Highly Enantioselective Michael Addition of Malononitrile to α,β-Unsaturated Ketones

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Supplementary Information

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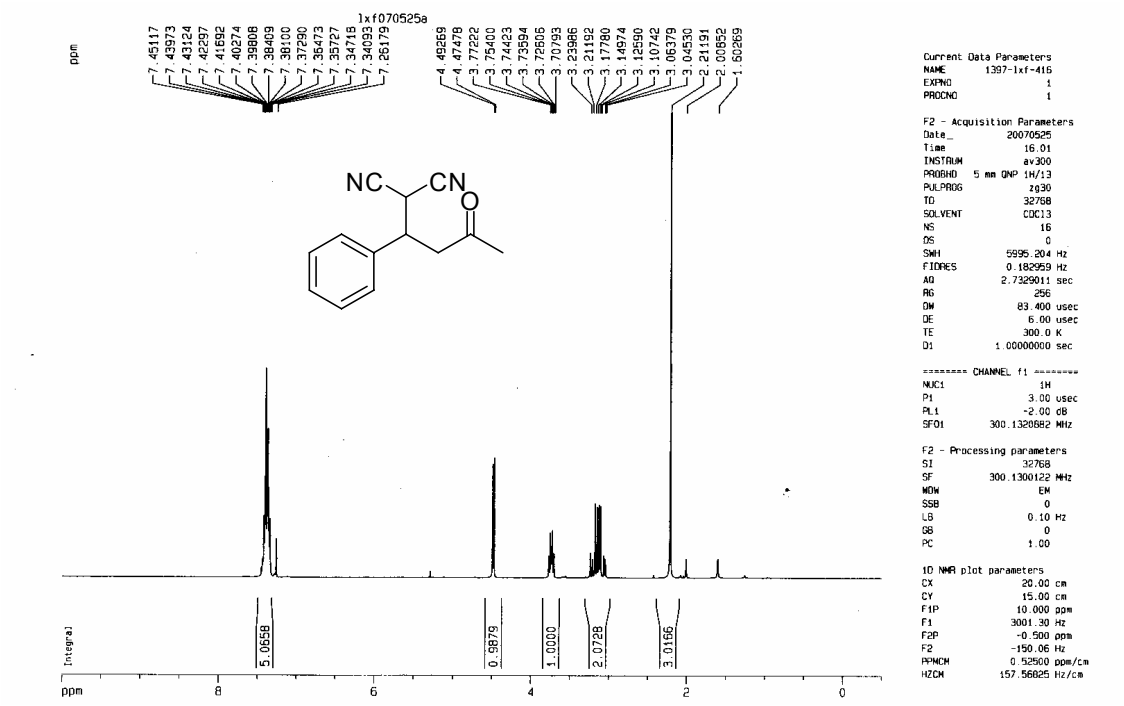
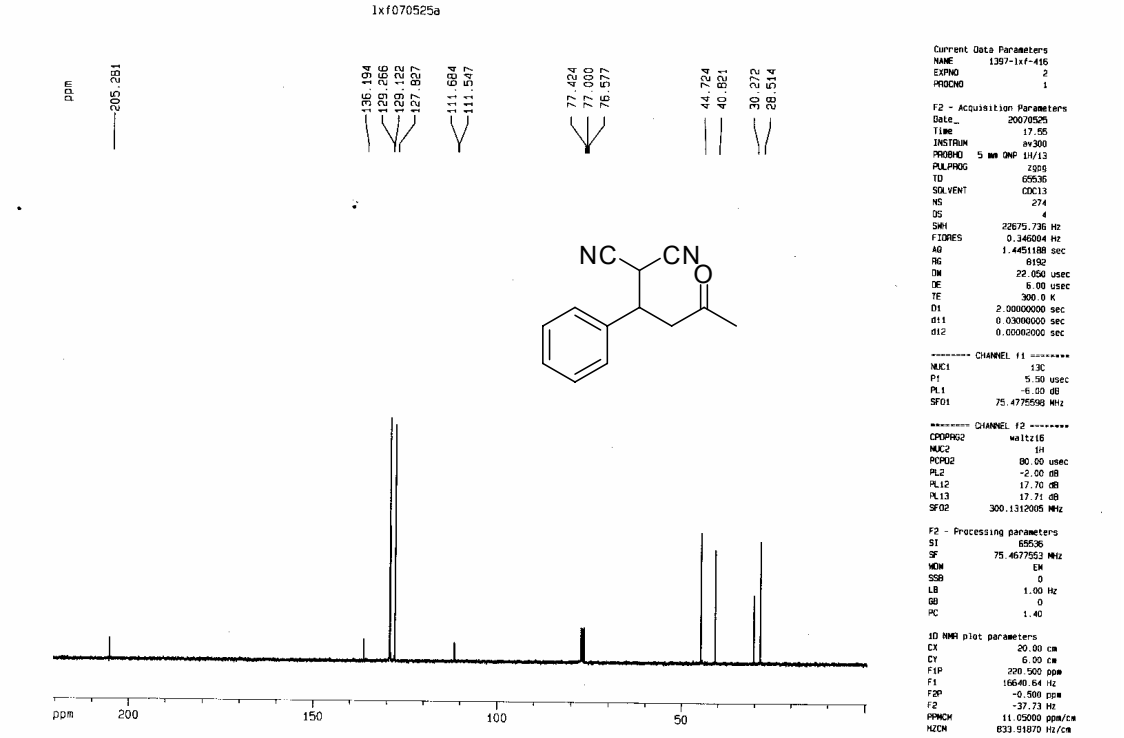
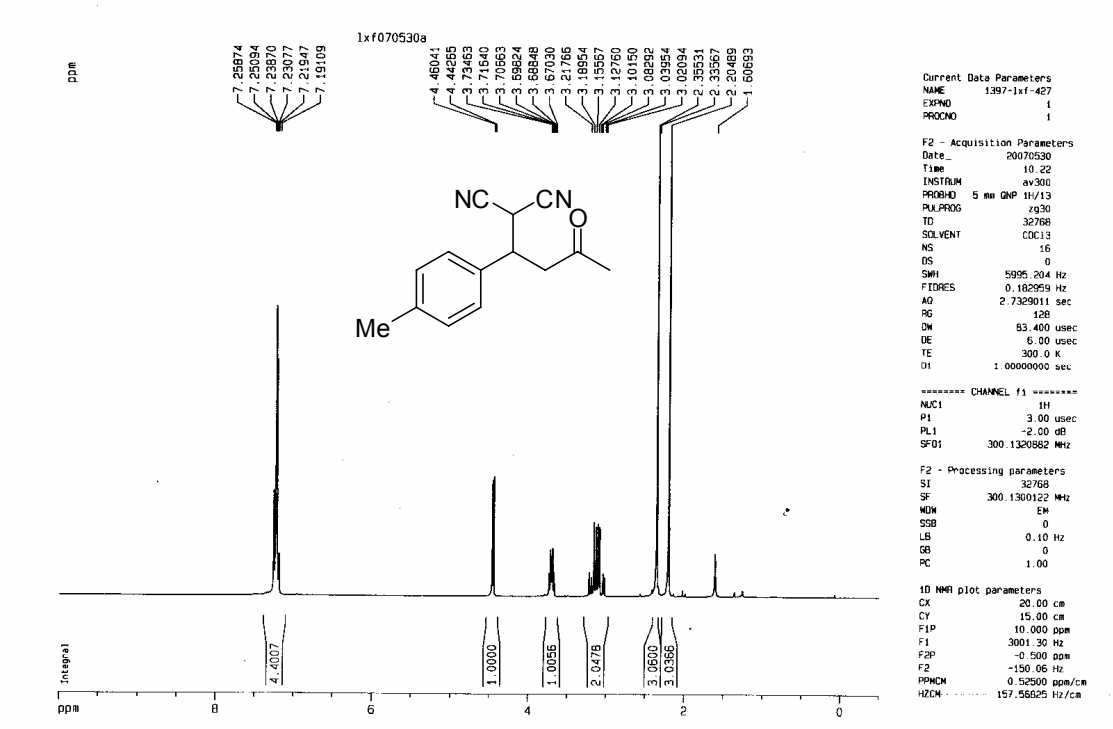
1. ^{1}H NMR and ^{13}C NMR spectra





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F2 - Processing parameters
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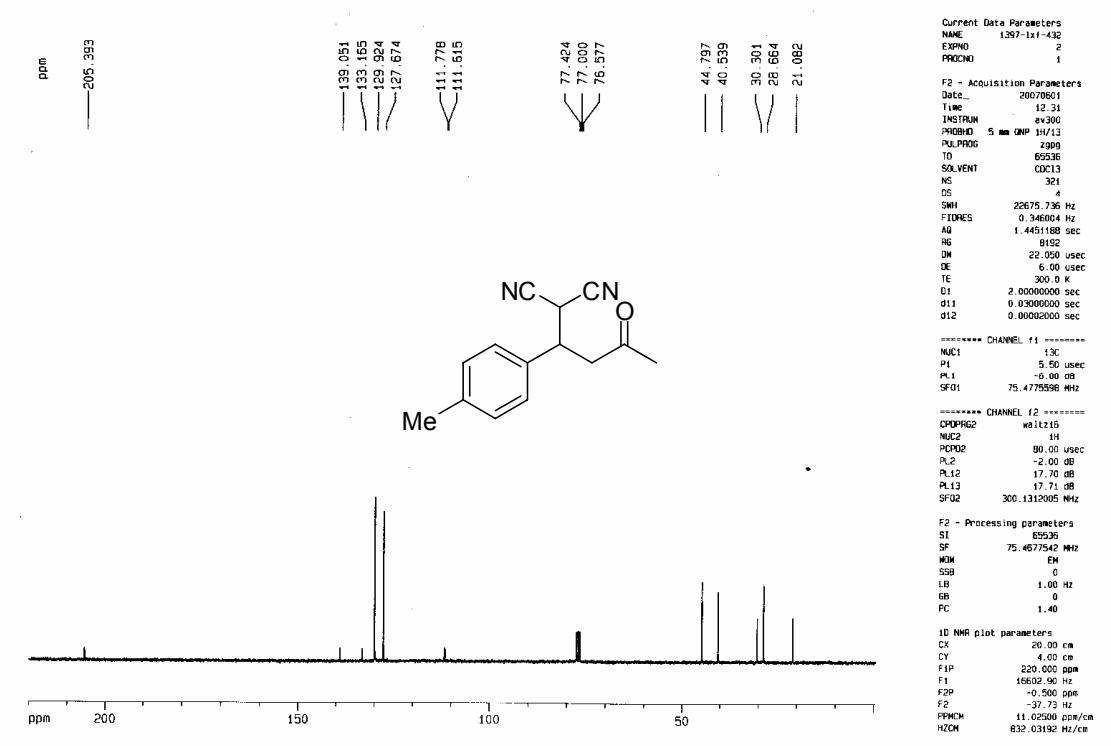


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SOLVENT                     CDCl3
NS                             321
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SWH                      22675.736 Hz
FIDRES                    0.346004 Hz
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RG                            8192
DW                          22.050 usec
DE                           6.00 usec
TE                           300.0 K
D1                     2.00000000 sec
d11                    0.03000000 sec
d12                    0.00002000 sec

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PL1                          -6.00 dB
SFO1                  75.4775598 MHz

======== CHANNEL f2 ========
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NUC2                           1H
PCPD2                       80.00 usec
PL2                          -2.00 dB
PL12                         17.70 dB
PL13                         17.71 dB
SFO2                  300.1312005 MHz

F2 - Processing parameters
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WDW                             EM
SSB                              0
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PC                            1.40

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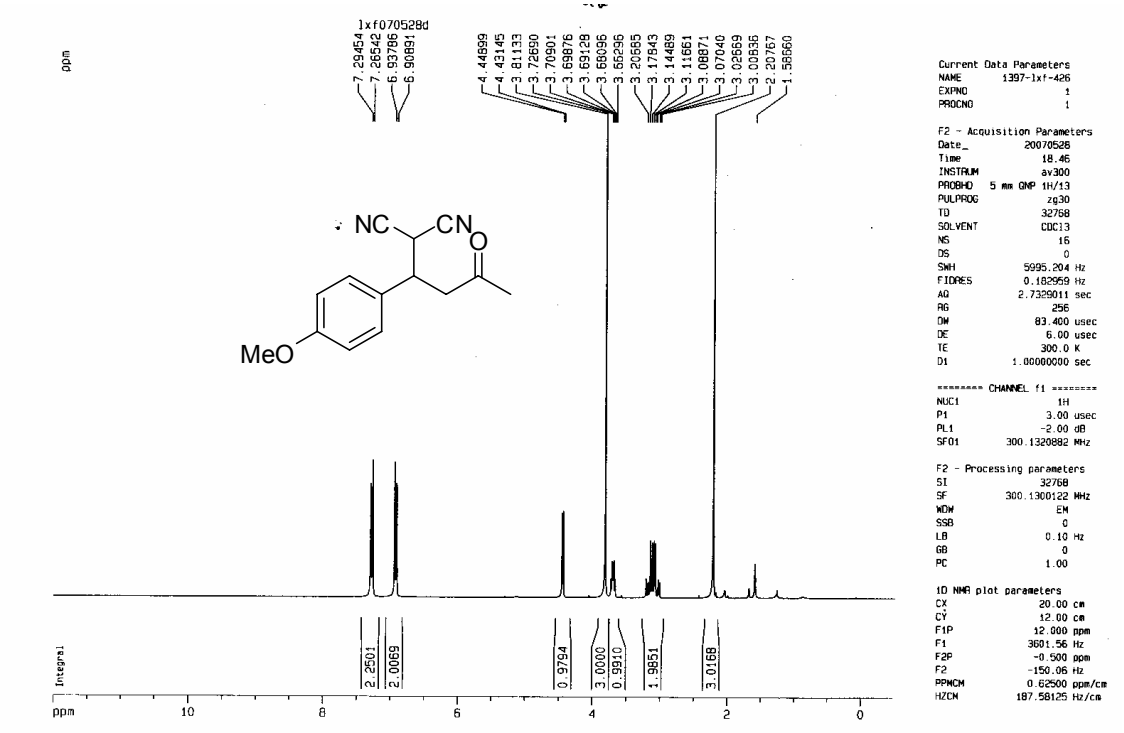
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3.69876
3.69128
3.66096
3.66296
3.20665
3.17643
3.14489
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3.07040
3.02669
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CN
O
MeO
Integral
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ppm
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8
6
4
2
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SOLVENT CDCl3
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PL1 -2.00 dB
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SF 300.1300122 MHz
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SSB 0
LB 0.10 Hz
GB 0
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CY 12.00 cm
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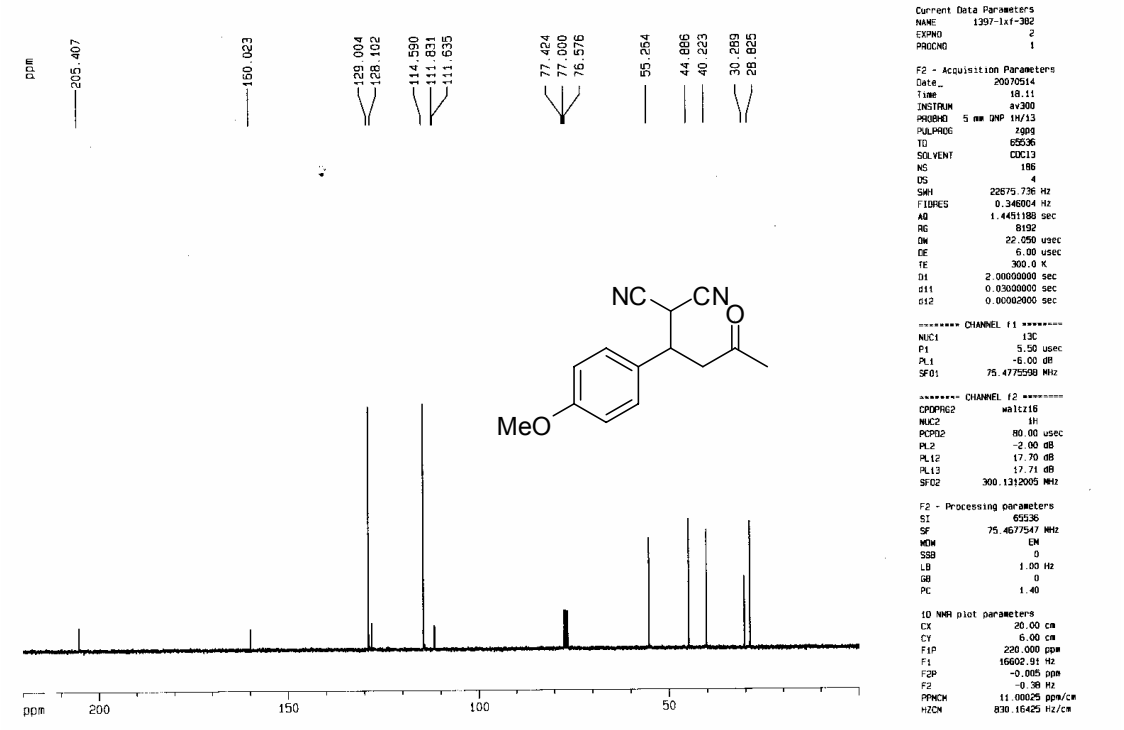
HZCM 187.58125 Hz/cm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ppm
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150
100
50
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PROCNO 1
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Time 18.11
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PULPROG zgpg
TD 65536
SOLVENT CDCl3
NS 186
DS 4
SWH 22675.736 Hz
FIDRES 0.346004 Hz
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RG 8192
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DE 6.00 usec
TE 300.0 K
D1 2.00000000 sec
d11 0.03000000 sec
d12 0.00002000 sec
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NUC1 13C
P1 5.50 usec
PL1 -6.00 dB
SF01 75.4775598 MHz
======== CHANNEL f2 ========
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -2.00 dB
PL12 17.70 dB
PL13 17.71 dB
SF02 300.1312005 MHz
F2 - Processing parameters
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SSB 0
LB 1.00 Hz
GB 0
PC 1.40
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CX 20.00 cm
CY 6.00 cm
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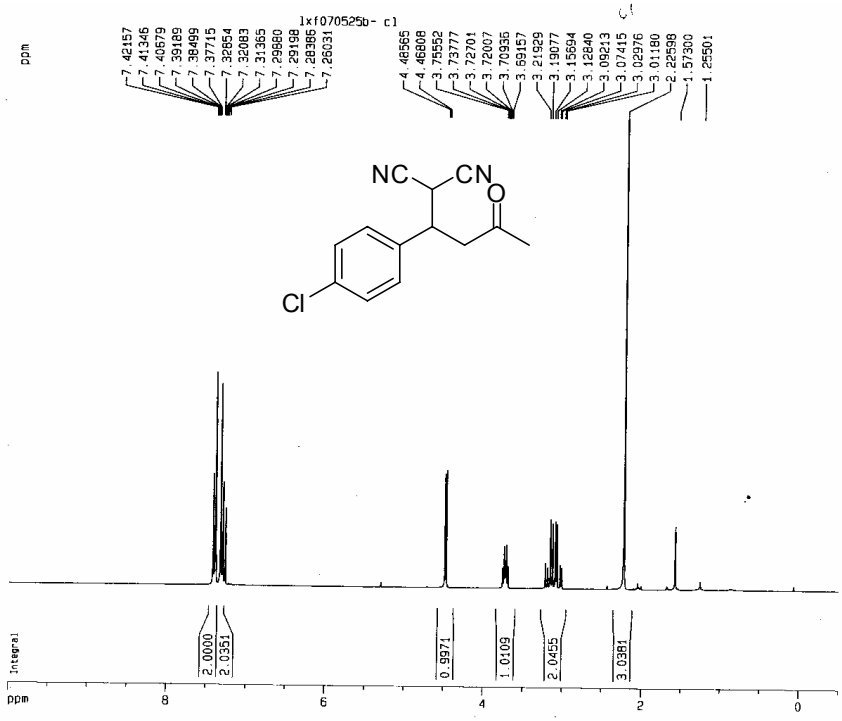
HZCM 830.16425 Hz/cm

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PULPROG           zg30
TD               32768
SOLVENT          CDCl3
NS                  32
DS                   0
SWH           5995.204 Hz
FIDRES        0.182959 Hz
AQ            2.7329011 sec
RG                 256
DW             83.400 usec
DE              6.00 usec
TE              300.0 K
D1          1.00000000 sec

======== CHANNEL f1 ========
NUC1                 1H
P1             3.00 usec
PL1            -2.00 dB
SFO1     300.1320882 MHz

F2 - Processing parameters
SI               32768
SF        300.1300122 MHz
WDW                 EM
SSB                  0
LB            0.10 Hz
GB                   0
PC                1.00

1D NMR plot parameters
CX              20.00 cm
CY              15.00 cm
F1P           10.000 ppm
F1          3001.30 Hz
F2P           -0.500 ppm
F2          -150.06 Hz
PPMCM         0.52500 ppm/cm
HZCM        157.56825 Hz/cm
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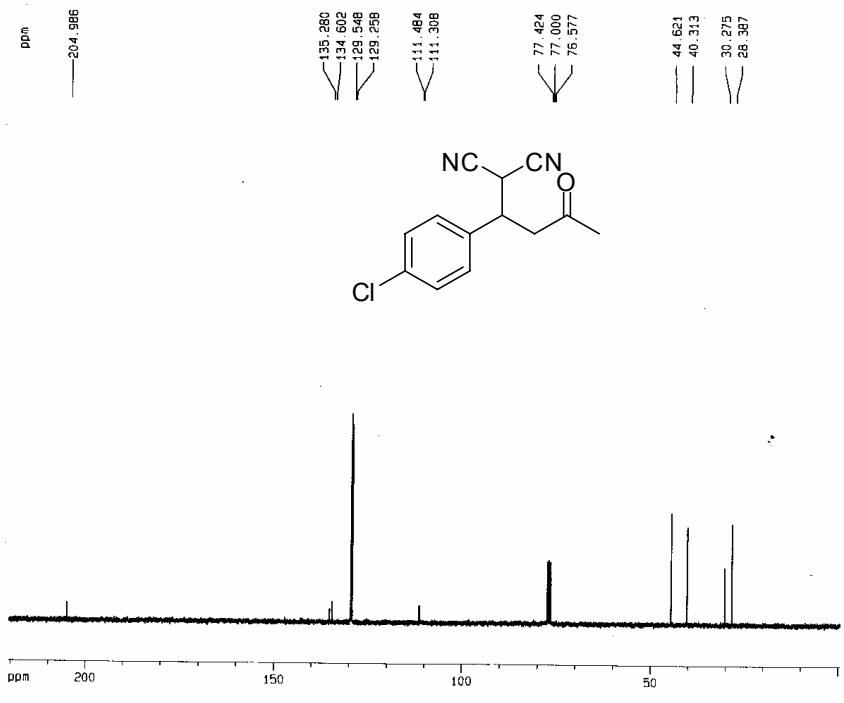


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EXPNO                    2
PROCNO                   1

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PULPROG           zgpg
TD               65536
SOLVENT          CDCl3
NS                 282
DS                   4
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FIDRES        0.346004 Hz
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RG                8192
DW             22.050 usec
DE              6.00 usec
TE              300.0 K
D1          2.00000000 sec
d11         0.03000000 sec
d12         0.00002000 sec

======== CHANNEL f1 ========
NUC1                13C
P1             5.50 usec
PL1            -6.00 dB
SFO1     75.4775598 MHz

======== CHANNEL f2 ========
CPDPRG2         waltz16
NUC2                1H
PCPD2          80.00 usec
PL2            -2.00 dB
PL12           17.70 dB
PL13           17.71 dB
SFO2     300.1312005 MHz

F2 - Processing parameters
SI               65536
SF        75.4677526 MHz
WDW                 EM
SSB                  0
LB            1.00 Hz
GB                   0
PC                1.40

1D NMR plot parameters
CX              20.00 cm
CY               5.00 cm
F1P           220.500 ppm
F1          16640.64 Hz
F2P           -0.500 ppm
F2          -37.73 Hz
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HZCM       833.91864 Hz/cm
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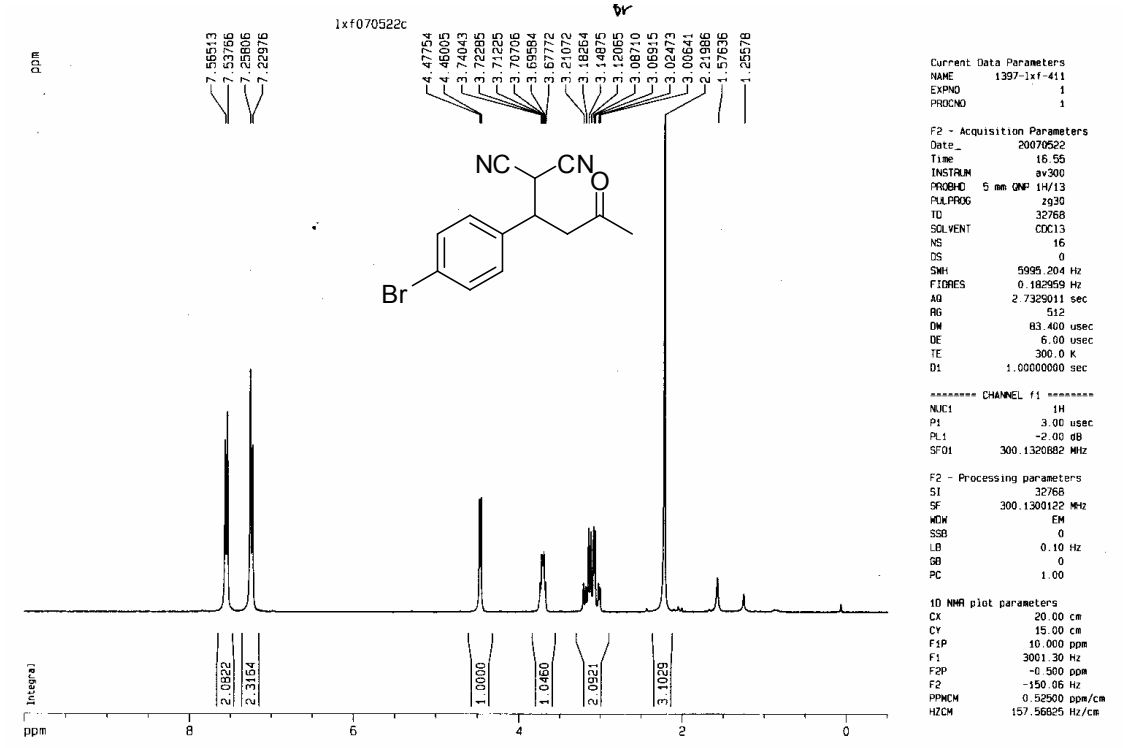

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TD 32768
SOLVENT CDCl3
NS 16
DS 0
SWH 5995.204 Hz
FIDRES 0.182959 Hz
AQ 2.7329011 sec
RG 512
DW 83.400 usec
DE 6.00 usec
TE 300.0 K
D1 1.00000000 sec

======== CHANNEL f1 ========
NUC1 1H
P1 3.00 usec
PL1 -2.00 dB
SFO1 300.1320882 MHz

F2 - Processing parameters
SI 32768
SF 300.1300122 MHz
WDW EM
SSB 0
LB 0.10 Hz
GB 0
PC 1.00

1D NMR plot parameters
CX 20.00 cm
CY 15.00 cm
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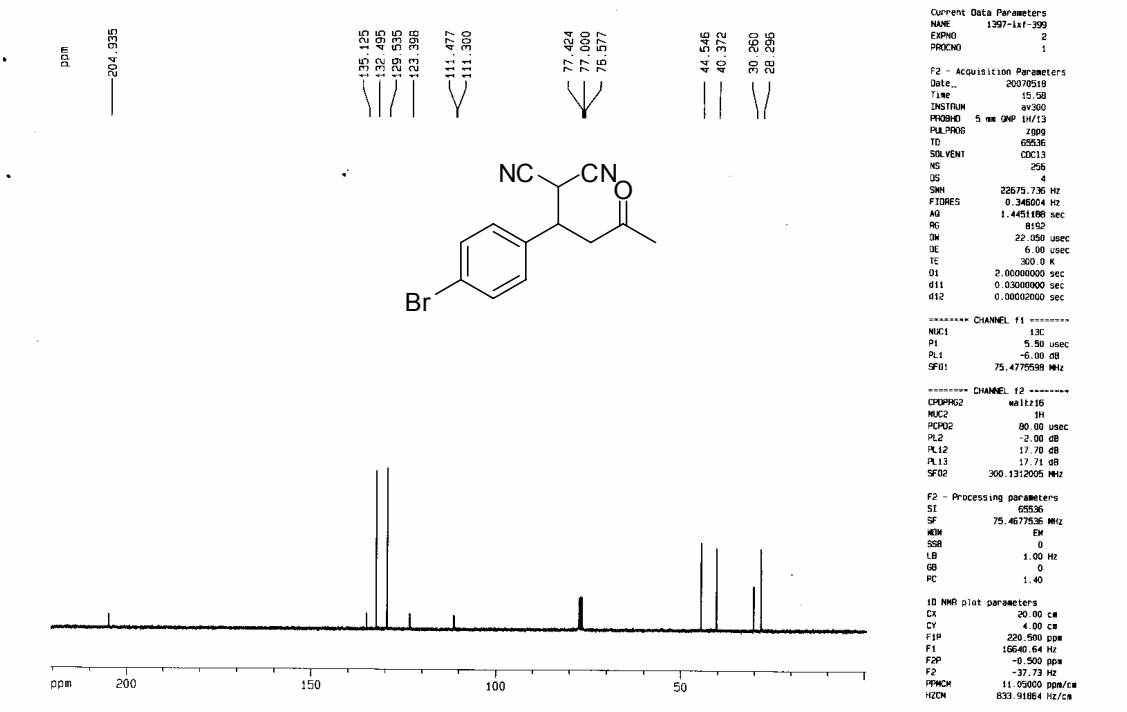
F1 3001.30 Hz
F2P -0.500 ppm
F2 -150.06 Hz
PPMCM 0.52500 ppm/cm
HZCM 157.56825 Hz/cm



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PULPROG zgpg
TD 65536
SOLVENT CDCl3
NS 256
DS 4
SWH 22675.736 Hz
FIDRES 0.346004 Hz
AQ 1.4451088 sec
RG 8192
DW 22.050 usec
DE 6.00 usec
TE 300.0 K
D1 2.00000000 sec
d11 0.03000000 sec
d12 0.00002000 sec

======== CHANNEL f1 ========
NUC1 13C
P1 5.50 usec
PL1 -6.00 dB
SFO1 75.4775598 MHz

======== CHANNEL f2 ========
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -2.00 dB
PL12 17.70 dB
PL13 17.71 dB
SFO2 300.1312005 MHz

F2 - Processing parameters
SI 65536
SF 75.4677536 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

1D NMR plot parameters
CX 20.00 cm
CY 4.00 cm
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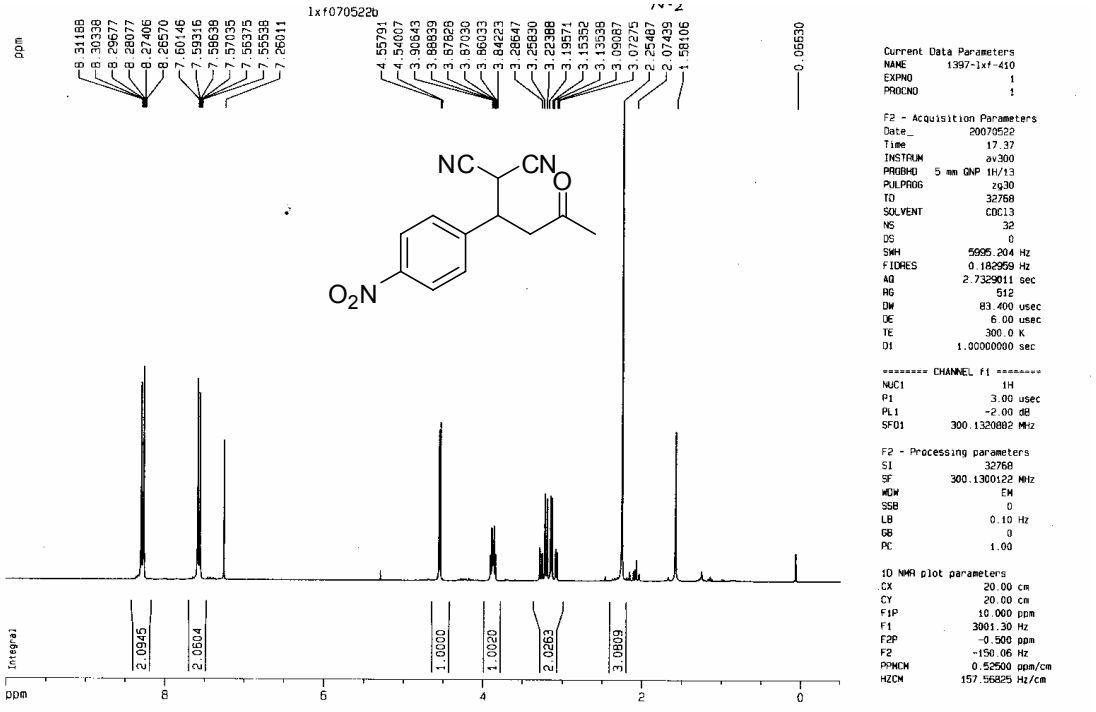
F1 16640.64 Hz
F2P -0.500 ppm
F2 -37.73 Hz
PPMCM 11.05000 ppm/cm
HZCM 833.91864 Hz/cm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7.26011
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4.54007
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TD 32768
SOLVENT CDCl3
NS 32
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SWH 5995.204 Hz
FIDRES 0.182959 Hz
AQ 2.7329011 sec
RG 512
DW 83.400 usec
DE 6.00 usec
TE 300.0 K
D1 1.00000000 sec
======== CHANNEL f1 ========
NUC1 1H
P1 3.00 usec
PL1 -2.00 dB
SF01 300.1320882 MHz
F2 - Processing parameters
SI 32768
SF 300.1300122 MHz
WDW EM
SSB 0
LB 0.10 Hz
GB 0
PC 1.00
1D NMR plot parameters
CX 20.00 cm
CY 20.00 cm
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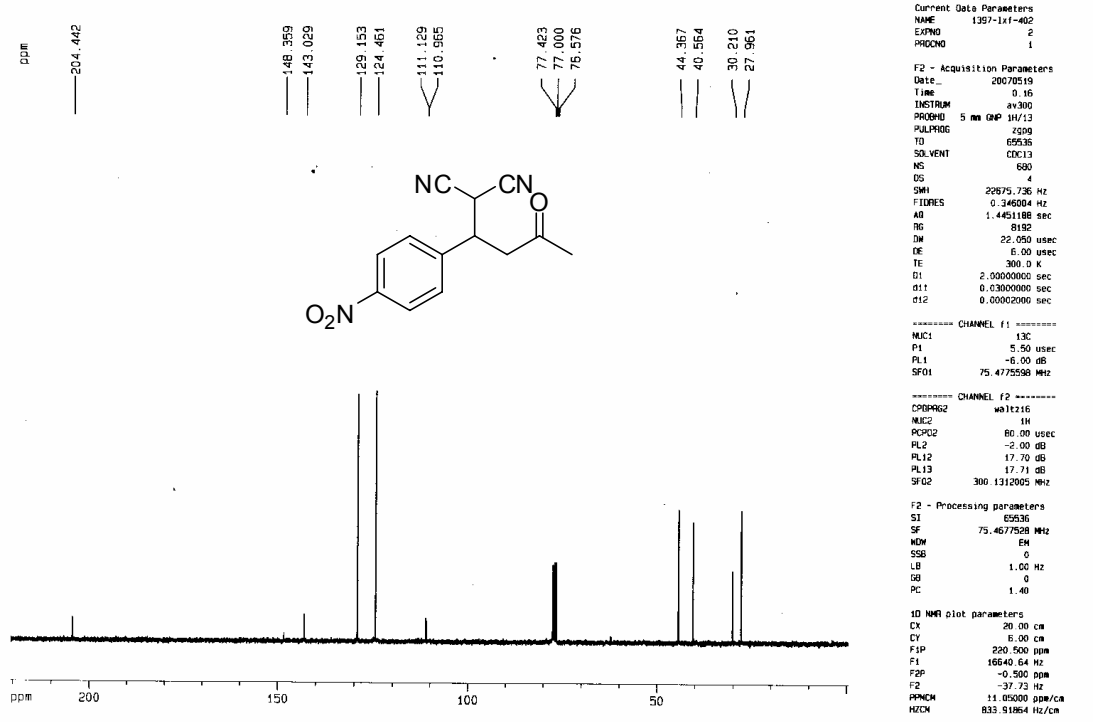
F1 3001.30 Hz
F2P -0.500 ppm
F2 -150.06 Hz
PPMCM 0.52500 ppm/cm
HZCM 157.56825 Hz/cm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NC
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ppm
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EXPNO 2
PROCNO 1
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PULPROG zgpg
TD 65536
SOLVENT CDCl3
NS 680
DS 4
SWH 22675.736 Hz
FIDRES 0.346004 Hz
AQ 1.4451188 sec
RG 8192
DW 22.050 usec
DE 6.00 usec
TE 300.0 K
D1 2.00000000 sec
d11 0.03000000 sec
d12 0.00002000 sec
======== CHANNEL f1 ========
NUC1 13C
P1 5.50 usec
PL1 -6.00 dB
SF01 75.4775598 MHz
======== CHANNEL f2 ========
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -2.00 dB
PL12 17.70 dB
PL13 17.71 dB
SF02 300.1312005 MHz
F2 - Processing parameters
SI 65536
SF 75.4677528 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40
1D NMR plot parameters
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CY 8.00 cm
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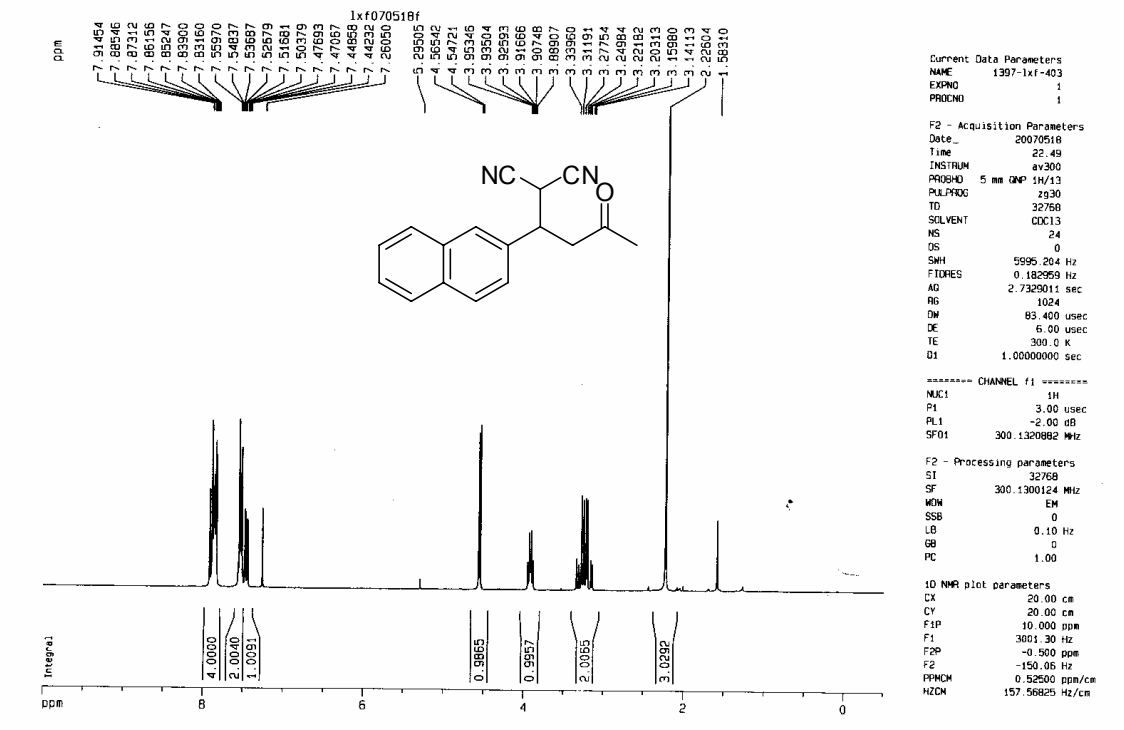
F2P -0.500 ppm
F2 -37.73 Hz
PPMCM 11.05000 ppm/cm
HZCM 833.91864 Hz/cm



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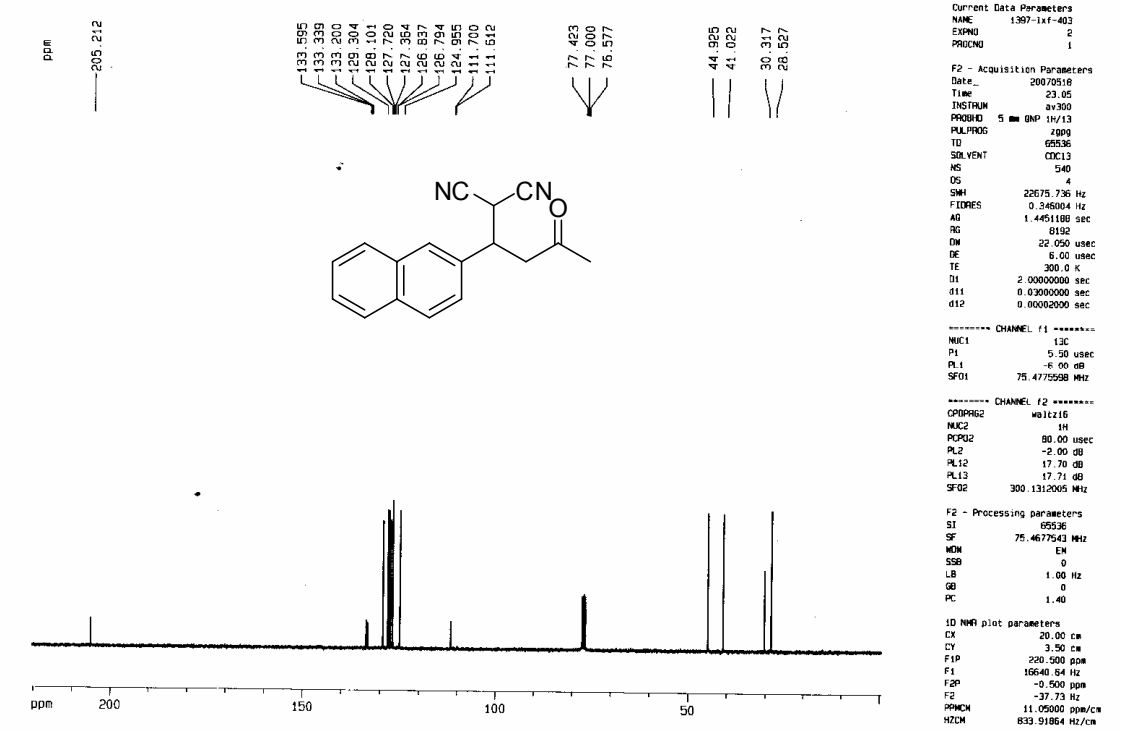
TD 32768
SOLVENT CDCl3
NS 24
DS 0
SWH 5995.204 Hz
FIDRES 0.182959 Hz
AQ 2.7329011 sec
RG 1024
DW 83.400 usec
DE 6.00 usec
TE 300.0 K
D1 1.00000000 sec

======== CHANNEL f1 ========
NUC1 1H
P1 3.00 usec
PL1 -2.00 dB
SFO1 300.1320882 MHz

F2 - Processing parameters
SI 32768
SF 300.1300124 MHz
WDW EM
SSB 0
LB 0.10 Hz
GB 0
PC 1.00

1D NMR plot parameters
CX 20.00 cm
CY 20.00 cm
F1P 10.000 ppm
F1 3001.30 Hz
F2P -0.500 ppm
F2 -150.06 Hz
PPMCM 0.52500 ppm/cm
HZCM 157.56825 Hz/cm



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EXPNO 2
PROCNO 1

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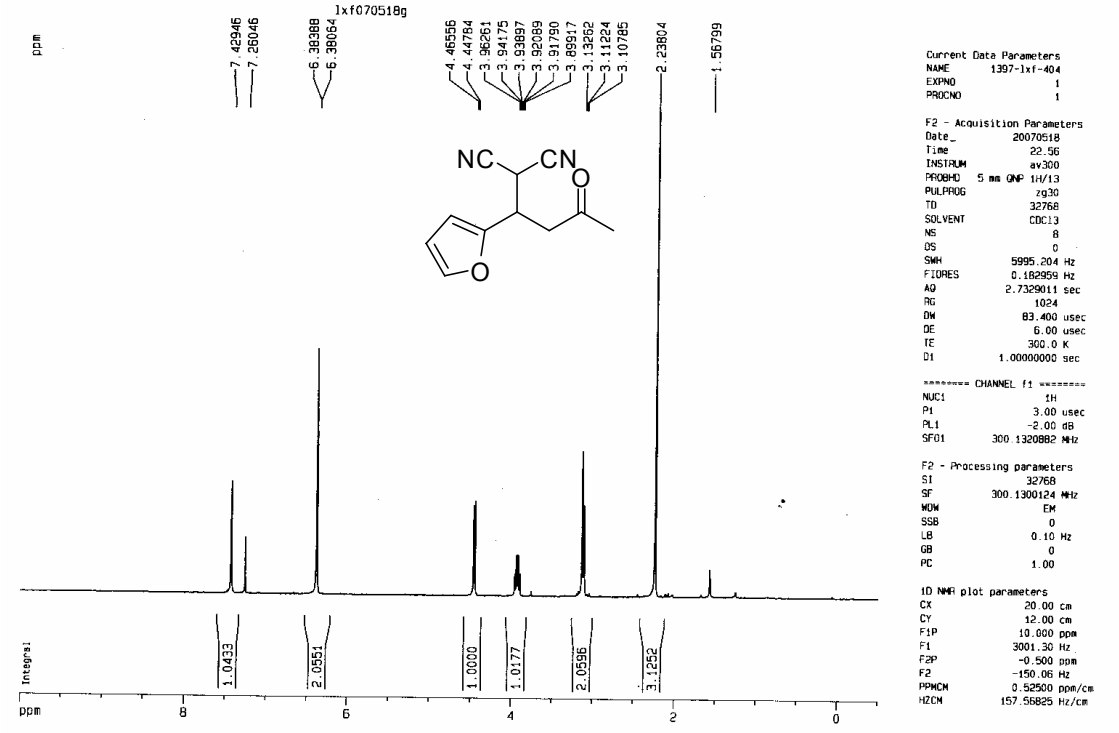
TD 65536
SOLVENT CDCl3
NS 540
DS 4
SWH 22675.736 Hz
FIDRES 0.346004 Hz
AQ 1.4451088 sec
RG 8192
DW 22.050 usec
DE 6.00 usec
TE 300.0 K
D1 2.00000000 sec
d11 0.03000000 sec
d12 0.00002000 sec

======== CHANNEL f1 ========
NUC1 13C
P1 5.50 usec
PL1 -6.00 dB
SFO1 75.4775598 MHz

======== CHANNEL f2 ========
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -2.00 dB
PL12 17.70 dB
PL13 17.71 dB
SFO2 300.1312005 MHz

F2 - Processing parameters
SI 65536
SF 75.4677543 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

1D NMR plot parameters
CX 20.00 cm
CY 3.50 cm
F1P 220.500 ppm
F1 16640.64 Hz
F2P -0.500 ppm
F2 -37.73 Hz
PPMCM 11.05000 ppm/cm
HZCM 833.91864 Hz/cm



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SOLVENT CDCl3
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FIDRES 0.182959 Hz
AQ 2.7329011 sec
RG 1024
DW 83.400 usec
DE 6.00 usec
TE 300.0 K
D1 1.00000000 sec

======== CHANNEL f1 ========
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P1 3.00 usec
PL1 -2.00 dB
SFO1 300.1320882 MHz

F2 - Processing parameters
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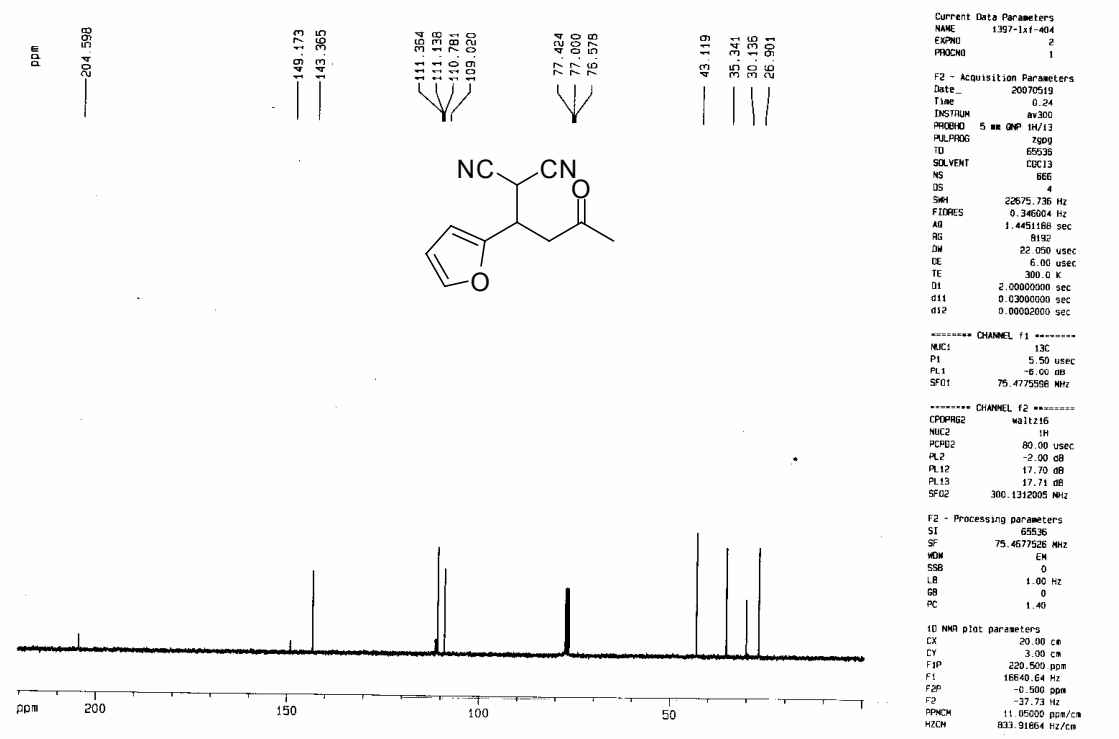
WDW EM
SSB 0
LB 0.10 Hz
GB 0
PC 1.00

1D NMR plot parameters
CX 20.00 cm
CY 12.00 cm
F1P 10.000 ppm
F1 3001.30 Hz
F2P -0.500 ppm
F2 -150.06 Hz
PPMCM 0.52500 ppm/cm
HZCM 157.56825 Hz/cm



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PROCNO 1

F2 - Acquisition Parameters
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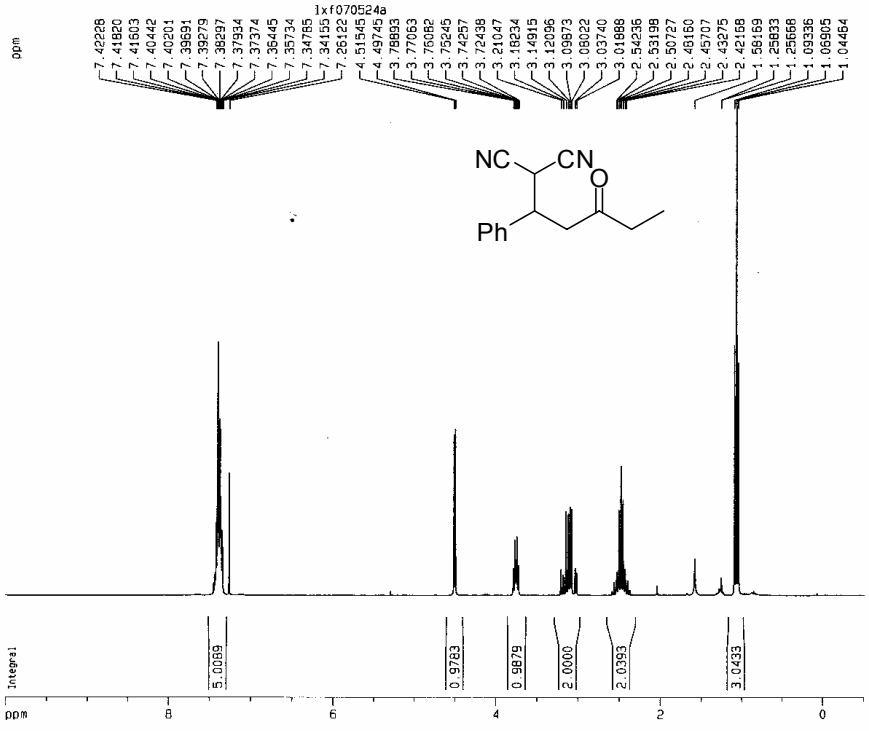
TD 65536
SOLVENT CDCl3
NS 666
DS 4
SWH 22675.736 Hz
FIDRES 0.346004 Hz
AQ 1.4451188 sec
RG 8192
DW 22.050 usec
DE 6.00 usec
TE 300.0 K
D1 2.00000000 sec
d11 0.03000000 sec
d12 0.00002000 sec

======== CHANNEL f1 ========
NUC1 13C
P1 5.50 usec
PL1 -6.00 dB
SFO1 75.4775598 MHz

======== CHANNEL f2 ========
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -2.00 dB
PL12 17.70 dB
PL13 17.71 dB
SFO2 300.1312005 MHz

F2 - Processing parameters
SI 65536
SF 75.4677526 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40

1D NMR plot parameters
CX 20.00 cm
CY 3.00 cm
F1P 220.500 ppm
F1 16640.64 Hz
F2P -0.500 ppm
F2 -37.73 Hz
PPMCM 11.05000 ppm/cm
HZCM 833.91864 Hz/cm



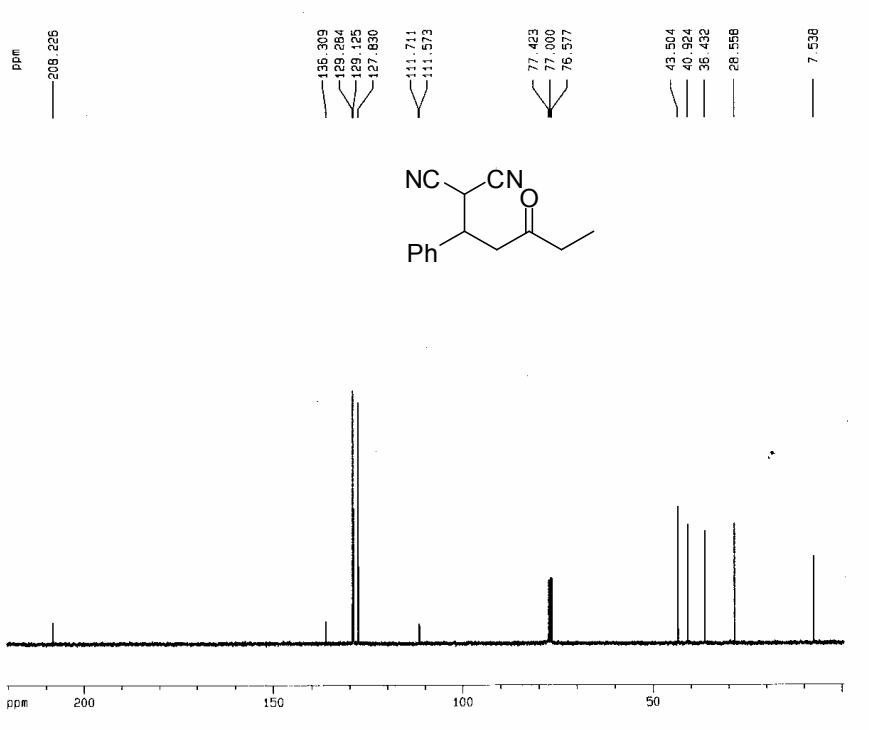

```
Current Data Parameters
NAME          1397-1xf-414
EXPNO                    1
PROCNO                   1

F2 - Acquisition Parameters
Date_              20070525
Time                   9.39
INSTRUM               av300
PROBHD   5 mm QNP 1H/13
PULPROG               zg30
TD                   32768
SOLVENT              CDCl3
NS                      16
DS                       0
SWH                5995.204 Hz
FIDRES             0.182959 Hz
AQ                 2.7329011 sec
RG                     512
DW                  83.400 usec
DE                   6.00 usec
TE                  300.0 K
D1                1.00000000 sec

======== CHANNEL f1 ========
NUC1                     1H
P1                   3.00 usec
PL1                  -2.00 dB
SFO1           300.1320882 MHz

F2 - Processing parameters
SI                   32768
SF             300.1300122 MHz
WDW                     EM
SSB                      0
LB                  0.10 Hz
GB                       0
PC                    1.00

1D NMR plot parameters
CX                  20.00 cm
CY                  12.00 cm
F1P                10.000 ppm
F1                3001.30 Hz
F2P                -0.500 ppm
F2                -150.06 Hz
PPMCM              0.52500 ppm/cm
HZCM             157.56825 Hz/cm
```

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Current Data Parameters
NAME          1397-1xf-414
EXPNO                    2
PROCNO                   1

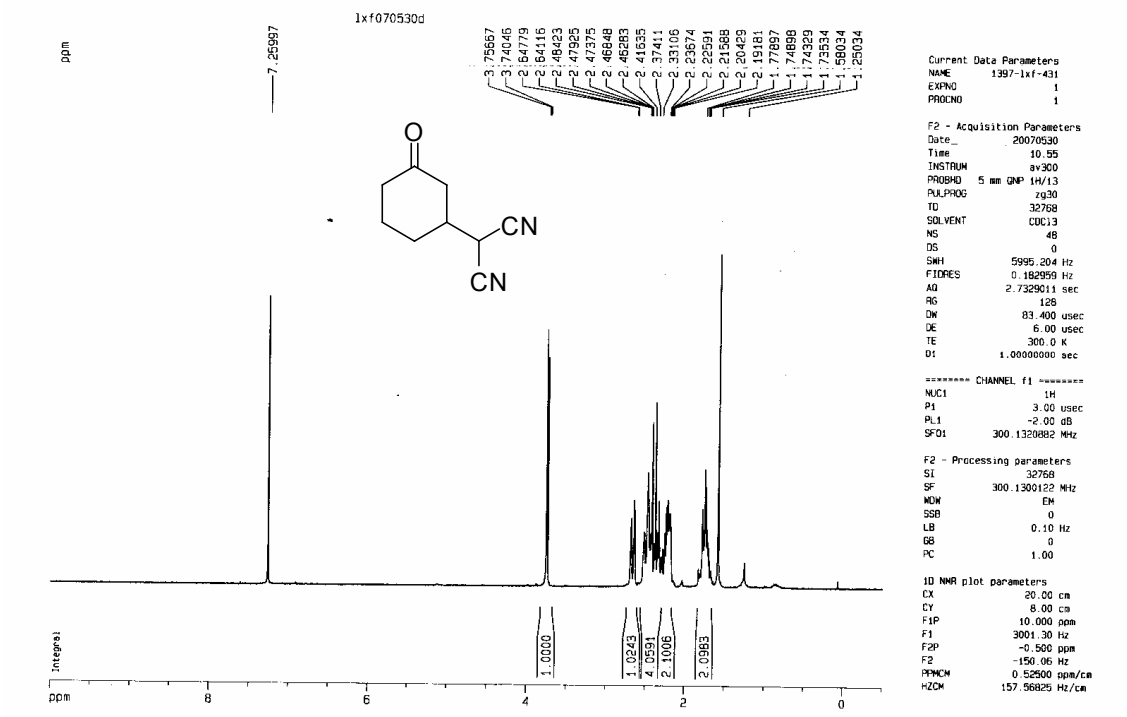
F2 - Acquisition Parameters
Date_              20070525
Time                  10.15
INSTRUM               av300
PROBHD   5 mm QNP 1H/13
PULPROG             zgpg
TD                   65536
SOLVENT              CDCl3
NS                      744
DS                       4
SWH                22675.736 Hz
FIDRES             0.346004 Hz
AQ                 1.4451888 sec
RG                     8192
DW                  22.050 usec
DE                   6.00 usec
TE                  300.0 K
D1                2.00000000 sec
D11               0.03000000 sec
D12               0.00002000 sec

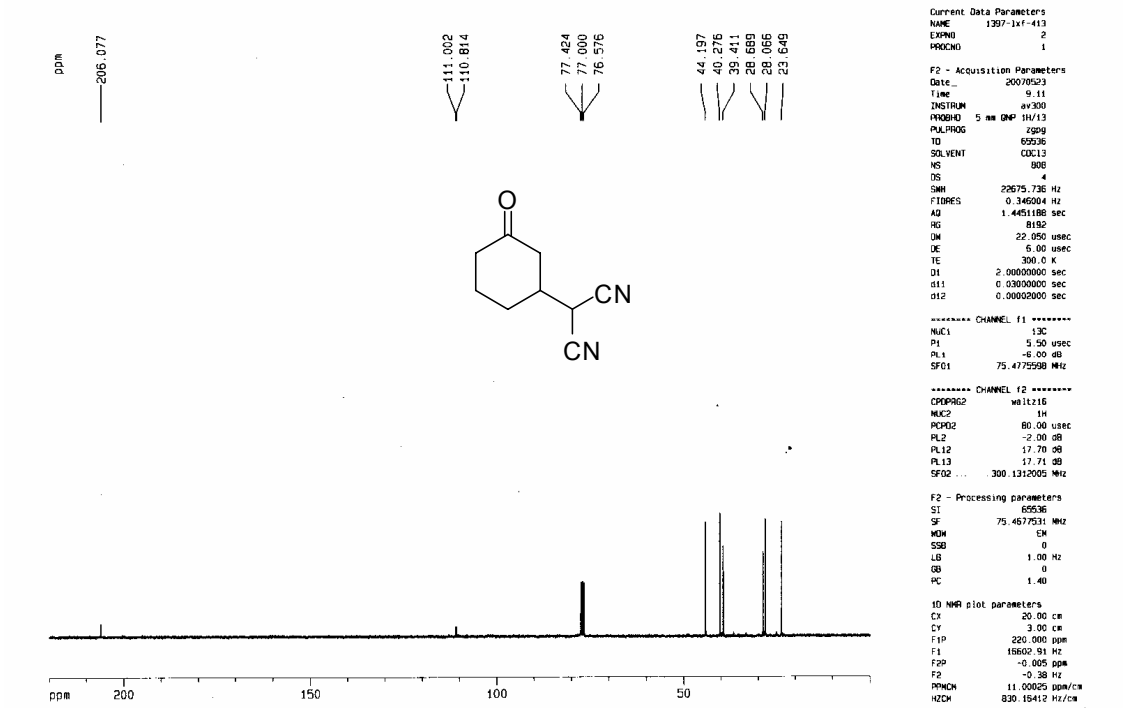
======== CHANNEL f1 ========
NUC1                    13C
P1                   5.50 usec
PL1                  -6.00 dB
SFO1           75.4775598 MHz

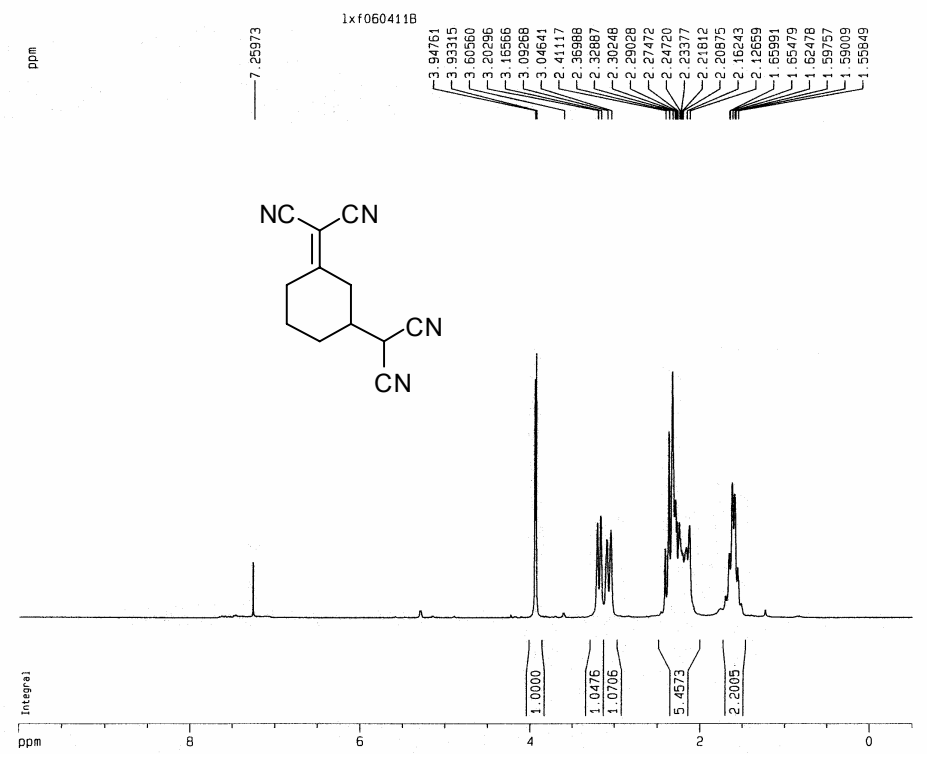
======== CHANNEL f2 ========
CPDPRG2             waltz16
NUC2                     1H
PCPD2               80.00 usec
PL2                  -2.00 dB
PL12                 17.70 dB
PL13                 17.71 dB
SFO2           300.1312005 MHz

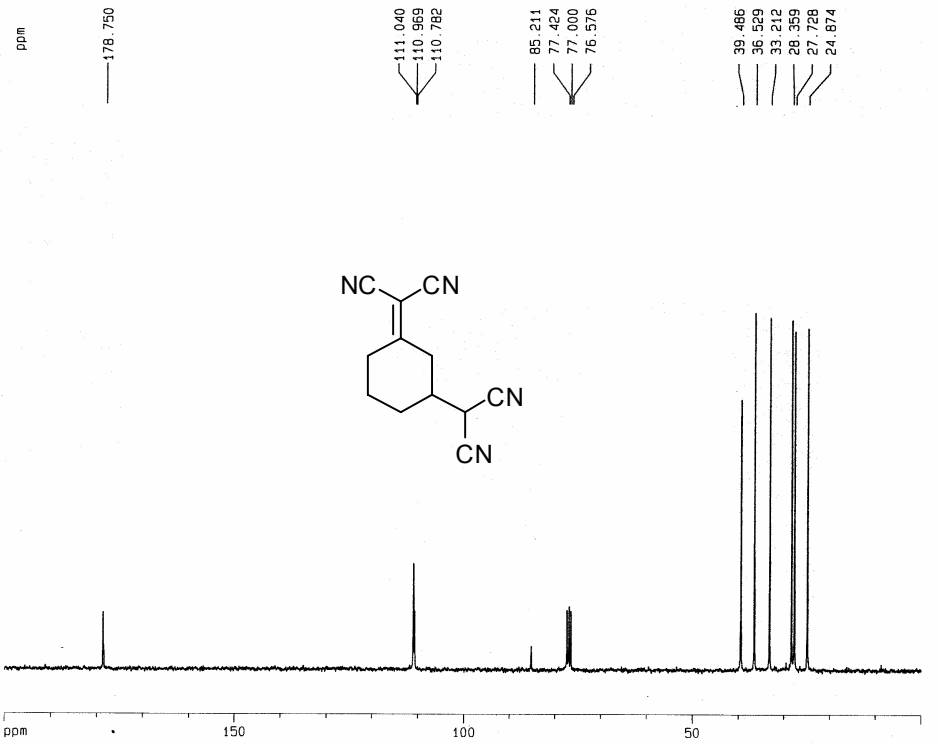
F2 - Processing parameters
SI                   65536
SF             75.4677536 MHz
WDW                     EM
SSB                      0
LB                   1.00 Hz
GB                       0
PC                    1.40

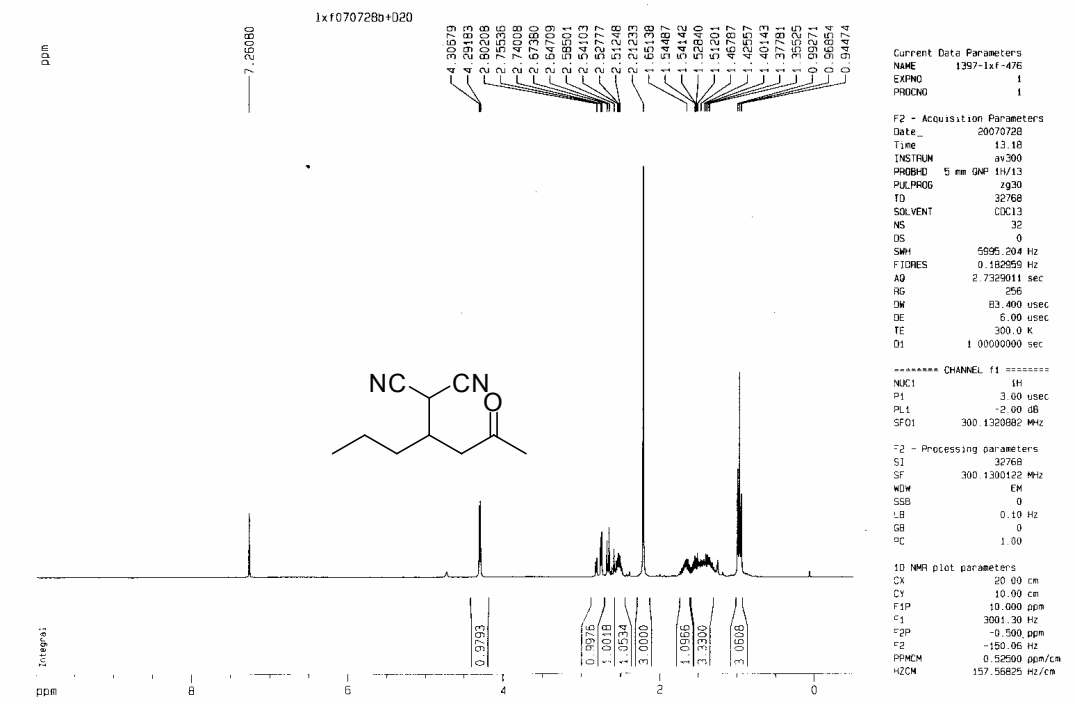
1D NMR plot parameters
CX                  20.00 cm
CY                   6.00 cm
F1P                220.500 ppm
F1               16640.64 Hz
F2P                -0.500 ppm
F2                -37.73 Hz
PPMCM             11.05000 ppm/cm
HZCM             833.91864 Hz/cm
```

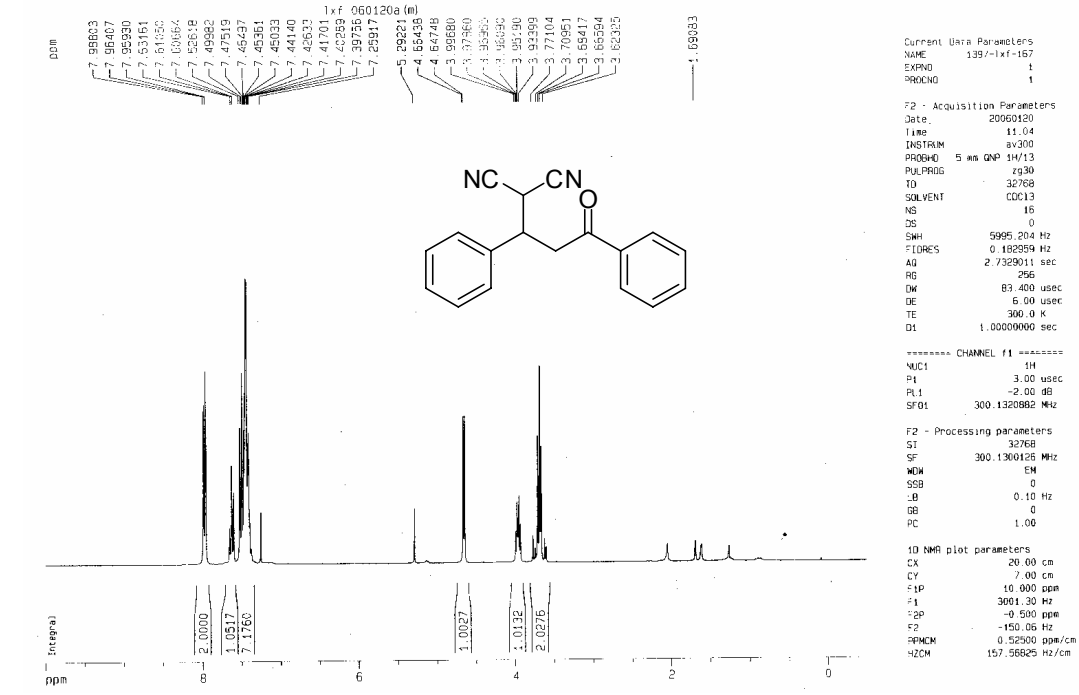

1xf070530d
ppm
7.25997
3.75667
3.74046
2.64779
2.64116
2.48423
2.47925
2.47375
2.46648
2.46283
2.41635
2.37411
2.33106
2.23674
2.22591
2.21588
2.20429
2.19181
1.77897
1.74898
1.74329
1.73534
1.58034
1.25034
O
CN
CN
Integral
1.0000
1.0243
4.0591
2.1006
2.0983
ppm
8
6
4
2
0
Current Data Parameters
NAME 1397-1xf-431
EXPNO 1
PROCNO 1
F2 - Acquisition Parameters
Date_ 20070530
Time 10.55
INSTRUM av300
PROBHD 5 mm QNP 1H/13
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 48
DS 0
SWH 5995.204 Hz
FIDRES 0.182959 Hz
AQ 2.7329011 sec
RG 128
DW 83.400 usec
DE 6.00 usec
TE 300.0 K
D1 1.00000000 sec
======== CHANNEL f1 ========
NUC1 1H
P1 3.00 usec
PL1 -2.00 dB
SFO1 300.1320882 MHz
F2 - Processing parameters
SI 32768
SF 300.1300122 MHz
WDW EM
SSB 0
LB 0.10 Hz
GB 0
PC 1.00
1D NMR plot parameters
CX 20.00 cm
CY 8.00 cm
F1P 10.000 ppm
F1 3001.30 Hz
F2P -0.500 ppm
F2 -150.06 Hz
PPMCM 0.52500 ppm/cm
HZCM 157.56825 Hz/cm

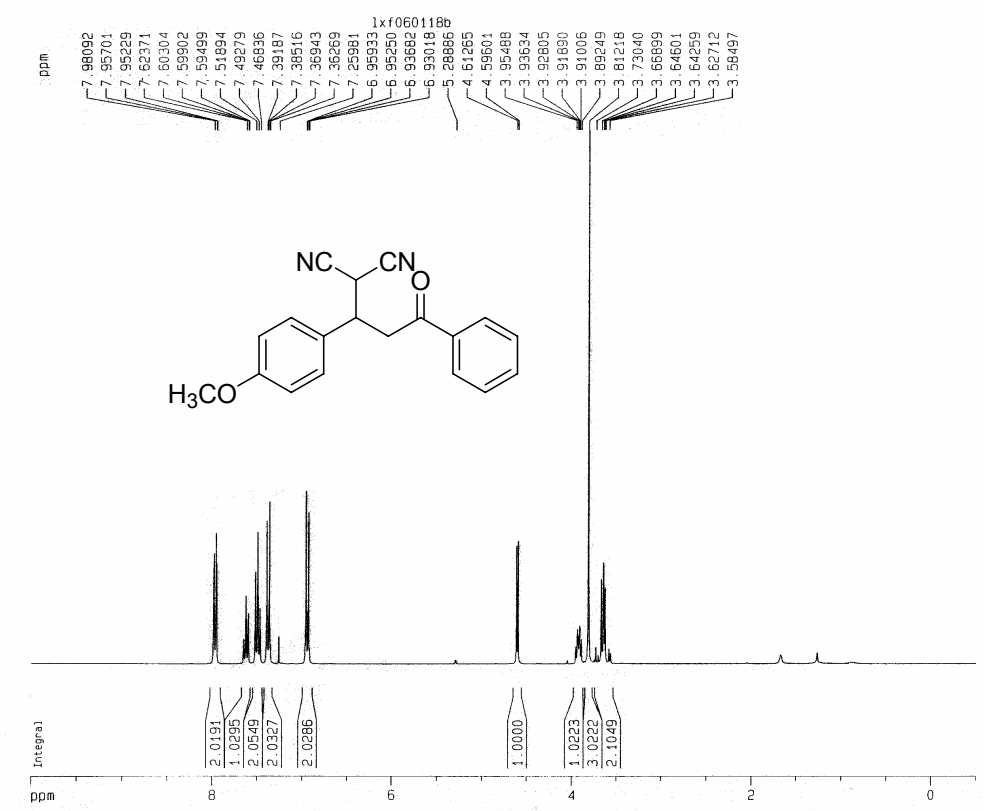

ppm
206.077
111.002
110.814
77.424
77.000
76.576
44.197
40.276
39.411
28.689
28.066
23.649
O
CN
CN
ppm
200
150
100
50
Current Data Parameters
NAME 1397-1xf-413
EXPNO 2
PROCNO 1
F2 - Acquisition Parameters
Date_ 20070523
Time 9.11
INSTRUM av300
PROBHD 5 mm QNP 1H/13
PULPROG zgpg
TD 65536
SOLVENT CDCl3
NS 808
DS 4
SWH 22675.736 Hz
FIDRES 0.346004 Hz
AQ 1.4451188 sec
RG 8192
DW 22.050 usec
DE 6.00 usec
TE 300.0 K
D1 2.00000000 sec
d11 0.03000000 sec
d12 0.00002000 sec
======== CHANNEL f1 ========
NUC1 13C
P1 5.50 usec
PL1 -6.00 dB
SFO1 75.4775998 MHz
======== CHANNEL f2 ========
CPDPRG2 waltz16
NUC2 1H
PCPD2 80.00 usec
PL2 -2.00 dB
PL12 17.70 dB
PL13 17.71 dB
SFO2 300.1312005 MHz
F2 - Processing parameters
SI 65536
SF 75.4677531 MHz
WDW EM
SSB 0
LB 1.00 Hz
GB 0
PC 1.40
1D NMR plot parameters
CX 20.00 cm
CY 3.00 cm
F1P 220.000 ppm
F1 16602.91 Hz
F2P -0.005 ppm
F2 -0.38 Hz
PPMCM 11.00025 ppm/cm
HZCM 830.15412 Hz/cm

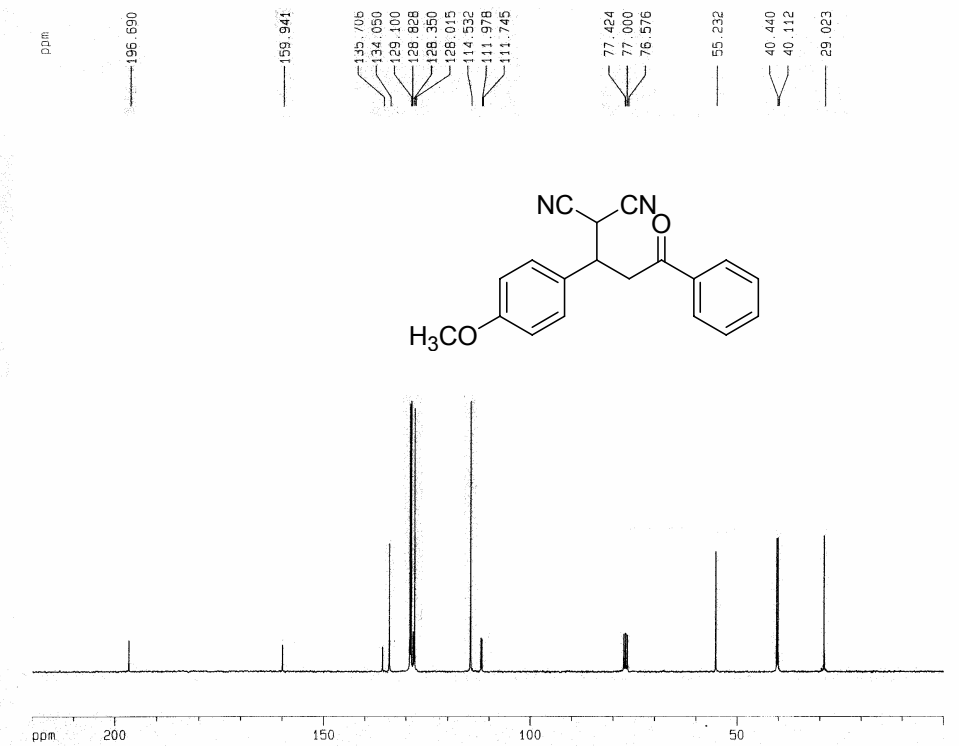

1xf060411B
ppm
7.25973
3.94761
3.93315
3.60560
3.20296
3.16566
3.09268
3.04641
2.41117
2.36988
2.32887
2.30248
2.29028
2.27472
2.24720
2.23377
2.21812
2.20875
2.16243
2.12659
1.65991
1.65479
1.62478
1.59757
1.59009
1.55649
NC
CN
CN
CN
Integral
1.0000
1.0476
1.0706
5.4573
2.2005
ppm
8
6
4
2
0

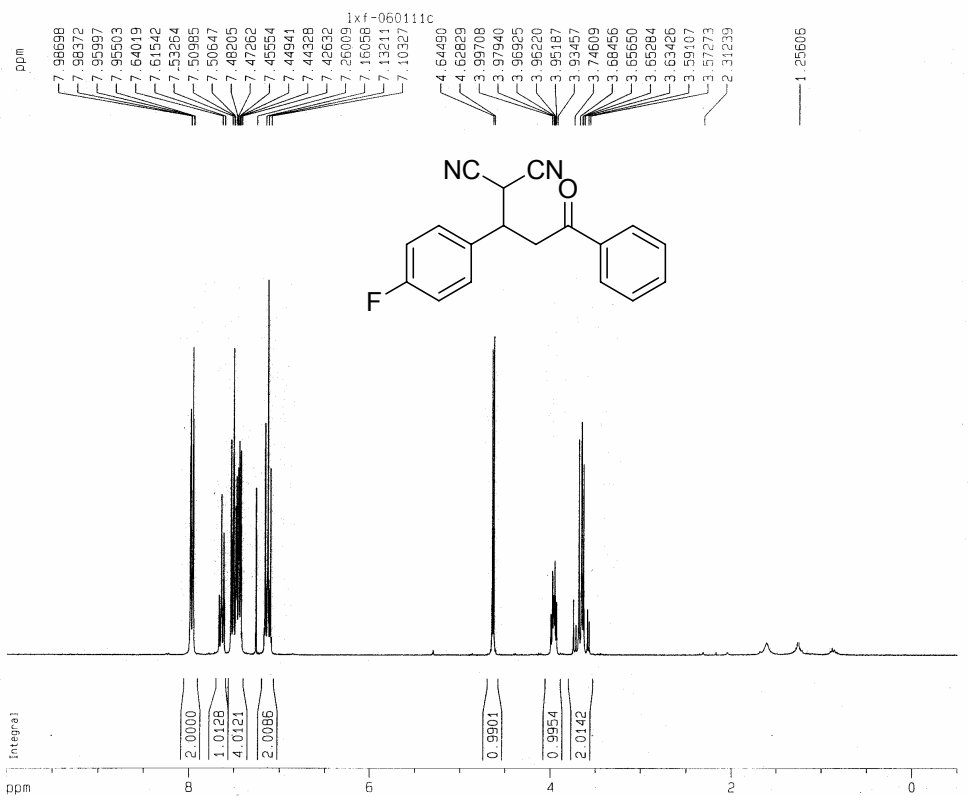

ppm
178.750
111.040
110.969
110.782
85.211
77.424
77.000
76.576
39.486
36.529
33.212
28.359
27.728
24.874
NC
CN
CN
CN
ppm
150
100
50


1xf070728b+D20
NC
CN
O
Current Data Parameters
NAME 1397-1xf-476
EXPNO 1
PROCNO 1
F2 - Acquisition Parameters
Date_ 20070728
Time 13.18
INSTRUM av300
PROBHD 5 mm GNP 1H/13
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 32
DS 0
SWH 5995.204 Hz
FIDRES 0.182959 Hz
AQ 2.7329011 sec
RG 256
DW 83.400 usec
DE 6.00 usec
TE 300.0 K
D1 1.00000000 sec
======== CHANNEL f1 ========
NUC1 1H
P1 3.00 usec
PL1 -2.00 dB
SFO1 300.1320882 MHz
F2 - Processing parameters
SI 32768
SF 300.1300122 MHz
WDW EM
SSB 0
LB 0.10 Hz
GB 0
PC 1.00
1D NMR plot parameters
CX 20.00 cm
CY 10.00 cm
F1P 10.000 ppm
F1 3001.30 Hz
F2P -0.500 ppm
F2 -150.06 Hz
PPMCM 0.52500 ppm/cm
HZCM 157.56825 Hz/cm


1xf 060120a (m)
NC
CN
O
Current Data Parameters
NAME 139/-1xf-167
EXPNO 1
PROCNO 1
F2 - Acquisition Parameters
Date_ 20060120
Time 11.04
INSTRUM av300
PROBHD 5 mm GNP 1H/13
PULPROG zg30
TD 32768
SOLVENT CDCl3
NS 16
DS 0
SWH 5995.204 Hz
FIDRES 0.182959 Hz
AQ 2.7329011 sec
RG 256
DW 83.400 usec
DE 6.00 usec
TE 300.0 K
D1 1.00000000 sec
======== CHANNEL f1 ========
NUC1 1H
P1 3.00 usec
PL1 -2.00 dB
SFO1 300.1320882 MHz
F2 - Processing parameters
SI 32768
SF 300.1300126 MHz
WDW EM
SSB 0
LB 0.10 Hz
GB 0
PC 1.00
1D NMR plot parameters
CX 20.00 cm
CY 7.00 cm
F1P 10.000 ppm
F1 3001.30 Hz
F2P -0.500 ppm
F2 -150.06 Hz
PPMCM 0.52500 ppm/cm
HZCM 157.56825 Hz/cm


lxf060118b
ppm
7.98092
7.95701
7.95229
7.62371
7.60304
7.59902
7.59499
7.51894
7.49279
7.46836
7.39187
7.38516
7.36943
7.36269
7.25981
6.95933
6.95250
6.93682
6.93018
5.28886
4.61265
4.59601
3.95488
3.93634
3.92805
3.91890
3.91006
3.89249
3.81218
3.73040
3.66899
3.64601
3.64259
3.62712
3.58497
NC
CN
O
H3CO
Integral
2.0191
1.0295
2.0549
2.0327
2.0286
1.0000
1.0223
3.0222
2.1049
ppm
8
6
4
2
0


ppm
196.690
159.941
135.706
134.050
129.100
128.828
128.350
128.015
114.532
111.978
111.745
77.424
77.000
76.576
55.232
40.440
40.112
29.023
NC
CN
O
H3CO
ppm
200
150
100
50


lxf-060111c
ppm
7.98698
7.98372
7.95997
7.95503
7.64019
7.61542
7.53264
7.50985
7.50647
7.48205
7.47262
7.45554
7.44941
7.44328
7.42632
7.26009
7.16058
7.13211
7.10327
4.64490
4.62829
3.99708
3.97940
3.96925
3.96220
3.95187
3.93457
3.74609
3.68456
3.65650
3.65284
3.63426
3.59107
3.57273
2.31239
1.25606
NC
CN
O
F
Integral
2.0000
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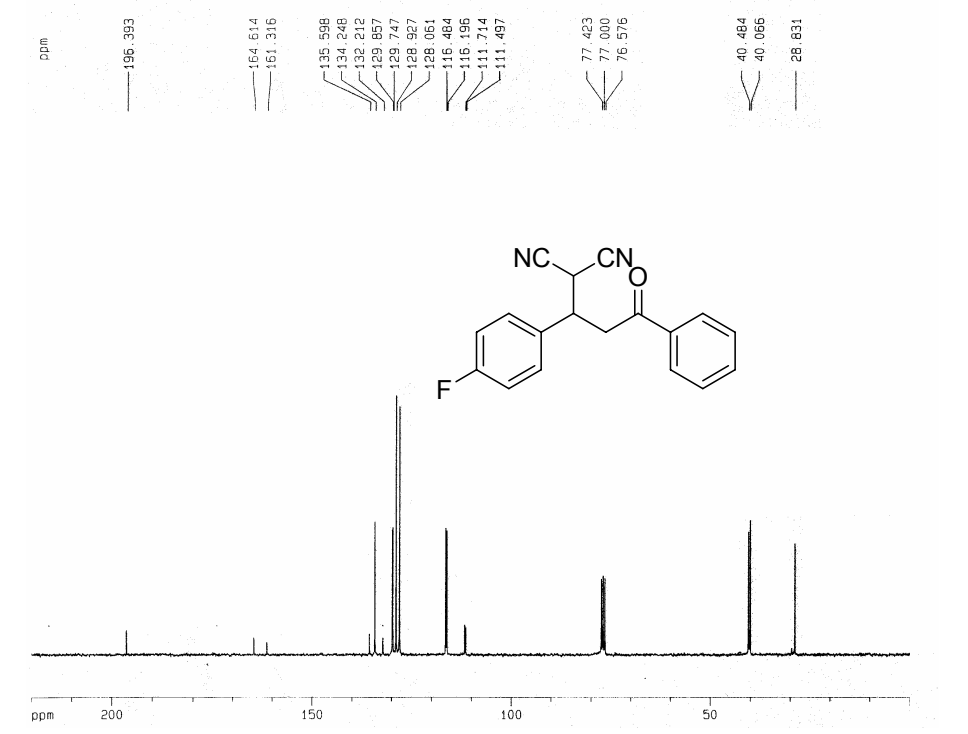
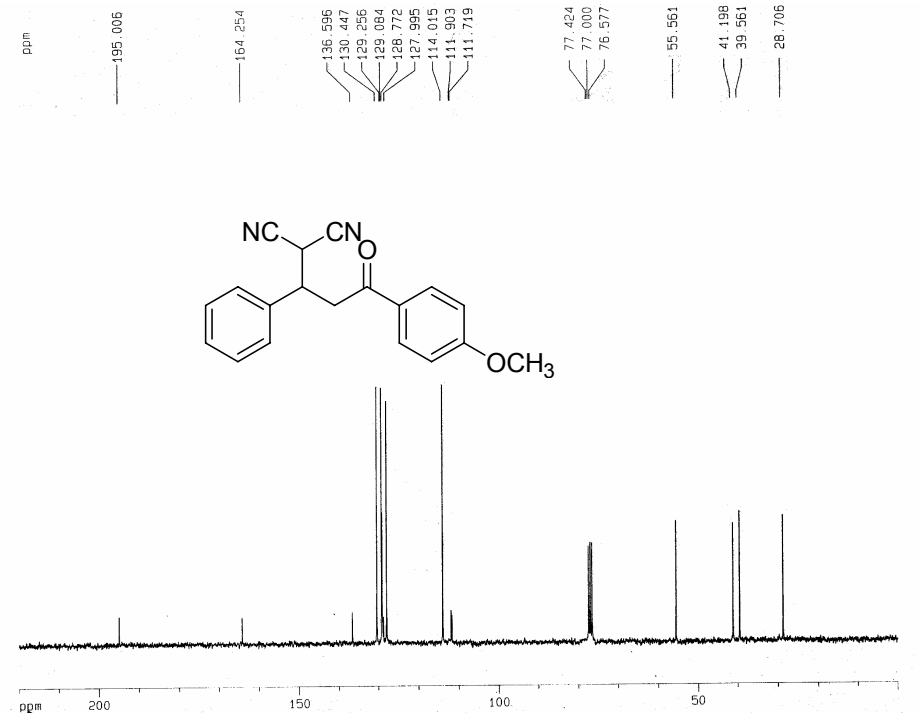
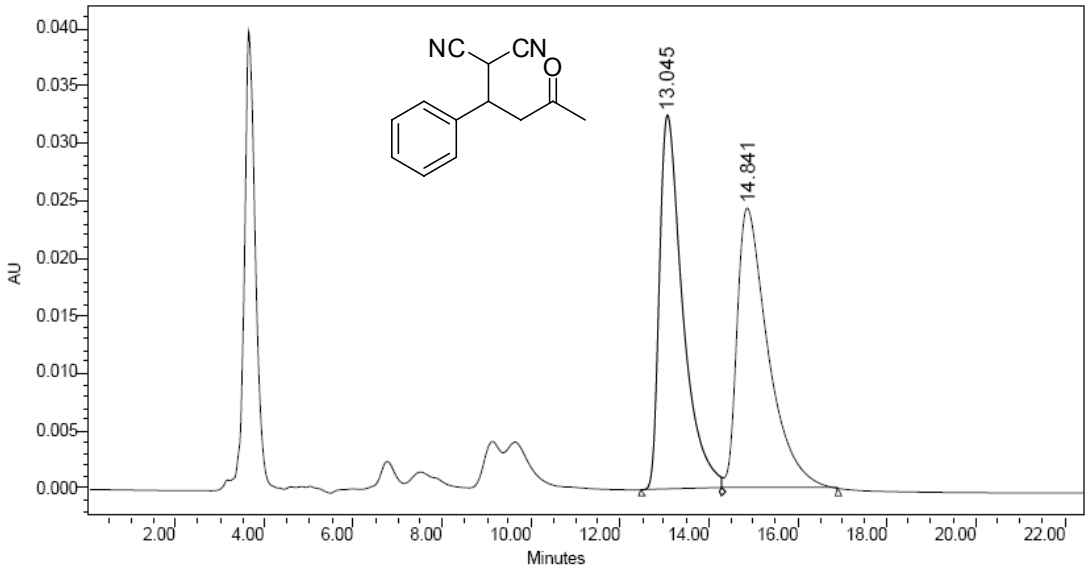
4.0121
2.0086
0.9901
0.9954
2.0142
ppm
8
6
4
2
0


ppm
196.393
164.614
161.316
135.598
134.248
132.212
129.857
129.747
128.927
128.061
116.484
116.196
111.714
111.497
77.423
77.000
76.576
40.484
40.066
28.831
NC
CN
O
F
ppm
200
150
100
50

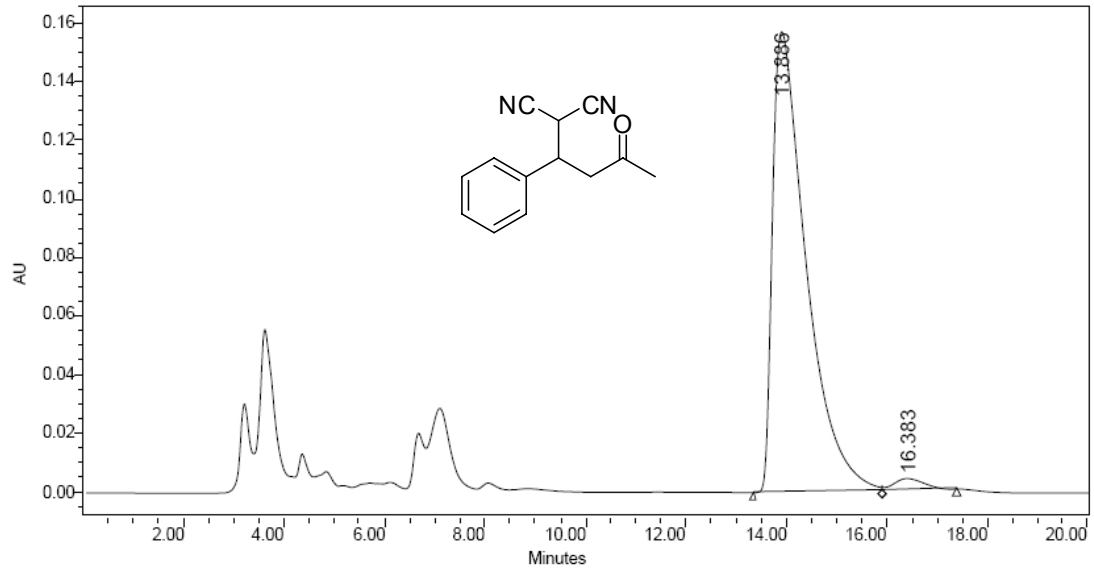

lxf-060111a
ppm
7.96762
7.96095
7.94447
7.93783
7.47138
7.46081
7.45483
7.44977
7.44584
7.43745
7.43513
7.42185
7.41116
7.39284
7.26075
6.97047
6.96384
6.94725
6.94068
5.29703
4.71033
4.69371
3.97061
3.95366
3.94125
3.93708
3.92460
3.90777
3.88427
3.71537
3.65447
3.62529
3.61102
3.59388
3.55008
2.31102
1.60764
1.25611
NC
CN
O
OCH3
Integral
2.0000
5.0309
2.0159
0.9698
1.0511
2.9279
2.0309
ppm
8
6
4
2
0


ppm
195.006
164.254
136.596
130.447
129.256
129.084
128.772
127.995
114.015
111.903
111.719
77.424
77.000
76.577
55.561
41.198
39.561
28.706
NC
CN
O
OCH3
ppm
200
150
100
50

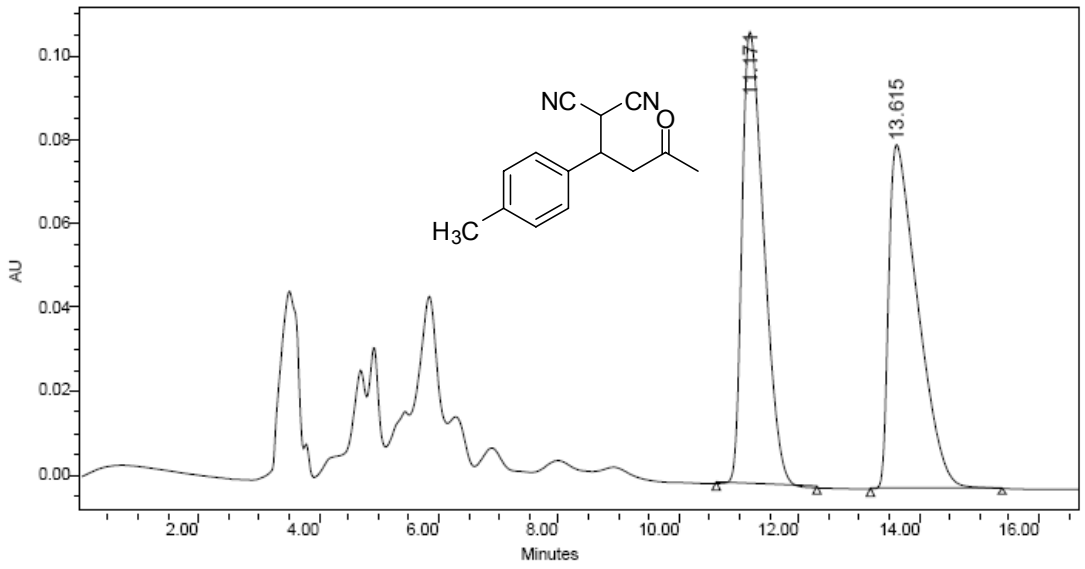
2. HPLC and GC chromatograms



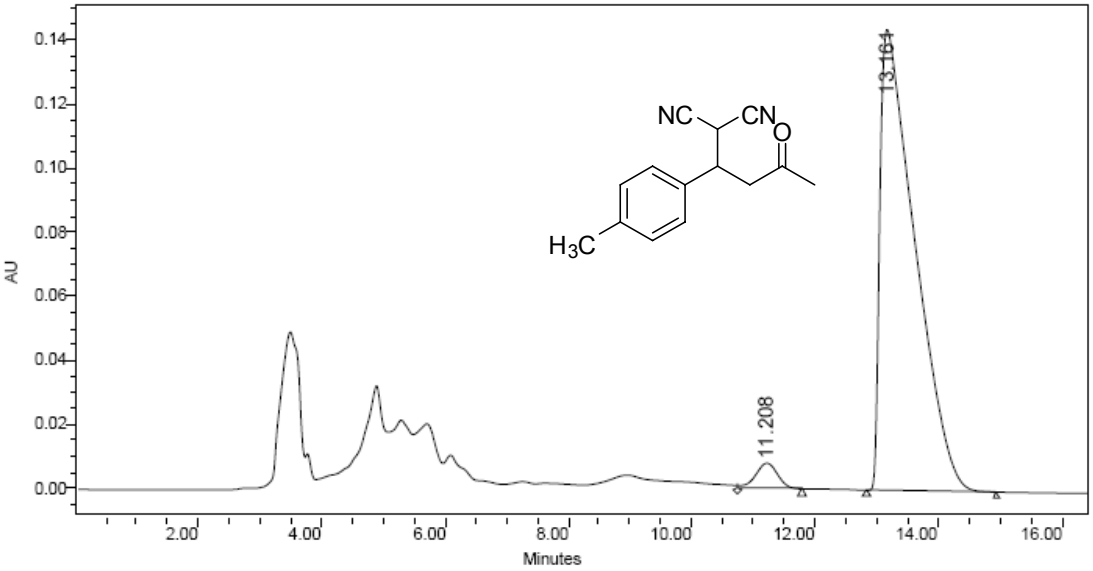
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	13.045	1188474	49.90	32588	57.15
2	14.841	1193355	50.10	24436	42.85



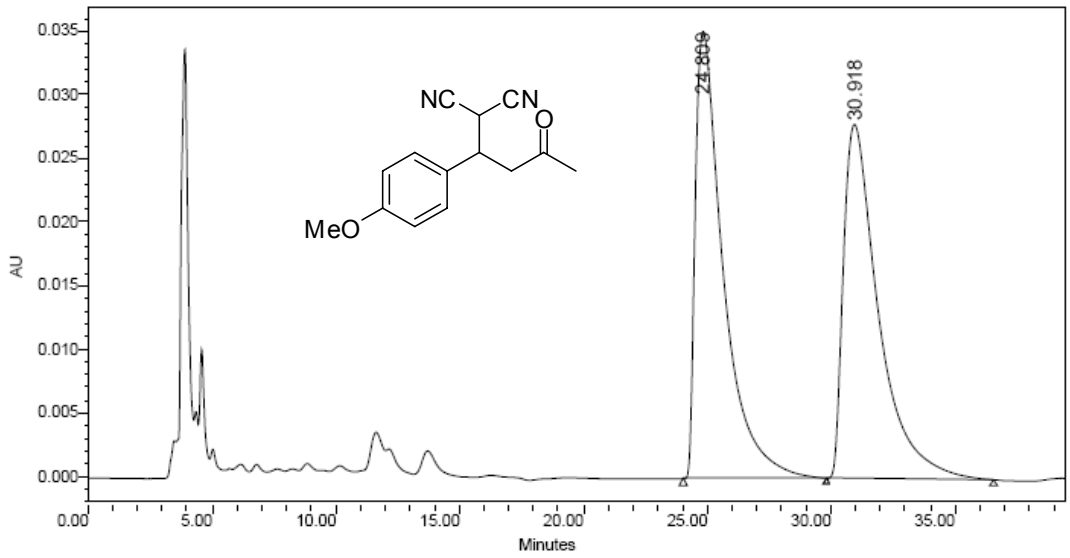
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	13.886	7292418	97.86	156787	97.59
2	16.383	159830	2.14	3877	2.41



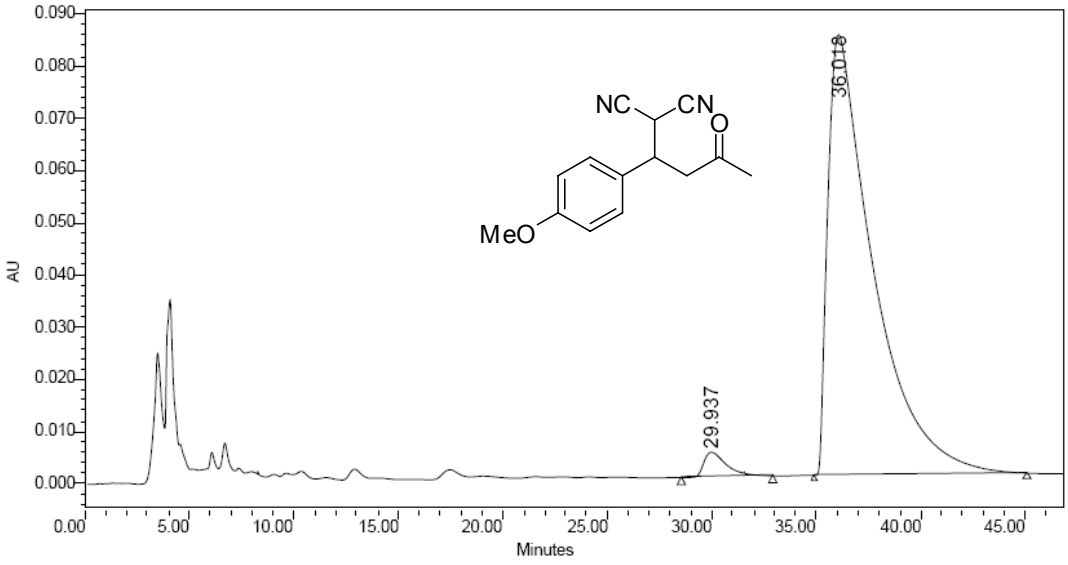
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	11.171	2740761	49.87	107992	56.85
2	13.615	2754698	50.13	81982	43.15



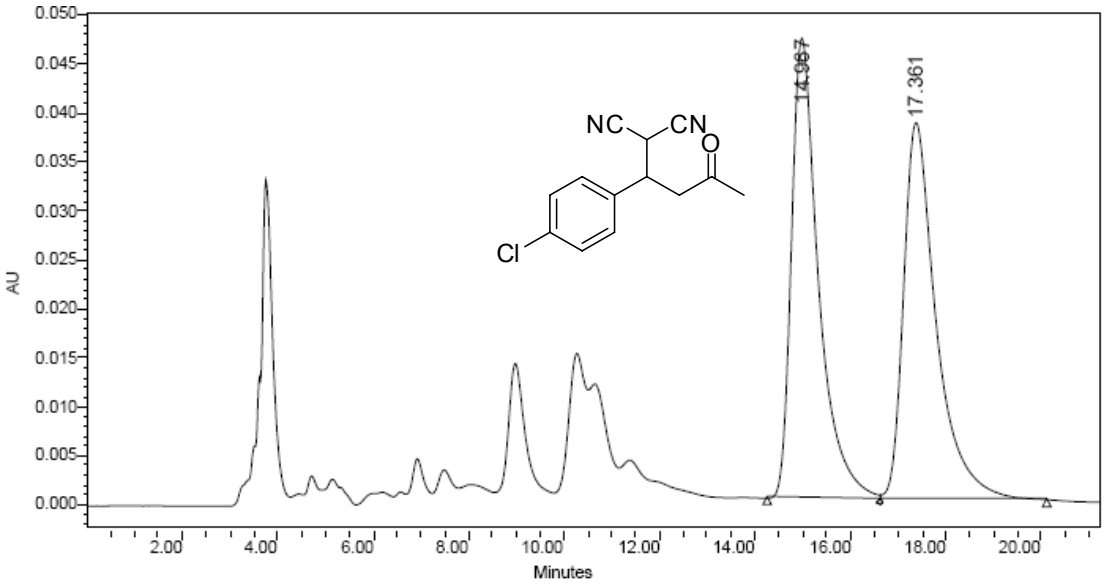
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	11.208	194707	3.32	7889	5.19
2	13.161	5664096	96.68	143974	94.81



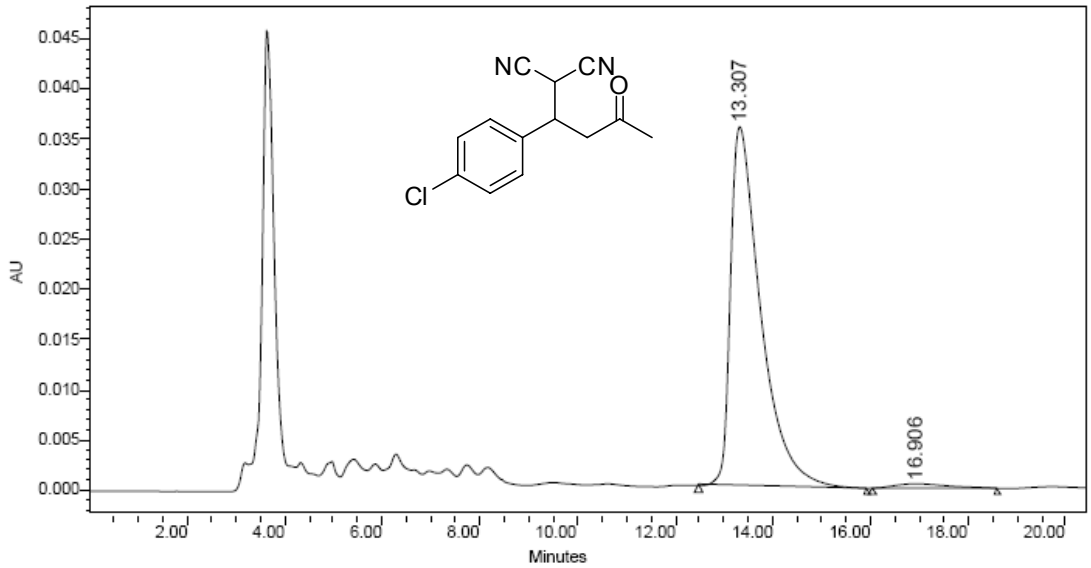
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	24.809	2759581	50.18	35117	55.82
2	30.918	2740317	49.82	27794	44.18



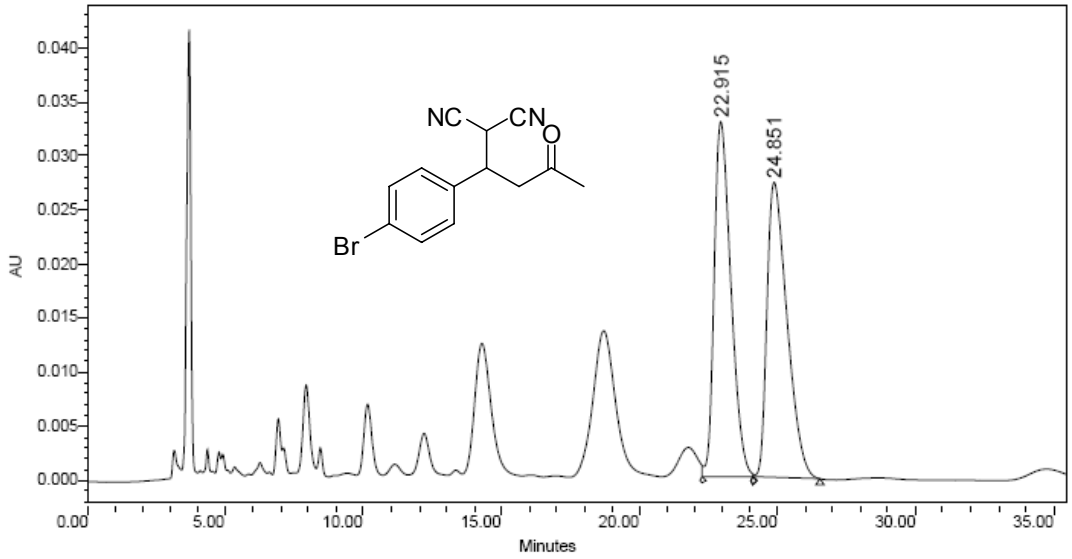
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	29.937	360821	2.76	4748	5.32
2	36.018	12709424	97.24	84430	94.68



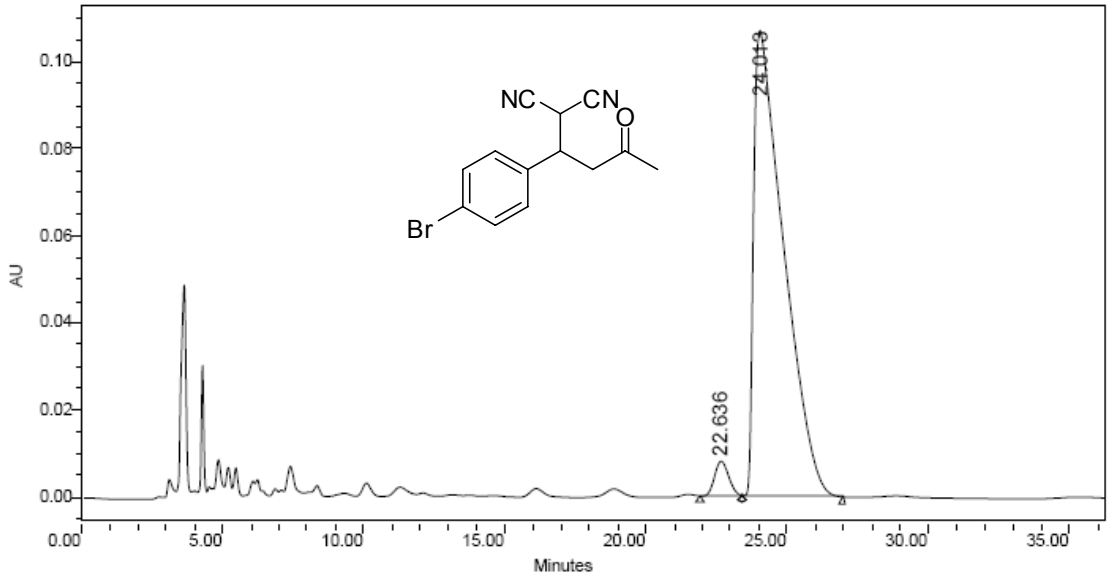
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	14.967	1855268	50.36	46980	55.00
2	17.361	1828621	49.64	38431	45.00



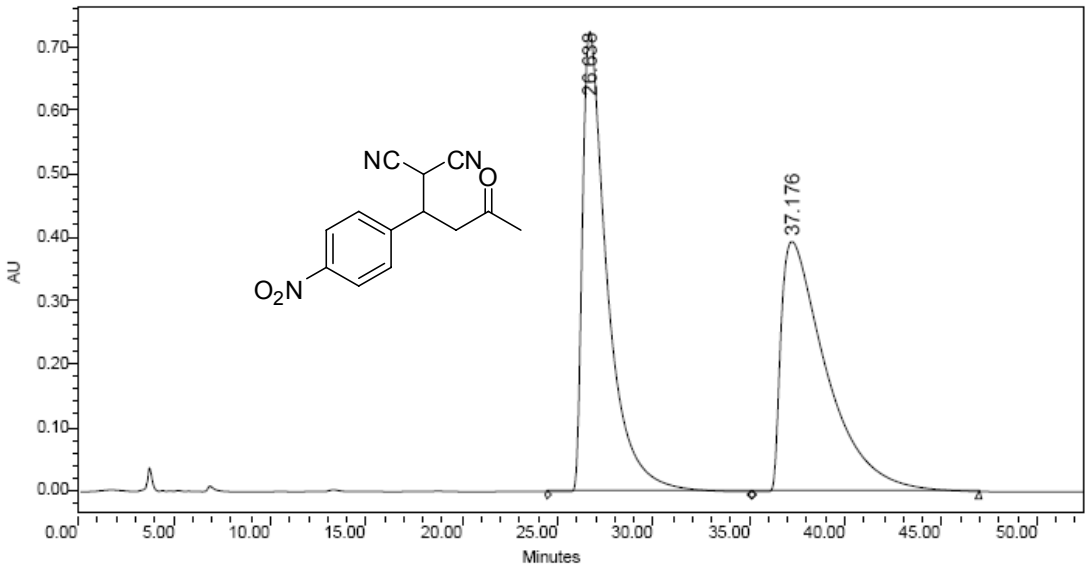
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	13.307	1543654	97.88	35847	98.80
2	16.906	33510	2.12	436	1.20



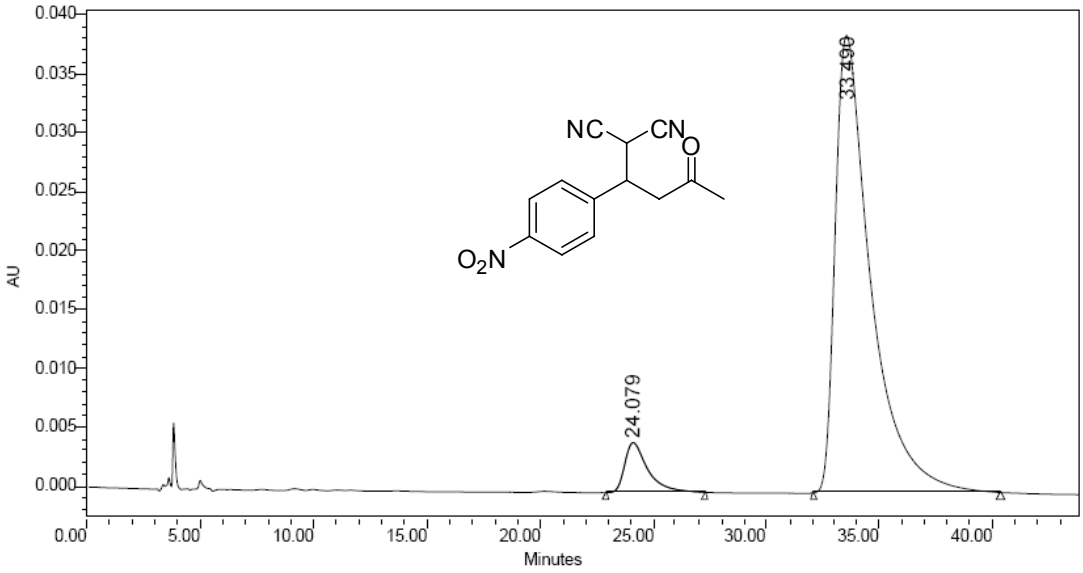
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	22.915	1391156	50.08	32918	54.59
2	24.851	1386609	49.92	27385	45.41



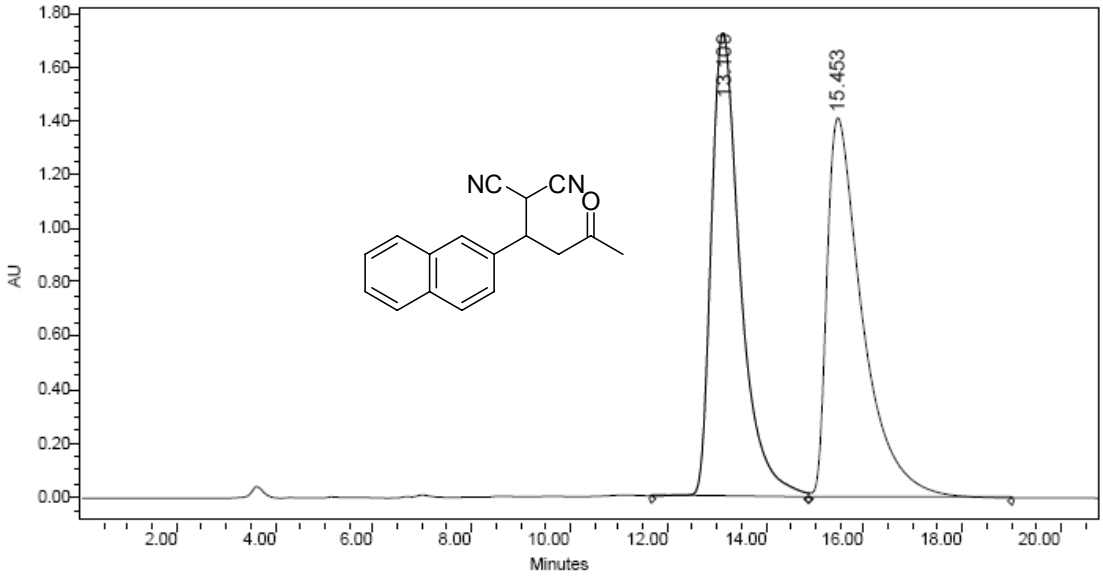
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	22.636	283390	3.46	8025	6.97
2	24.013	7896710	96.54	107072	93.03



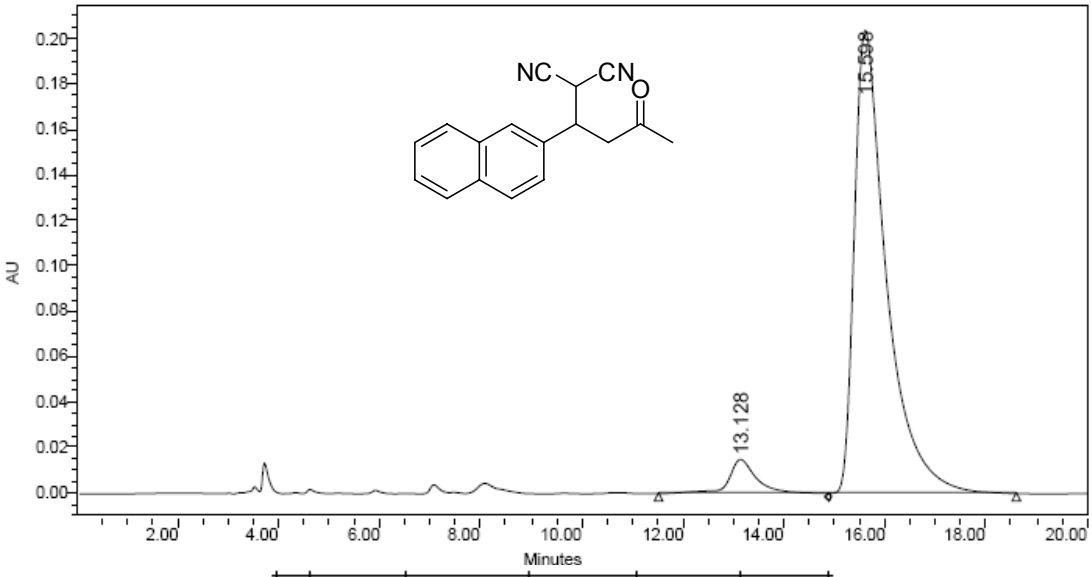
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	26.638	65256292	50.13	726311	64.79
2	37.176	64918943	49.87	394695	35.21



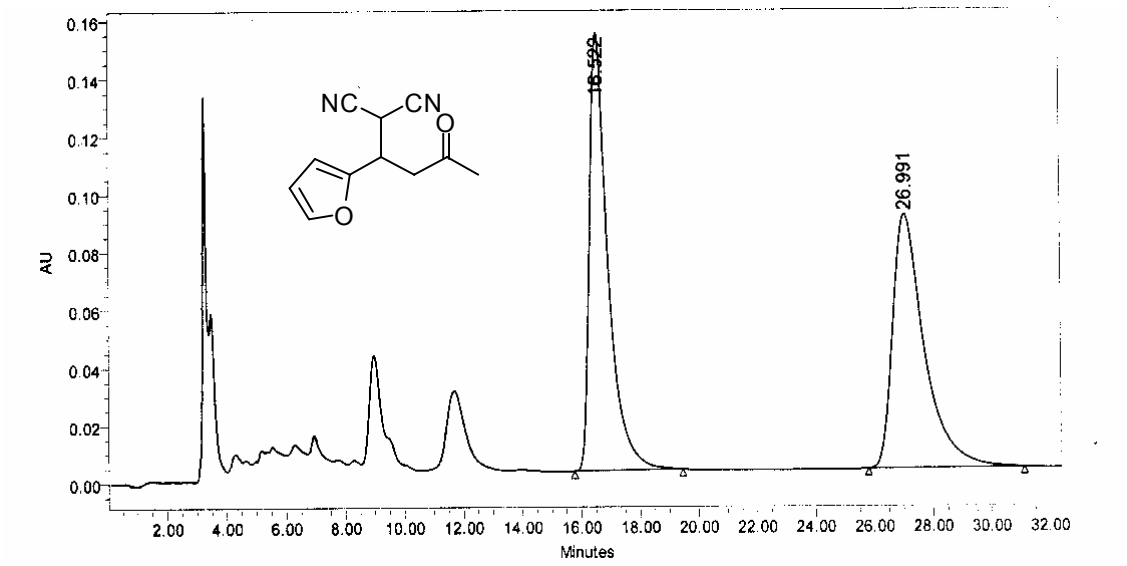
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	24.079	299647	6.61	4231	9.83
2	33.490	4234608	93.39	38815	90.17



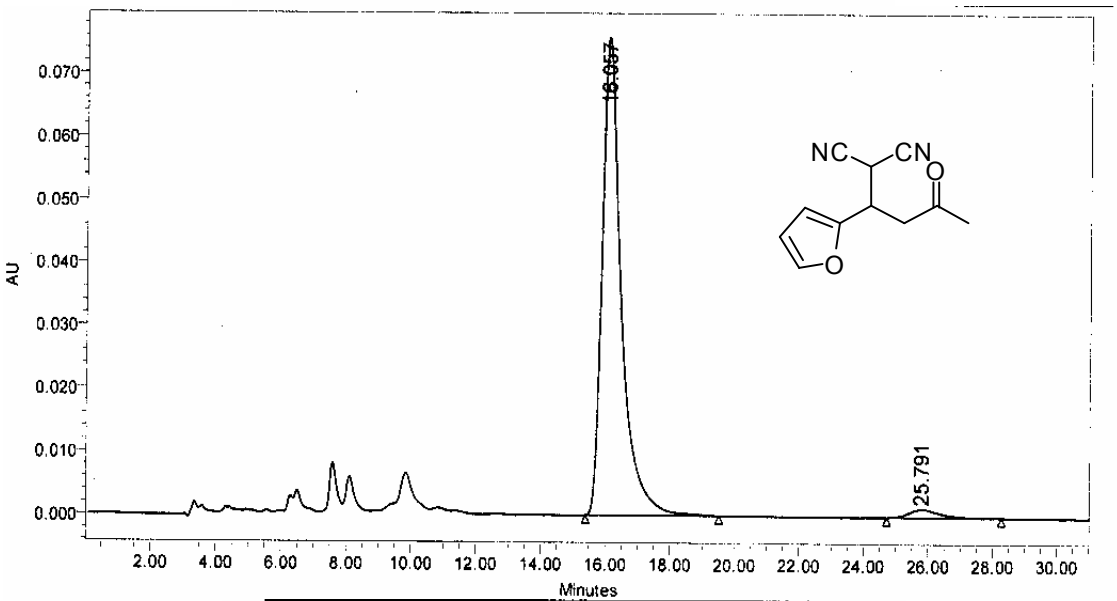
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	13.109	71290217	50.09	1727524	55.03
2	15.453	71031919	49.91	1411912	44.97



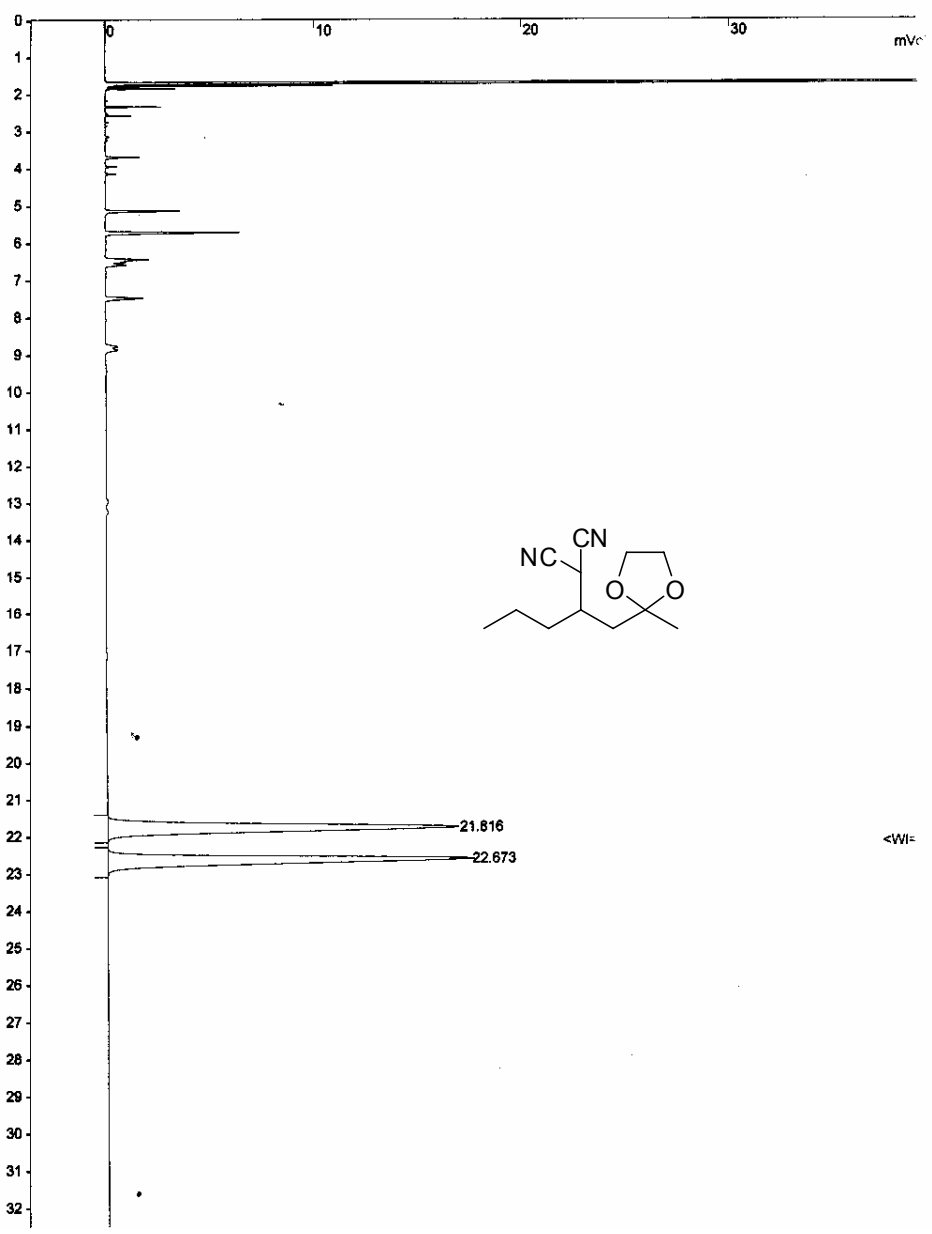
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	13.128	586989	6.09	15024	6.86
2	15.598	9045317	93.91	204059	93.14



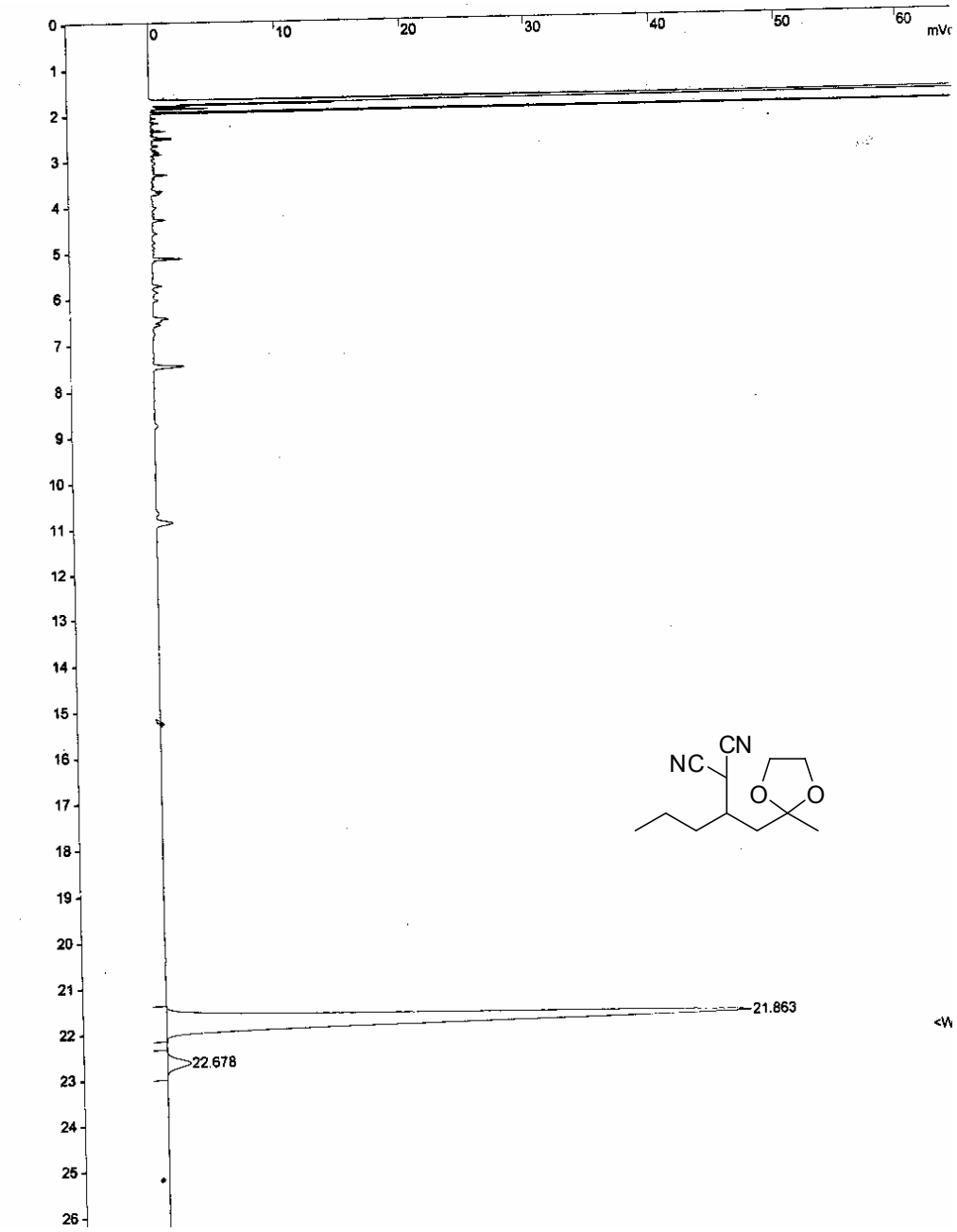
	RT (min)	Area (μV*sec)	% Area	Height (μV)	% Height
1	16.522	6575994	50.17	151410	63.27
2	26.991	6531305	49.83	87913	36.73



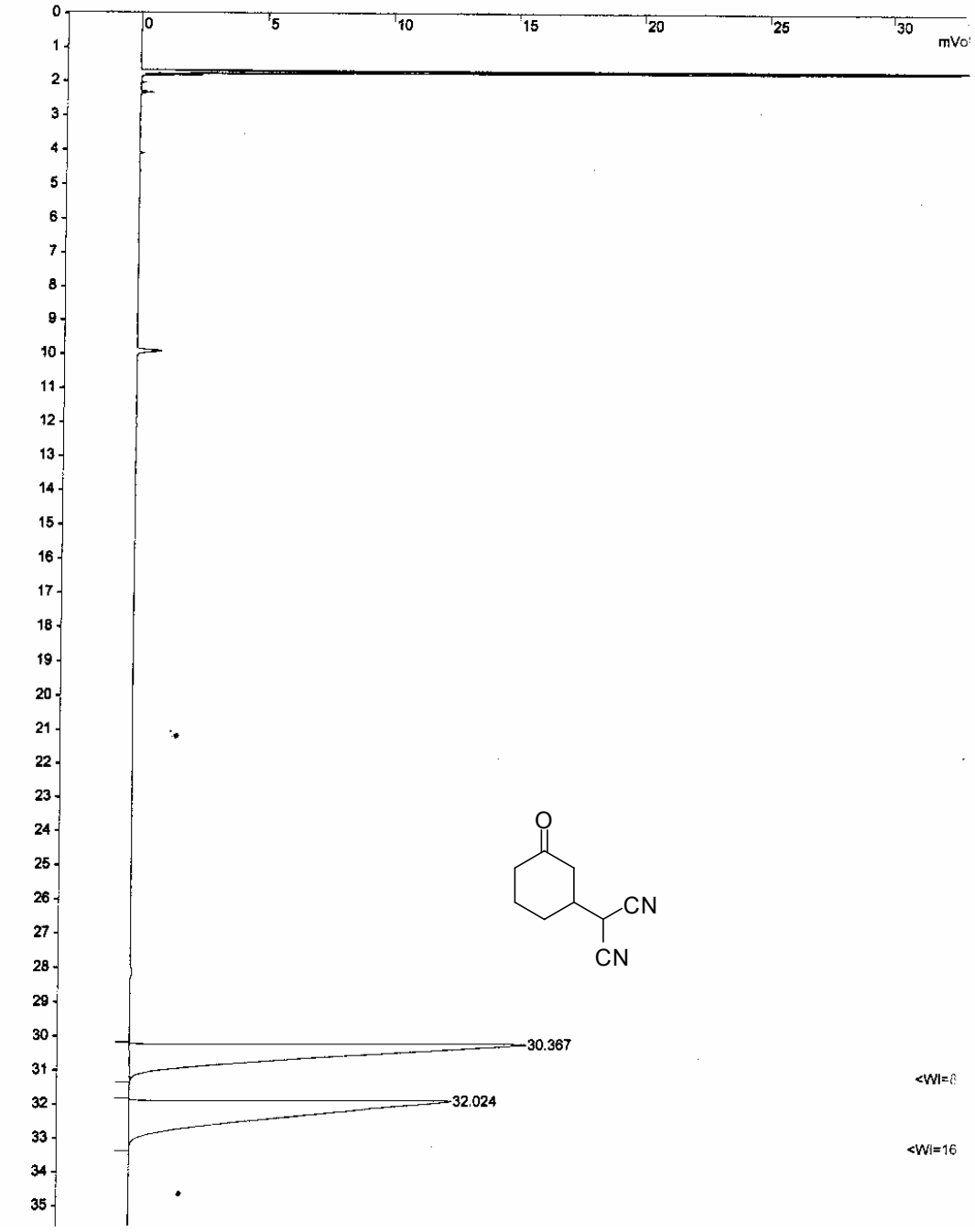
	RT (min)	Area (μV*sec)	% Area	Height (μV)	% Height
1	16.057	3100566	97.38	75820	98.32
2	25.791	83298	2.62	1294	1.68



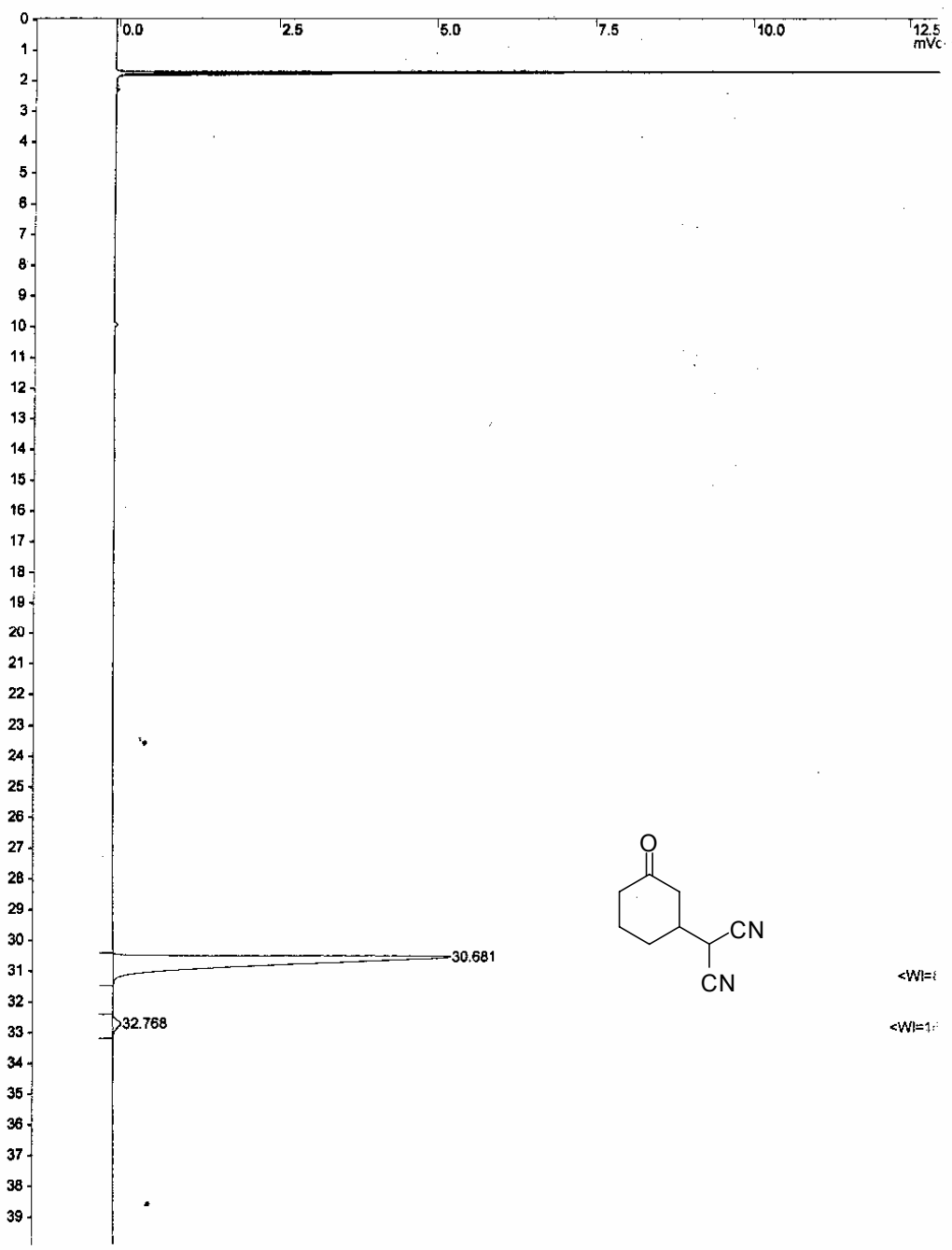
Peak No.	Peak Name	Result ()	Ret. Time (min)	Time Offset (min)	Area (counts)	Sep. Code	Width 1/2 (sec)	Status Codes
1		49.9656	21.816	0.000	225432	BB	12.6	U
2		50.0344	22.673	0.000	225742	BB	12.1	
	Totals:	100.0000		0.000	451174			



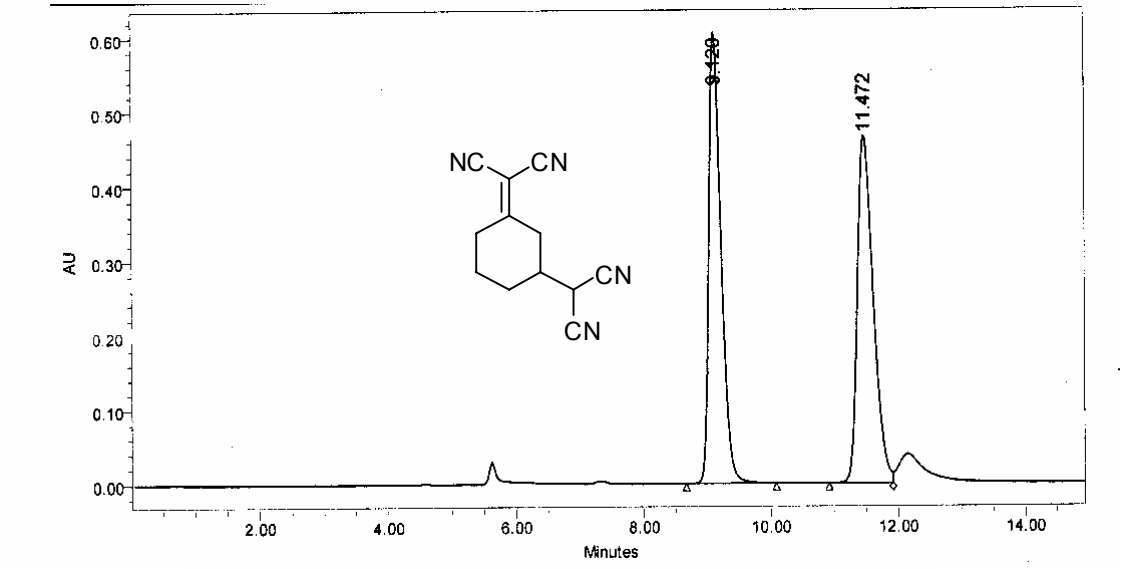
Peak No.	Peak Name	Result ()	Ret. Time (min)	Time Offset (min)	Area (counts)	Sep. Code	Width 1/2 (sec)	Status Codes
1		96.6250	21.863	0.000	670568	BB	13.5	
2		3.3750	22.678	0.000	23422	BB	11.8	
	Totals:	100.0000		0.000	693990			



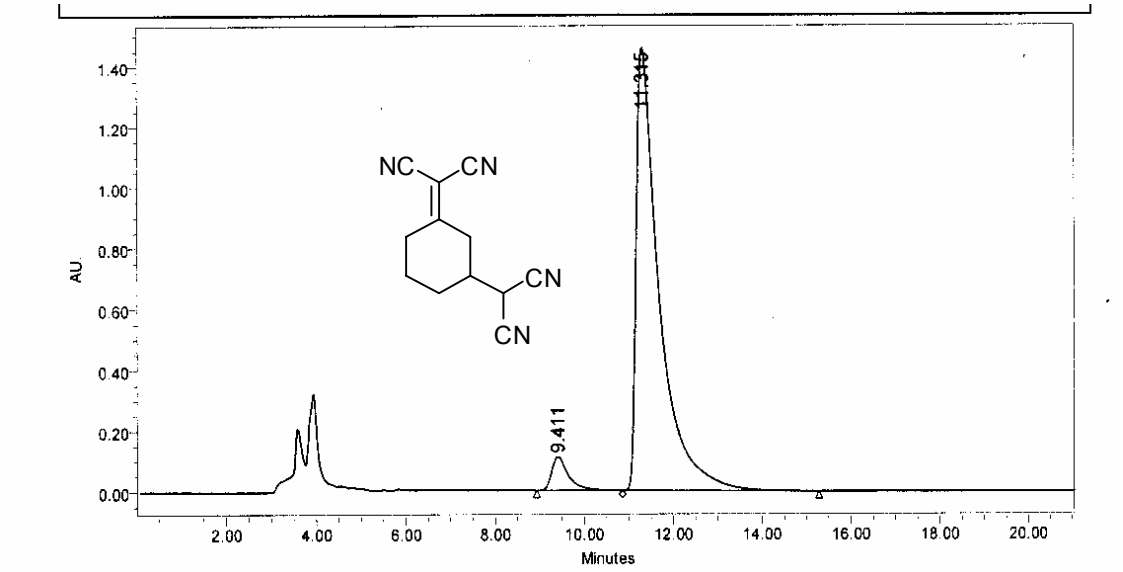
Peak No.	Peak Name	Result ()	Ret. Time (min)	Time Offset (min)	Area (counts)	Sep. Code	Width 1/2 (sec)	Status Codes
1		49.9672	30.367	0.000	381238	BB	22.6	
2		50.0328	32.024	0.000	381738	BB	28.6	
	Totals:	100.0000		0.000	762976			



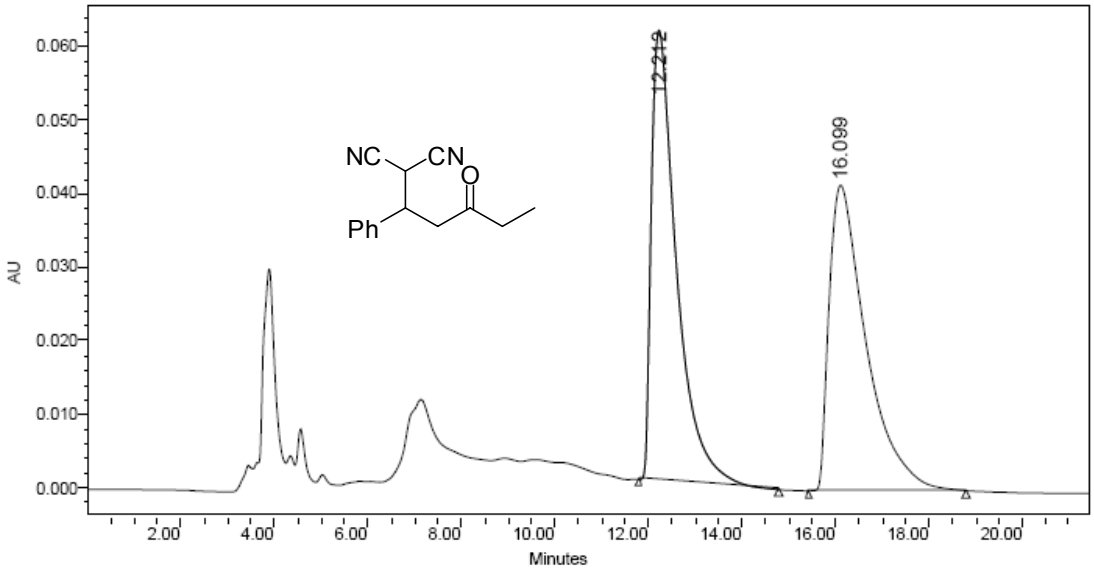
Peak No.	Peak Name	Result ()	Ret. Time (min)	Time Offset (min)	Area (counts)	Sep. Code	Width 1/2 (sec)	Status Codes
1		97.6672	30.681	0.000	101464	BB	17.6	U
2		2.3328	32.768	0.000	2424	BB	14.7	U
	Totals:	100.0000		0.000	103888			



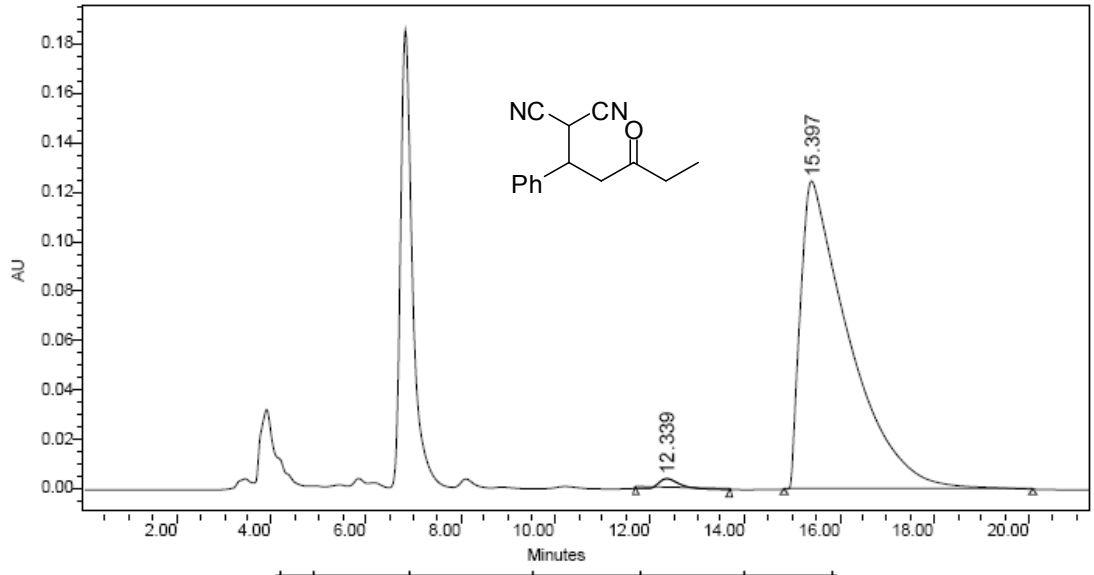
	RT (min)	Area (μV*sec)	% Area	Height (μV)	% Height
1	9.120	8052059	49.97	605447	56.50
2	11.472	8060940	50.03	466161	43.50



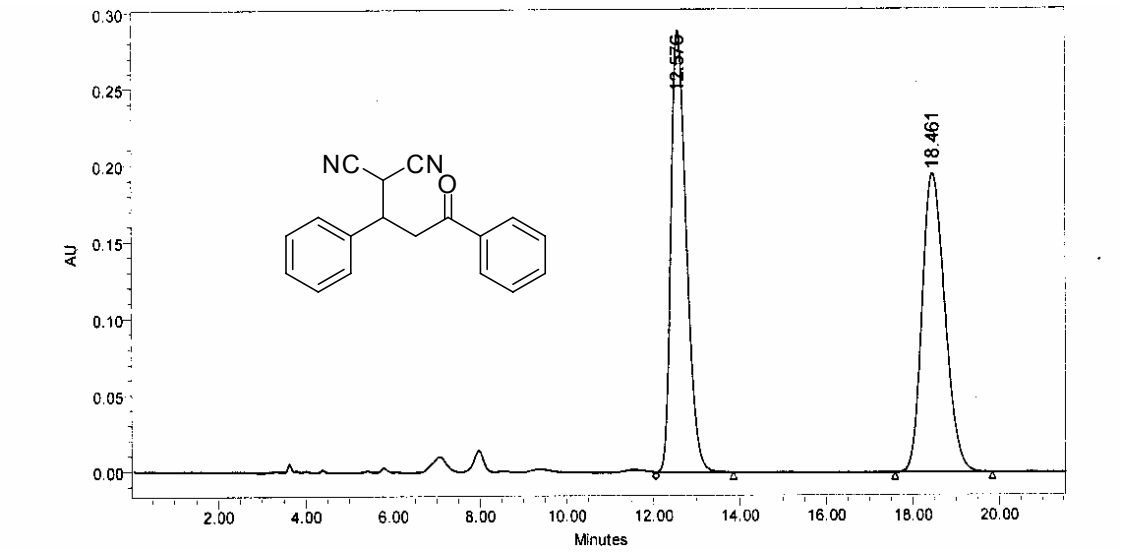
	RT (min)	Area (μV*sec)	% Area	Height (μV)	% Height
1	9.411	2855996	5.20	109891	7.01
2	11.315	52032832	94.80	1457314	92.99



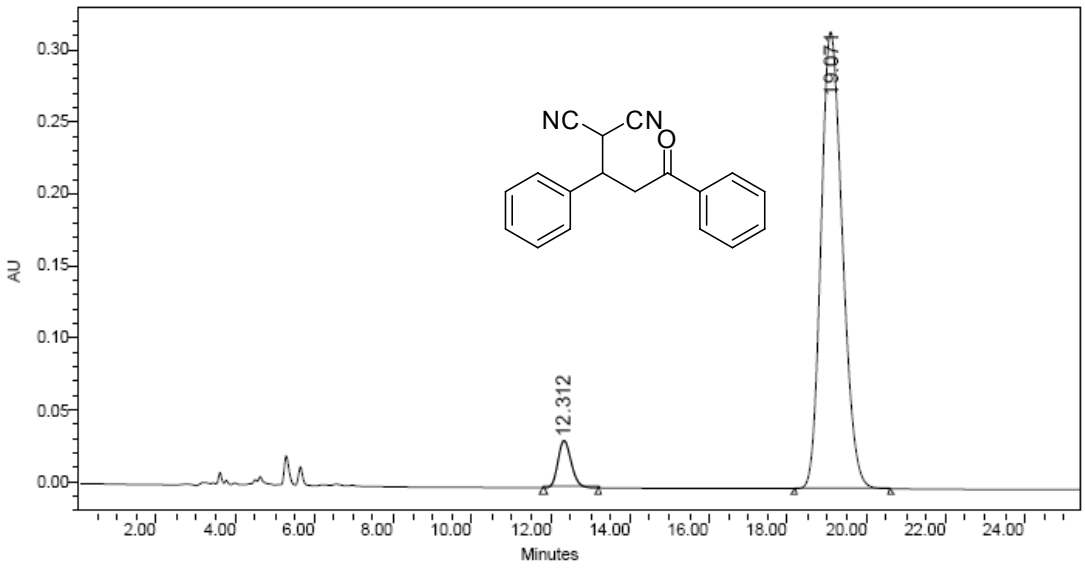
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	12.212	2299472	50.23	61156	59.57
2	16.099	2278372	49.77	41506	40.43



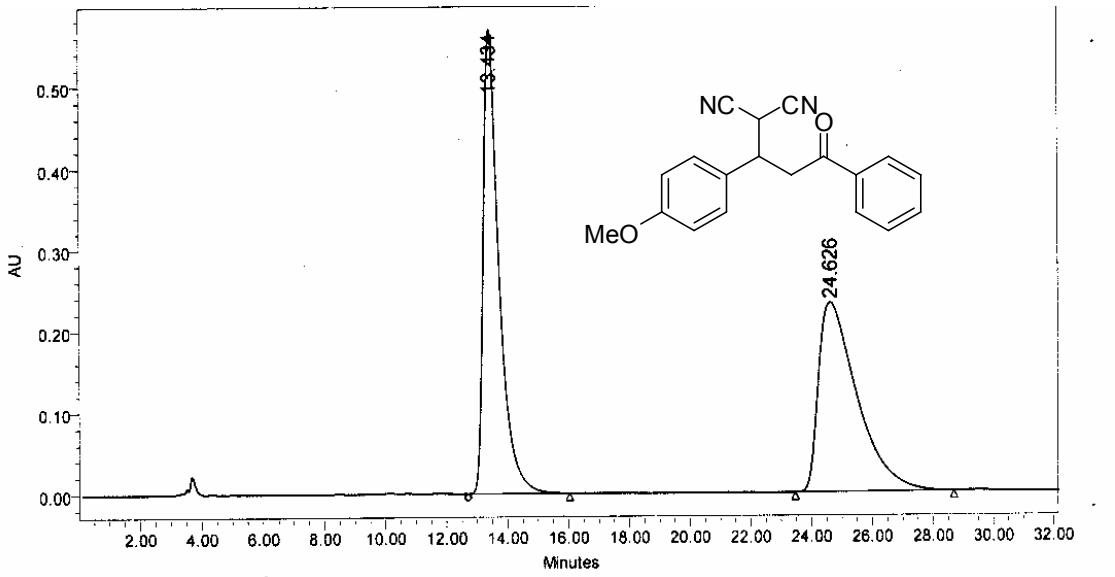
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	12.339	123473	1.37	4069	3.16
2	15.397	8914597	98.63	124753	96.84



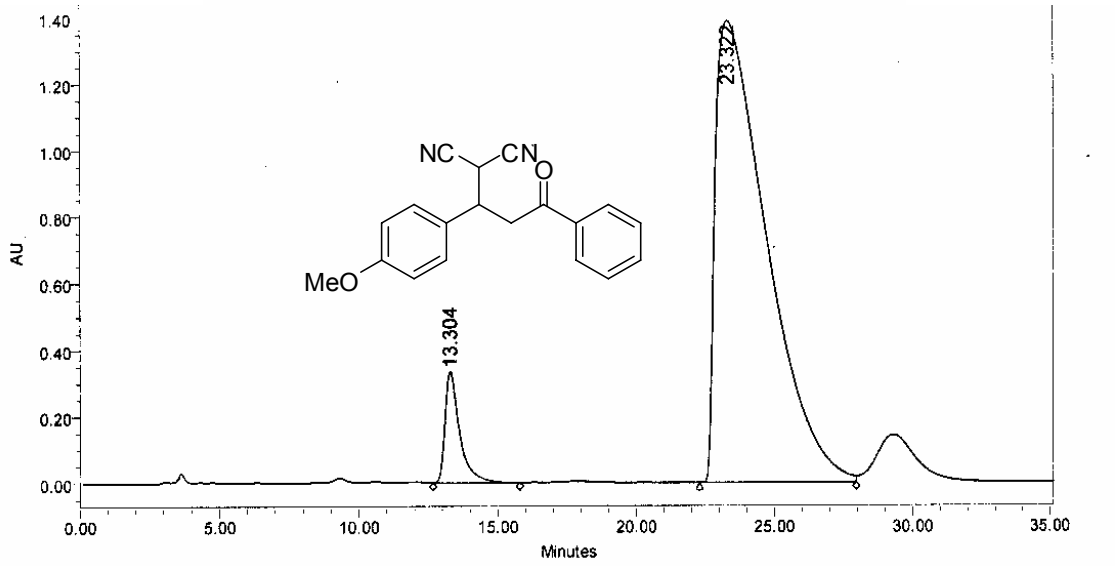
	RT (min)	Area (μV*sec)	% Area	Height (μV)	% Height
1	12.576	7121121	49.90	289005	59.66
2	18.461	7148850	50.10	195440	40.34



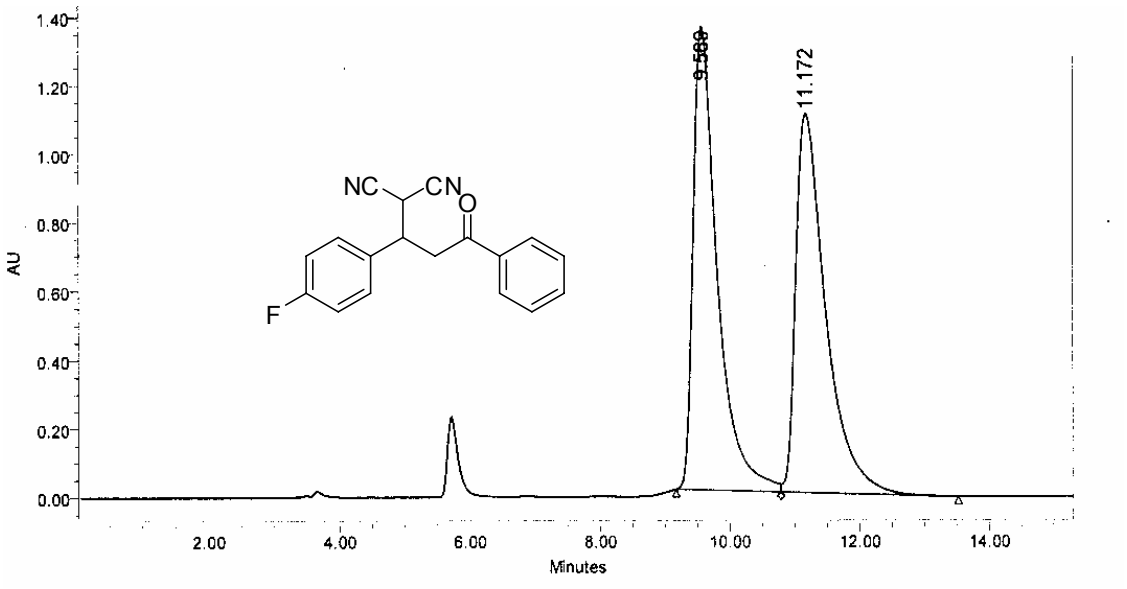
	RT (min)	Area (V*sec)	% Area	Height (V)	% Height
1	12.312	767410	6.06	32706	9.37
2	19.071	11904956	93.94	316483	90.63



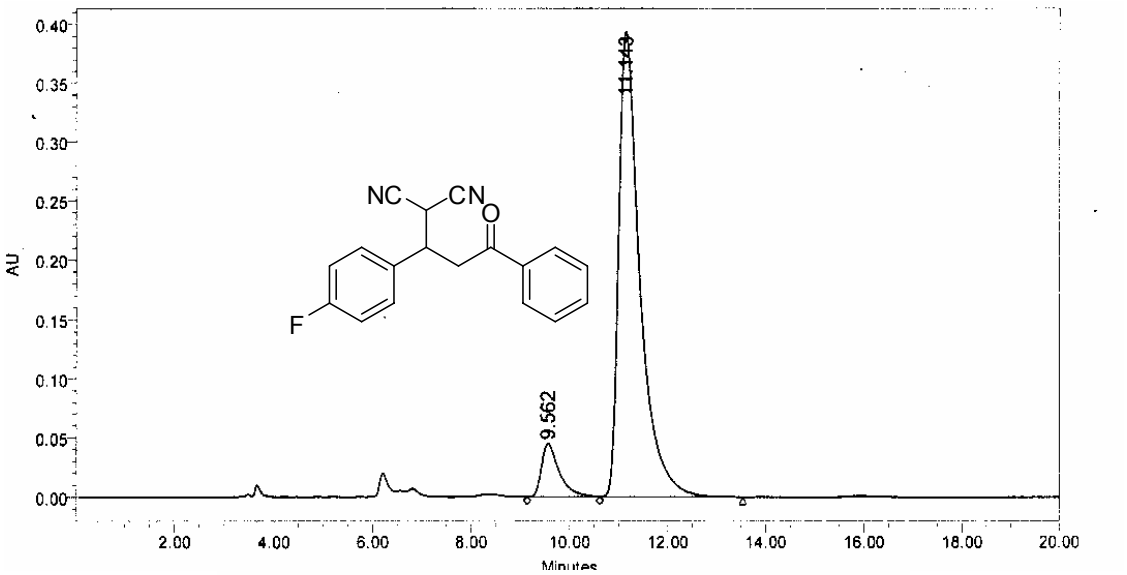
	RT (min)	Area (μV*sec)	% Area	Height (μV)	% Height
1	13.434	20348142	49.94	569147	71.03
2	24.626	20399379	50.06	232100	28.97



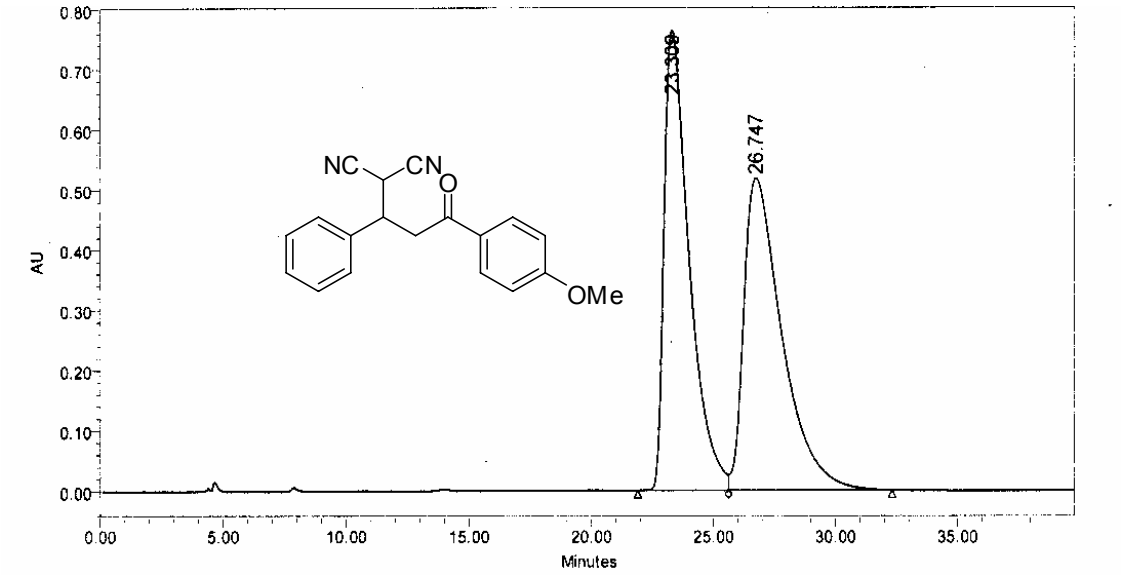
	RT (min)	Area (μV*sec)	% Area	Height (μV)	% Height
1	13.304	12365124	6.46	336434	19.51
2	23.322	179159110	93.54	1387797	80.49



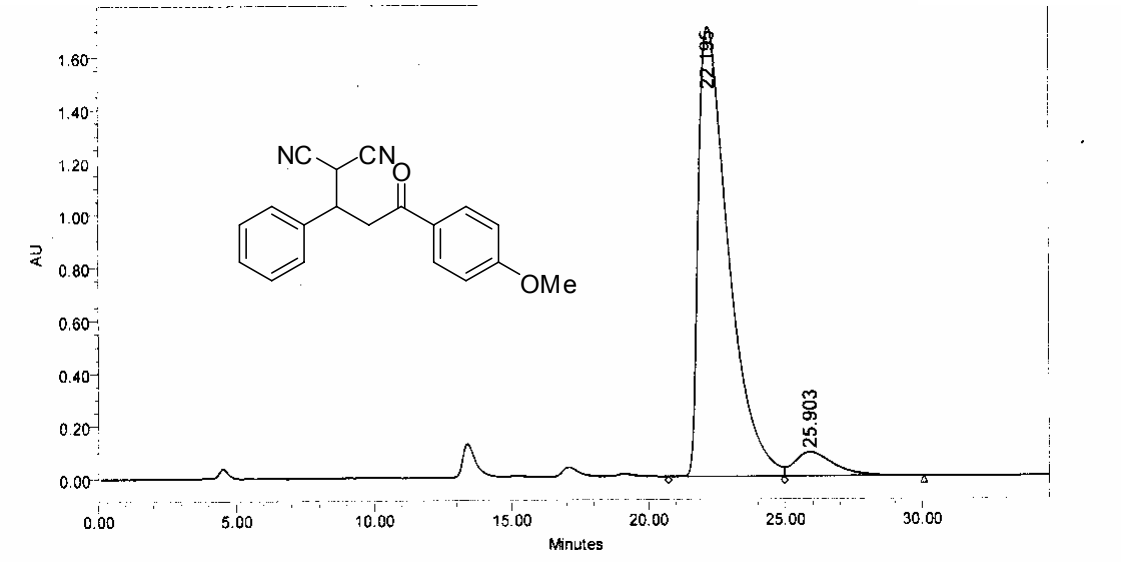
	RT (min)	Area (μV*sec)	% Area	Height (μV)	% Height
1	9.569	34947616	49.79	1348936	55.02
2	11.172	35244699	50.21	1102665	44.98



	RT (min)	Area (μV*sec)	% Area	Height (μV)	% Height
1	9.562	1121521	8.70	44817	10.22
2	11.143	11771279	91.30	393775	89.78



	RT (min)	Area (μV*sec)	% Area	Height (μV)	% Height
1	23.309	54413014	49.24	762426	59.58
2	26.747	56097091	50.76	517258	40.42



	RT (min)	Area (μV*sec)	% Area	Height (μV)	% Height
1	22.195	130003565	93.47	1706365	94.93
2	25.903	9078451	6.53	91185	5.07