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Supporting Information

Nano-dispersed platinum(0) in organically modified silicate matrices as sustainable catalysts for a regioselective hydrosilylation of alkenes and alkynes

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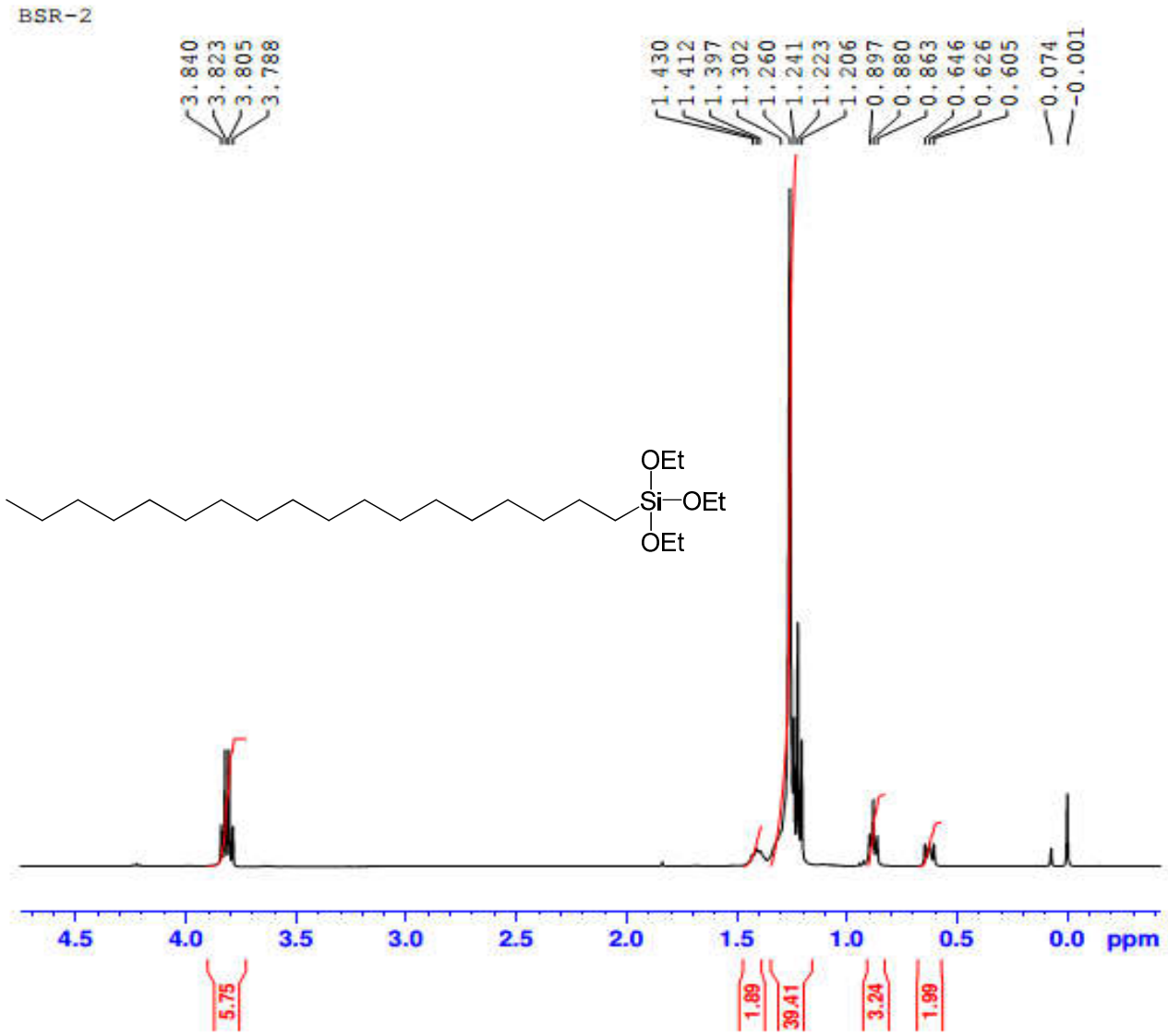
Triethoxy(octadecyl)silane (**1**)– ^{1}H-NMR ($CDCl_3$, 400 MHz)



BRUKER

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NAME                  BSR-2
EXPNO                     1
PROCNO                    1

F2 - Acquisition Parameters
Date_              20160715
Time                  8.58
INSTRUM              spect
PROBHD    5 mm PABBO BB/
PULPROG               zg30
TD                   65536
SOLVENT              CDCl3
NS                       16
DS                        2
SWH                8012.820 Hz
FIDRES                0.122266 Hz
AQ                 4.0894465 sec
RG                    10.19
DW                    62.400 usec
DE                     6.50 usec
TE                   300.0 K
D1                 1.00000000 sec
TD0                       1

======== CHANNEL f1 ========
SFO1             400.1324710 MHz
NUC1                     1H
P1                    13.74 usec
PLW1              12.00000000 W

F2 - Processing parameters
SI                    65536
SF               400.1300009 MHz
WDW                      EM
SSB          0
LB                     0.30 Hz
GB           0
PC                     1.00
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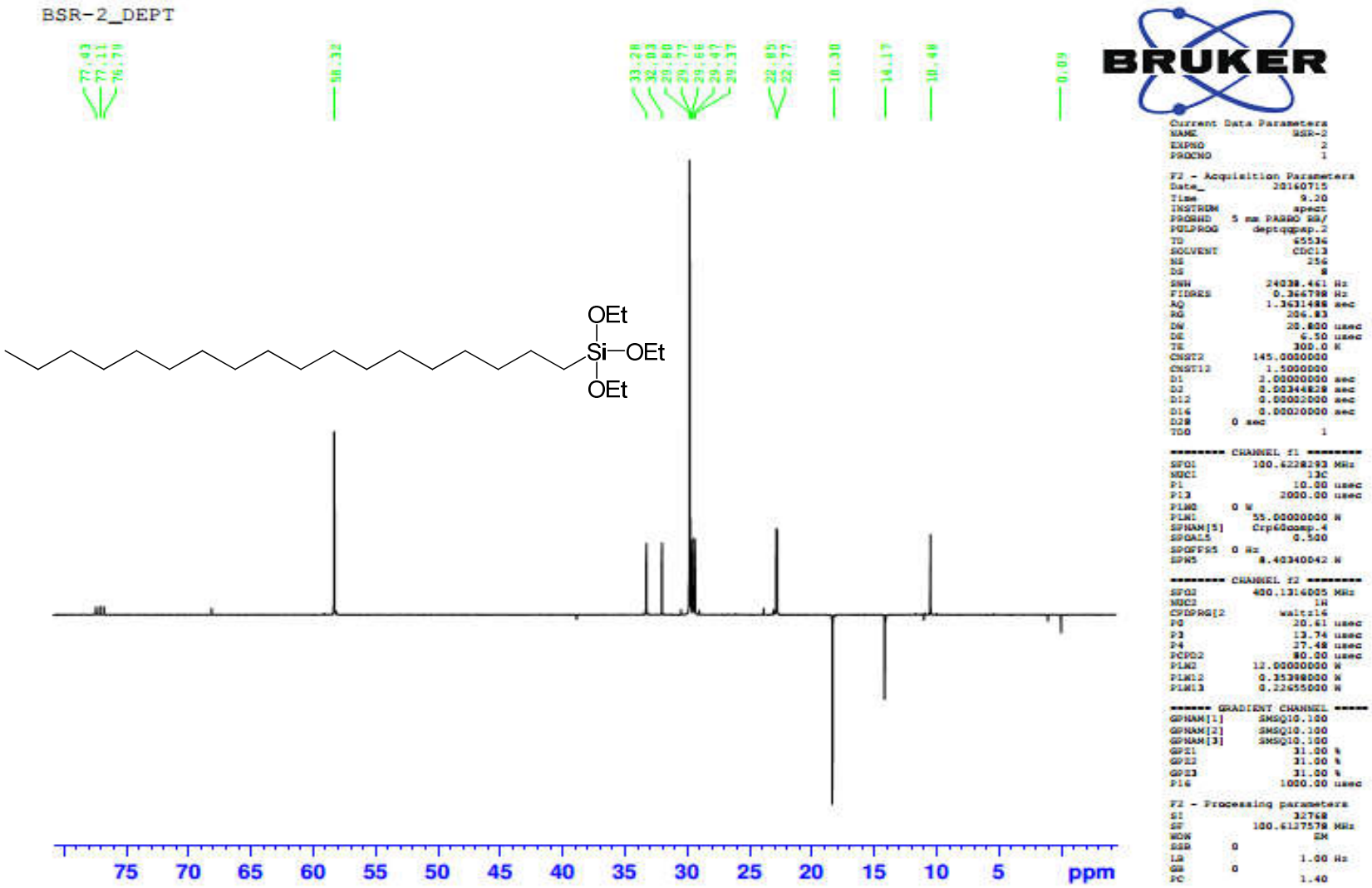
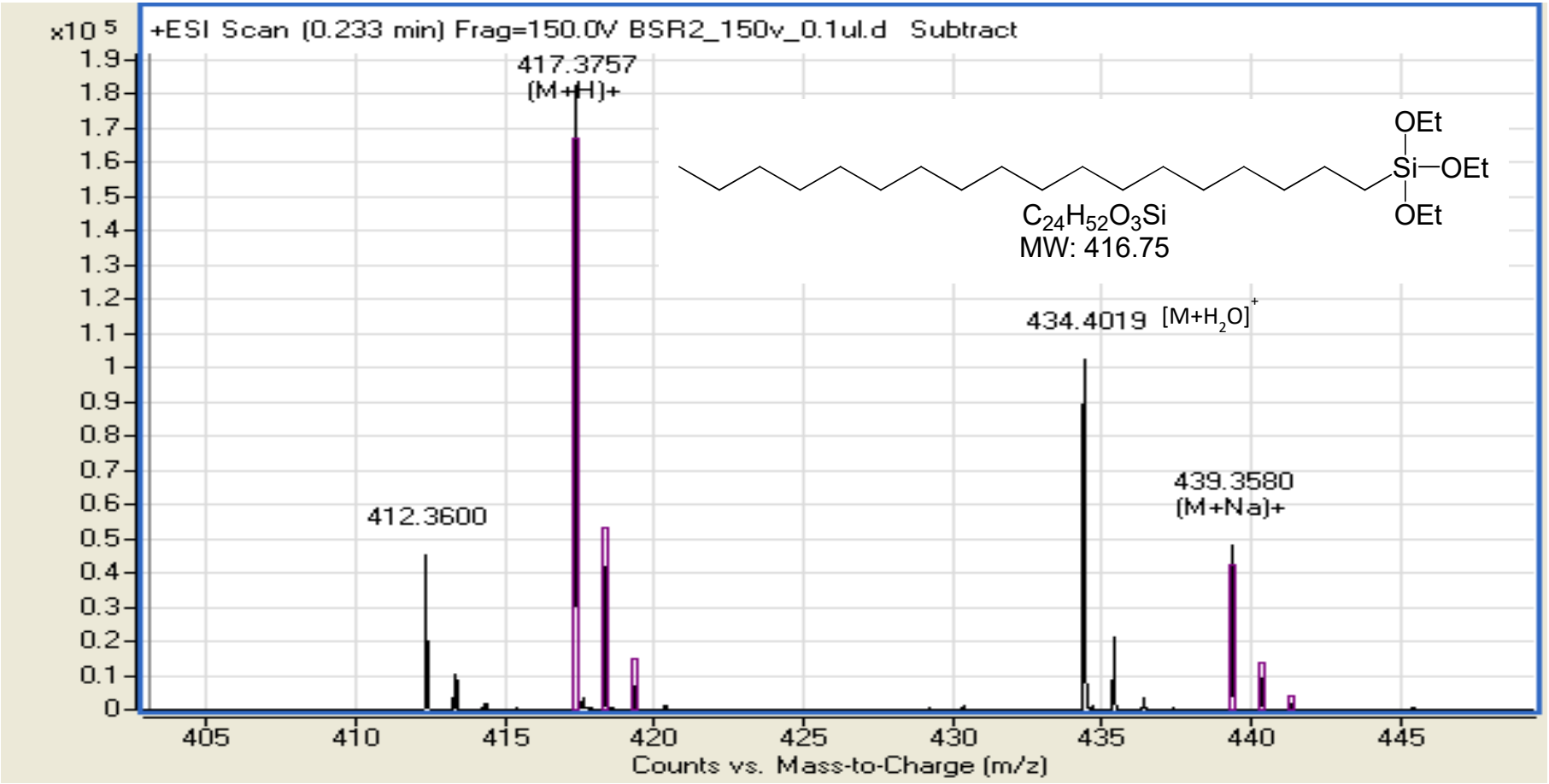
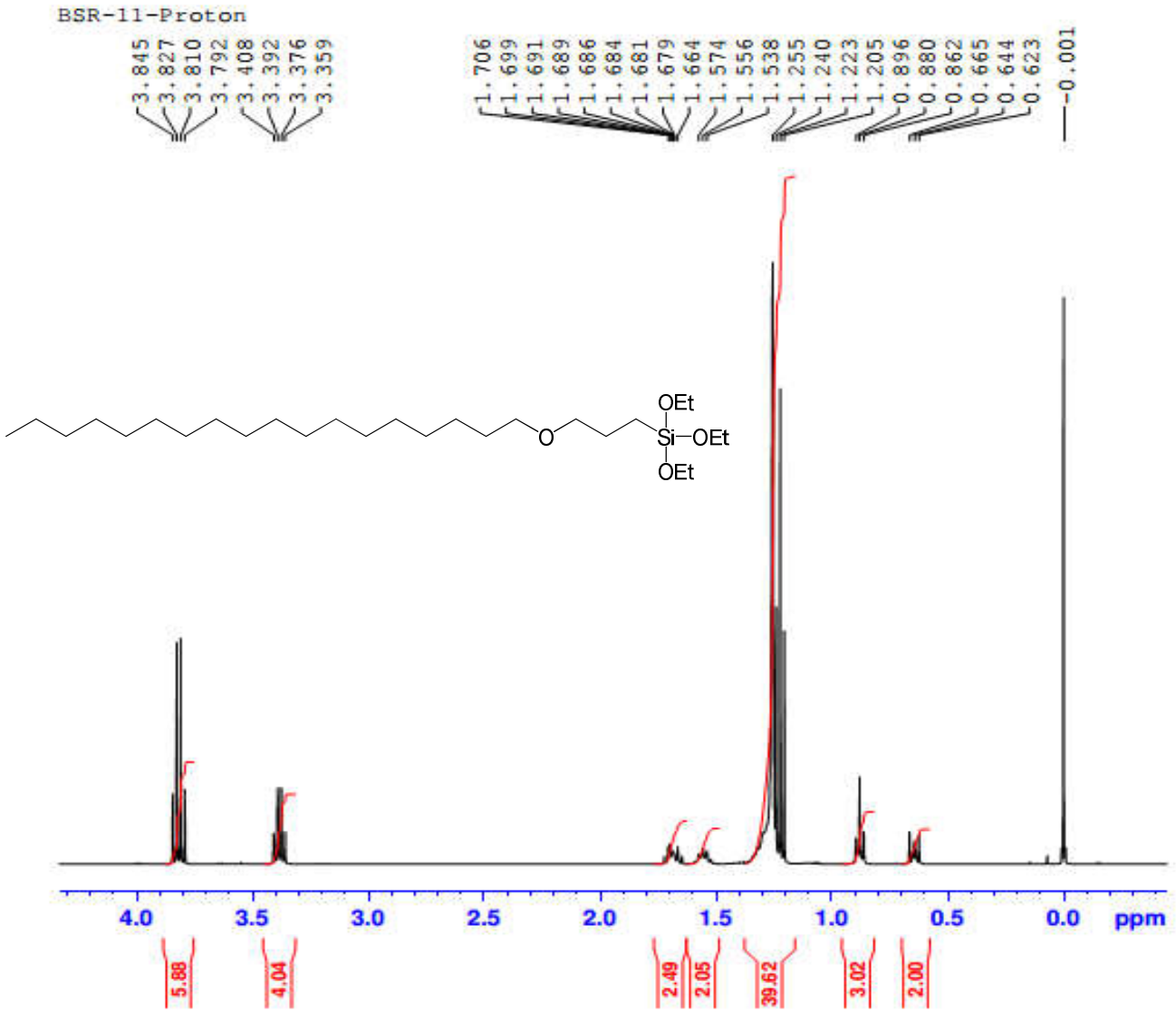
Triethoxy(octadecyl)silane (**1**) – ^{13}C-NMR ($CDCl_3$, 100 MHz)



Triethoxy(octadecyl)silane (**1**) – HR-ESIMS $[M+H]^+$ Calculated 417.3758; Observed 417.3757



Triethoxy[3-(octadecyloxy)propyl]silane (**2**) – ^{1}H-NMR ($CDCl_3$, 400 MHz)



BRUKER

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EXPNO                      1
PROCNO                     1

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Date_              20160819
Time                   9.24
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PROBHD    5 mm PABBO BB/
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH                8012.820 Hz
FIDRES            0.122266 Hz
AQ                4.0894465 sec
RG                    32.86
DW                   62.400 usec
DE                    6.50 usec
TE                   300.0 K
D1              1.00000000 sec
TD0                        1

======== CHANNEL f1 ========
SFO1           400.1324710 MHz
NUC1                     1H
P1                    13.74 usec
PLW1           12.00000000 W

F2 - Processing parameters
SI                    65536
SF             400.1300066 MHz
WDW                      no
SSB       0
LB        0 Hz
GB        0
PC                    1.00
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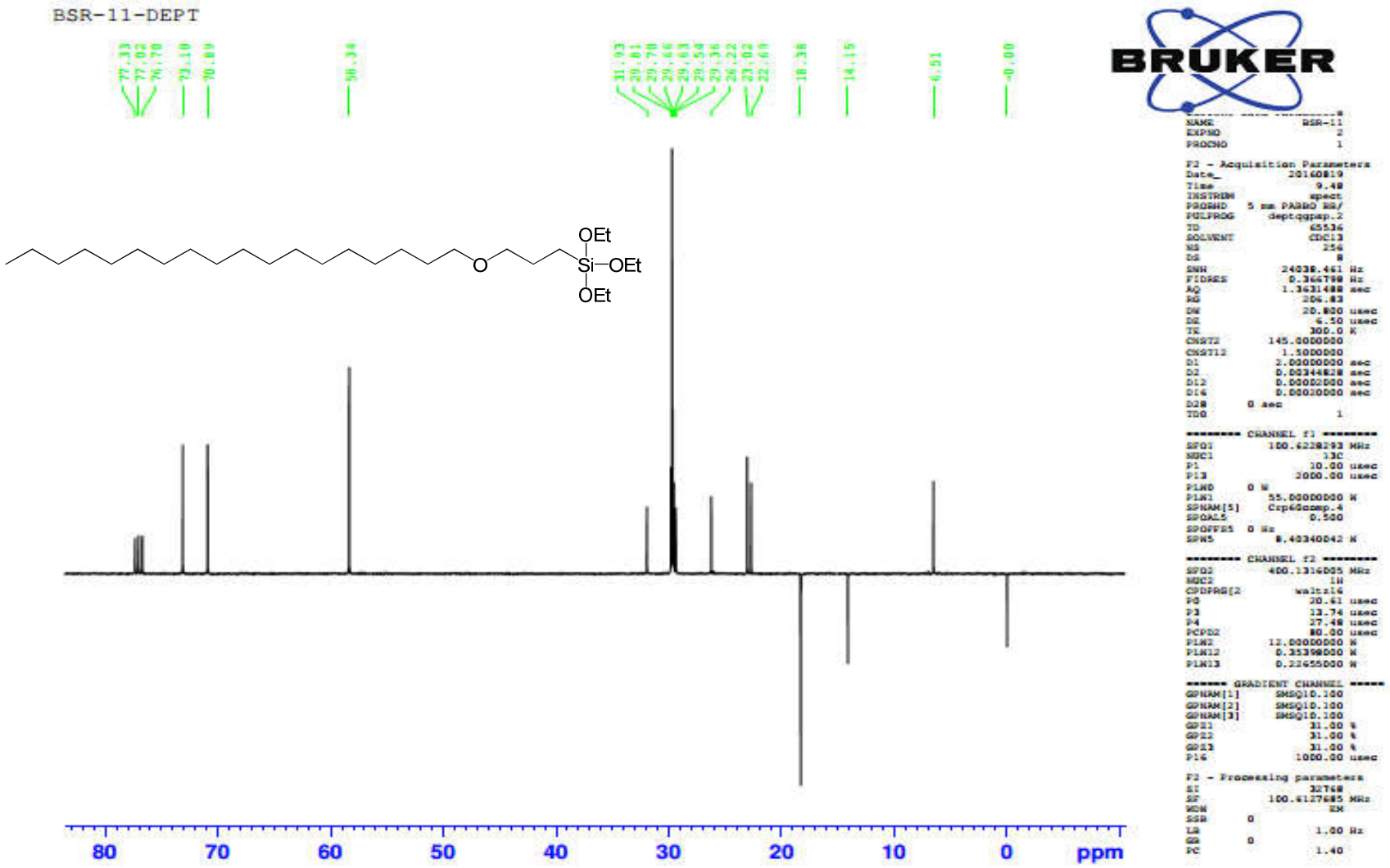
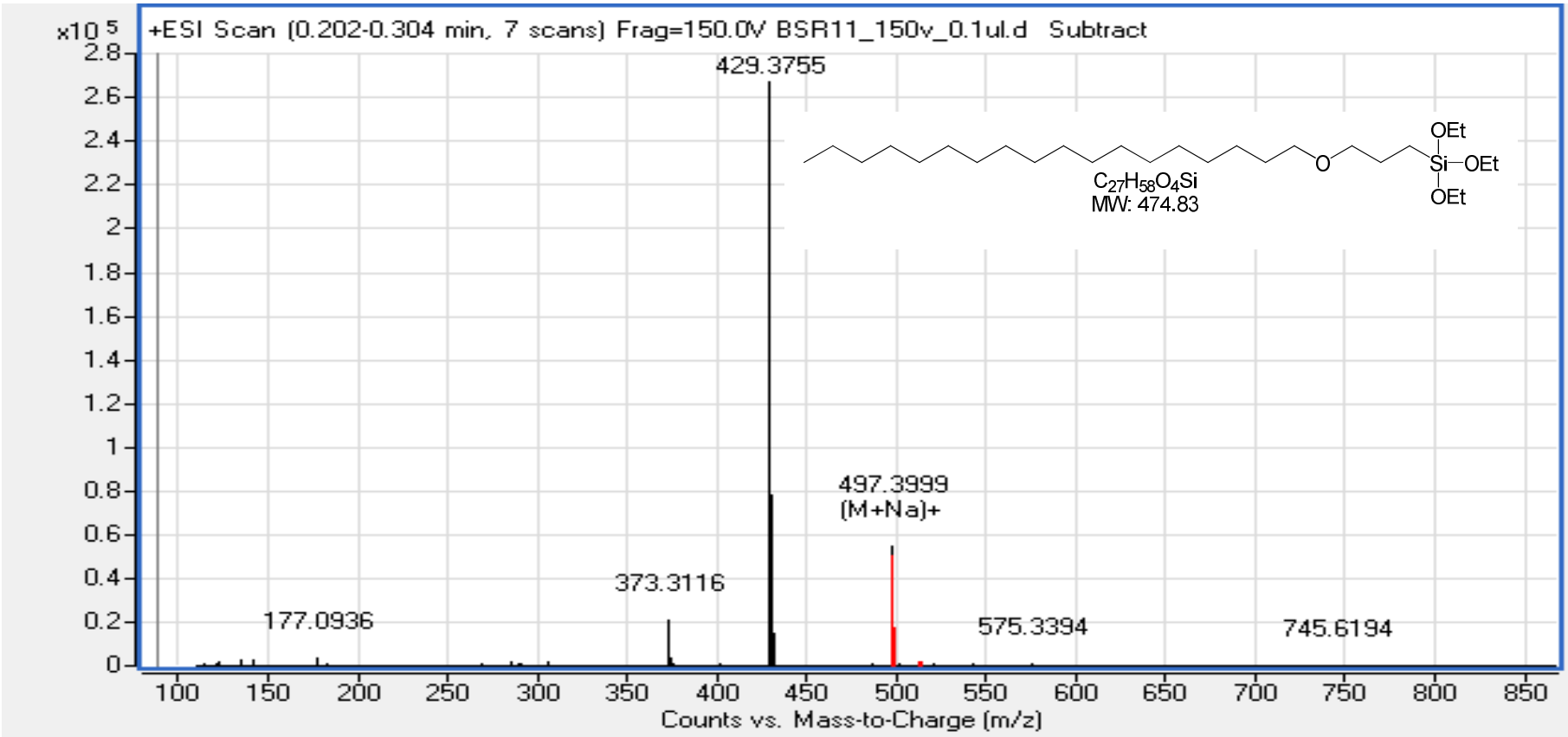
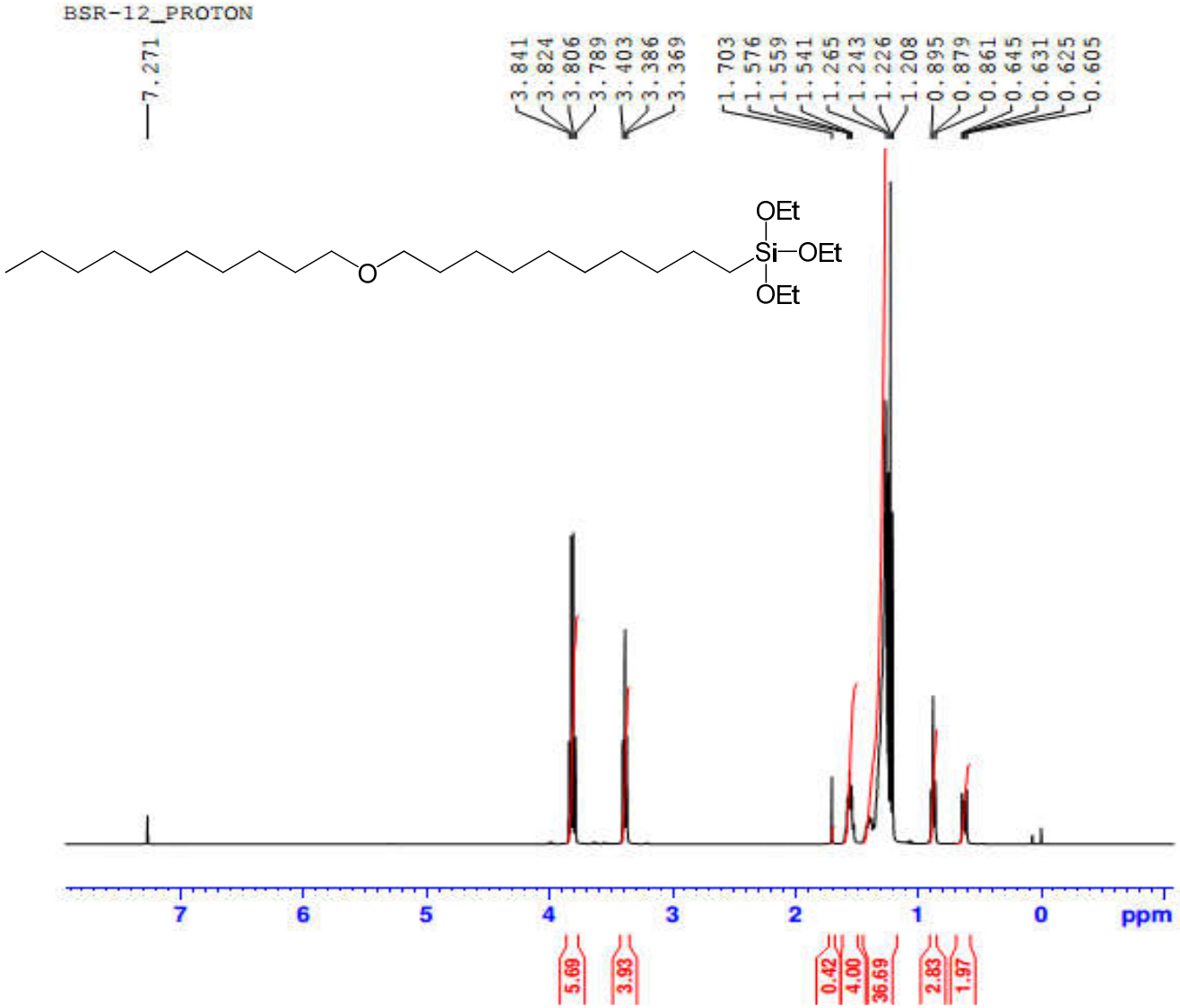
Triethoxy[3-(octadecyloxy)propyl]silane (**2**) – ^{13}C-NMR ($CDCl_3$, 100 MHz)



Triethoxy[3-(octadecyloxy)propyl]silane (**2**) – HR-ESIMS $[M+Na]^+$ Calculated 497.3997; Observed 497.3999.



[10-(Decyloxy)decyl]triethoxysilane (**3**) – ^{1}H-NMR ($CDCl_3$, 400 MHz)



BRUKER

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EXPNO                     12
PROCNO                     1

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Time                   15.55
INSTRUM                spect
PROBHD    5 mm PABBO BB/
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH                8012.820 Hz
FIDRES             0.122266 Hz
AQ                 4.0894465 sec
RG                     32.86
DW                    62.400 usec
DE                     6.50 usec
TE                    300.1 K
D1                 1.00000000 sec
TD0                        1

======== CHANNEL f1 ========
SFO1          400.1324710 MHz
NUC1                      1H
P1                    13.74 usec
PLW1          12.00000000 W

F2 - Processing parameters
SI                    65536
SF            400.1300052 MHz
WDW                      EM
SSB                   0
LB                    0.30 Hz
GB                    0
PC                    1.00
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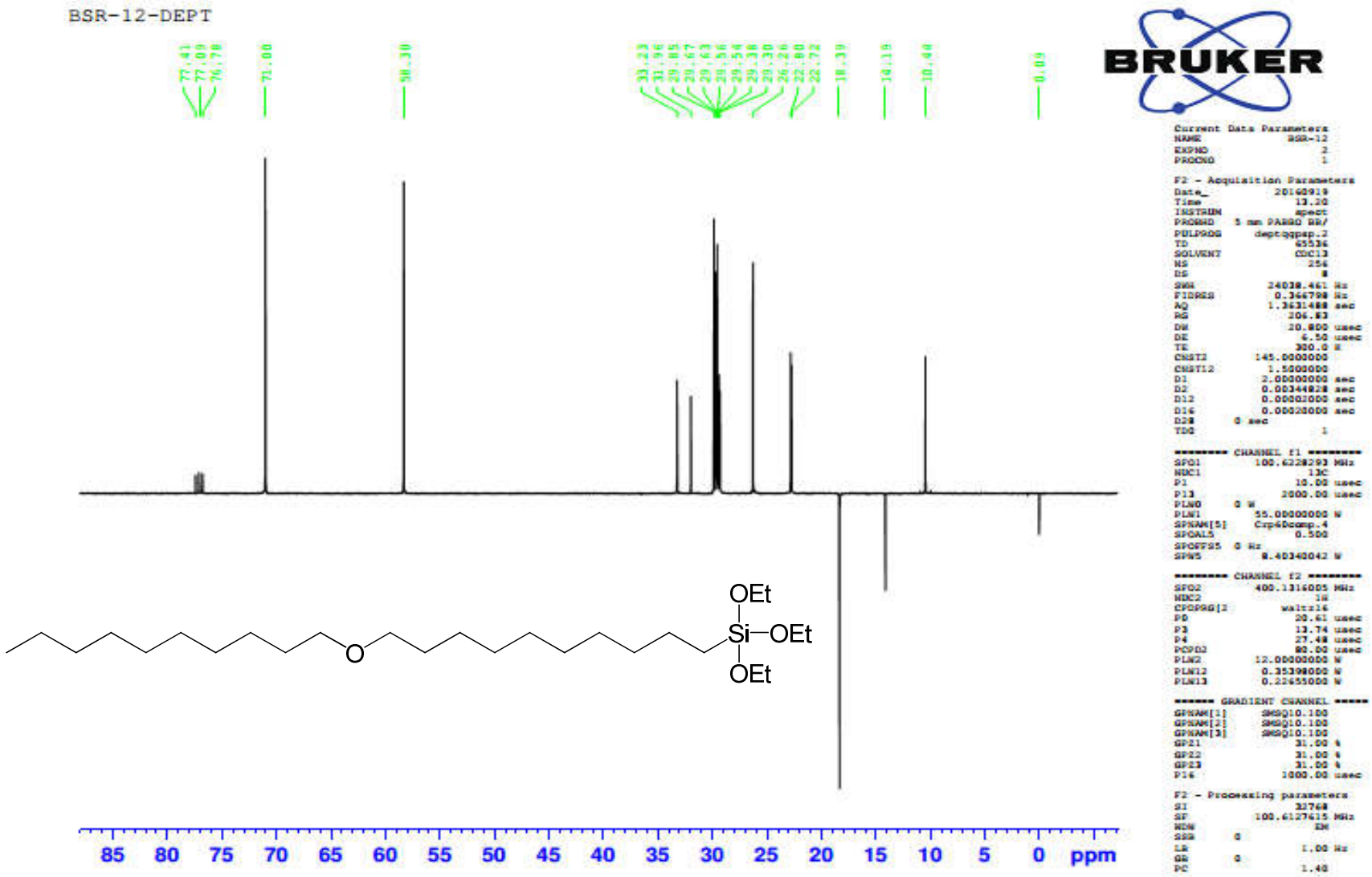
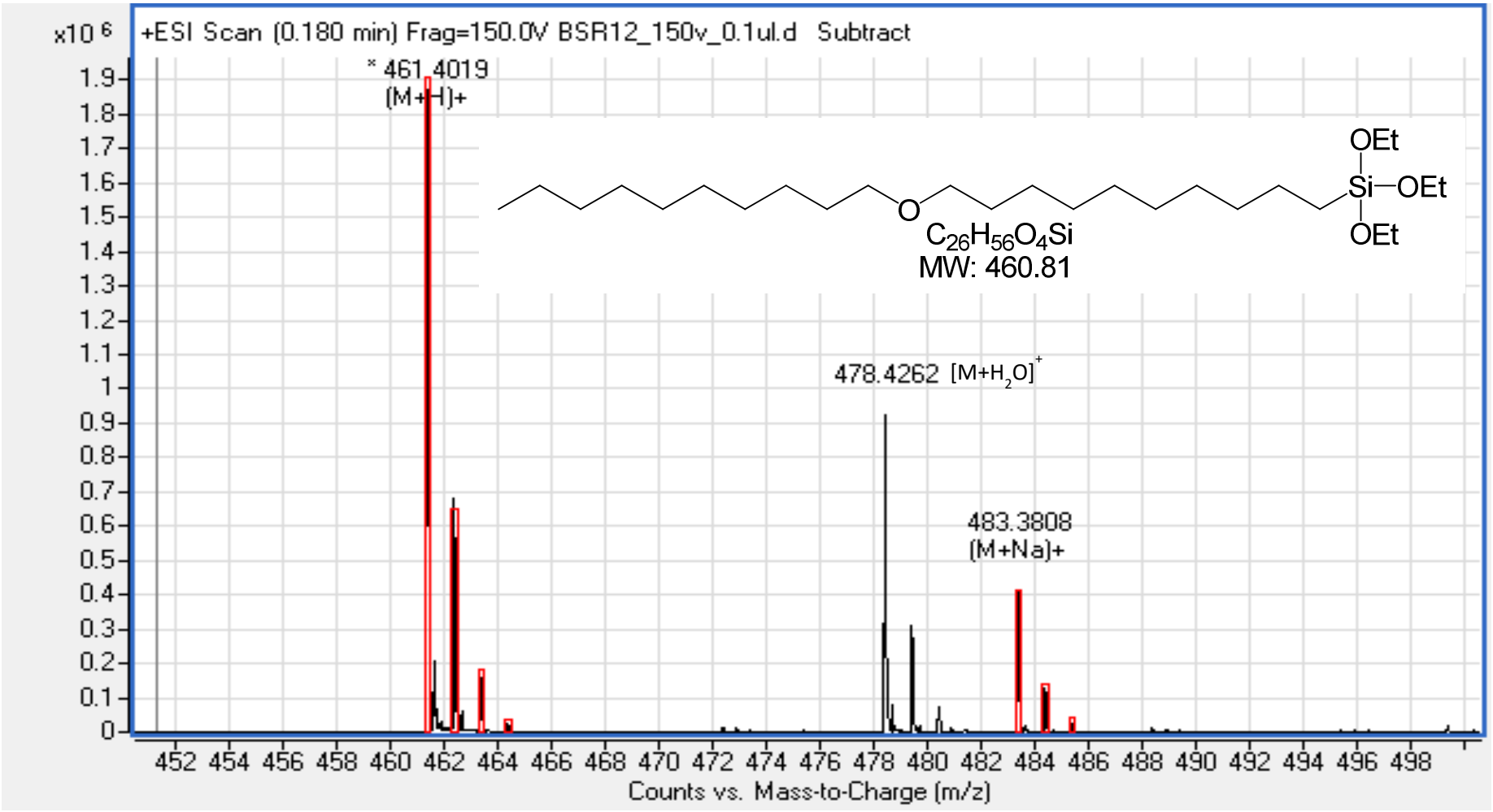
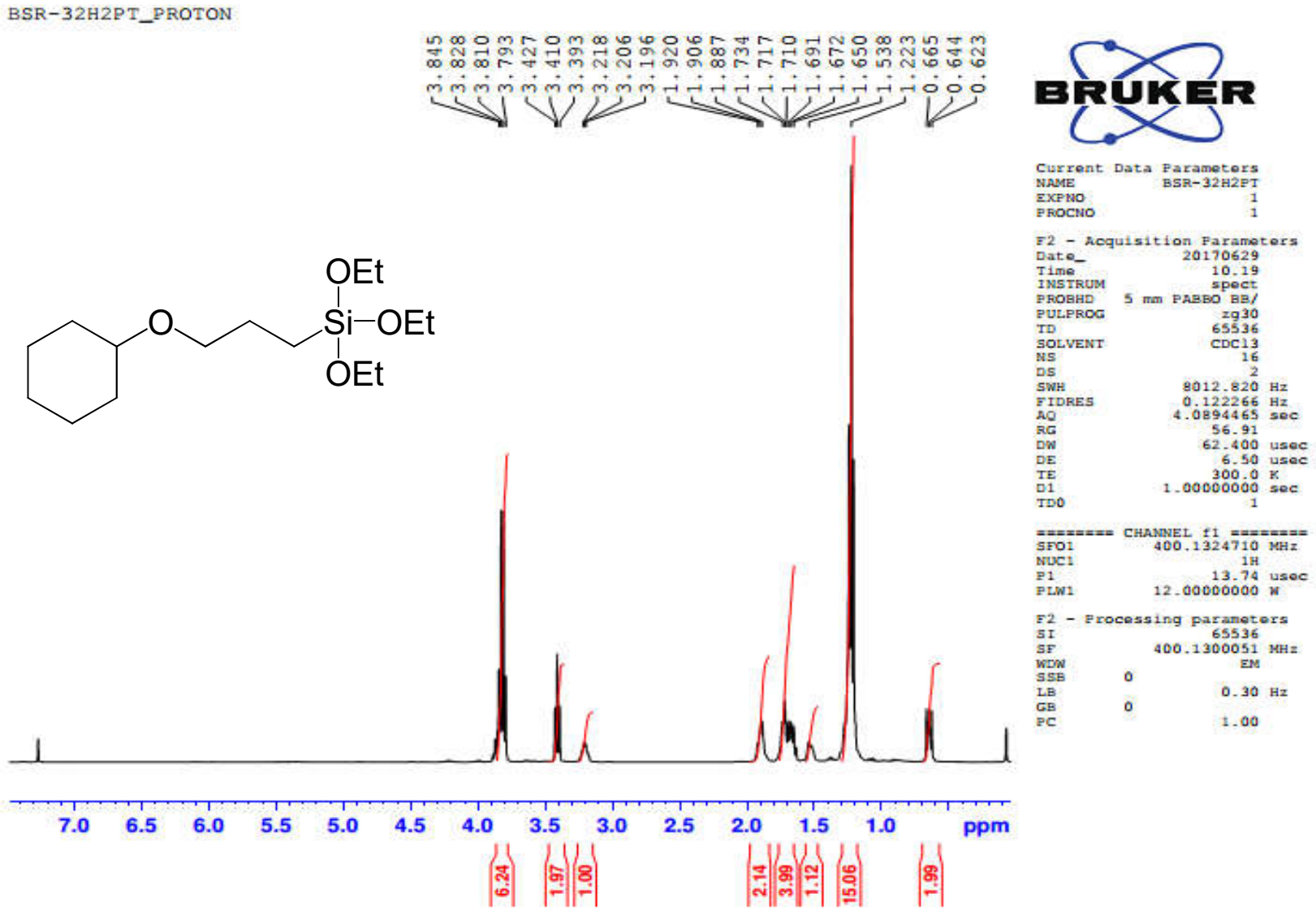
[10-(Decyloxy)decyl]triethoxysilane (**3**) – ^{13}C-NMR ($CDCl_3$, 100 MHz)



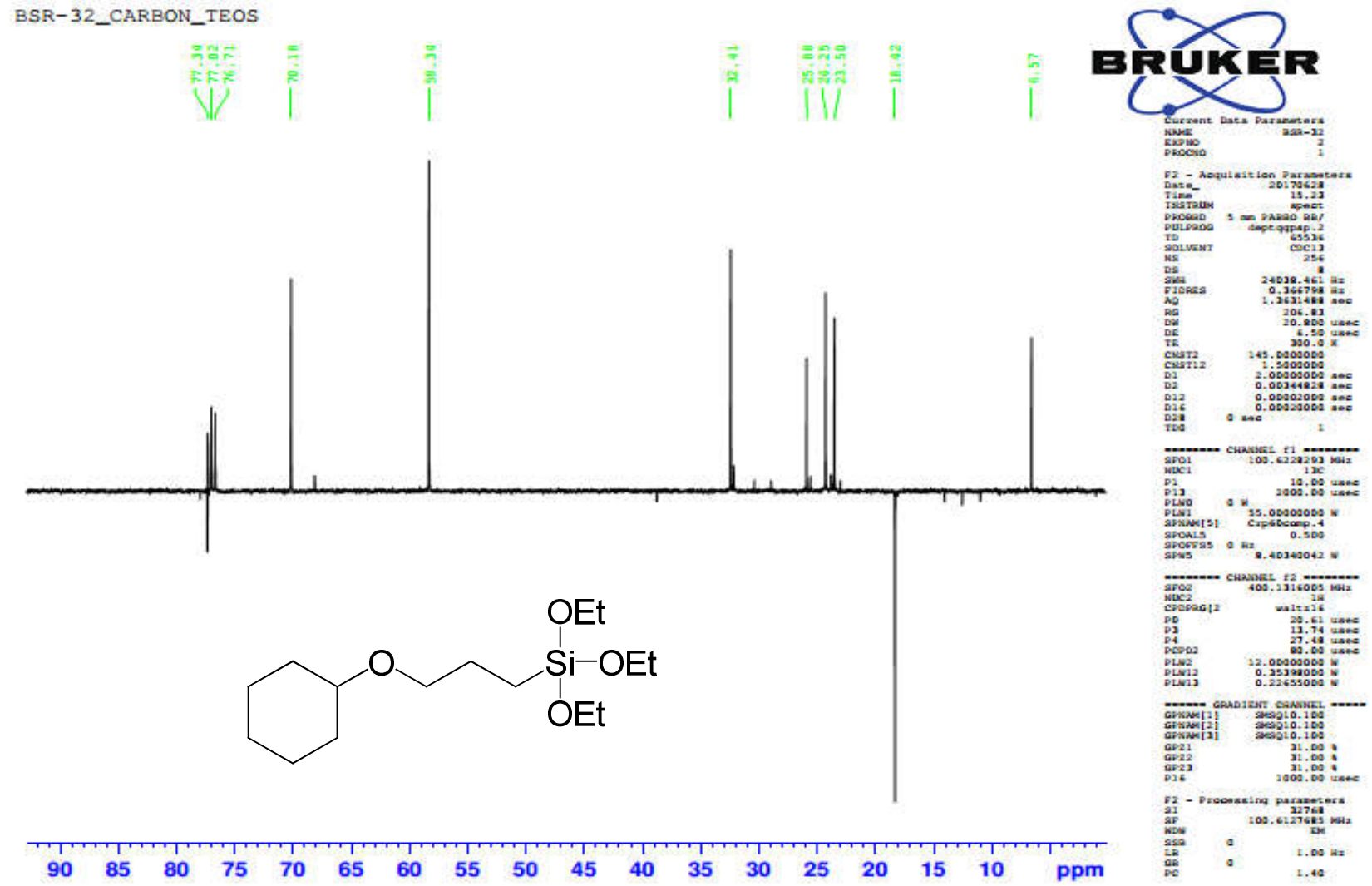
[10-(Decyloxy)decyl]triethoxysilane (**3**) – HR-ESIMS $[M+H]^+$ Calculated 461.4021; Observed 461.4019.



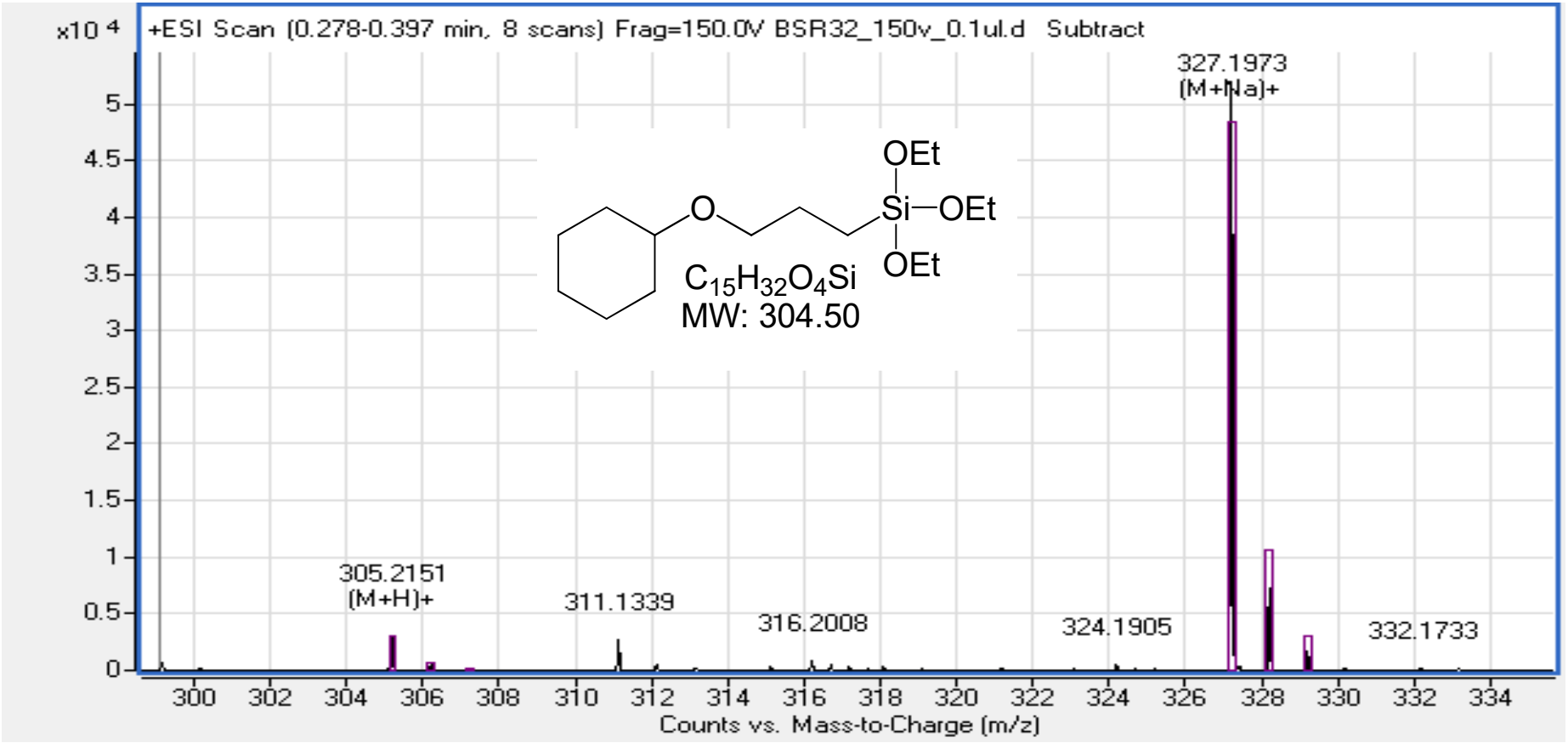
[3-(cyclohexyloxy)propyl]triethoxysilane (**4**) – ^{1}H-NMR ($CDCl_3$, 400 MHz)



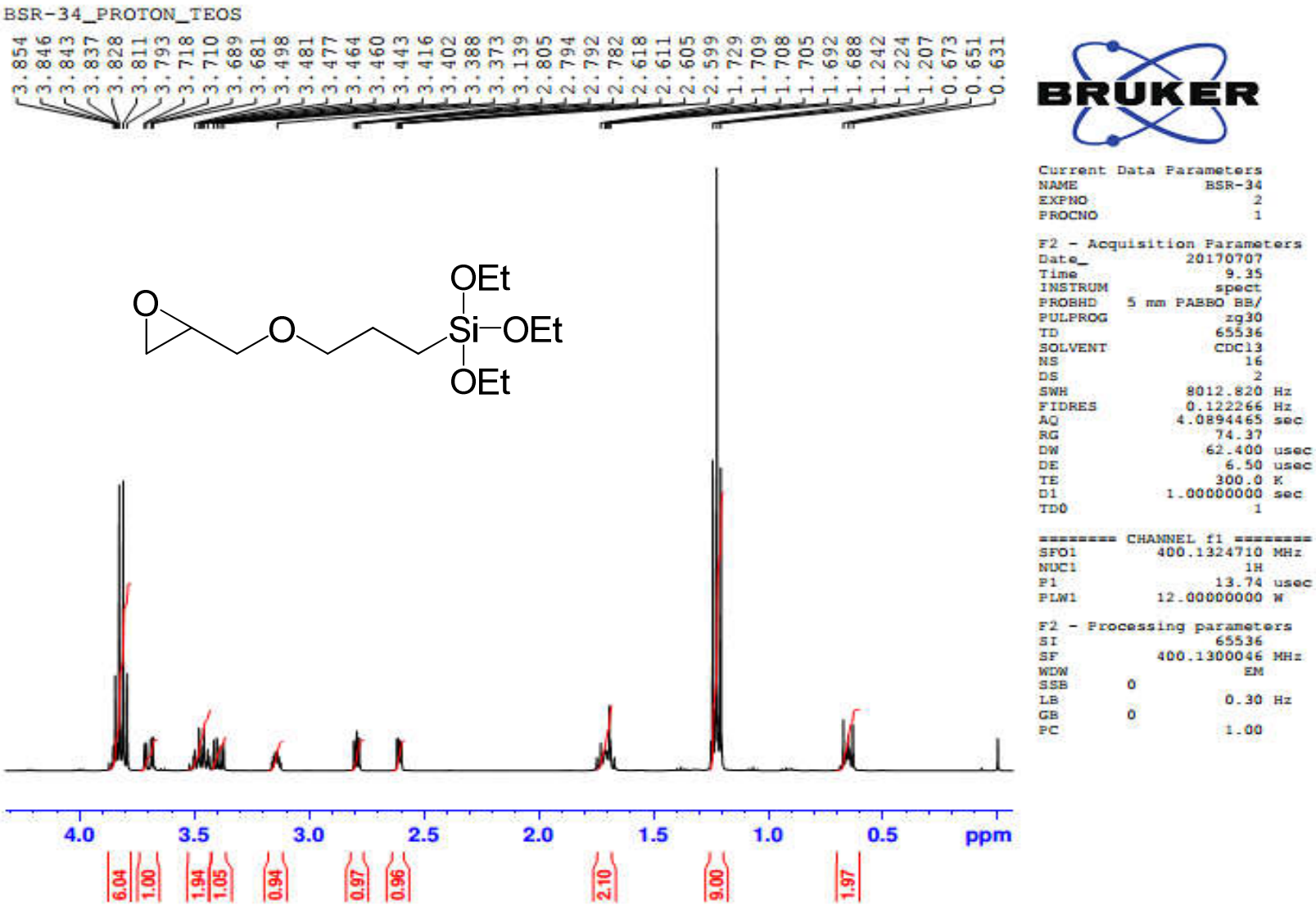
[3-(cyclohexyloxy)propyl]triethoxysilane (**4**) – ^{13}C-NMR ($CDCl_3$, 100 MHz)



[3-(cyclohexyloxy)propyl]triethoxysilane (**4**) – HR-ESIMS $[M+Na]^+$ Calculated 327.1962; Observed 327.1973.



4-[3-(triethoxysilyl)propoxy]piperidine (**5**) – ^{1}H-NMR ($CDCl_3$, 400 MHz)

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Current Data Parameters
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EXPNO                      2
PROCNO                     1

F2 - Acquisition Parameters
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Time                   9.35
INSTRUM               spect
PROBHD    5 mm PABBO BB/
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH                8012.820 Hz
FIDRES            0.122266 Hz
AQ                4.0894465 sec
RG                    74.37
DW                   62.400 usec
DE                    6.50 usec
TE                   300.0 K
D1                1.00000000 sec
TD0                        1

======== CHANNEL f1 ========
SFO1          400.1324710 MHz
NUC1                     1H
P1                    13.74 usec
PLW1          12.00000000 W

F2 - Processing parameters
SI                    65536
SF            400.1300046 MHz
WDW                      EM
SSB                   0
LB                    0.30 Hz
GB                    0
PC                    1.00
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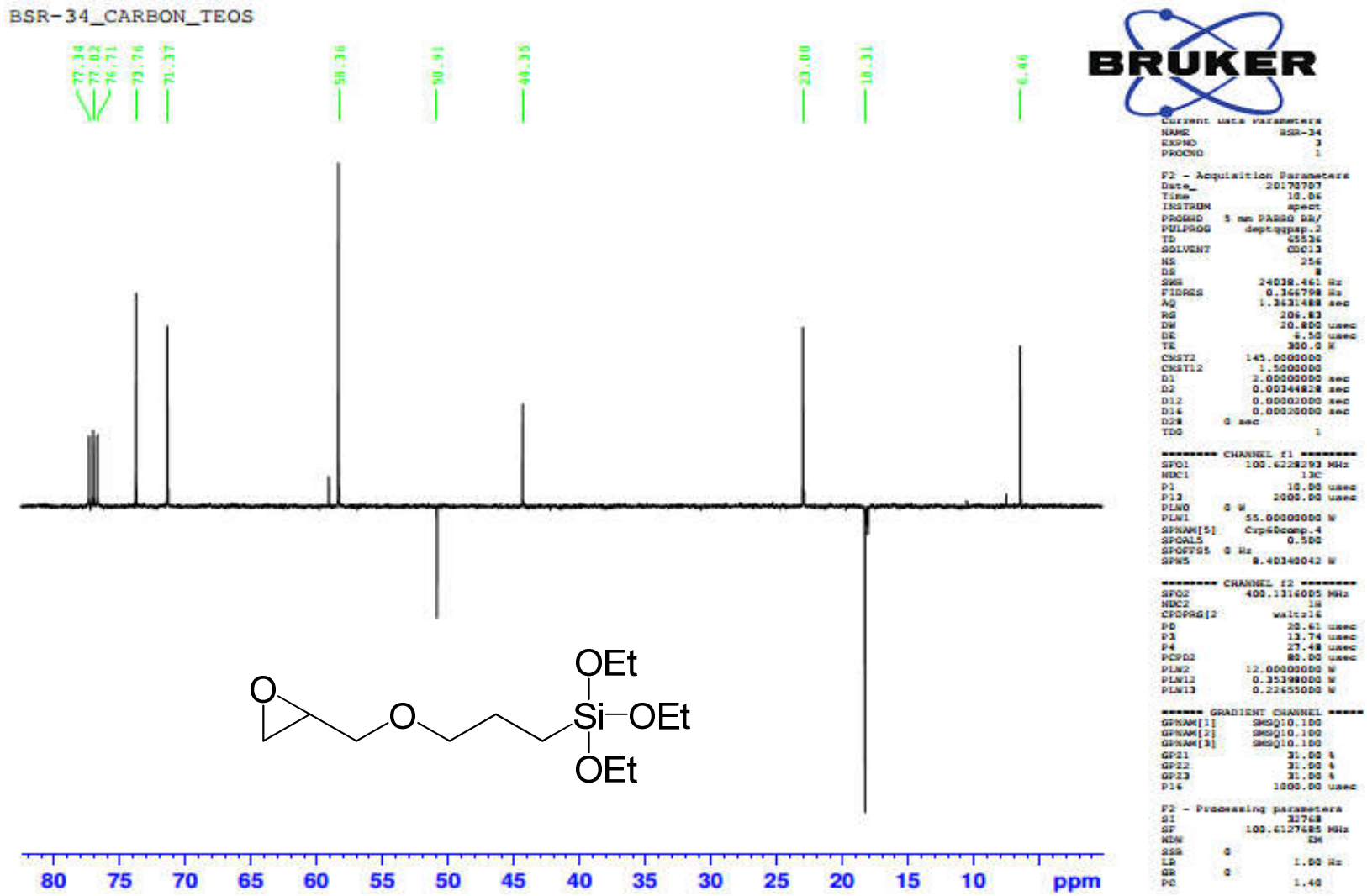
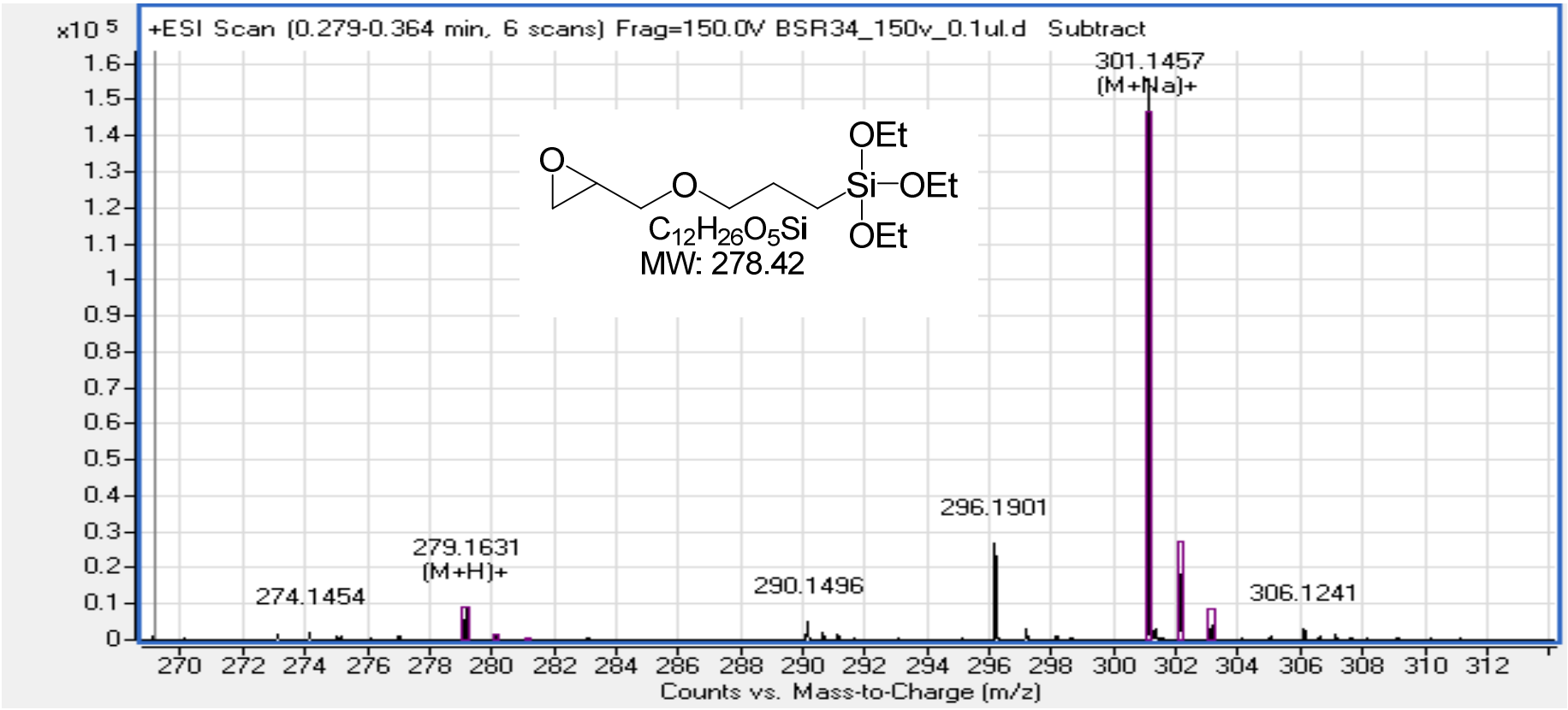
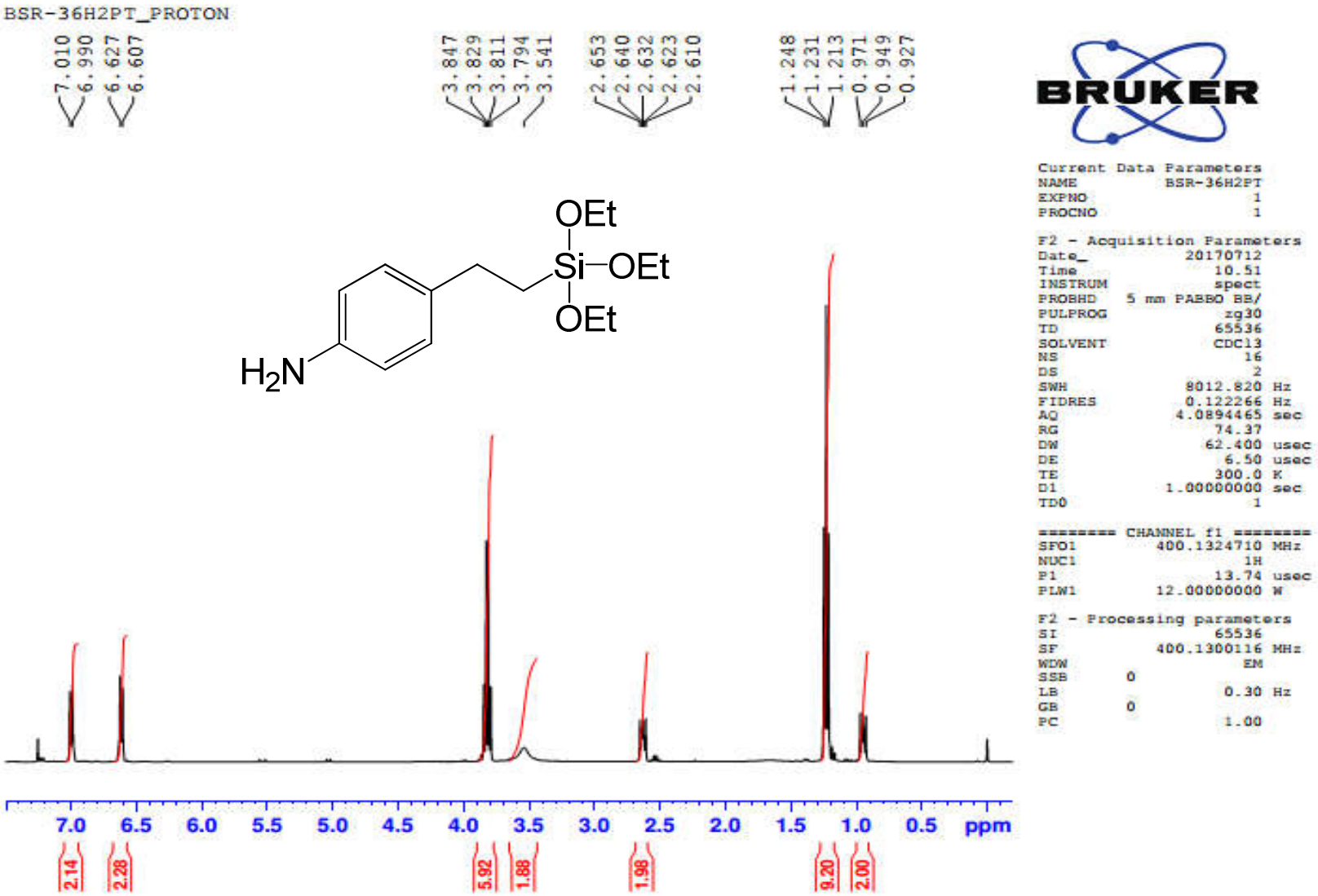
4-[3-(triethoxysilyl)propoxy]piperidine (**5**) – ^{13}C-NMR ($CDCl_3$, 100 MHz)



4-[3-(triethoxysilyl)propoxy]piperidine (**5**) – HR-ESIMS $[M+Na]^+$ Calculated 301.1442; Observed 301.1457.



3-[3-(triethoxysilyl)propoxy]piperidine (**6**) – ^{1}H-NMR ($CDCl_3$, 400 MHz)



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PROCNO                   1

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Time                 10.51
INSTRUM              spect
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PULPROG              zg30
TD                  65536
SOLVENT             CDCl3
NS                     16
DS                      2
SWH               8012.820 Hz
FIDRES           0.122266 Hz
AQ               4.0894465 sec
RG                   74.37
DW                  62.400 usec
DE                    6.50 usec
TE                   300.0 K
D1             1.00000000 sec
TD0                     1

======== CHANNEL f1 ========
SFO1          400.1324710 MHz
NUC1                    1H
P1                   13.74 usec
PLW1          12.00000000 W

F2 - Processing parameters
SI                  65536
SF            400.1300116 MHz
WDW                    EM
SSB          0
LB                    0.30 Hz
GB           0
PC                    1.00
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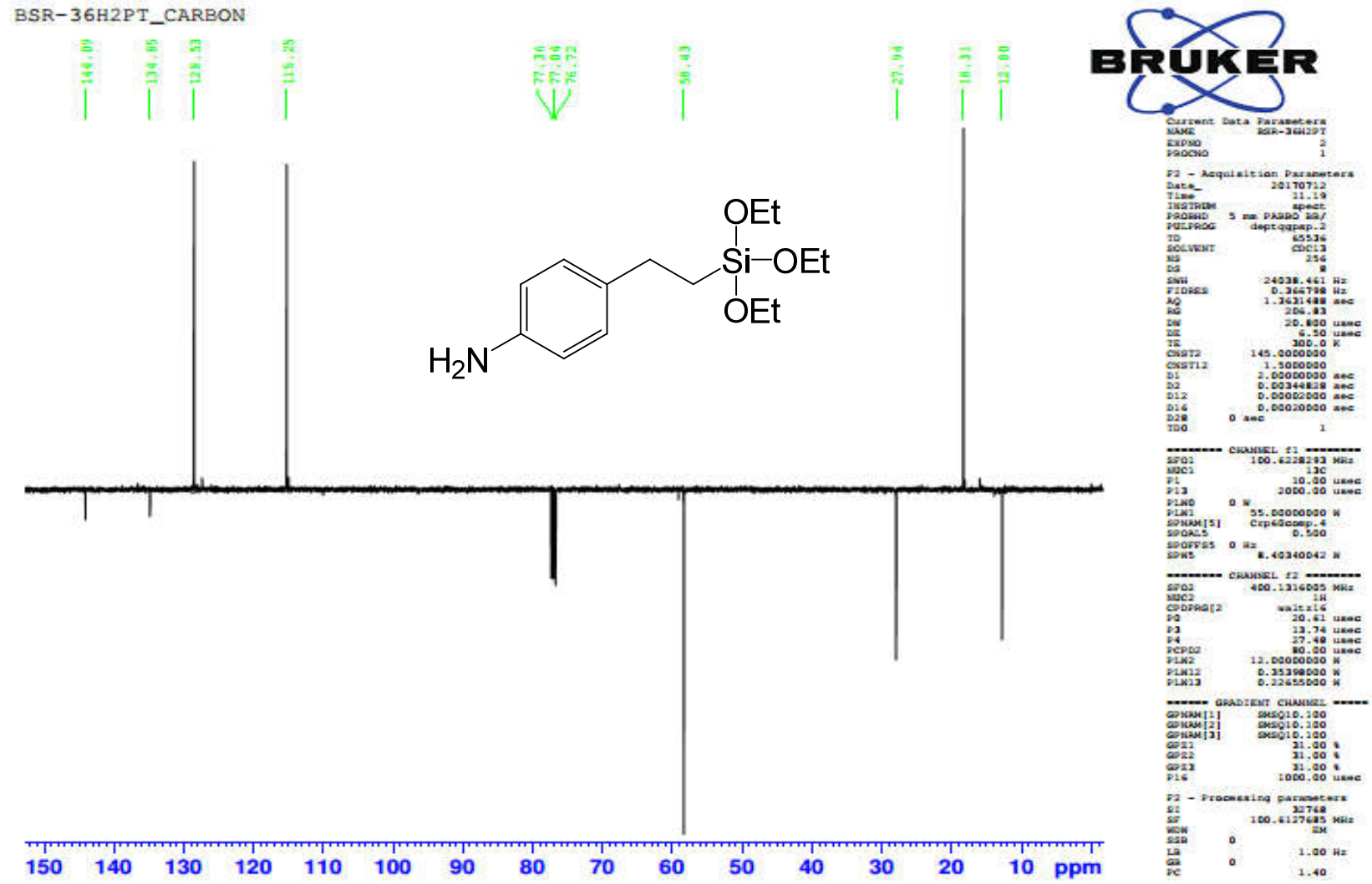
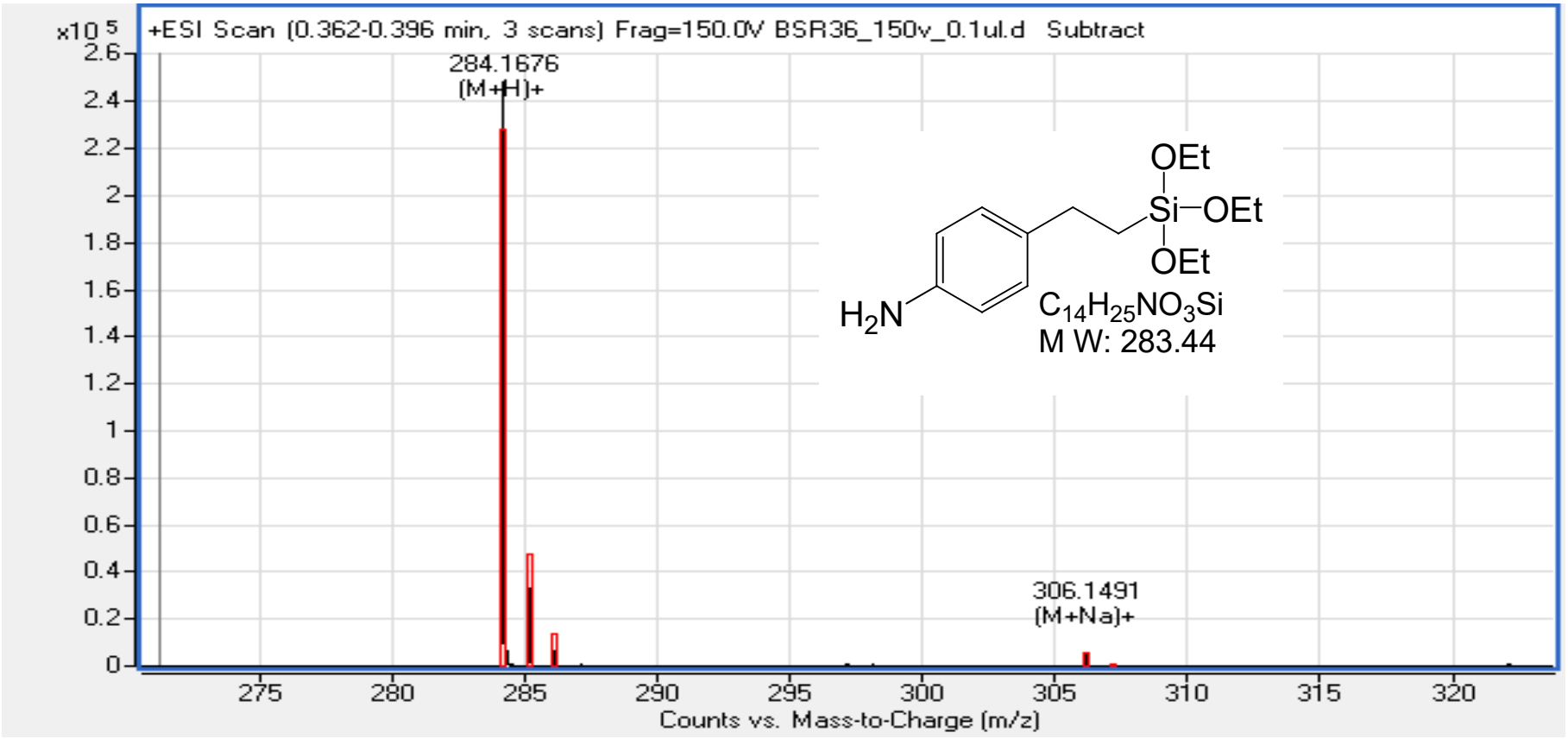
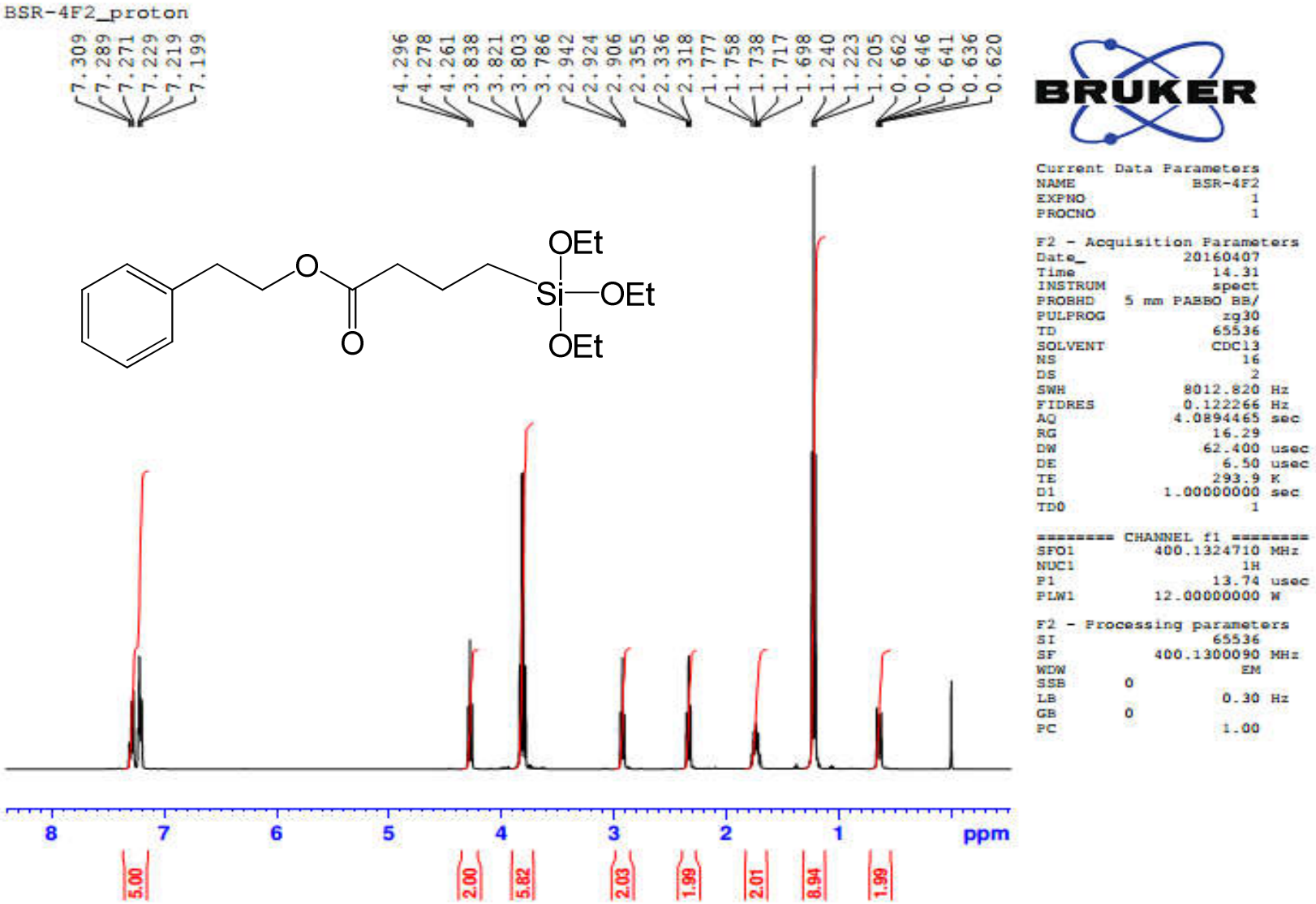
3-[3-(triethoxysilyl)propoxy]piperidine (**6**) – ^{13}C-NMR ($CDCl_3$, 100 MHz)



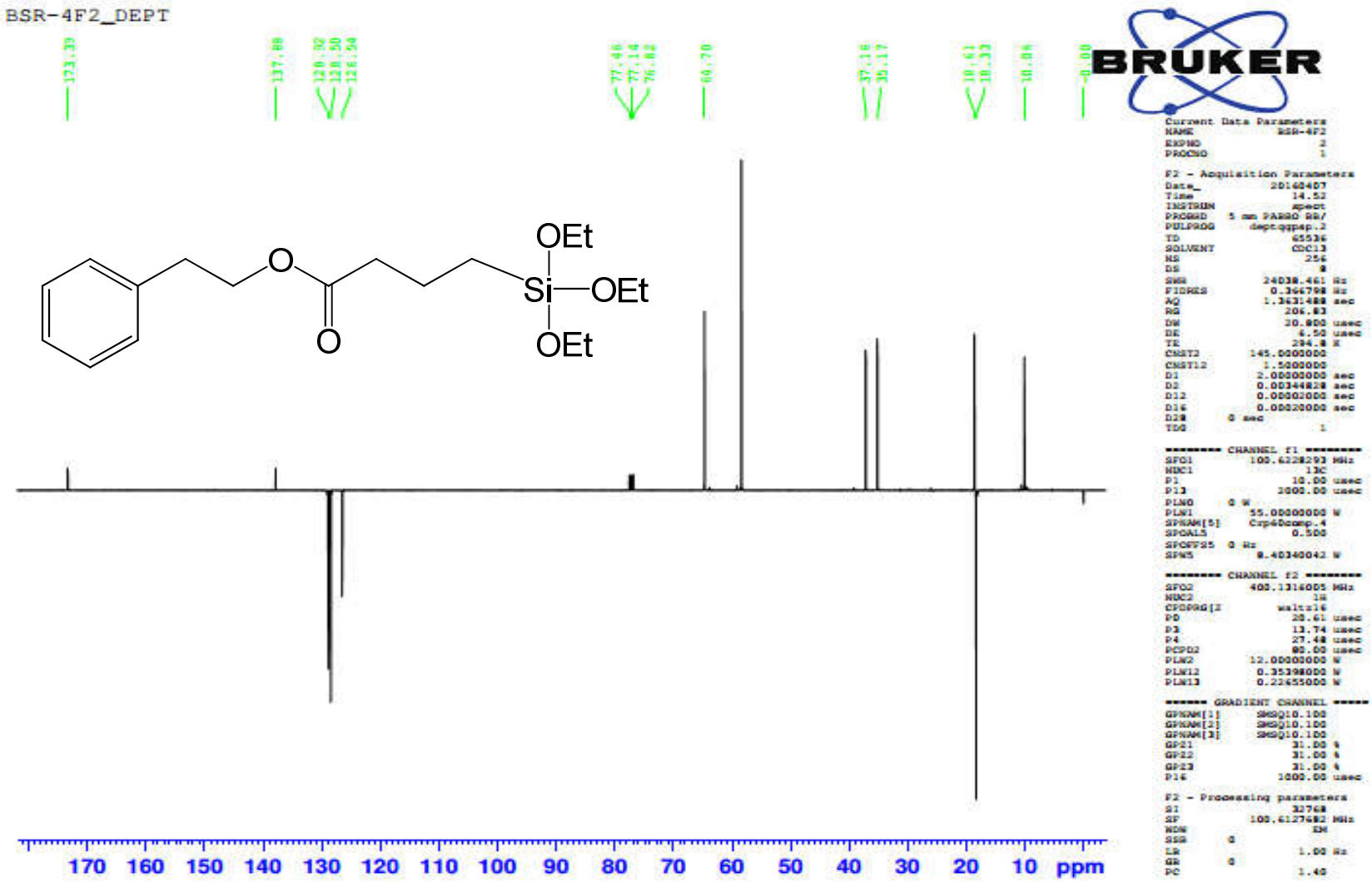
3-[3-(triethoxysilyl)propoxy]piperidine (**6**) – HR-ESIMS $[M+H]^+$ Calculated 284.1676; Observed 284.1676.



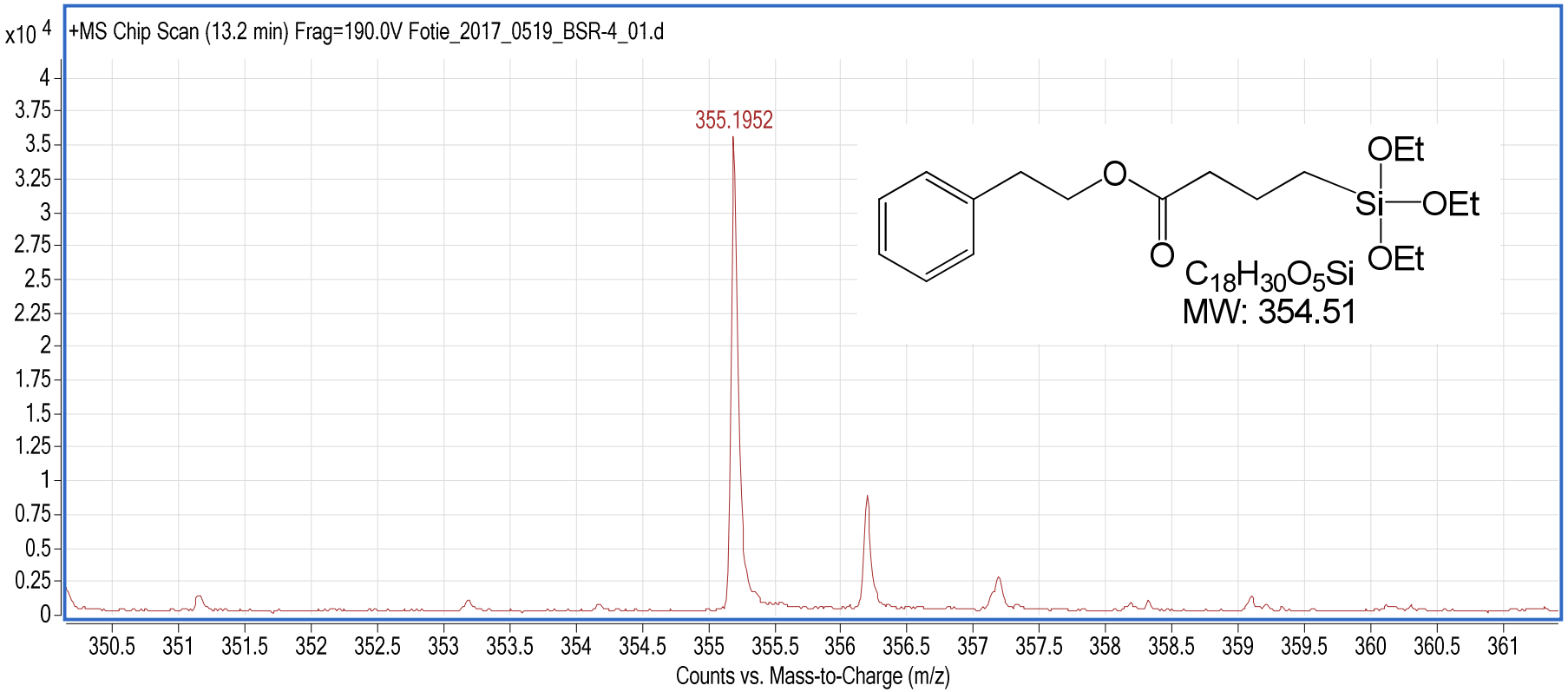
Phenethyl 4-(triethoxysilyl)butanoate (**7**) – ^{1}H-NMR ($CDCl_3$, 400 MHz)



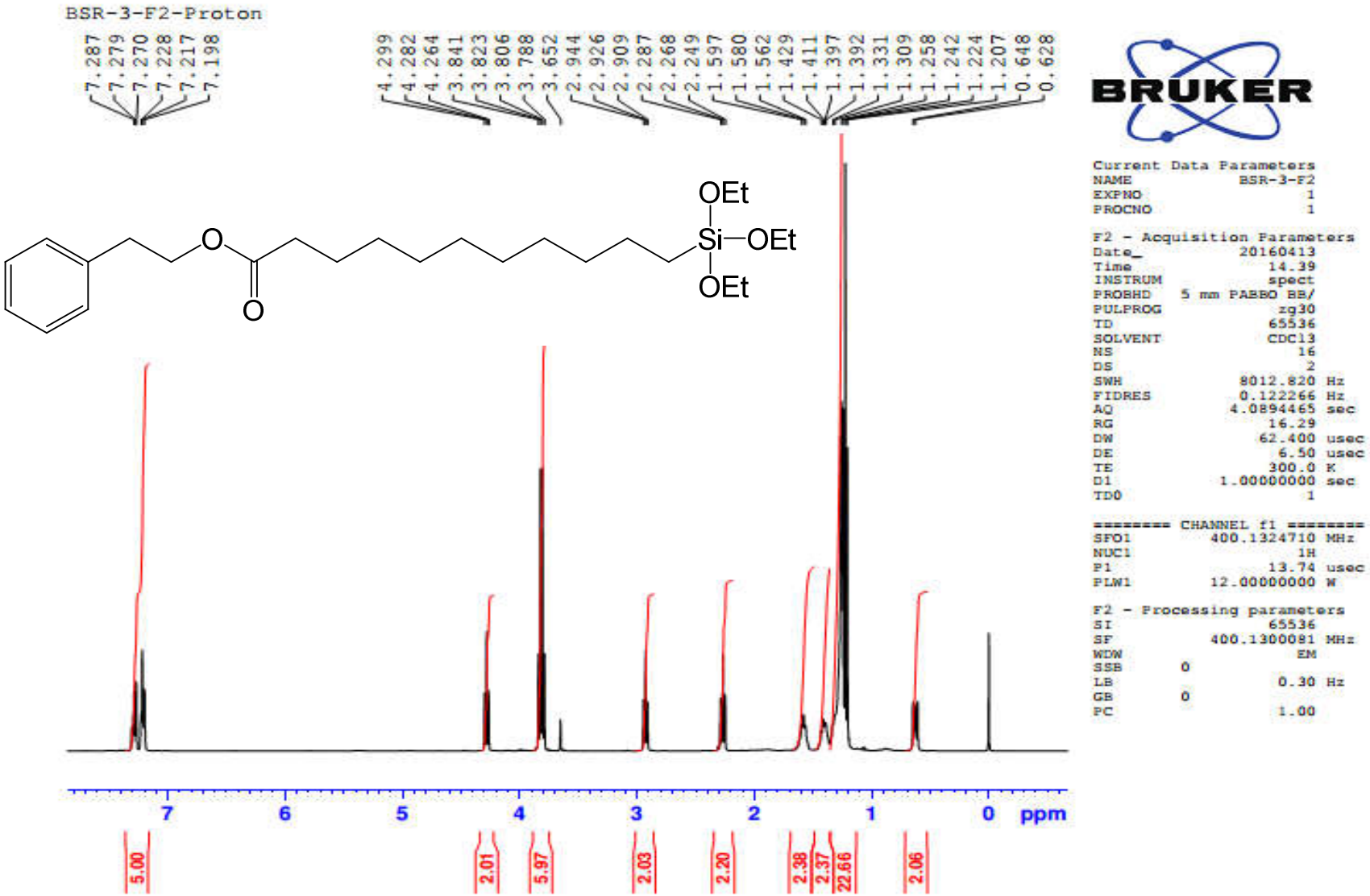
Phenethyl 4-(triethoxysilyl)butanoate (**7**) – ^{13}C-NMR ($CDCl_3$, 100 MHz)



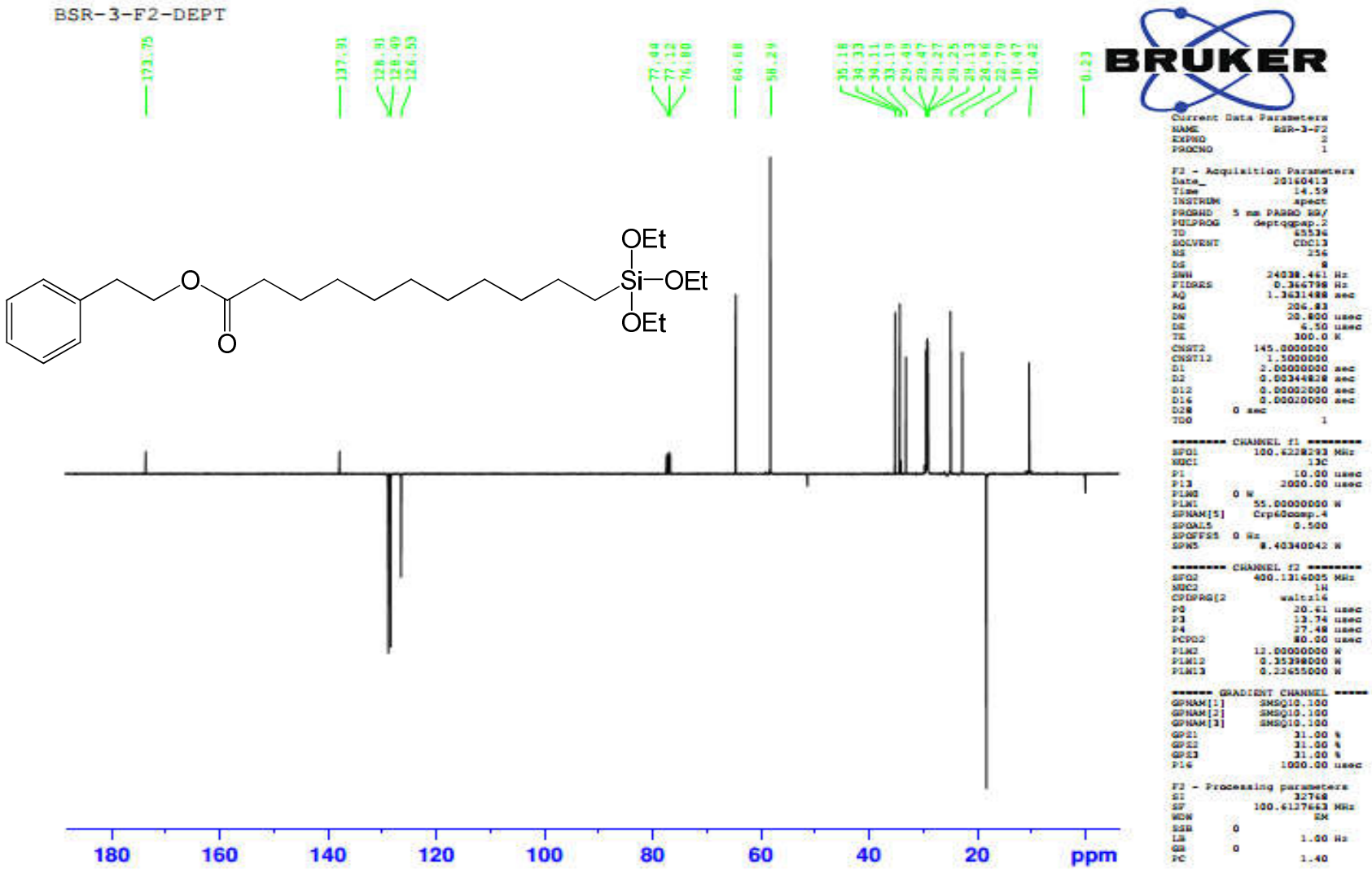
Phenethyl 4-(triethoxysilyl)butanoate (**7**) – HR-ESIMS $[M+H]^+$ Calculated 355.1935; Observed 355.1952.



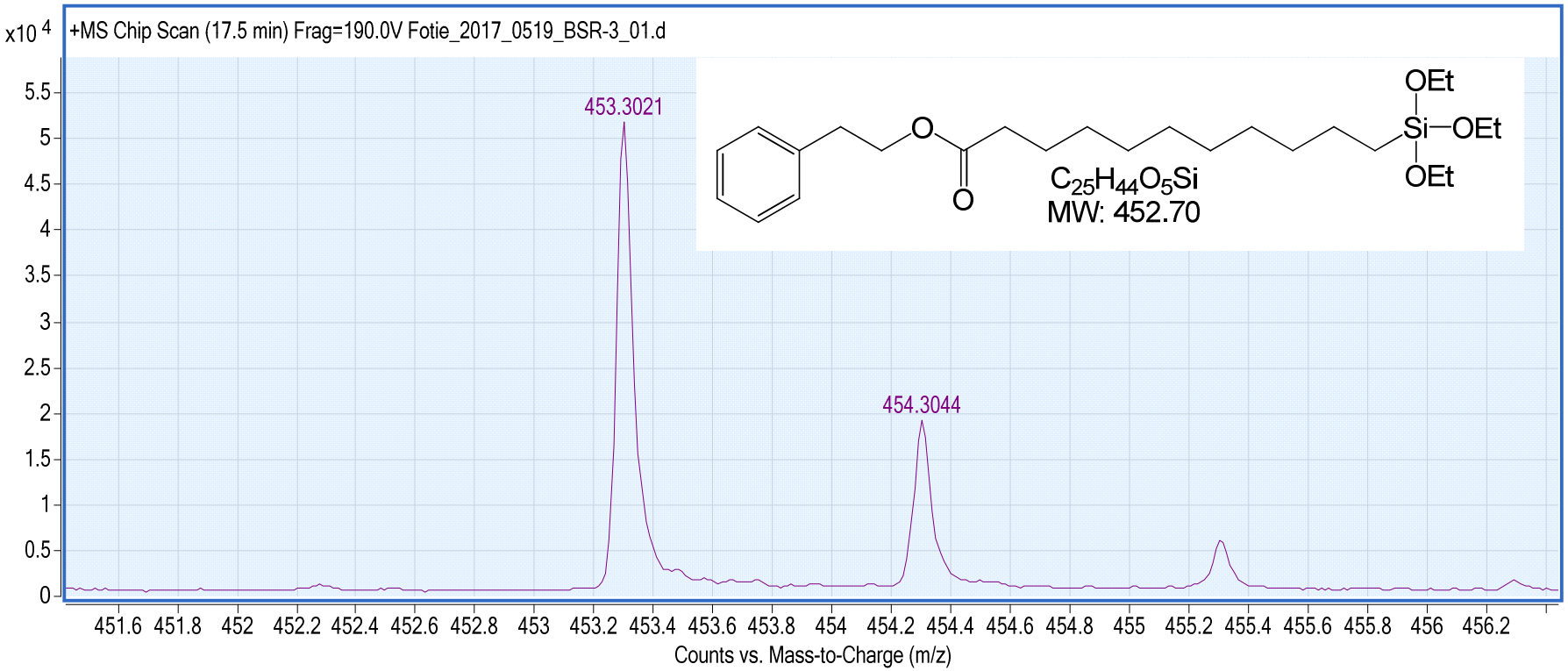
Phenethyl 11-(triethoxysilyl)undecanoate (**8**) – ^{1}H-NMR ($CDCl_3$, 400 MHz)



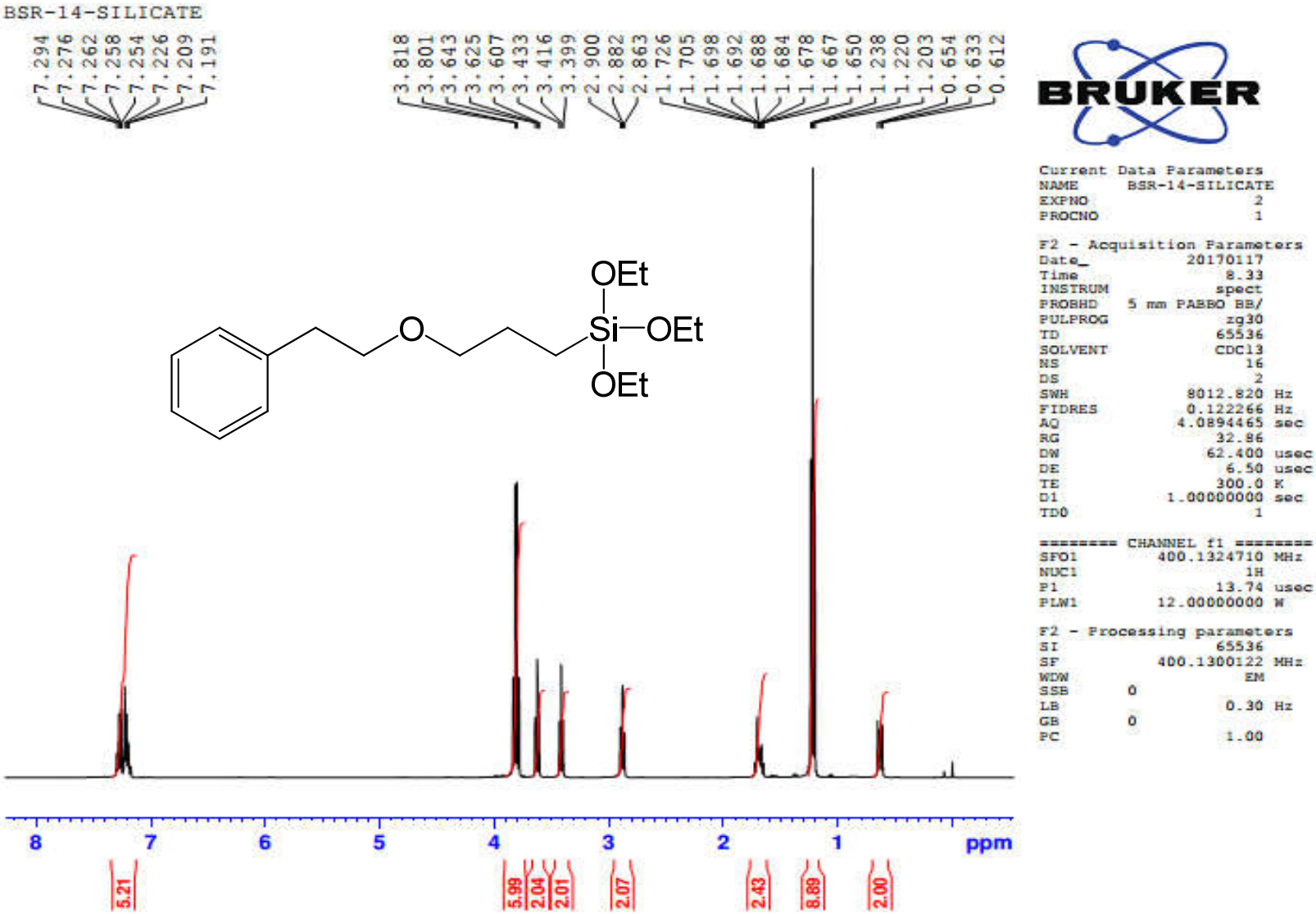
Phenethyl 11-(triethoxysilyl)undecanoate (**8**) – ^{13}C-NMR ($CDCl_3$, 100 MHz)



Phenethyl 11-(triethoxysilyl)undecanoate (**8**) – HR-ESIMS $[M+H]^+$ Calculated 453.3031; Observed 453.3021.



Triethoxy(3-phenethoxypropyl)silane (**9**) – ^{1}H-NMR ($CDCl_3$, 400 MHz)



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PROCNO                  1

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Time                8.33
INSTRUM            spect
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PULPROG             zg30
TD                 65536
SOLVENT            CDCl3
NS                    16
DS                     2
SWH             8012.820 Hz
FIDRES             0.122266 Hz
AQ              4.0894465 sec
RG                 32.86
DW                 62.400 usec
DE                  6.50 usec
TE                300.0 K
D1           1.00000000 sec
TD0                    1

======== CHANNEL f1 ========
SFO1         400.1324710 MHz
NUC1                   1H
P1                  13.74 usec
PLW1        12.00000000 W

F2 - Processing parameters
SI                 65536
SF            400.1300122 MHz
WDW                   EM
SSB       0
LB                  0.30 Hz
GB        0
PC                  1.00
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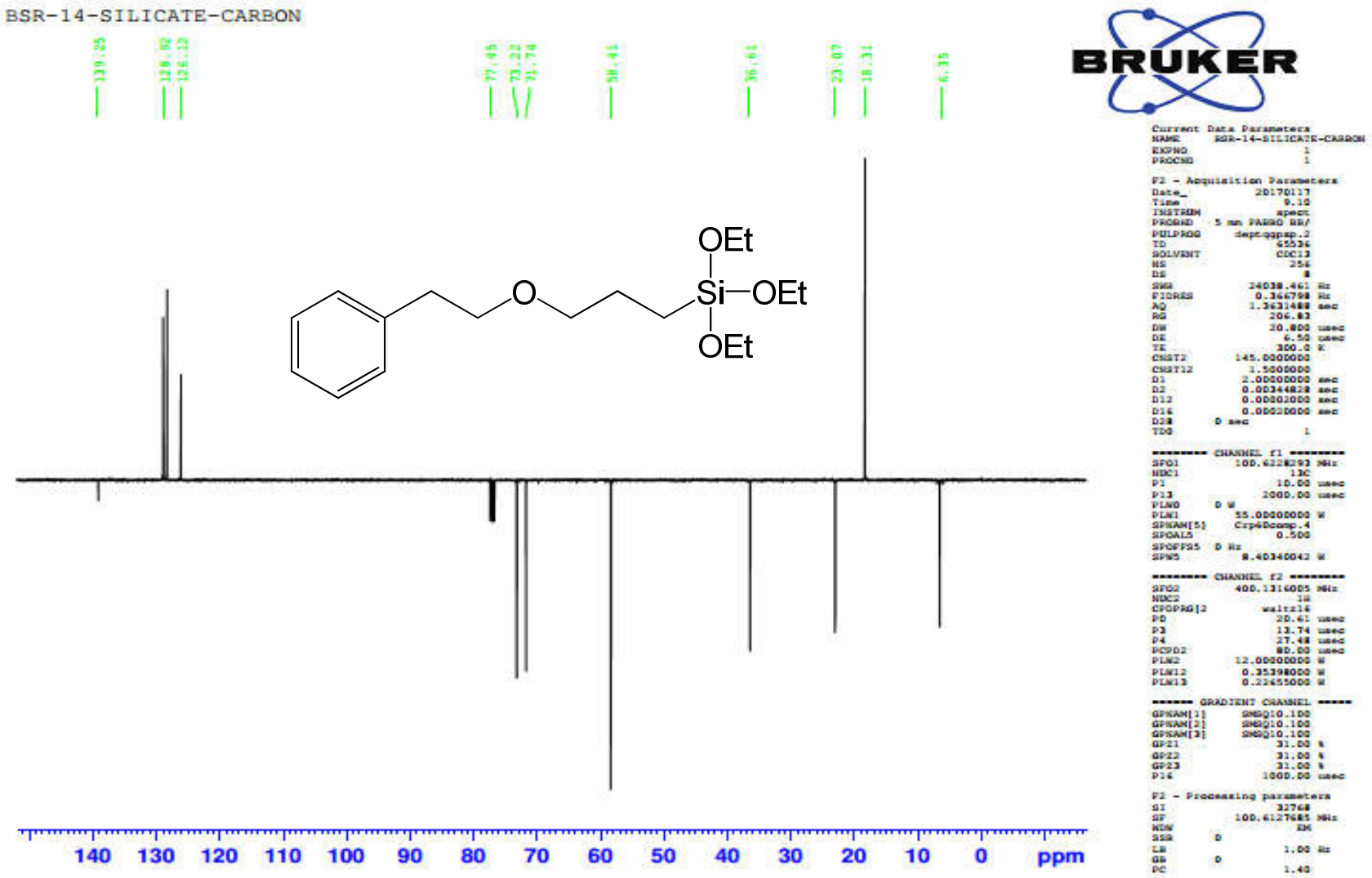
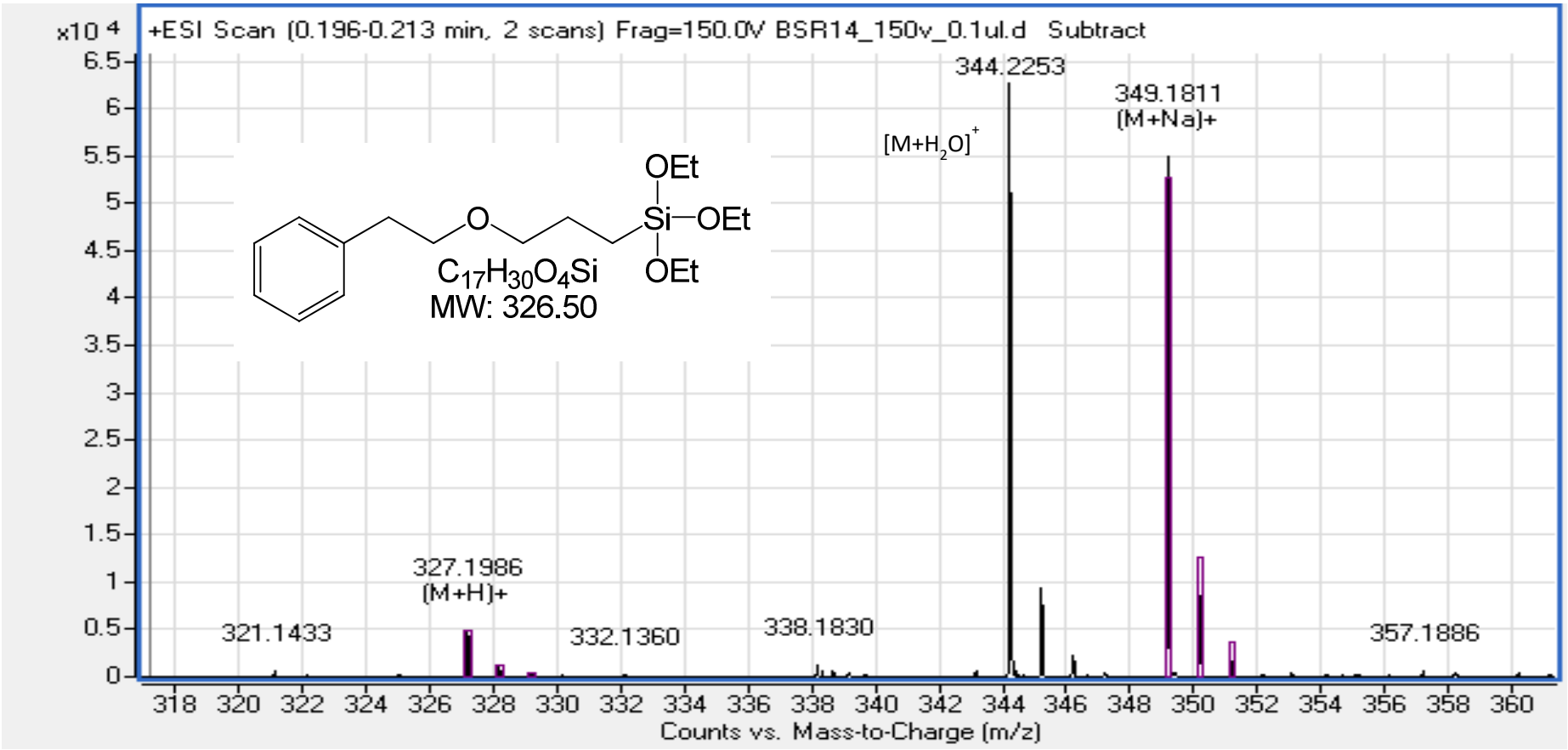
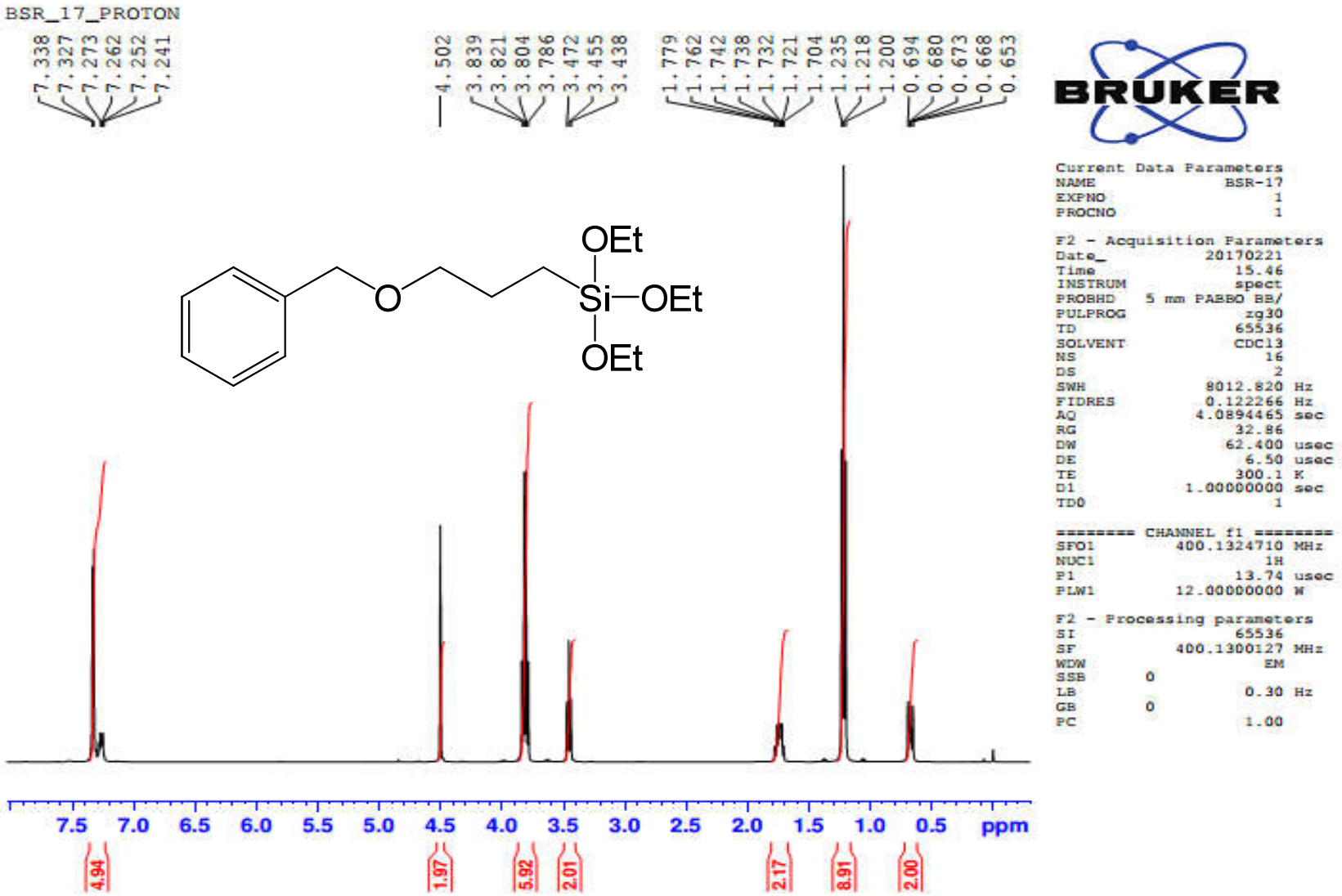
Triethoxy(3-phenethoxypropyl)silane (**9**) – ^{13}C-NMR ($CDCl_3$, 100 MHz)



Triethoxy(3-phenethoxypropyl)silane (**9**) – HR-ESIMS $[M+Na]^+$ Calculated 349.1806; Observed 349.1811.



[3-(benzyloxy)propyl]triethoxysilane (**10**) – ^{1}H-NMR ($CDCl_3$, 400 MHz)



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Current Data Parameters
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EXPNO                      1
PROCNO                     1

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Time                  15.46
INSTRUM               spect
PROBHD    5 mm PABBO BB/
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                        16
DS                         2
SWH                8012.820 Hz
FIDRES                0.122266 Hz
AQ                 4.0894465 sec
RG                    32.86
DW                    62.400 usec
DE                     6.50 usec
TE                   300.1 K
D1                 1.00000000 sec
TD0                        1

======== CHANNEL f1 ========
SFO1             400.1324710 MHz
NUC1                      1H
P1                     13.74 usec
PLW1            12.00000000 W

F2 - Processing parameters
SI                        65536
SF               400.1300127 MHz
WDW                       EM
SSB          0
LB                     0.30 Hz
GB           0
PC                     1.00
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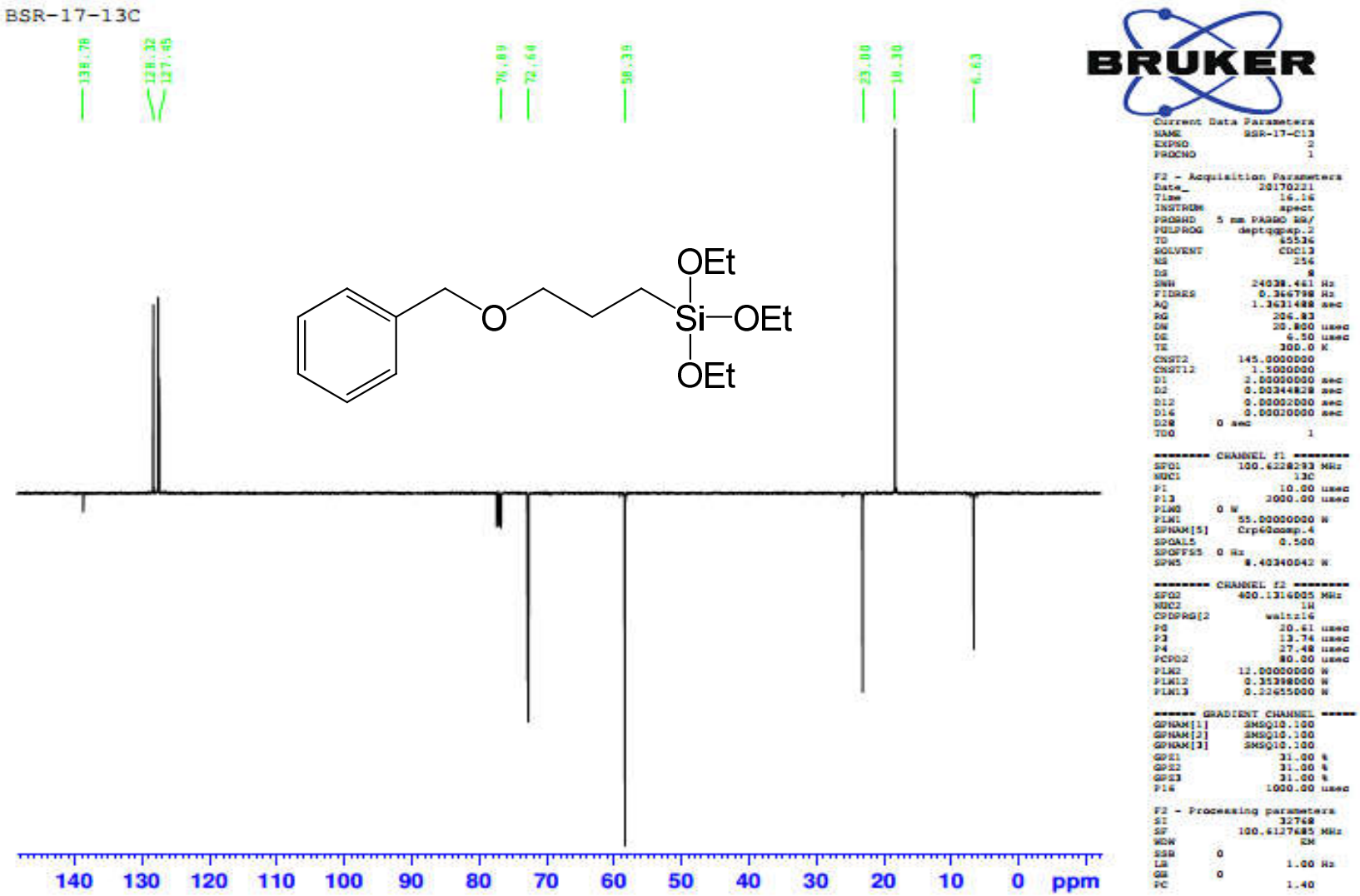
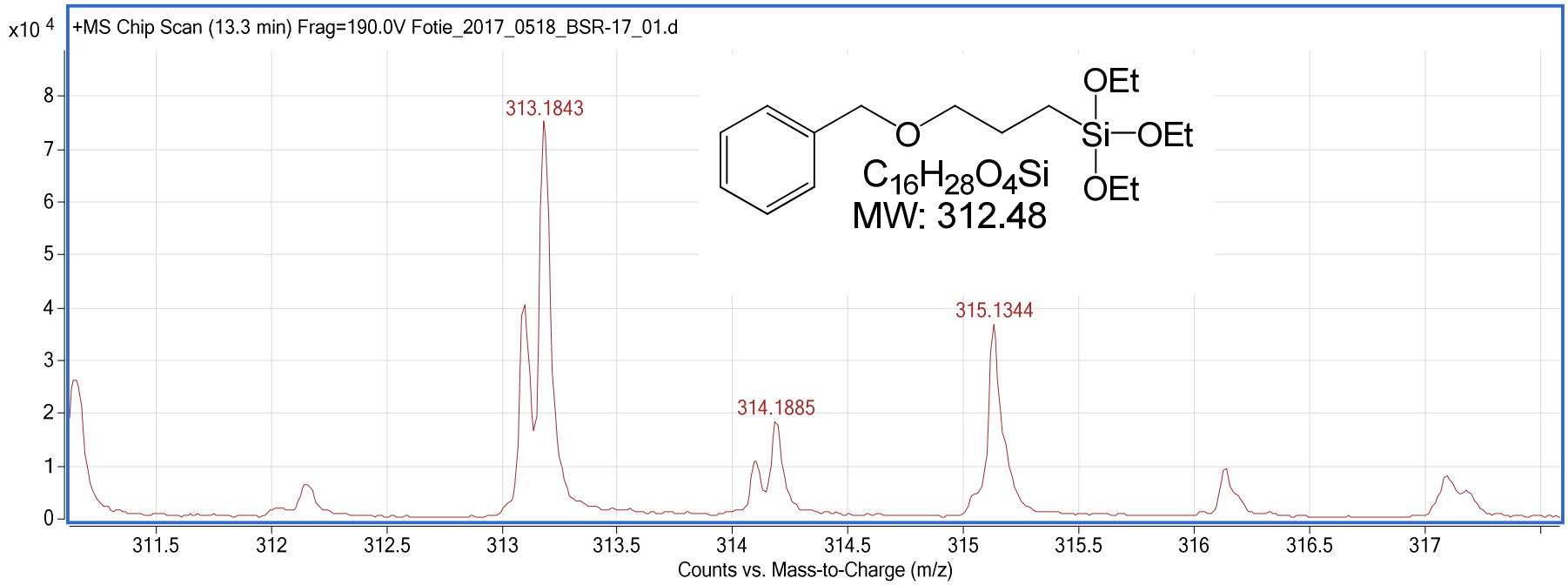
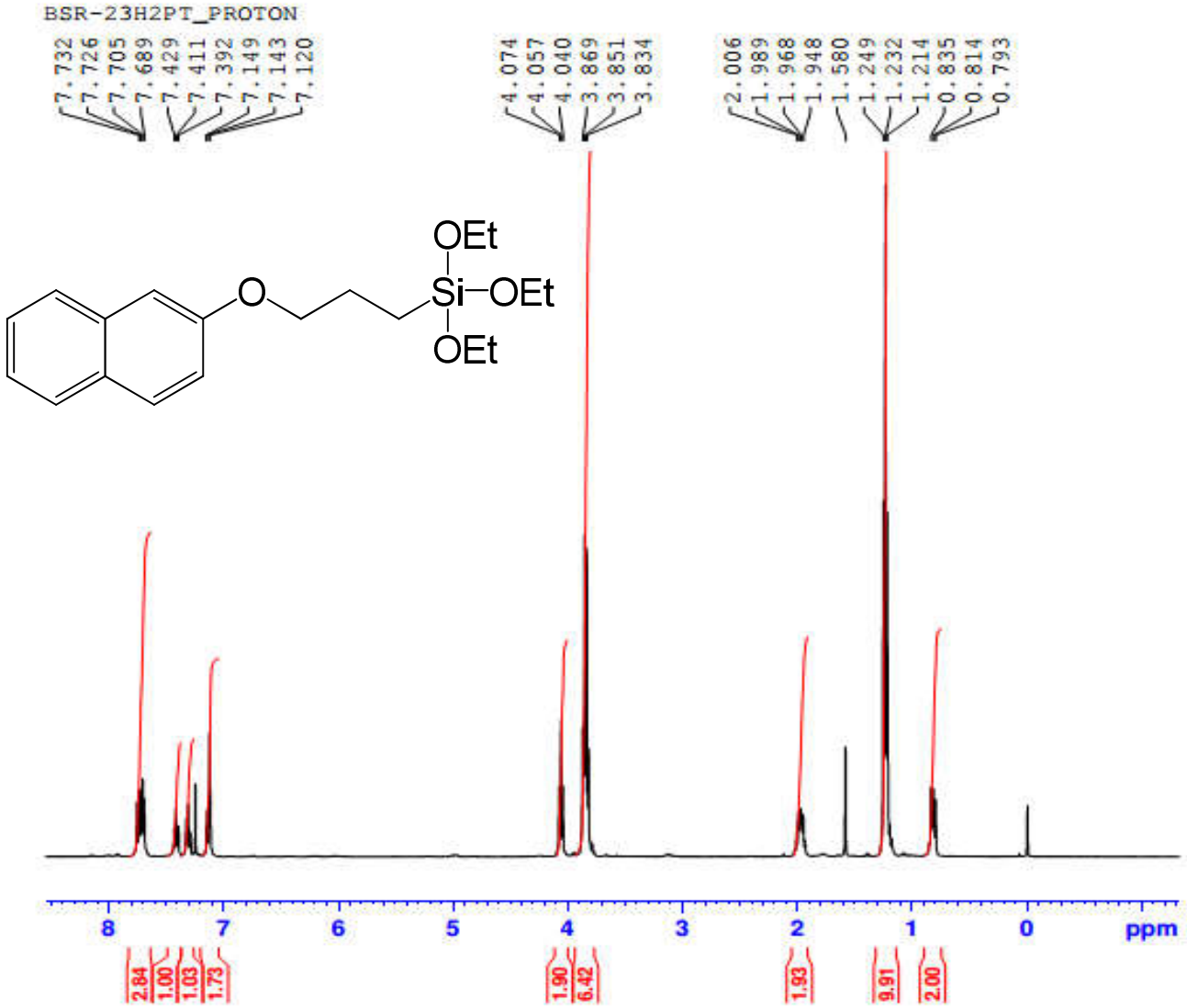
[3-(benzyloxy)propyl]triethoxysilane (**10**) – ^{13}C-NMR ($CDCl_3$, 100 MHz)



[3-(benzyloxy)propyl]triethoxysilane (**10**) – HR-ESIMS ([M+H]$^+$ Calculated 313.1830; Observed 313.1843.



Triethoxy[3-(naphthalen-2-yloxy)propyl]silane (**11**) – ^{1}H-NMR ($CDCl_3$, 400 MHz)



BRUKER

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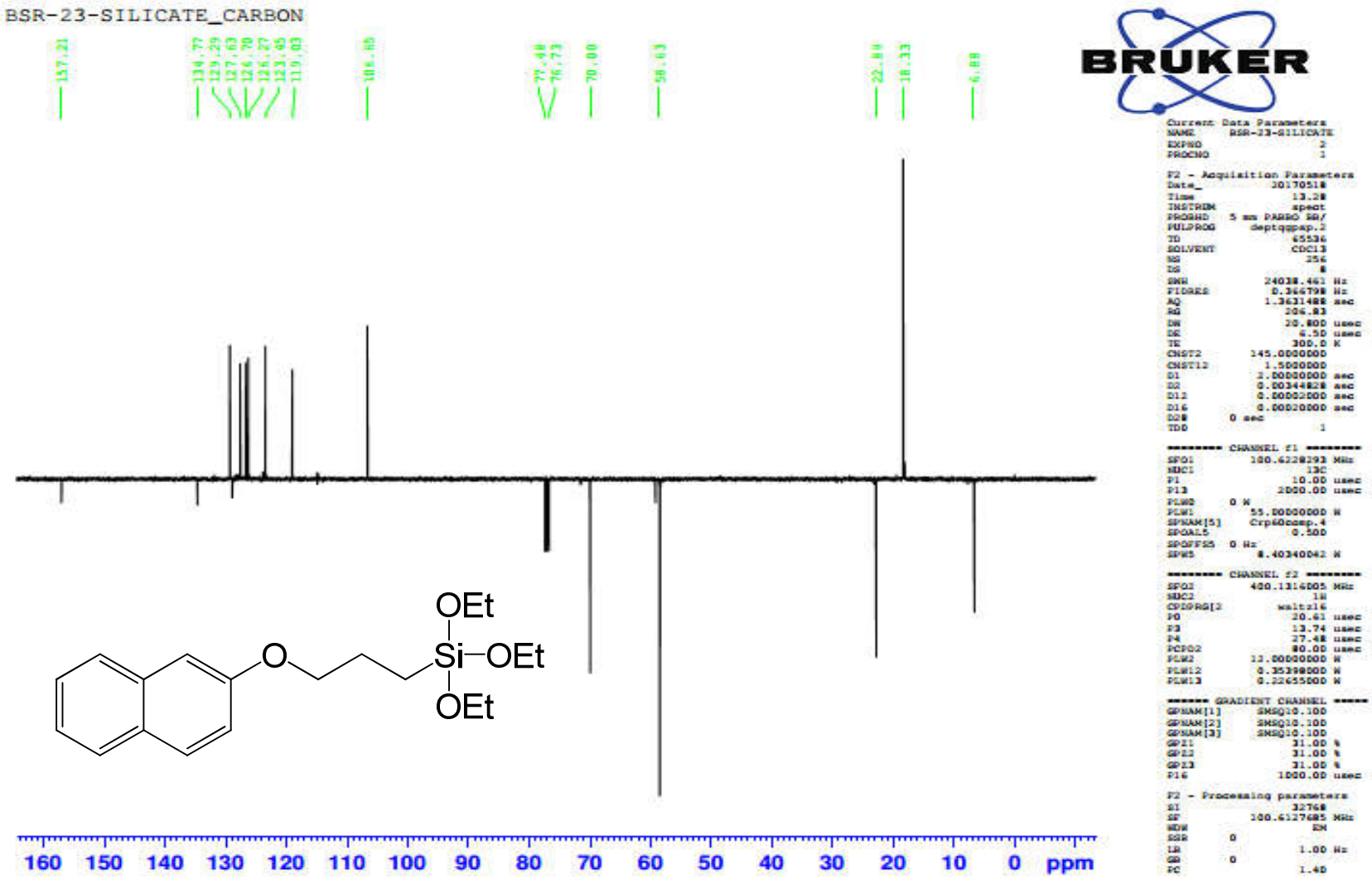
Current Data Parameters
NAME                  BSR-23H2PT
EXPNO                          1
PROCNO                         1

F2 - Acquisition Parameters
Date_                   20170522
Time                        9.13
INSTRUM                    spect
PROBHD     5 mm PABBO BB/
PULPROG                    zg30
TD                        65536
SOLVENT                   CDCl3
NS                           16
DS                            2
SWH                    8012.820 Hz
FIDRES                 0.122266 Hz
AQ                     4.0894465 sec
RG                         91.48
DW                        62.400 usec
DE                         6.50 usec
TE                        300.0 K
D1                     1.00000000 sec
TD0                            1

======== CHANNEL f1 ========
SFO1                 400.1324710 MHz
NUC1                         1H
P1                        13.74 usec
PLW1                12.00000000 W

F2 - Processing parameters
SI                        65536
SF                   400.1300160 MHz
WDW                           EM
SSB                 0
LB                         0.30 Hz
GB                  0
PC                         1.00
```

Triethoxy[3-(naphthalen-2-yloxy)propyl]silane (**11**) – ^{13}C-NMR ($CDCl_3$, 100 MHz)



Current Data Parameters
NAME BSR-23-SILICATE
EXPNO 2
PROCNO 1

F2 - Acquisition Parameters
Date_ 20170518
Time 13.28
INSTRM spect
PROBHD 5 mm PABBO BB/
PULPROG deptqgpsp.2
TD 65536
SOLVENT CDCl3
NS 256
DS 8
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631488 sec
RG 206.83
DW 20.800 usec
DE 6.50 usec
TE 300.0 K
CNST2 145.0000000
CNST12 1.5000000
D1 2.00000000 sec
D2 0.00344828 sec
D12 0.00002000 sec
D16 0.00020000 sec
D28 0 sec
TD0 1

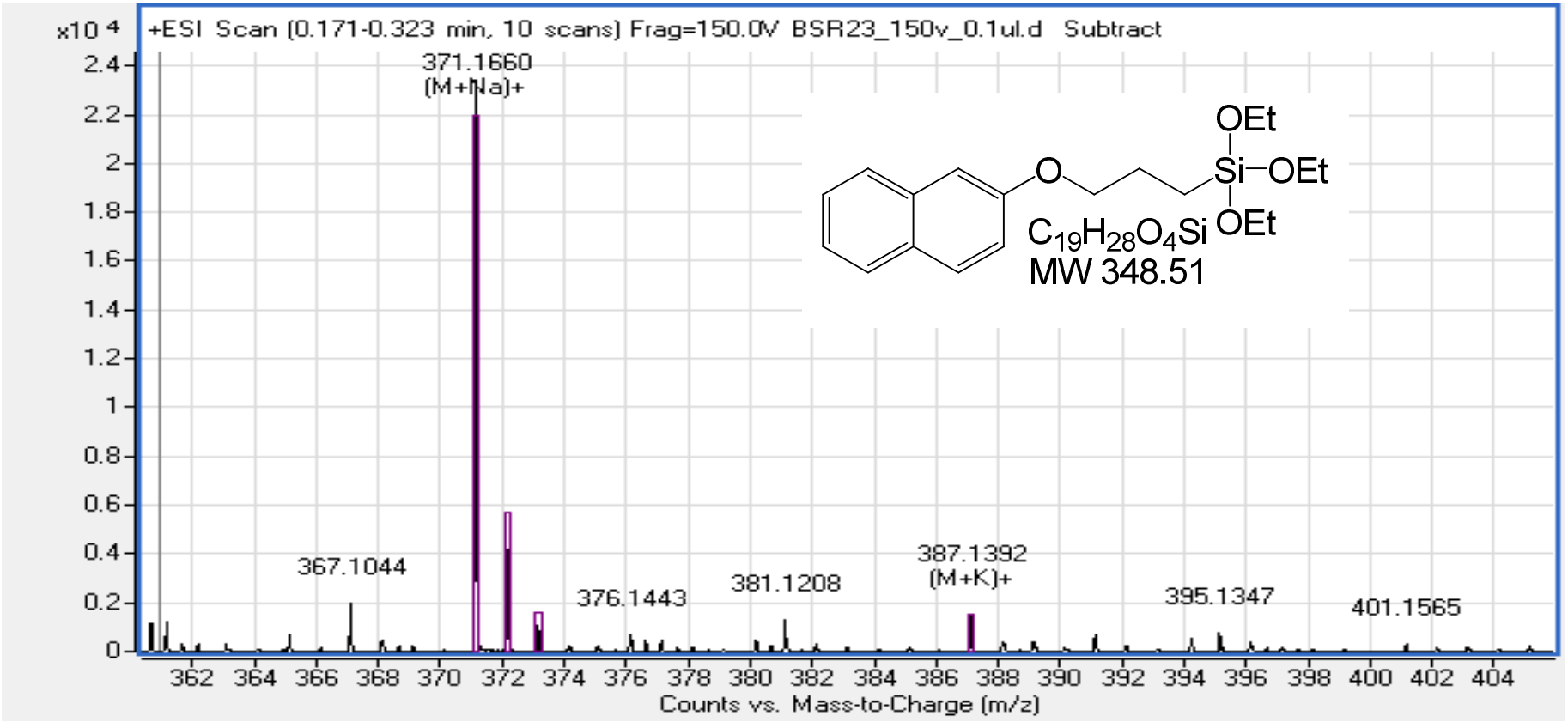
======== CHANNEL f1 ========
SFO1 100.6228293 MHz
NUC1 13C
P1 10.00 usec
P13 2000.00 usec
PLW2 0 W
PLW1 55.00000000 W
SPNAM[5] Crp60comp.4
SPOAL5 0.500
SPOFFS5 0 Hz
SPW5 8.40340042 W

======== CHANNEL f2 ========
SFO2 400.1316005 MHz
NUC2 1H
CPDPRG[2 waltz16
P0 20.61 usec
P3 13.74 usec
P4 27.48 usec
PCPD2 80.00 usec
PLW2 12.00000000 W
PLW12 0.35398500 W
PLW13 0.22655000 W

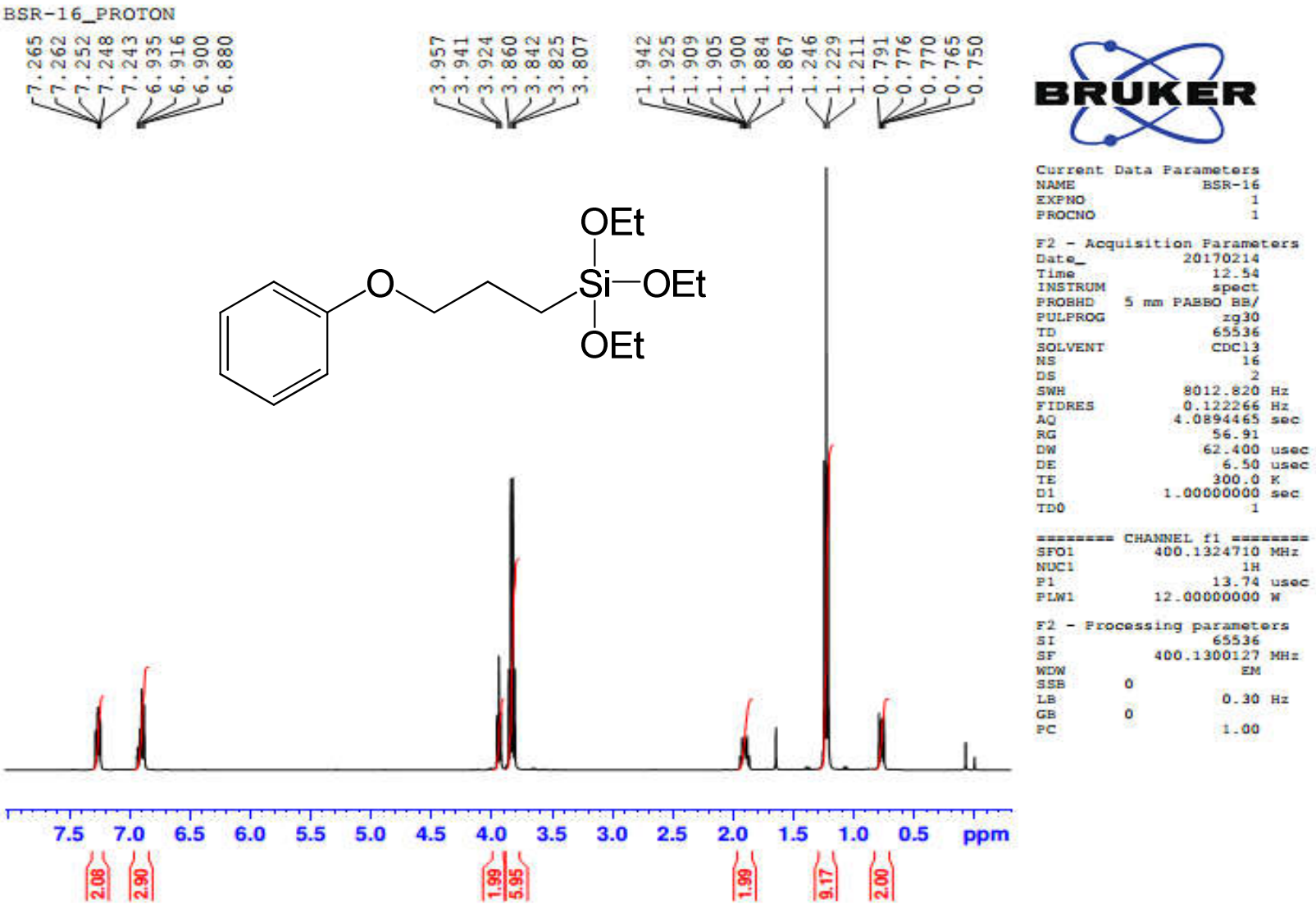
====== GRADIENT CHANNEL =====
GPNAM[1] SMSQ10.100
GPNAM[2] SMSQ10.100
GPNAM[3] SMSQ10.100
GPZ1 31.00 %
GPZ2 31.00 %
GPZ3 31.00 %
P16 1000.00 usec

F2 - Processing parameters
SI 32768
SF 100.6127685 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

Triethoxy[3-(naphthalen-2-yloxy)propyl]silane (**11**) – HR-ESIMS $[M+Na]^+$ Calculated 371.1649; Observed 371.1660.



Triethoxy(3-phenoxypropyl)silane (**12a**) – ^{1}H-NMR ($CDCl_3$, 400 MHz)



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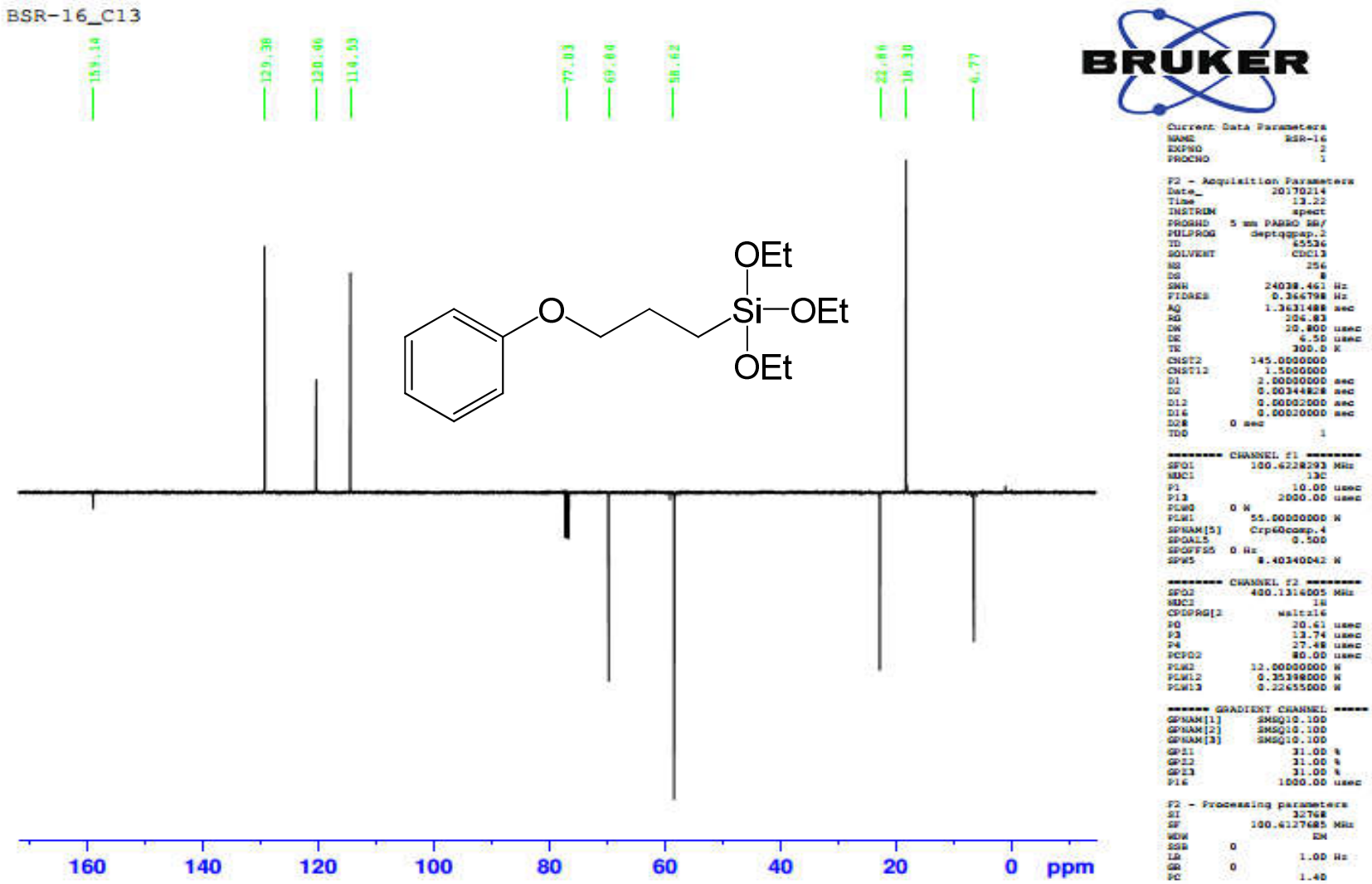
```
Current Data Parameters
NAME                  BSR-16
EXPNO                      1
PROCNO                     1

F2 - Acquisition Parameters
Date_              20170214
Time                  12.54
INSTRUM               spect
PROBHD    5 mm PABBO BB/
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                        16
DS                         2
SWH                8012.820 Hz
FIDRES                0.122266 Hz
AQ                 4.0894465 sec
RG                    56.91
DW                    62.400 usec
DE                     6.50 usec
TE                   300.0 K
D1                 1.00000000 sec
TD0                        1

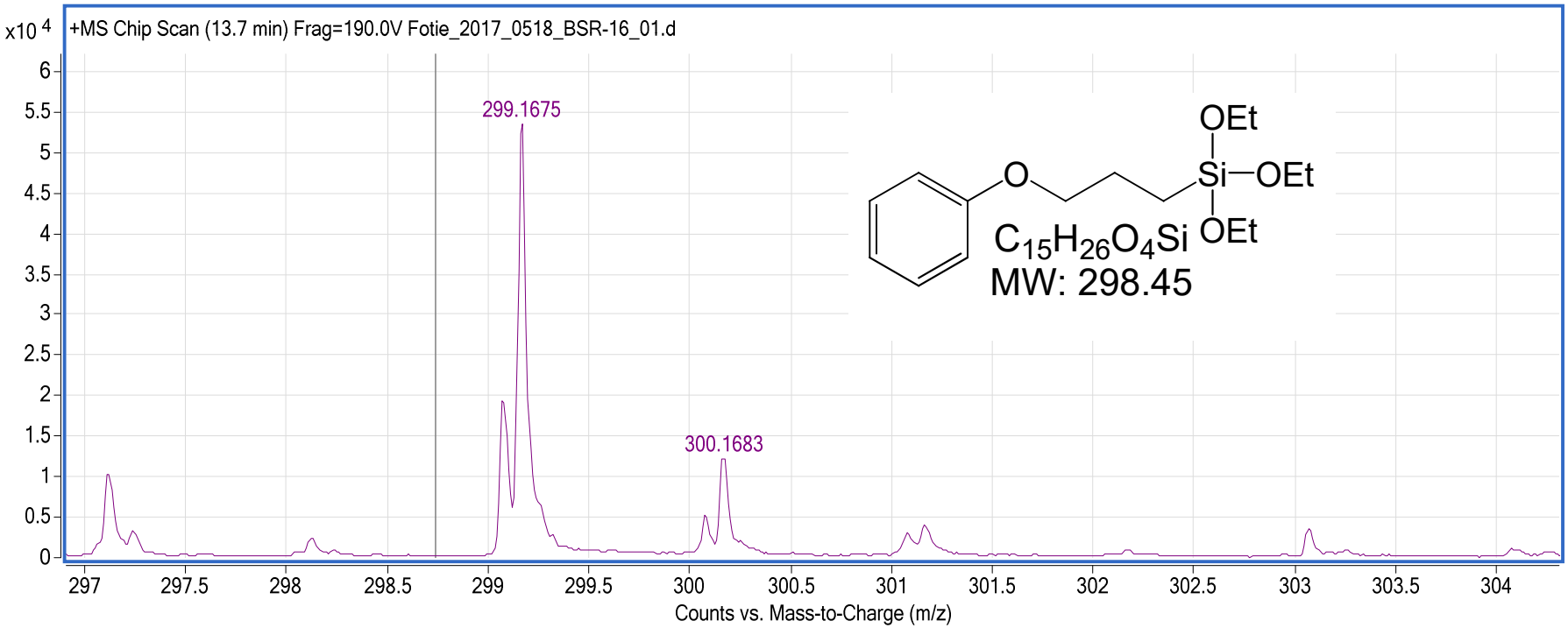
======== CHANNEL f1 ========
SFO1             400.1324710 MHz
NUC1                       1H
P1                    13.74 usec
PLW1            12.00000000 W

F2 - Processing parameters
SI                        65536
SF               400.1300127 MHz
WDW                       EM
SSB          0
LB                     0.30 Hz
GB           0
PC                     1.00
```

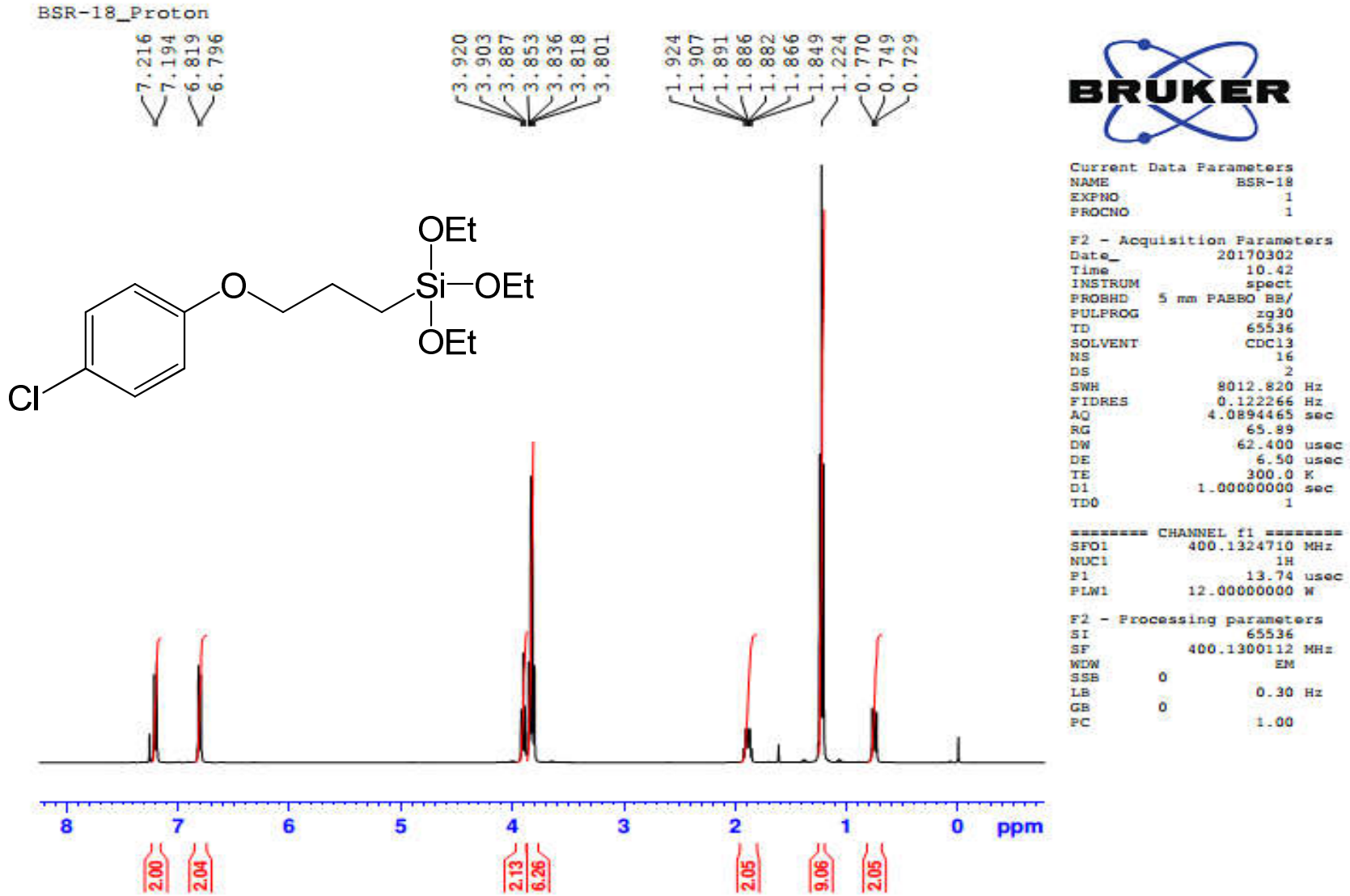
Triethoxy(3-phenoxypropyl)silane (**12a**) – ^{13}C-NMR ($CDCl_3$, 100 MHz)



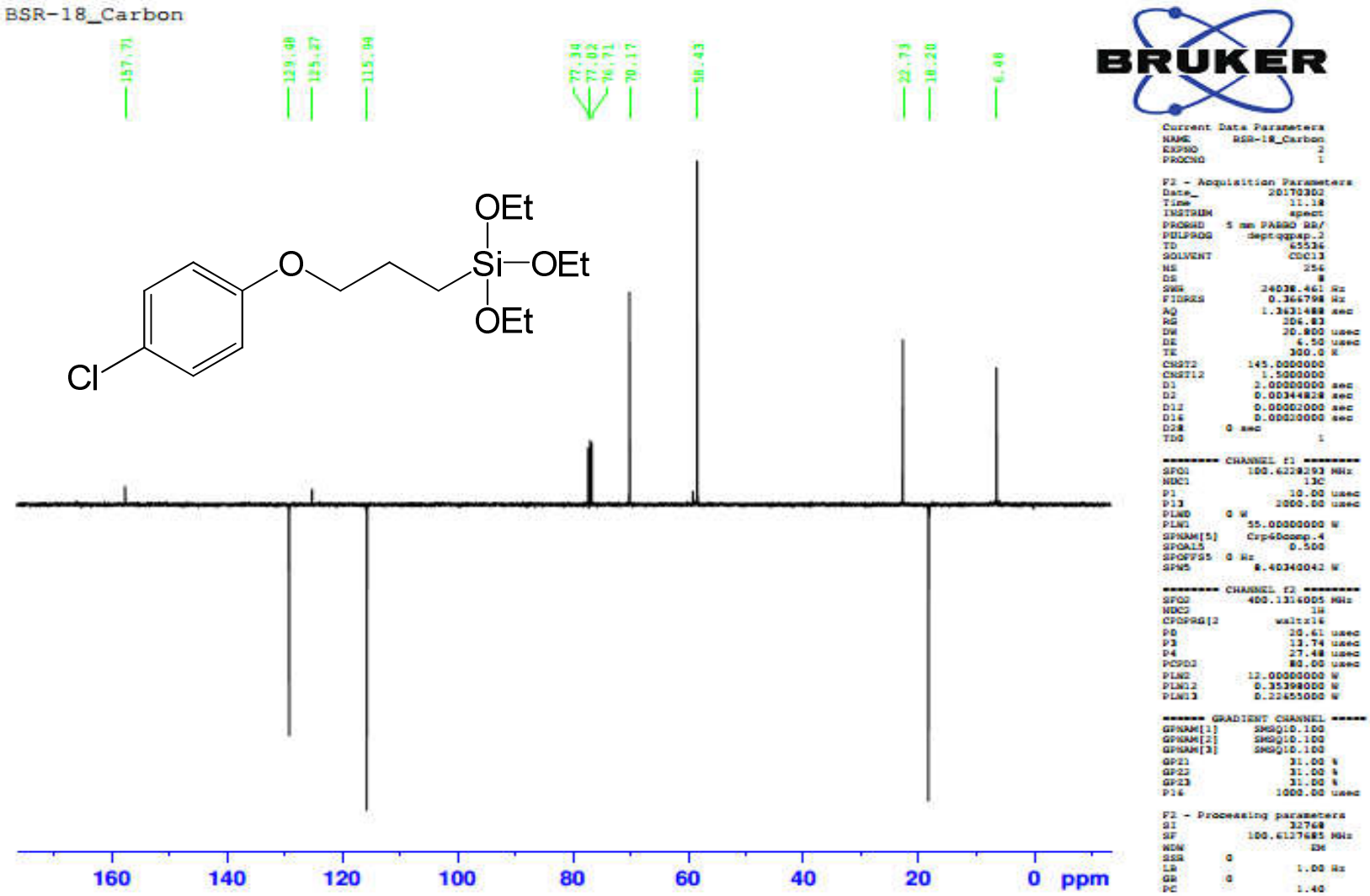
Triethoxy(3-phenoxypropyl)silane (**12a**) – HR-ESIMS $[M+H]^+$ Calculated 299.1673; Observed 299.1675.



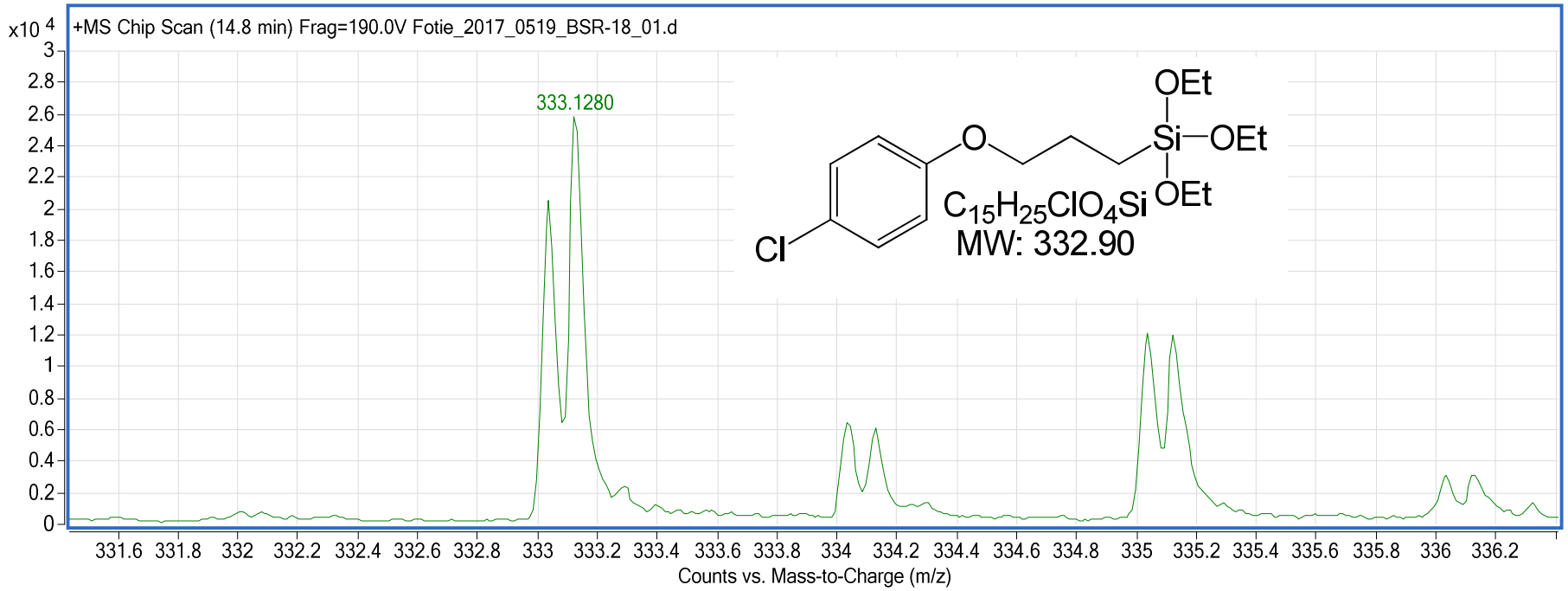
[3-(4-chlorophenoxy)propyl]triethoxysilane (**12b**) – ^{1}H-NMR ($CDCl_3$, 400 MHz)



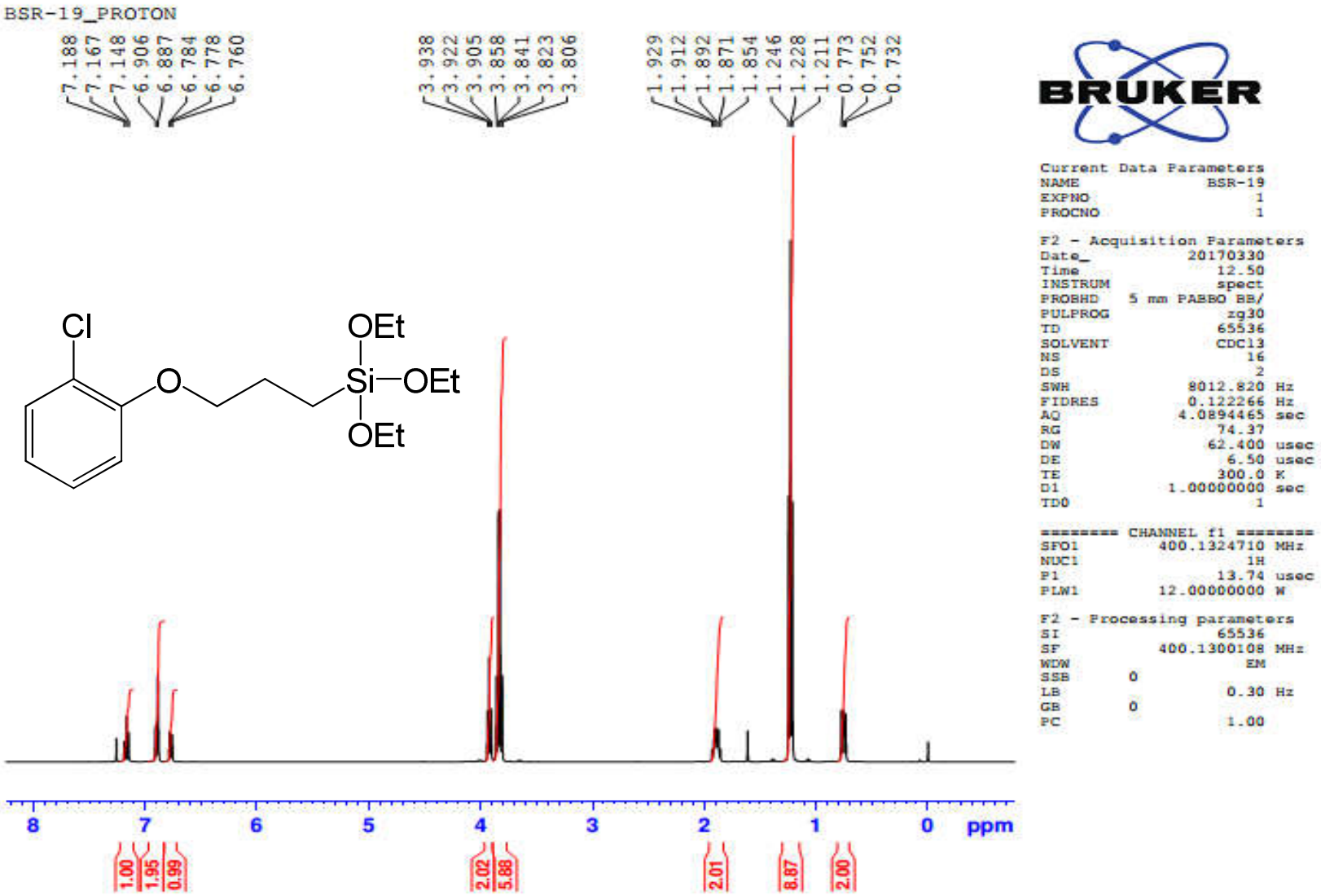
[3-(4-chlorophenoxy)propyl]triethoxysilane (**12b**) – ^{13}C-NMR ($CDCl_3$, 100 MHz)



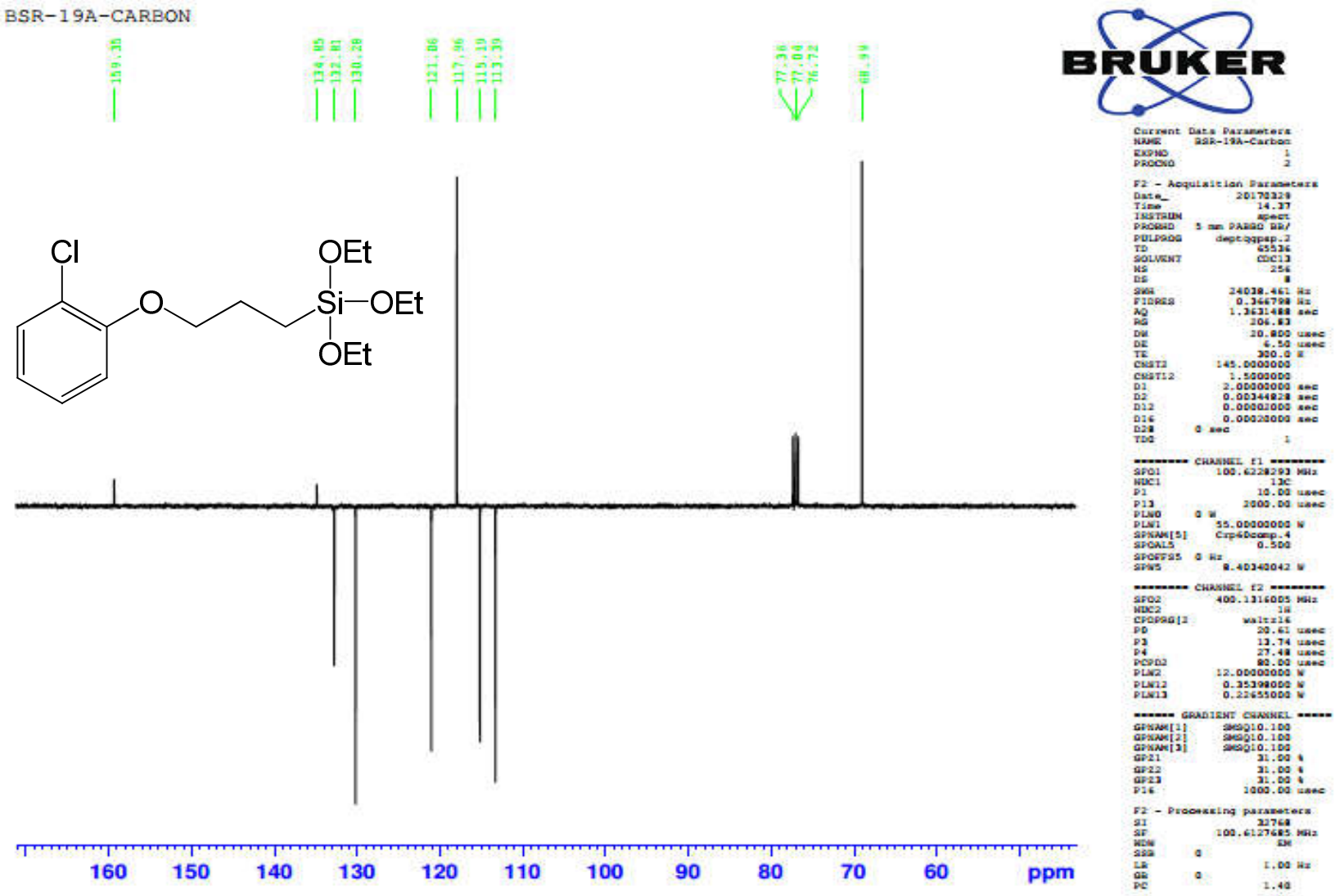
[3-(4-chlorophenoxy)propyl]triethoxysilane (**12b**) – HR-ESIMS $[M+H]^+$ Calculated 333.1283; Observed 333.1280.



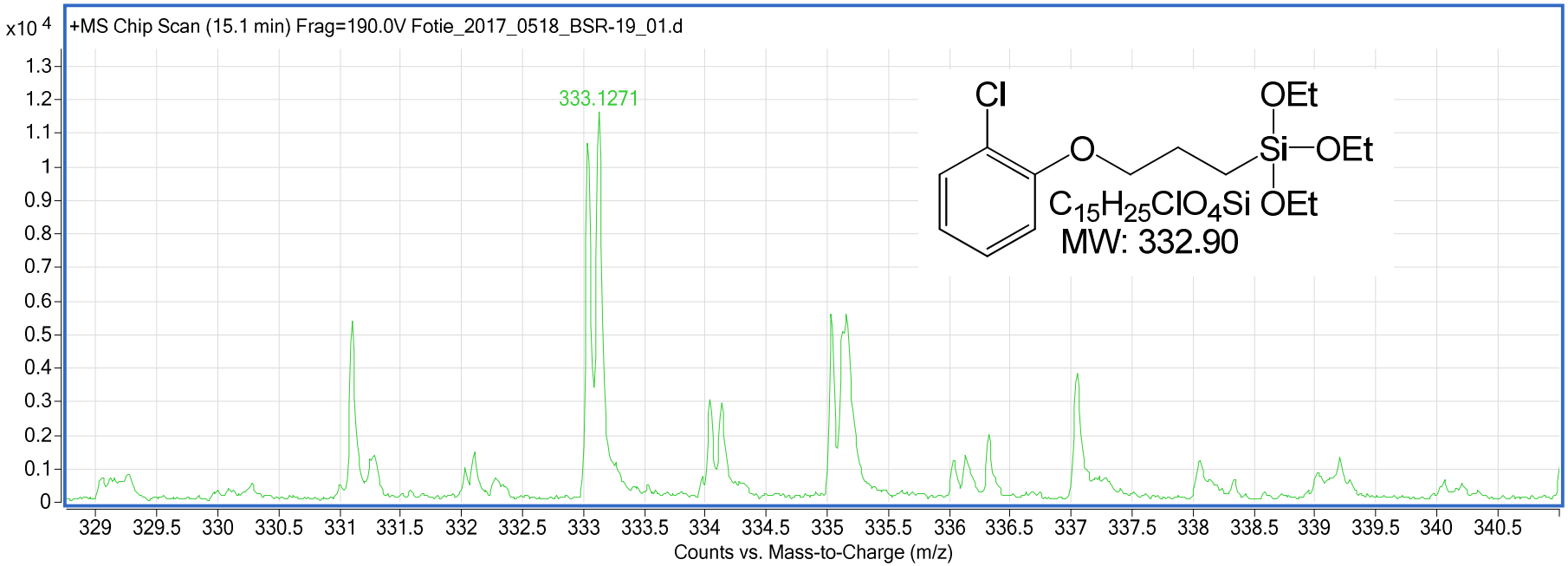
[3-(2-chlorophenoxy)propyl]triethoxysilane (**12c**) – ^{1}H-NMR ($CDCl_3$, 400 MHz)



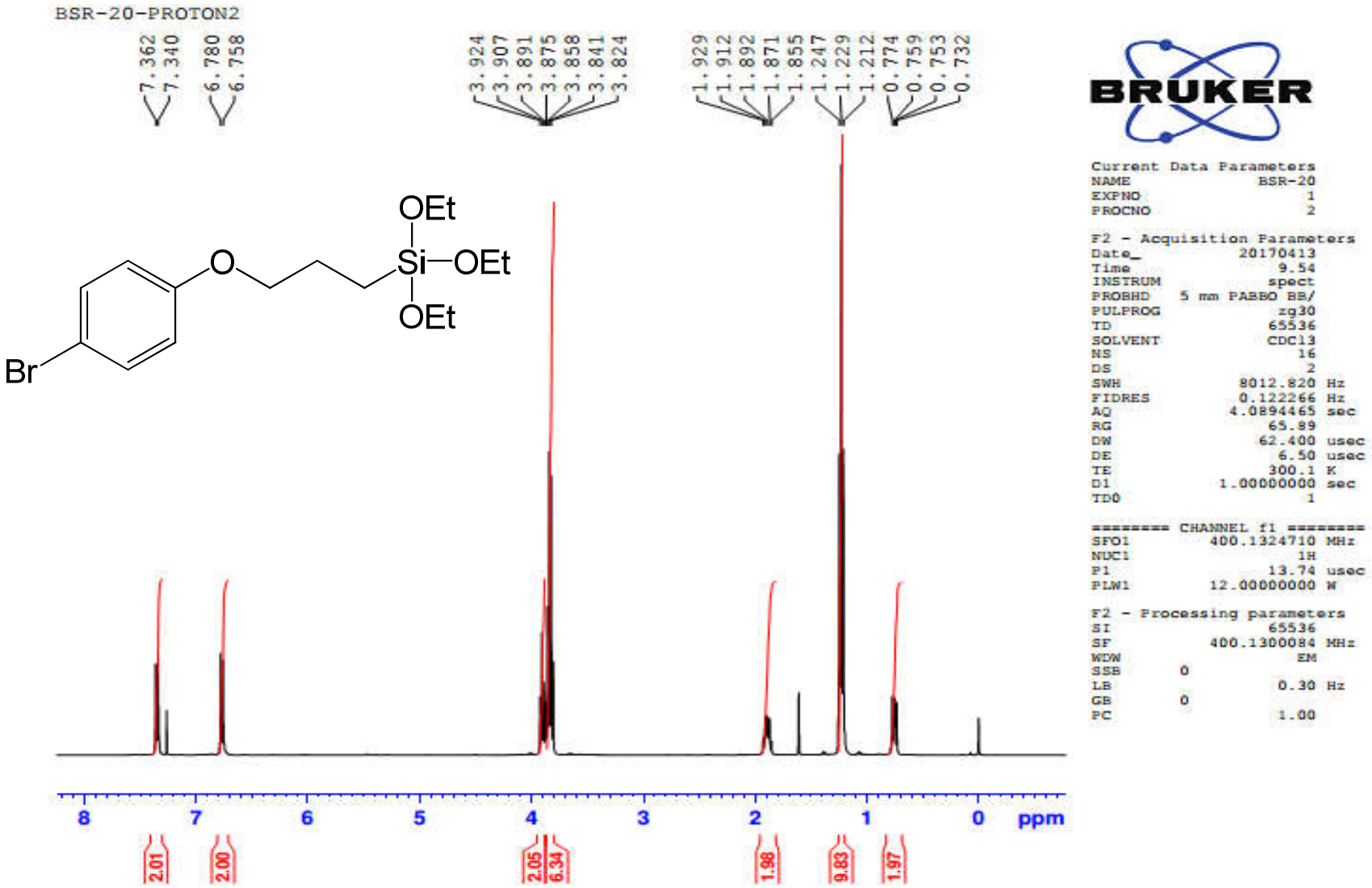
[3-(2-chlorophenoxy)propyl]triethoxysilane (**12c**) – ^{13}C-NMR ($CDCl_3$, 100 MHz)



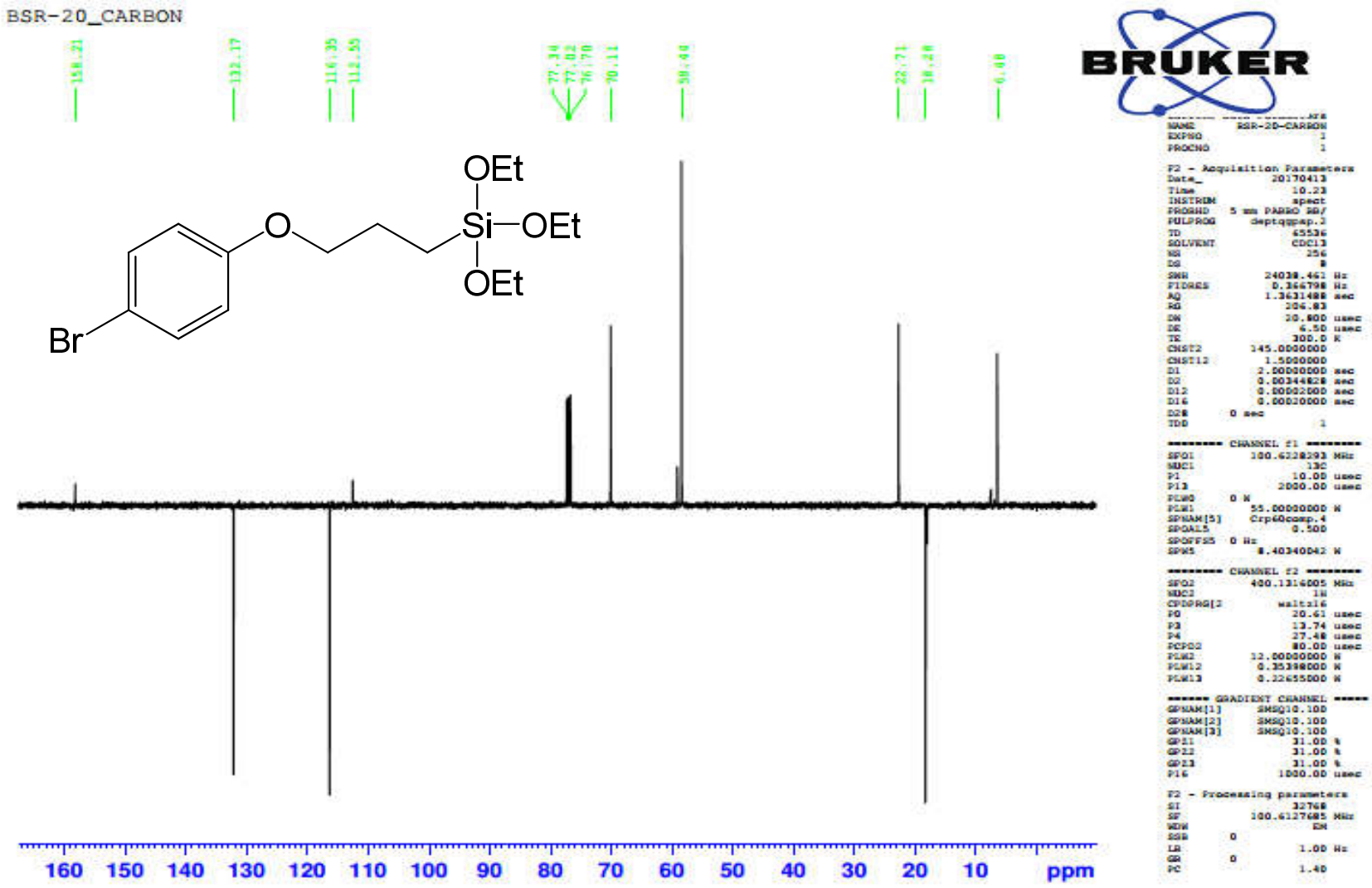
[3-(2-chlorophenoxy)propyl]triethoxysilane (**12c**) – HR-ESIMS $[M+H]^+$ Calculated 333.1283; Observed 333.1271.



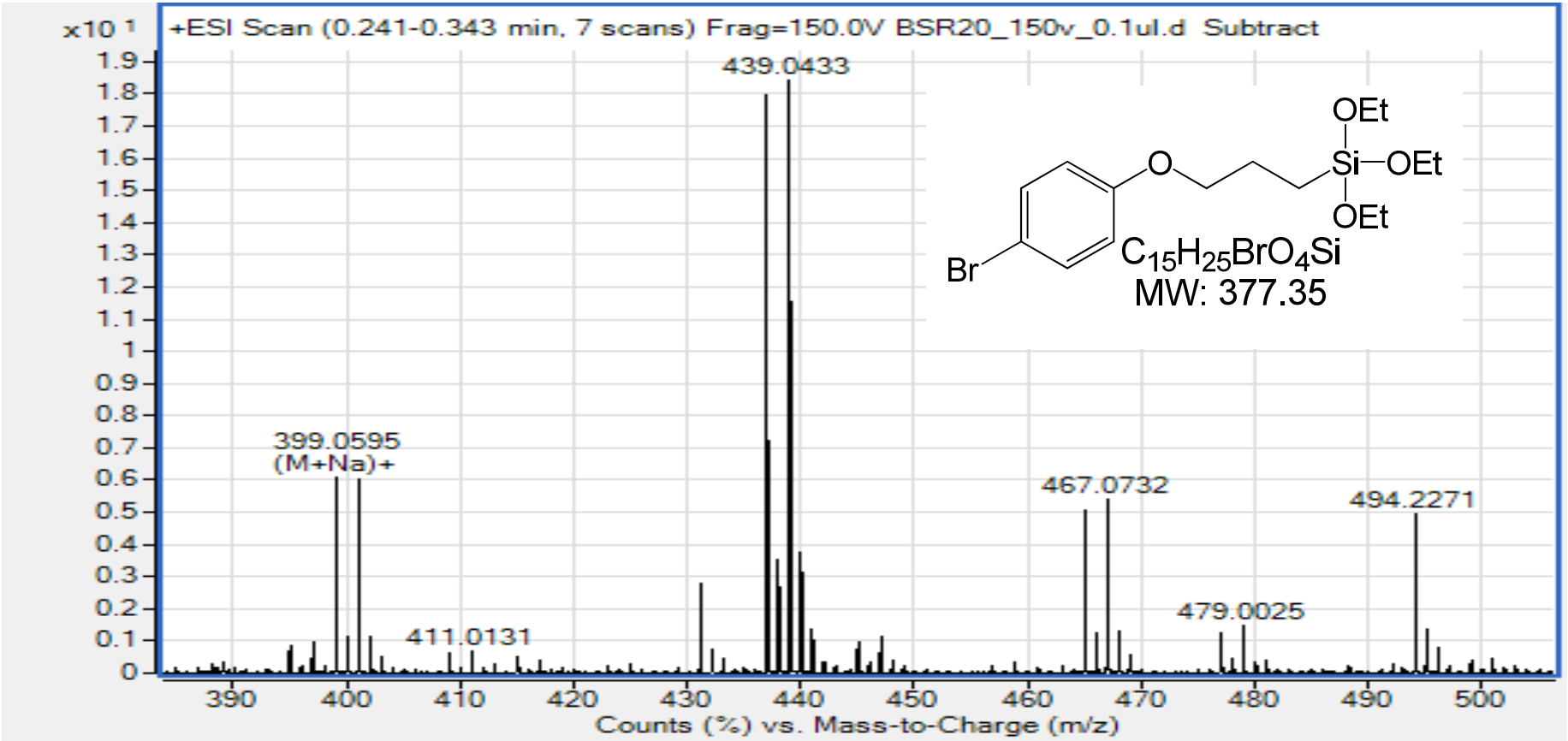
[3-(4-bromophenoxy)propyl]triethoxysilane (**12d**) – ^{1}H-NMR ($CDCl_3$, 400 MHz)



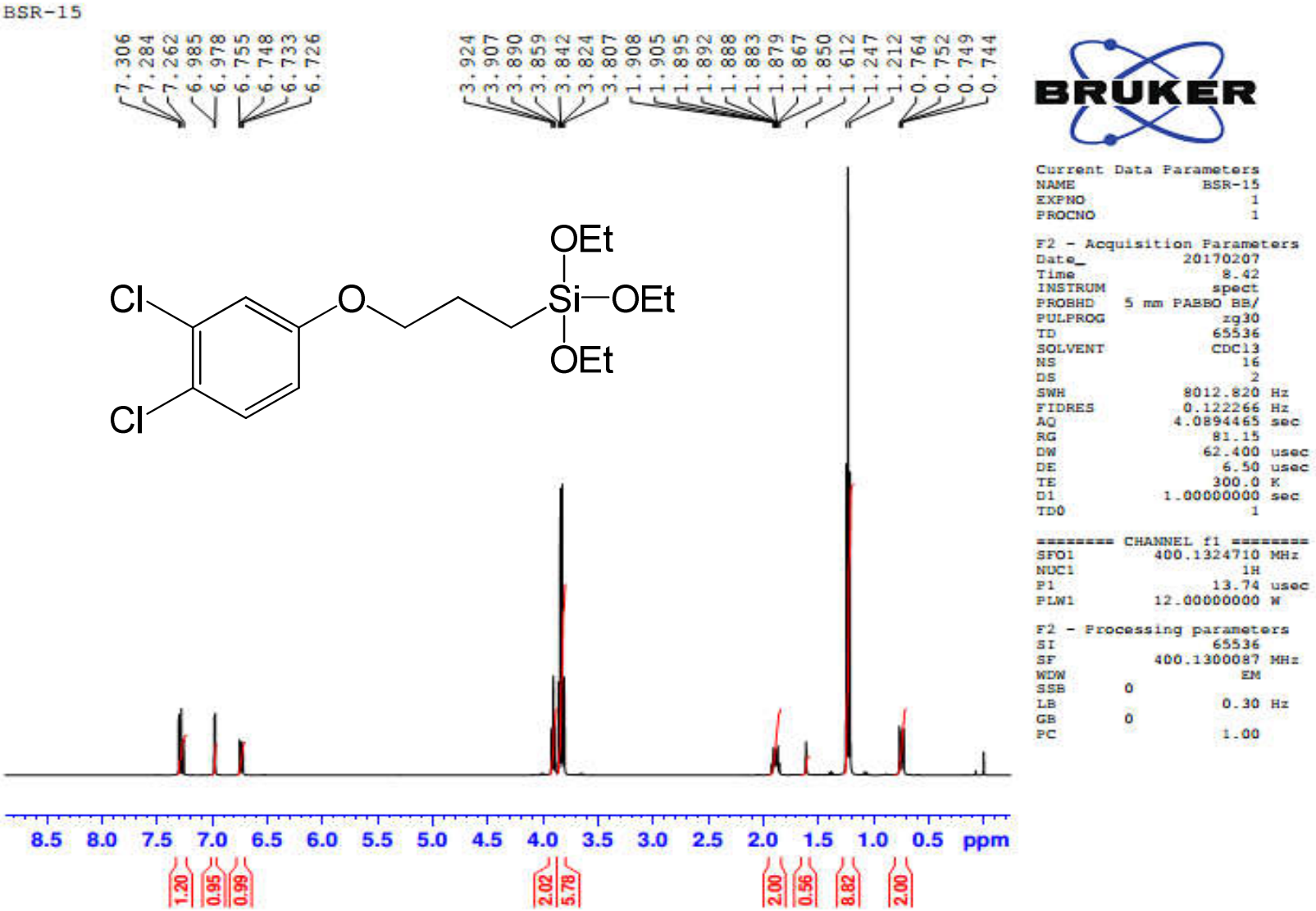
[3-(4-bromophenoxy)propyl]triethoxysilane (**12d**) – ^{13}C-NMR ($CDCl_3$, 100 MHz)



[3-(4-bromophenoxy)propyl]triethoxysilane (**12d**) – HR-ESIMS $[M+Na]^+$ Calculated 399.0598; Observed 399.0595.



[3-(3,4-dichlorophenoxy)propyl]triethoxysilane (**12e**) – ^{1}H-NMR ($CDCl_3$, 400 MHz)



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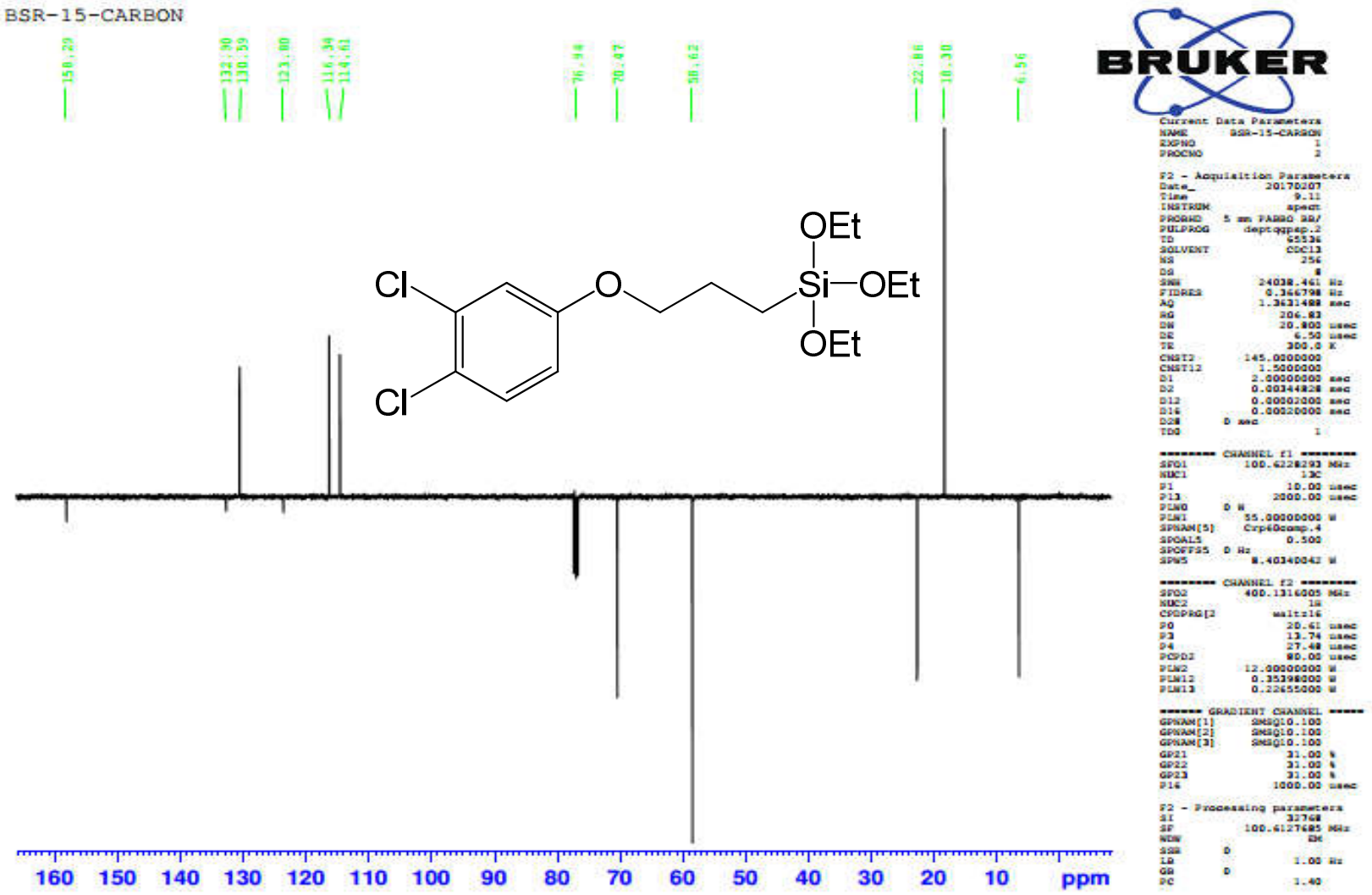
```
Current Data Parameters
NAME                  BSR-15
EXPNO                      1
PROCNO                     1

F2 - Acquisition Parameters
Date_              20170207
Time                   8.42
INSTRUM               spect
PROBHD    5 mm PABBO BB/
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                        16
DS                         2
SWH                8012.820 Hz
FIDRES                0.122266 Hz
AQ                 4.0894465 sec
RG                     81.15
DW                    62.400 usec
DE                     6.50 usec
TE                    300.0 K
D1                 1.00000000 sec
TD0                        1

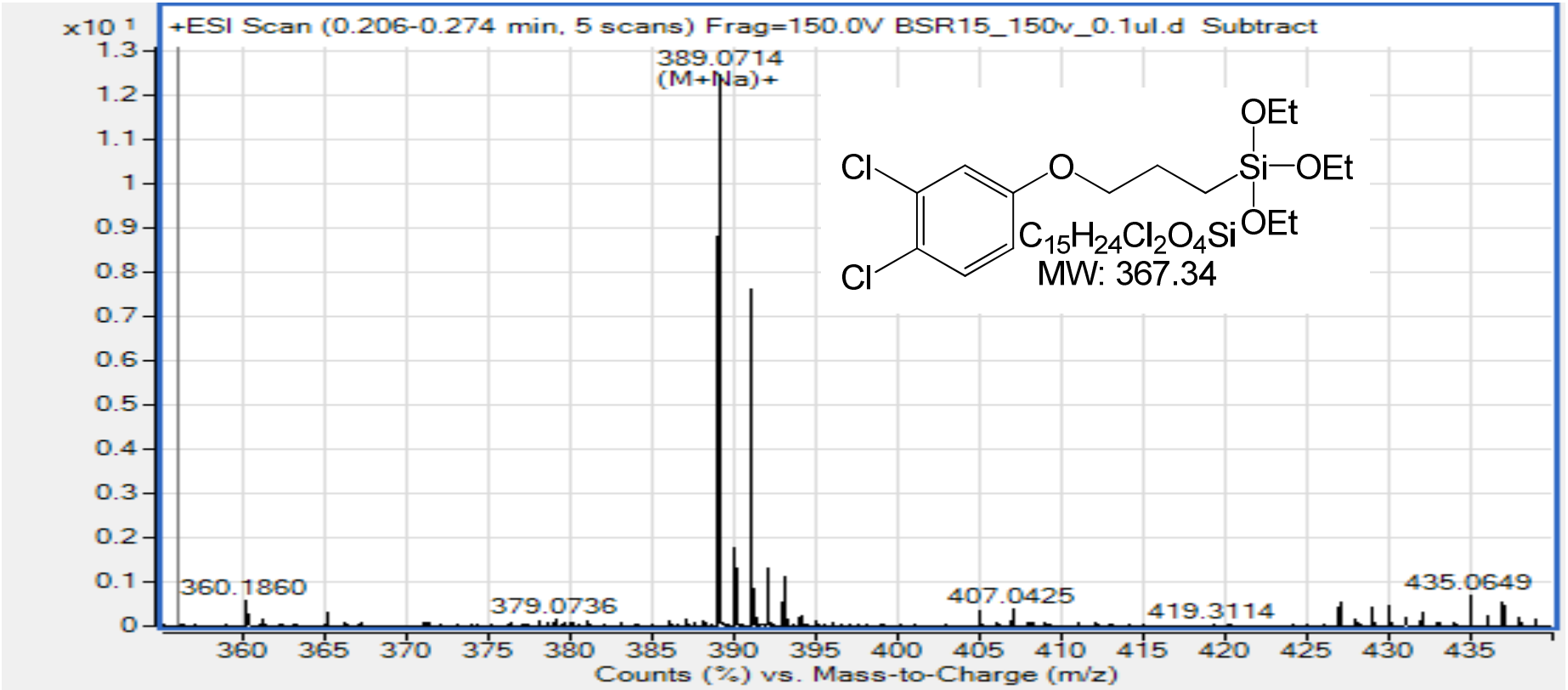
======== CHANNEL f1 ========
SFO1          400.1324710 MHz
NUC1                    1H
P1                    13.74 usec
PLW1          12.00000000 W

F2 - Processing parameters
SI                    65536
SF            400.1300087 MHz
WDW                     EM
SSB                    0
LB                     0.30 Hz
GB                     0
PC                     1.00
```

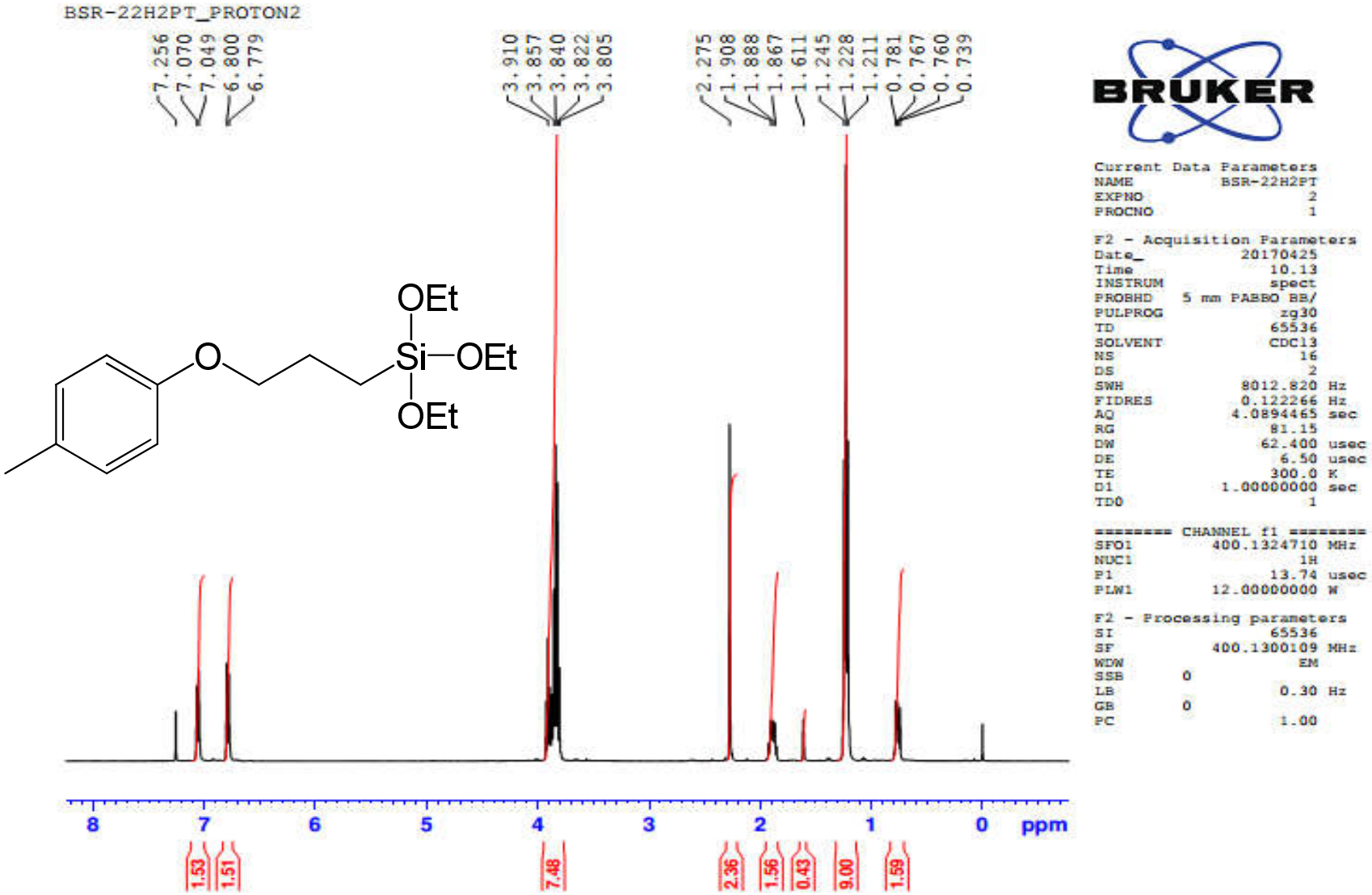
[3-(3,4-dichlorophenoxy)propyl]triethoxysilane (**12e**) – ^{13}C-NMR ($CDCl_3$, 100 MHz)



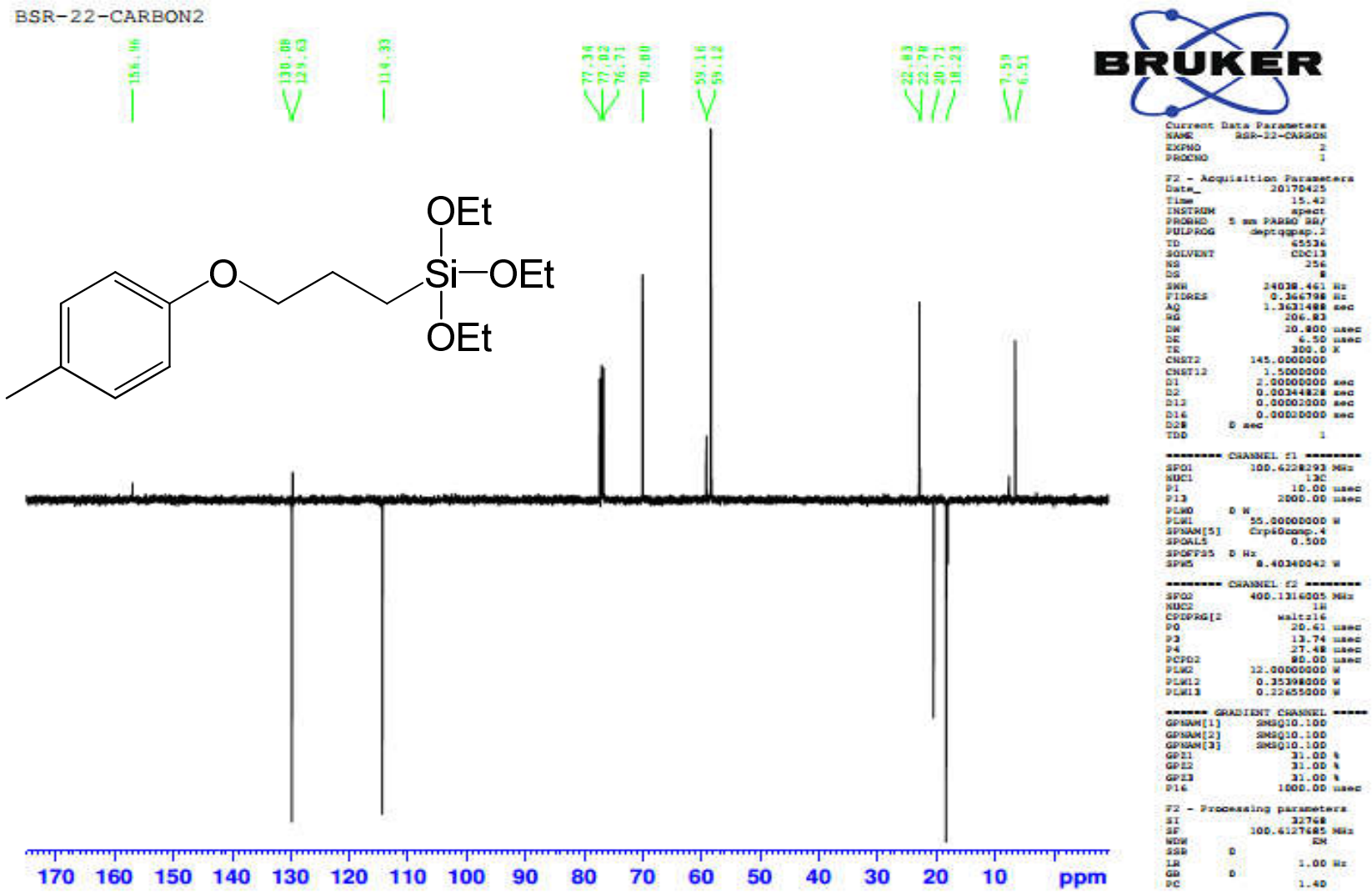
[3-(3,4-dichlorophenoxy)propyl]triethoxysilane (**12e**) – HR-ESIMS $[M+Na]^+$ Calculated 389.0713; Observed 389.0714.



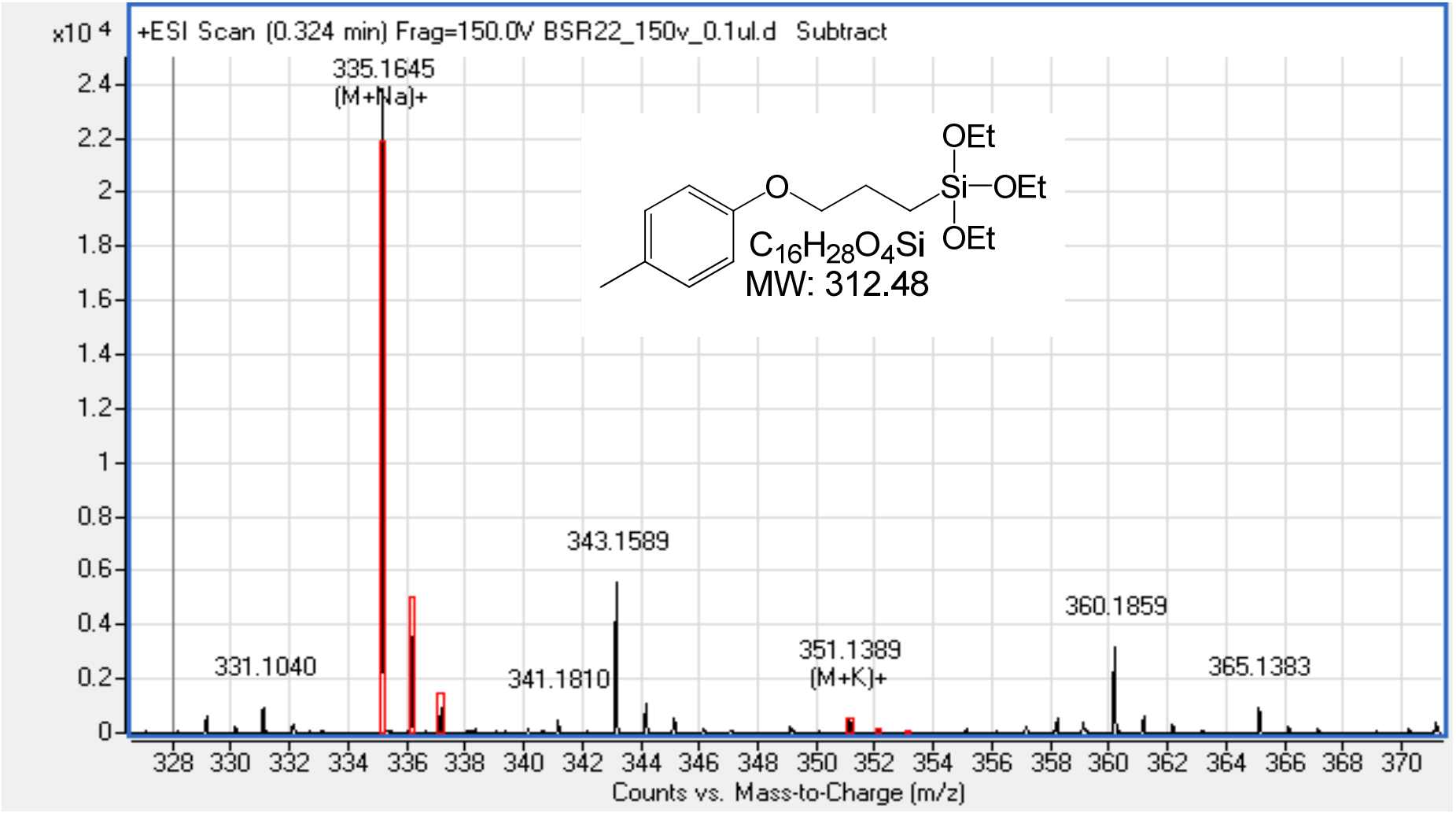
Triethoxy[3-(p-tolyloxy)propyl]silane (**12f**) – ^{1}H-NMR ($CDCl_3$, 400 MHz)



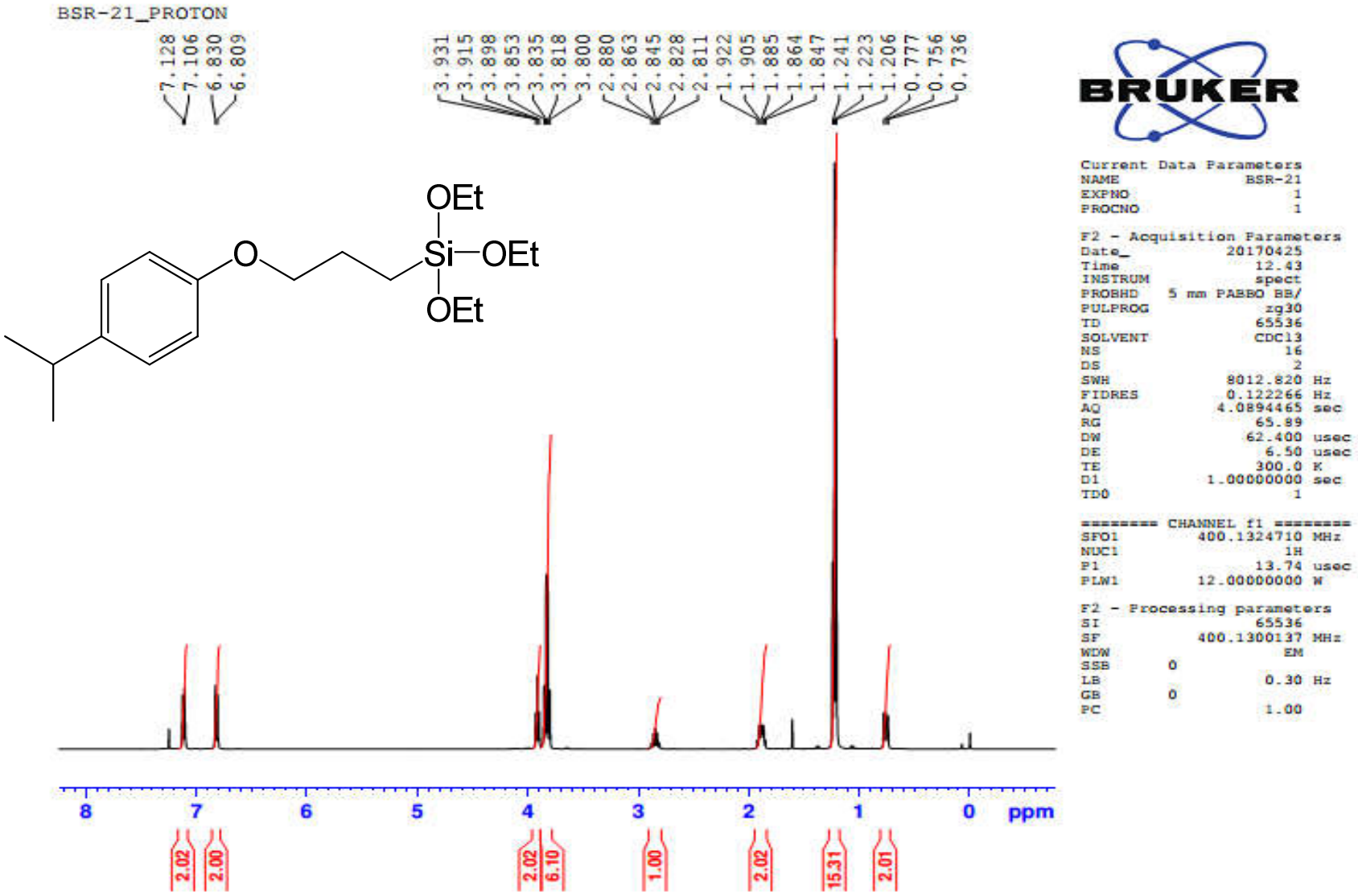
Triethoxy[3-(p-tolyloxy)propyl]silane (**12f**) – ^{13}C-NMR ($CDCl_3$, 100 MHz)



Triethoxy[3-(p-tolyloxy)propyl]silane (**12f**) – HR-ESIMS $[M+Na]^+$ Calculated 335.1649; Observed 335.1645.



Triethoxy[3-(4-isopropylphenoxy)propyl]silane (**12g**) – ^{1}H-NMR ($CDCl_3$, 400 MHz)



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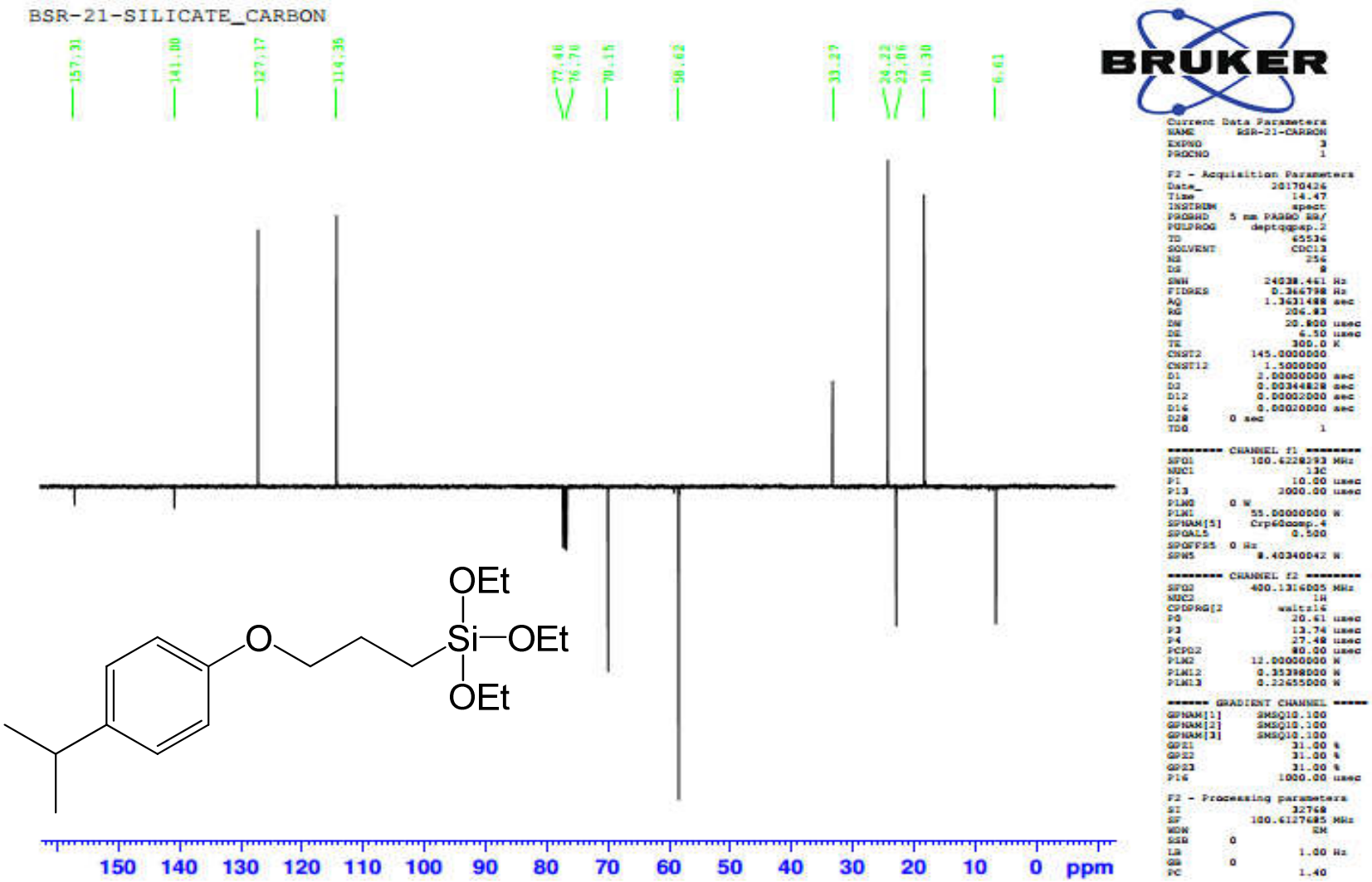
```
Current Data Parameters
NAME                  BSR-21
EXPNO                      1
PROCNO                     1

F2 - Acquisition Parameters
Date_              20170425
Time                  12.43
INSTRUM               spect
PROBHD    5 mm PABBO BB/
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                        16
DS                         2
SWH                8012.820 Hz
FIDRES            0.122266 Hz
AQ                4.0894465 sec
RG                    65.89
DW                   62.400 usec
DE                    6.50 usec
TE                   300.0 K
D1                1.00000000 sec
TD0                        1

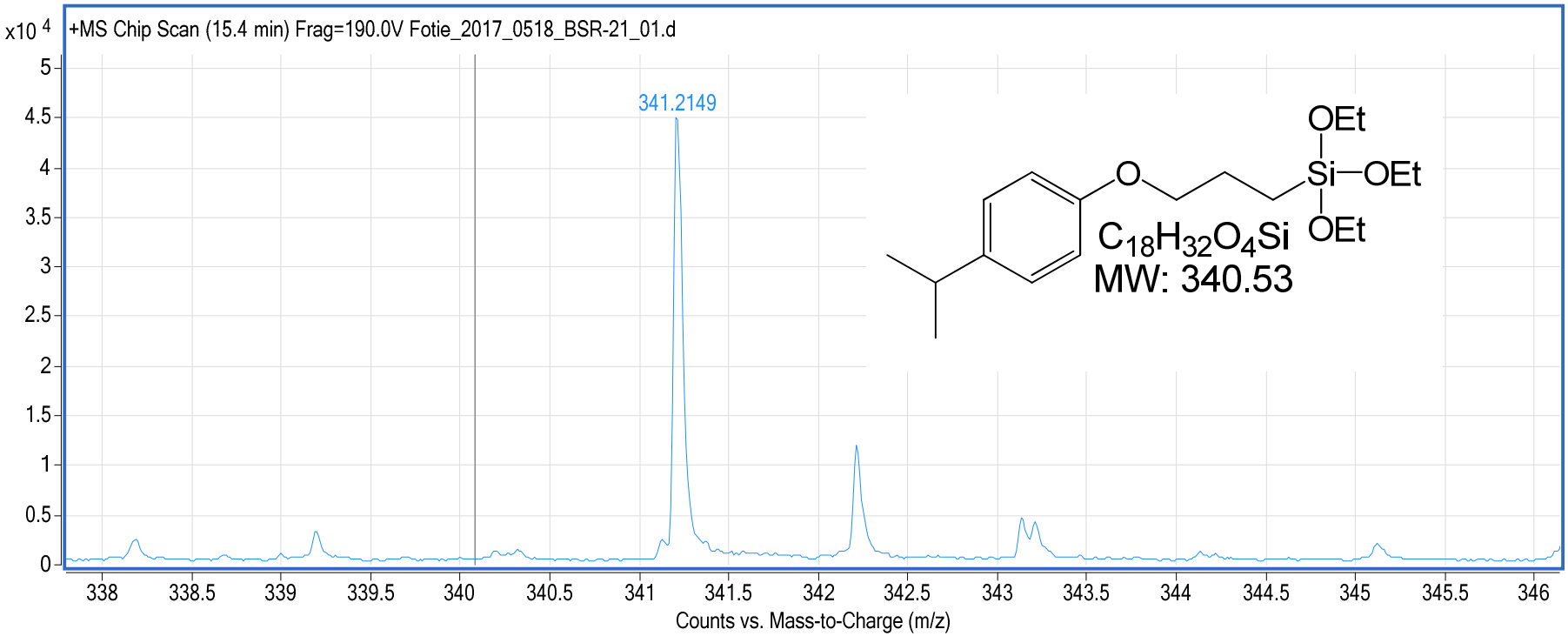
======== CHANNEL f1 ========
SFO1           400.1324710 MHz
NUC1                     1H
P1                    13.74 usec
PLW1          12.00000000 W

F2 - Processing parameters
SI                    65536
SF             400.1300137 MHz
WDW                      EM
SSB       0
LB                     0.30 Hz
GB        0
PC                     1.00
```

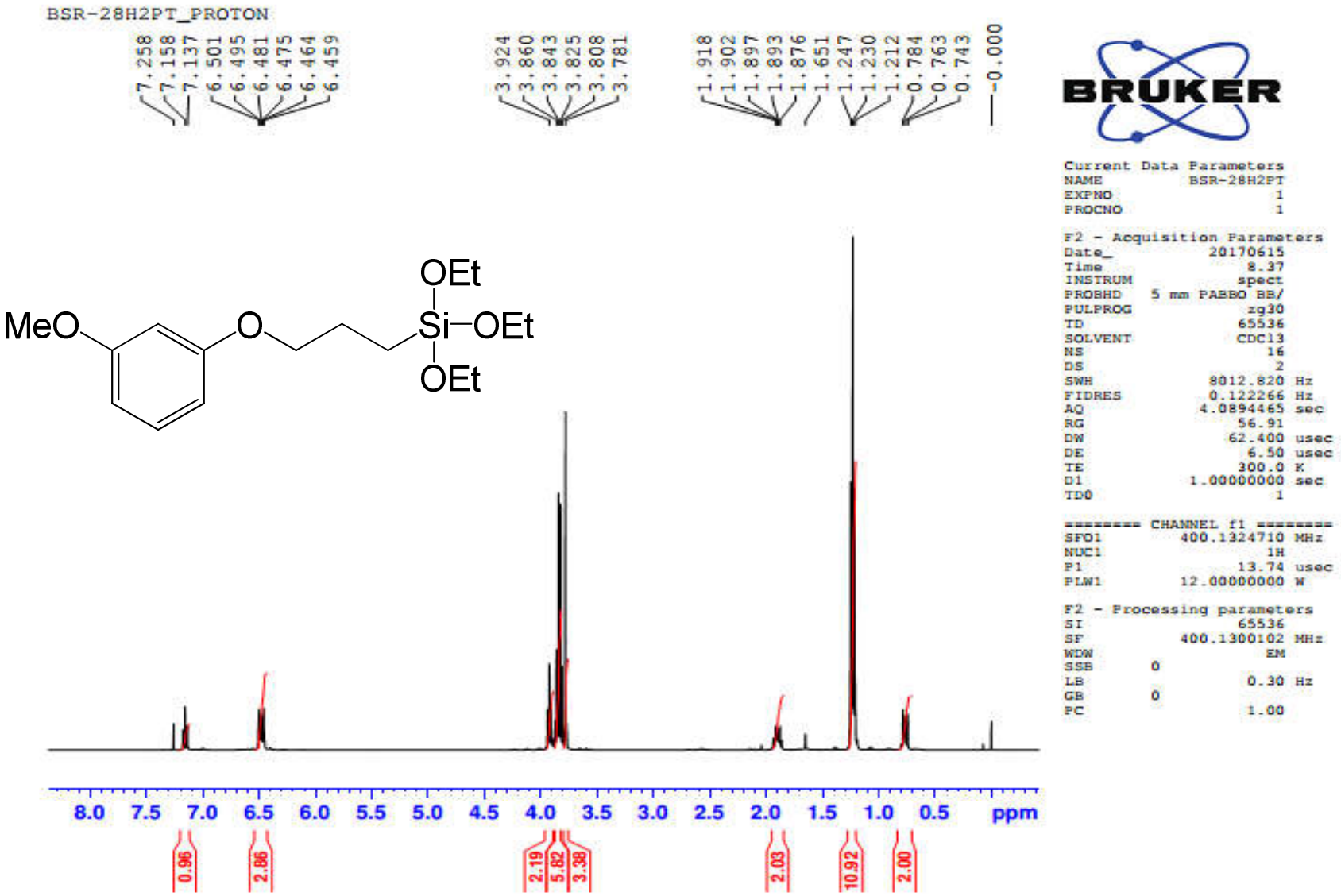
Triethoxy[3-(4-isopropylphenoxy)propyl]silane (**12g**) – ^{13}C-NMR ($CDCl_3$, 100 MHz)



Triethoxy[3-(4-isopropylphenoxy)propyl]silane (**12g**) – HR-ESIMS $[M+H]^+$ Calculated 341.2143; Observed 341.2149.



Triethoxy[3-(3-methoxyphenoxy)propyl]silane (**12h**) – ^{1}H-NMR ($CDCl_3$, 400 MHz)



BRUKER

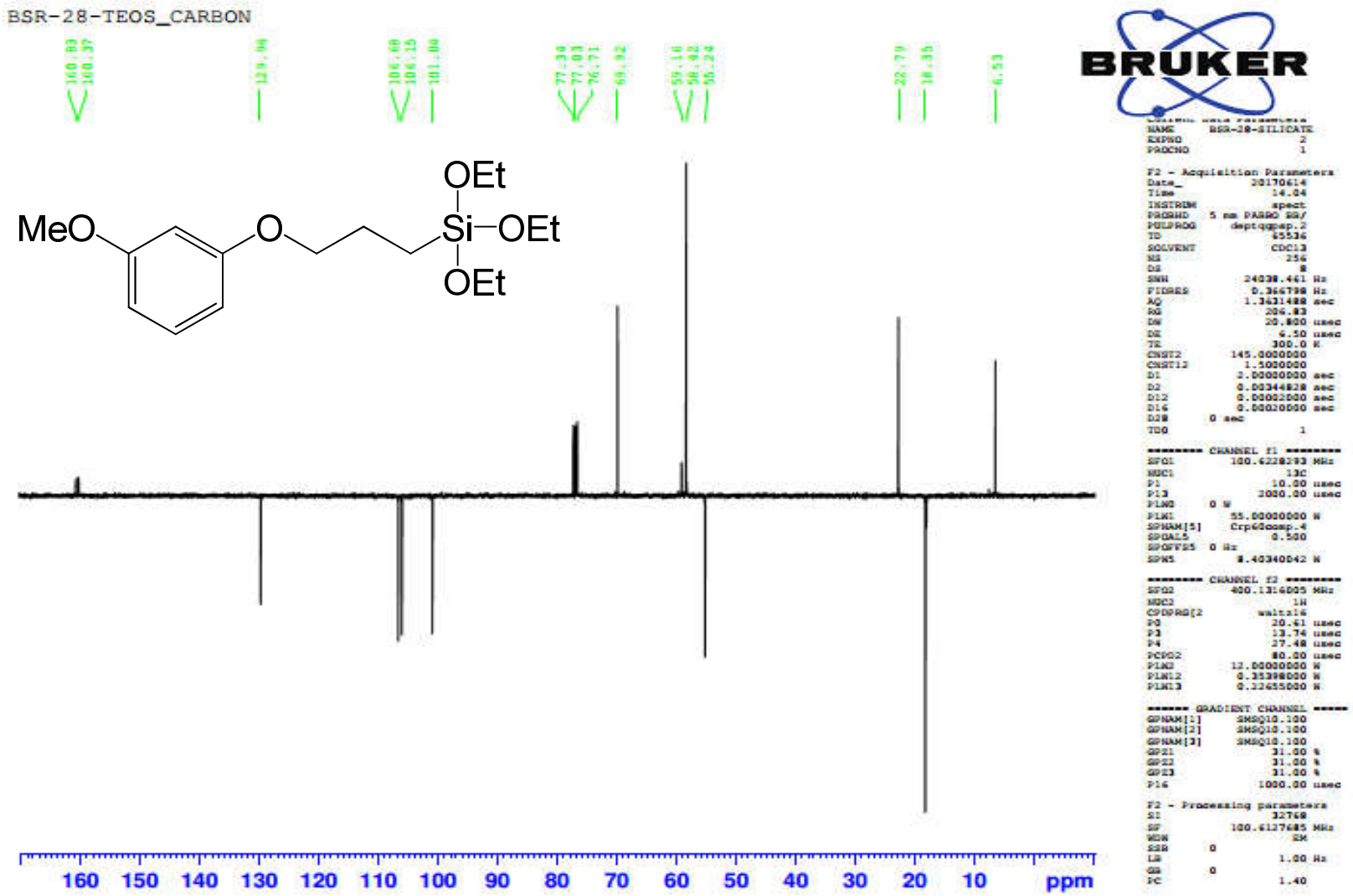
```
Current Data Parameters
NAME                 BSR-28H2PT
EXPNO                         1
PROCNO                        1

F2 - Acquisition Parameters
Date_               20170615
Time                     8.37
INSTRUM                 spect
PROBHD    5 mm PABBO BB/
PULPROG                 zg30
TD                     65536
SOLVENT                CDCl3
NS                        16
DS                         2
SWH                 8012.820 Hz
FIDRES              0.122266 Hz
AQ                  4.0894465 sec
RG                      56.91
DW                     62.400 usec
DE                      6.50 usec
TE                     300.0 K
D1                  1.00000000 sec
TD0                           1

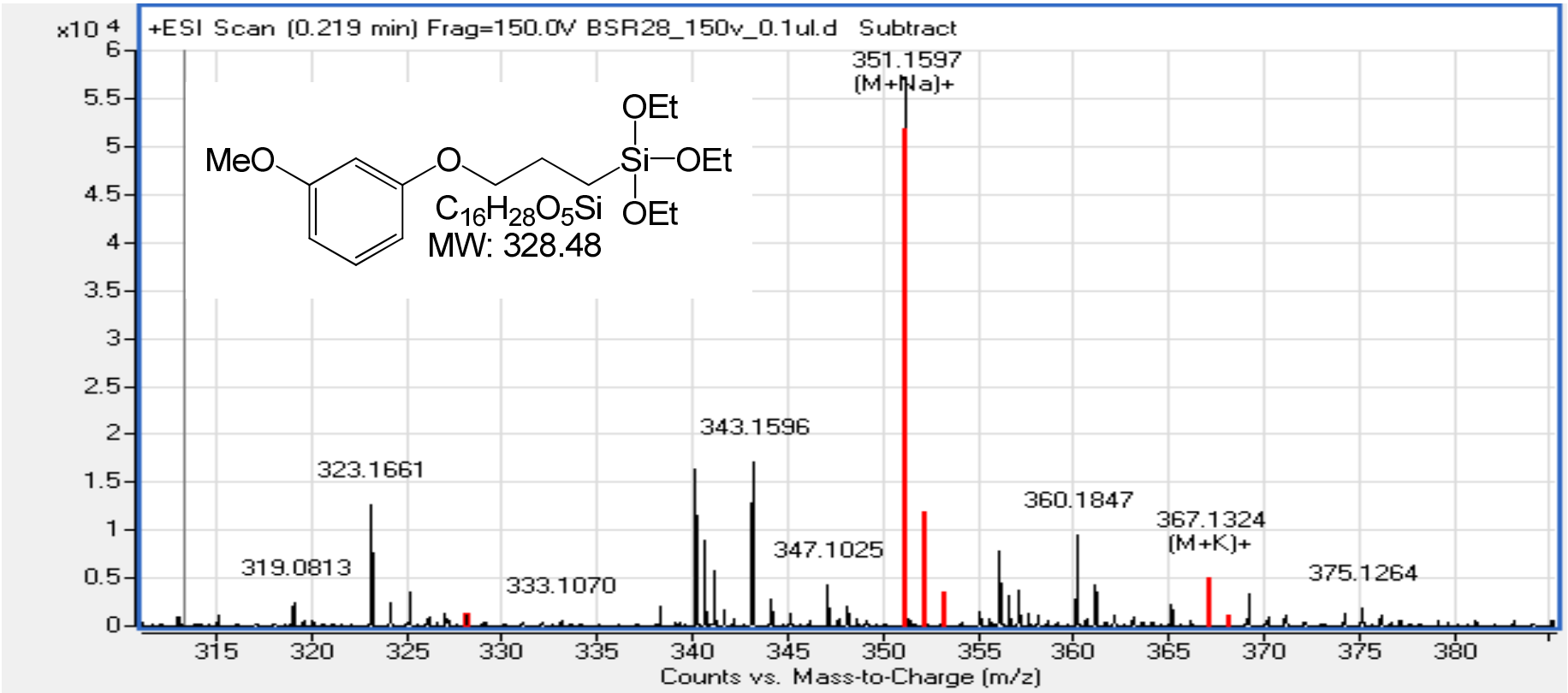
======== CHANNEL f1 ========
SFO1              400.1324710 MHz
NUC1                        1H
P1                       13.74 usec
PLW1             12.00000000 W

F2 - Processing parameters
SI                         65536
SF                400.1300102 MHz
WDW                           EM
SSB                0
LB                       0.30 Hz
GB                 0
PC                       1.00
```

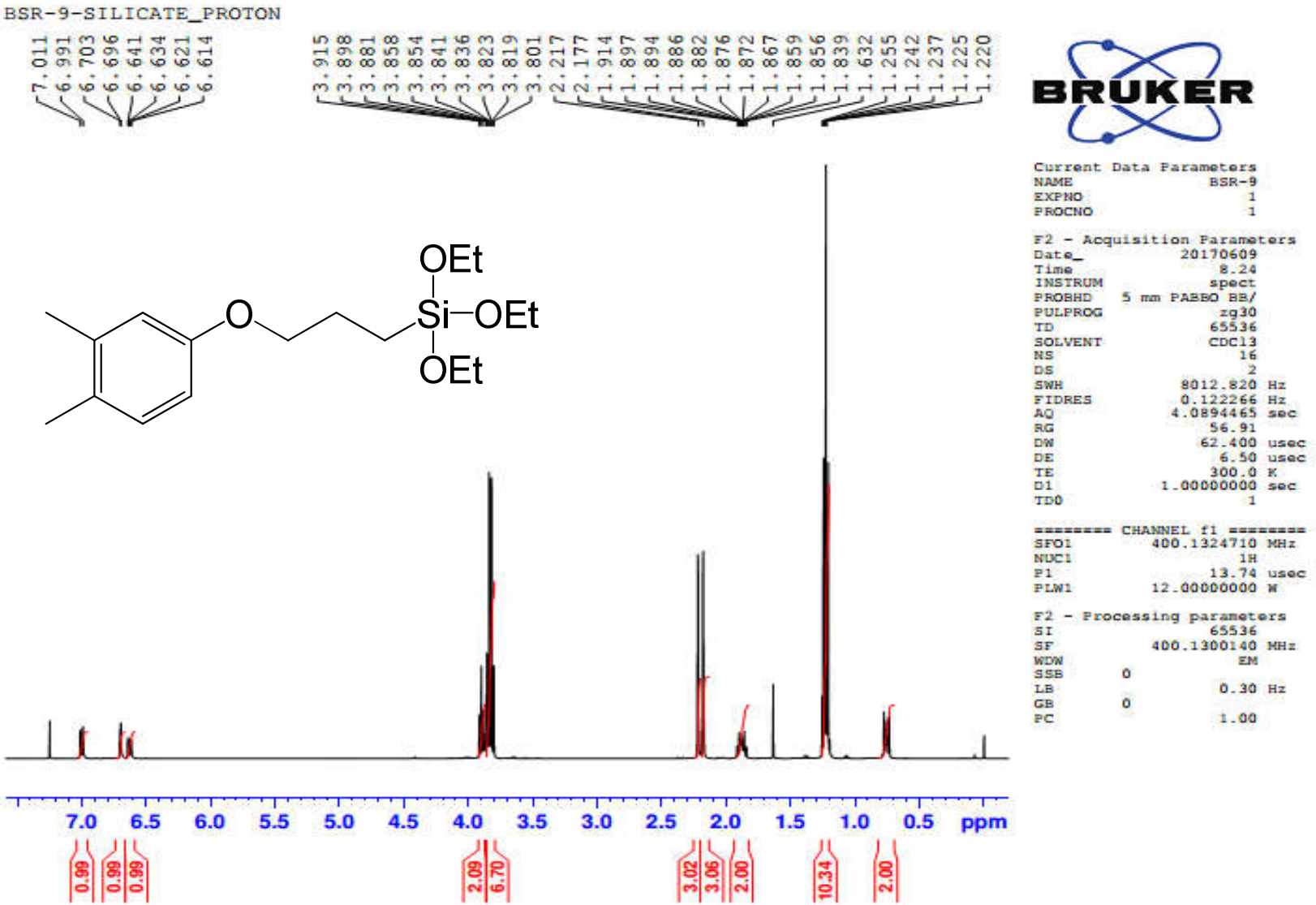
Triethoxy[3-(3-methoxyphenoxy)propyl]silane (**12h**) – ^{13}C-NMR ($CDCl_3$, 100 MHz)



Triethoxy[3-(3-methoxyphenoxy)propyl]silane (**12h**) – HR-ESIMS $[M+Na]^+$ Calculated 351.1598; Observed 351.1597.



[3-(3,4-dimethylphenoxy)propyl]triethoxysilane (**12i**) – ^{1}H-NMR ($CDCl_3$, 400 MHz)



BRUKER

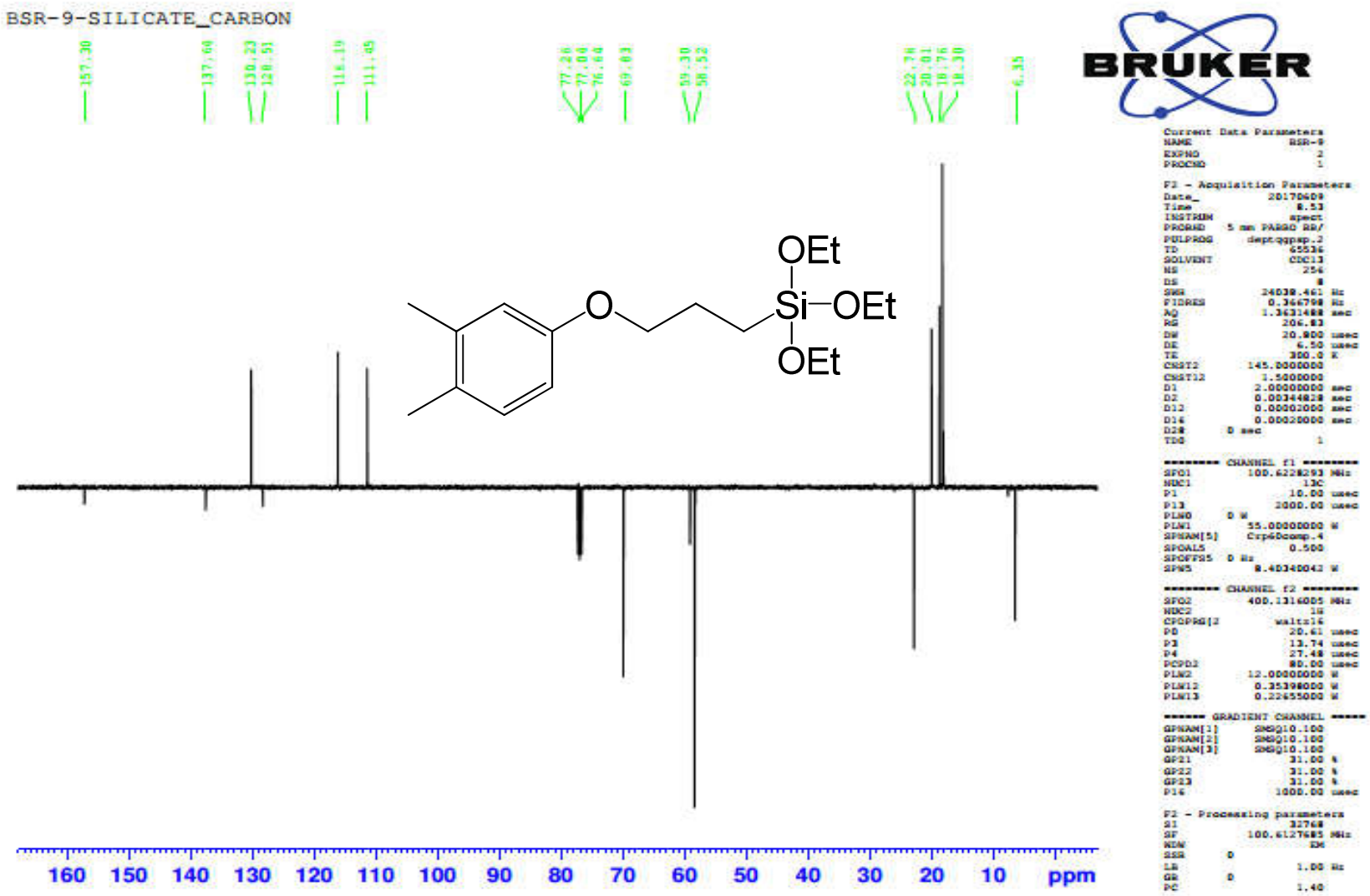
```
Current Data Parameters
NAME                  BSR-9
EXPNO                     1
PROCNO                    1

F2 - Acquisition Parameters
Date_              20170609
Time                  8.24
INSTRUM              spect
PROBHD    5 mm PABBO BB/
PULPROG               zg30
TD                   65536
SOLVENT              CDCl3
NS                       16
DS                        2
SWH                8012.820 Hz
FIDRES             0.122266 Hz
AQ                 4.0894465 sec
RG                    56.91
DW                    62.400 usec
DE                     6.50 usec
TE                    300.0 K
D1                 1.00000000 sec
TD0                       1

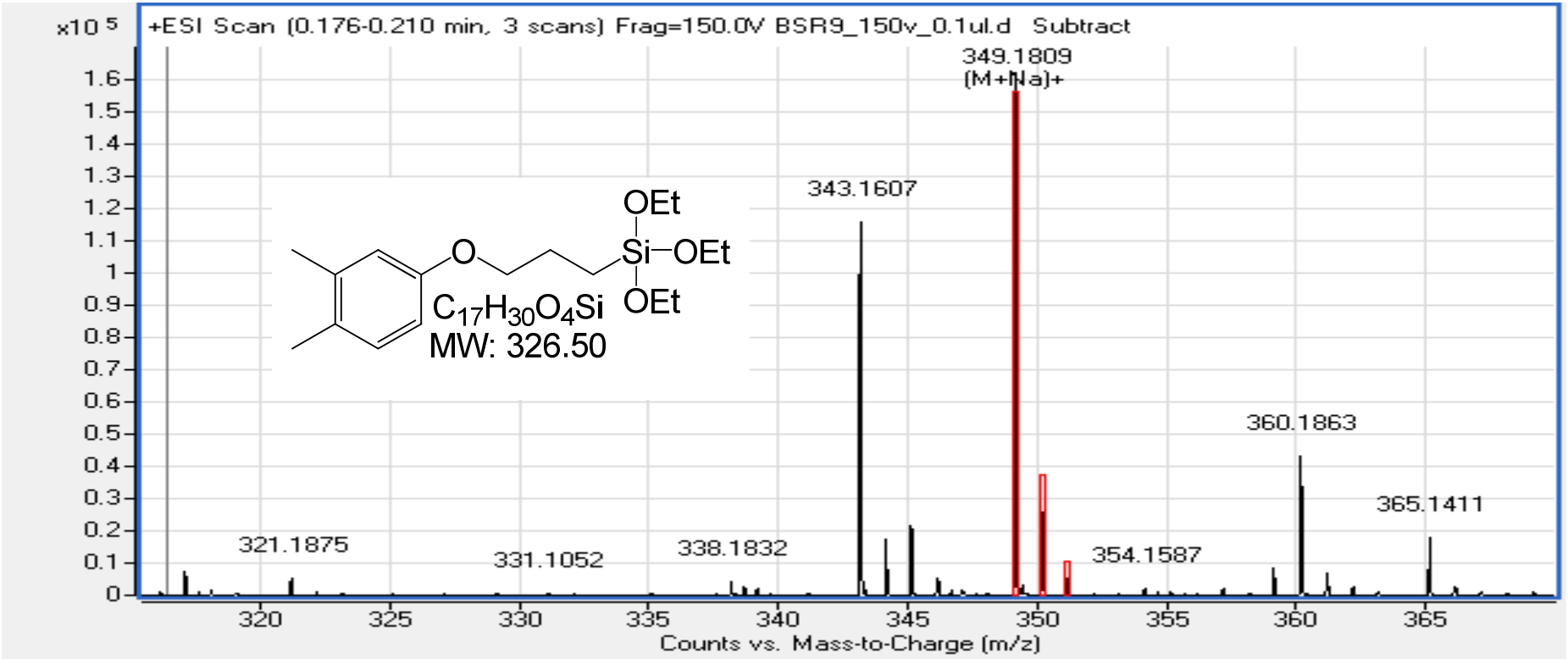
======== CHANNEL f1 ========
SFO1             400.1324710 MHz
NUC1                     1H
P1                    13.74 usec
PLW1              12.00000000 W

F2 - Processing parameters
SI                    65536
SF               400.1300140 MHz
WDW                      EM
SSB          0
LB                     0.30 Hz
GB           0
PC                     1.00
```

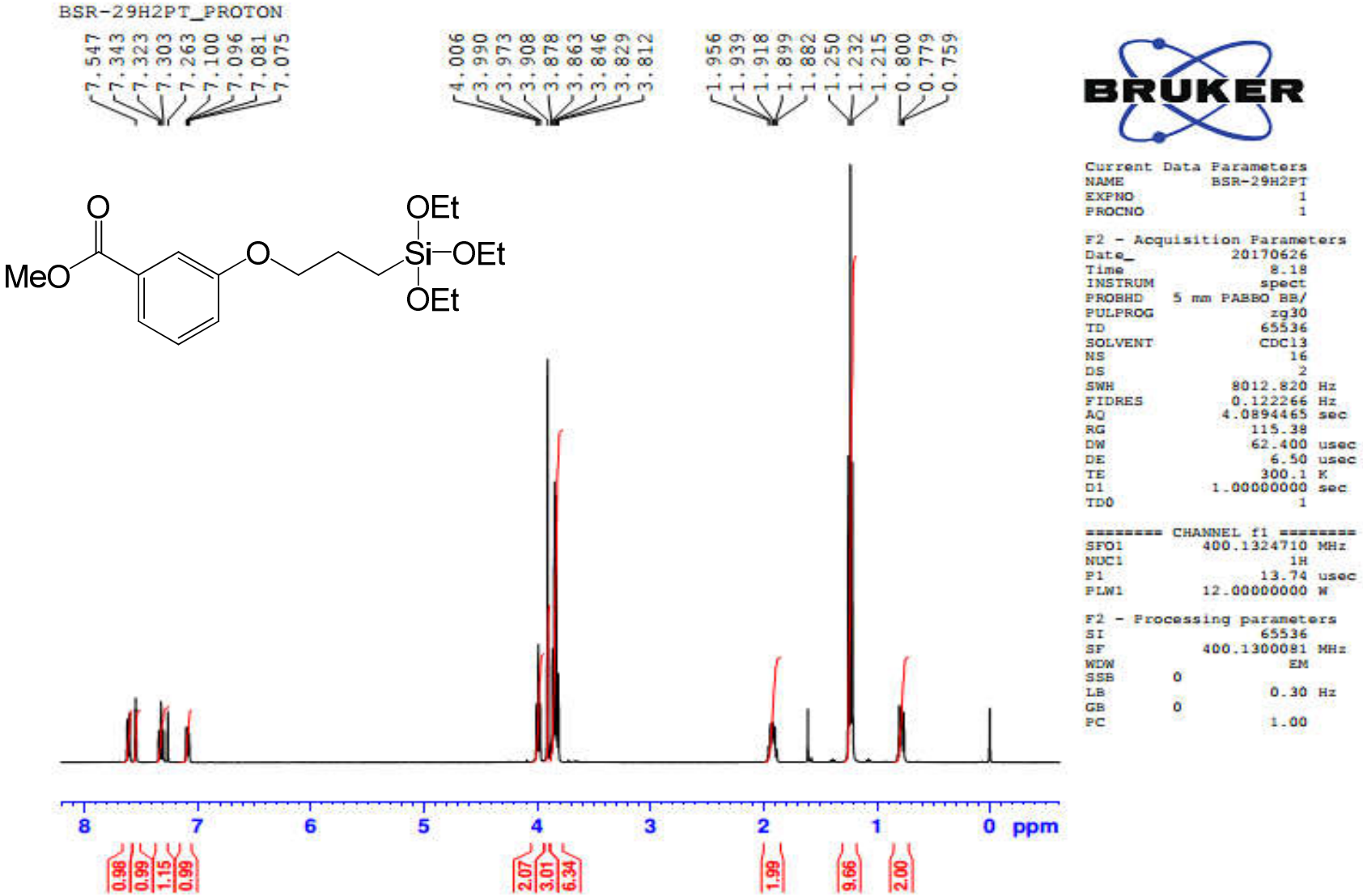
[3-(3,4-dimethylphenoxy)propyl]triethoxysilane (**12i**) – ^{13}C-NMR ($CDCl_3$, 100 MHz)



[3-(3,4-dimethylphenoxy)propyl]triethoxysilane (**12i**) – HR-ESIMS $[M+Na]^+$ Calculated 349.1806; Observed 349.1809.



Methyl 3-[3-(triethoxysilyl)propoxy]benzoate (**12j**) – ^{1}H-NMR ($CDCl_3$, 400 MHz)



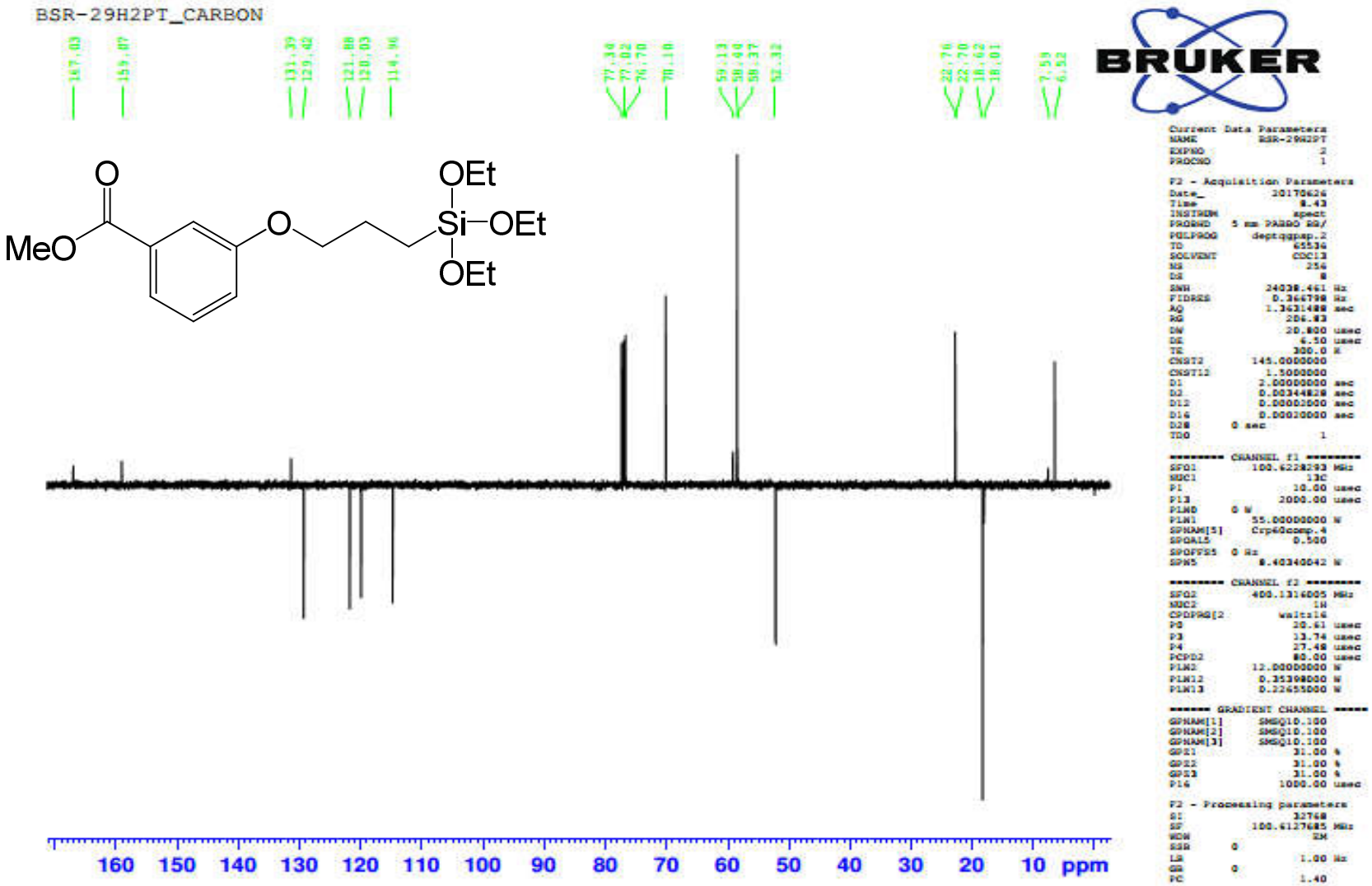

```
Current Data Parameters
NAME                  BSR-29H2PT
EXPNO                          1
PROCNO                         1

F2 - Acquisition Parameters
Date_                   20170626
Time                        8.18
INSTRUM                    spect
PROBHD     5 mm PABBO BB/
PULPROG                    zg30
TD                        65536
SOLVENT                   CDCl3
NS                           16
DS                            2
SWH                    8012.820 Hz
FIDRES                 0.122266 Hz
AQ                     4.0894465 sec
RG                        115.38
DW                        62.400 usec
DE                         6.50 usec
TE                        300.1 K
D1                  1.00000000 sec
TD0                            1

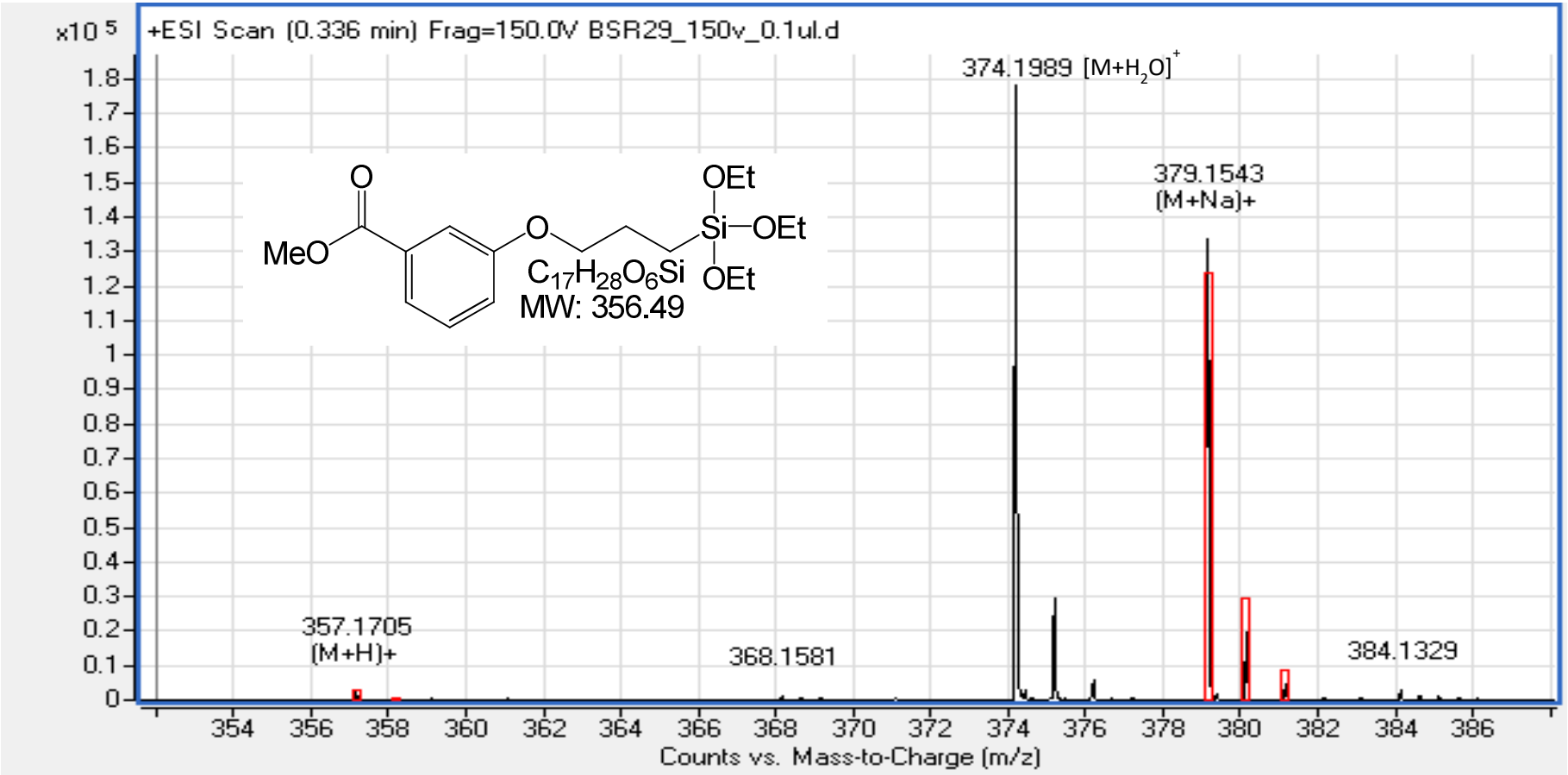
======== CHANNEL f1 ========
SFO1                400.1324710 MHz
NUC1                         1H
P1                        13.74 usec
PLW1                12.00000000 W

F2 - Processing parameters
SI                        65536
SF                  400.1300081 MHz
WDW                          EM
SSB                 0
LB                         0.30 Hz
GB                  0
PC                         1.00
```

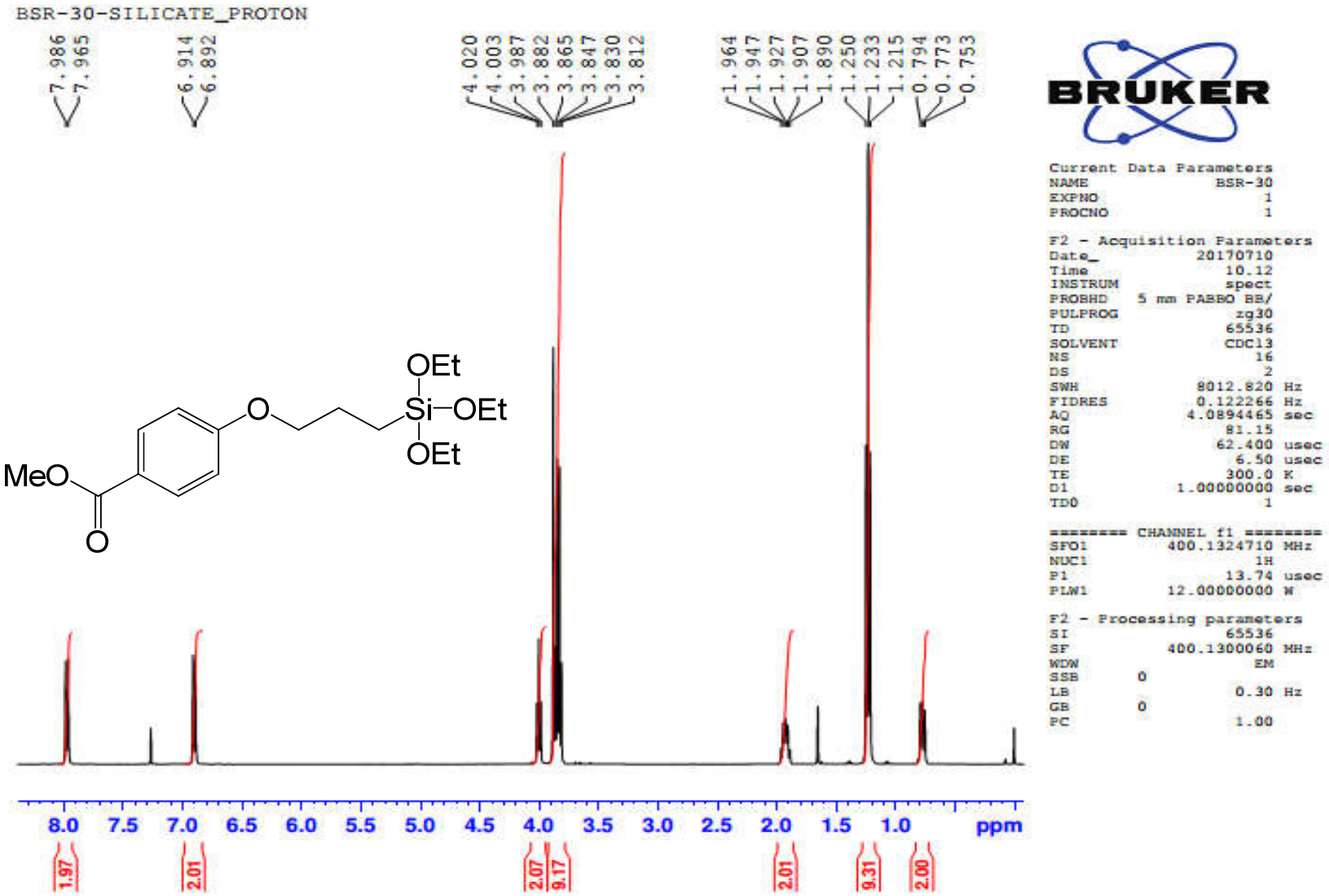
Methyl 3-[3-(triethoxysilyl)propoxy]benzoate (**12j**) – ^{13}C-NMR ($CDCl_3$, 100 MHz)



Methyl 3-[3-(triethoxysilyl)propoxy]benzoate (**12j**) – HR-ESIMS $[M+Na]^+$ Calculated 379.1547; Observed 379.1543.



Methyl 4-[3-(triethoxysilyl)propoxy]benzoate (**12k**) – ^{1}H-NMR ($CDCl_3$, 400 MHz)



BRUKER

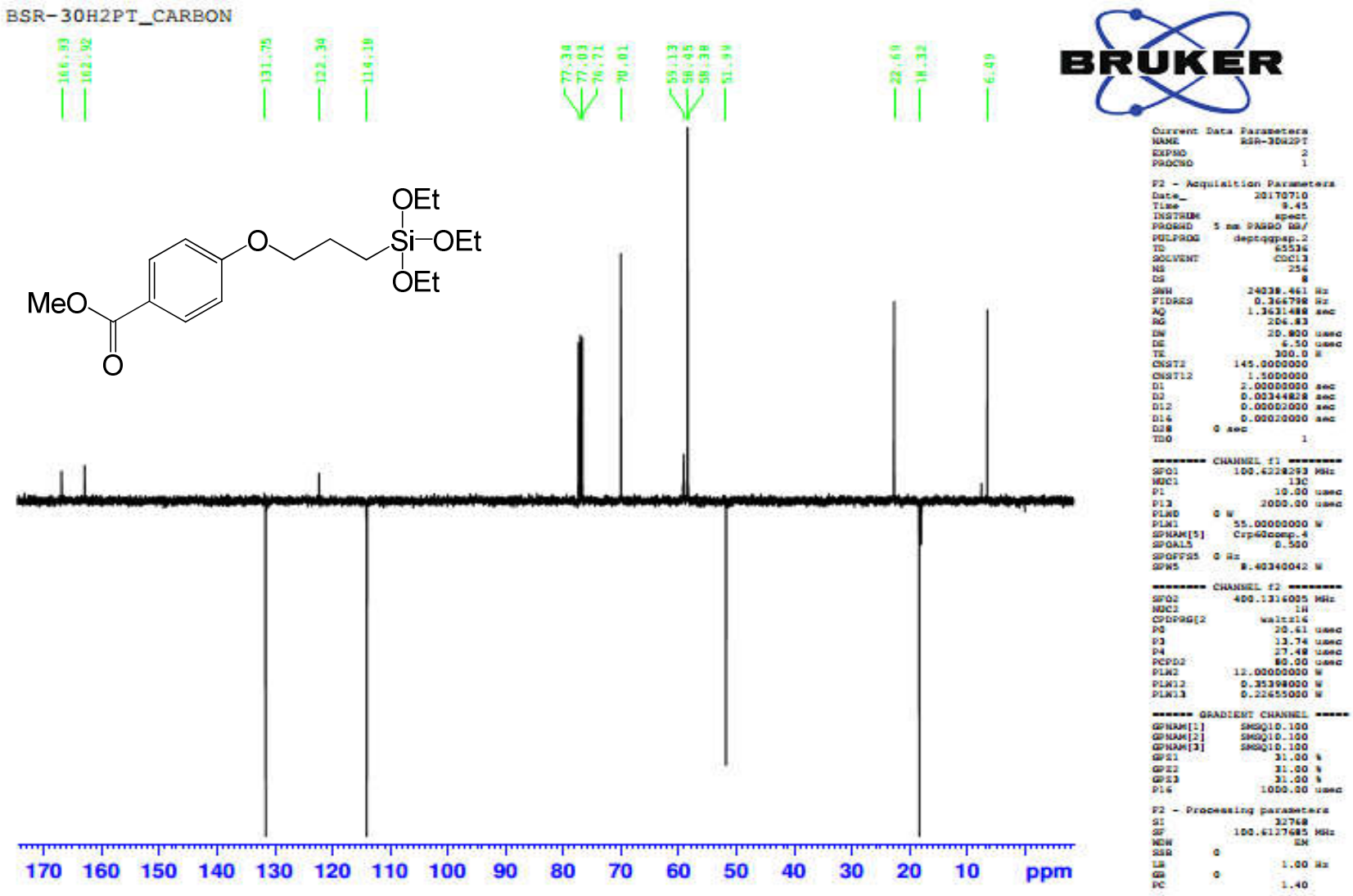
```
Current Data Parameters
NAME                  BSR-30
EXPNO                      1
PROCNO                     1

F2 - Acquisition Parameters
Date_              20170710
Time                  10.12
INSTRUM               spect
PROBHD    5 mm PABBO BB/
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH                8012.820 Hz
FIDRES            0.122266 Hz
AQ                4.0894465 sec
RG                    81.15
DW                   62.400 usec
DE                    6.50 usec
TE                   300.0 K
D1                1.00000000 sec
TD0                        1

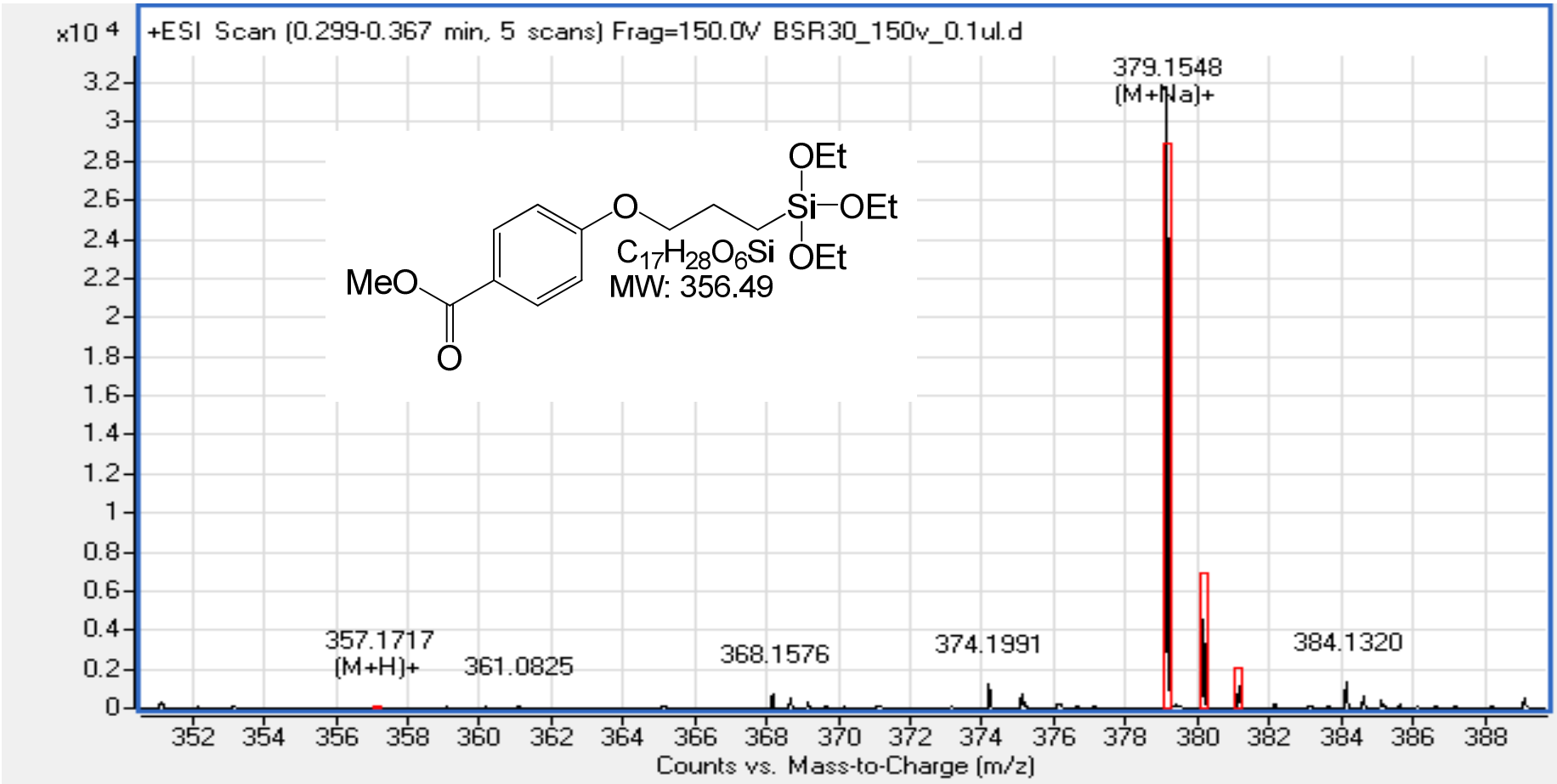
======== CHANNEL f1 ========
SFO1             400.1324710 MHz
NUC1                     1H
P1                    13.74 usec
PLW1             12.00000000 W

F2 - Processing parameters
SI                    65536
SF               400.1300060 MHz
WDW                      EM
SSB          0
LB                    0.30 Hz
GB           0
PC                    1.00
```

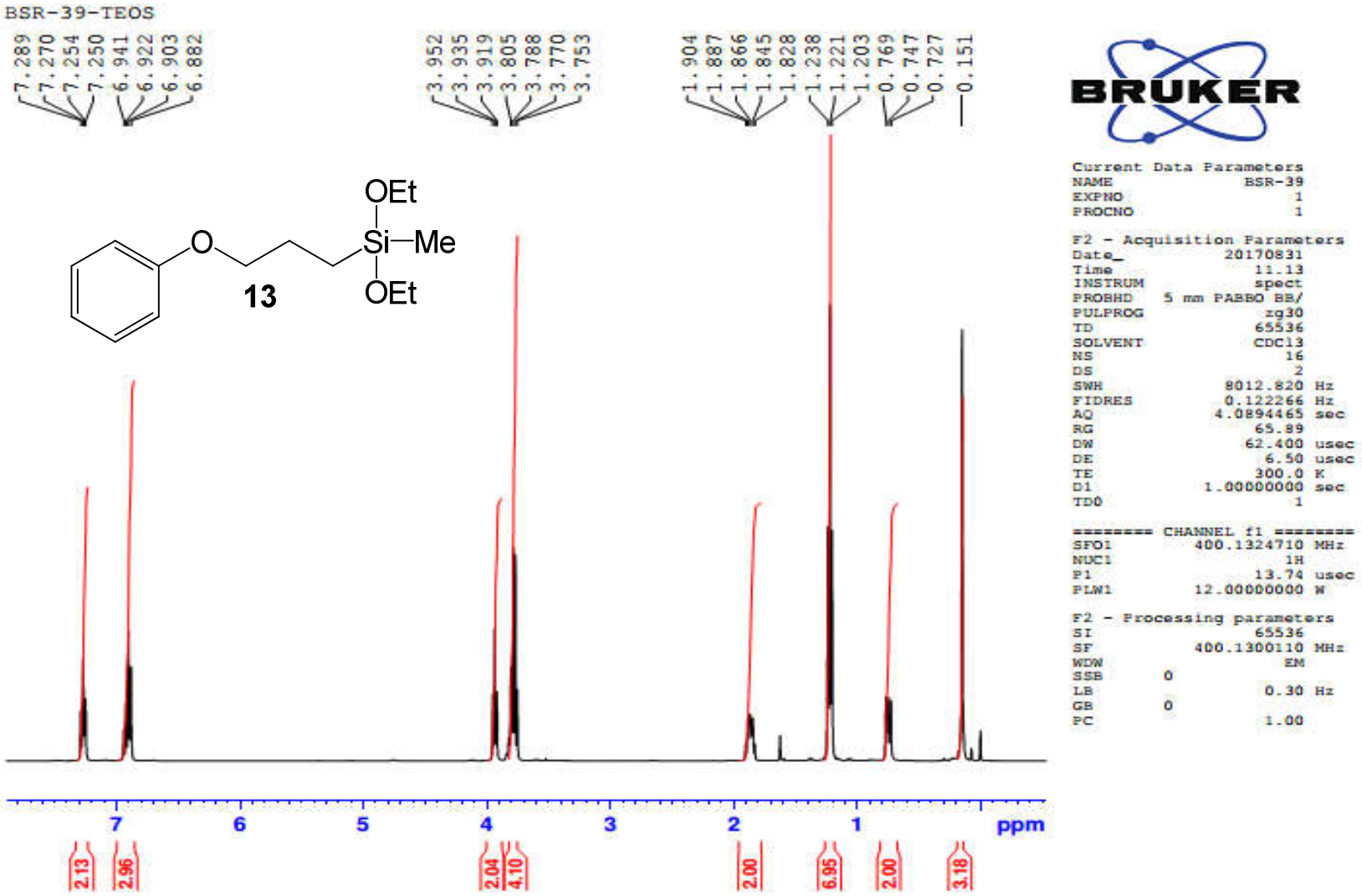
Methyl 4-[3-(triethoxysilyl)propoxy]benzoate (**12k**) – ^{13}C-NMR ($CDCl_3$, 100 MHz)



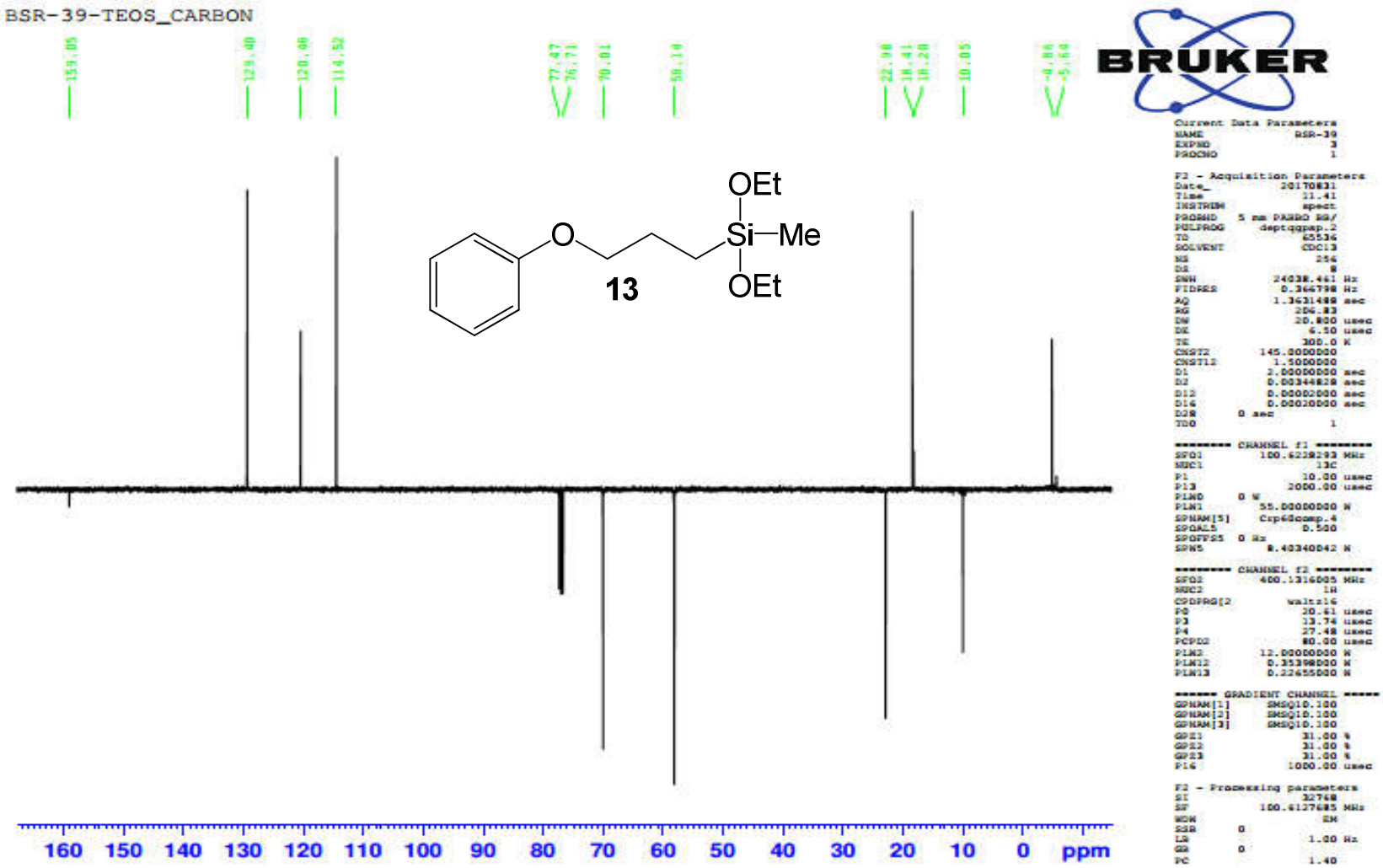
Methyl 4-[3-(triethoxysilyl)propoxy]benzoate (**12k**) – HR-ESIMS $[M+Na]^+$ Calculated 379.1547; Observed 379.1548.



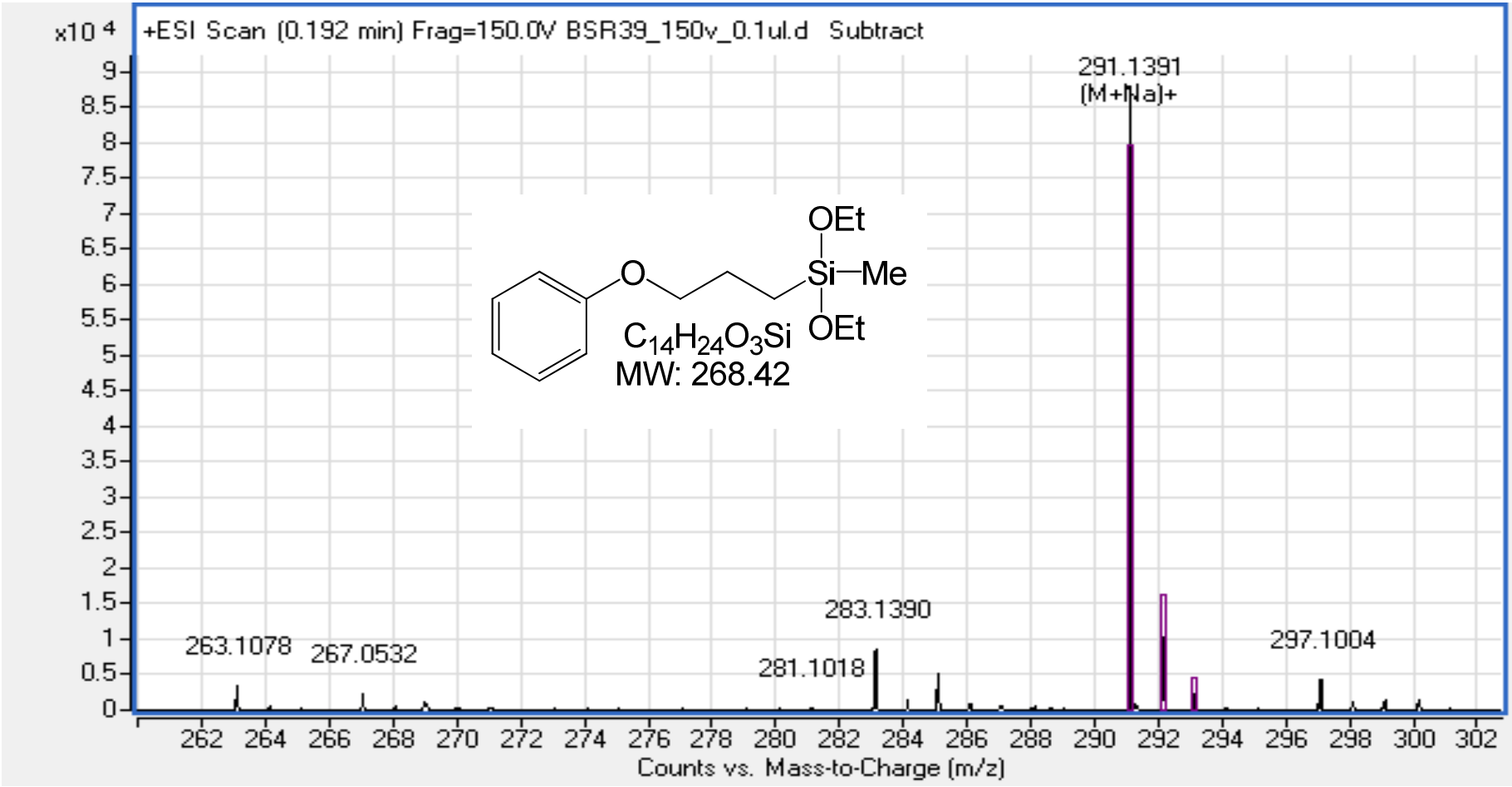
Diethoxy(methyl)(3-phenoxypropyl)silane (**13**) – ^{1}H-NMR ($CDCl_3$, 400 MHz)



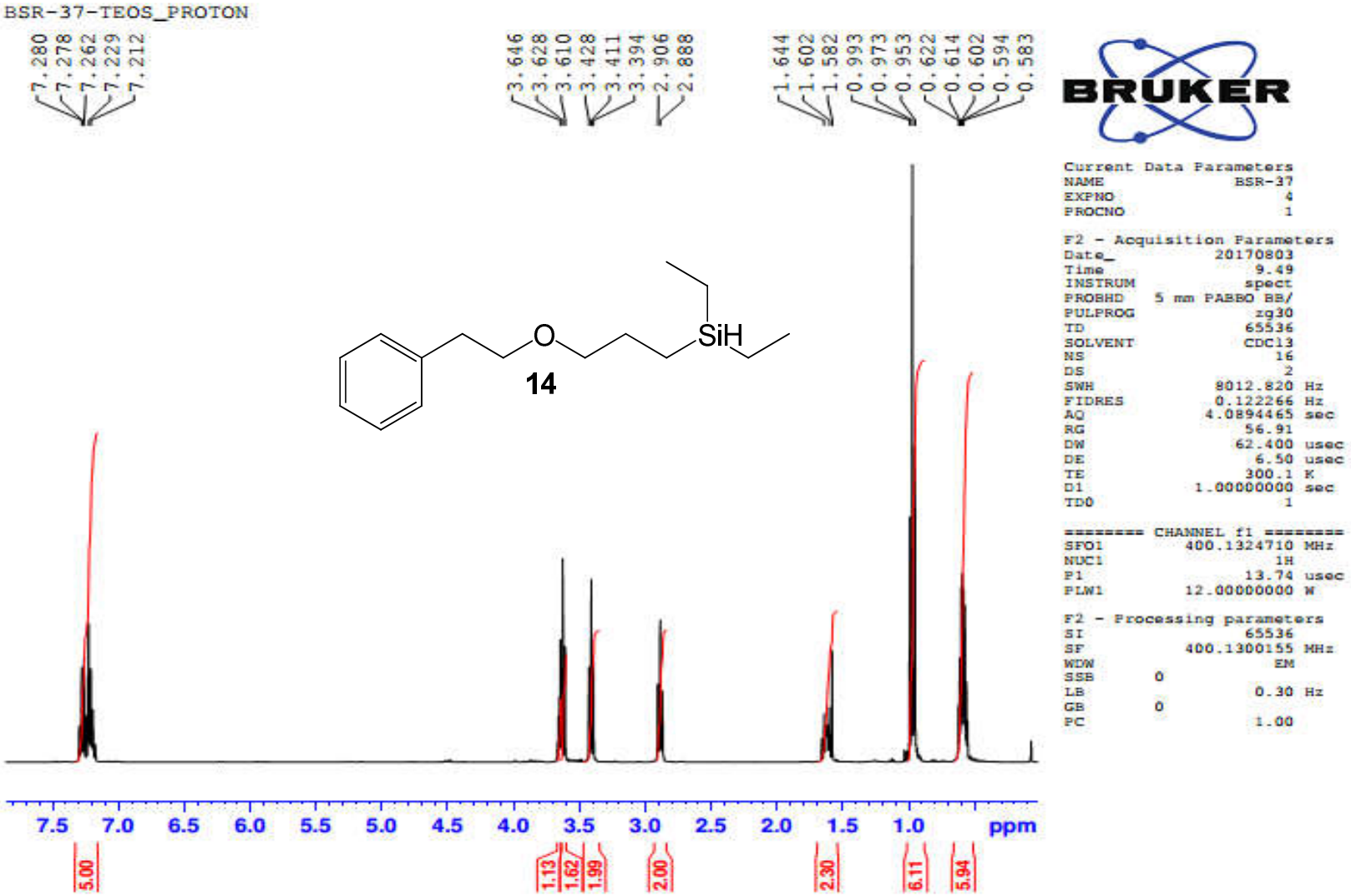
Diethoxy(methyl)(3-phenoxypropyl)silane (**13**) – ^{13}C-NMR ($CDCl_3$, 100 MHz)



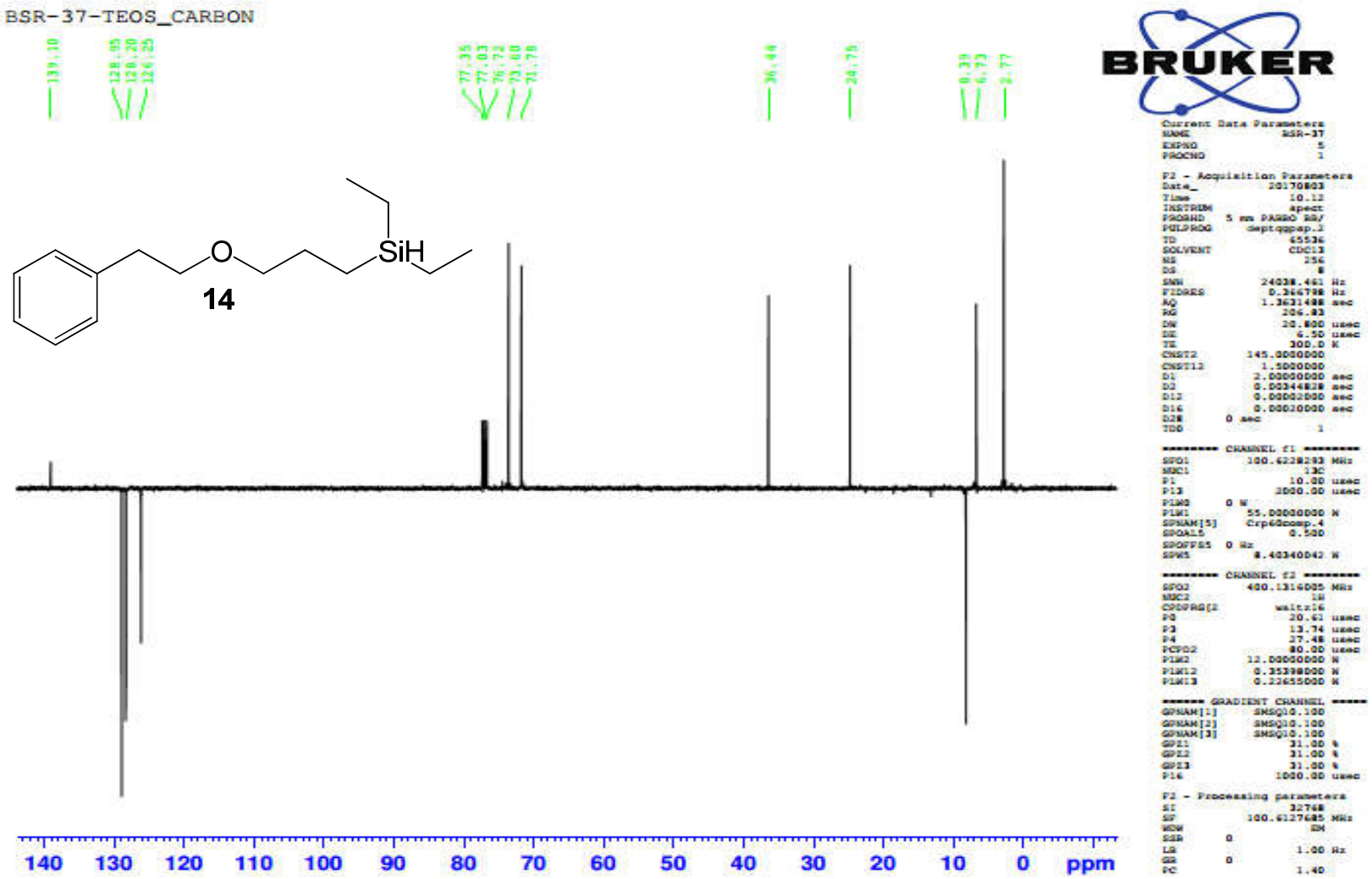
Diethoxy(methyl)(3-phenoxypropyl)silane (**13**) – HR-ESIMS $[M+Na]^+$ Calculated 291.1387; Observed 291.1391.



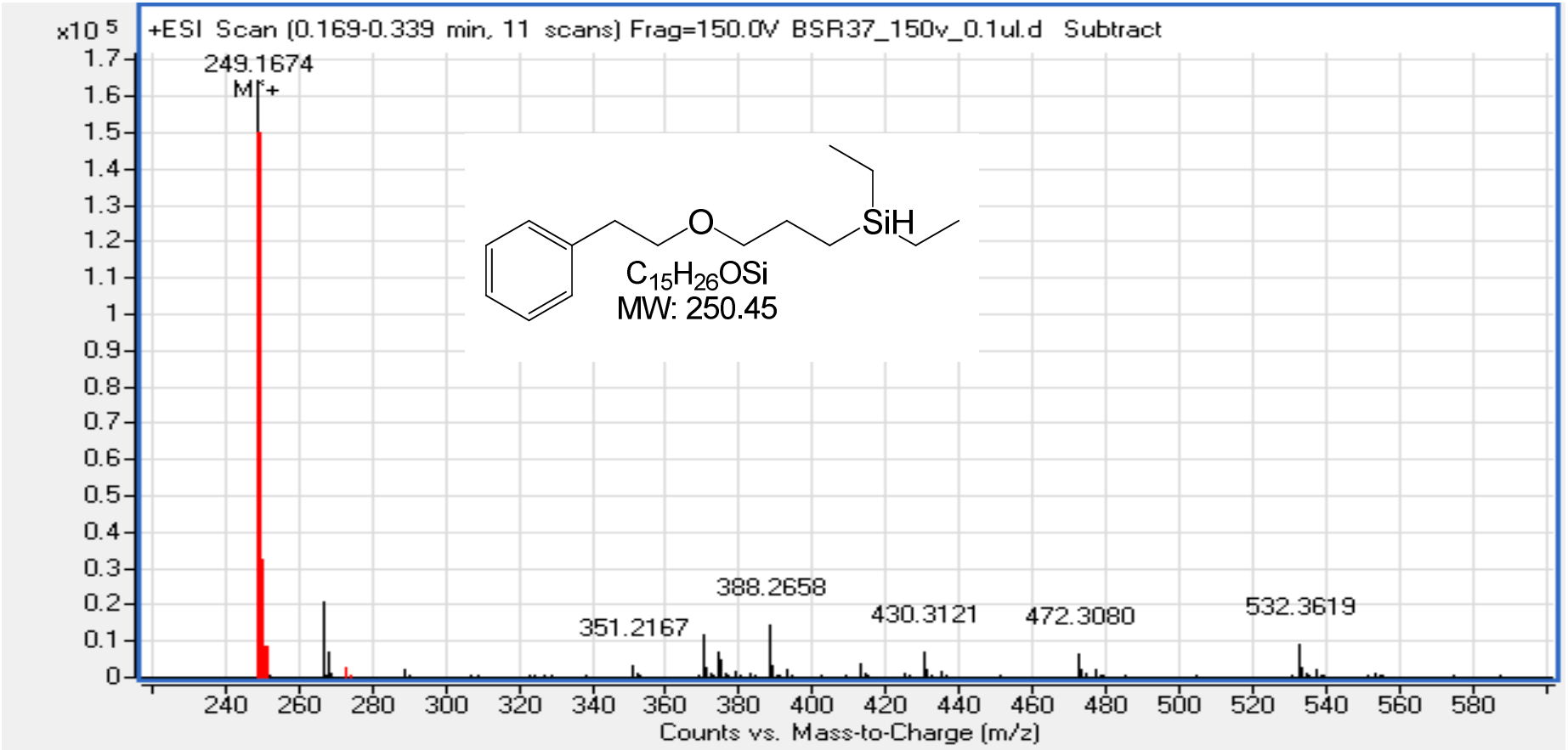
Diethyl(3-phenethoxypropyl)silane (**14**) – ^{1}H-NMR ($CDCl_3$, 400 MHz)



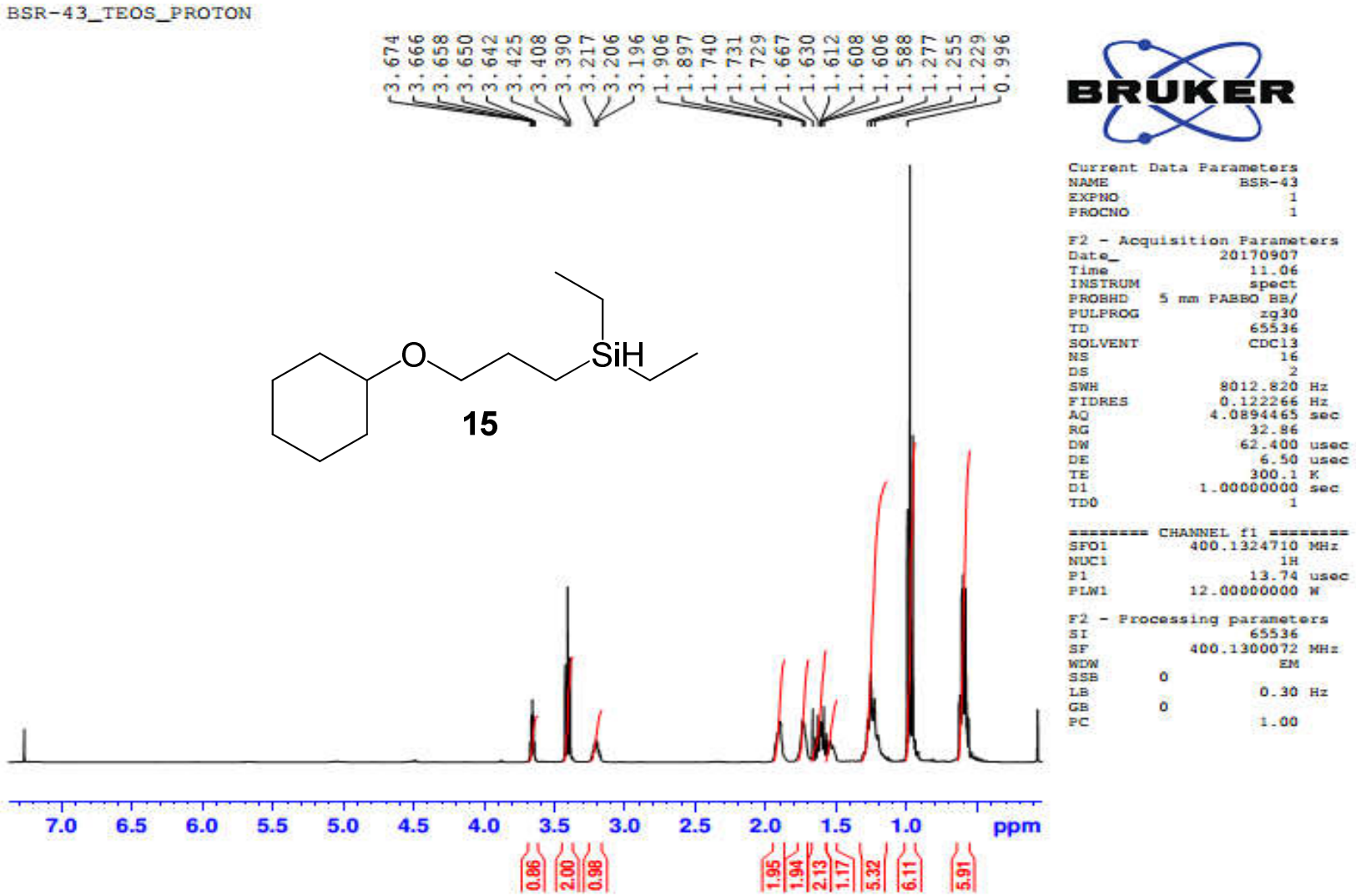
Diethyl(3-phenethoxypropyl)silane (**14**) – ^{13}C-NMR ($CDCl_3$, 100 MHz)



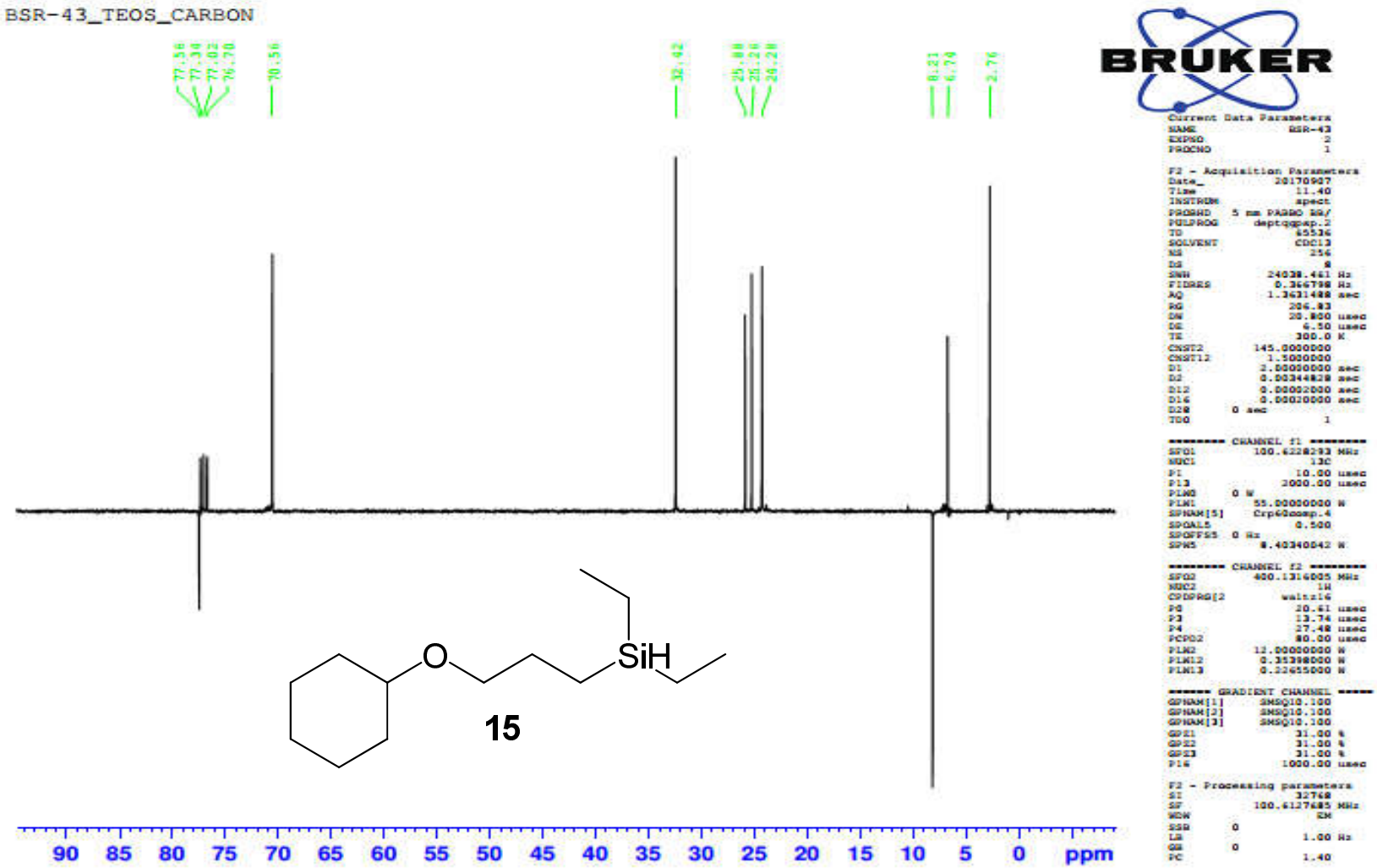
Diethyl(3-phenethoxypropyl)silane (**14**) – HR-ESIMS ([M-H]$^+$ Calculated 249.1675; Observed 249.1674.



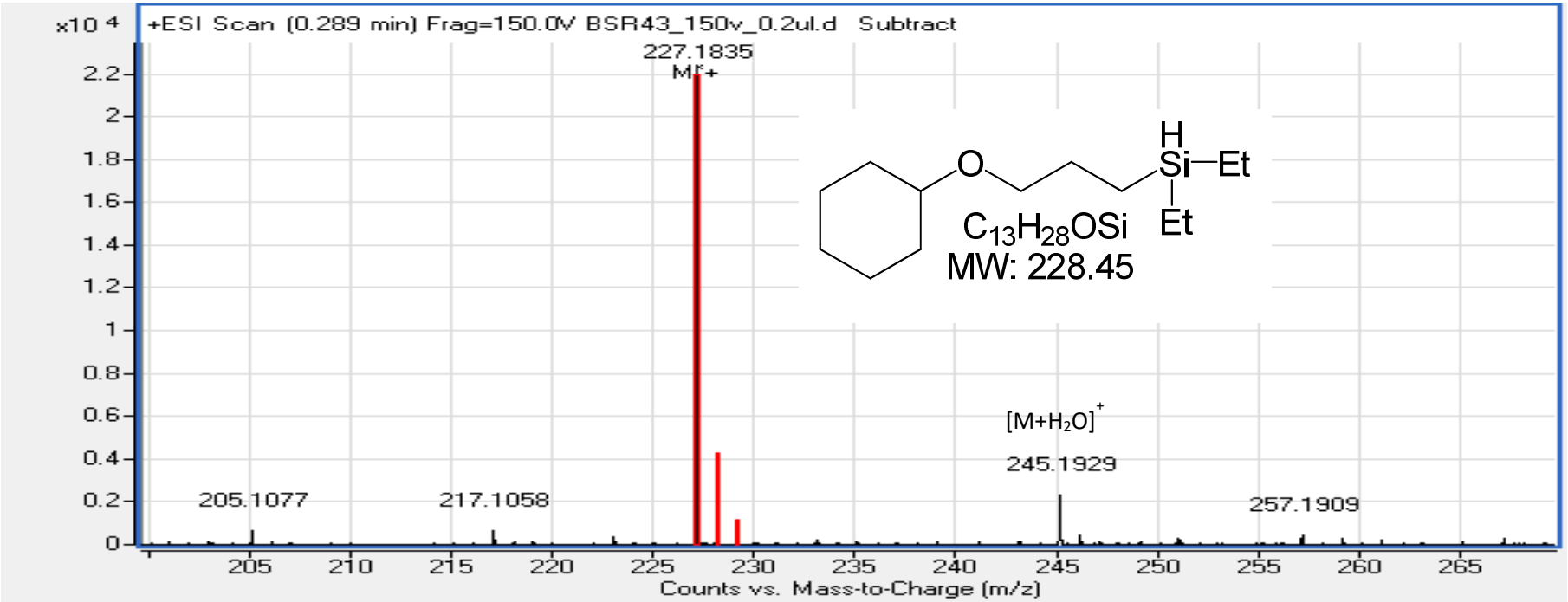
[3-(Cyclohexyloxy)propyl]diethylsilane (**15**) – ^{1}H-NMR ($CDCl_3$, 400 MHz)



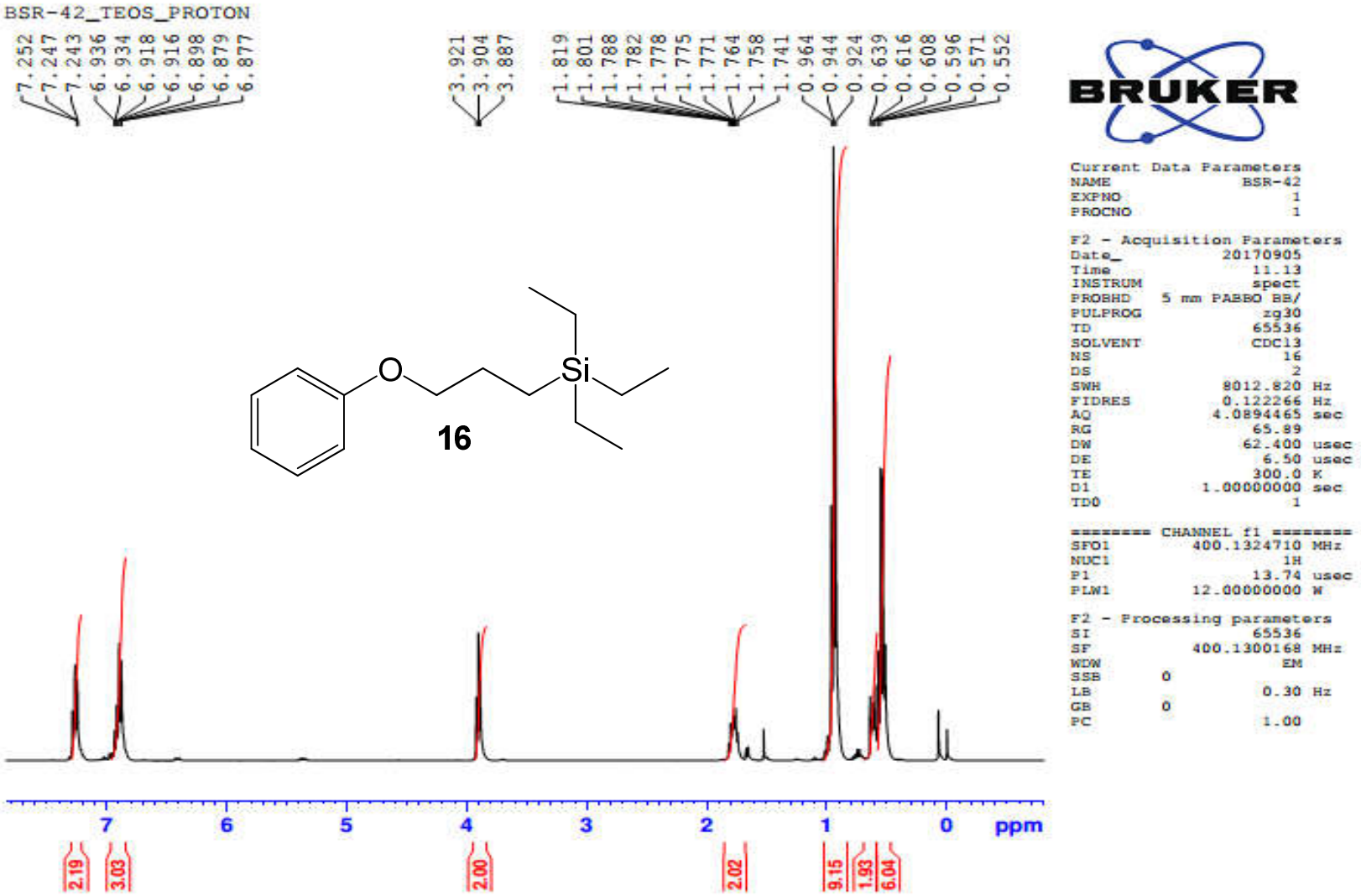
[3-(Cyclohexyloxy)propyl]diethylsilane (**15**)– ^{13}C-NMR ($CDCl_3$, 100 MHz)



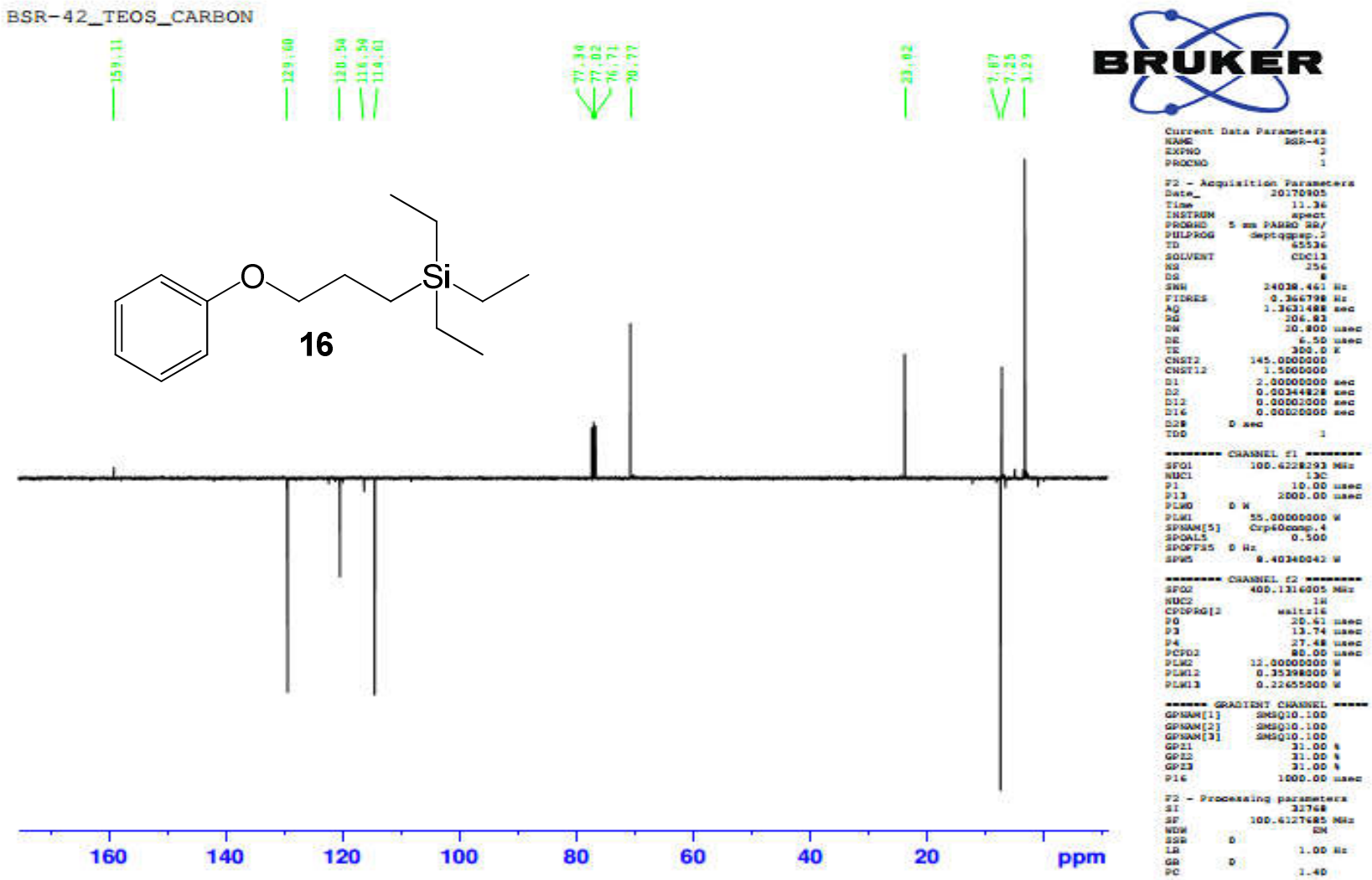
[3-(Cyclohexyloxy)propyl]diethylsilane (**15**) – HR-ESIMS $[M-H]^+$ Calculated 227.1831; Observed 227.1835.



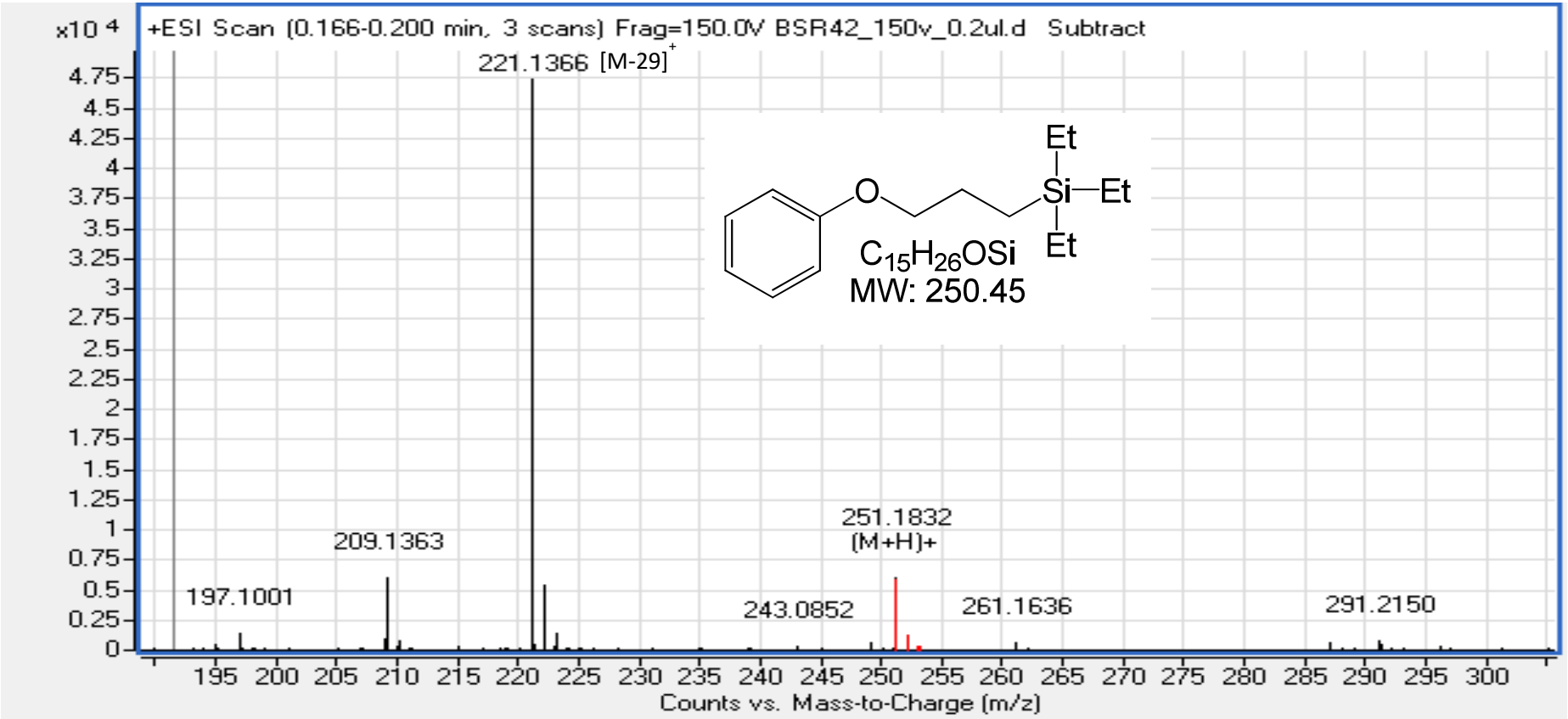
Triethyl(3-phenoxypropyl)silane (**16**) – ^{1}H-NMR ($CDCl_3$, 400 MHz)



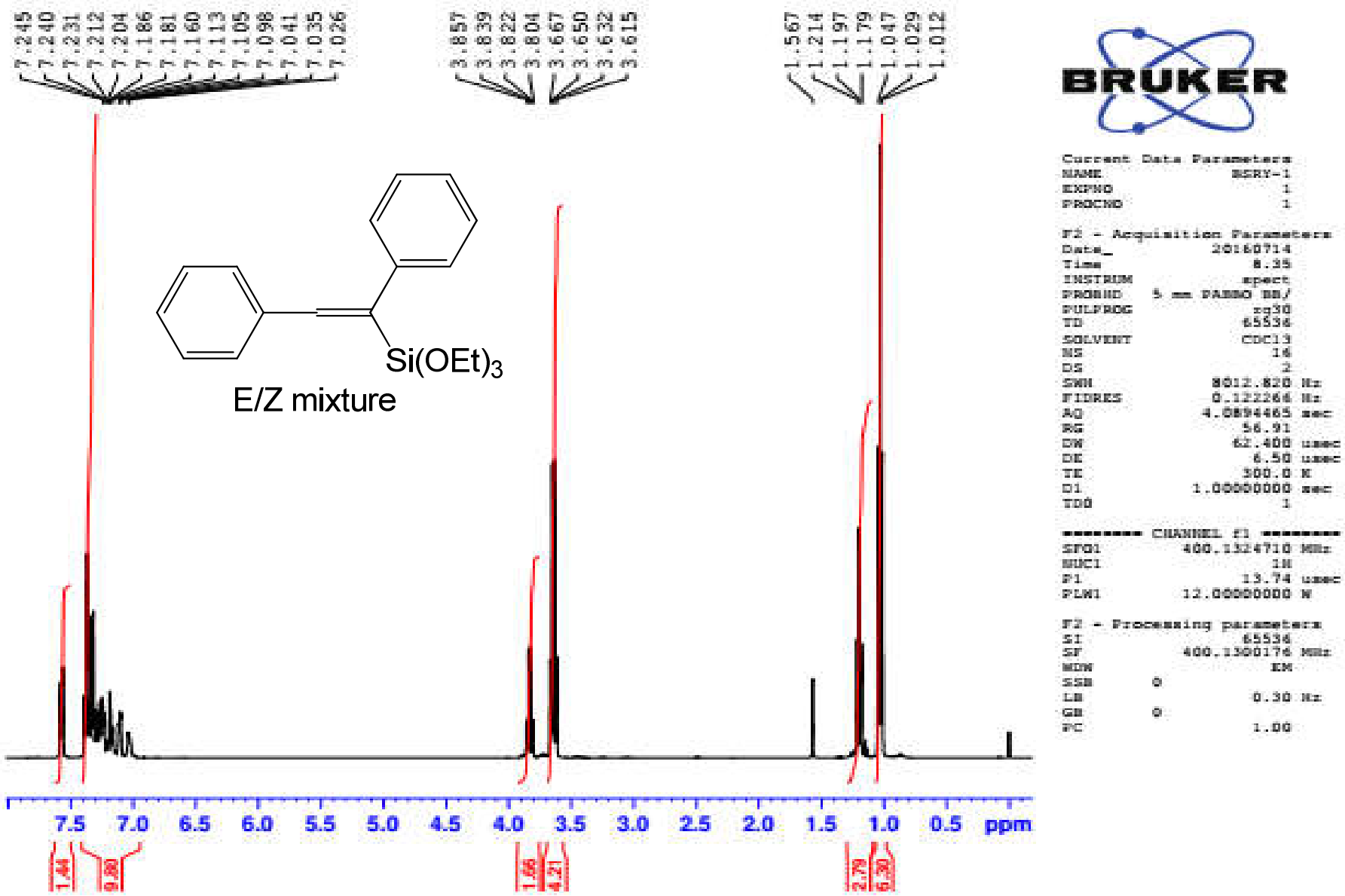
Triethyl(3-phenoxypropyl)silane (**16**) – ^{13}C-NMR ($CDCl_3$, 100 MHz)



Triethyl(3-phenoxypropyl)silane (**16**) – HR-ESIMS $[M+H]^+$ Calculated 251.1826; Observed 251.1832.



(E/Z)-(1,2-diphenylvinyl)triethoxysilane (**17**) – ^{1}H-NMR ($CDCl_3$, 400 MHz)



BRUKER

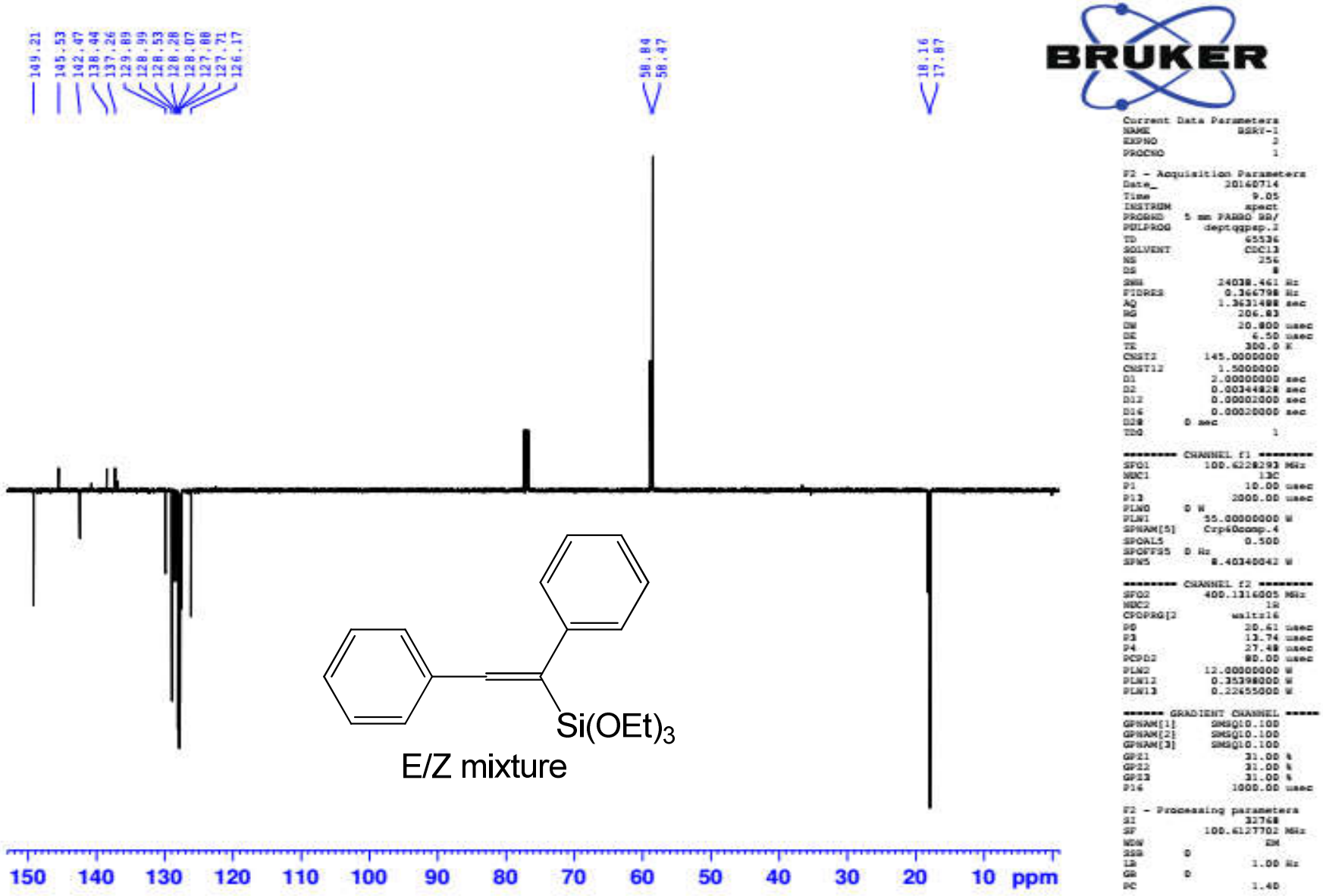
```
Current Data Parameters
NAME                  BSRY-1
EXPNO                      1
PROCNO                     1

F2 - Acquisition Parameters
Date_              20160714
Time                   8.35
INSTRUM                spect
PROBHD     5 mm PABBO BB/
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH                8012.820 Hz
FIDRES             0.122266 Hz
AQ                 4.0894465 sec
RG                     56.91
DW                    62.400 usec
DE                     6.50 usec
TE                    300.0 K
D1                 1.00000000 sec
TD0                        1

======== CHANNEL f1 ========
SFO1           400.1324710 MHz
NUC1                     1H
P1                    13.74 usec
PLW1           12.00000000 W

F2 - Processing parameters
SI                    65536
SF             400.1300176 MHz
WDW                       EM
SSB                    0
LB                     0.30 Hz
GB                     0
PC                     1.00
```

(E/Z)-(1,2-diphenylvinyl)triethoxysilane (**17**) – ^{13}C-NMR ($CDCl_3$, 100 MHz)



Current Data Parameters
NAME BSRY-1
EXPNO 3
PROCNO 1

F2 - Acquisition Parameters
Date_ 20160714
Time 9.05
INSTRUM spect
PROBHD 5 mm PABBO BB/
PULPROG deptqgpsp.2
TD 65536
SOLVENT CDCl3
NS 256
DS 8
SWH 24038.461 Hz
FIDRES 0.366798 Hz
AQ 1.3631488 sec
RG 206.83
DW 20.800 usec
DE 6.50 usec
TE 300.0 K
CNST2 145.0000000
CNST12 1.5000000
D1 2.00000000 sec
D2 0.00344828 sec
D12 0.00002000 sec
D16 0.00020000 sec
D28 0 sec
TD0 1

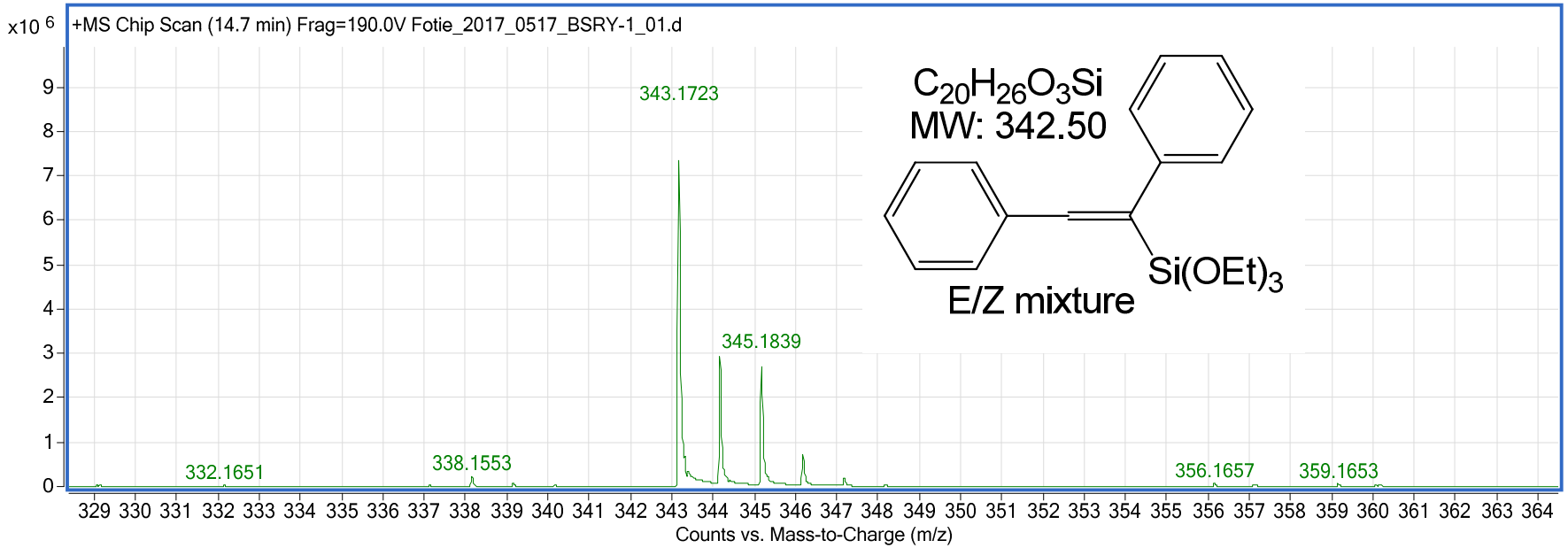
======== CHANNEL f1 ========
SFO1 100.6228293 MHz
NUC1 13C
P1 10.00 usec
P13 2000.00 usec
PLW0 0 W
PLW1 55.00000000 W
SPNAM[5] Crp60comp.4
SPOAL5 0.500
SPOFFS5 0 Hz
SPW5 8.40340042 W

======== CHANNEL f2 ========
SFO2 400.1316005 MHz
NUC2 1H
CPDPRG[2 waltz16
PCPD2 80.00 usec
PLW2 12.00000000 W
PLW12 0.35398000 W
PLW13 0.22655000 W

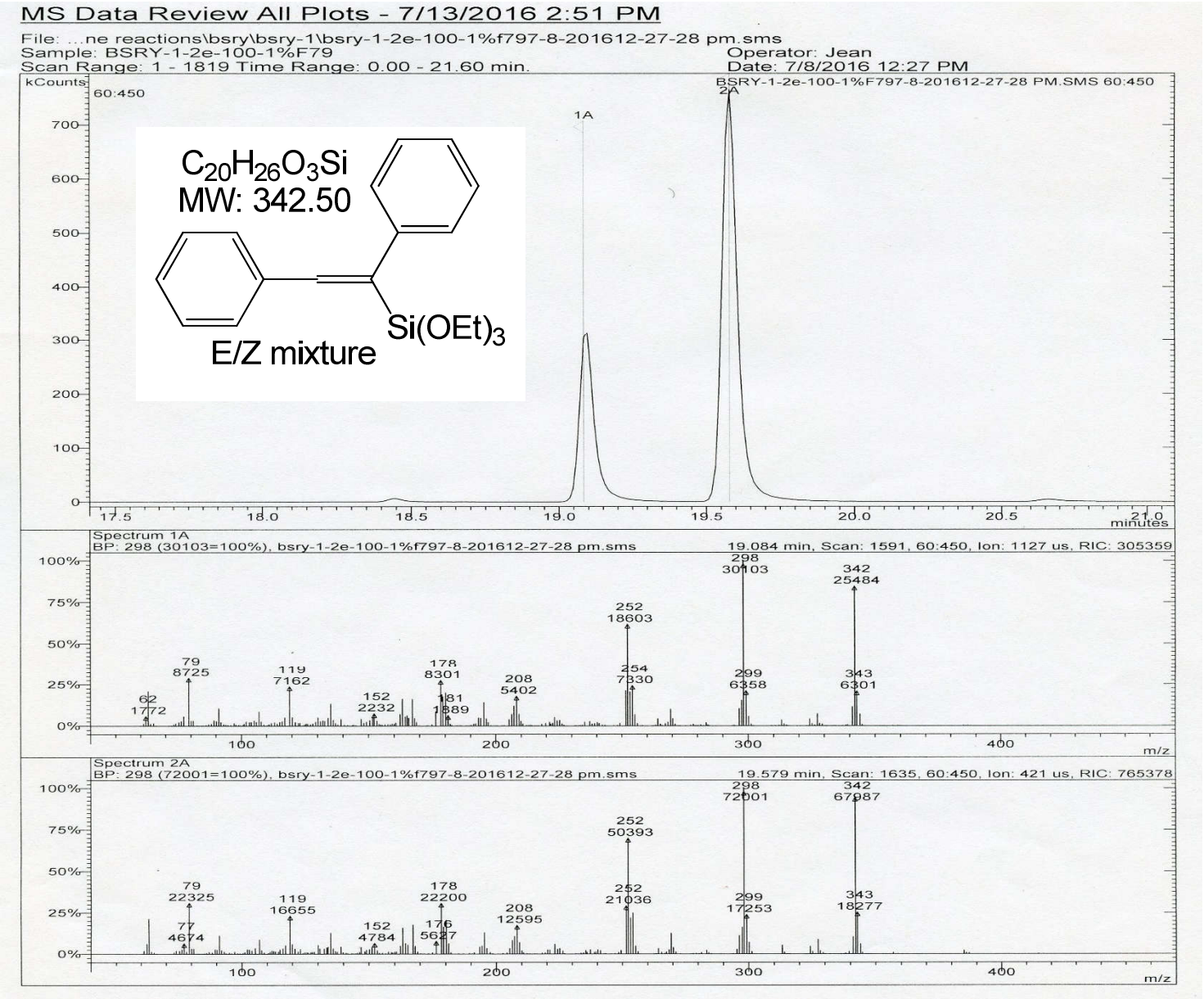
====== GRADIENT CHANNEL =====
GPNAM[1] SMSQ10.100
GPNAM[2] SMSQ10.100
GPNAM[3] SMSQ10.100
GPZ1 31.00 %
GPZ2 31.00 %
GPZ3 31.00 %
P16 1000.00 usec

F2 - Processing parameters
SI 32768
SF 100.6127702 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

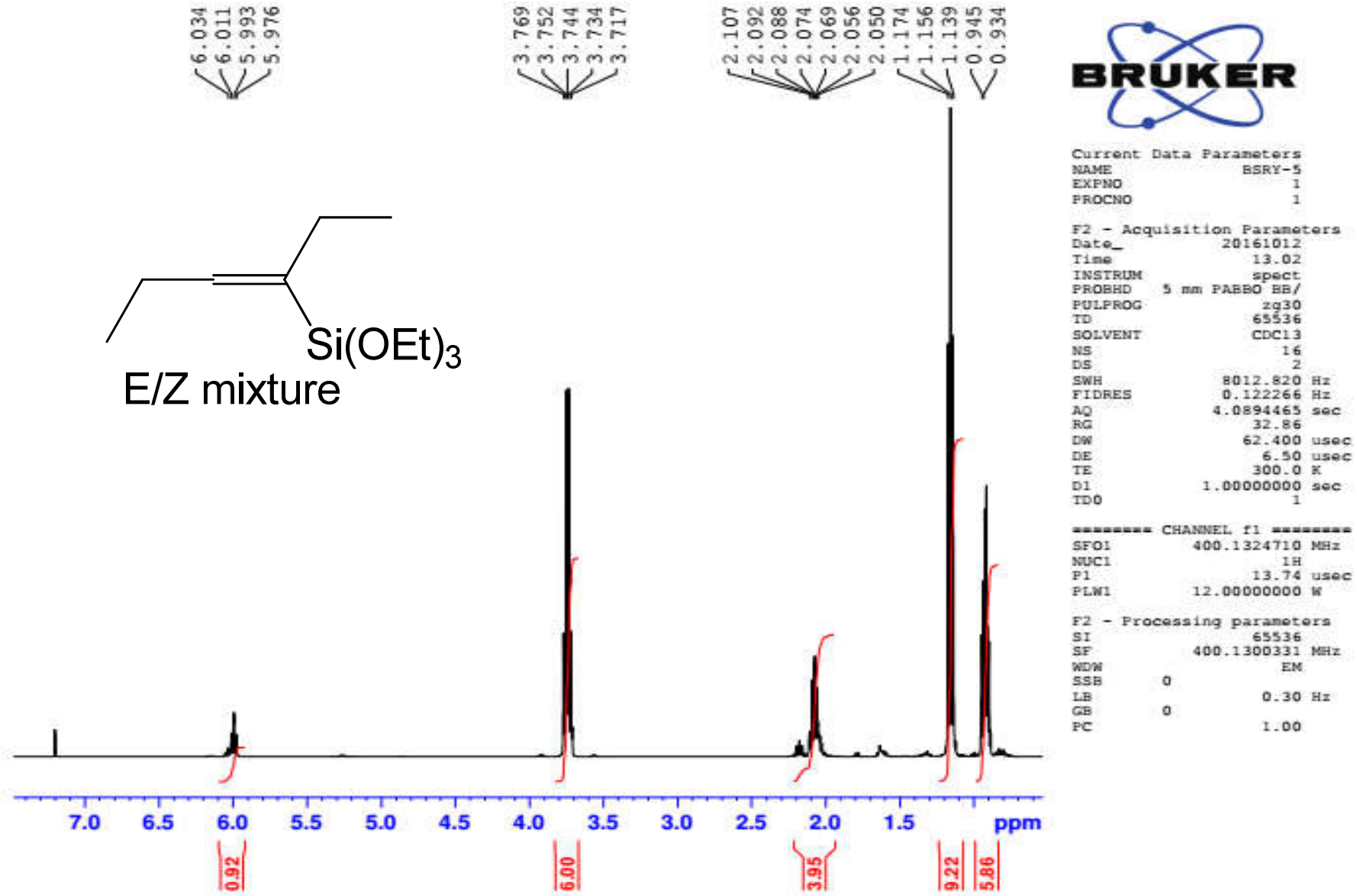
(E/Z)-(1,2-diphenylvinyl)triethoxysilane (**17**) – HR-ESIMS $[M+H]^+$ Calculated 343.1724; Observed 343.1723.



(E/Z)-(1,2-diphenylvinyl)triethoxysilane (**17**) – GC-MS (showing the mixture of E/Z isomers)



(E/Z)-triethoxy(hex-3-en-3-yl)silane (**18**)– ^{1}H-NMR ($CDCl_3$, 400 MHz)



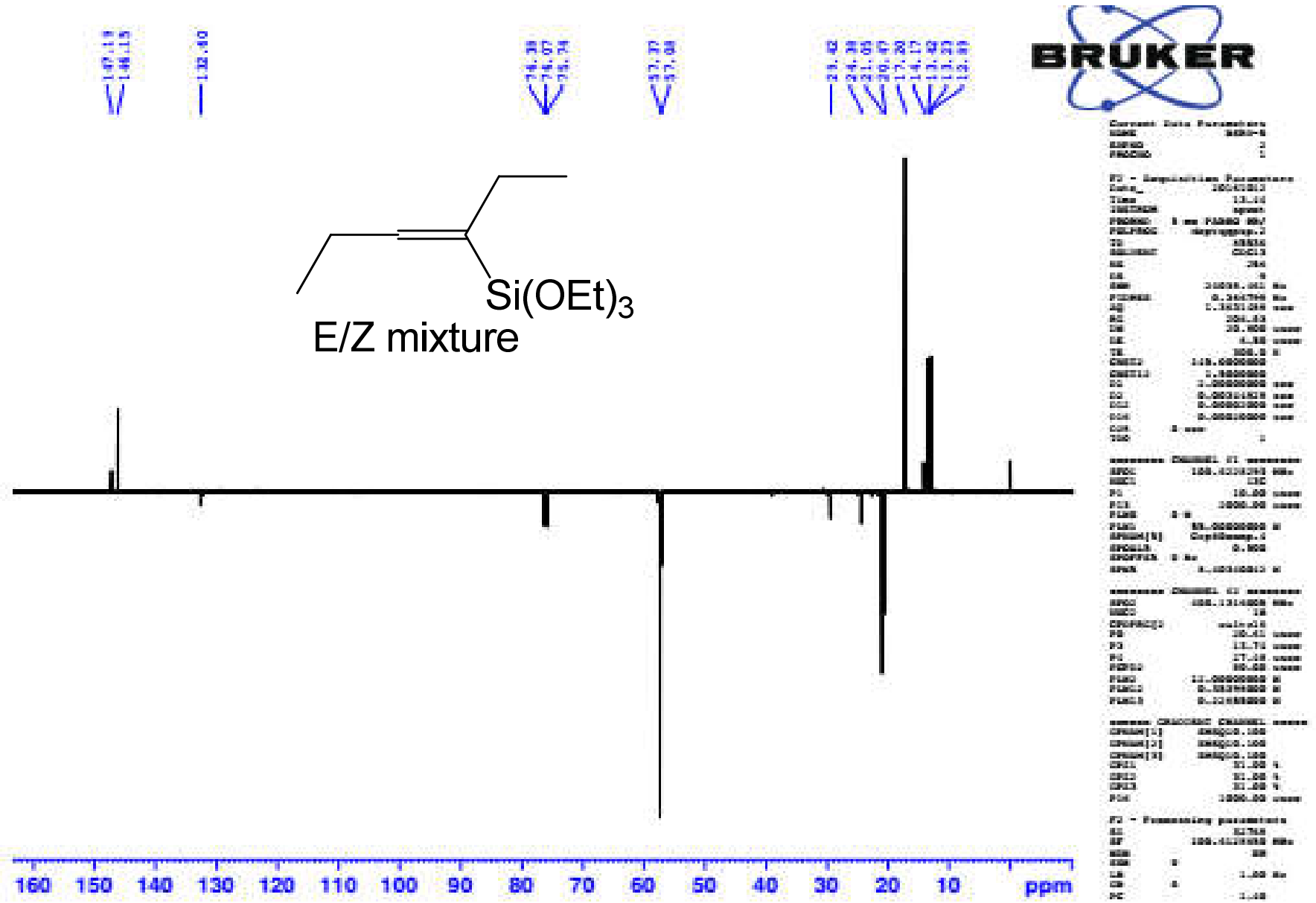

```
Current Data Parameters
NAME                  BSRY-5
EXPNO                      1
PROCNO                     1

F2 - Acquisition Parameters
Date_              20161012
Time                  13.02
INSTRUM               spect
PROBHD    5 mm PABBO BB/
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH                8012.820 Hz
FIDRES             0.122266 Hz
AQ                 4.0894465 sec
RG                    32.86
DW                    62.400 usec
DE                     6.50 usec
TE                    300.0 K
D1                 1.00000000 sec
TD0                        1

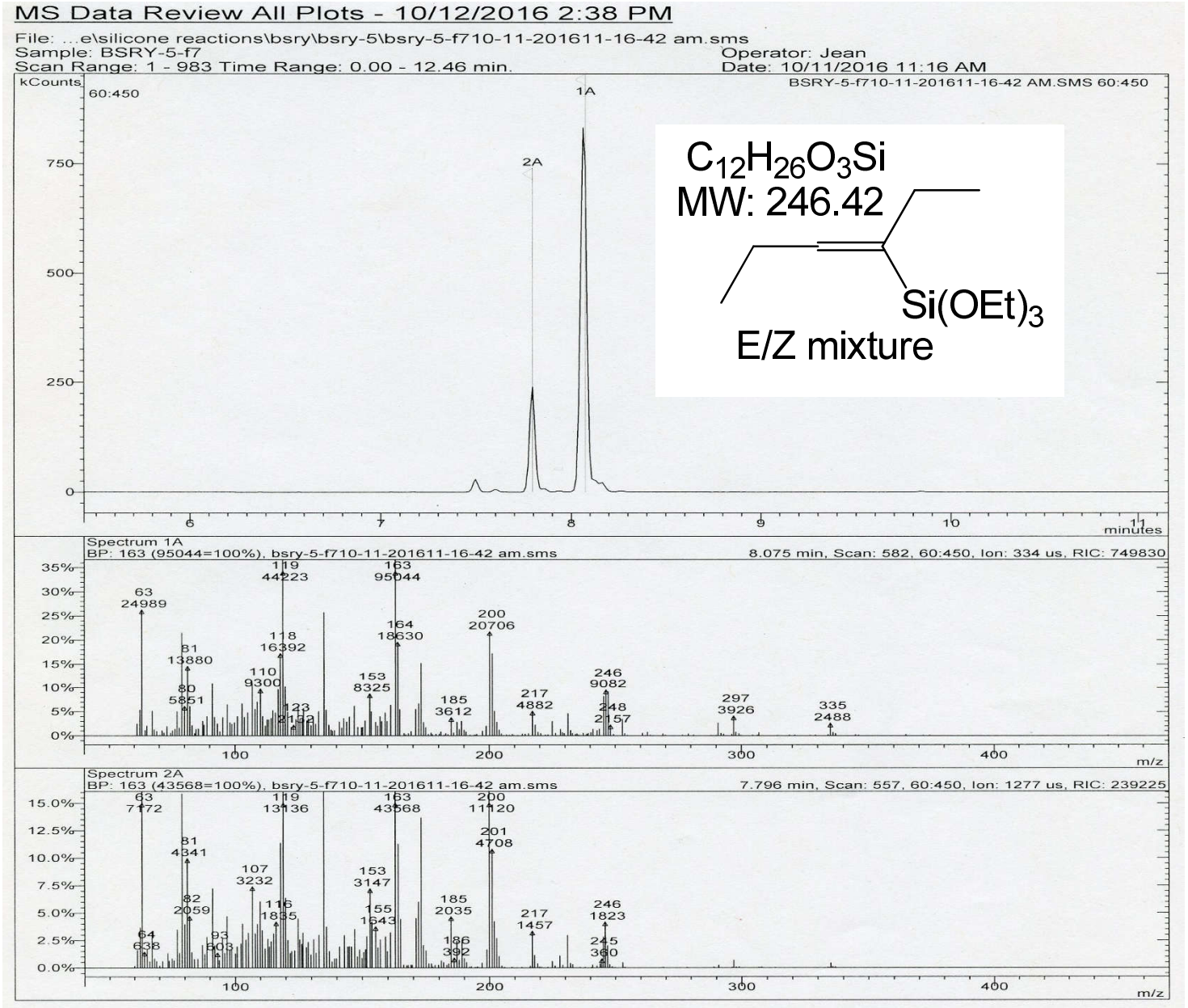
======== CHANNEL f1 ========
SFO1          400.1324710 MHz
NUC1                     1H
P1                    13.74 usec
PLW1          12.00000000 W

F2 - Processing parameters
SI                    65536
SF            400.1300331 MHz
WDW                      EM
SSB       0
LB                     0.30 Hz
GB        0
PC                     1.00
```

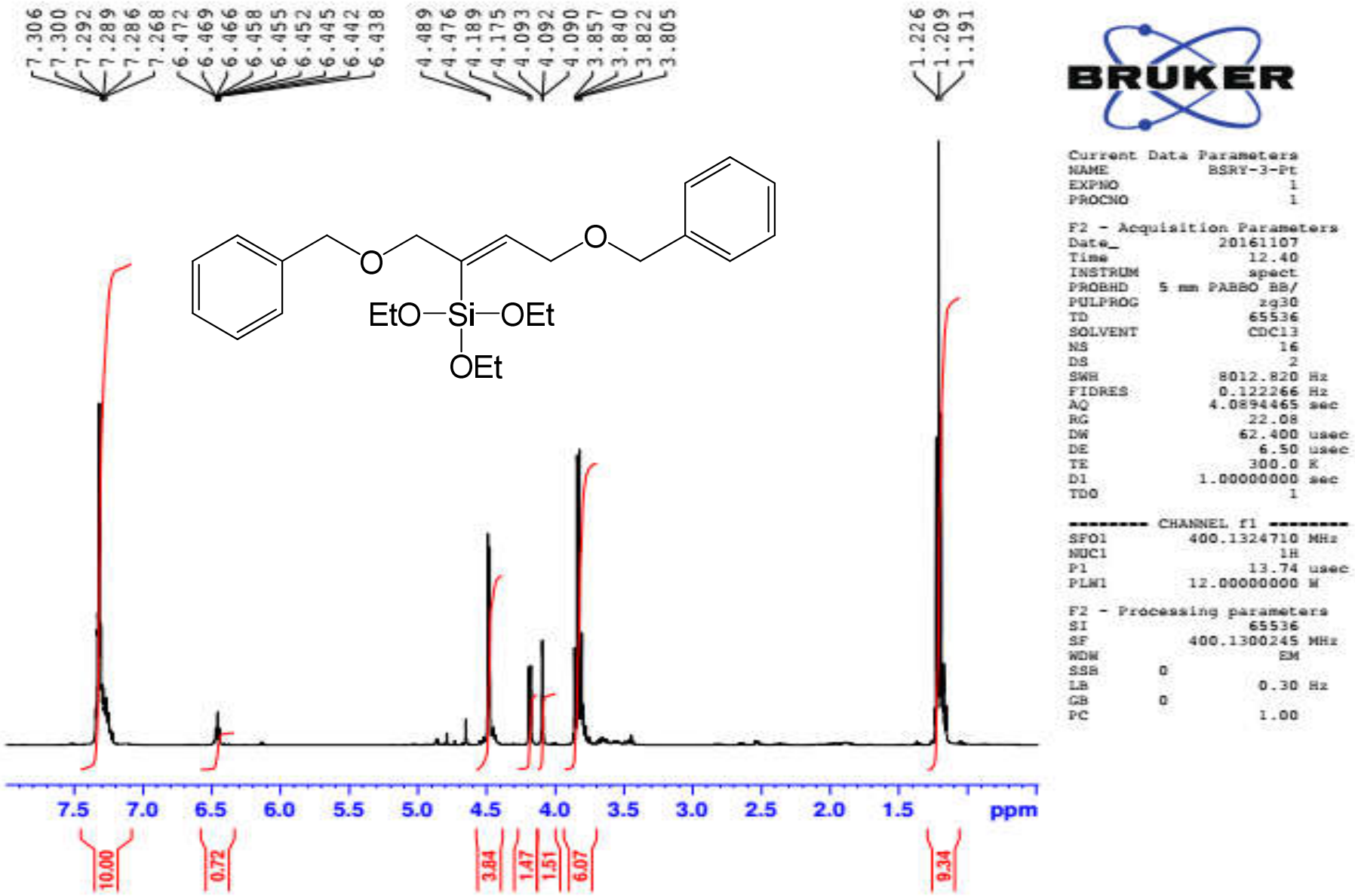
(E/Z)-triethoxy(hex-3-en-3-yl)silane (**18**)– ^{13}C-NMR ($CDCl_3$, 100 MHz)



(E/Z)-triethoxy(hex-3-en-3-yl)silane (**18**)– GC-MS (showing the mixture of isomers)



(Z)-(1,4-bis(benzyloxy)but-2-en-2-yl)triethoxysilane (**19**) – ^{1}H-NMR ($CDCl_3$, 400 MHz)



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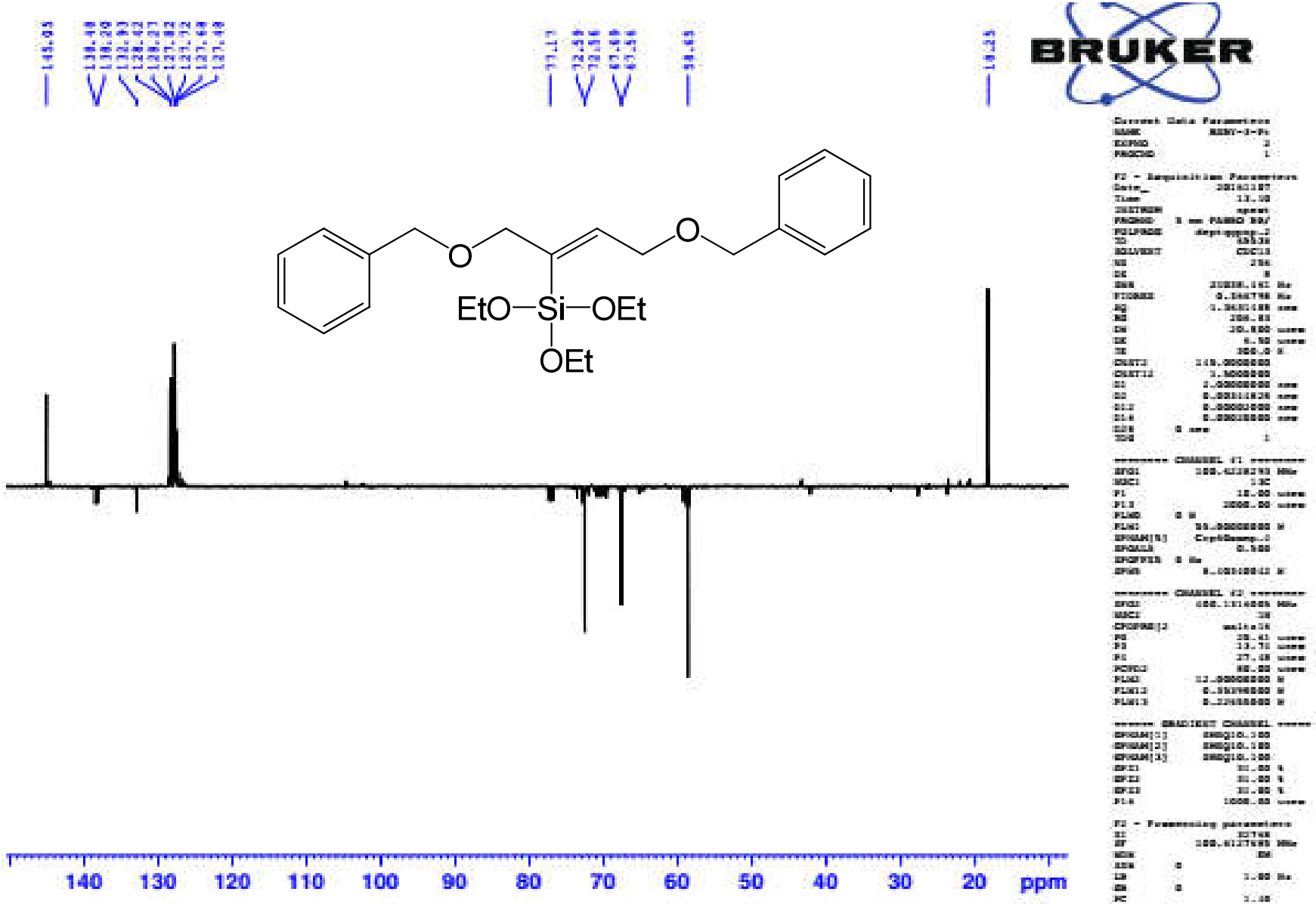
```
Current Data Parameters
NAME                  BSRY-3-Pt
EXPNO                         1
PROCNO                        1

F2 - Acquisition Parameters
Date_              20161107
Time                    12.40
INSTRUM                 spect
PROBHD    5 mm PABBO BB/
PULPROG                 zg30
TD                     65536
SOLVENT                CDCl3
NS                        16
DS                         2
SWH                 8012.820 Hz
FIDRES              0.122266 Hz
AQ                  4.0894465 sec
RG                      22.08
DW                     62.400 usec
DE                      6.50 usec
TE                     300.0 K
D1                  1.00000000 sec
TD0                           1

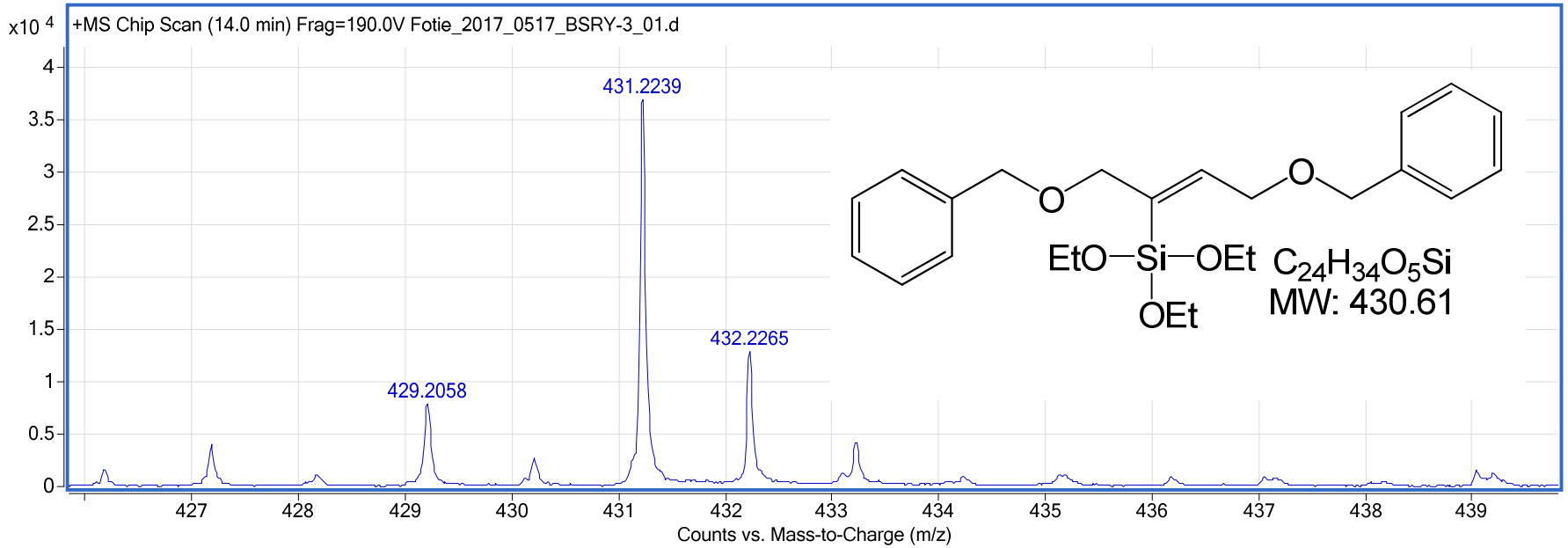
======== CHANNEL f1 ========
SFO1           400.1324710 MHz
NUC1                      1H
P1                     13.74 usec
PLW1           12.00000000 W

F2 - Processing parameters
SI                     65536
SF             400.1300245 MHz
WDW                       EM
SSB          0
LB                      0.30 Hz
GB           0
PC                      1.00
```

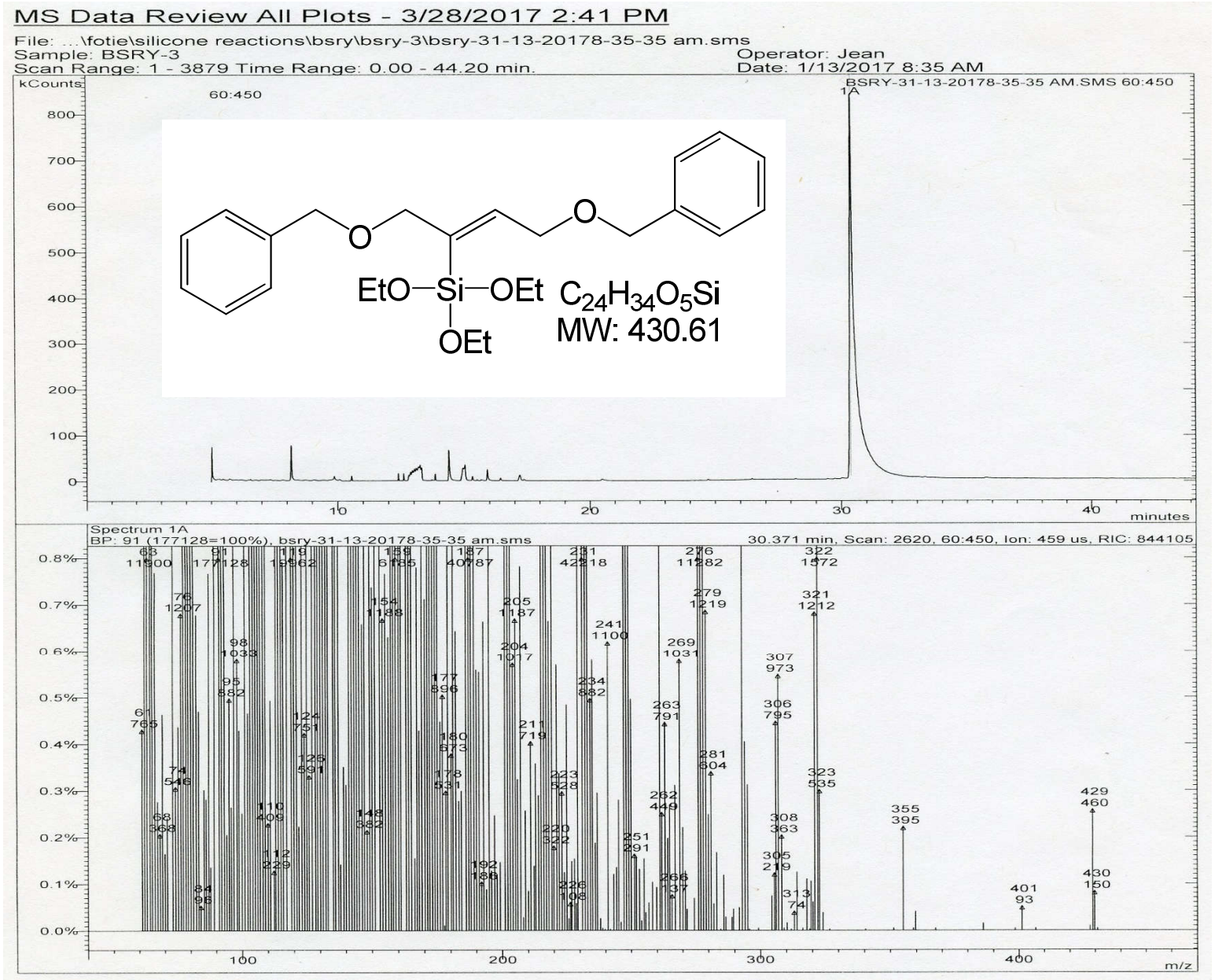
(Z)-(1,4-bis(benzyloxy)but-2-en-2-yl)triethoxysilane (**19**) – ^{13}C-NMR ($CDCl_3$, 100 MHz)



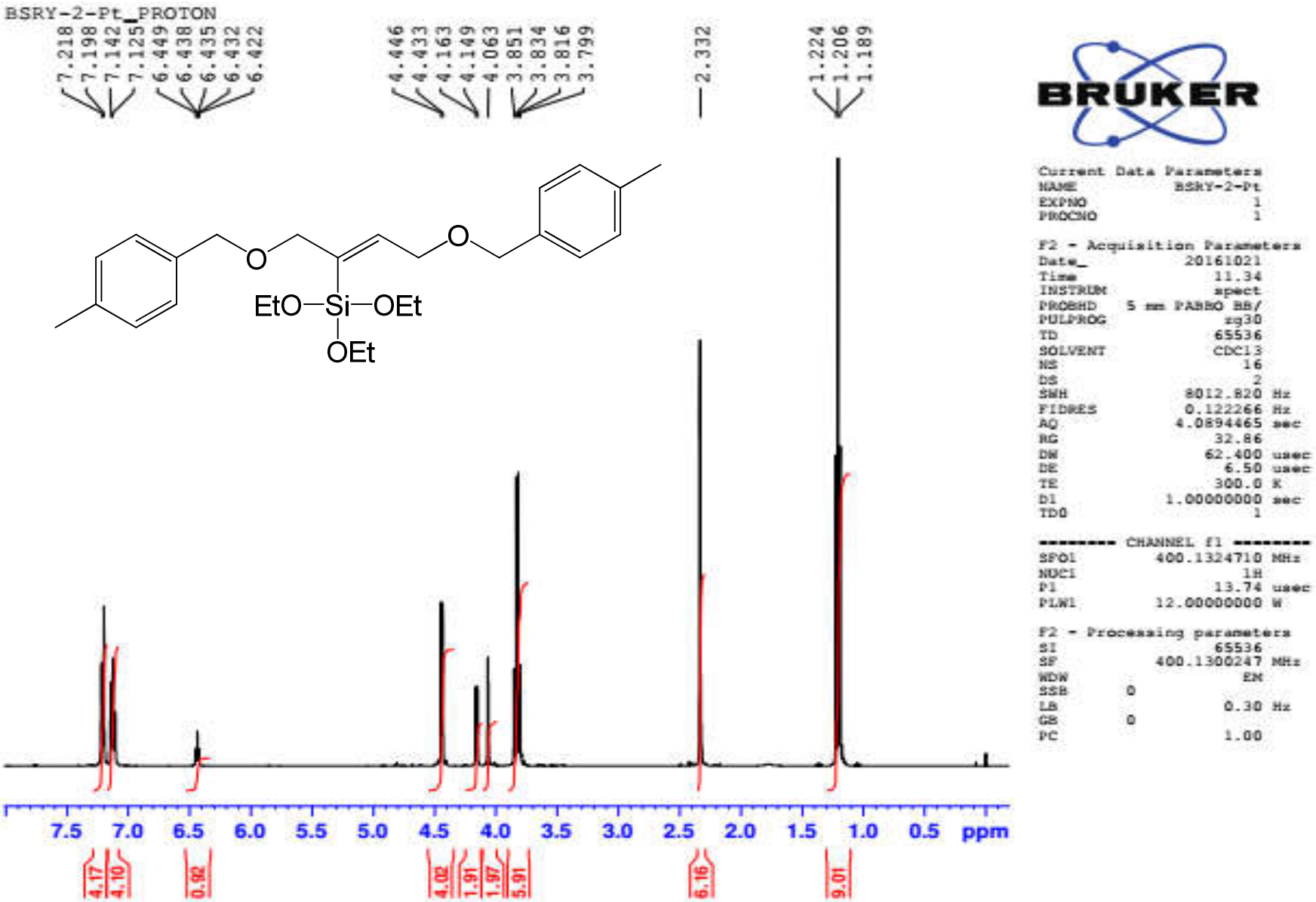
(Z)-(1,4-bis(benzyloxy)but-2-en-2-yl)triethoxysilane (**19**) – HR-ESIMS $[M+H]^+$ Calculated 431.2248; Observed 431.2239.



(Z)-(1,4-bis(benzyloxy)but-2-en-2-yl)triethoxysilane (**19**) – GC-MS (showing a single product)



(Z)-(1,4-bis(4-methylbenzyloxy)but-2-en-2-yl)triethoxysilane (**20**) – ^{1}H-NMR ($CDCl_3$, 400 MHz)



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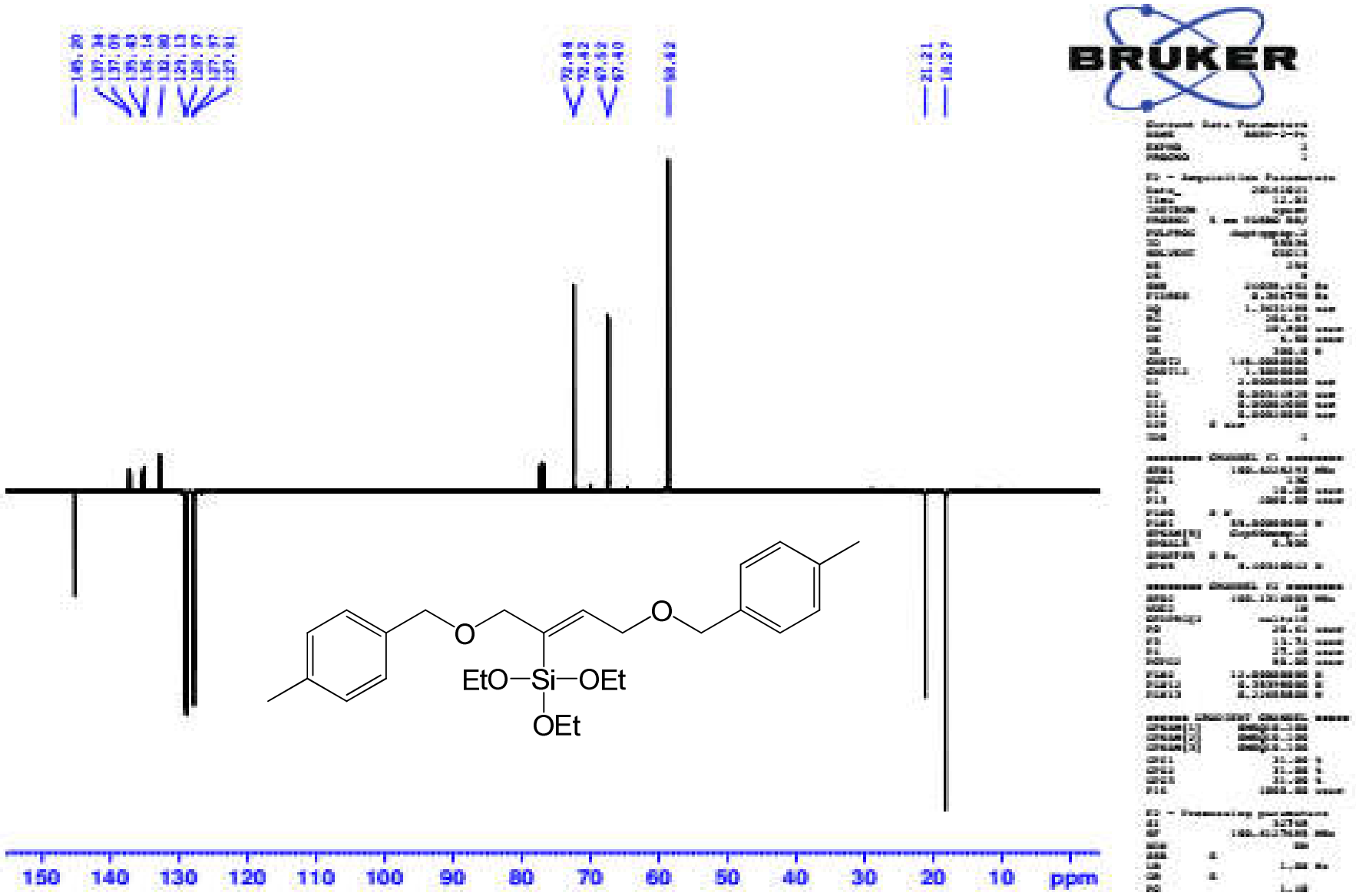
```
Current Data Parameters
NAME                  BSRY-2-Pt
EXPNO                         1
PROCNO                        1

F2 - Acquisition Parameters
Date_              20161021
Time                  11.34
INSTRUM               spect
PROBHD     5 mm PABBO BB/
PULPROG                zg30
TD                    65536
SOLVENT               CDCl3
NS                       16
DS                        2
SWH                8012.820 Hz
FIDRES                0.122266 Hz
AQ                 4.0894465 sec
RG                       32.86
DW                    62.400 usec
DE                     6.50 usec
TE                    300.0 K
D1                 1.00000000 sec
TD0                       1

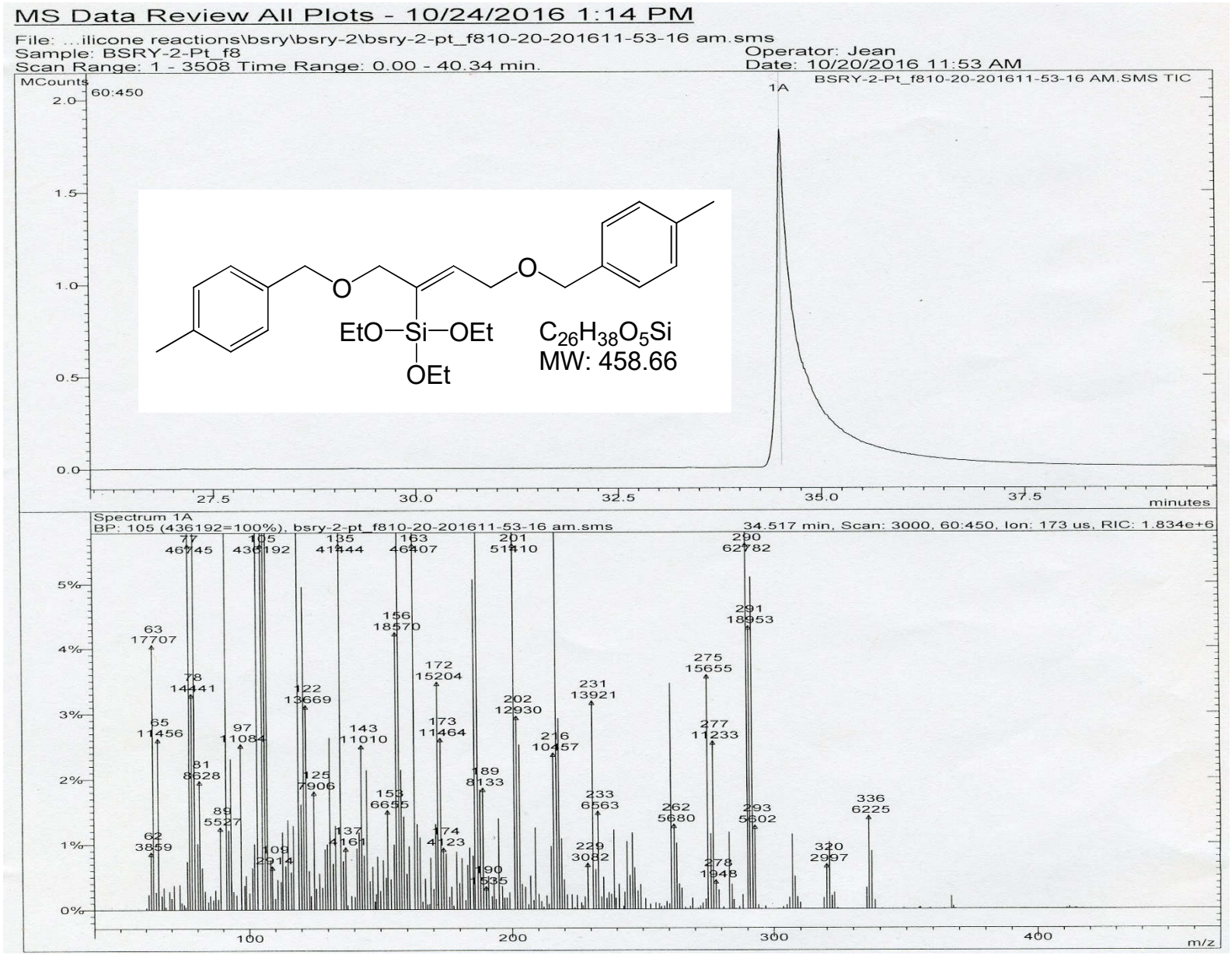
======== CHANNEL f1 ========
SFO1            400.1324710 MHz
NUC1                      1H
P1                    13.74 usec
PLW1           12.00000000 W

F2 - Processing parameters
SI                    65536
SF              400.1300247 MHz
WDW                      EM
SSB          0
LB                     0.30 Hz
GB           0
PC                     1.00
```

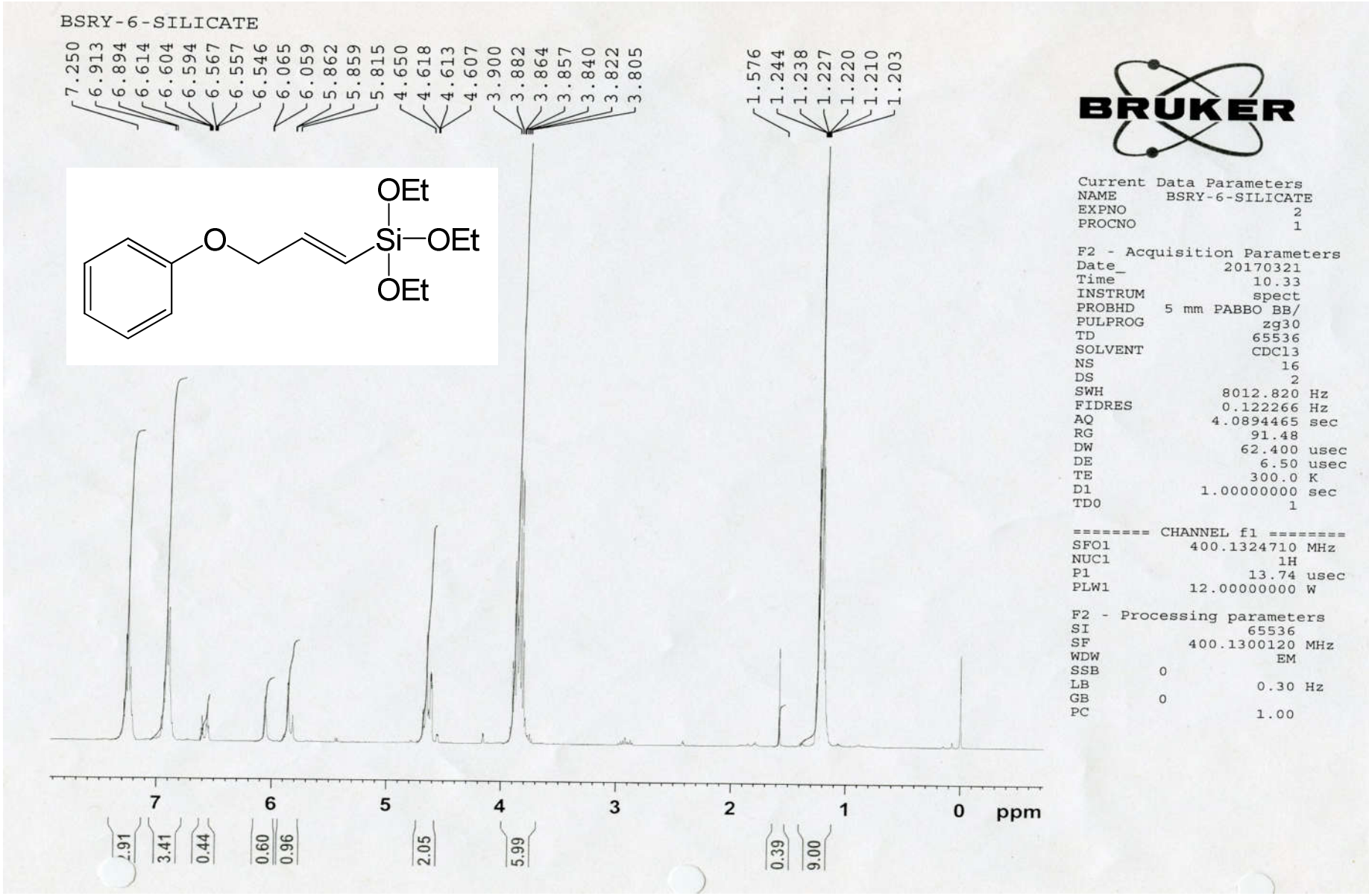
(Z)-(1,4-bis(4-methylbenzyloxy)but-2-en-2-yl)triethoxysilane (**20**) – ^{13}C-NMR ($CDCl_3$, 100 MHz)



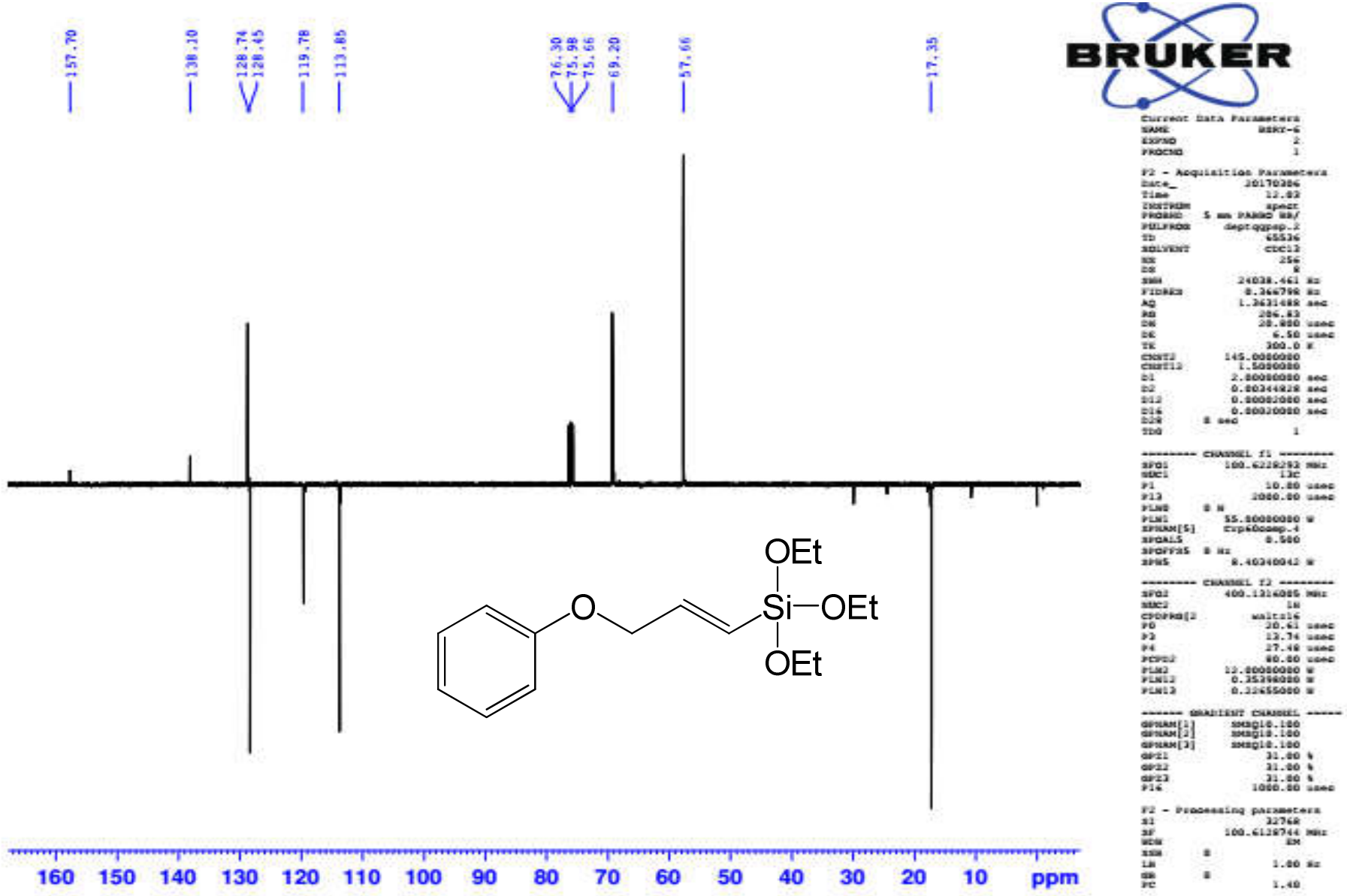
(Z)-(1,4-bis(4-methylbenzyloxy)but-2-en-2-yl)triethoxysilane (**20**) – GC-MS (showing a single product)



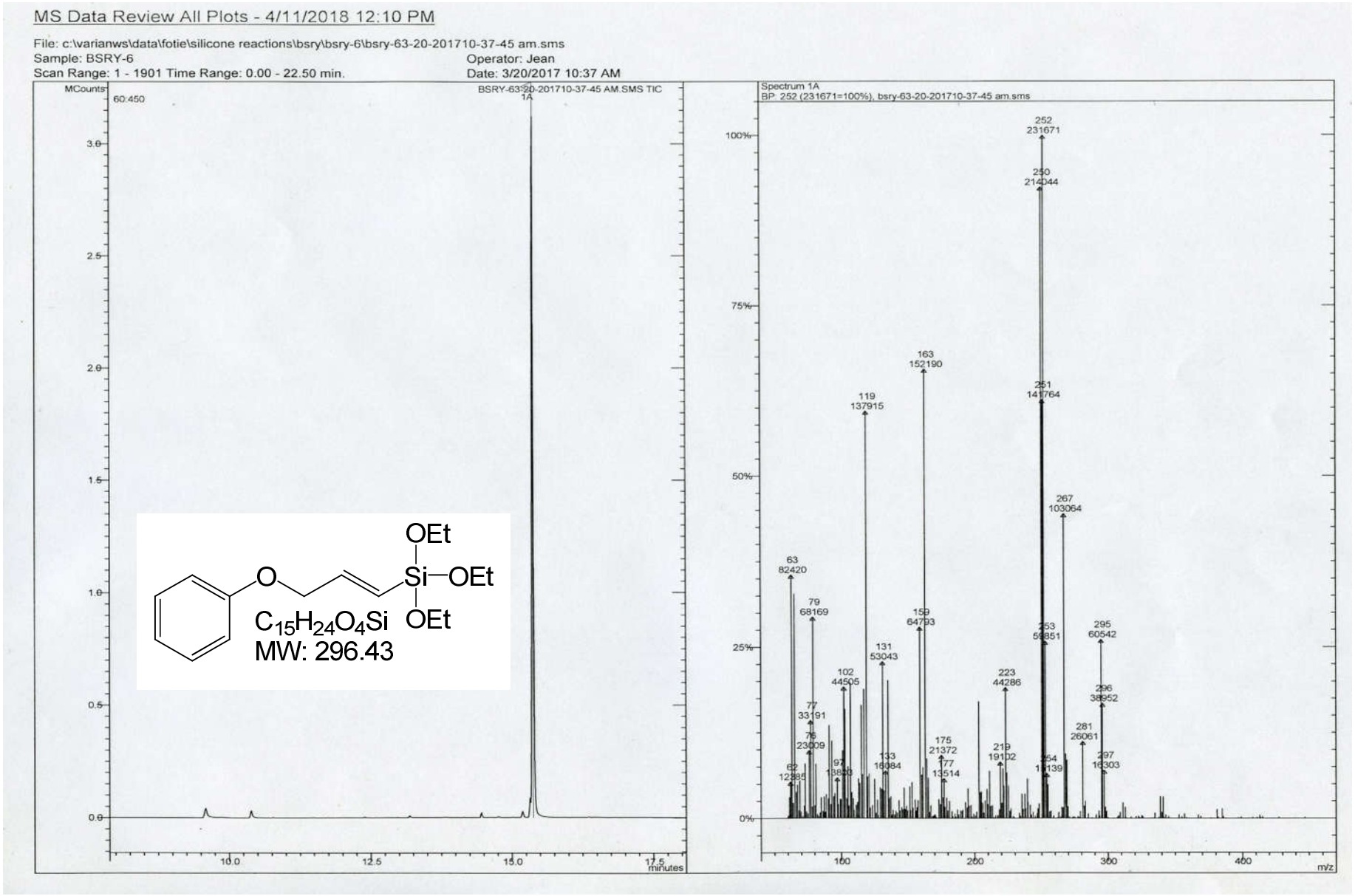
(E)-triethoxy(3-phenoxyprop-1-enyl)silane (**21**) – ^{1}H-NMR ($CDCl_3$, 400 MHz)



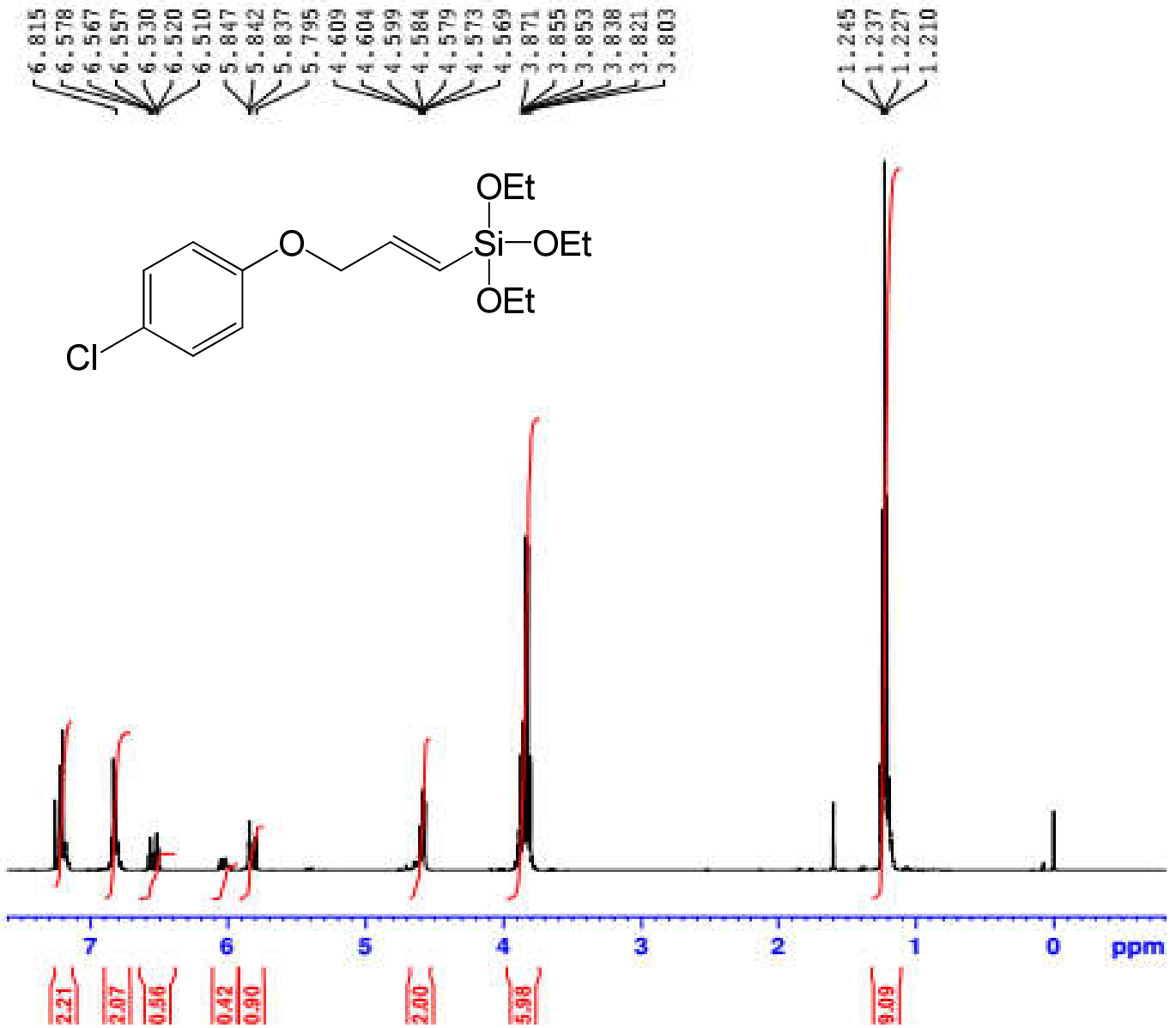
(E)-triethoxy(3-phenoxyprop-1-enyl)silane (**21**) – ^{13}C-NMR ($CDCl_3$, 100 MHz)



(E)-triethoxy(3-phenoxyprop-1-enyl)silane (**21**) – GC_MS (showing one product)



(E)-(3-(4-chlorophenoxy)prop-1-enyl)triethoxysilane (**22**) – ^{1}H-NMR ($CDCl_3$, 400 MHz)



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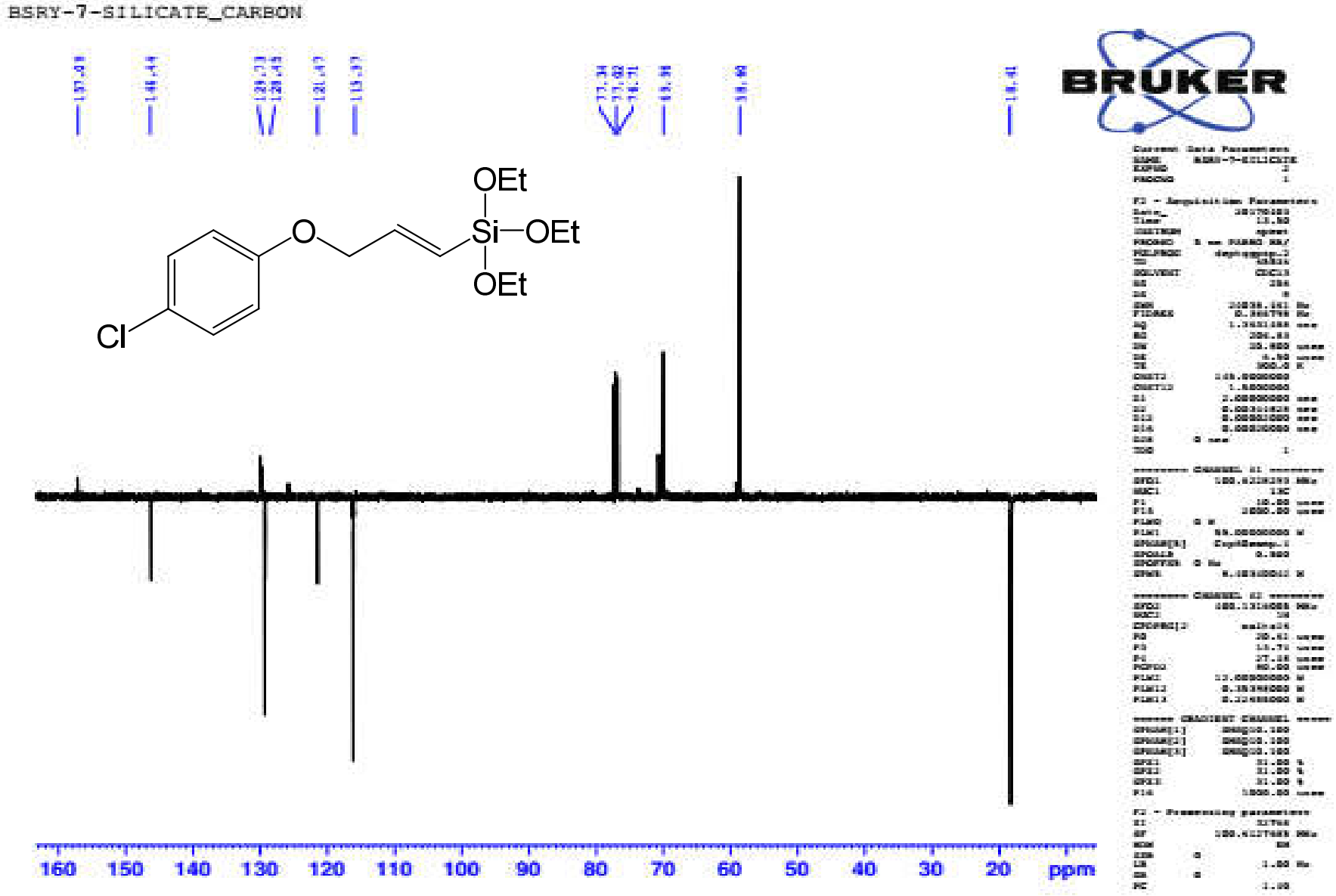
```
Current Data Parameters
NAME       BSRY-7-SILICATE
EXPNO                   1
PROCNO                  1

F2 - Acquisition Parameters
Date_           20170403
Time               12.21
INSTRUM            spect
PROBHD   5 mm PABBO BB/
PULPROG            zg30
TD                65536
SOLVENT           CDCl3
NS                   16
DS                    2
SWH            8012.820 Hz
FIDRES         0.122266 Hz
AQ             4.0894465 sec
RG                74.37
DW               62.400 usec
DE                6.50 usec
TE               300.1 K
D1             1.00000000 sec
TD0                   1

======== CHANNEL f1 ========
SFO1         400.1324710 MHz
NUC1               1H
P1                13.74 usec
PLW1         12.00000000 W

F2 - Processing parameters
SI                65536
SF           400.1300098 MHz
WDW                  EM
SSB       0
LB                0.30 Hz
GB        0
PC                1.00
```

(E)-(3-(4-chlorophenoxy)prop-1-enyl)triethoxysilane (**22**) – ^{13}C-NMR ($CDCl_3$, 100 MHz)



(E)-(3-(4-chlorophenoxy)prop-1-enyl)triethoxysilane (**22**) – GC-MS (showing only one product, the small signal is a byproduct from the degradation of the expected product as indicated by the mass spectrum at the bottom right, and not an isomer.