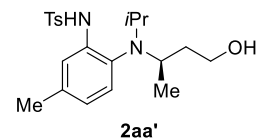


DFILF 4-MeC6H4N(iPr)CH(Me)
 COMNT single_pulse decoup
 DATIM 2018-03-20 11:24:47
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.53 MHz
 OBSET 5.35 KHz
 OBFIN 5.86 Hz
 POINT 26214
 FREQU 25125.63 Hz
 SCANS 2960
 ACQTM 0.0000 sec
 PD 1.7000 sec
 PW1 3.53 usec
 IRNUC 1H
 CTEMP 60.0 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 0.12 Hz
 RCAIN 60

(R)-N-Isopropyl-N-(4-hydroxybutan-2-yl)-2-(tosylamido)-p-toluidine (2aa')

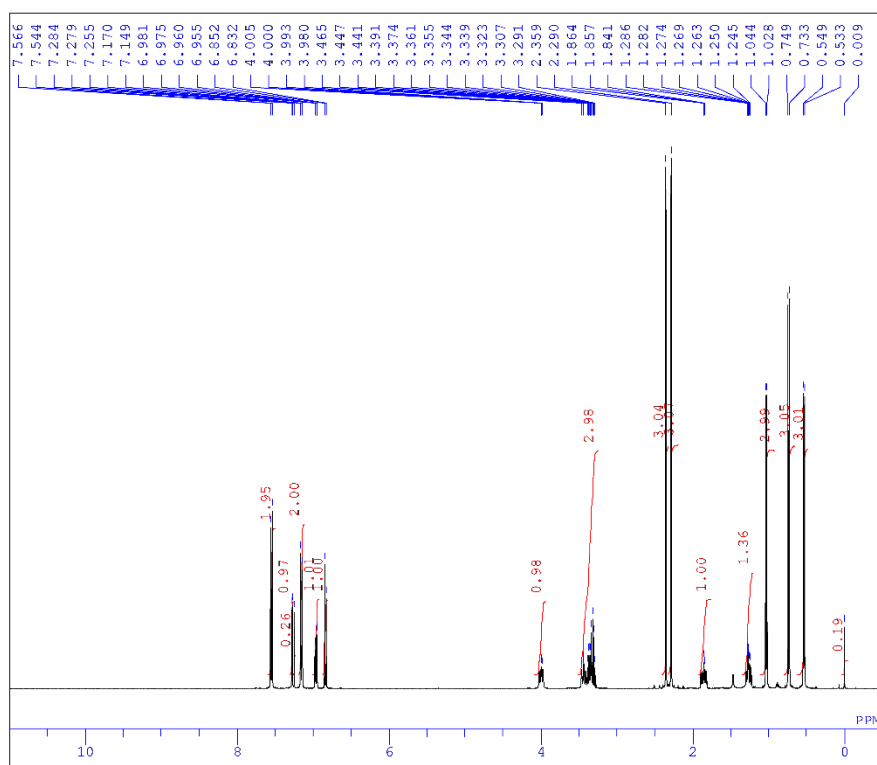


DFILE 4-MeC6H4N(iPr)CH(Me)
 COMNT single pulse
 DATIM 2018-03-20 14:05:10
 OBNUC 1H
 EXMOD single_pulse.jxp
 OBFRQ 399.78 MHz
 OBSET 4.19 KHz
 OBFIN 7.29 Hz
 POINT 26214
 FREQU 6002.40 Hz
 SCANS 16
 ACQTM 4.3673 sec
 PD 2.0000 sec
 PW1 3.35 usec
 IRNUC 1H
 CTEMP 60.0 c
 SLVNT CDCL3
 EXREF 0.00 ppm
 BF 0.12 Hz
 RCAIN 30

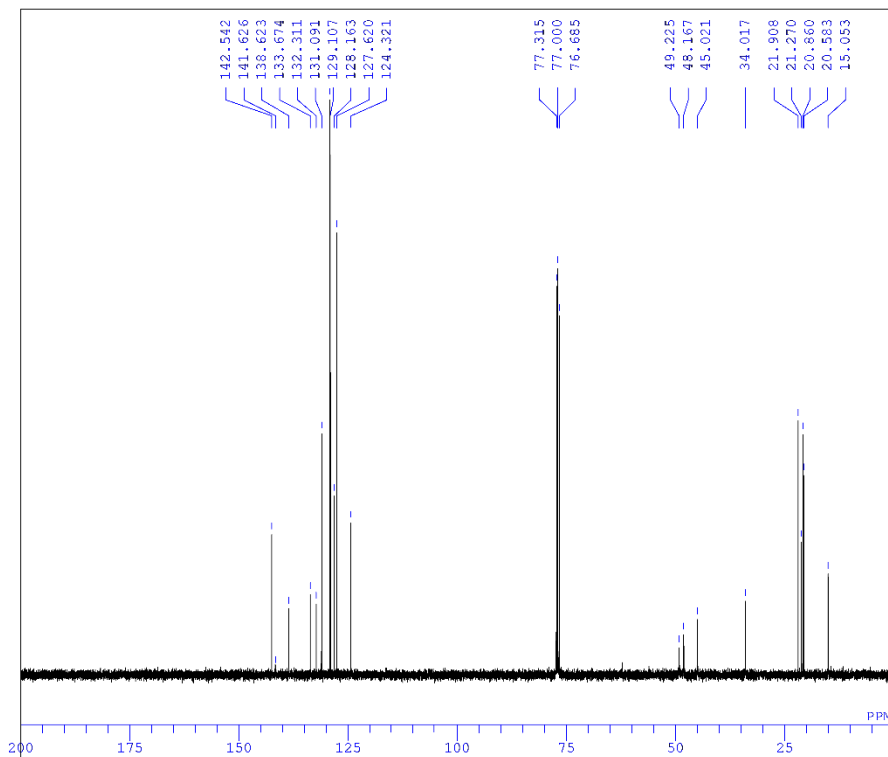
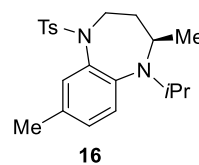


DFILE 4-MeC6H4N(iPr)CH(Me)
 COMNT single_pulse_decoup
 DATIM 2018-03-20 15:51:42
 OBNUC 13C
 EXMOD single_pulse_dec
 OBFRQ 100.53 MHz
 OBSET 5.35 KHz
 OBFIN 5.86 Hz
 POINT 26214
 FREQU 25125.63 Hz
 SCANS 1000
 ACQTM 1.0433 sec
 PD 1.7000 sec
 PW1 3.53 usec
 IRNUC 1H
 CTEMP 60.0 c
 SLVNT CDCL3
 EXREF 77.00 ppm
 BF 0.12 Hz
 RCAIN 60

(R)-1-Isopropyl-2,7-dimethyl-5-tosyl-2,3,4,5-tetrahydro-1H-benzo[b][1,4]diazepine (16)



DFIIE 7membered ring_E1H-
COMNT single pulse
DATIM 2018-04-02 11:08:50
OBNUC 1H
EXMOD single_pulse.jxp
OBFRQ 399.78 MHz
OBSET 4.19 KHz
OBFIN 7.29 Hz
POINT 26214
FREQU 6002.40 Hz
SCANS 16
ACQTM 4.3673 sec
PD 2.0000 sec
PW1 3.35 usec
IRNUC 1H
CTEMP 60.0 c
SLVNT CDCL3
EXREF 0.00 ppm
BF 0.09 Hz
RCAIN 44



DFIIE 7-membered ring_E13
COMNT single pulse decoup
DATIM 2018-03-19 19:12:38
OBNUC 13C
EXMOD single_pulse_dec
OBFRQ 100.53 MHz
OBSET 5.35 KHz
OBFIN 5.86 Hz
POINT 26214
FREQU 25125.63 Hz
SCANS 1000
ACQTM 0.0000 sec
PD 1.7000 sec
PW1 3.53 usec
IRNUC 1H
CTEMP 60.0 c
SLVNT CDCL3
EXREF 77.00 ppm
BF 0.12 Hz
RCAIN 60