Supporting Information:

Chiral Olefin–Sulfoxide as Ligands for Rhodium-Catalyzed Asymmetric Conjugate Addition of Arylboronic Acids to Unsaturated Esters

Feng Xue[a,b], Dongping Wang[a], Xincheng Li[a], Boshun Wan*[,a]

[a]*Dalian Institute of Chemical Physics, Chinese Academy of Sciences, 457 Zhongshan Road, Dalian， 116023, P. R. China. E-mail: bswan@dicp.ac.cn*

[b]*College of Chemistry and Chemical Engineering, Henan Institute of Science and Technology, Xinxiang Henan, 453002, P. R. China.*

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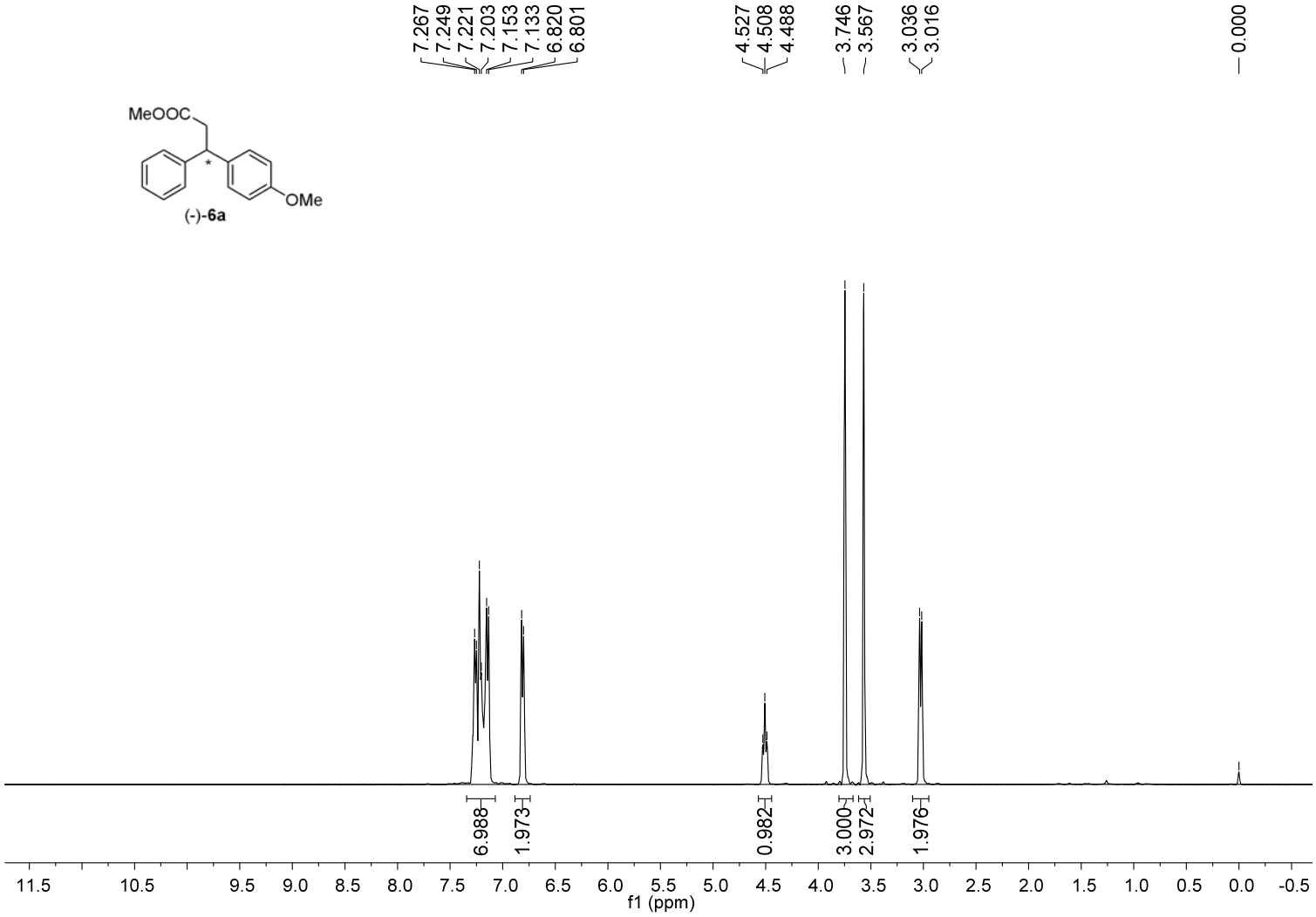
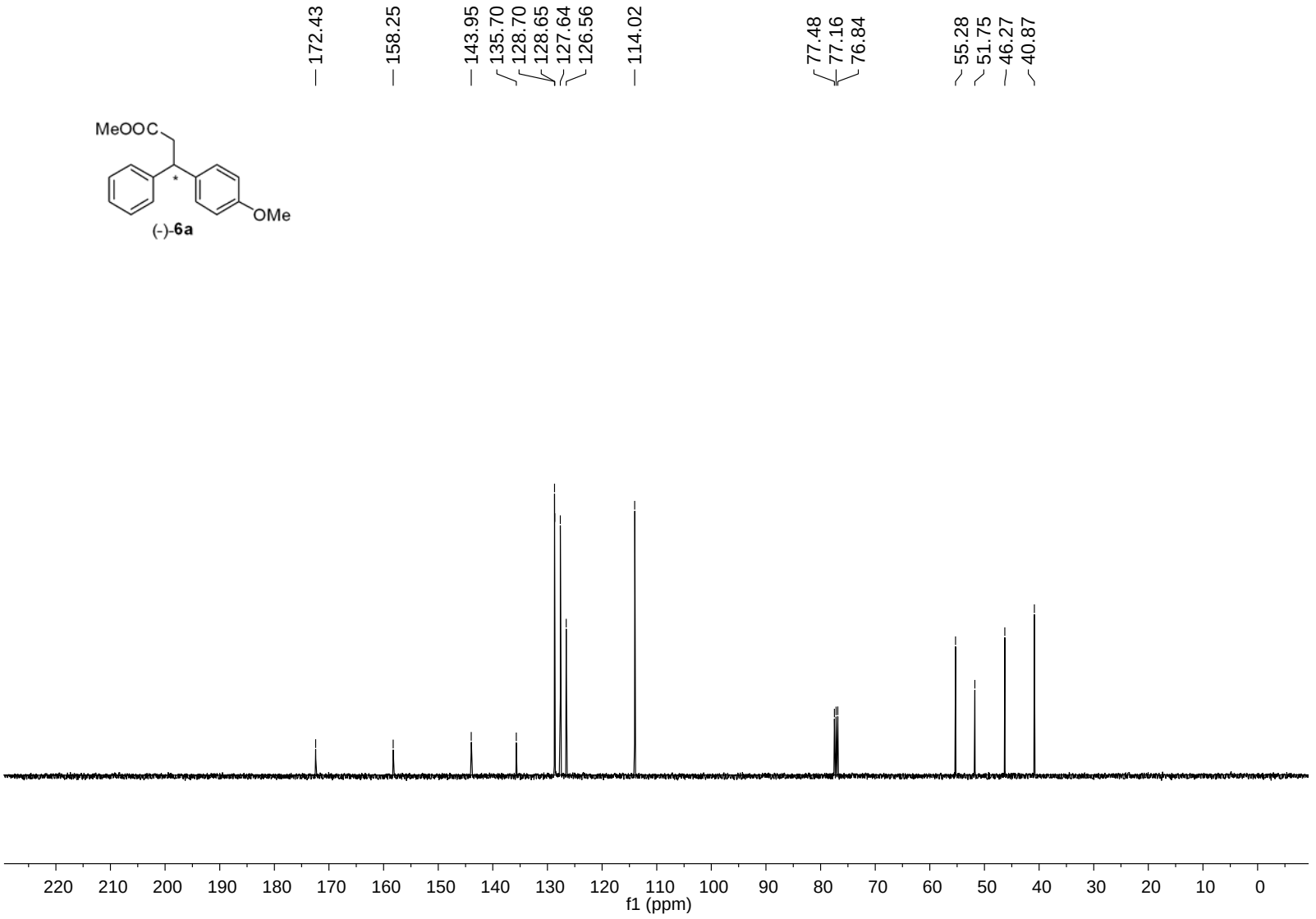
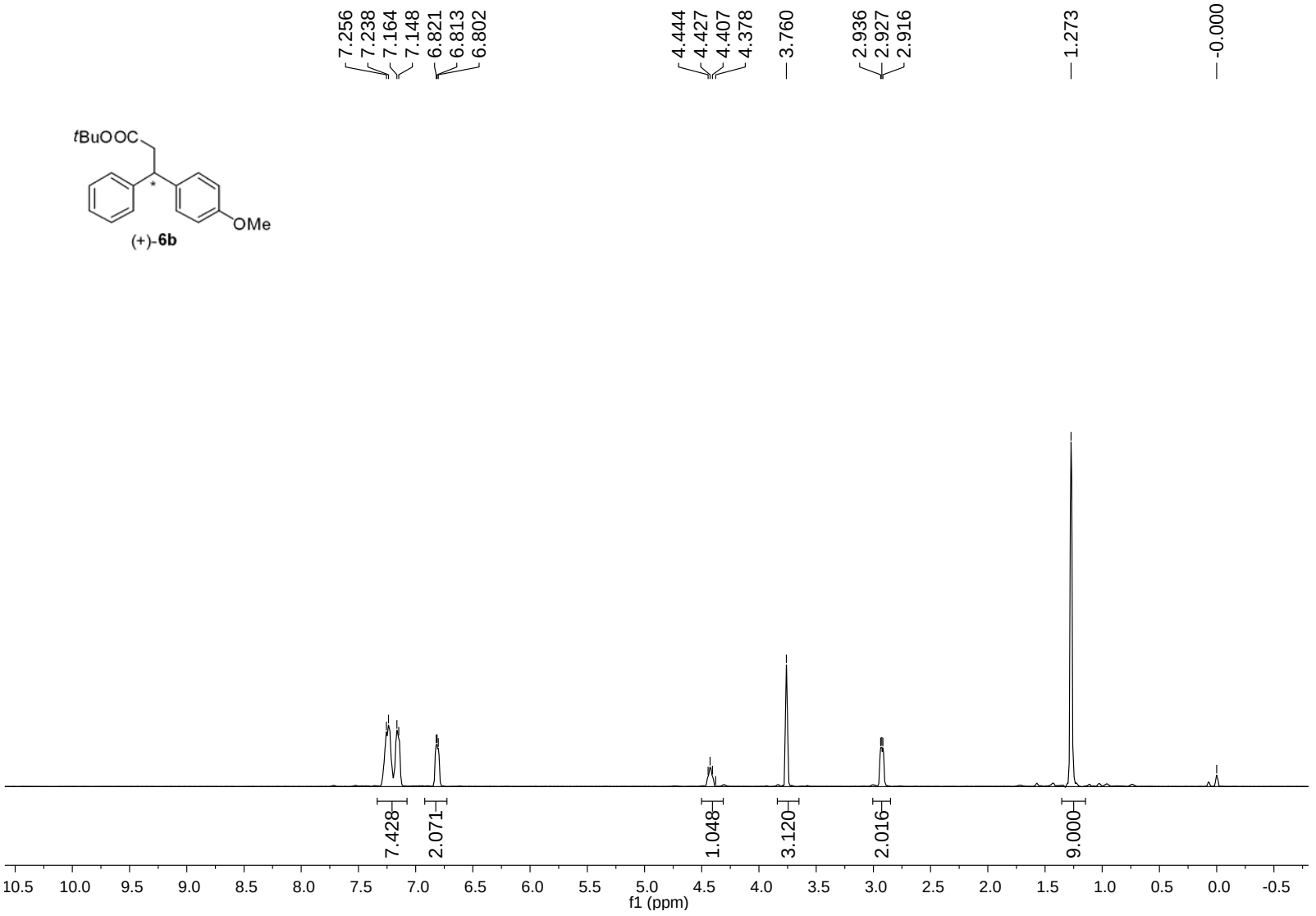
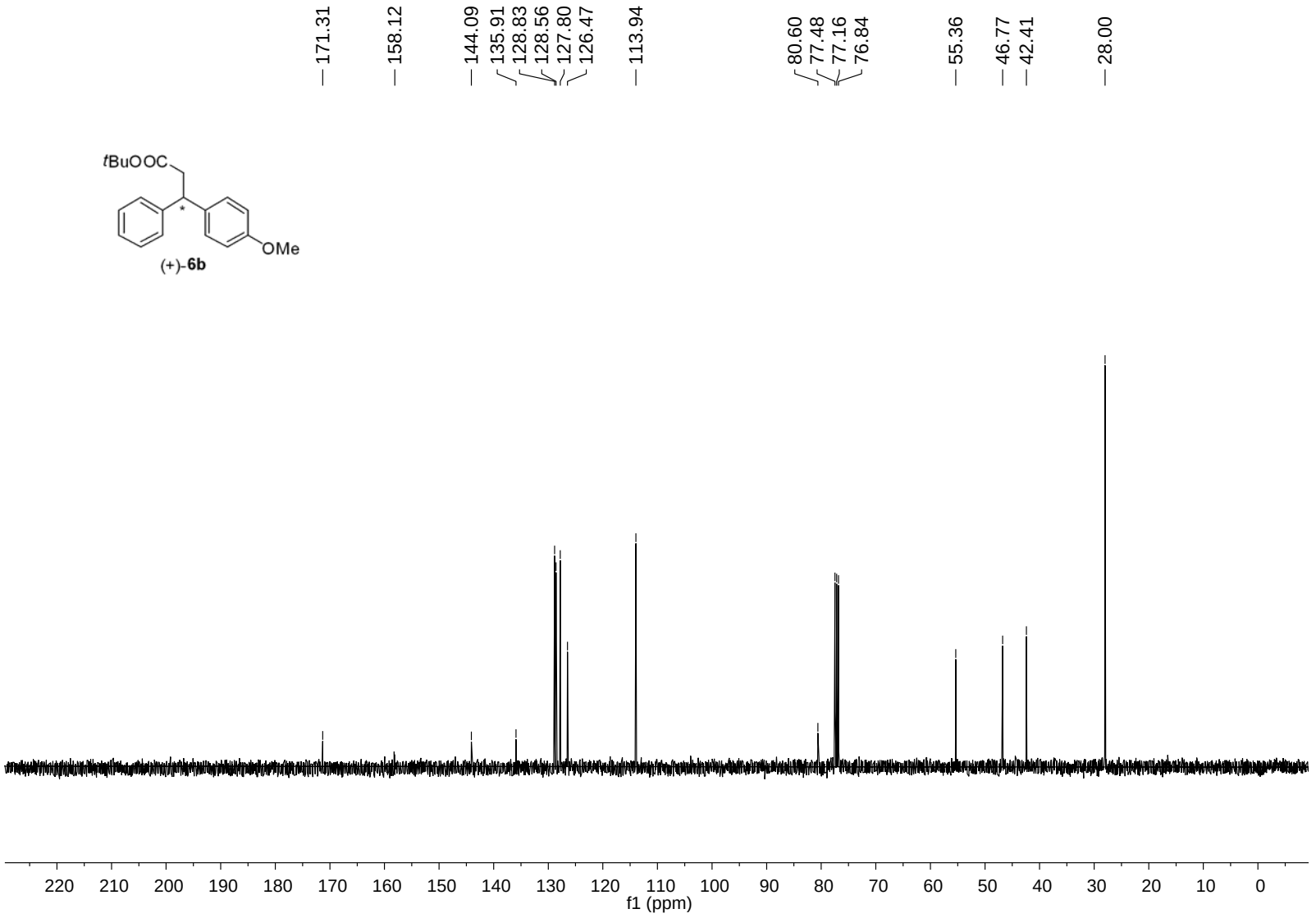
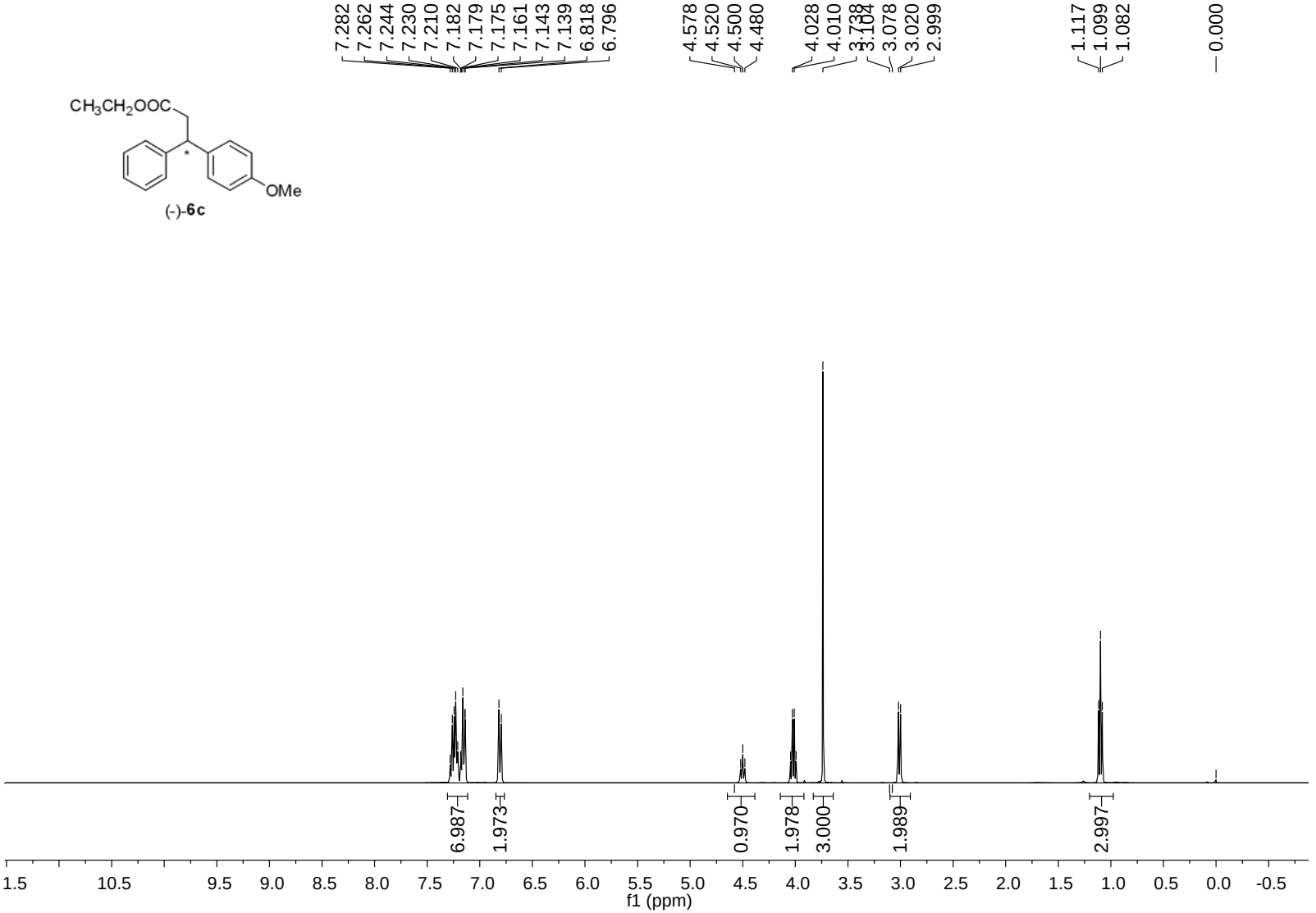
1. Copy of NMR for the compounds (6a-6q)

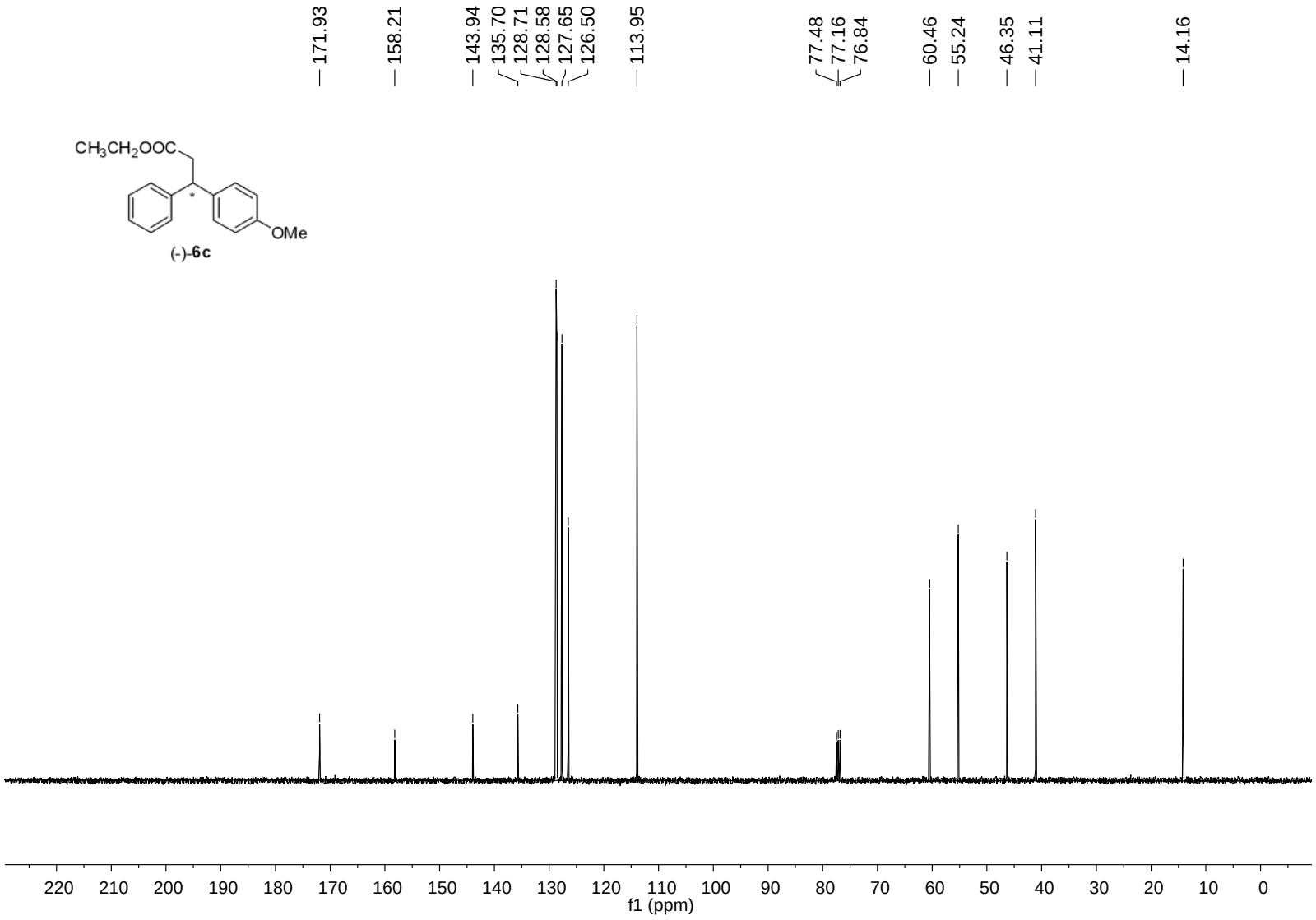


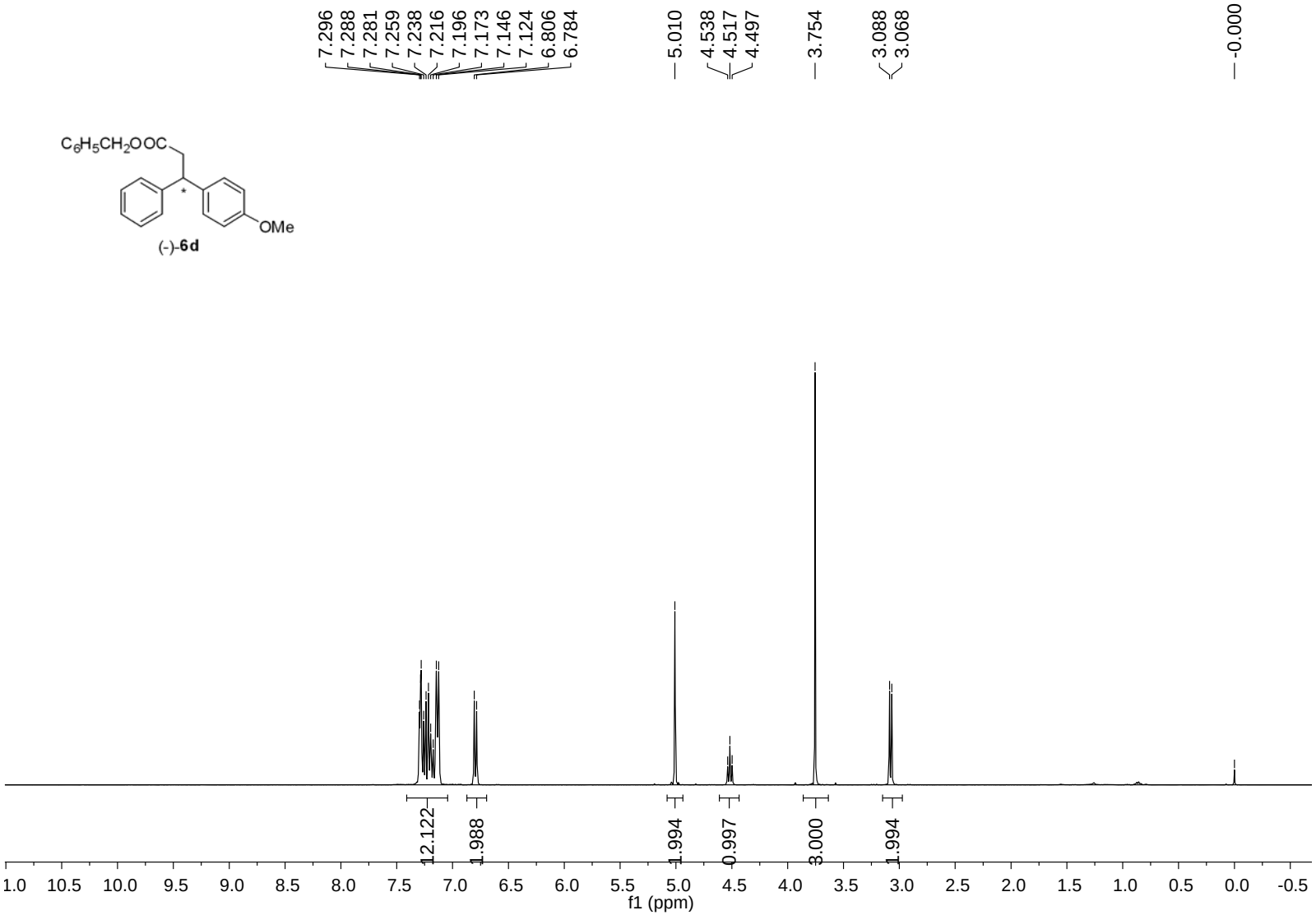


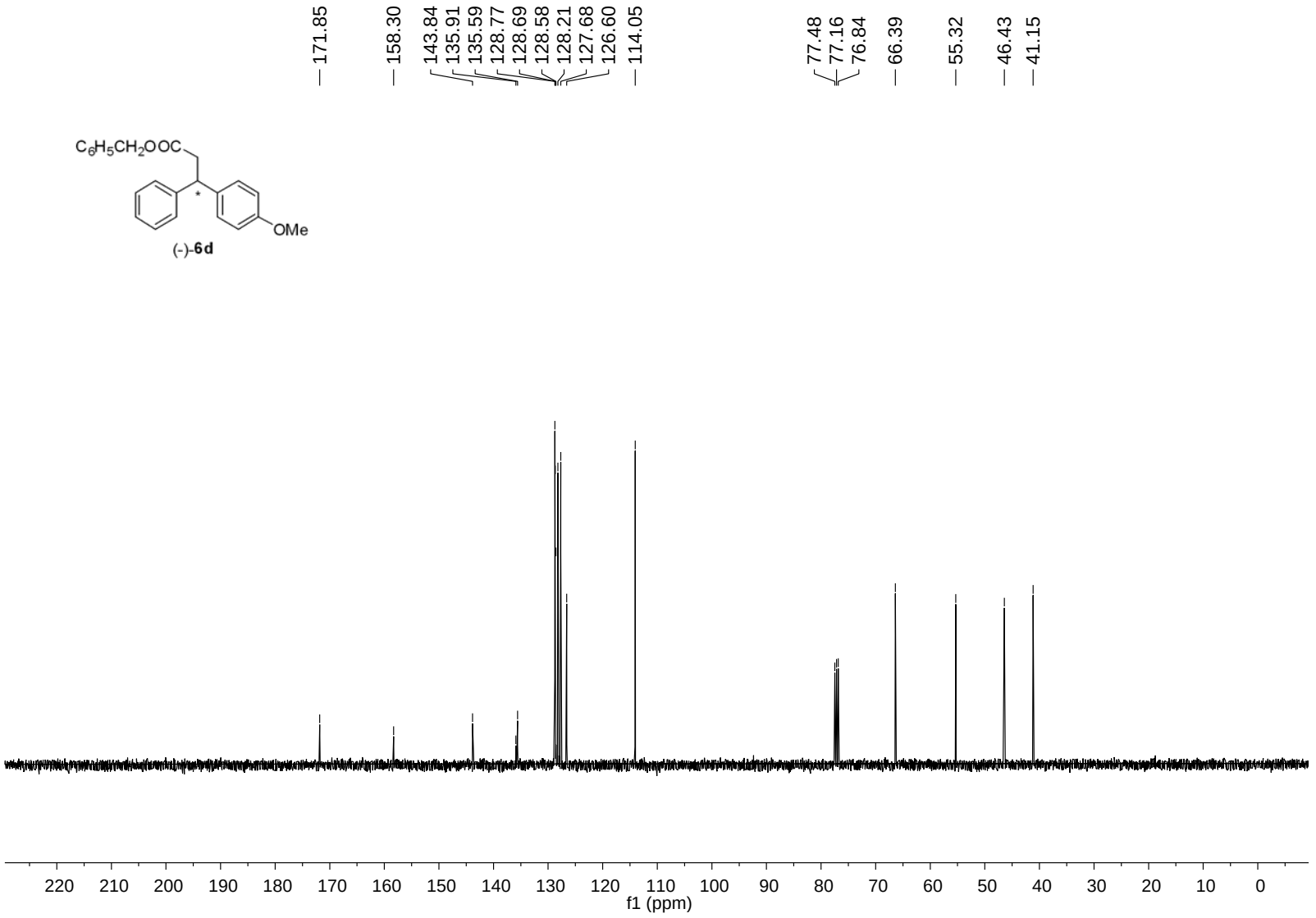


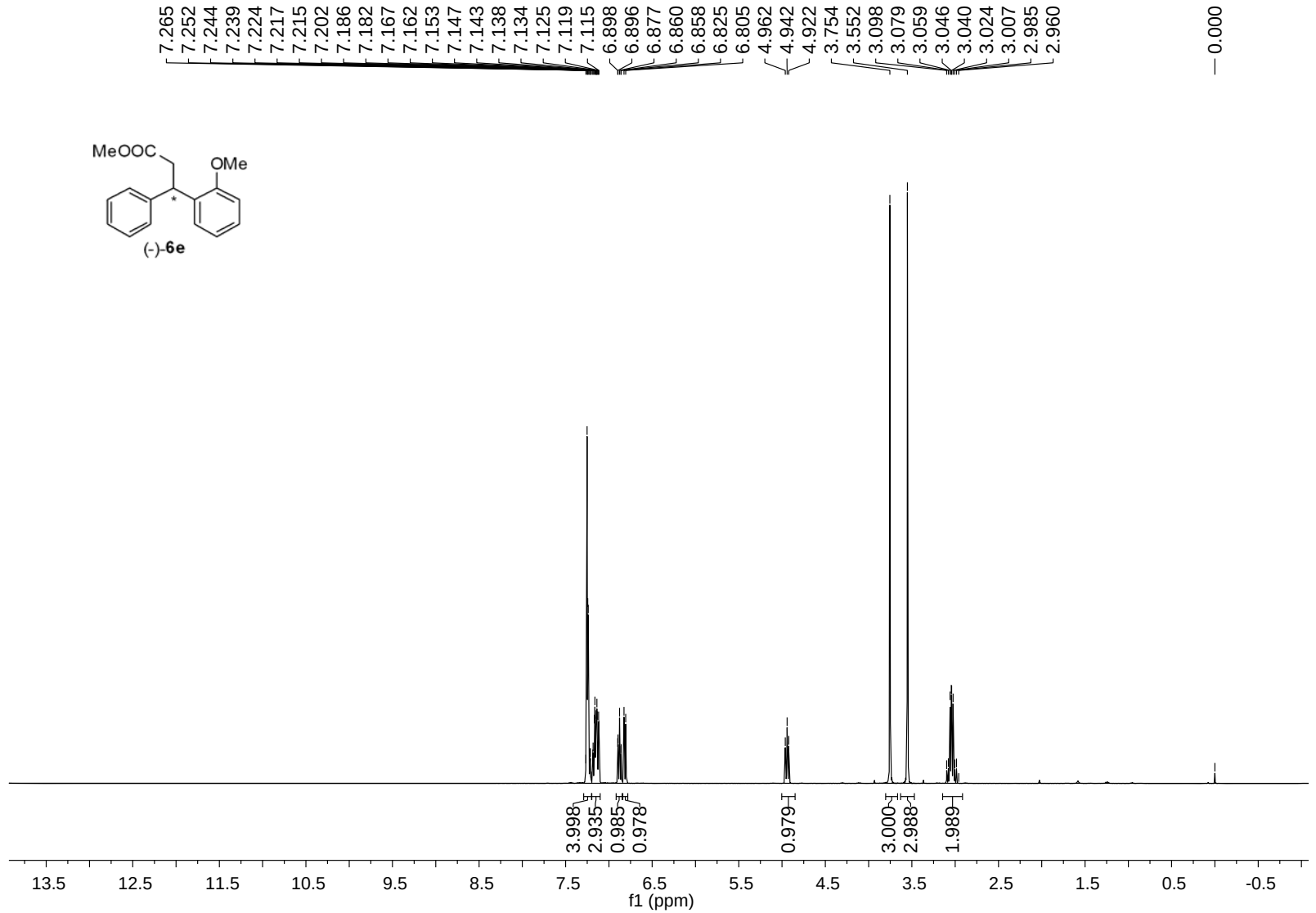


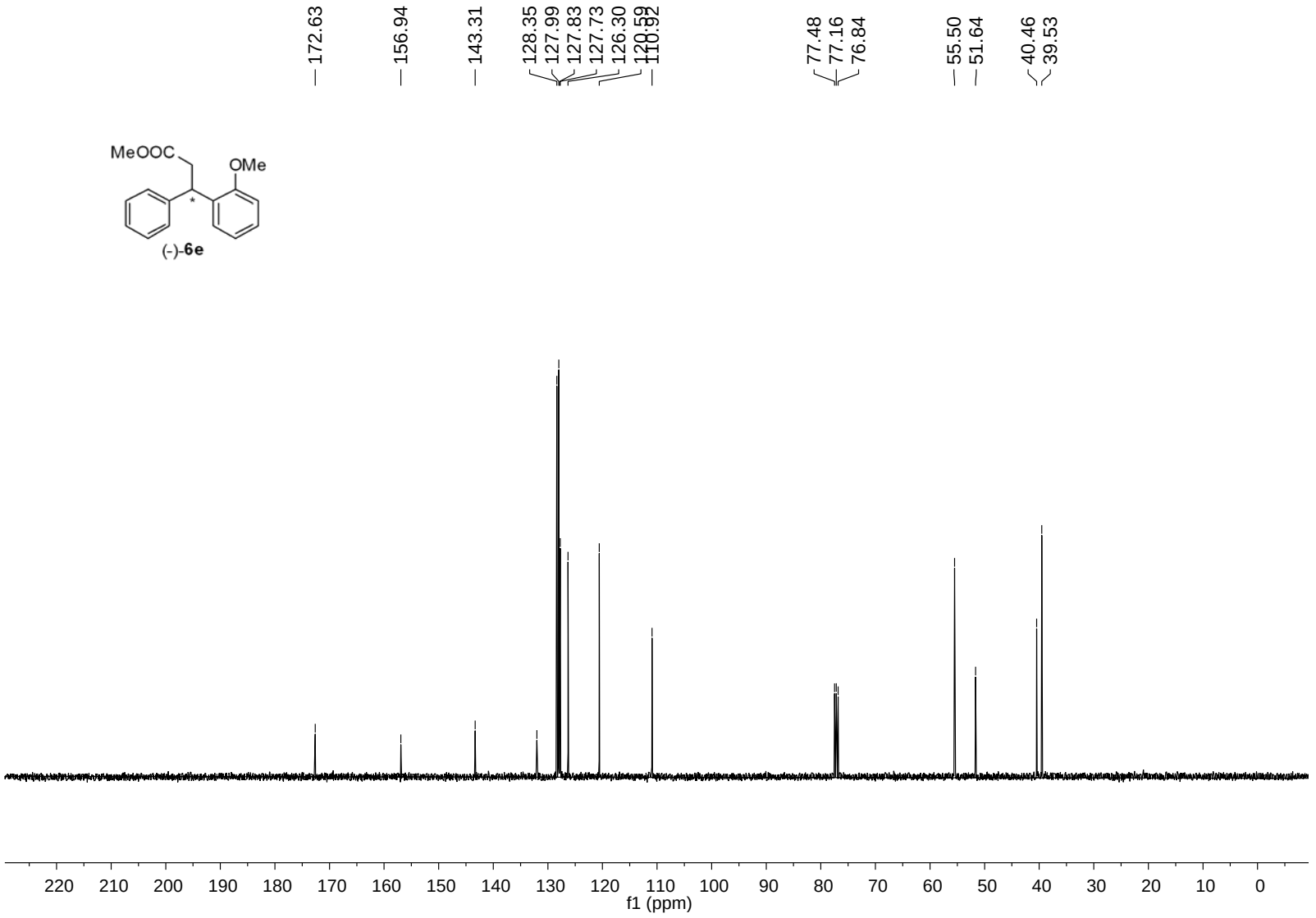


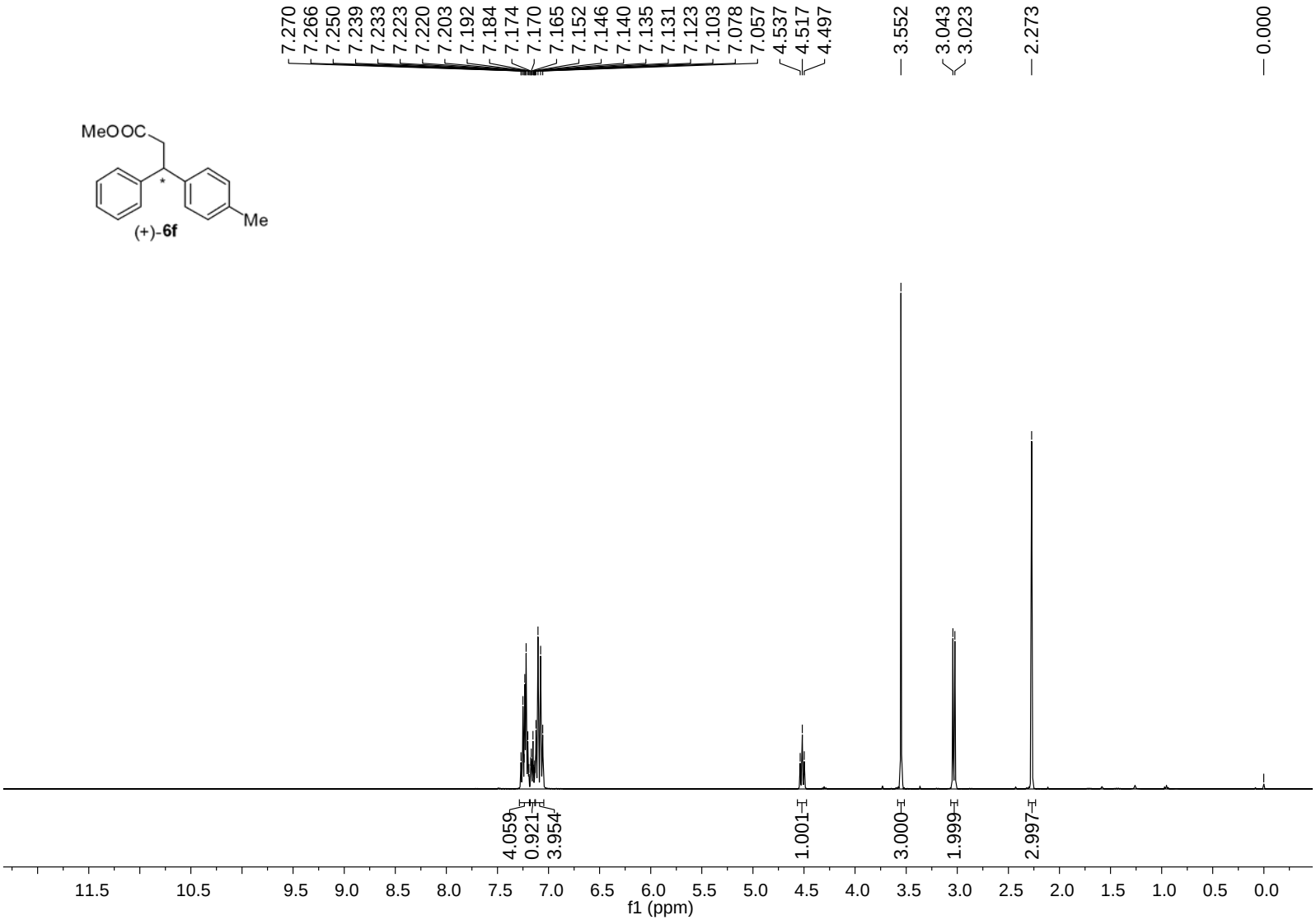


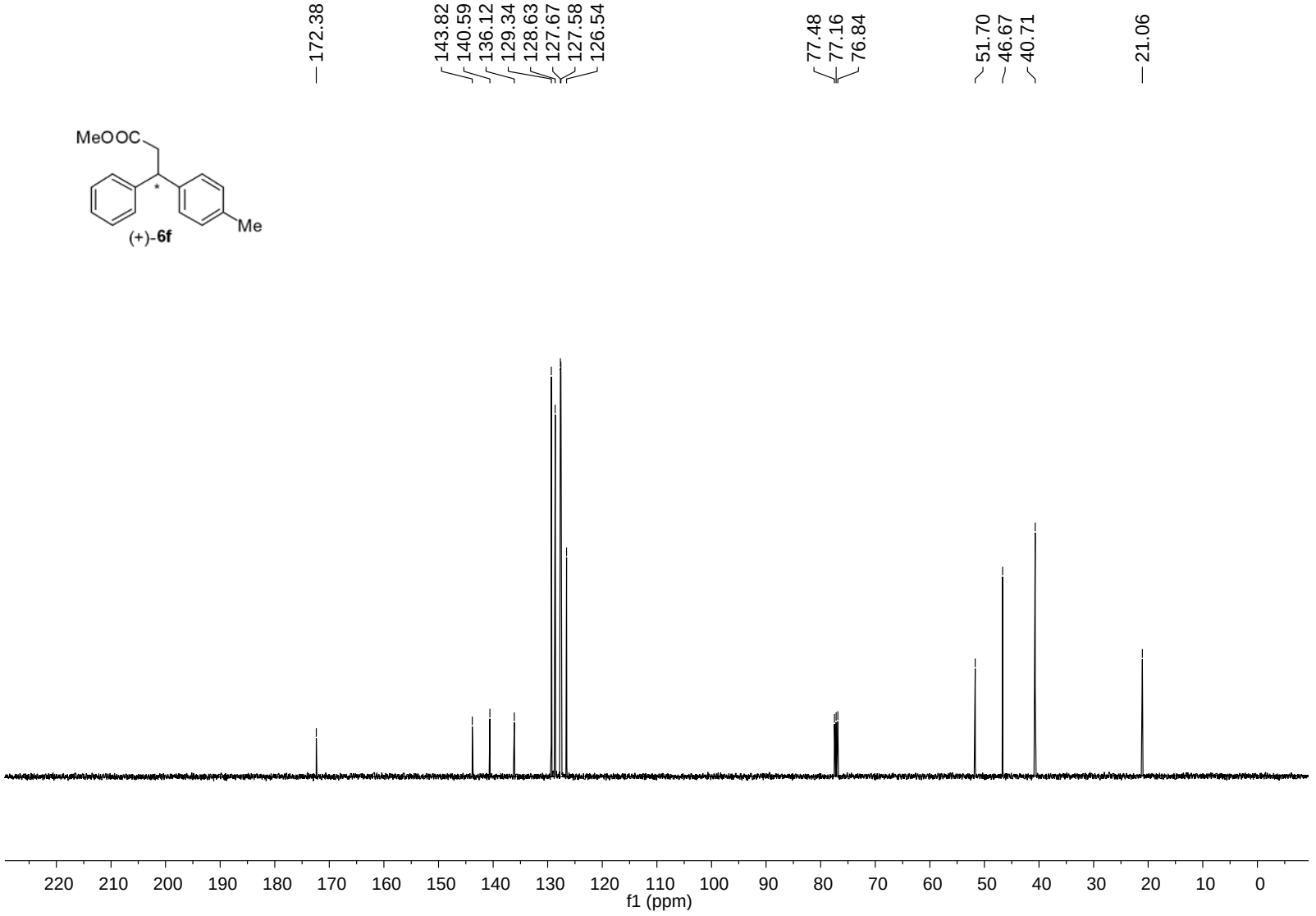


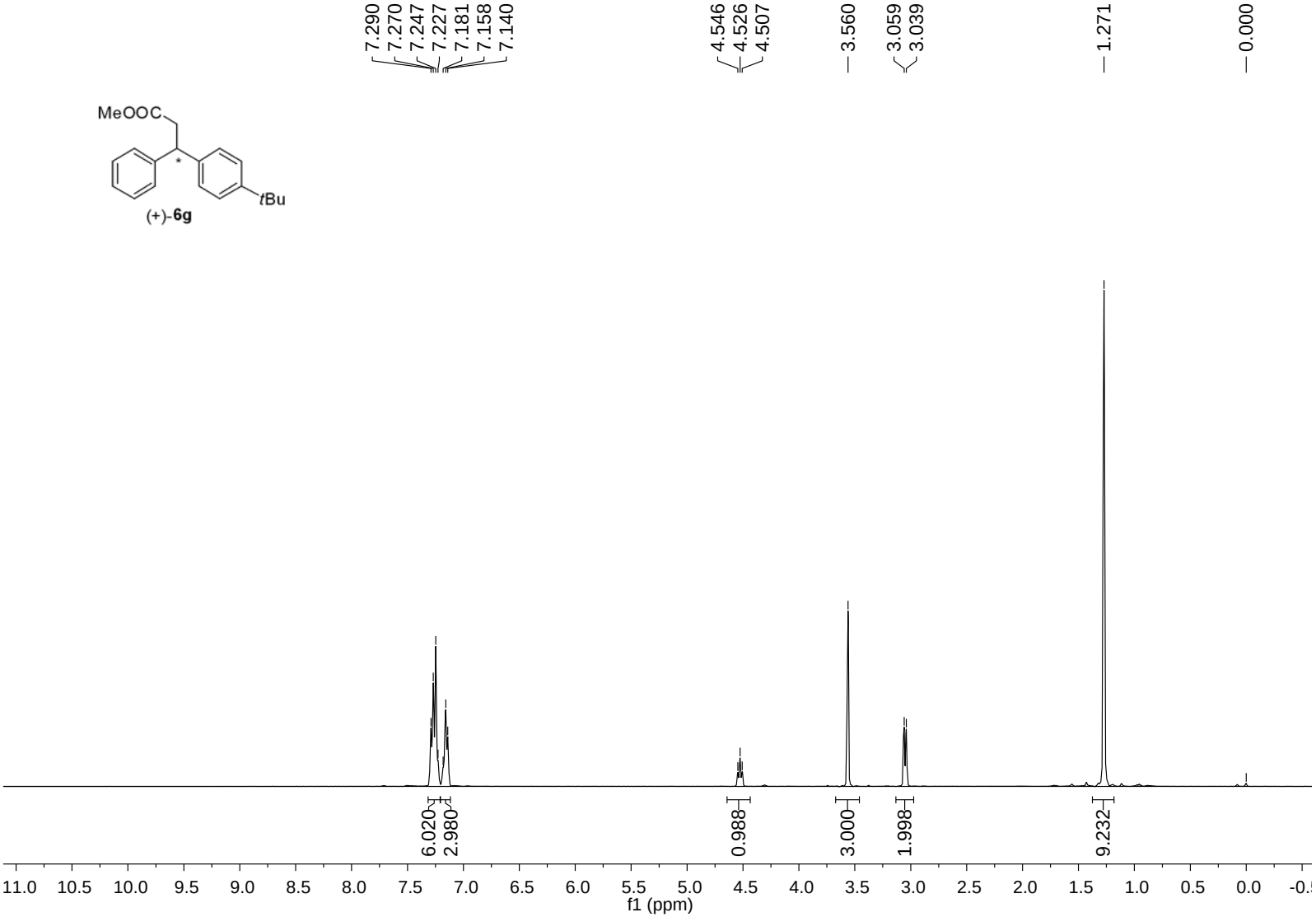


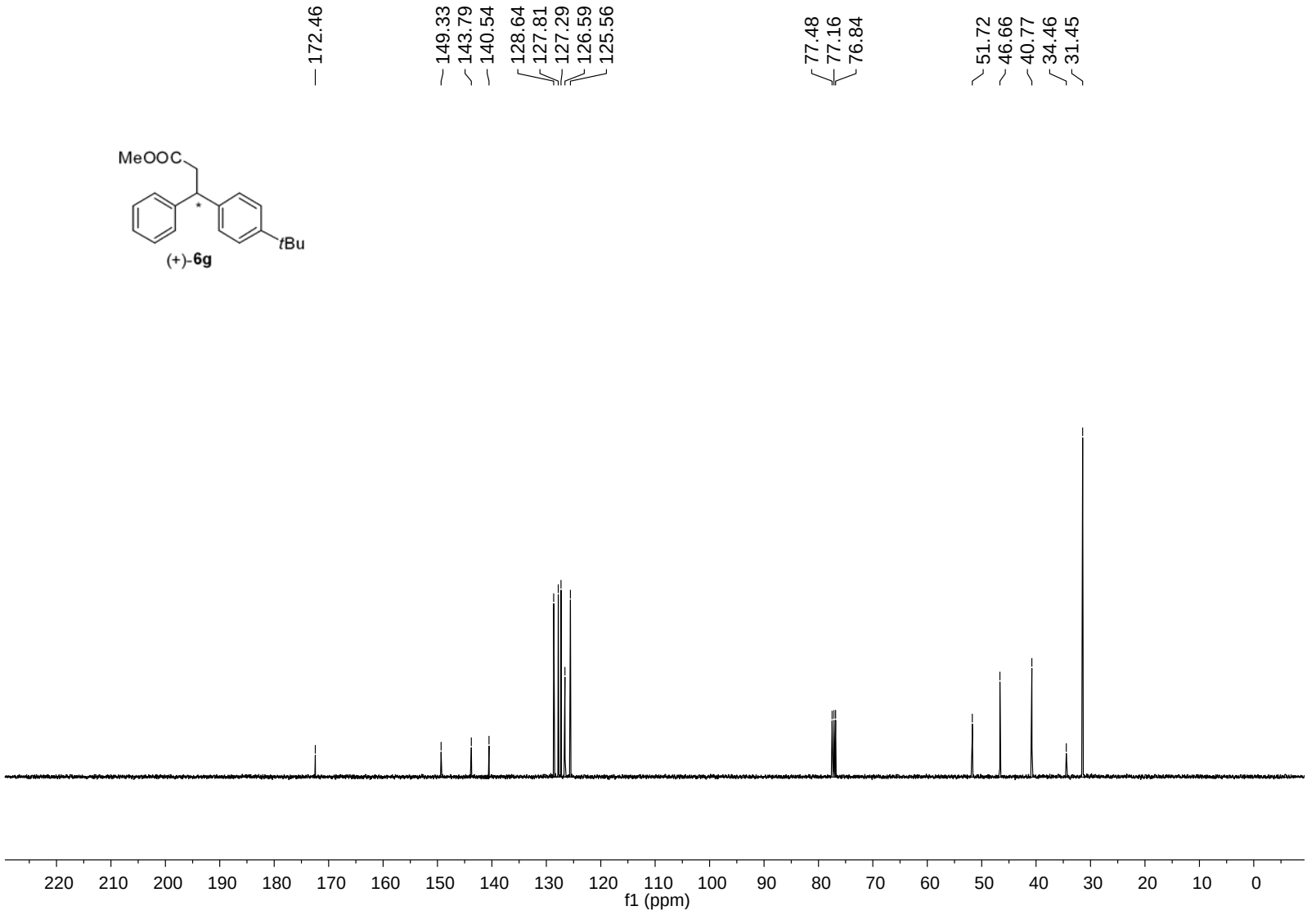


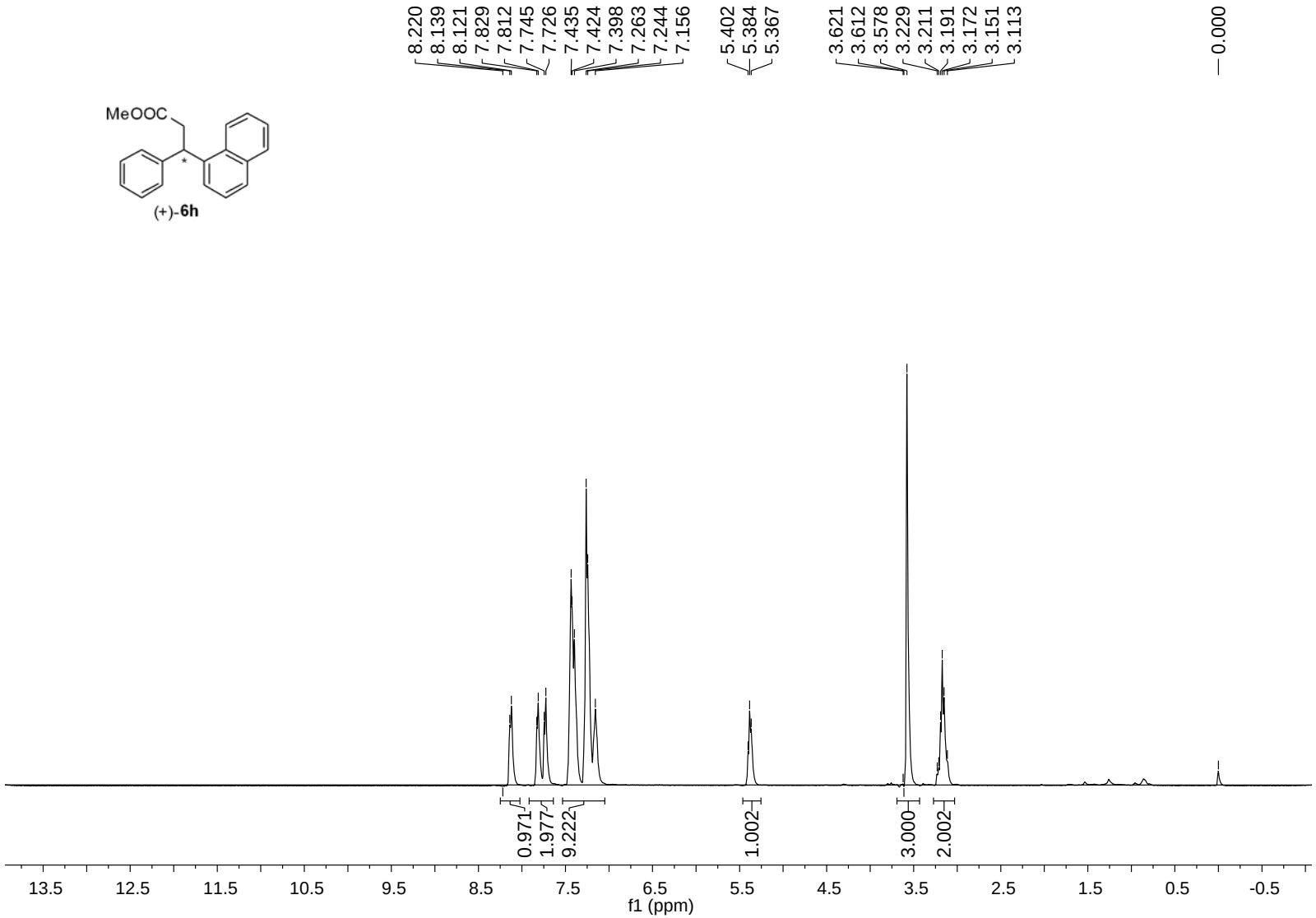


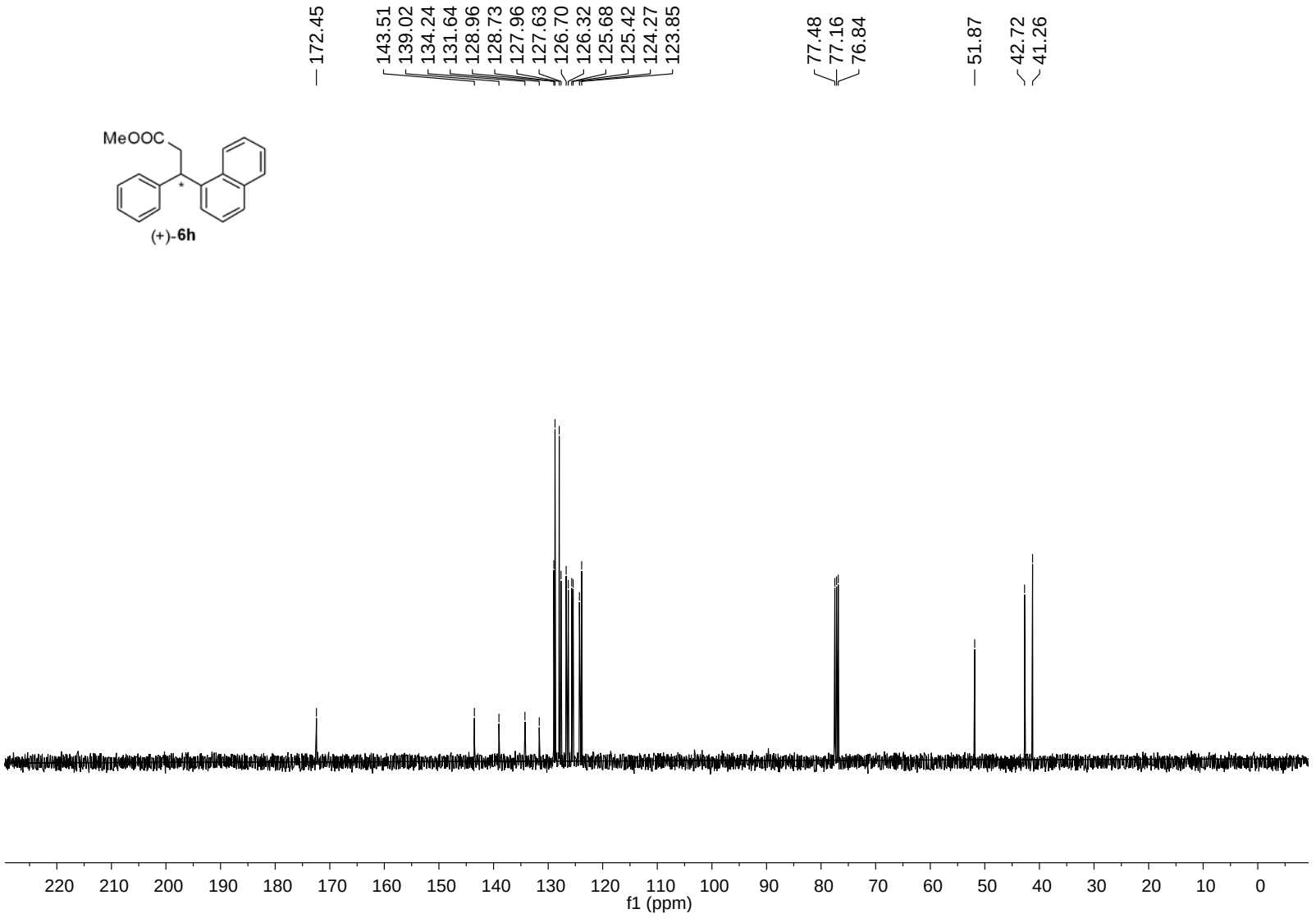


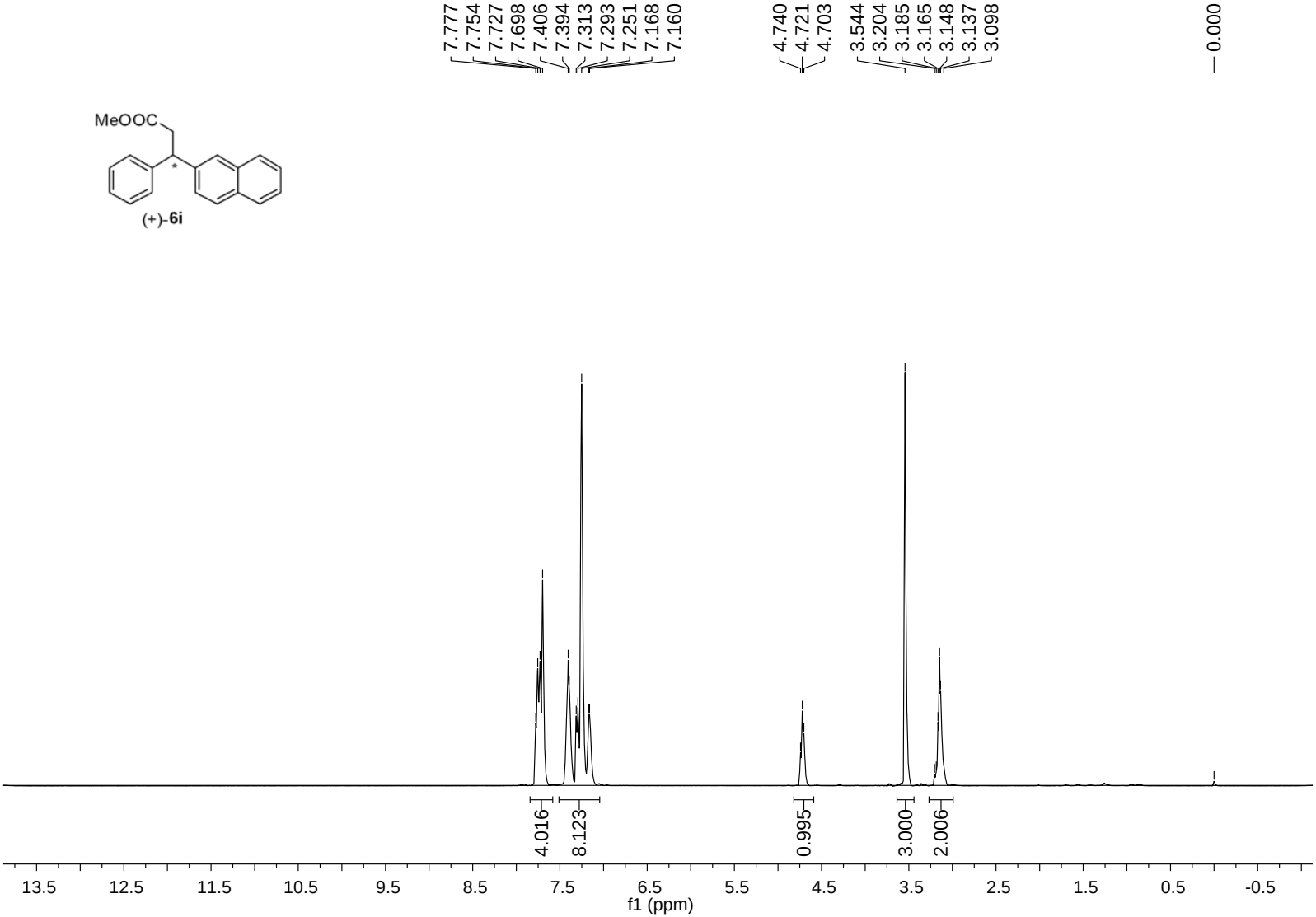


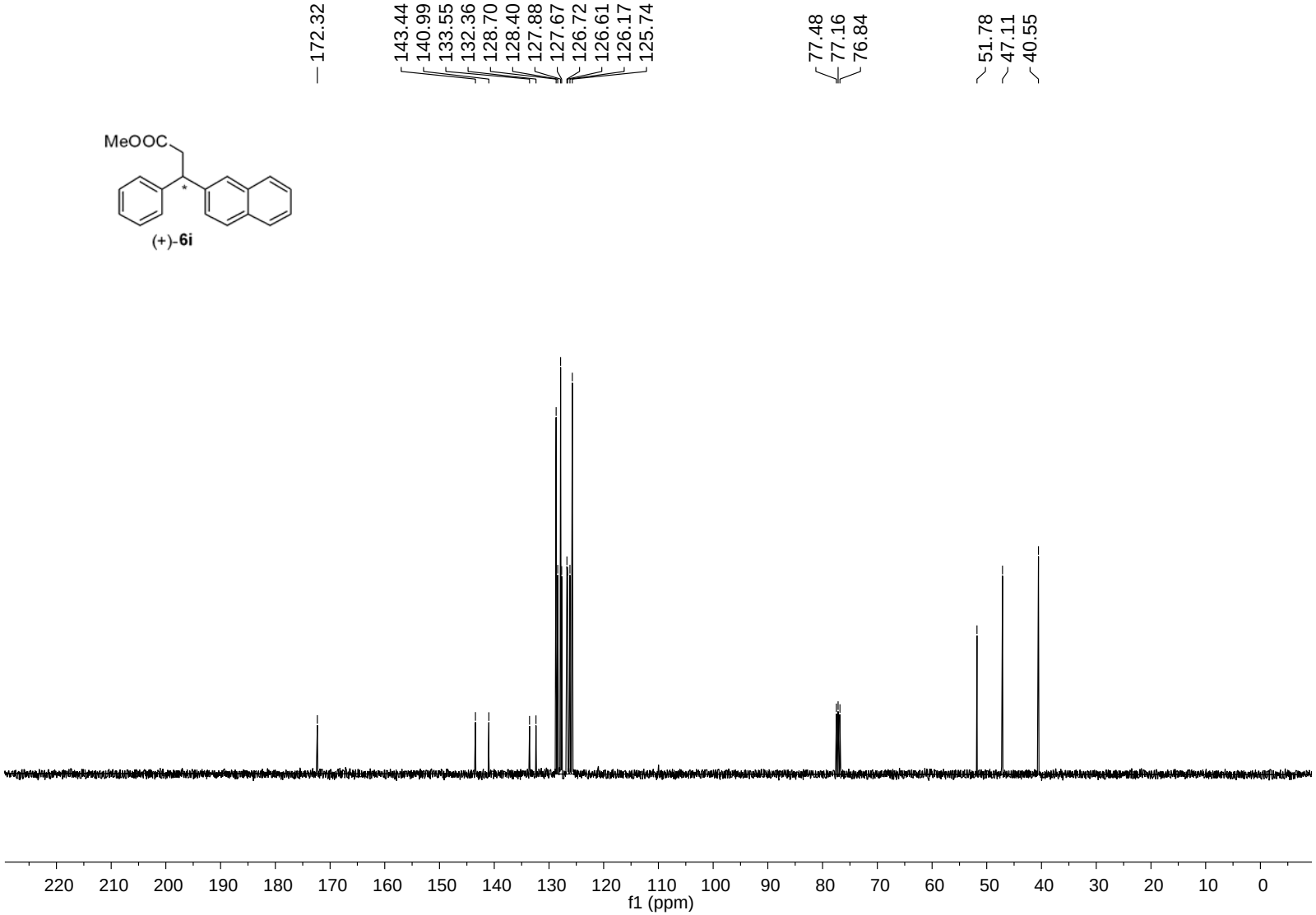


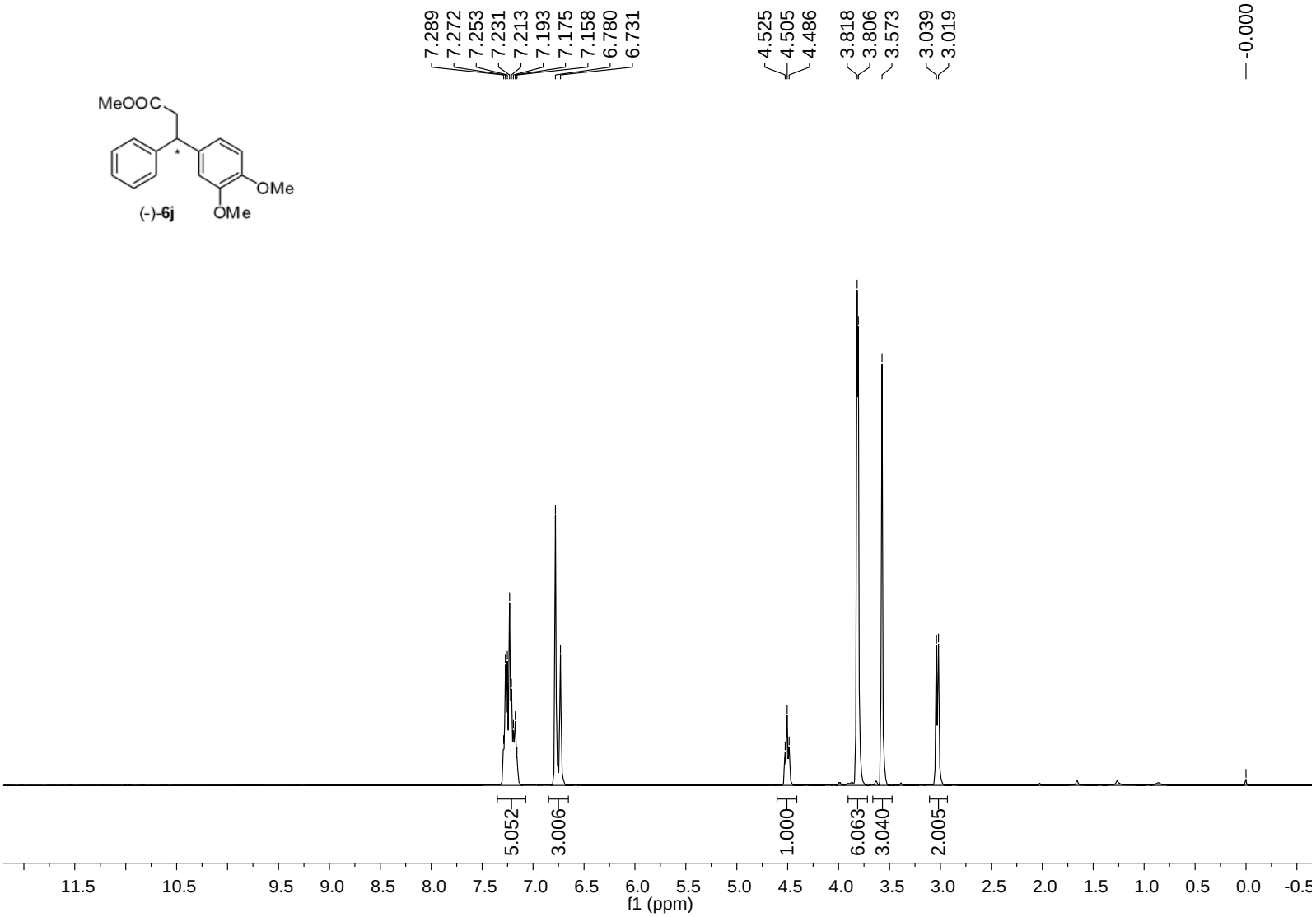


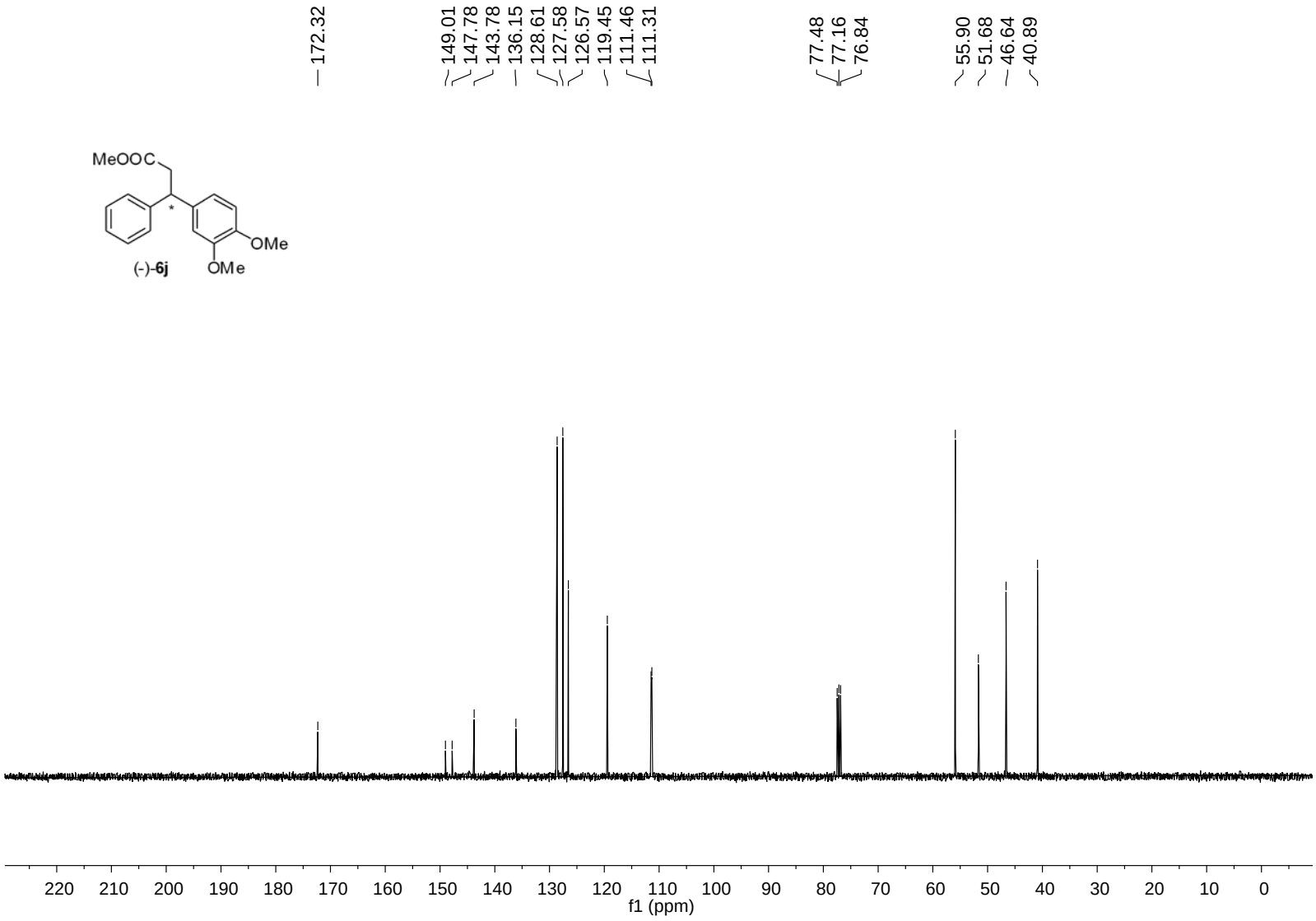


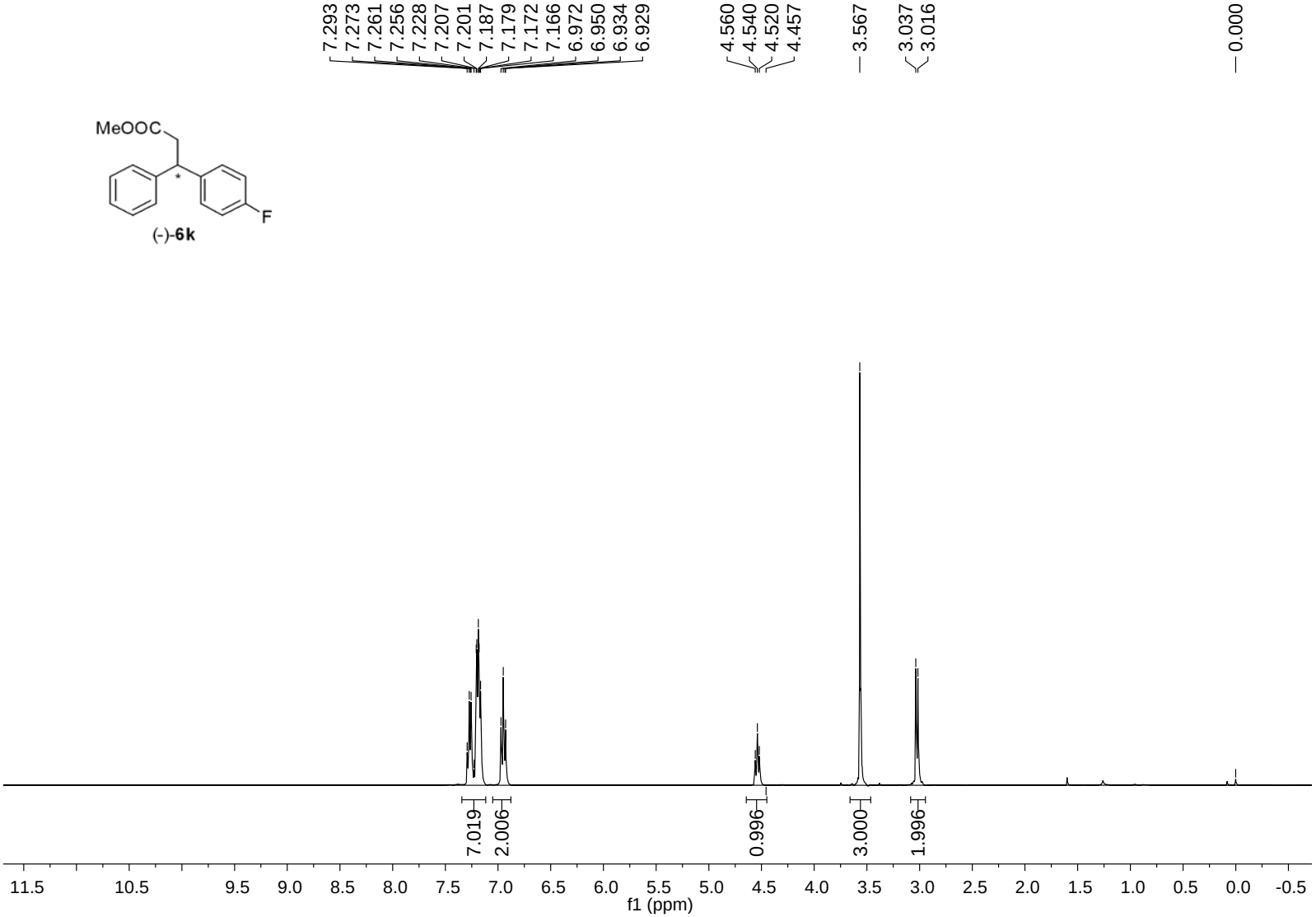


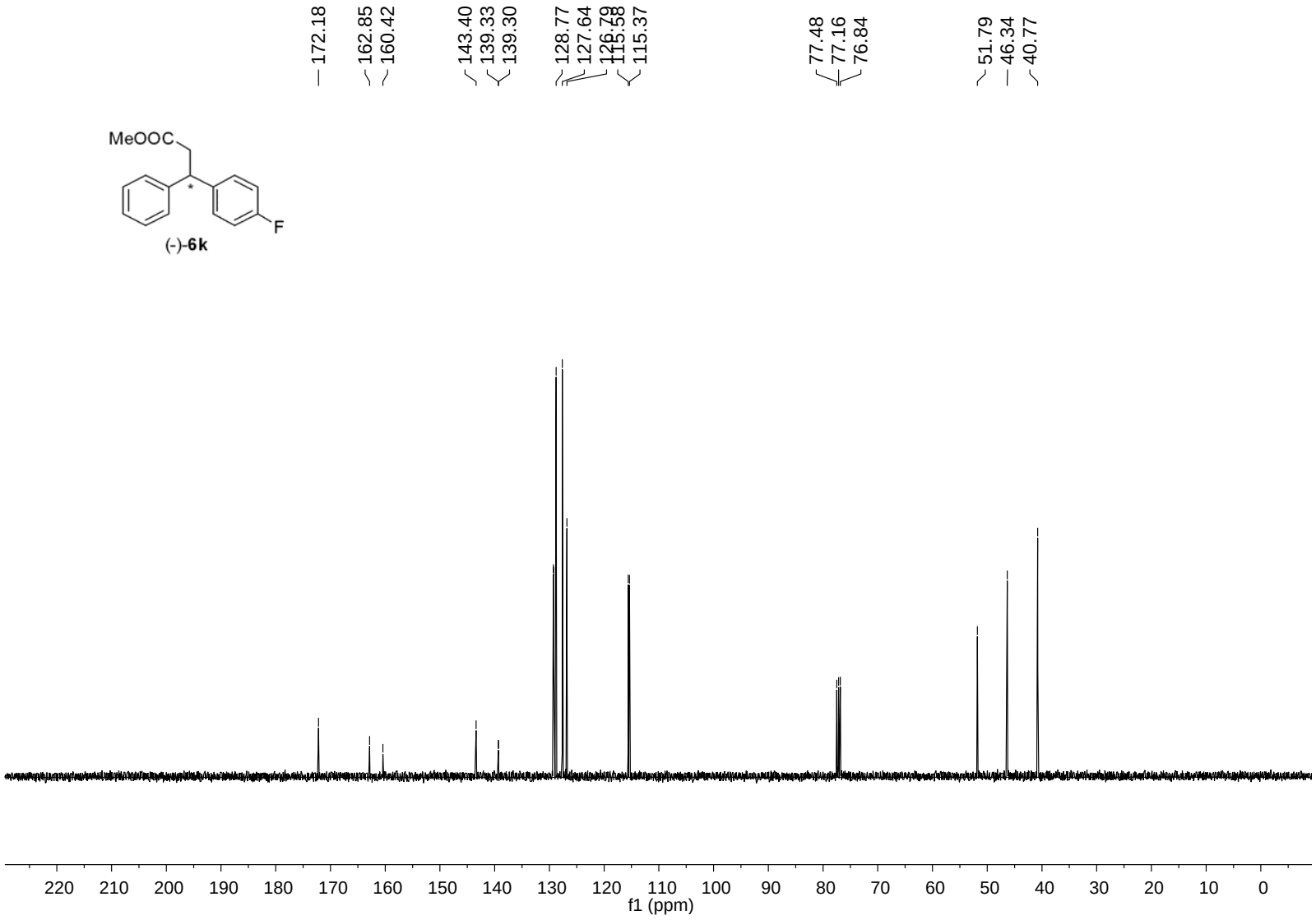


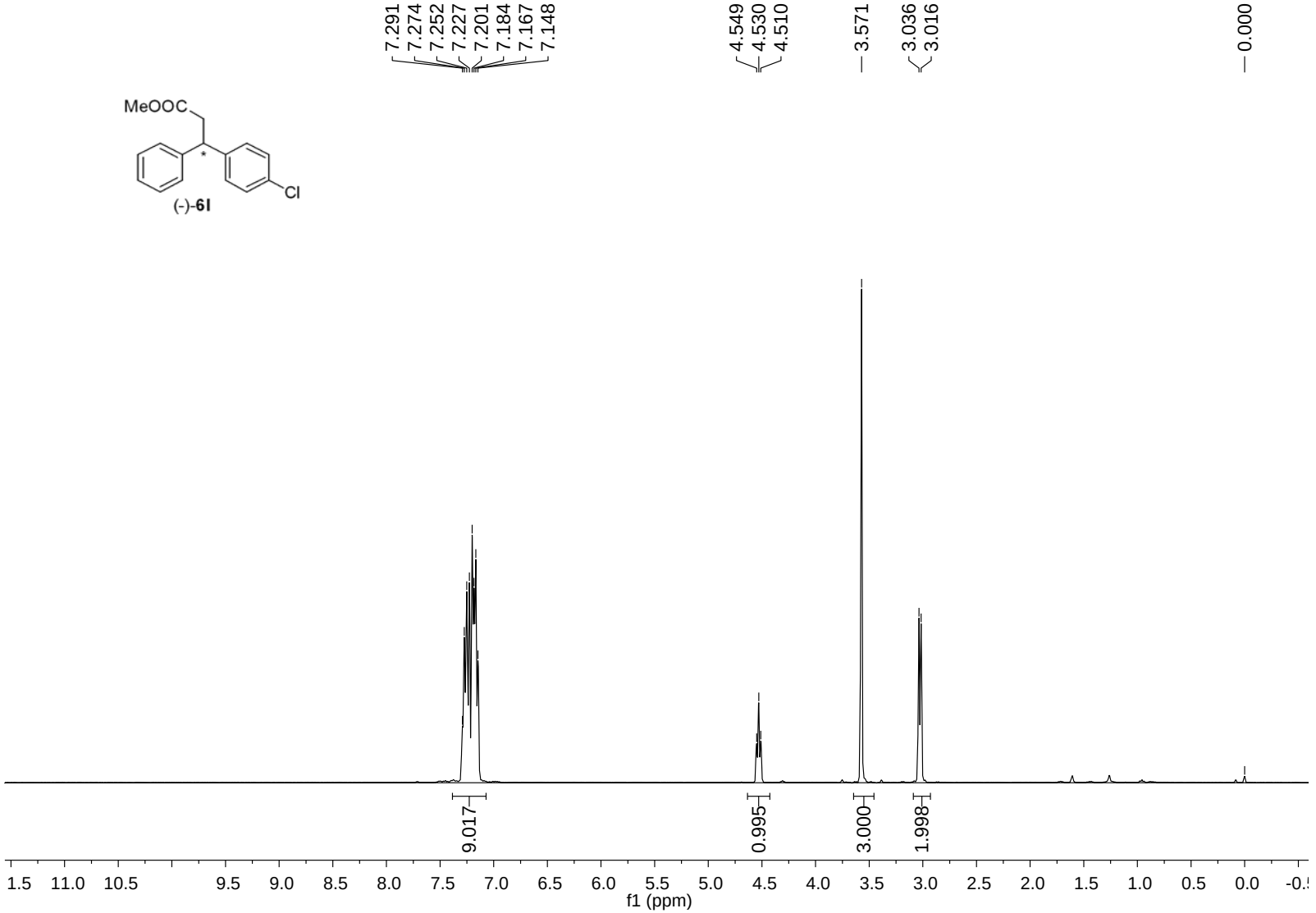


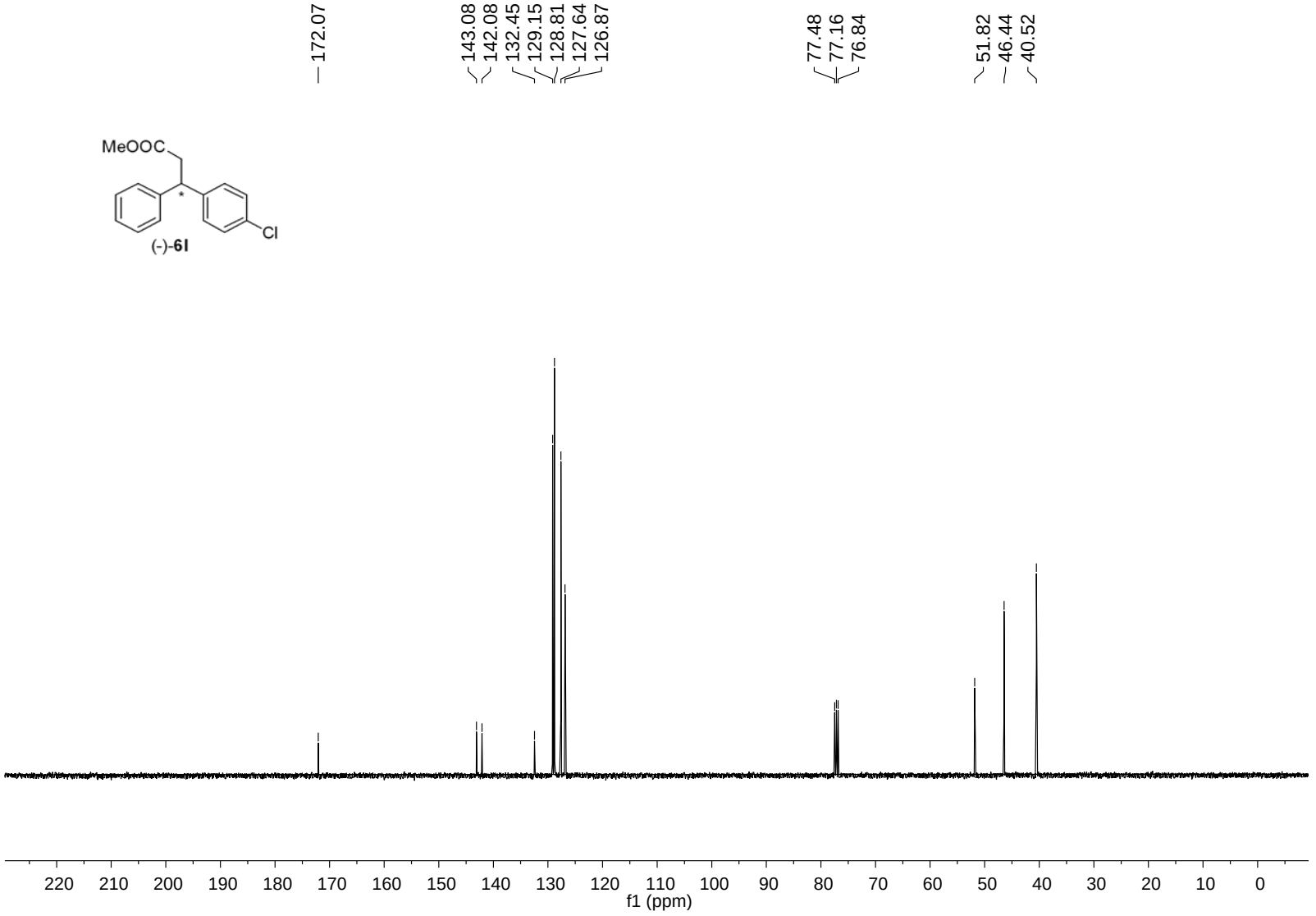


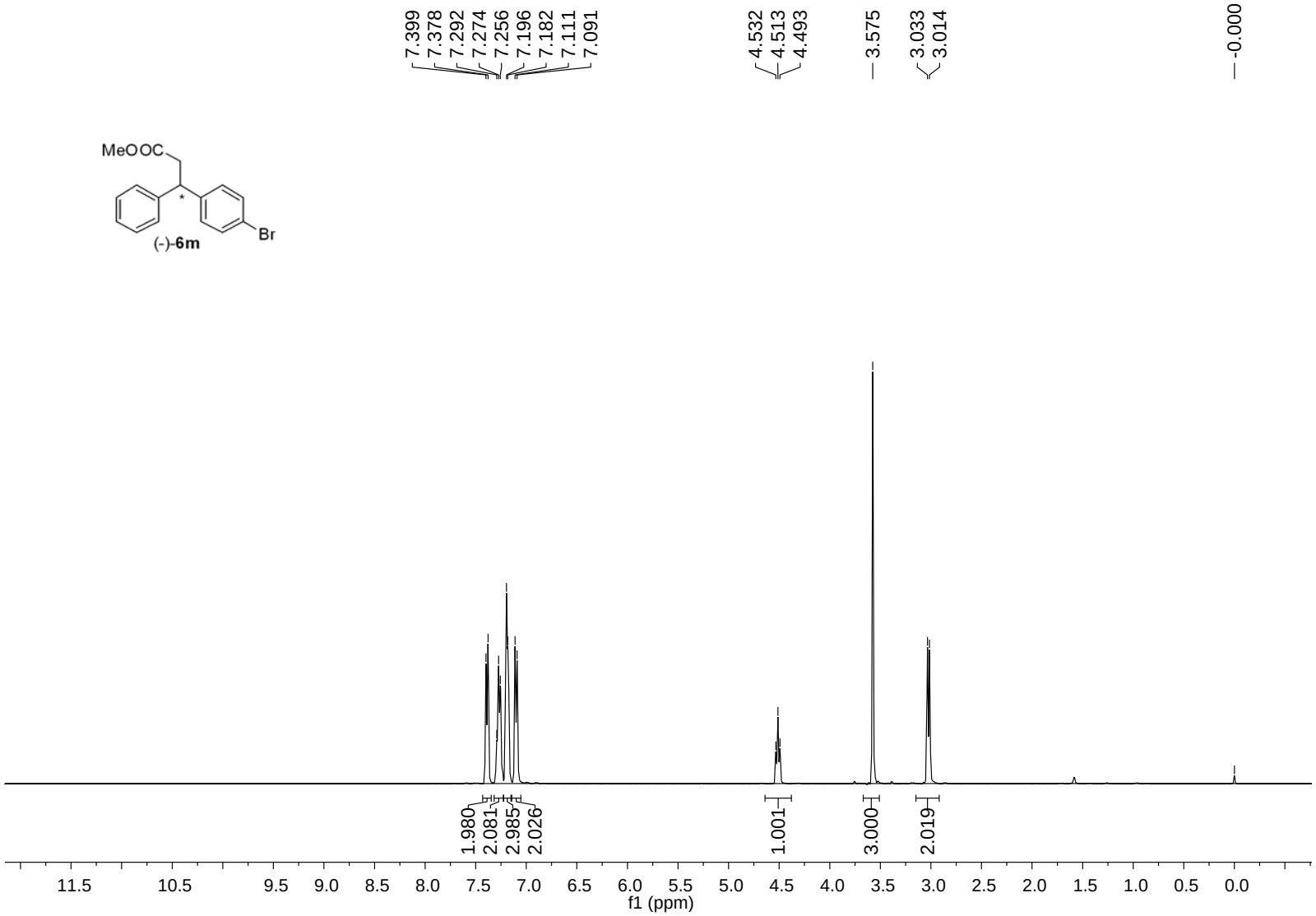


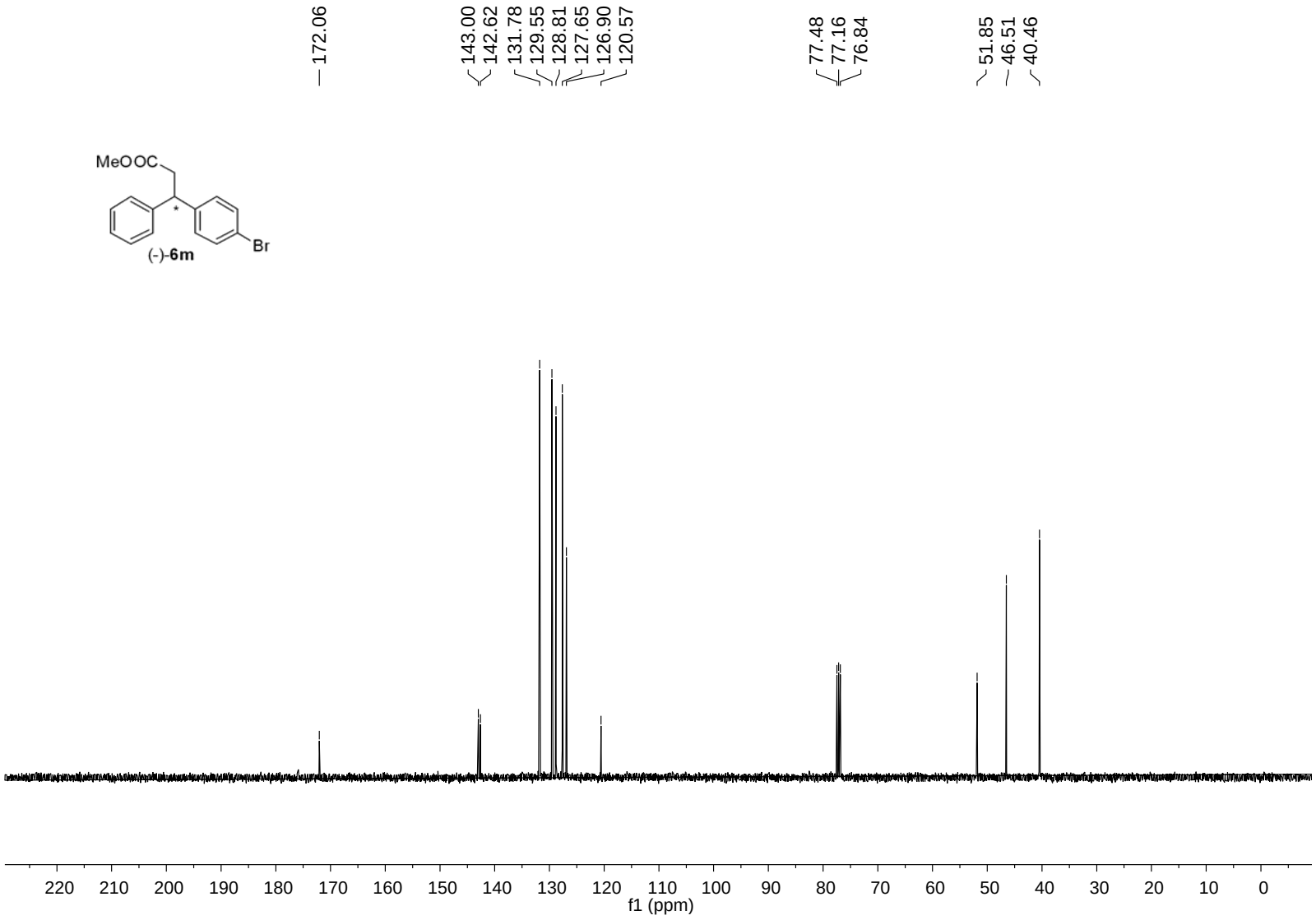


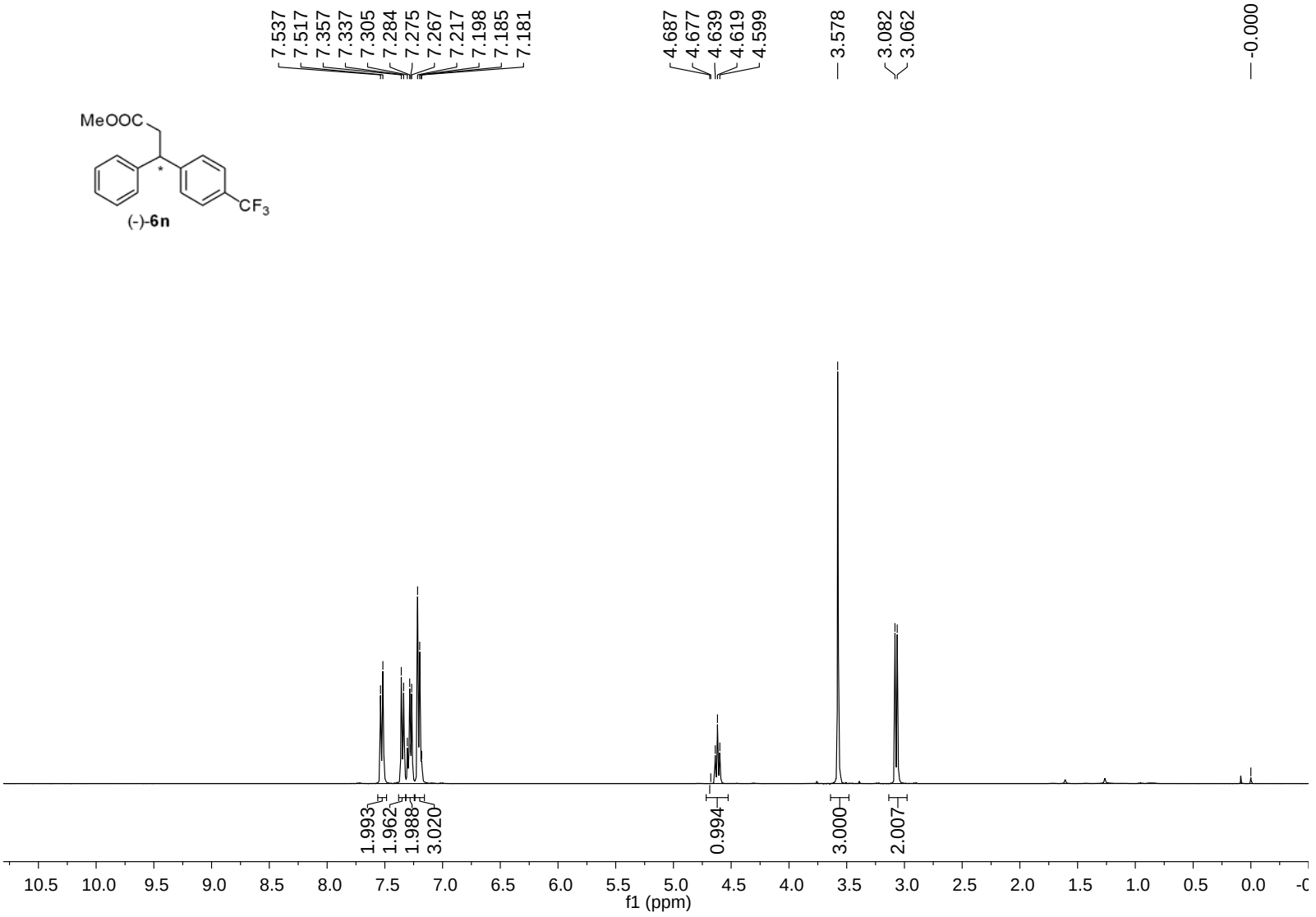


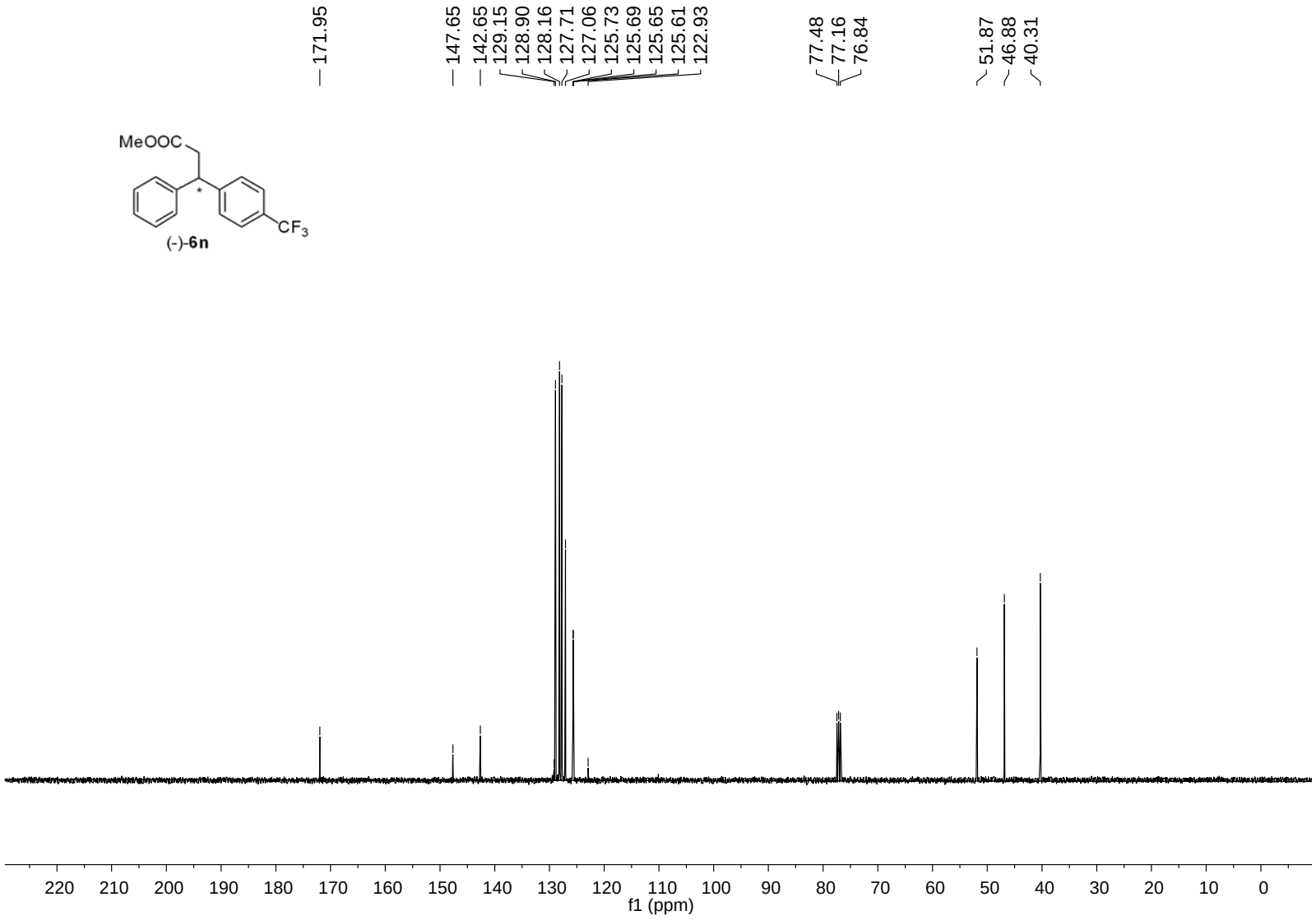


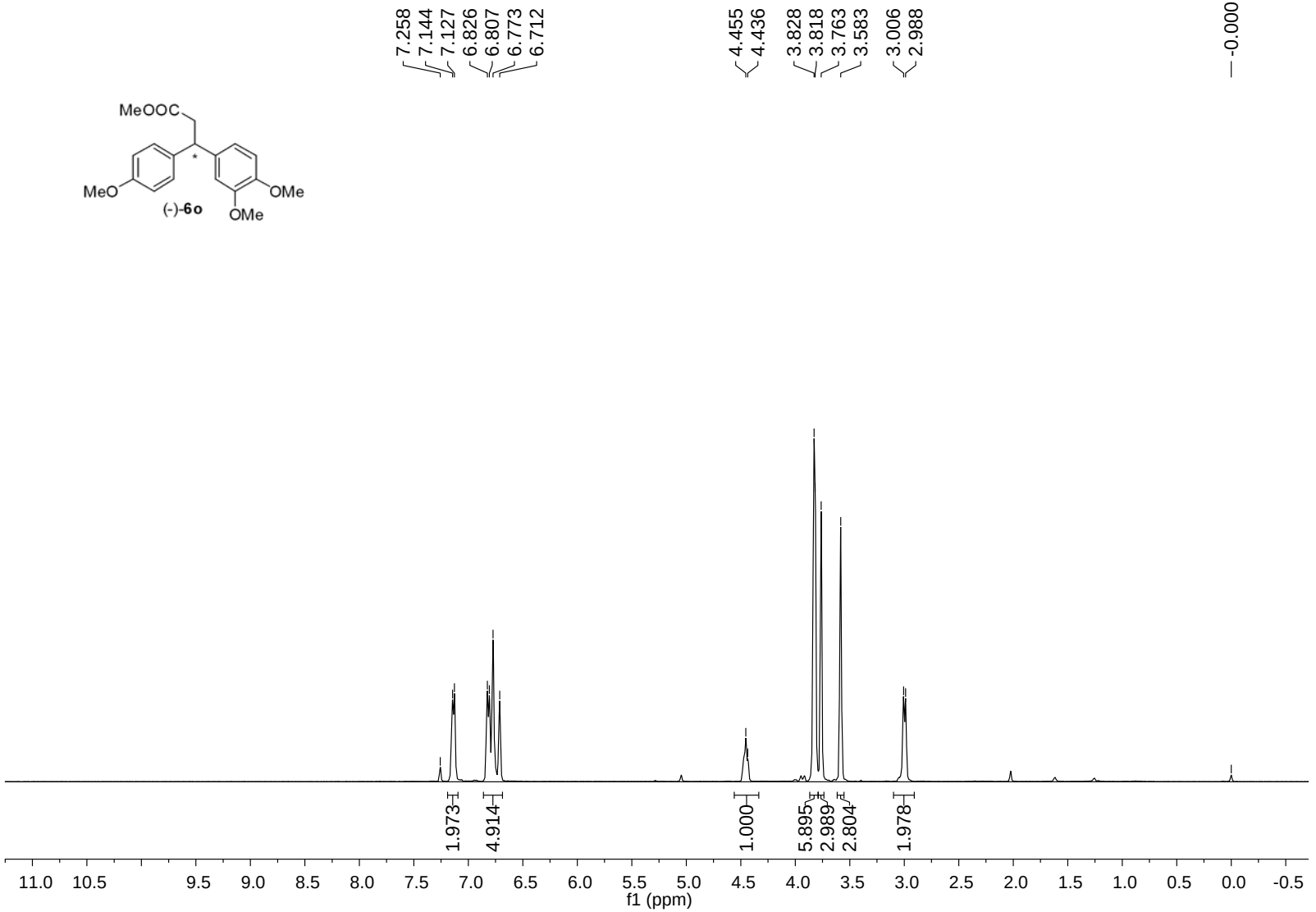


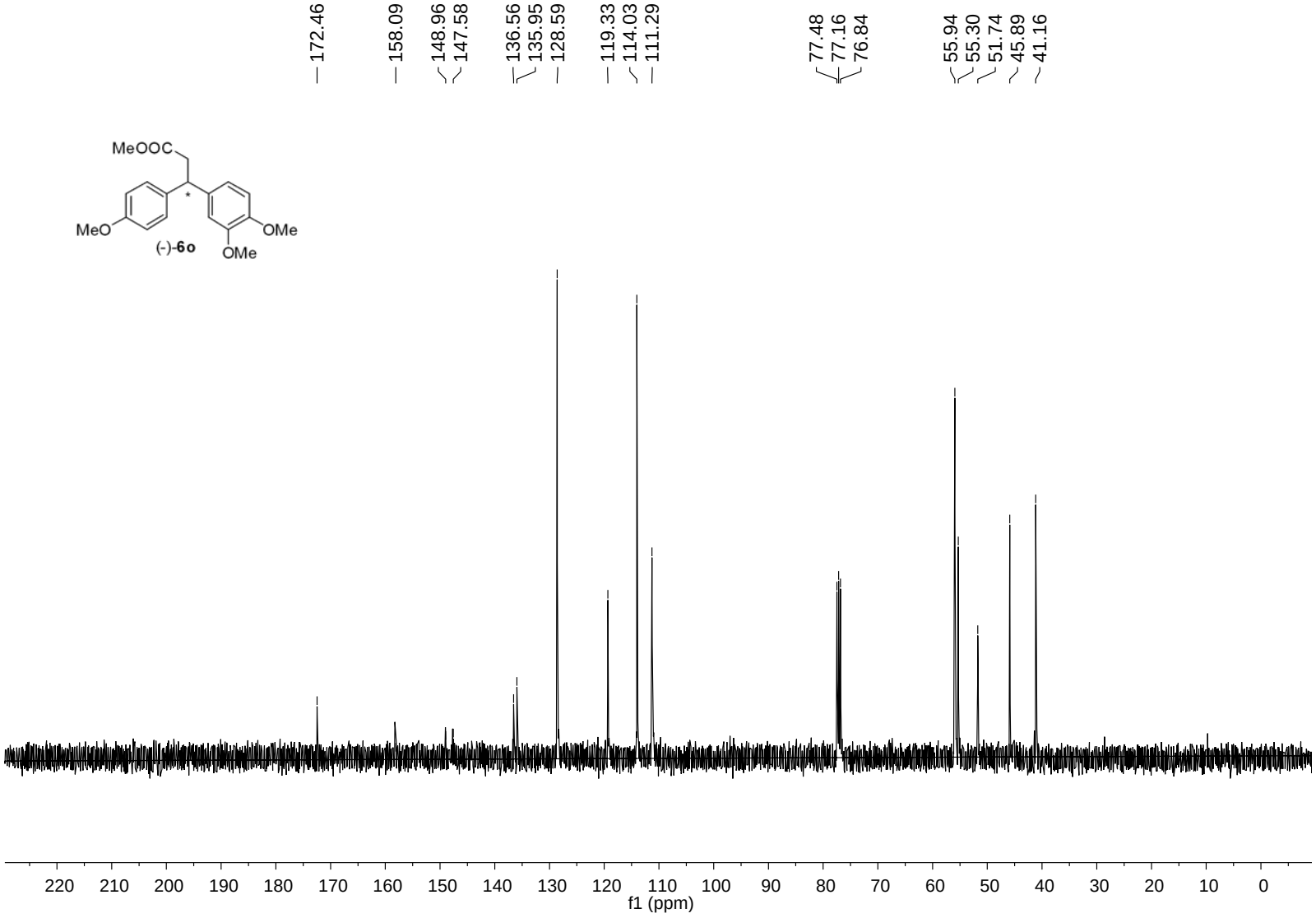


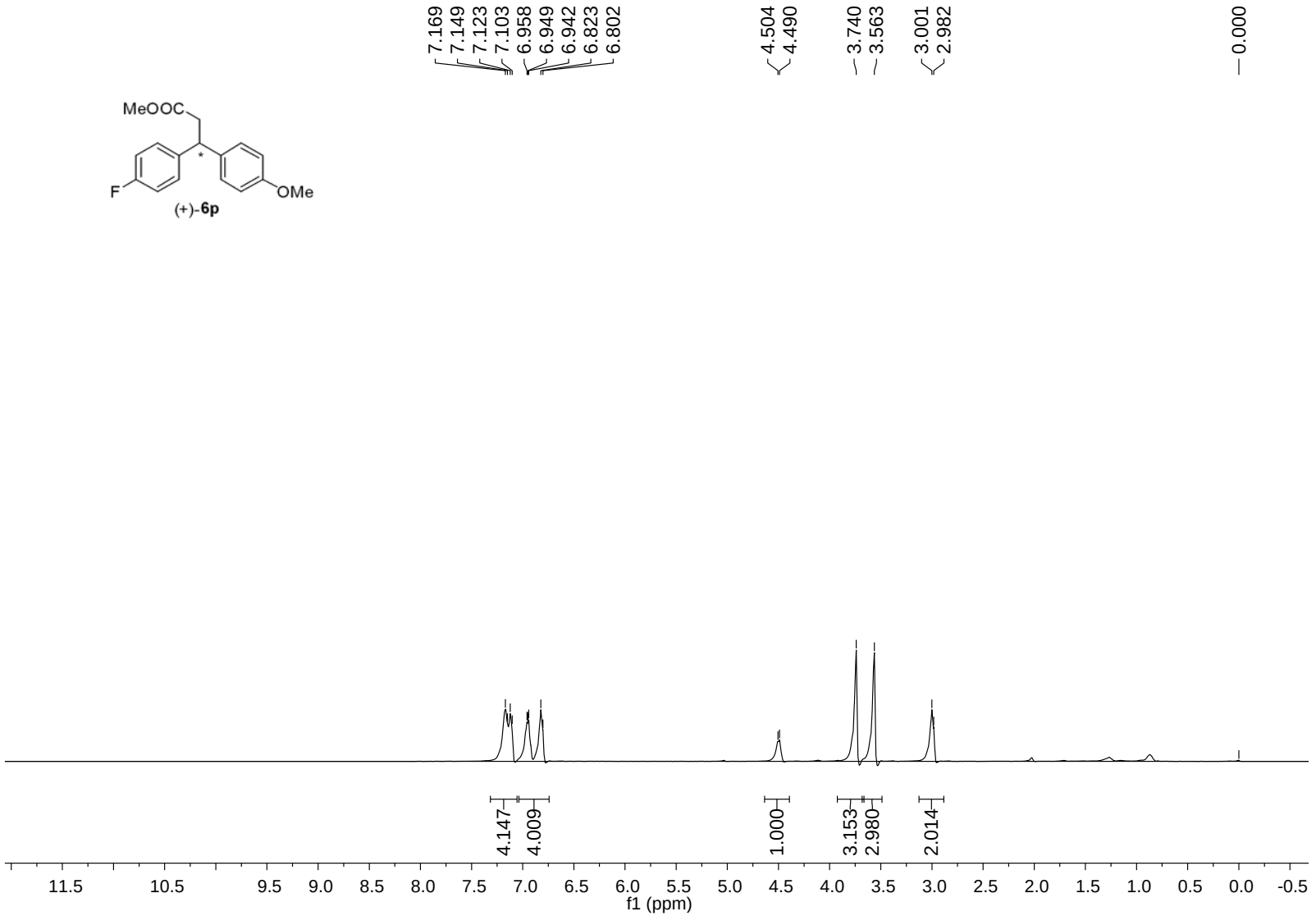


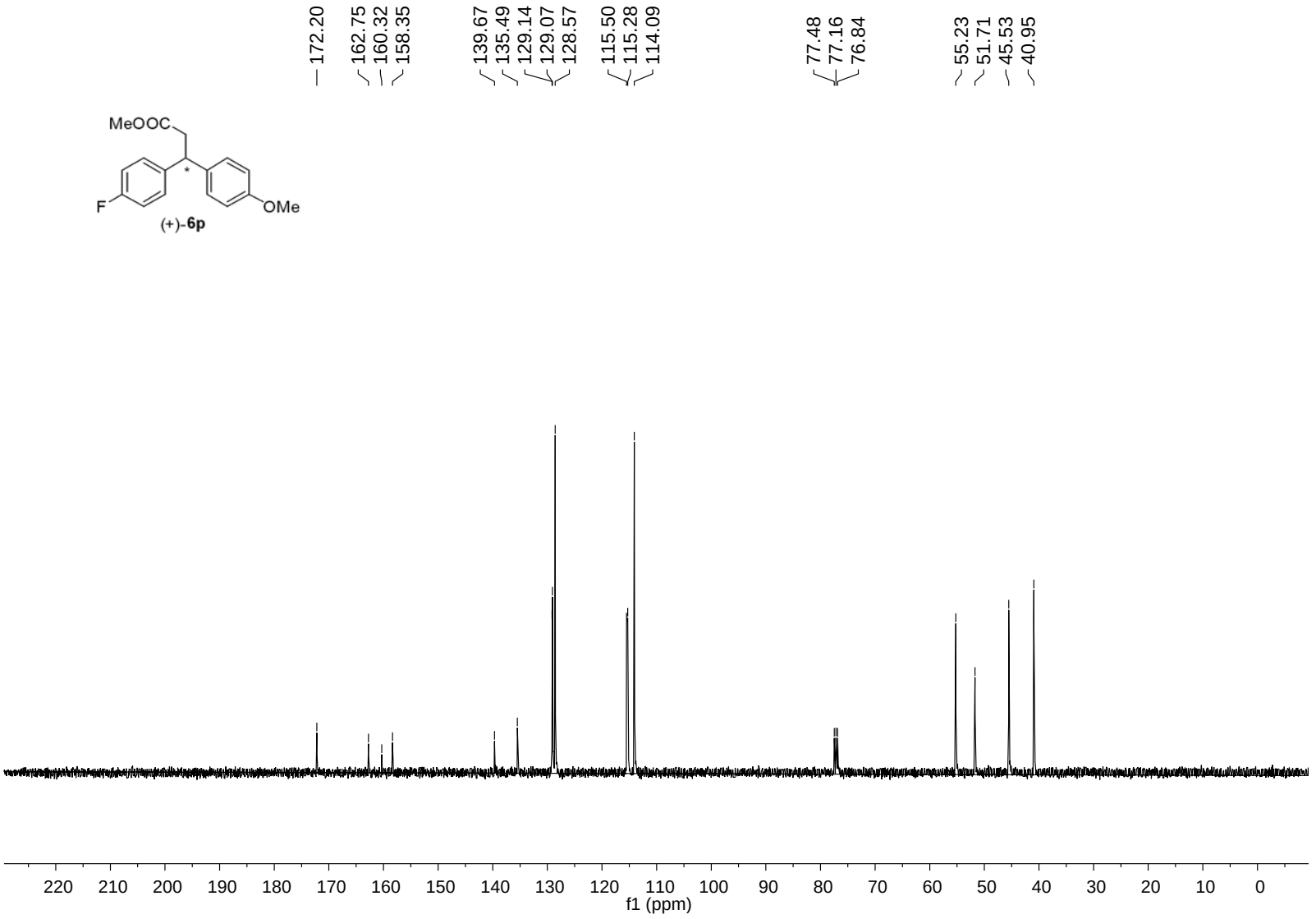


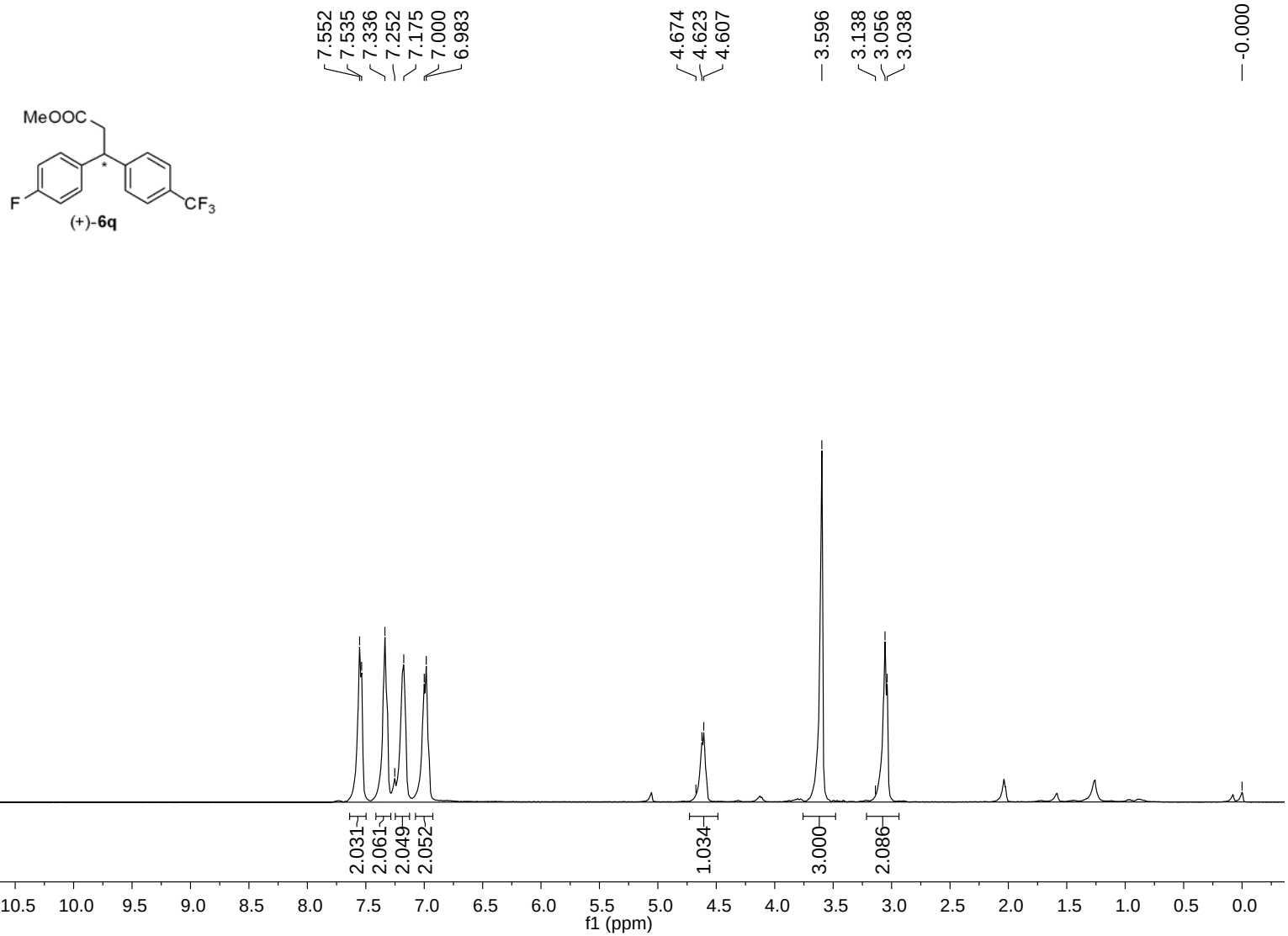


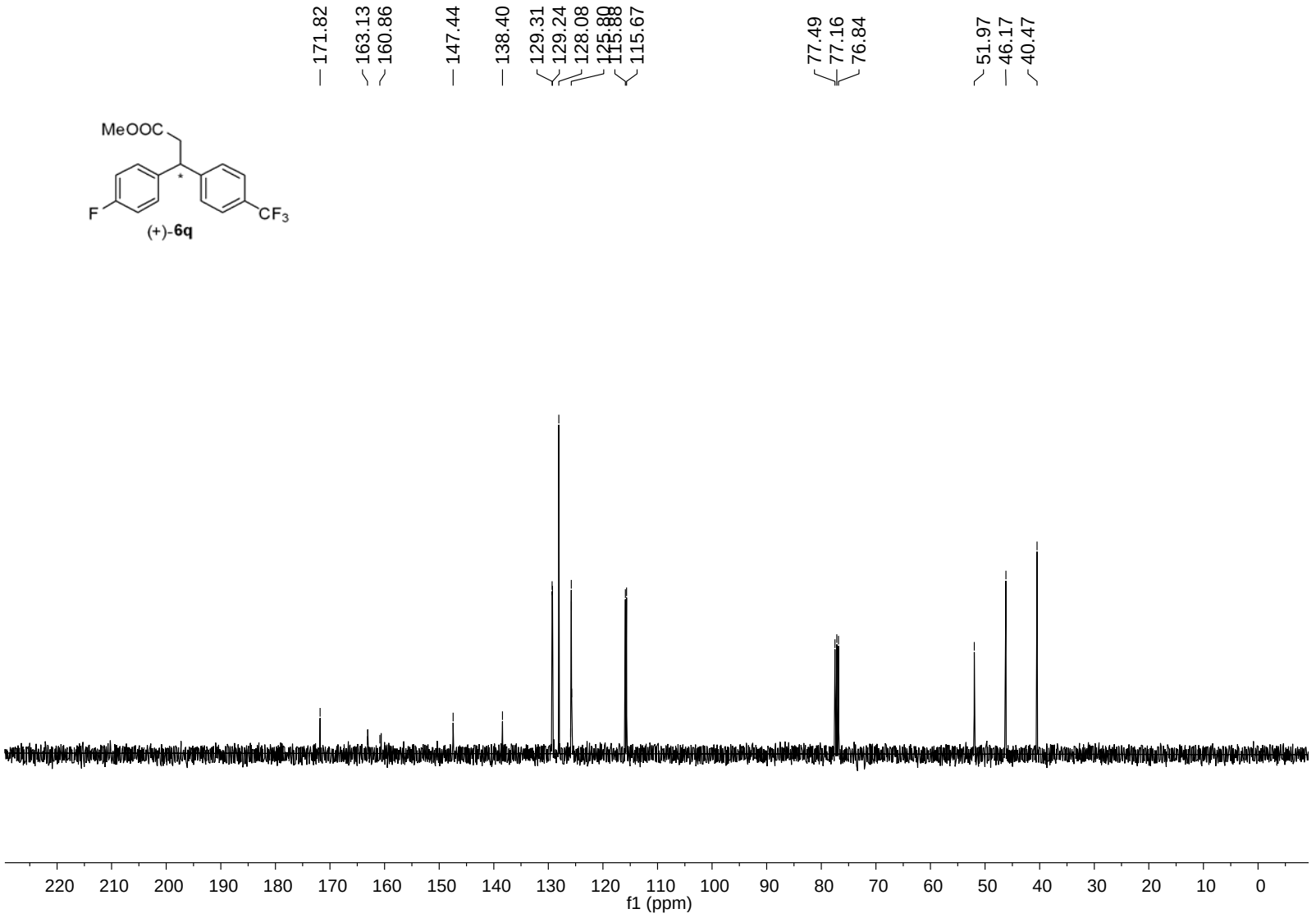




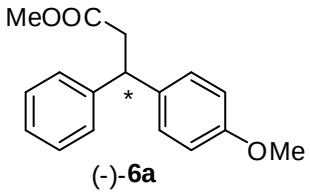








2. Copy of HRMS for the compounds (6a-6q).



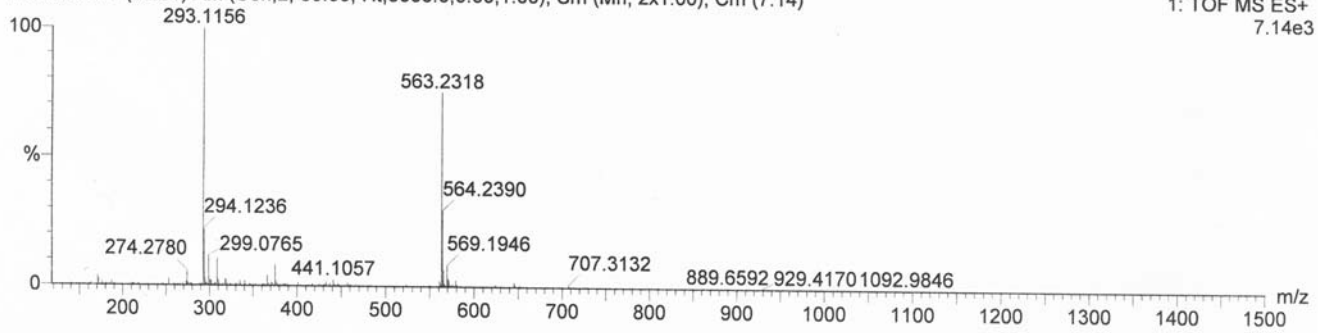
(-)-**6a**

Elemental Composition Report Page 1

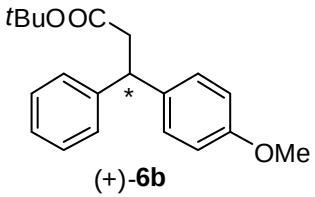
Single Mass Analysis (displaying only valid results)
Tolerance = 5.0 PPM / DBE: min = -200.0, max = 200.0
Selected filters: None

Monoisotopic Mass, Even Electron Ions
13 formula(e) evaluated with 1 results within limits (all results (up to 1000) for each mass)
Elements Used:
C: 0-100 H: 0-150 O: 3-3 Na: 1-1
xf-4-78
12030902 14 (0.261) AM (Cen,2, 80.00, Ht,5000.0,0.00,1.00); Sm (Mn, 2x1.00); Cm (7:14)

09:57:12
1: TOF MS ES+
7.14e3



Minimum:				-200.0		
Maximum:		5.0	5.0	200.0		
Mass	Calc. Mass	mDa	PPM	DBE	i-FIT	Formula
293.1156	293.1154	0.2	0.7	8.5	14.8	C17 H18 O3 Na



(+)-**6b**

Elemental Composition Report **Page 1**

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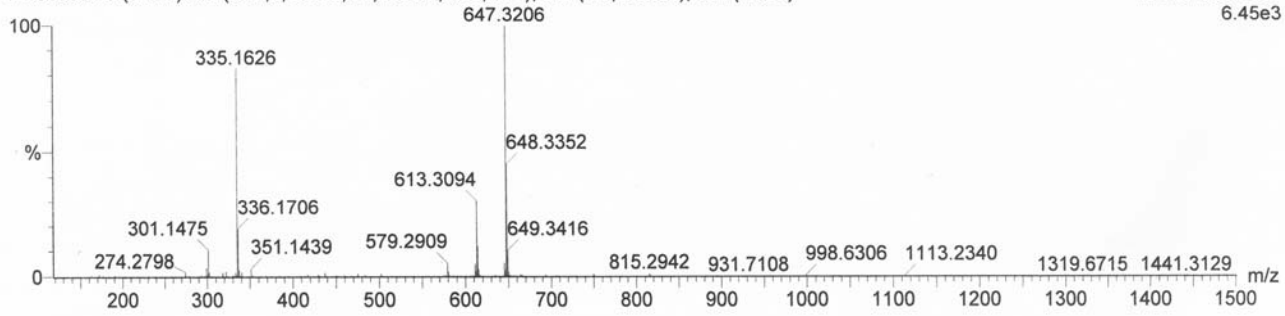
Selected filters: None

Monoisotopic Mass, Even Electron Ions
13 formula(e) evaluated with 1 results within limits (all results (up to 1000) for each mass)
Elements Used:
C: 0-100 H: 0-150 O: 3-3 Na: 1-1

xf-4-84
12030903 23 (0.427) AM (Cen,2, 80.00, Ht,5000.0,0.00,1.00); Sm (Mn, 2x1.00); Cm (12:23)
10:17:53
1: TOF MS ES+
6.45e3



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Maximum:		5.0	5.0	200.0		
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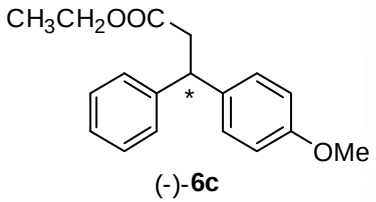
335.1626	335.1623	0.3	0.9	8.5	1.3	C20 H24 O3 Na



(-)-**6c**

Elemental Composition Report

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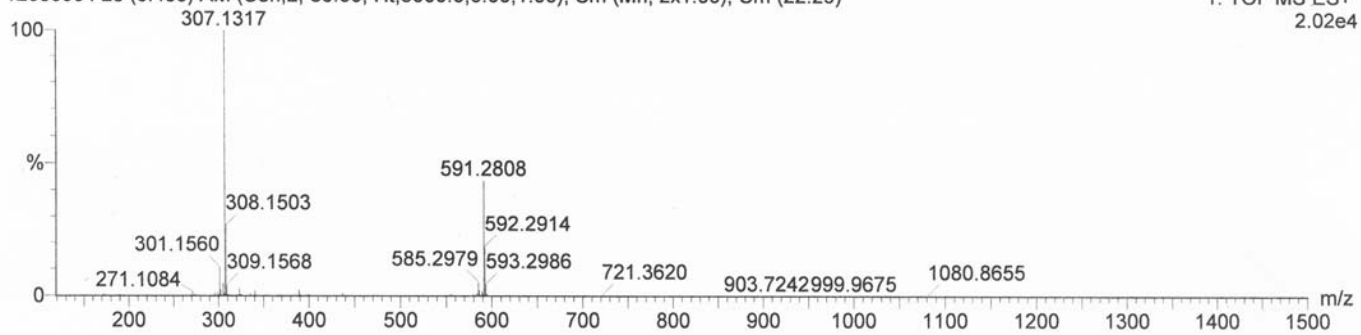
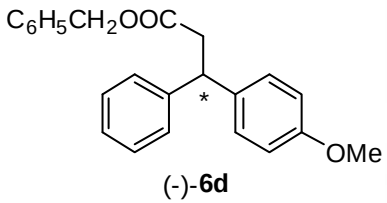
Selected filters: None

Monoisotopic Mass, Even Electron Ions
12 formula(e) evaluated with 1 results within limits (all results (up to 1000) for each mass)
Elements Used:
C: 0-100 H: 0-150 O: 3-3 Na: 1-1

xf-4-85
12030904 25 (0.465) AM (Cen,2, 80.00, Ht,5000.0,0.00,1.00); Sm (Mn, 2x1.00); Cm (22:29)
10:24:08
1: TOF MS ES+
2.02e4



Minimum:				-200.0		
Maximum:		5.0	5.0	200.0		
Mass	Calc. Mass	mDa	PPM	DBE	i-FIT	Formula
307.1317	307.1310	0.7	2.3	8.5	206.5	C18 H20 O3 Na



(-)-**6d**

Elemental Composition Report

Single Mass Analysis (displaying only valid results)
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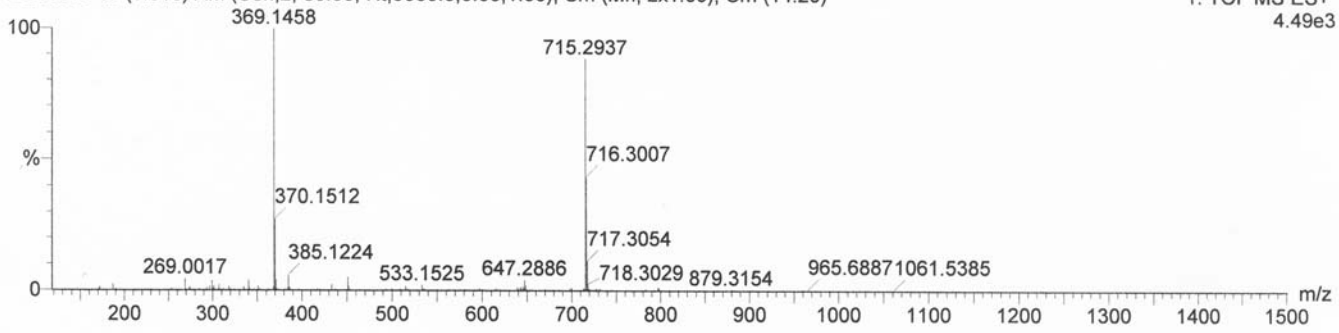
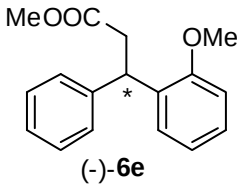
Selected filters: None

Monoisotopic Mass, Even Electron Ions
12 formula(e) evaluated with 1 results within limits (all results (up to 1000) for each mass)
Elements Used:
C: 0-100 H: 0-150 O: 3-3 Na: 1-1

xf-4-86
12030905 17 (0.316) AM (Cen,2, 80.00, Ht,5000.0,0.00,1.00); Sm (Mn, 2x1.00); Cm (14:20)
12:59:33
1: TOF MS ES+
4.49e3



Minimum:				-200.0		
Maximum:		5.0	5.0	200.0		
Mass	Calc. Mass	mDa	PPM	DBE	i-FIT	Formula
369.1458	369.1467	-0.9	-2.4	12.5	1.1	C23 H22 O3 Na



(-)-**6e**

Elemental Composition Report

Single Mass Analysis (displaying only valid results)
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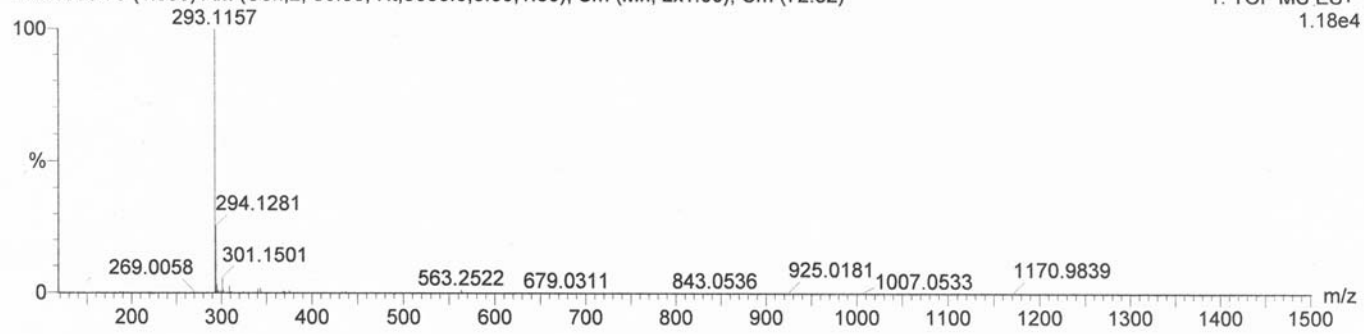
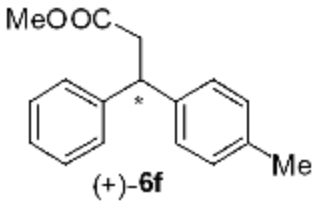
Selected filters: None

Monoisotopic Mass, Even Electron Ions
13 formula(e) evaluated with 1 results within limits (all results (up to 1000) for each mass)
Elements Used:
C: 0-100 H: 0-150 O: 3-3 Na: 1-1

xf-4-87A
12030906 75 (1.395) AM (Cen,2, 80.00, Ht,5000.0,0.00,1.00); Sm (Mn, 2x1.00); Cm (72:82)
13:03:18
1: TOF MS ES+
1.18e4



Minimum:				-200.0		
Maximum:		5.0	5.0	200.0		
Mass	Calc. Mass	mDa	PPM	DBE	i-FIT	Formula
293.1157	293.1154	0.3	1.0	8.5	99.6	C17 H18 O3 Na



(+)-**6f**

Elemental Composition Report

Single Mass Analysis (displaying only valid results)
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Selected filters: None

Monoisotopic Mass, Even Electron Ions
13 formula(e) evaluated with 1 results within limits (all results (up to 1000) for each mass)
Elements Used:
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xf-4-87B
12030907 51 (0.948) AM (Cen,2, 80.00, Ht,5000.0,0.00,1.00); Sm (Mn, 2x1.00); Cm (30:54)
13:08:33
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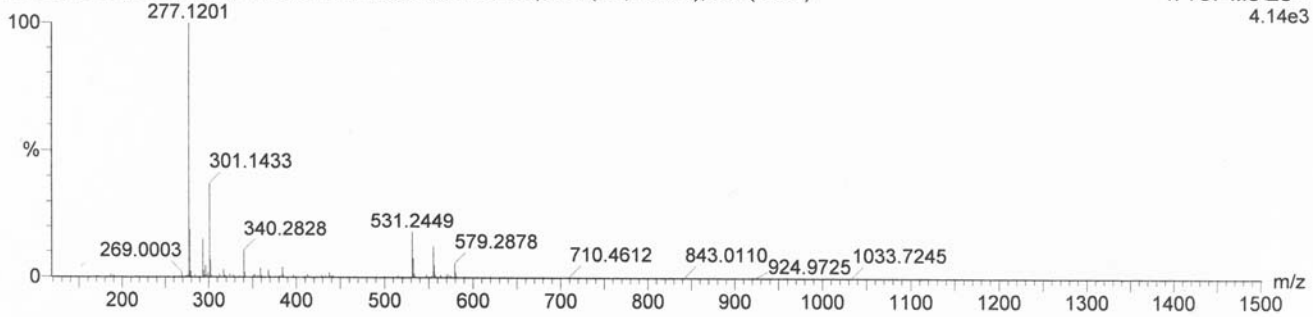
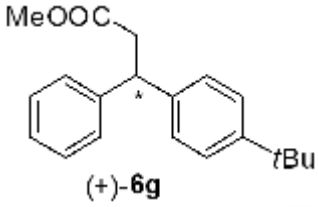
4.14e3



Minimum:				-200.0		
Maximum:		5.0	5.0	200.0		
Mass	Calc. Mass	mDa	PPM	DBE	i-FIT	Formula
277.1201	277.1204	-0.3	-1.1	8.5	0.2	C17 H18 O2 Na



(+)-**6g**

Elemental Composition Report

Single Mass Analysis (displaying only valid results)
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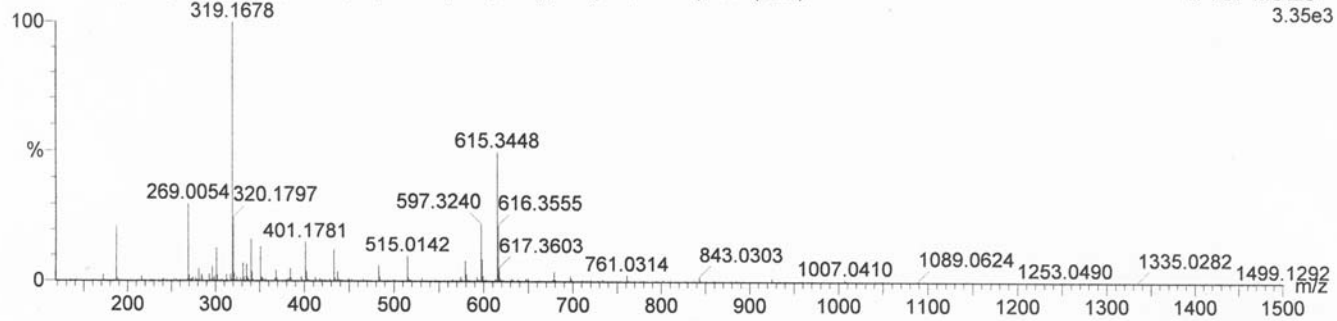
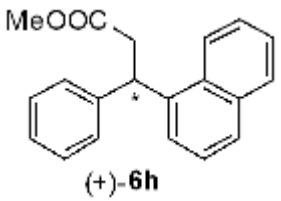
Selected filters: None

Monoisotopic Mass, Even Electron Ions
13 formula(e) evaluated with 1 results within limits (all results (up to 1000) for each mass)
Elements Used:
C: 0-100 H: 0-150 O: 2-2 Na: 1-1

xf-4-89C
12030912 8 (0.149) AM (Cen,2, 80.00, Ht,5000.0,0.00,1.00); Sm (Mn, 2x1.00); Cm (8:20)
13:32:11
1: TOF MS ES+
3.35e3



Minimum:				-200.0		
Maximum:		5.0	5.0	200.0		
Mass	Calc. Mass	mDa	PPM	DBE	i-FIT	Formula
319.1678	319.1674	0.4	1.3	8.5	5.2	C20 H24 O2 Na

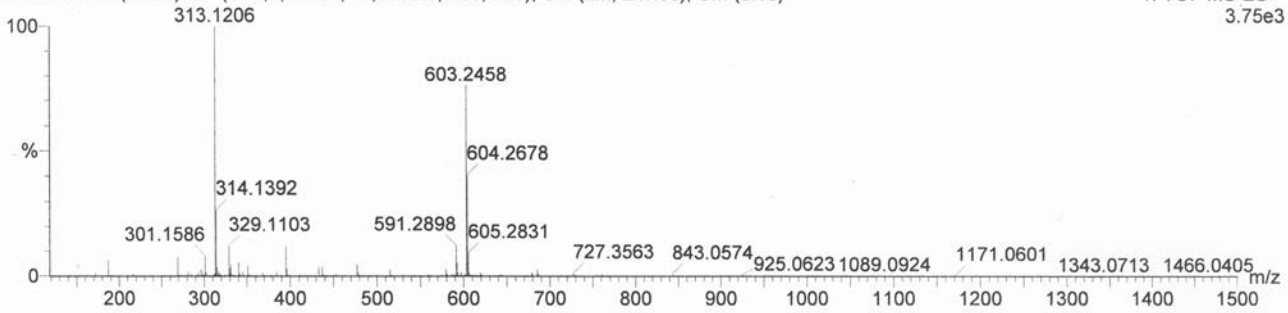


Elemental Composition Report

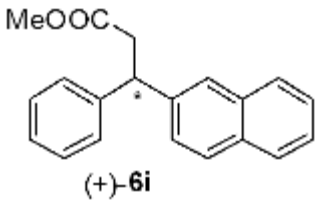
Single Mass Analysis (displaying only valid results)
Tolerance = 5.0 PPM / DBE: min = -200.0, max = 200.0
Selected filters: None

Monoisotopic Mass, Even Electron Ions
13 formula(e) evaluated with 1 results within limits (all results (up to 1000) for each mass)
Elements Used:
C: 0-100 H: 0-150 O: 2-2 Na: 1-1

xf-4-90A
12030913 10 (0.186) AM (Cen,2, 80.00, Ht,5000.0,0.00,1.00); Sm (Mn, 2x1.00); Cm (8:13)
13:36:00
1: TOF MS ES+
3.75e3



Minimum:				-200.0		
Maximum:		5.0	5.0	200.0		
Mass	Calc. Mass	mDa	PPM	DBE	i-FIT	Formula
313.1206	313.1204	0.2	0.6	11.5	19.3	C20 H18 O2 Na



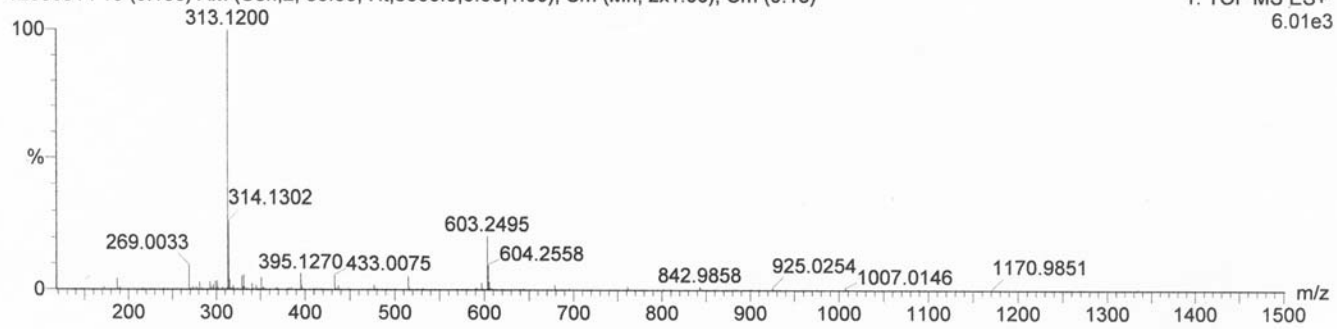
(+)-**6i**

Elemental Composition Report

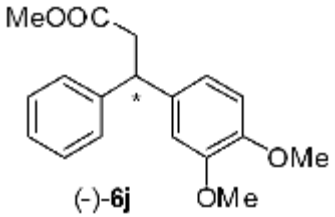
Single Mass Analysis (displaying only valid results)
Tolerance = 5.0 PPM / DBE: min = -200.0, max = 200.0
Selected filters: None

Monoisotopic Mass, Even Electron Ions
13 formula(e) evaluated with 1 results within limits (all results (up to 1000) for each mass)
Elements Used:
C: 0-100 H: 0-150 O: 2-2 Na: 1-1

xf-4-90B
12030914 10 (0.186) AM (Cen,2, 80.00, Ht,5000.0,0.00,1.00); Sm (Mn, 2x1.00); Cm (9:18)
13:39:24
1: TOF MS ES+
6.01e3



Minimum:				-200.0		
Maximum:		5.0	5.0	200.0		
Mass	Calc. Mass	mDa	PPM	DBE	i-FIT	Formula
313.1200	313.1204	-0.4	-1.3	11.5	21.4	C20 H18 O2 Na



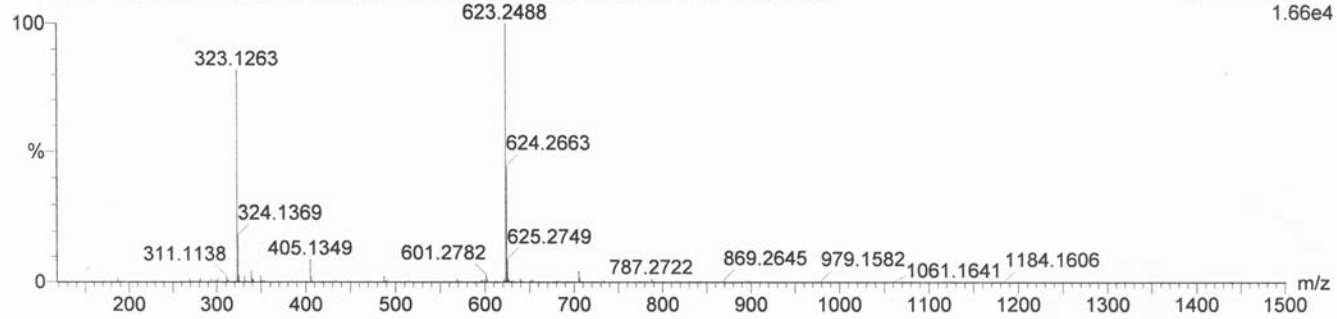
(-)-**6j**

Elemental Composition Report

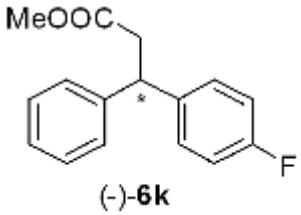
Single Mass Analysis (displaying only valid results)
Tolerance = 5.0 PPM / DBE: min = -200.0, max = 200.0
Selected filters: None

Monoisotopic Mass, Even Electron Ions
12 formula(e) evaluated with 1 results within limits (all results (up to 1000) for each mass)
Elements Used:
C: 0-100 H: 0-150 O: 4-4 Na: 1-1

xf-4-93 13:55:55
12030919 10 (0.187) AM (Cen,2, 80.00, Ht,5000.0,0.00,1.00); Sm (Mn, 2x1.00); Cm (10:20) 1: TOF MS ES+
1.66e4



Minimum:				-200.0		
Maximum:		5.0	5.0	200.0		
Mass	Calc. Mass	mDa	PPM	DBE	i-FIT	Formula
323.1263	323.1259	0.4	1.2	8.5	17.8	C18 H20 O4 Na



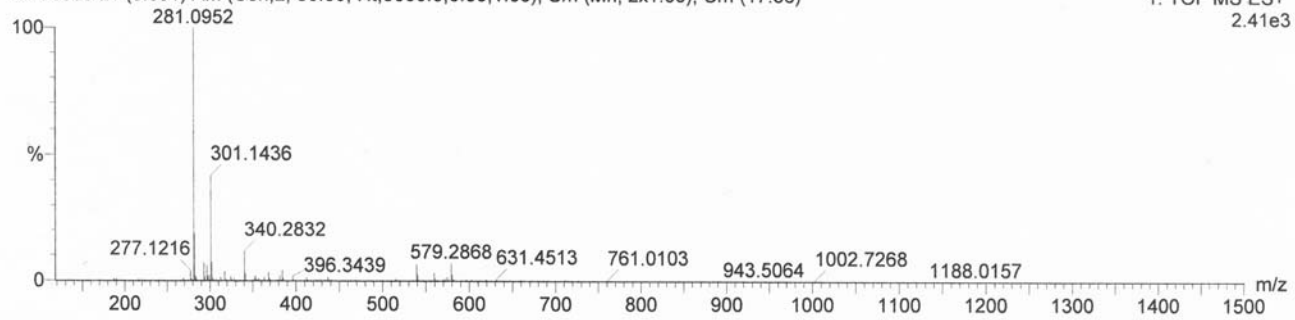
(-)-**6k**

Elemental Composition Report

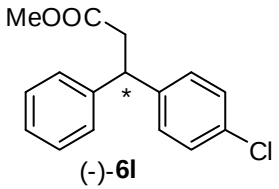
Single Mass Analysis (displaying only valid results)
Tolerance = 5.0 PPM / DBE: min = -200.0, max = 200.0
Selected filters: None

Monoisotopic Mass, Even Electron Ions
13 formula(e) evaluated with 1 results within limits (all results (up to 1000) for each mass)
Elements Used:
C: 0-100 H: 0-150 O: 2-2 F: 1-1 Na: 1-1

xf-4-88A
12030908 21 (0.391) AM (Cen,2, 80.00, Ht,5000.0,0.00,1.00); Sm (Mn, 2x1.00); Cm (17:36)
13:12:43
1: TOF MS ES+
2.41e3



Minimum:				-200.0		
Maximum:		5.0	5.0	200.0		
Mass	Calc. Mass	mDa	PPM	DBE	i-FIT	Formula
281.0952	281.0954	-0.2	-0.7	8.5	0.4	C16 H15 O2 F Na



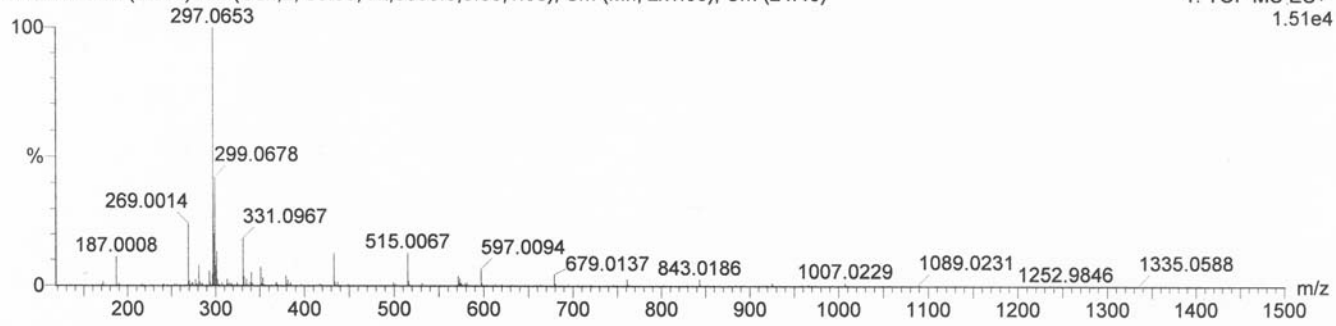
(-)-**6l**

Elemental Composition Report

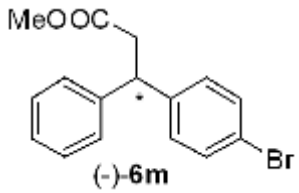
Single Mass Analysis (displaying only valid results)
Tolerance = 5.0 PPM / DBE: min = -200.0, max = 200.0
Selected filters: None

Monoisotopic Mass, Even Electron Ions
13 formula(e) evaluated with 1 results within limits (all results (up to 1000) for each mass)
Elements Used:
C: 0-100 H: 0-150 O: 2-2 Na: 1-1 Cl: 1-1

xf-4-89A
12030910 31 (0.577) AM (Cen,2, 80.00, Ht,5000.0,0.00,1.00); Sm (Mn, 2x1.00); Cm (24:40)
13:23:47
1: TOF MS ES+
1.51e4



Minimum:				-200.0		
Maximum:		5.0	5.0	200.0		
Mass	Calc. Mass	mDa	PPM	DBE	i-FIT	Formula
297.0653	297.0658	-0.5	-1.7	8.5	108.2	C16 H15 O2 Na Cl



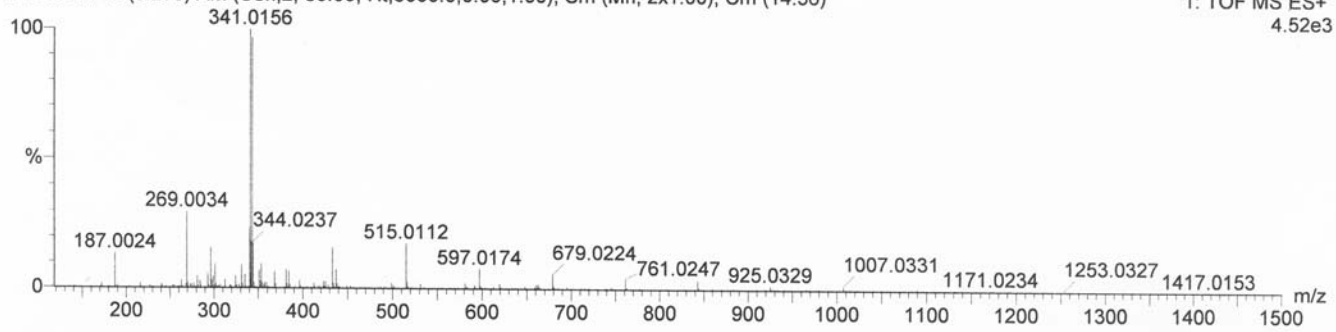
(-)-**6m**

Elemental Composition Report

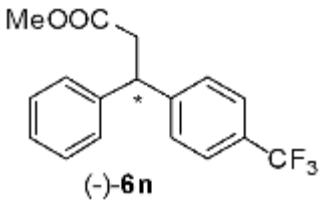
Single Mass Analysis (displaying only valid results)
Tolerance = 5.0 PPM / DBE: min = -200.0, max = 200.0
Selected filters: None

Monoisotopic Mass, Even Electron Ions
13 formula(e) evaluated with 1 results within limits (all results (up to 1000) for each mass)
Elements Used:
C: 0-100 H: 0-150 O: 2-2 Na: 1-1 Br: 1-1

xf-4-89B
12030911 15 (0.279) AM (Cen,2, 80.00, Ht,5000.0,0.00,1.00); Sm (Mn, 2x1.00); Cm (14:36)
13:28:13
1: TOF MS ES+
4.52e3



Minimum:				-200.0		
Maximum:		5.0	5.0	200.0		
Mass	Calc. Mass	mDa	PPM	DBE	i-FIT	Formula
341.0156	341.0153	0.3	0.9	8.5	1.8	C16 H15 O2 Na Br



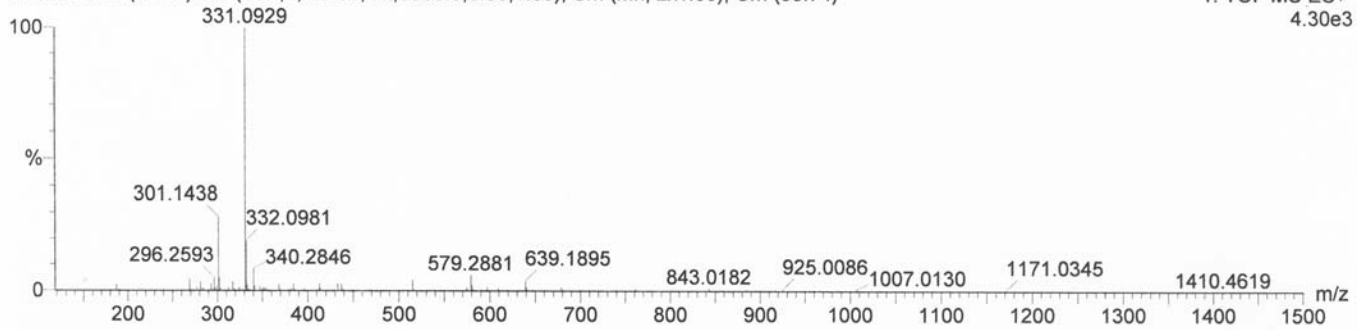
(-)-**6n**

Elemental Composition Report

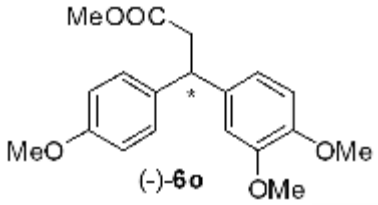
Single Mass Analysis (displaying only valid results)
Tolerance = 5.0 PPM / DBE: min = -200.0, max = 200.0
Selected filters: None

Monoisotopic Mass, Even Electron Ions
13 formula(e) evaluated with 1 results within limits (all results (up to 1000) for each mass)
Elements Used:
C: 0-100 H: 0-150 O: 2-2 F: 3-3 Na: 1-1

xf-4-88B
12030909 40 (0.742) AM (Cen,2, 80.00, Ht,5000.0,0.00,1.00); Sm (Mn, 2x1.00); Cm (35:74)
13:16:55
1: TOF MS ES+
4.30e3



Minimum:				-200.0		
Maximum:		5.0	5.0	200.0		
Mass	Calc. Mass	mDa	PPM	DBE	i-FIT	Formula
331.0929	331.0922	0.7	2.1	8.5	0.6	C17 H15 O2 F3 Na



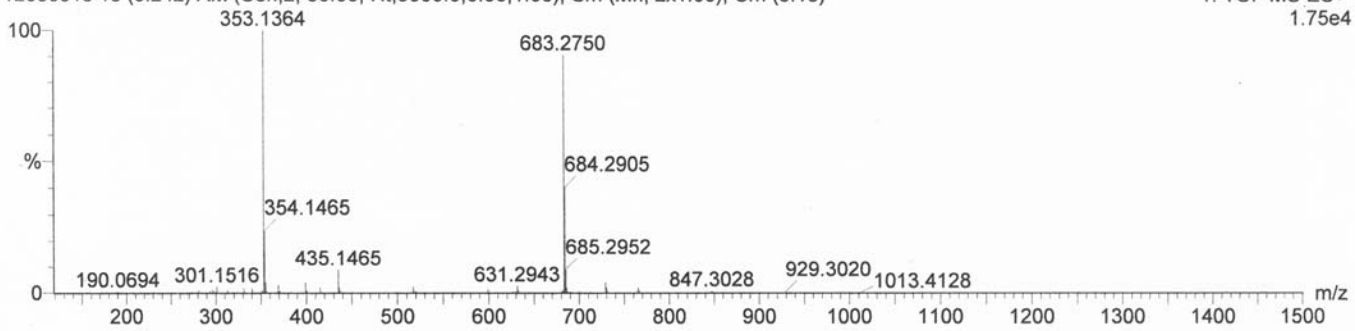
(-)-**6o**

Elemental Composition Report

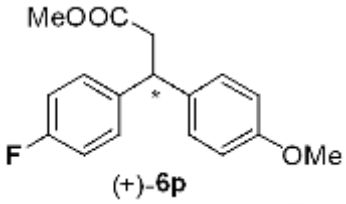
Single Mass Analysis (displaying only valid results)
Tolerance = 5.0 PPM / DBE: min = -200.0, max = 200.0
Selected filters: None

Monoisotopic Mass, Even Electron Ions
12 formula(e) evaluated with 1 results within limits (all results (up to 1000) for each mass)
Elements Used:
C: 0-100 H: 0-150 O: 5-5 Na: 1-1

xf-4-91A 13:43:03
12030915 13 (0.242) AM (Cen,2, 80.00, Ht,5000.0,0.00,1.00); Sm (Mn, 2x1.00); Cm (5:15) 1: TOF MS ES+ 1.75e4



Minimum:				-200.0		
Maximum:		5.0	5.0	200.0		
Mass	Calc. Mass	mDa	PPM	DBE	i-FIT	Formula
353.1364	353.1365	-0.1	-0.3	8.5	35.7	C19 H22 O5 Na



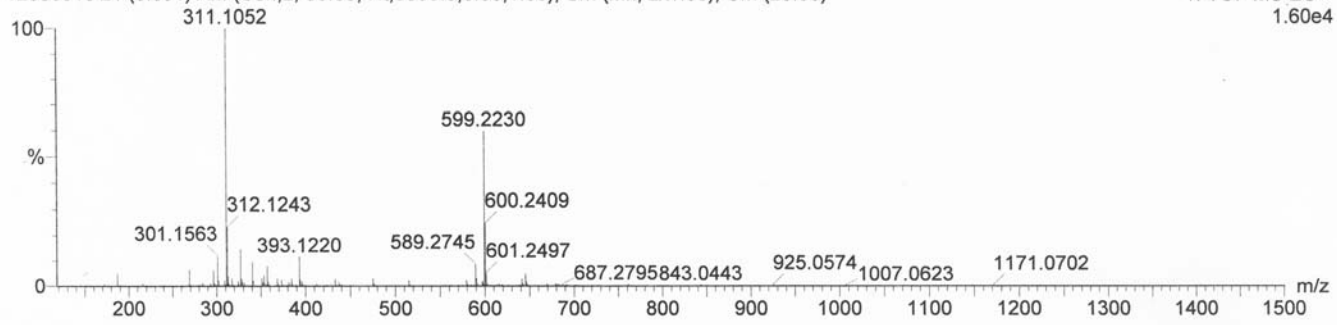
(+)-**6p**

Elemental Composition Report

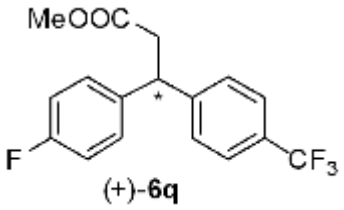
Single Mass Analysis (displaying only valid results)
Tolerance = 5.0 PPM / DBE: min = -200.0, max = 200.0
Selected filters: None

Monoisotopic Mass, Even Electron Ions
13 formula(e) evaluated with 1 results within limits (all results (up to 1000) for each mass)
Elements Used:
C: 0-100 H: 0-150 O: 3-3 F: 1-1 Na: 1-1

xf-4-92A 13:47:02
12030916 21 (0.391) AM (Cen,2, 80.00, Ht,5000.0,0.00,1.00); Sm (Mn, 2x1.00); Cm (20:60) 1: TOF MS ES+
1.60e4



Minimum:				-200.0		
Maximum:		5.0	5.0	200.0		
Mass	Calc. Mass	mDa	PPM	DBE	i-FIT	Formula
311.1052	311.1059	-0.7	-2.3	8.5	113.7	C17 H17 O3 F Na



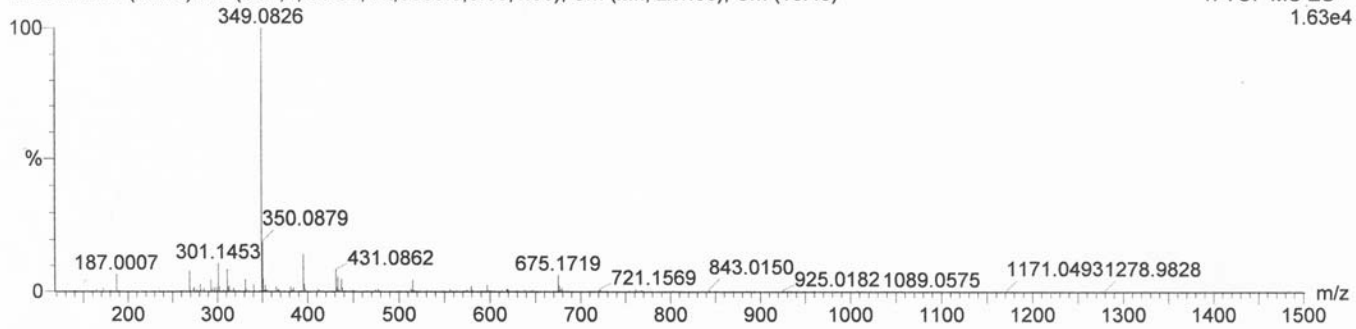
(+)-**6q**

Elemental Composition Report

Single Mass Analysis (displaying only valid results)
Tolerance = 5.0 PPM / DBE: min = -200.0, max = 200.0
Selected filters: None

Monoisotopic Mass, Even Electron Ions
13 formula(e) evaluated with 1 results within limits (all results (up to 1000) for each mass)
Elements Used:
C: 0-100 H: 0-150 O: 2-2 F: 4-4 Na: 1-1

xf-4-92B
12030918 45 (0.836) AM (Cen,2, 80.00, Ht,5000.0,0.00,1.00); Sm (Mn, 2x1.00); Cm (16:45)
13:51:40
1: TOF MS ES+
1.63e4

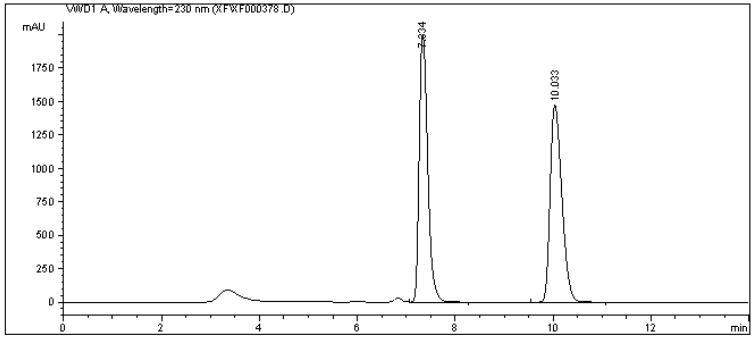


Minimum:				-200.0		
Maximum:		5.0	5.0	200.0		
Mass	Calc. Mass	mDa	PPM	DBE	i-FIT	Formula
349.0826	349.0828	-0.2	-0.6	8.5	2781368.8	C17 H14 O2 F4 Na

3. Copy of HPLC for the Racemic and Chiral compounds (6a-6q).

Data File C:\HPCHEM\3\DATA\XF\XF000378.D
Sample Name: xf-4-75(Raceme)

```
Acq. Operator   :
Acq. Instrument : 1100                          Location : Vial 1
Injection Date  : 12/27/2011 3:07:10 PM
Acq. Method     : C:\HPCHEM\3\METHODS\DEF_LC.M
Last changed    : 12/27/2011 10:38:28 AM
                  (modified after loading)
Analysis Method : C:\HPCHEM\3\METHODS\DEF_LC.M
Last changed    : 2/26/2012 8:57:52 PM
                  (modified after loading)
Sample Info     : Hexane/iPrOH=90/10, 1.0mL/min(44bar), 230nm, 25 C, OD-H
                  .
```



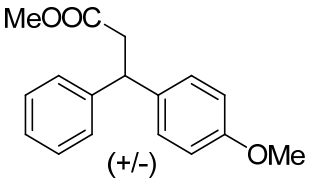

```
                        Area Percent Report

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=230 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]       [min]  mAU   *s   [mAU   ]      %
----|-------|----|-------|---------|---------|-------|
   1   7.334 VB    0.1895 2.42369e4  1999.28943  49.7771
   2  10.033 BB    0.2592 2.44540e4  1473.28345  50.2229

Totals :                 4.86910e4  3472.57288
```

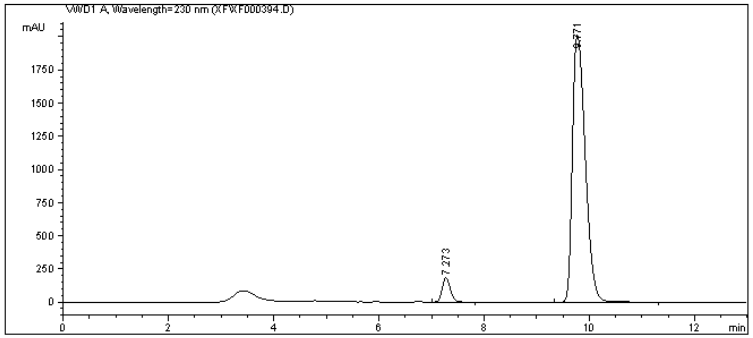



```
                        *** End of Report ***
```

1100 2/26/2012 8:58:10 PM Page 1 of 1

Data File C:\HPCHEM\3\DATA\XF\XF000394.D
Sample Name: xf-4-81C

```
Acq. Operator   :
Acq. Instrument : 1100                          Location : Vial 1
Injection Date  : 1/2/2012 2:27:44 PM
Acq. Method     : C:\HPCHEM\3\METHODS\DEF_LC.M
Last changed    : 1/2/2012 2:25:56 PM
                  (modified after loading)
Analysis Method : C:\HPCHEM\3\METHODS\DEF_LC.M
Last changed    : 2/26/2012 6:56:59 PM
                  (modified after loading)
Sample Info     : Hexane/iPrOH=90/10, 1.0mL/min(44bar), 230nm, 25 C, OD-H
                  .
```



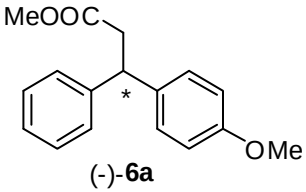

```
                        Area Percent Report

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=230 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]       [min]  mAU   *s   [mAU   ]      %
----|-------|----|-------|---------|---------|-------|
   1   7.273 VB    0.1669 1972.24622  182.47591   5.4596
   2   9.771 BB    0.2650 3.41522e4  2012.41895  94.5404

Totals :                 3.61244e4  2194.89485
```

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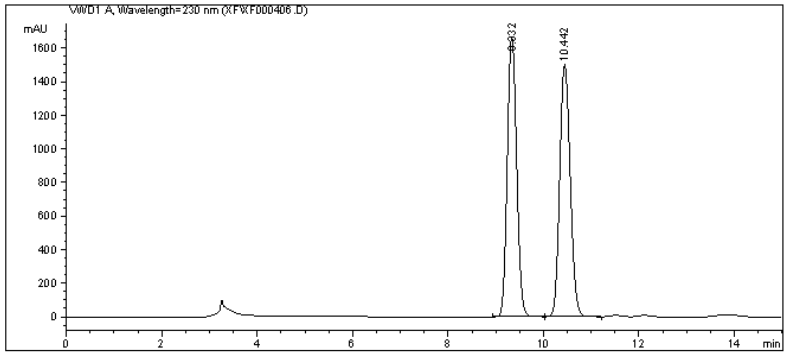
                        *** End of Report ***
```

1100 2/26/2012 6:57:03 PM Page 1 of 1

Data File C:\HPCHEM\3\DATA\XF\XF000406.D
Sample Name: xf-4-84(Raceme)

```
======================================================================
Acq. Operator   :
Acq. Instrument : 1100                          Location : Vial 1
Injection Date  : 1/5/2012 1:58:06 PM
Acq. Method     : C:\HPCHEM\3\METHODS\DEF_LC.M
Last changed    : 1/5/2012 1:55:05 PM
                  (modified after loading)
Analysis Method : C:\HPCHEM\3\METHODS\DEF_LC.M
Last changed    : 2/26/2012 6:59:37 PM
                  (modified after loading)
Sample Info     : Hexane/iPrOH=98/2, 1.0mL/min(37bar), 230nm, 25 C, AD-H.
```




```
======================================================================
                        Area Percent Report
======================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=230 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]       [min]  mAU   *s   [mAU   ]      %
----|-------|----|-------|----------|----------|--------|
   1   9.332 BV    0.2151 2.28127e4  1666.01978  49.7194
   2  10.442 VV    0.2419 2.30702e4  1500.98438  50.2806

Totals :                  4.58829e4  3167.00415

======================================================================
                        *** End of Report ***
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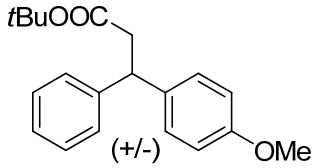
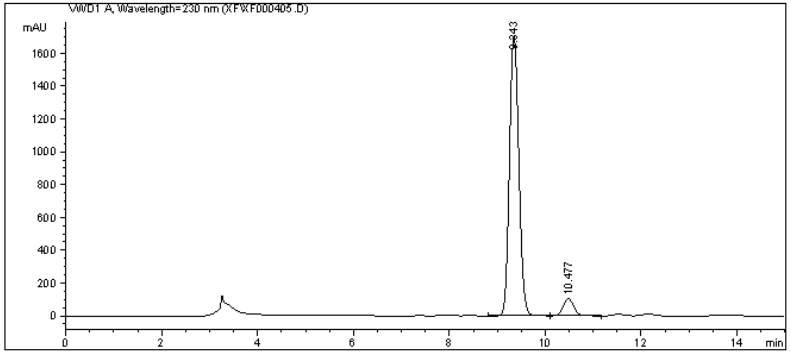
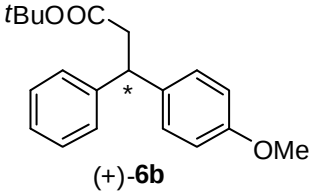


Data File C:\HPCHEM\3\DATA\XF\XF000405.D
Sample Name: xf-4-84

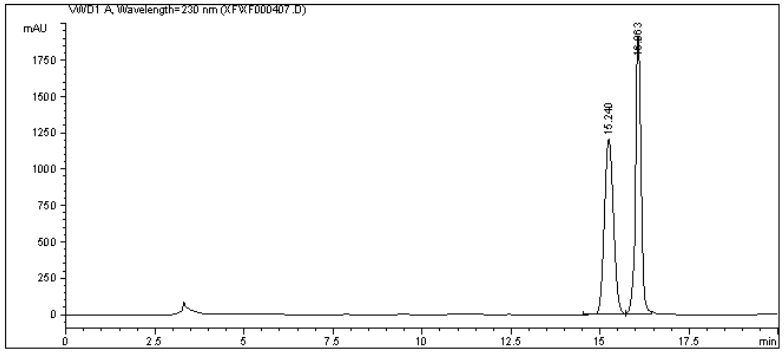
```
======================================================================
Acq. Operator   :
Acq. Instrument : 1100                          Location : Vial 1
Injection Date  : 1/5/2012 1:39:20 PM
Acq. Method     : C:\HPCHEM\3\METHODS\DEF_LC.M
Last changed    : 1/5/2012 1:36:48 PM
                  (modified after loading)
Analysis Method : C:\HPCHEM\3\METHODS\DEF_LC.M
Last changed    : 2/26/2012 6:59:37 PM
                  (modified after loading)
Sample Info     : Hexane/iPrOH=98/2, 1.0mL/min(37bar), 230nm, 25 C, AD-H.
```



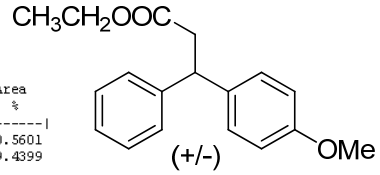

```
======================================================================
                        Area Percent Report
======================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=230 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]       [min]  mAU   *s   [mAU   ]      %
----|-------|----|-------|----------|----------|--------|
   1   9.343 BV    0.2148 2.33509e4  1708.23730  93.5301
   2  10.477 VB    0.2376 1615.27905  105.94375   6.4699

Totals :                  2.49662e4  1814.18105

======================================================================
                        *** End of Report ***
```



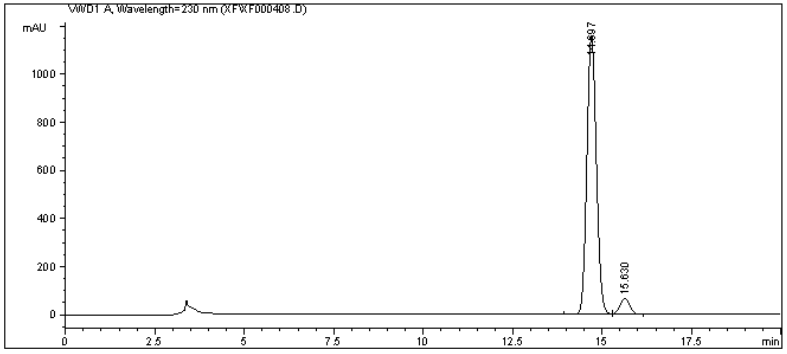
```
Data File C:\HPCHEM\3\DATA\XF\XF000407.D
Sample Name: xf-4-85(Raceme)

    ======================================================================
    Acq. Operator   :
    Acq. Instrument : 1100                          Location : Vial 1
    Injection Date  : 1/11/2012 9:35:02 AM
    Acq. Method     : C:\HPCHEM\3\METHODS\XF.M
    Last changed    : 1/11/2012 8:51:00 AM
                      (modified after loading)
    Analysis Method : C:\HPCHEM\3\METHODS\DEF_LC.M
    Last changed    : 2/26/2012 7:04:24 PM
                      (modified after loading)
    Sample Info     : Hexane/iPrOH=98/2, 1.0mL/min(36bar), 230nm, 25 C, AD-H.
```



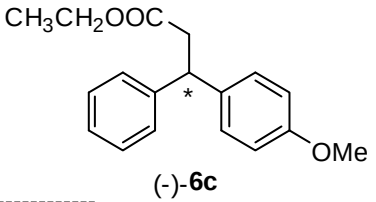

```
    ======================================================================
                              Area Percent Report
    ======================================================================

    Sorted By             :      Signal
    Multiplier            :      1.0000
    Dilution              :      1.0000
    Use Multiplier & Dilution Factor with ISTDs


    Signal 1: VWD1 A, Wavelength=230 nm

    Peak RetTime Type  Width     Area      Height     Area
      #   [min]        [min]  mAU   *s   [mAU   ]      %
    ----|-------|----|-------|----------|----------|-------|
       1  15.240 BV    0.2791 2.14903e4  1206.61987  50.5601
       2  16.063 VV    0.1704 2.10141e4  1913.07239  49.4399

    Totals :                  4.25044e4  3119.69226

    ======================================================================
                              *** End of Report ***
```




```
Data File C:\HPCHEM\3\DATA\XF\XF000408.D
Sample Name: xf-4-85

    ======================================================================
    Acq. Operator   :
    Acq. Instrument : 1100                          Location : Vial 1
    Injection Date  : 1/11/2012 10:09:20 AM
    Acq. Method     : C:\HPCHEM\3\METHODS\DEF_LC.M
    Last changed    : 1/11/2012 10:01:16 AM
                      (modified after loading)
    Analysis Method : C:\HPCHEM\3\METHODS\DEF_LC.M
    Last changed    : 2/26/2012 7:04:24 PM
                      (modified after loading)
    Sample Info     : Hexane/iPrOH=98/2, 1.0mL/min(36bar), 230nm, 25 C, AD-H.
```



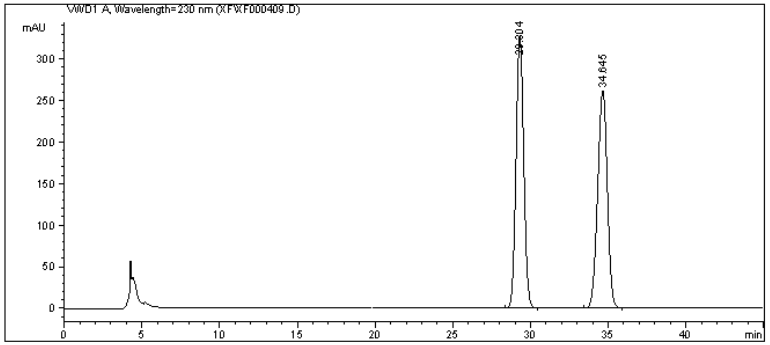

```
    ======================================================================
                              Area Percent Report
    ======================================================================

    Sorted By             :      Signal
    Multiplier            :      1.0000
    Dilution              :      1.0000
    Use Multiplier & Dilution Factor with ISTDs


    Signal 1: VWD1 A, Wavelength=230 nm

    Peak RetTime Type  Width     Area      Height     Area
      #   [min]        [min]  mAU   *s   [mAU   ]      %
    ----|-------|----|-------|----------|----------|-------|
       1  14.697 BV    0.2886 2.14264e4  1158.39258  94.5665
       2  15.630 VB    0.2972 1231.09851   64.85069   5.4335

    Totals :                  2.26575e4  1223.24326

    ======================================================================
                              *** End of Report ***
```



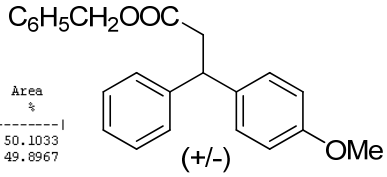
(-)-**6c**

Data File C:\HPCHEM\3\DATA\XF\XF000409.D
Sample Name: xf-4-86(Raceme)

```
    ==================================================================
    Acq. Operator   :
    Acq. Instrument : 1100                          Location : Vial 1
    Injection Date  : 1/11/2012 10:36:54 AM
    Acq. Method     : C:\HPCHEM\3\METHODS\DEF_LC.M
    Last changed    : 1/11/2012 10:32:21 AM
                      (modified after loading)
    Analysis Method : C:\HPCHEM\3\METHODS\DEF_LC.M
    Last changed    : 2/26/2012 7:07:41 PM
                      (modified after loading)
    Sample Info     : Hexane/iPrOH=98/2, 1.0mL/min(36bar), 230nm, 25 C, AD-H.
```

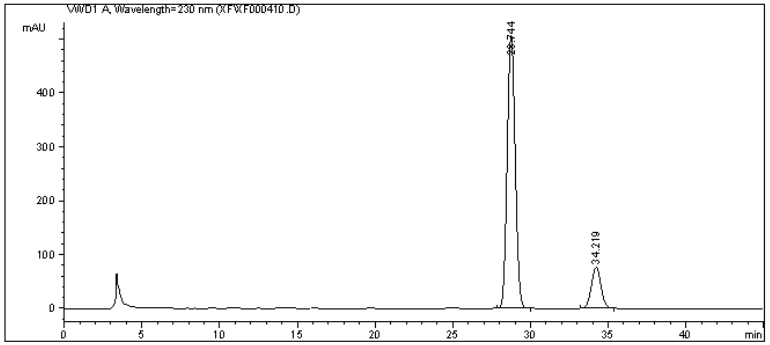



```
    ==================================================================
                          Area Percent Report
    ==================================================================

    Sorted By             :      Signal
    Multiplier            :      1.0000
    Dilution              :      1.0000
    Use Multiplier & Dilution Factor with ISTDs


    Signal 1: VWD1 A, Wavelength=230 nm

    Peak RetTime Type  Width     Area      Height     Area
      #   [min]        [min]  mAU   *s   [mAU   ]      %
    ----|-------|----|-------|----------|----------|--------|
       1  29.304 BB    0.5357 1.12878e4   327.76944  50.1033
       2  34.645 BB    0.6720 1.12412e4   261.42886  49.8967

    Totals :                  2.25290e4   589.19830

    ==================================================================
                          *** End of Report ***
```

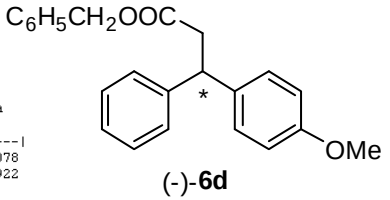


Data File C:\HPCHEM\3\DATA\XF\XF000410.D
Sample Name: xf-4-86

```
    ==================================================================
    Acq. Operator   :
    Acq. Instrument : 1100                          Location : Vial 1
    Injection Date  : 1/11/2012 11:26:13 AM
    Acq. Method     : C:\HPCHEM\3\METHODS\DEF_LC.M
    Last changed    : 1/11/2012 11:24:28 AM
                      (modified after loading)
    Analysis Method : C:\HPCHEM\3\METHODS\DEF_LC.M
    Last changed    : 2/26/2012 7:07:41 PM
                      (modified after loading)
    Sample Info     : Hexane/iPrOH=98/2, 1.0mL/min(36bar), 230nm, 25 C, AD-H.
```



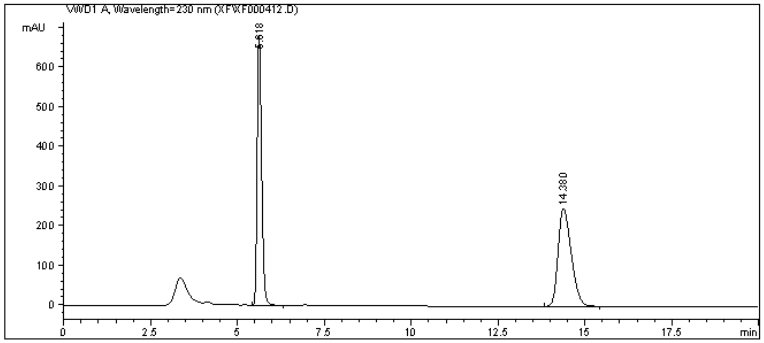

```
    ==================================================================
                          Area Percent Report
    ==================================================================

    Sorted By             :      Signal
    Multiplier            :      1.0000
    Dilution              :      1.0000
    Use Multiplier & Dilution Factor with ISTDs


    Signal 1: VWD1 A, Wavelength=230 nm

    Peak RetTime Type  Width     Area      Height     Area
      #   [min]        [min]  mAU   *s   [mAU   ]      %
    ----|-------|----|-------|----------|----------|--------|
       1  28.744 BB    0.5611 1.81659e4   506.57684  84.9078
       2  34.219 BB    0.6649 3228.96655   76.17113  15.0922

    Totals :                  2.13949e4   582.74798

    ==================================================================
                          *** End of Report ***
```



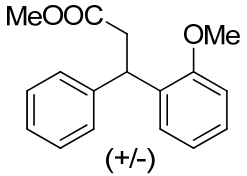
(-)-**6d**

Data File C:\HPCHEM\3\DATA\XF\XF000412.D
Sample Name: xf-4-87A(Raceme)

```
    ======================================================================
    Acq. Operator   :
    Acq. Instrument : 1100                          Location : Vial 1
    Injection Date  : 2/4/2012 1:46:53 PM
    Acq. Method     : C:\HPCHEM\3\METHODS\DEF_LC.M
    Last changed    : 2/4/2012 1:36:59 PM
                      (modified after loading)
    Analysis Method : C:\HPCHEM\3\METHODS\DEF_LC.M
    Last changed    : 2/26/2012 7:12:13 PM
                      (modified after loading)
    Sample Info     : Hexane/iPrOH=80/20, 1.0mL/min(49bar), 230nm, 25 C, OD-H
                      .
```




```
    ======================================================================
                              Area Percent Report
    ======================================================================

    Sorted By             :      Signal
    Multiplier            :      1.0000
    Dilution              :      1.0000
    Use Multiplier & Dilution Factor with ISTDs


    Signal 1: VWD1 A, Wavelength=230 nm

    Peak RetTime Type  Width     Area      Height     Area
      #   [min]       [min]  mAU   *s    [mAU   ]      %
    ----|-------|----|-------|----------|----------|--------|
       1   5.618 VB    0.1401 6144.54639  681.69232  48.7645
       2  14.380 BB    0.4061 6455.90918  246.45427  51.2355

    Totals :                  1.26005e4   928.14659

    ======================================================================
                              *** End of Report ***
```



(+/-)

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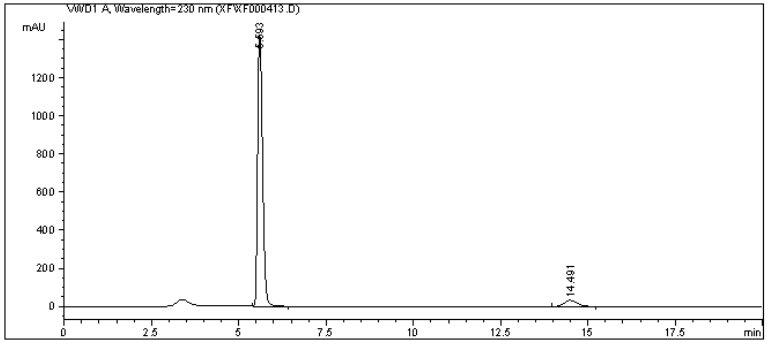
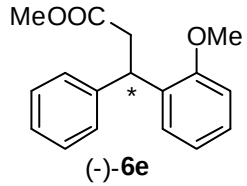
Data File C:\HPCHEM\3\DATA\XF\XF000413.D
Sample Name: xf-4-87A

```
    ======================================================================
    Acq. Operator   :
    Acq. Instrument : 1100                          Location : Vial 1
    Injection Date  : 2/4/2012 2:09:23 PM
    Acq. Method     : C:\HPCHEM\3\METHODS\DEF_LC.M
    Last changed    : 2/4/2012 2:08:12 PM
                      (modified after loading)
    Analysis Method : C:\HPCHEM\3\METHODS\DEF_LC.M
    Last changed    : 2/26/2012 7:12:13 PM
                      (modified after loading)
    Sample Info     : Hexane/iPrOH=80/20, 1.0mL/min(49bar), 230nm, 25 C, OD-H
                      .
```




```
    ======================================================================
                              Area Percent Report
    ======================================================================

    Sorted By             :      Signal
    Multiplier            :      1.0000
    Dilution              :      1.0000
    Use Multiplier & Dilution Factor with ISTDs


    Signal 1: VWD1 A, Wavelength=230 nm

    Peak RetTime Type  Width     Area      Height     Area
      #   [min]       [min]  mAU   *s    [mAU   ]      %
    ----|-------|----|-------|----------|----------|--------|
       1   5.593 VV    0.1565 1.41312e4  1424.47620  94.6022
       2  14.491 BB    0.3925  806.29736   31.89301   5.3978

    Totals :                  1.49375e4  1456.36920

    ======================================================================
                              *** End of Report ***
```

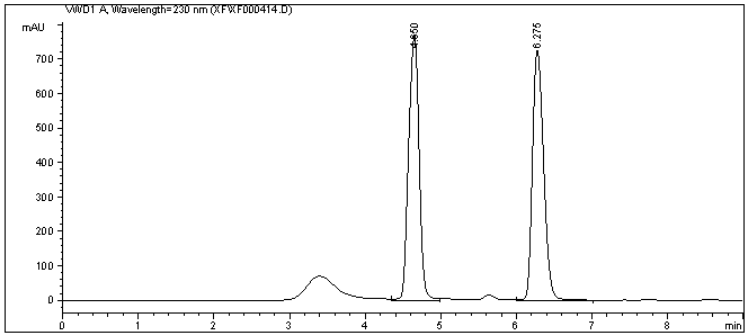


(-)-**6e**

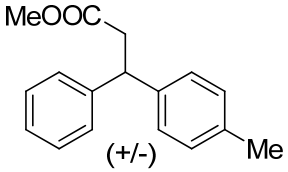
1100 2/26/2012 7:12:36 PM Page 1 of 1

Data File C:\HPCHEM\3\DATA\XF\XF000414.D
Sample Name: xf-4-87B(Raceme)

```
    ======================================================================
    Acq. Operator   :
    Acq. Instrument : 1100                          Location : Vial 1
    Injection Date  : 2/4/2012 2:37:51 PM
    Acq. Method     : C:\HPCHEM\3\METHODS\DEF_LC.M
    Last changed    : 2/4/2012 2:36:36 PM
                      (modified after loading)
    Analysis Method : C:\HPCHEM\3\METHODS\DEF_LC.M
    Last changed    : 2/26/2012 7:14:24 PM
                      (modified after loading)
    Sample Info     : Hexane/iPrOH=80/20, 1.0mL/min(49bar), 230nm, 25 C, OD-H
                      .
```

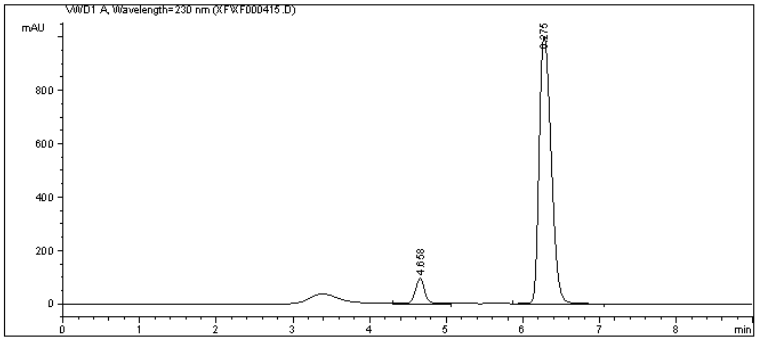



```
    ======================================================================
                              Area Percent Report
    ======================================================================

    Sorted By             :      Signal
    Multiplier            :      1.0000
    Dilution              :      1.0000
    Use Multiplier & Dilution Factor with ISTDs


    Signal 1: VWD1 A, Wavelength=230 nm

    Peak RetTime Type  Width     Area      Height     Area
      #   [min]        [min]  mAU   *s   [mAU   ]      %
    ----|-------|----|-------|---------|----------|--------|
       1   4.650 VV    0.1590 7421.77637  770.02319  49.4732
       2   6.275 VB    0.1618 7425.57764  724.60004  49.4985
       3  33.139 BB    0.6729  154.25591    3.44149   1.0283

    Totals :                  1.50016e4  1498.06472


    ======================================================================
```

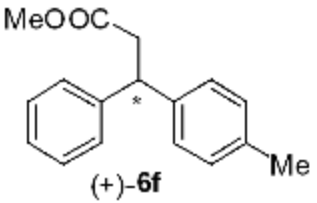


Data File C:\HPCHEM\3\DATA\XF\XF000415.D
Sample Name: xf-4-87B

```
    ======================================================================
    Acq. Operator   :
    Acq. Instrument : 1100                          Location : Vial 1
    Injection Date  : 2/4/2012 3:15:06 PM
    Acq. Method     : C:\HPCHEM\3\METHODS\DEF_LC.M
    Last changed    : 2/4/2012 3:13:36 PM
                      (modified after loading)
    Analysis Method : C:\HPCHEM\3\METHODS\DEF_LC.M
    Last changed    : 2/26/2012 7:14:24 PM
                      (modified after loading)
    Sample Info     : Hexane/iPrOH=80/20, 1.0mL/min(49bar), 230nm, 25 C, OD-H
                      .
```

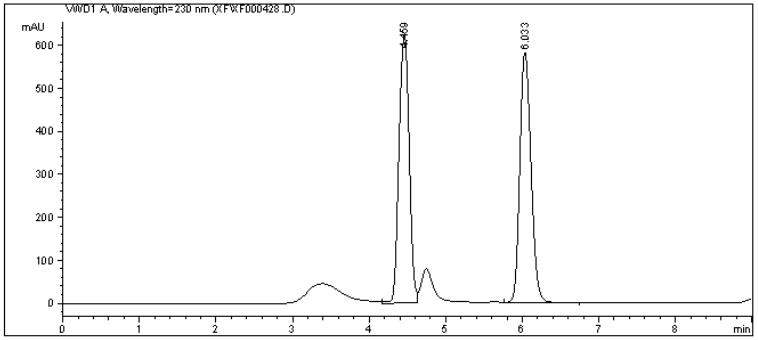



```
    ======================================================================
                              Area Percent Report
    ======================================================================

    Sorted By             :      Signal
    Multiplier            :      1.0000
    Dilution              :      1.0000
    Use Multiplier & Dilution Factor with ISTDs


    Signal 1: VWD1 A, Wavelength=230 nm

    Peak RetTime Type  Width     Area      Height     Area
      #   [min]        [min]  mAU   *s   [mAU   ]      %
    ----|-------|----|-------|---------|----------|--------|
       1   4.658 VB    0.1319  848.09338   96.23637   7.2102
       2   6.275 VB    0.1732 1.09143e4  1005.78247  92.7898

    Totals :                  1.17624e4  1102.01884


    ======================================================================
                              *** End of Report ***
```

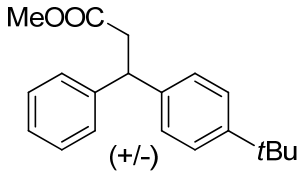


Data File C:\HPCHEM\3\DATA\XF\XF000428.D
Sample Name: xf-4-89C(Raceme)

```
Acq. Operator   :
Acq. Instrument : 1100                          Location : Vial 1
Injection Date  : 2/6/2012 3:59:24 PM
Acq. Method     : C:\HPCHEM\3\METHODS\DEF_LC.M
Last changed    : 2/6/2012 3:57:21 PM
                  (modified after loading)
Analysis Method : C:\HPCHEM\3\METHODS\DEF_LC.M
Last changed    : 2/26/2012 7:34:09 PM
                  (modified after loading)
Sample Info     : Hexane/iPrOH=90/10, 1.0mL/min(44bar), 230nm, 25 C, OD-H
                  .
```




```
                          Area Percent Report

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=230 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]       [min]  mAU   *s    [mAU   ]      %
----|-------|----|-------|----------|----------|--------|
   1   4.459 VV    0.1510 5825.72656  624.76257  49.4119
   2   6.033 VB    0.1600 5964.40918  583.68243  50.5881

Totals :                  1.17901e4  1208.44501

                          *** End of Report ***
```



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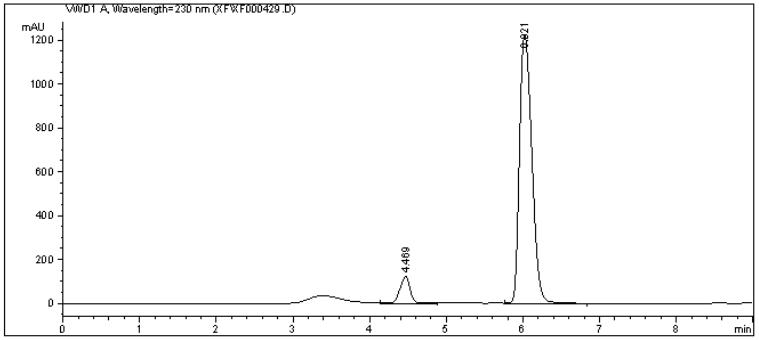
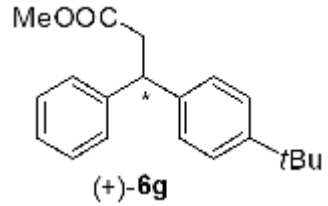
Data File C:\HPCHEM\3\DATA\XF\XF000429.D
Sample Name: xf-4-89C

```
Acq. Operator   :
Acq. Instrument : 1100                          Location : Vial 1
Injection Date  : 2/6/2012 4:38:39 PM
Acq. Method     : C:\HPCHEM\3\METHODS\DEF_LC.M
Last changed    : 2/6/2012 4:36:50 PM
                  (modified after loading)
Analysis Method : C:\HPCHEM\3\METHODS\DEF_LC.M
Last changed    : 2/26/2012 7:34:09 PM
                  (modified after loading)
Sample Info     : Hexane/iPrOH=90/10, 1.0mL/min(44bar), 230nm, 25 C, OD-H
                  .
```



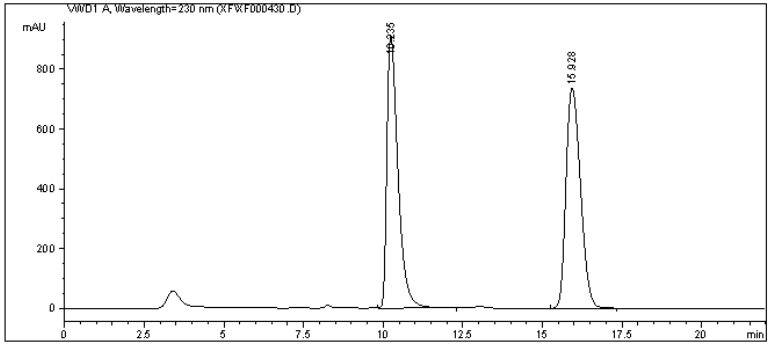

```
                          Area Percent Report

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=230 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]       [min]  mAU   *s    [mAU   ]      %
----|-------|----|-------|----------|----------|--------|
   1   4.469 VB    0.1518 1155.50427  122.99761   7.8047
   2   6.021 VB    0.1796 1.36498e4  1224.24268  92.1953

Totals :                  1.48053e4  1347.24029

                          *** End of Report ***
```



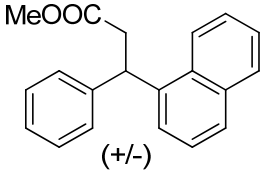
1100 2/26/2012 7:34:14 PM Page 1 of 1

Data File C:\HPCHEM\3\DATA\XF\XF000430.D
Sample Name: xf-4-90A(Raceme)

```
    ==================================================================
    Acq. Operator   :
    Acq. Instrument : 1100                          Location : Vial 1
    Injection Date  : 2/6/2012 4:55:09 PM
    Acq. Method     : C:\HPCHEM\3\METHODS\DEF_LC.M
    Last changed    : 2/6/2012 4:52:51 PM
                      (modified after loading)
    Analysis Method : C:\HPCHEM\3\METHODS\DEF_LC.M
    Last changed    : 2/26/2012 7:36:52 PM
                      (modified after loading)
    Sample Info     : Hexane/iPrOH=90/10, 1.0mL/min(44bar), 230nm, 25 C, OD-H
                      .
```



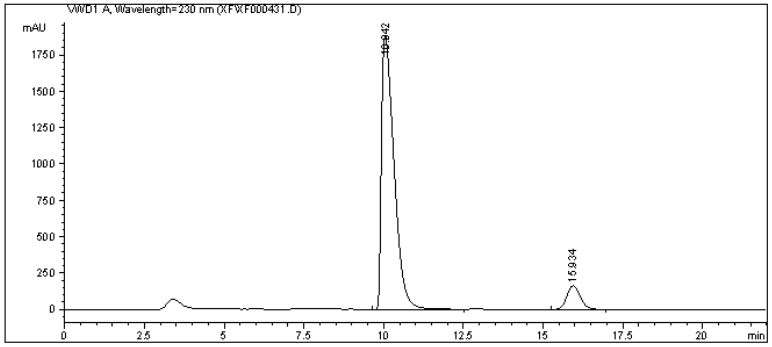

```
    ==================================================================
                          Area Percent Report
    ==================================================================

    Sorted By             :      Signal
    Multiplier            :      1.0000
    Dilution              :      1.0000
    Use Multiplier & Dilution Factor with ISTDs


    Signal 1: VWD1 A, Wavelength=230 nm

    Peak RetTime Type  Width     Area      Height     Area
      #   [min]        [min]  mAU   *s   [mAU   ]      %
    ----|-------|----|-------|----------|----------|-------|
       1  10.235 VB    0.3697 2.21253e4   914.34167  48.7677
       2  15.928 BB    0.4998 2.32434e4   738.34515  51.2323

    Totals :                  4.53686e4  1652.68683

    ==================================================================
                          *** End of Report ***
```



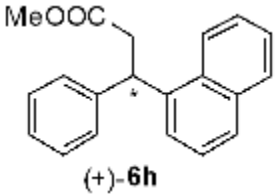
1100 2/26/2012 7:36:58 PM Page 1 of 1

Data File C:\HPCHEM\3\DATA\XF\XF000431.D
Sample Name: xf-4-90A

```
    ==================================================================
    Acq. Operator   :
    Acq. Instrument : 1100                          Location : Vial 1
    Injection Date  : 2/6/2012 5:36:40 PM
    Acq. Method     : C:\HPCHEM\3\METHODS\DEF_LC.M
    Last changed    : 2/6/2012 5:34:59 PM
                      (modified after loading)
    Analysis Method : C:\HPCHEM\3\METHODS\DEF_LC.M
    Last changed    : 2/26/2012 7:36:52 PM
                      (modified after loading)
    Sample Info     : Hexane/iPrOH=90/10, 1.0mL/min(44bar), 230nm, 25 C, OD-H
                      .
```



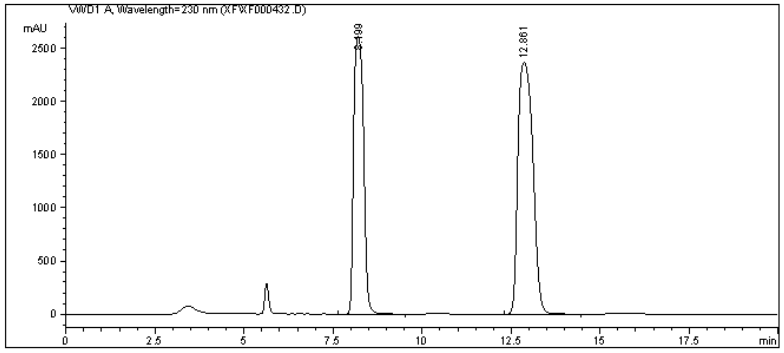

```
    ==================================================================
                          Area Percent Report
    ==================================================================

    Sorted By             :      Signal
    Multiplier            :      1.0000
    Dilution              :      1.0000
    Use Multiplier & Dilution Factor with ISTDs


    Signal 1: VWD1 A, Wavelength=230 nm

    Peak RetTime Type  Width     Area      Height     Area
      #   [min]        [min]  mAU   *s   [mAU   ]      %
    ----|-------|----|-------|----------|----------|-------|
       1  10.042 BB    0.4289 5.15692e4  1882.08813  91.6487
       2  15.934 BB    0.4494 4699.16260  163.22632   8.3513

    Totals :                  5.62683e4  2045.31445

    ==================================================================
                          *** End of Report ***
```



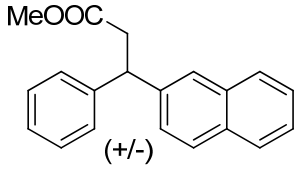
1100 2/26/2012 7:37:20 PM Page 1 of 1

Data File C:\HPCHEM\3\DATA\XF\XF000432.D
Sample Name: xf-4-90B(Raceme)

```
    ======================================================================
    Acq. Operator   :
    Acq. Instrument : 1100                          Location : Vial 1
    Injection Date  : 2/6/2012 6:10:11 PM
    Acq. Method     : C:\HPCHEM\3\METHODS\DEF_LC.M
    Last changed    : 2/6/2012 6:08:11 PM
                      (modified after loading)
    Analysis Method : C:\HPCHEM\3\METHODS\DEF_LC.M
    Last changed    : 2/26/2012 7:40:01 PM
                      (modified after loading)
    Sample Info     : Hexane/iPrOH=90/10, 1.0mL/min(44bar), 230nm, 25 C, OD-H
                      .
```




```
    ======================================================================
                              Area Percent Report
    ======================================================================

    Sorted By             :      Signal
    Multiplier            :      1.0000
    Dilution              :      1.0000
    Use Multiplier & Dilution Factor with ISTDs


    Signal 1: VWD1 A, Wavelength=230 nm

    Peak RetTime Type  Width     Area      Height     Area
      #   [min]        [min]  mAU   *s   [mAU   ]      %
    ----|-------|----|-------|----------|----------|--------|
       1   8.199 BB    0.3199 5.04238e4  2611.90308  42.2325
       2  12.861 BB    0.4811 6.89721e4  2367.92456  57.7675

    Totals :                  1.19396e5  4979.82764


    ======================================================================
                              *** End of Report ***
```



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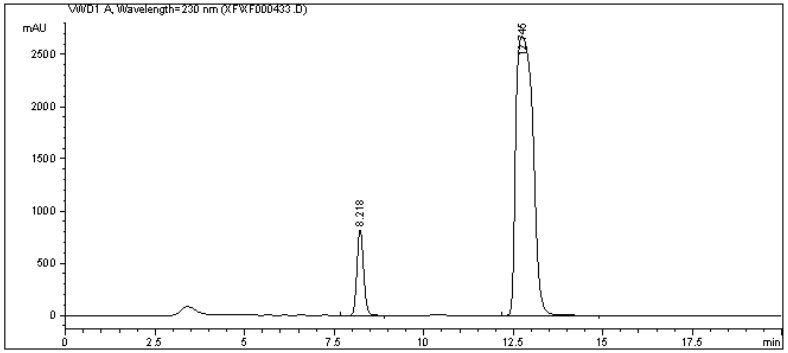
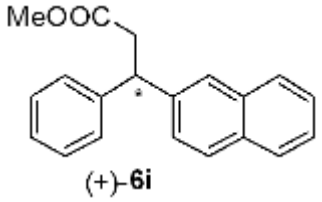
Data File C:\HPCHEM\3\DATA\XF\XF000433.D
Sample Name: xf-4-90B

```
    ======================================================================
    Acq. Operator   :
    Acq. Instrument : 1100                          Location : Vial 1
    Injection Date  : 2/6/2012 6:53:21 PM
    Acq. Method     : C:\HPCHEM\3\METHODS\DEF_LC.M
    Last changed    : 2/6/2012 6:50:32 PM
                      (modified after loading)
    Analysis Method : C:\HPCHEM\3\METHODS\DEF_LC.M
    Last changed    : 2/26/2012 7:40:01 PM
                      (modified after loading)
    Sample Info     : Hexane/iPrOH=90/10, 1.0mL/min(44bar), 230nm, 25 C, OD-H
                      .
```




```
    ======================================================================
                              Area Percent Report
    ======================================================================

    Sorted By             :      Signal
    Multiplier            :      1.0000
    Dilution              :      1.0000
    Use Multiplier & Dilution Factor with ISTDs


    Signal 1: VWD1 A, Wavelength=230 nm

    Peak RetTime Type  Width     Area      Height     Area
      #   [min]        [min]  mAU   *s   [mAU   ]      %
    ----|-------|----|-------|----------|----------|--------|
       1   8.218 BB    0.2013 1.05603e4   819.53387  10.7294
       2  12.745 BB    0.5476 8.78632e4  2676.17603  89.2706

    Totals :                  9.84235e4  3495.70990


    ======================================================================
                              *** End of Report ***
```



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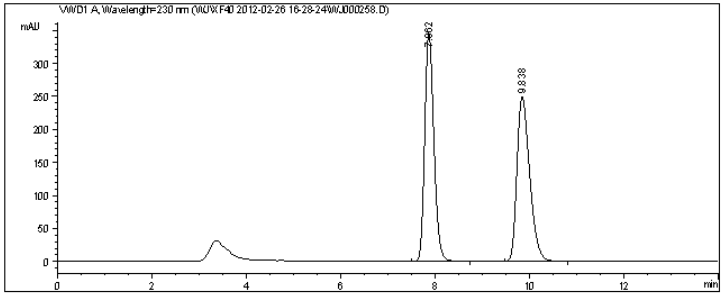
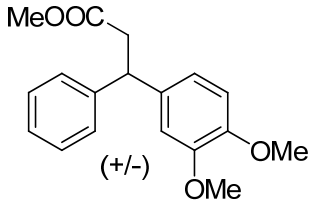
Data File C:\CHEM32\1\DATA\WJ\XF40 2012-02-26 16-28-24\WJ000258.D
Sample Name: XF-4-93(R)

```
==========================================================================
Acq. Operator   : WJ                              Seq. Line :   1
Acq. Instrument : Instrument 1                   Location : Vial 33
Injection Date  : 2/26/2012 4:29:41 PM               Inj :   1
                                                Inj Volume : 5 µl
Acq. Method     : C:\Chem32\1\DATA\WJ\XF40 2012-02-26 16-28-24\XF40.M
Last changed    : 2/26/2012 4:28:21 PM by WJ
Analysis Method : C:\CHEM32\1\METHODS\XF40.M
Last changed    : 2/26/2012 6:46:12 PM by WJ
                  (modified after loading)
Sample Info     : Hexane/i-PrOH=95/5, 1.0ml/min(47bar), 25C  230nm OD-H
```

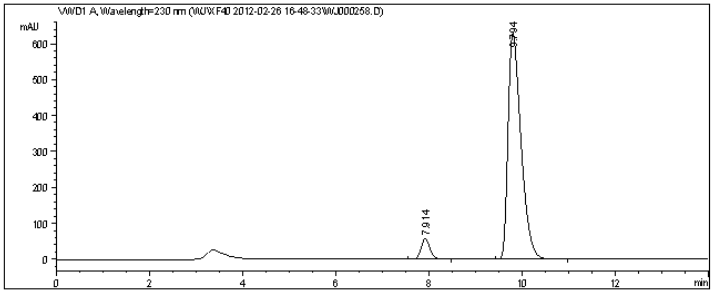



```
==========================================================================
                          Area Percent Report
==========================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=230 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]  mAU   *s    [mAU   ]      %
----|-------|----|-------|----------|----------|--------|
   1   7.862 BB    0.2089 4690.66699  346.39114  50.0569
   2   9.838 BB    0.2890 4679.99512  249.15150  49.9431

Totals :                  9370.66211  595.54265

==========================================================================
                          *** End of Report ***
```

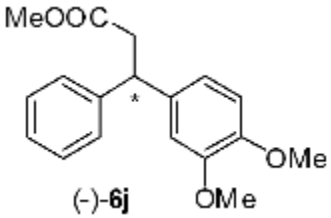


Data File C:\CHEM32\1\DATA\WJ\XF40 2012-02-26 16-48-33\WJ000258.D
Sample Name: XF-4-93

```
==========================================================================
Acq. Operator   : WJ                              Seq. Line :   1
Acq. Instrument : Instrument 1                   Location : Vial 34
Injection Date  : 2/26/2012 4:49:51 PM               Inj :   1
                                                Inj Volume : 5 µl
Acq. Method     : C:\Chem32\1\DATA\WJ\XF40 2012-02-26 16-48-33\XF40.M
Last changed    : 2/26/2012 5:02:41 PM by WJ
                  (modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\XF40.M
Last changed    : 2/26/2012 6:47:28 PM by WJ
                  (modified after loading)
Sample Info     : Hexane/i-PrOH=95/5, 1.0ml/min(47bar), 25C  230nm OD-H
```



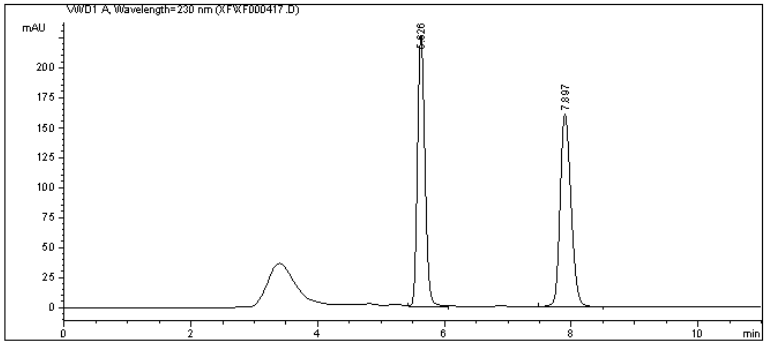

```
==========================================================================
                          Area Percent Report
==========================================================================

Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs


Signal 1: VWD1 A, Wavelength=230 nm

Peak RetTime Type  Width     Area      Height     Area
  #   [min]        [min]  mAU   *s    [mAU   ]      %
----|-------|----|-------|----------|----------|--------|
   1   7.914 VB    0.2131  779.67450   56.61899   6.0315
   2   9.794 BB    0.2952 1.21470e4   629.07007  93.9685

Totals :                  1.29267e4   685.68906

==========================================================================
```



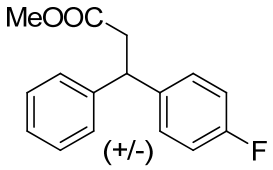
(-)-**6j**

Data File C:\HPCHEM\3\DATA\XF\XF000417.D
Sample Name: xf-4-88A(Raceme)

```
    ======================================================================
    Acq. Operator   :
    Acq. Instrument : 1100                          Location : Vial 1
    Injection Date  : 2/4/2012 4:30:59 PM
    Acq. Method     : C:\HPCHEM\3\METHODS\DEF_LC.M
    Last changed    : 2/4/2012 4:18:52 PM
                      (modified after loading)
    Analysis Method : C:\HPCHEM\3\METHODS\DEF_LC.M
    Last changed    : 2/26/2012 9:35:13 PM
                      (modified after loading)
    Sample Info     : Hexane/iPrOH=90/10, 1.0mL/min(44bar), 230nm, 25 C, OD-H
                      .
```




```
    ======================================================================
                              Area Percent Report
    ======================================================================

    Sorted By             :      Signal
    Multiplier            :      1.0000
    Dilution              :      1.0000
    Use Multiplier & Dilution Factor with ISTDs


    Signal 1: VWD1 A, Wavelength=230 nm

    Peak RetTime Type  Width     Area      Height     Area
      #   [min]       [min]  mAU   *s    [mAU   ]      %
    ----|-------|----|------|----------|----------|-------|
       1   5.626 VB    0.1274 1845.30627  225.70041  49.1215
       2   7.897 VB    0.1854 1911.30884  160.59164  50.8785

    Totals :                  3756.61511  386.29205

    ======================================================================
                              *** End of Report ***
```



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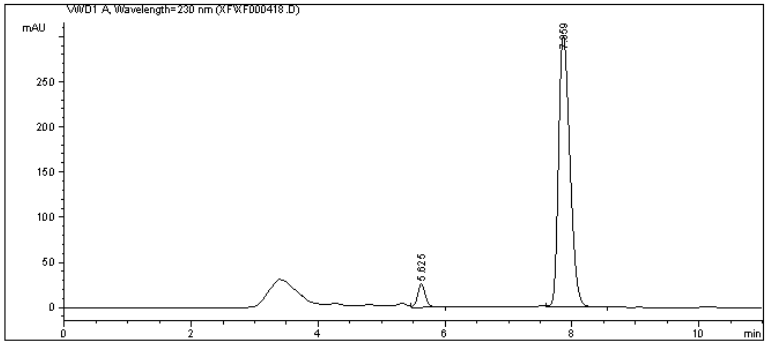
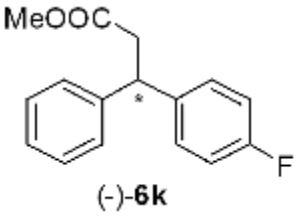
Data File C:\HPCHEM\3\DATA\XF\XF000418.D
Sample Name: xf-4-88A

```
    ======================================================================
    Acq. Operator   :
    Acq. Instrument : 1100                          Location : Vial 1
    Injection Date  : 2/4/2012 4:47:51 PM
    Acq. Method     : C:\HPCHEM\3\METHODS\DEF_LC.M
    Last changed    : 2/4/2012 4:45:42 PM
                      (modified after loading)
    Analysis Method : C:\HPCHEM\3\METHODS\DEF_LC.M
    Last changed    : 2/26/2012 7:16:19 PM
                      (modified after loading)
    Sample Info     : Hexane/iPrOH=90/10, 1.0mL/min(44bar), 230nm, 25 C, OD-H
                      .
```



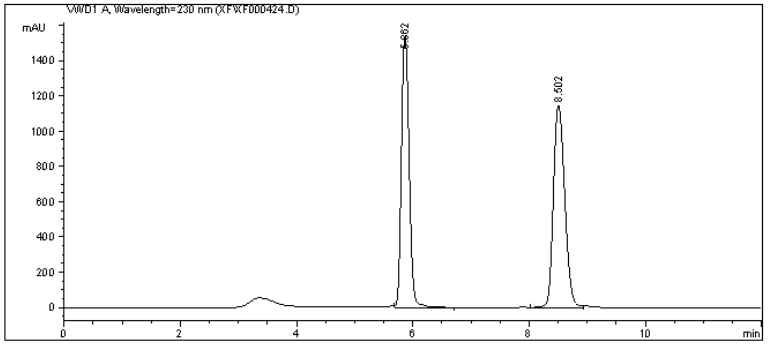

```
    ======================================================================
                              Area Percent Report
    ======================================================================

    Sorted By             :      Signal
    Multiplier            :      1.0000
    Dilution              :      1.0000
    Use Multiplier & Dilution Factor with ISTDs


    Signal 1: VWD1 A, Wavelength=230 nm

    Peak RetTime Type  Width     Area      Height     Area
      #   [min]       [min]  mAU   *s    [mAU   ]      %
    ----|-------|----|------|----------|----------|-------|
       1   5.625 VB    0.1314  223.84001   25.88853   5.6473
       2   7.859 VB    0.1945 3739.83643  300.88116  94.3527

    Totals :                  3963.67644  326.76970

    ======================================================================
                              *** End of Report ***
```



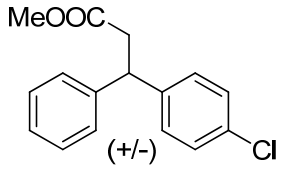
1100 2/26/2012 7:17:10 PM Page 1 of 1

Data File C:\HPCHEM\3\DATA\XF\XF000424.D
Sample Name: xf-4-89A(Raceme)

```
    ==================================================================
    Acq. Operator   :
    Acq. Instrument : 1100                          Location : Vial 1
    Injection Date  : 2/6/2012 2:41:18 PM
    Acq. Method     : C:\HPCHEM\3\METHODS\DEF_LC.M
    Last changed    : 2/6/2012 2:04:54 PM
                      (modified after loading)
    Analysis Method : C:\HPCHEM\3\METHODS\DEF_LC.M
    Last changed    : 2/26/2012 7:28:01 PM
                      (modified after loading)
    Sample Info     : Hexane/iPrOH=90/10, 1.0mL/min(44bar), 230nm, 25 C, OD-H
                      .
```




```
    ==================================================================
                            Area Percent Report
    ==================================================================

    Sorted By             :      Signal
    Multiplier            :      1.0000
    Dilution              :      1.0000
    Use Multiplier & Dilution Factor with ISTDs

    Signal 1: VWD1 A, Wavelength=230 nm

    Peak RetTime Type  Width     Area      Height     Area
      #   [min]       [min]  mAU   *s   [mAU   ]      %
    ----|-------|----|------|----------|----------|-------|
       1   5.862 VB    0.1474 1.42860e4  1541.91345  47.8798
       2   8.502 VV    0.2152 1.55513e4  1145.51611  52.1202

    Totals :                  2.98373e4  2687.42957

    ==================================================================
                            *** End of Report ***
```



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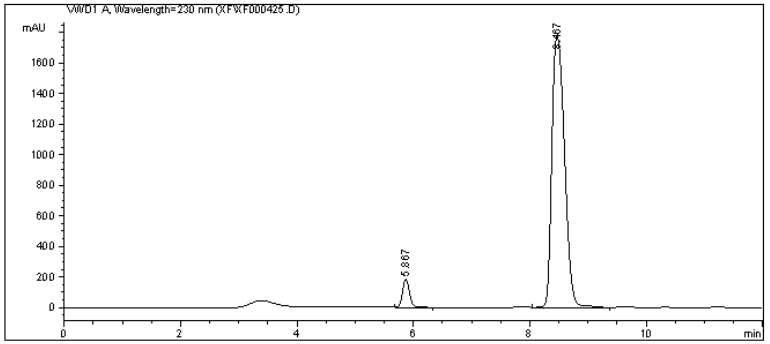
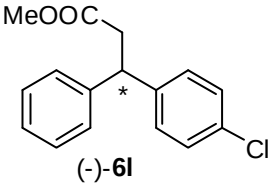
Data File C:\HPCHEM\3\DATA\XF\XF000425.D
Sample Name: xf-4-89A

```
    ==================================================================
    Acq. Operator   :
    Acq. Instrument : 1100                          Location : Vial 1
    Injection Date  : 2/6/2012 2:59:52 PM
    Acq. Method     : C:\HPCHEM\3\METHODS\DEF_LC.M
    Last changed    : 2/6/2012 2:57:50 PM
                      (modified after loading)
    Analysis Method : C:\HPCHEM\3\METHODS\DEF_LC.M
    Last changed    : 2/26/2012 7:28:37 PM
                      (modified after loading)
    Sample Info     : Hexane/iPrOH=90/10, 1.0mL/min(44bar), 230nm, 25 C, OD-H
                      .
```




```
    ==================================================================
                            Area Percent Report
    ==================================================================

    Sorted By             :      Signal
    Multiplier            :      1.0000
    Dilution              :      1.0000
    Use Multiplier & Dilution Factor with ISTDs

    Signal 1: VWD1 A, Wavelength=230 nm

    Peak RetTime Type  Width     Area      Height     Area
      #   [min]       [min]  mAU   *s   [mAU   ]      %
    ----|-------|----|------|----------|----------|-------|
       1   5.867 VB    0.1272 1526.31738  184.31337   5.3793
       2   8.467 VV    0.2446 2.68475e4  1778.35779  94.6207

    Totals :                  2.83739e4  1962.67116

    ==================================================================
                            *** End of Report ***
```



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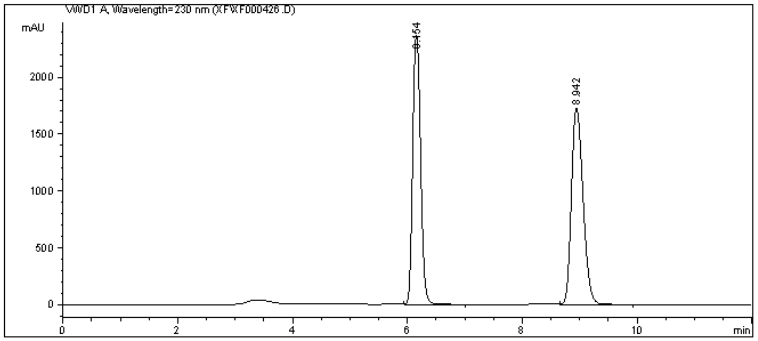
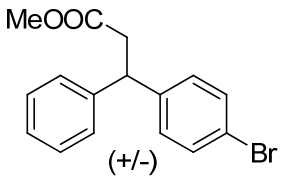
Data File C:\HPCHEM\3\DATA\XF\XF000426.D
Sample Name: xf-4-89B(Raceme)

```
Acq. Operator   :
Acq. Instrument : 1100                          Location : Vial 1
Injection Date  : 2/6/2012 3:17:54 PM
Acq. Method     : C:\HPCHEM\3\METHODS\DEF_LC.M
Last changed    : 2/6/2012 3:15:55 PM
                  (modified after loading)
Analysis Method : C:\HPCHEM\3\METHODS\DEF_LC.M
Last changed    : 2/26/2012 7:29:45 PM
                  (modified after loading)
Sample Info     : Hexane/iPrOH=90/10, 1.0mL/min(44bar), 230nm, 25 C, OD-H
                  .
```



Area Percent Report

```
Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```



Signal 1: VWD1 A, Wavelength=230 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU *s	Height [mAU]	Area %
1	6.154	VV	0.1528	2.27335e4	2368.22705	48.2893
2	8.942	VB	0.2193	2.43441e4	1732.53528	51.7107
Totals :				4.70776e4	4100.76233	

*** End of Report ***

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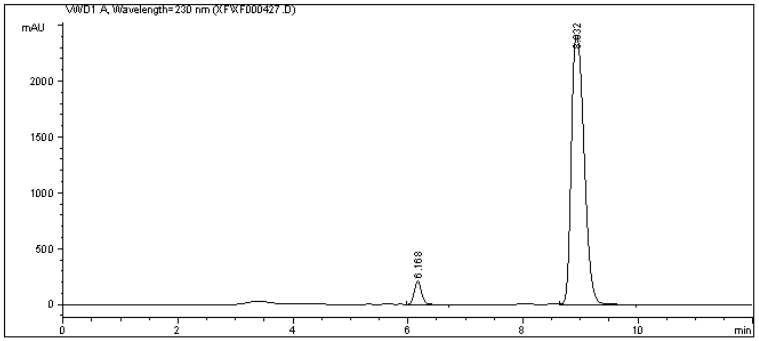
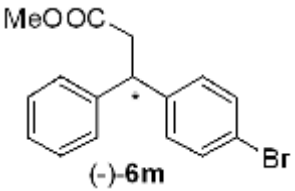
Data File C:\HPCHEM\3\DATA\XF\XF000427.D
Sample Name: xf-4-89B

```
Acq. Operator   :
Acq. Instrument : 1100                          Location : Vial 1
Injection Date  : 2/6/2012 3:40:18 PM
Acq. Method     : C:\HPCHEM\3\METHODS\DEF_LC.M
Last changed    : 2/6/2012 3:38:19 PM
                  (modified after loading)
Analysis Method : C:\HPCHEM\3\METHODS\DEF_LC.M
Last changed    : 2/26/2012 7:30:25 PM
                  (modified after loading)
Sample Info     : Hexane/iPrOH=90/10, 1.0mL/min(44bar), 230nm, 25 C, OD-H
                  .
```



Area Percent Report

```
Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```



Signal 1: VWD1 A, Wavelength=230 nm

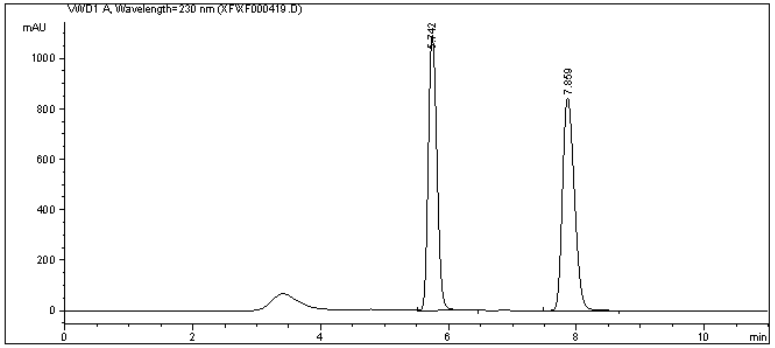
Peak #	RetTime [min]	Type	Width [min]	Area mAU *s	Height [mAU]	Area %
1	6.168	VB	0.1362	1841.03748	209.07806	4.7213
2	8.932	VB	0.2455	3.71533e4	2408.64844	95.2787
Totals :				3.89943e4	2617.72650	

*** End of Report ***

1100 2/26/2012 7:30:30 PM Page 1 of 1

Data File C:\HPCHEM\3\DATA\XF\XF000419.D
Sample Name: xf-4-88B(Raceme)

```
Acq. Operator   :
Acq. Instrument : 1100                          Location : Vial 1
Injection Date  : 2/4/2012 5:08:06 PM
Acq. Method     : C:\HPCHEM\3\METHODS\DEF_LC.M
Last changed    : 2/4/2012 5:16:14 PM
                  (modified after loading)
Analysis Method : C:\HPCHEM\3\METHODS\DEF_LC.M
Last changed    : 2/26/2012 7:16:19 PM
                  (modified after loading)
Sample Info     : Hexane/iPrOH=90/10, 1.0mL/min(44bar), 230nm, 25 C, OD-H
                  .
```

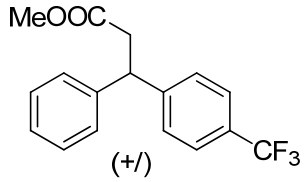


Area Percent Report

```
Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```

Signal 1: VWD1 A, Wavelength=230 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU *s	Height [mAU]	Area %
1	5.742	VB	0.1490	1.02575e4	1090.78735	48.5485
2	7.859	VB	0.2028	1.08709e4	843.27802	51.4515
Totals :				2.11284e4	1934.06537	

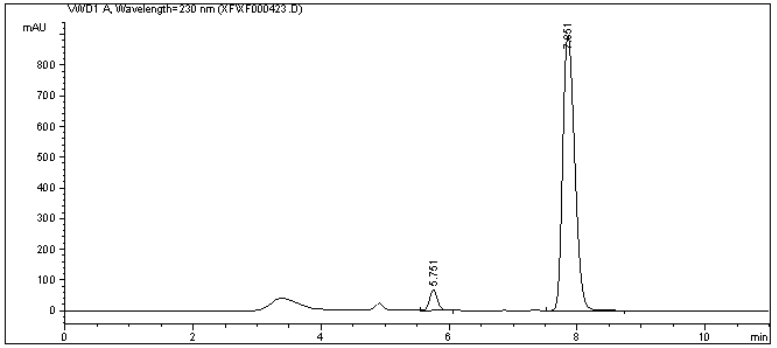


*** End of Report ***

1100 2/26/2012 7:26:30 PM Page 1 of 1

Data File C:\HPCHEM\3\DATA\XF\XF000423.D
Sample Name: xf-4-88B

```
Acq. Operator   :
Acq. Instrument : 1100                          Location : Vial 1
Injection Date  : 2/4/2012 8:22:01 PM
Acq. Method     : C:\HPCHEM\3\METHODS\DEF_LC.M
Last changed    : 2/4/2012 7:49:25 PM
                  (modified after loading)
Analysis Method : C:\HPCHEM\3\METHODS\DEF_LC.M
Last changed    : 2/26/2012 7:16:19 PM
                  (modified after loading)
Sample Info     : Hexane/iPrOH=90/10, 1.0mL/min(44bar), 230nm, 25 C, OD-H
                  .
```

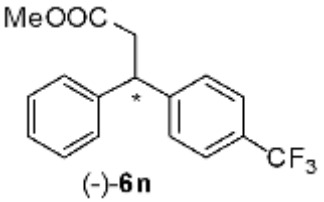


Area Percent Report

```
Sorted By             :      Signal
Multiplier            :      1.0000
Dilution              :      1.0000
Use Multiplier & Dilution Factor with ISTDs
```

Signal 1: VWD1 A, Wavelength=230 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU *s	Height [mAU]	Area %
1	5.751	VB	0.1304	570.75714	67.66550	4.6802
2	7.851	VB	0.2052	1.16244e4	896.47772	95.3198
Totals :				1.21952e4	964.14323	

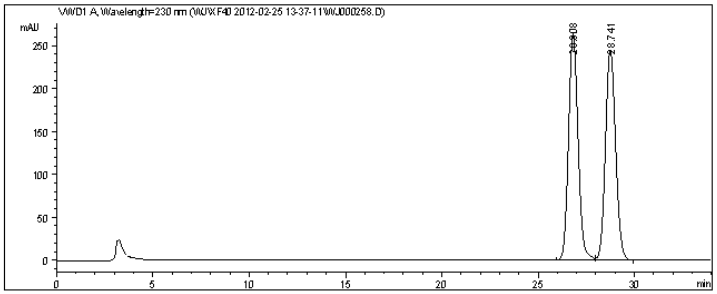


*** End of Report ***

1100 2/26/2012 7:26:53 PM Page 1 of 1

Data File C:\CHEM32\1\DATA\WJ\XF40 2012-02-25 13-37-11\WJ000258.D
Sample Name: XF-4-91A(R)

Acq. Operator	: WJ	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 41
Injection Date	: 2/25/2012 1:38:29 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: C:\Chem32\1\DATA\WJ\XF40 2012-02-25 13-37-11\XF40.M		
Last changed	: 2/25/2012 1:37:32 PM by WJ (modified after loading)		
Analysis Method	: C:\CHEM32\1\METHODS\XF40.M		
Last changed	: 2/26/2012 6:37:29 PM by WJ (modified after loading)		
Sample Info	: Hexane/i-PrOH=95/5, 1.0ml/min, 25C 230nm AD-H		

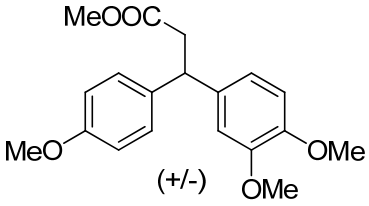


Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=230 nm

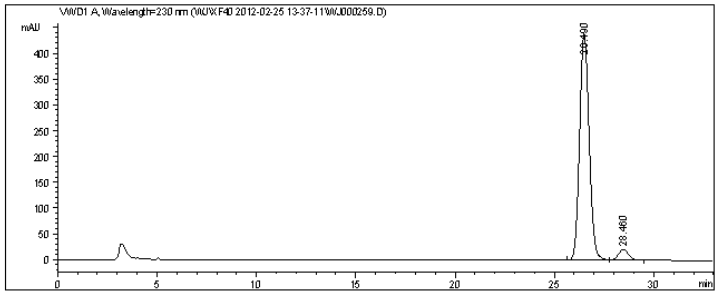
Peak #	RetTime [min]	Type	Width [min]	Area mAU *s	Height [mAU]	Area %
1	26.808	BV	0.5343	9078.05664	263.60324	50.3279
2	28.741	VB	0.5701	8959.75488	244.53838	49.6721
Totals :				1.80378e4	508.14162	



Instrument 1 2/26/2012 6:37:31 PM WJ

Data File C:\CHEM32\1\DATA\WJ\XF40 2012-02-25 13-37-11\WJ000259.D
Sample Name: XF-4-91A

Acq. Operator	: WJ	Seq. Line	: 2
Acq. Instrument	: Instrument 1	Location	: Vial 42
Injection Date	: 2/25/2012 2:20:47 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: C:\Chem32\1\DATA\WJ\XF40 2012-02-25 13-37-11\XF40.M		
Last changed	: 2/25/2012 2:19:30 PM by WJ (modified after loading)		
Analysis Method	: C:\CHEM32\1\METHODS\XF40.M		
Last changed	: 2/26/2012 6:38:21 PM by WJ (modified after loading)		
Sample Info	: Hexane/i-PrOH=95/5, 1.0ml/min, 25C 230nm AD-H		

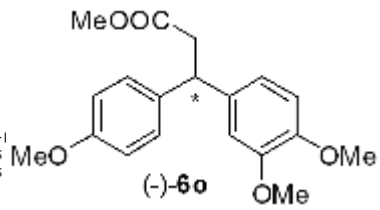


Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=230 nm

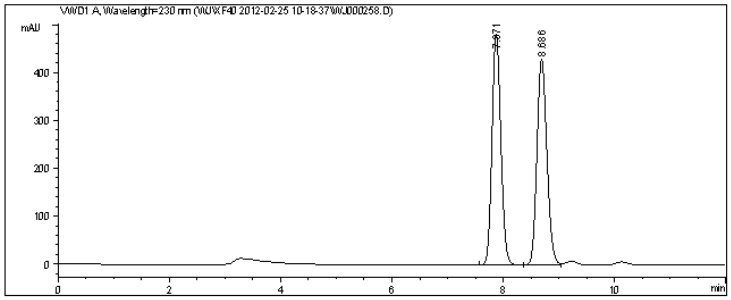
Peak #	RetTime [min]	Type	Width [min]	Area mAU *s	Height [mAU]	Area %
1	26.490	BV	0.5220	1.46964e4	438.49945	95.1655
2	28.460	VB	0.5563	746.59552	20.91420	4.8345
Totals :				1.54429e4	459.41365	



Instrument 1 2/26/2012 6:38:26 PM WJ

Data File C:\CHEM32\1\DATA\WJ\XF40 2012-02-25 10-18-37\WJ000258.D
Sample Name: XF-4-92A(R)

Acq. Operator	: WJ	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 31
Injection Date	: 2/25/2012 10:19:54 AM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: C:\Chem32\1\DATA\WJ\XF40 2012-02-25 10-18-37\XF40.M		
Last changed	: 2/25/2012 10:18:34 AM by WJ		
Analysis Method	: C:\CHEM32\1\METHODS\XF40.M		
Last changed	: 2/26/2012 6:43:32 PM by WJ (modified after loading)		
Sample Info	: Hexane/i-PrOH=95/5, 1.0ml/min, 25C 230nm OD-H		

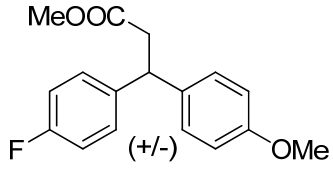


Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=230 nm

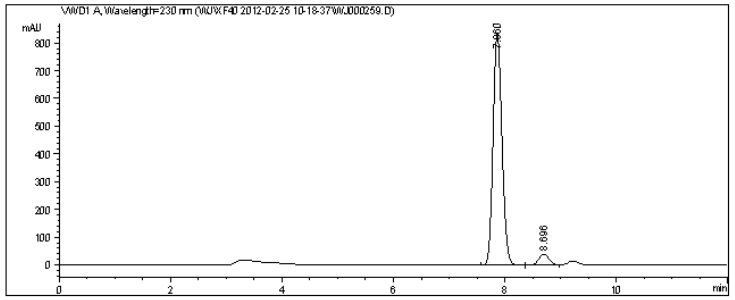
Peak #	RetTime [min]	Type	Width [min]	Area mAU *s	Height [mAU]	Area %
1	7.871	BV	0.1731	5348.44531	482.12042	50.0143
2	8.686	VV	0.1933	5345.38330	429.32727	49.9857
Totals :				1.06938e4	911.44769	



*** End of Report ***

Data File C:\CHEM32\1\DATA\WJ\XF40 2012-02-25 10-18-37\WJ000259.D
Sample Name: XF-4-92A

Acq. Operator	: WJ	Seq. Line	: 2
Acq. Instrument	: Instrument 1	Location	: Vial 32
Injection Date	: 2/25/2012 10:39:22 AM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: C:\Chem32\1\DATA\WJ\XF40 2012-02-25 10-18-37\XF40.M		
Last changed	: 2/25/2012 10:18:34 AM by WJ		
Analysis Method	: C:\CHEM32\1\METHODS\XF40.M		
Last changed	: 2/26/2012 6:43:32 PM by WJ (modified after loading)		
Sample Info	: Hexane/i-PrOH=95/5, 1.0ml/min, 25C 230nm OD-H		

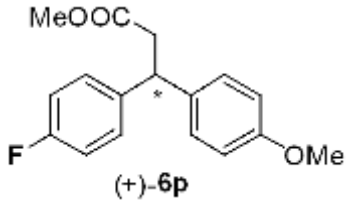


Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=230 nm

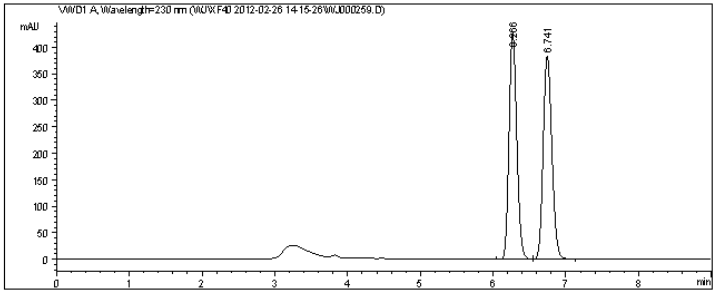
Peak #	RetTime [min]	Type	Width [min]	Area mAU *s	Height [mAU]	Area %
1	7.860	VV	0.1739	9294.36035	832.81836	94.7562
2	8.696	VV	0.1984	514.35309	39.90719	5.2438
Totals :				9808.71344	872.72555	



*** End of Report ***

Data File C:\CHEM32\1\DATA\WJ\XF40 2012-02-26 14-15-26\WJ000259.D
Sample Name: XF-4-92B

Acq. Operator	: WJ	Seq. Line	: 2
Acq. Instrument	: Instrument 1	Location	: Vial 32
Injection Date	: 2/26/2012 2:33:31 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: C:\Chem32\1\DATA\WJ\XF40 2012-02-26 14-15-26\XF40.M		
Last changed	: 2/26/2012 2:15:21 PM by WJ		
Analysis Method	: C:\CHEM32\1\METHODS\XF40.M		
Last changed	: 2/26/2012 6:49:35 PM by WJ (modified after loading)		
Sample Info	: Hexane/i-PrOH=95/5, 1.0ml/min, 25C 230nm AD-H		

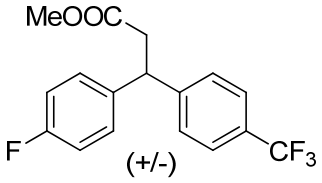


Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=230 nm

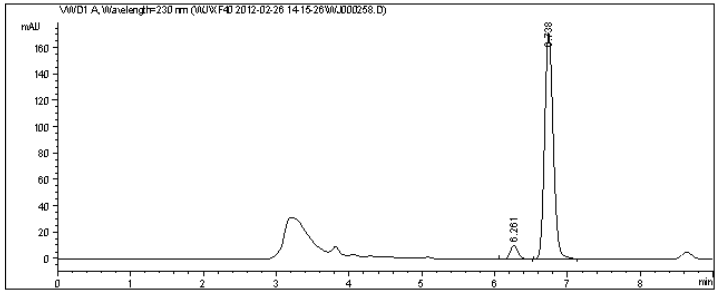
Peak #	RetTime [min]	Type	Width [min]	Area mAU *s	Height [mAU]	Area %
1	6.266	BV	0.1155	3168.68091	427.85803	49.7099
2	6.741	VV	0.1308	3205.66626	384.50861	50.2901
Totals :				6374.34717	812.36664	



*** End of Report ***

Data File C:\CHEM32\1\DATA\WJ\XF40 2012-02-26 14-15-26\WJ000258.D
Sample Name: XF4-92B(R)

Acq. Operator	: WJ	Seq. Line	: 1
Acq. Instrument	: Instrument 1	Location	: Vial 31
Injection Date	: 2/26/2012 2:16:40 PM	Inj	: 1
		Inj Volume	: 5 µl
Acq. Method	: C:\Chem32\1\DATA\WJ\XF40 2012-02-26 14-15-26\XF40.M		
Last changed	: 2/26/2012 2:15:21 PM by WJ		
Analysis Method	: C:\CHEM32\1\METHODS\XF40.M		
Last changed	: 2/26/2012 6:49:35 PM by WJ (modified after loading)		
Sample Info	: Hexane/i-PrOH=95/5, 1.0ml/min, 25C 230nm AD-H		

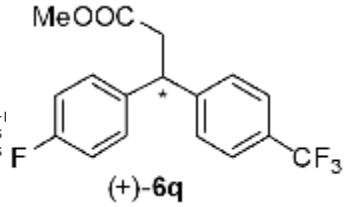


Area Percent Report

Sorted By : Signal
Multiplier : 1.0000
Dilution : 1.0000
Use Multiplier & Dilution Factor with ISTDs

Signal 1: VWD1 A, Wavelength=230 nm

Peak #	RetTime [min]	Type	Width [min]	Area mAU *s	Height [mAU]	Area %
1	6.261	BB	0.1125	76.11201	10.47010	5.0995
2	6.738	BV	0.1282	1416.41541	171.85339	94.9005
Totals :				1492.52742	182.32349	



(+)-**6q**

*** End of Report ***