

Supporting Information

Chiral Phosphoric Acid-Catalyzed Pictet–Spengler Reactions for Synthesis of 5',11'-Dihydrospiro[indoline-3,6'-indolo[3,2-c] quinolin]-2-ones Containing Quaternary Stereocenters

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1. Determination of the Absolute Configuration

To determine the absolute configuration of 11'-benzyl-1-(4-methylbenzyl)-2-oxospiro[indoline-3,6'-indolo[3,2-*c*]quinoline]-5'(11'*H*)-carbaldehyde (-)-(5): firstly, (-)-(5) was upgraded to 99% ee by recrystallization from dichloromethane/hexanes, then dissolved in dichloromethane, hexanes was added slowly at room temperature, the solvent diffused slowly, the single crystal was obtained after five day. The absolute configuration of (-)-(5) was assigned as (*R*) based on the X-ray diffraction analysis. The CCDC number is 2041080. The absolute configurations of (+)-(3aa) is assigned as (*R*), the other chiral products were assigned by analogy. These details can be obtained free of charge *via* www.ccdc.com.ac.uk/data_request/cif from the Cambridge Crystallographic Data Centre.

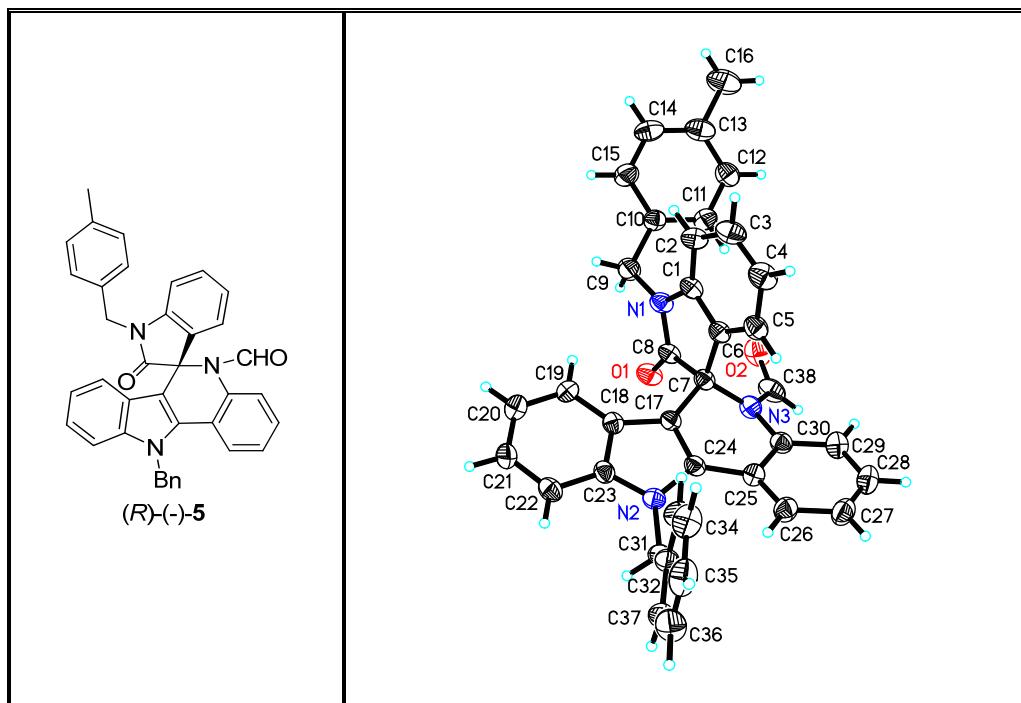
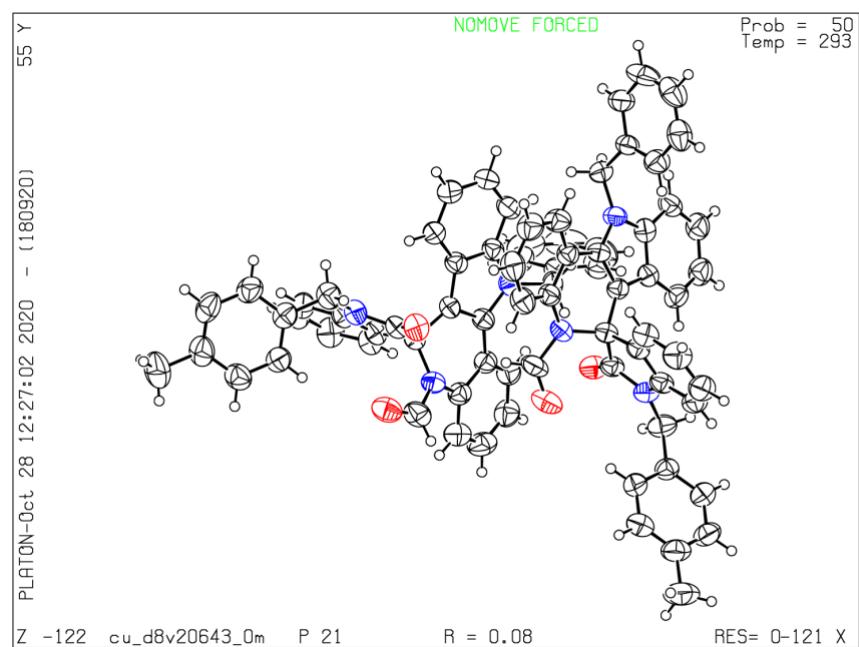


Figure S1. X-ray crystallographic analysis of (*R*)-(-)-5

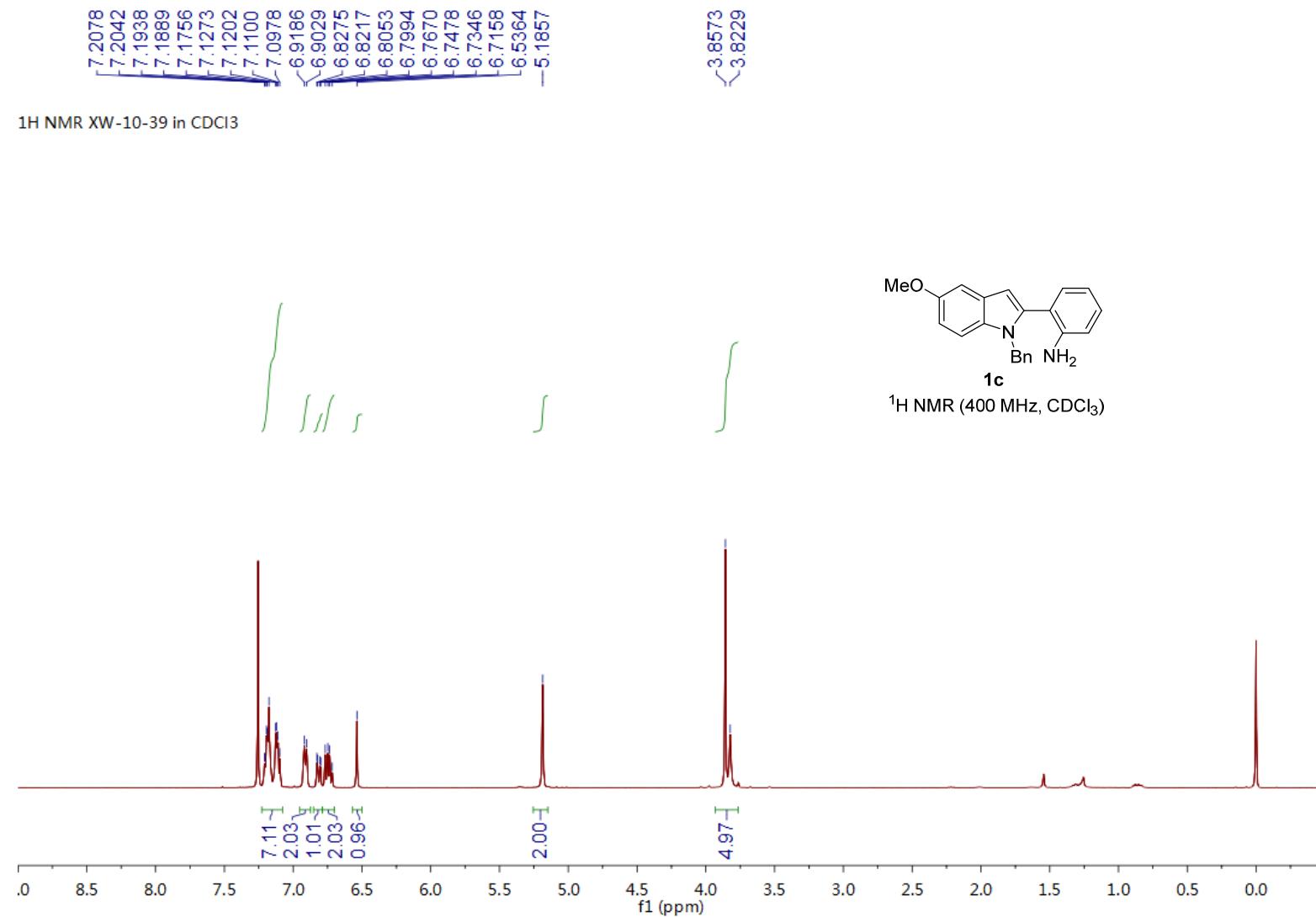
Thermal Ellipsoid Plot for (*R*)-(-)-5 (30% probability level)

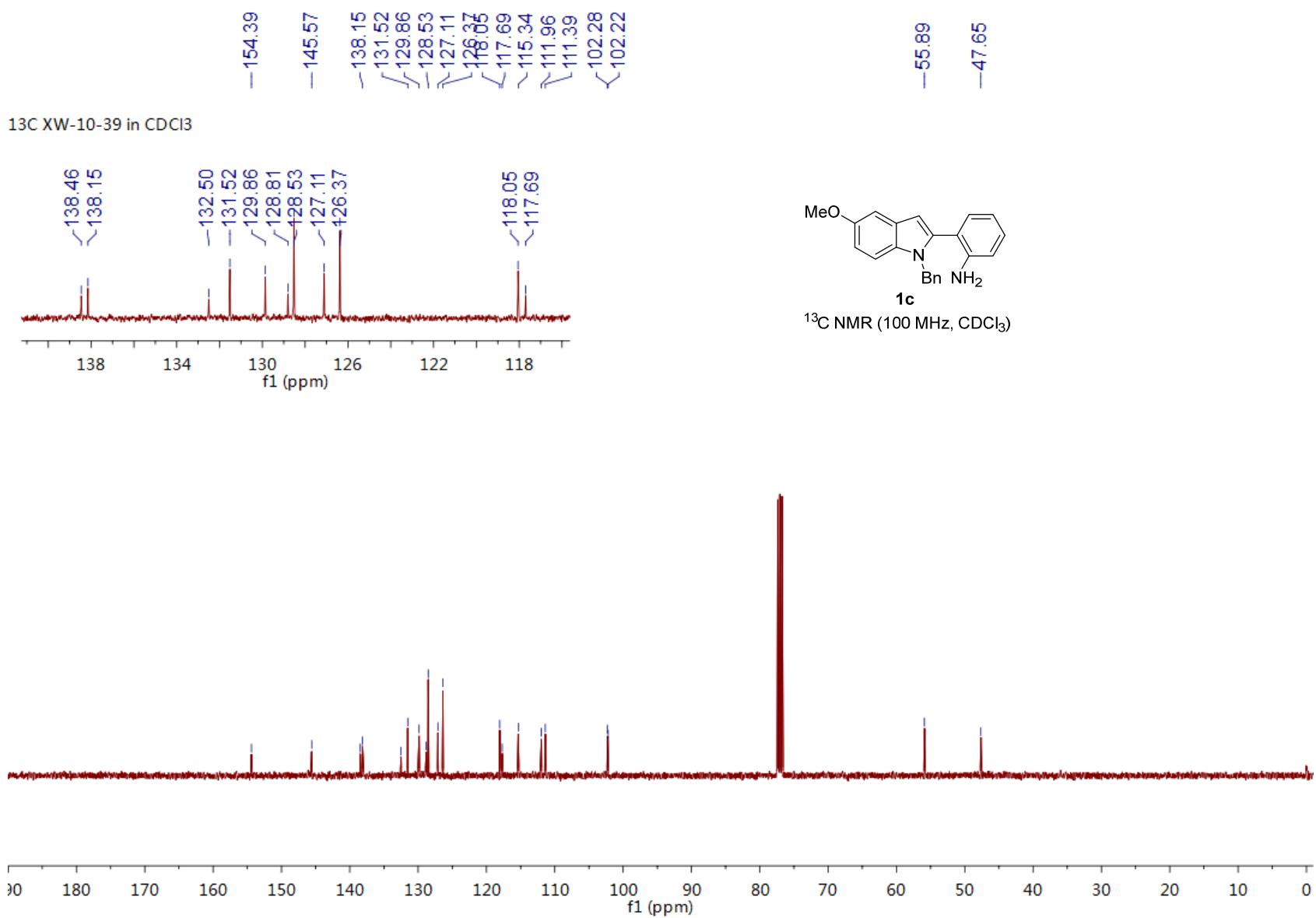


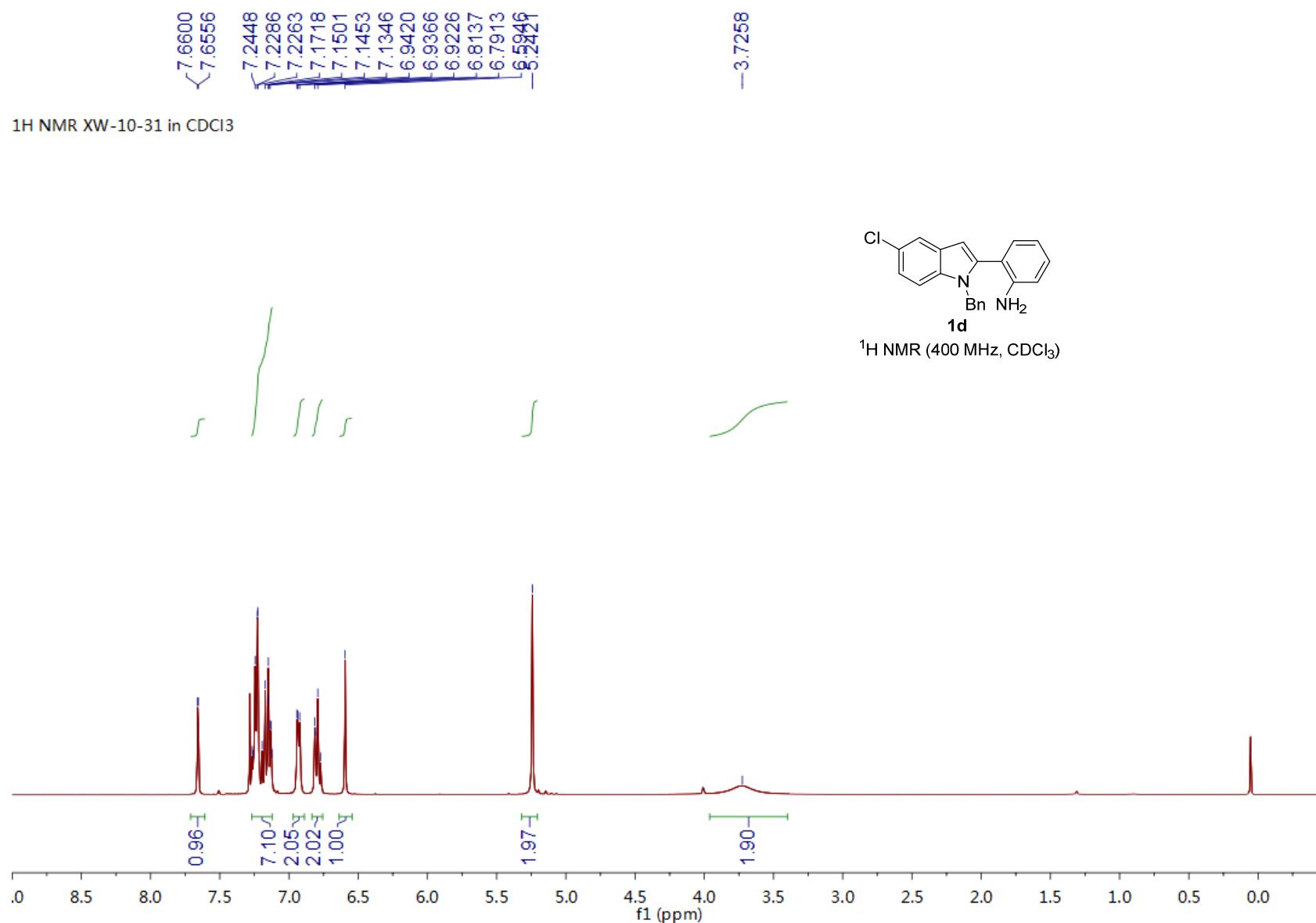
Crystal Data and Structure Refinement for cu_d8v20643_0m for (R)-(-)-5

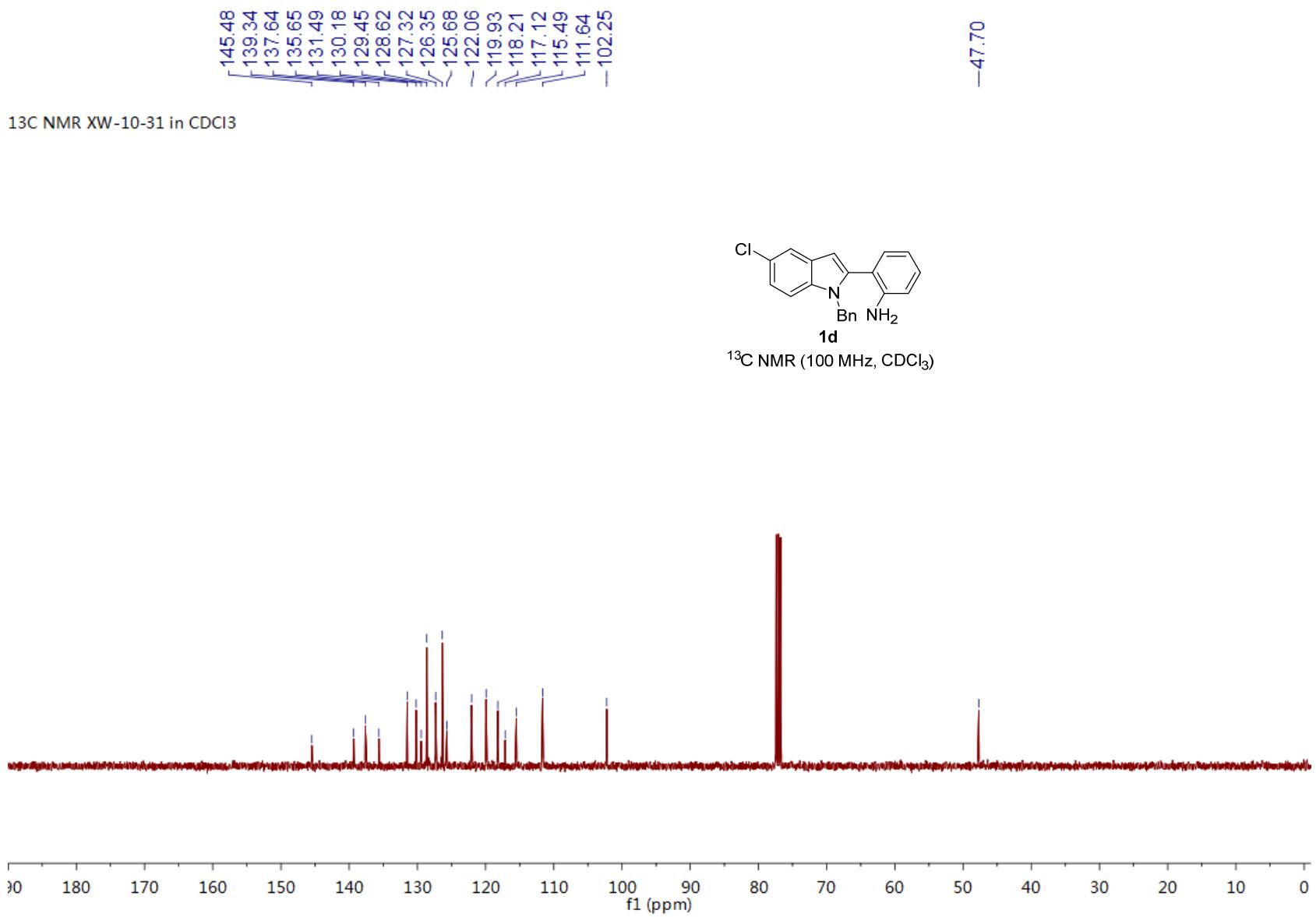
| | | |
|-----------------------------------|---|----------------|
| Identification code | cu_d8v20643_0m | |
| Empirical formula | C38 H29 N3 O2 | |
| Formula weight | 559.64 | |
| Temperature | 293(2) K | |
| Wavelength | 1.54178 Å | |
| Crystal system | Monoclinic | |
| Space group | P 21 | |
| Unit cell dimensions | a = 10.3091(4) Å | α= 90°. |
| | b = 25.0692(9) Å | β= 90.214(2)°. |
| | c = 11.2553(4) Å | γ = 90°. |
| Volume | 2908.81(19) Å ³ | |
| Z | 4 | |
| Density (calculated) | 1.278 Mg/m ³ | |
| Absorption coefficient | 0.627 mm ⁻¹ | |
| F(000) | 1176 | |
| Crystal size | 0.180 x 0.140 x 0.100 mm ³ | |
| Theta range for data collection | 3.526 to 65.492°. | |
| Index ranges | -12≤h≤12, -29≤k≤29, -12≤l≤13 | |
| Reflections collected | 57056 | |
| Independent reflections | 9886 [R(int) = 0.0732] | |
| Completeness to theta = 67.679° | 94.7 % | |
| Absorption correction | Semi-empirical from equivalents | |
| Max. and min. transmission | 0.7533 and 0.5726 | |
| Refinement method | Full-matrix least-squares on F ² | |
| Data / restraints / parameters | 9886 / 1 / 779 | |
| Goodness-of-fit on F ² | 1.051 | |
| Final R indices [I>2sigma(I)] | R1 = 0.0770, wR2 = 0.1800 | |
| R indices (all data) | R1 = 0.0791, wR2 = 0.1853 | |
| Absolute structure parameter | 0.13(13) | |
| Extinction coefficient | 0.0140(16) | |
| Largest diff. peak and hole | 0.594 and -0.241 e.Å ⁻³ | |

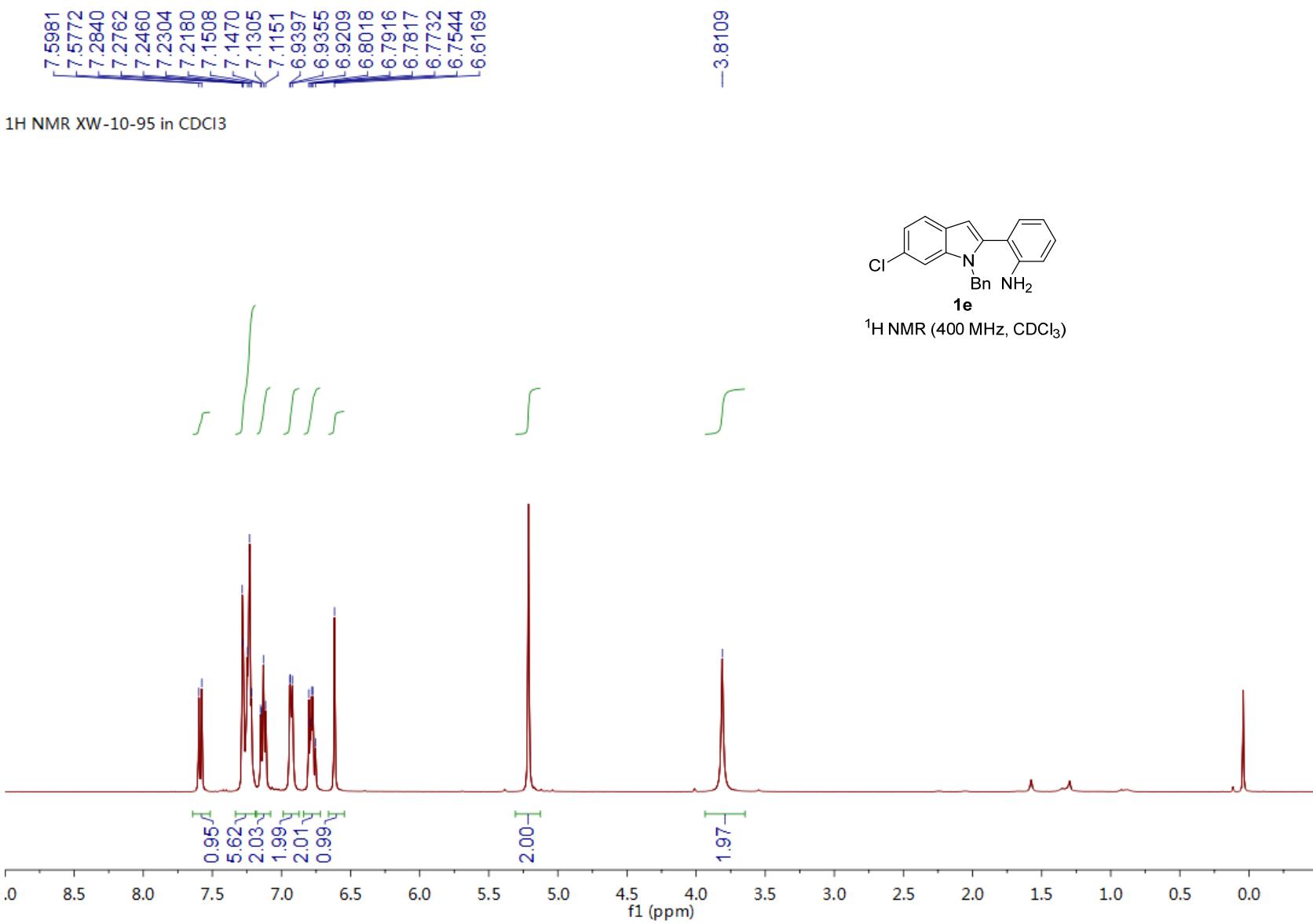
2. Copy of NMR and HPLC

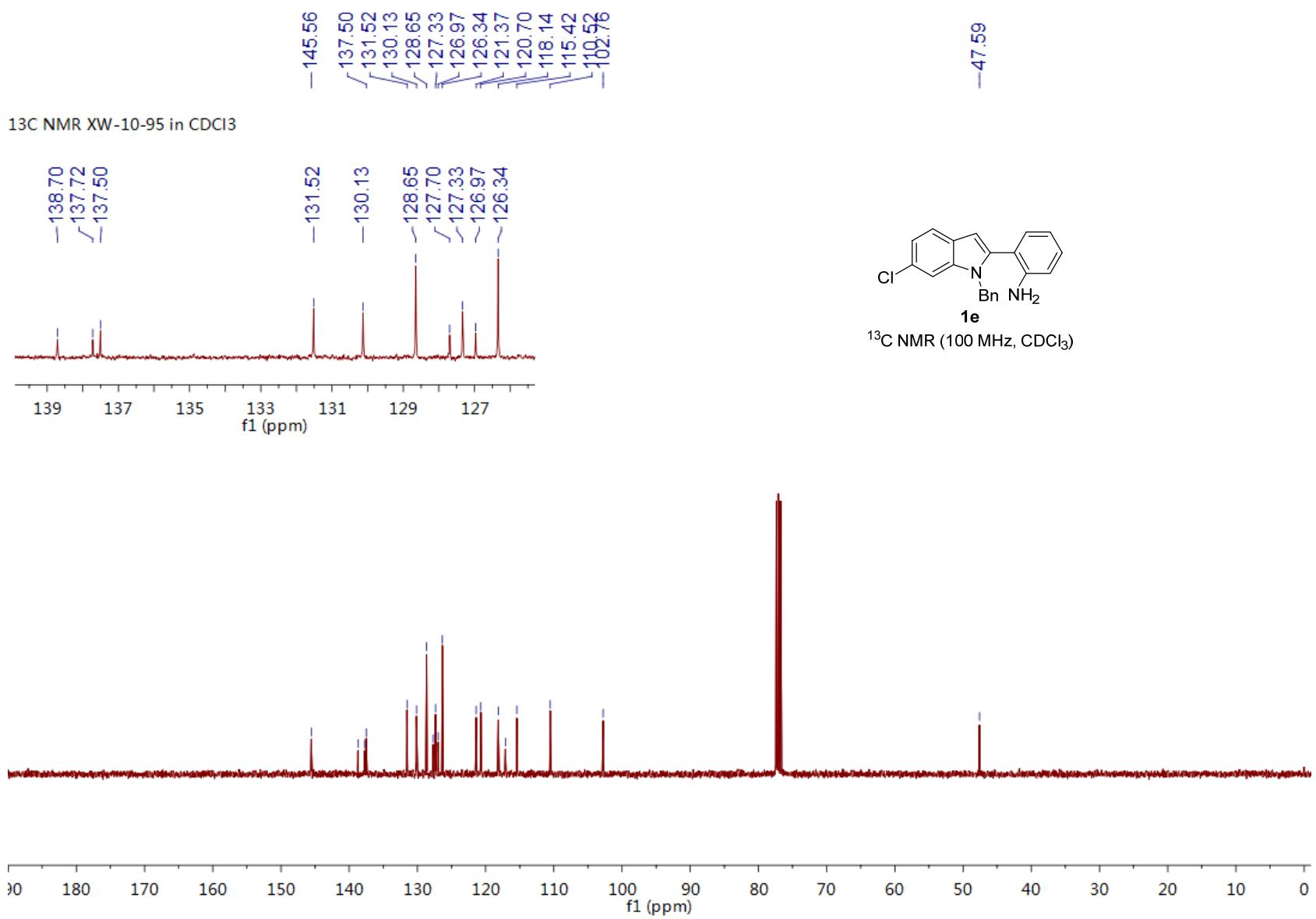








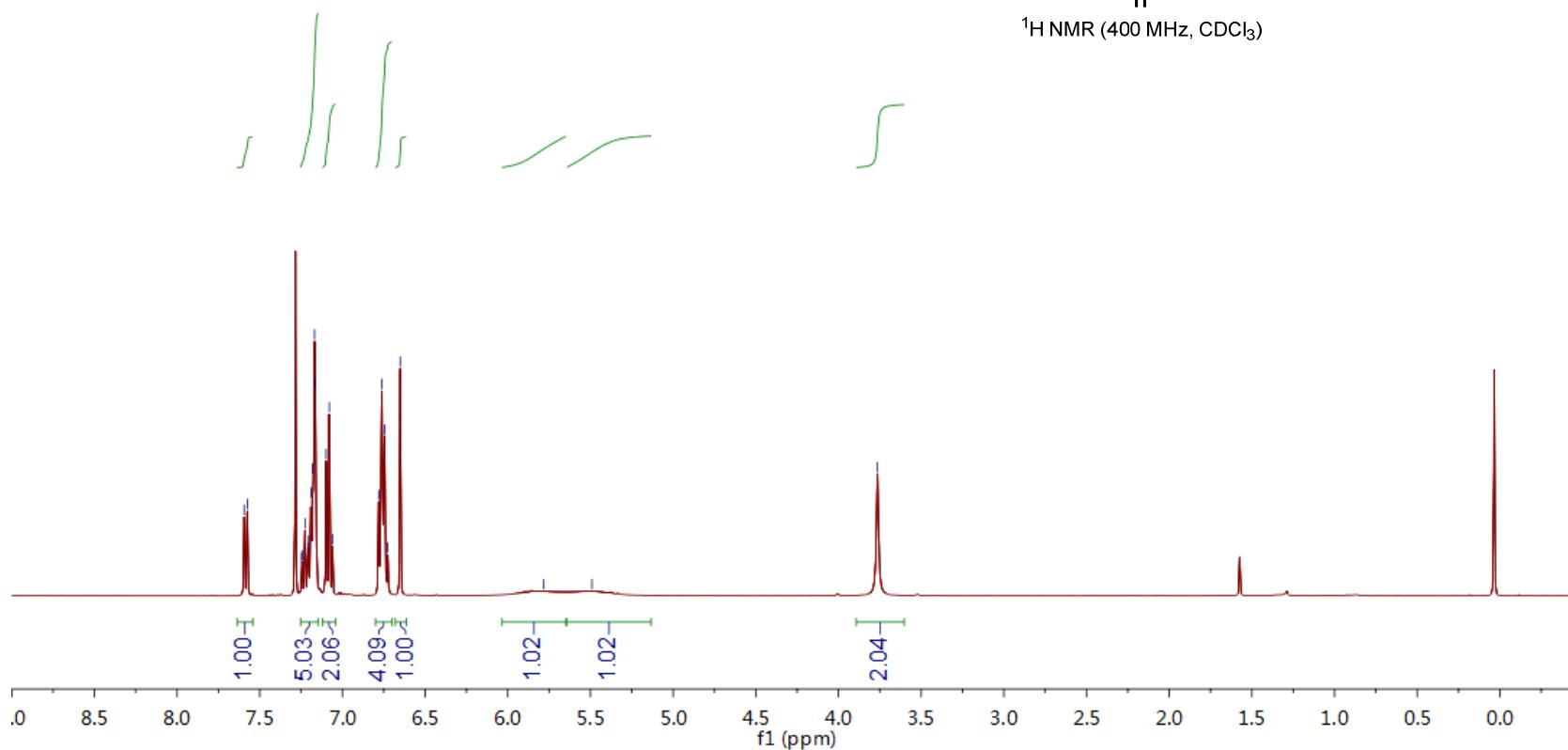




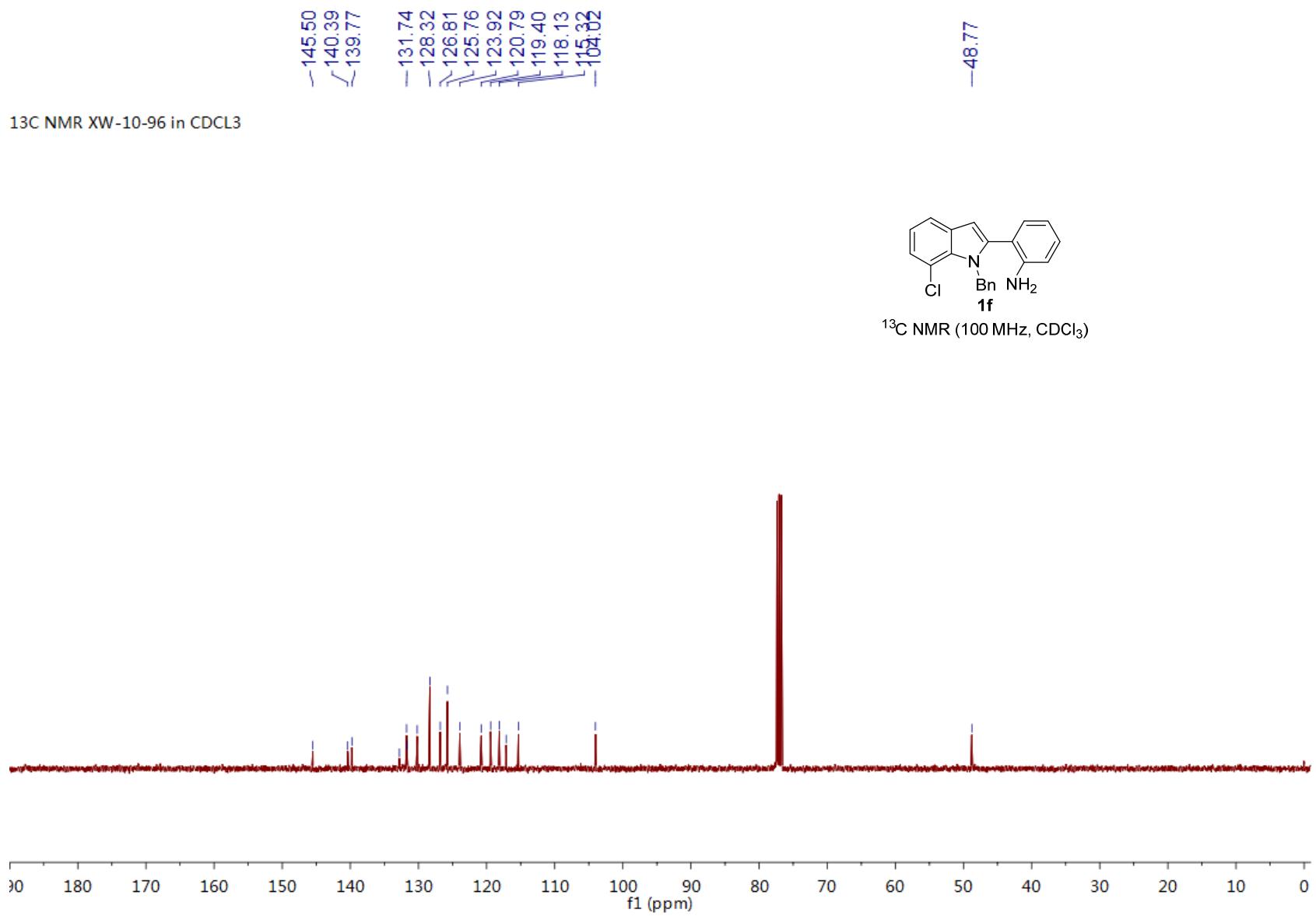
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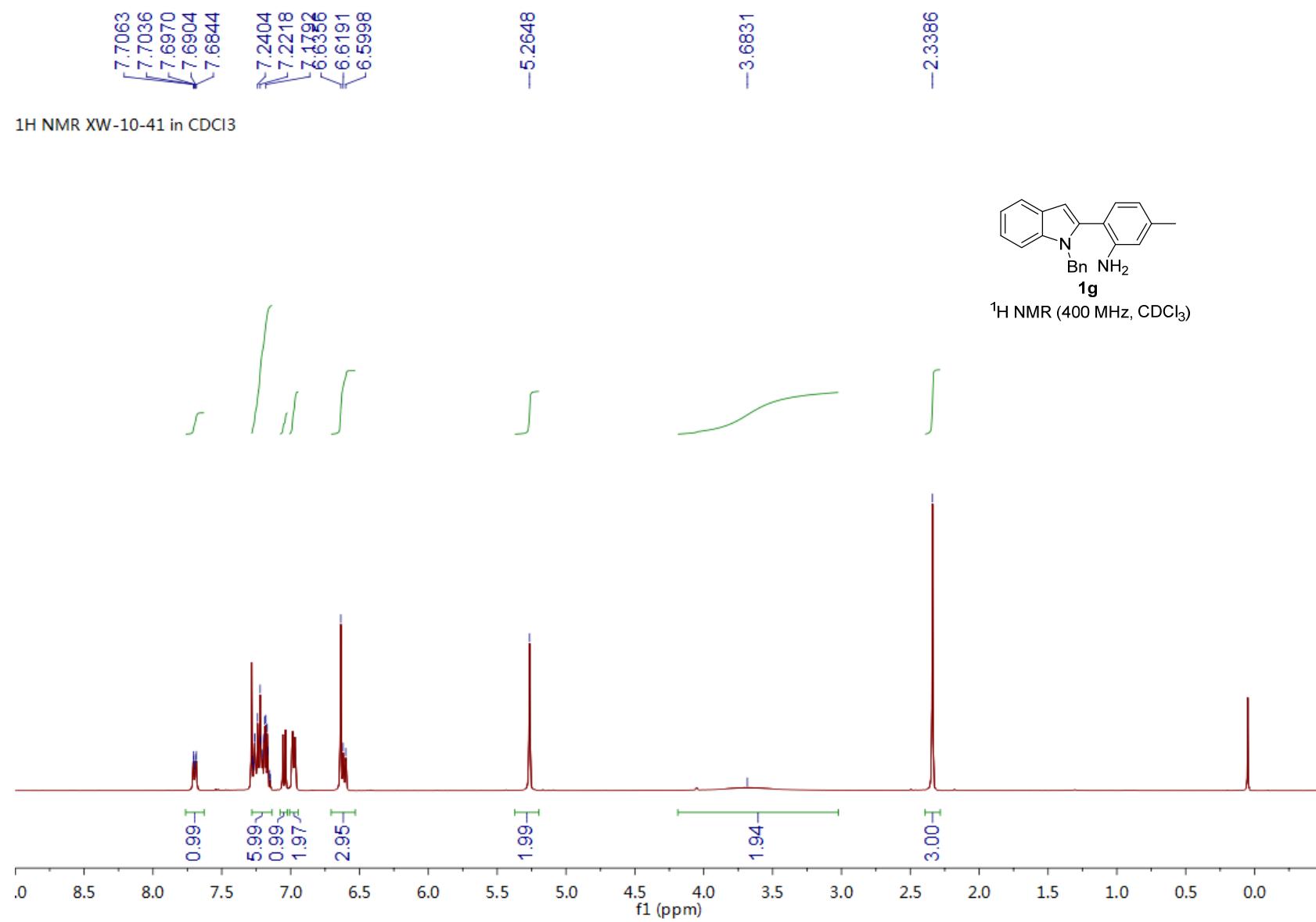
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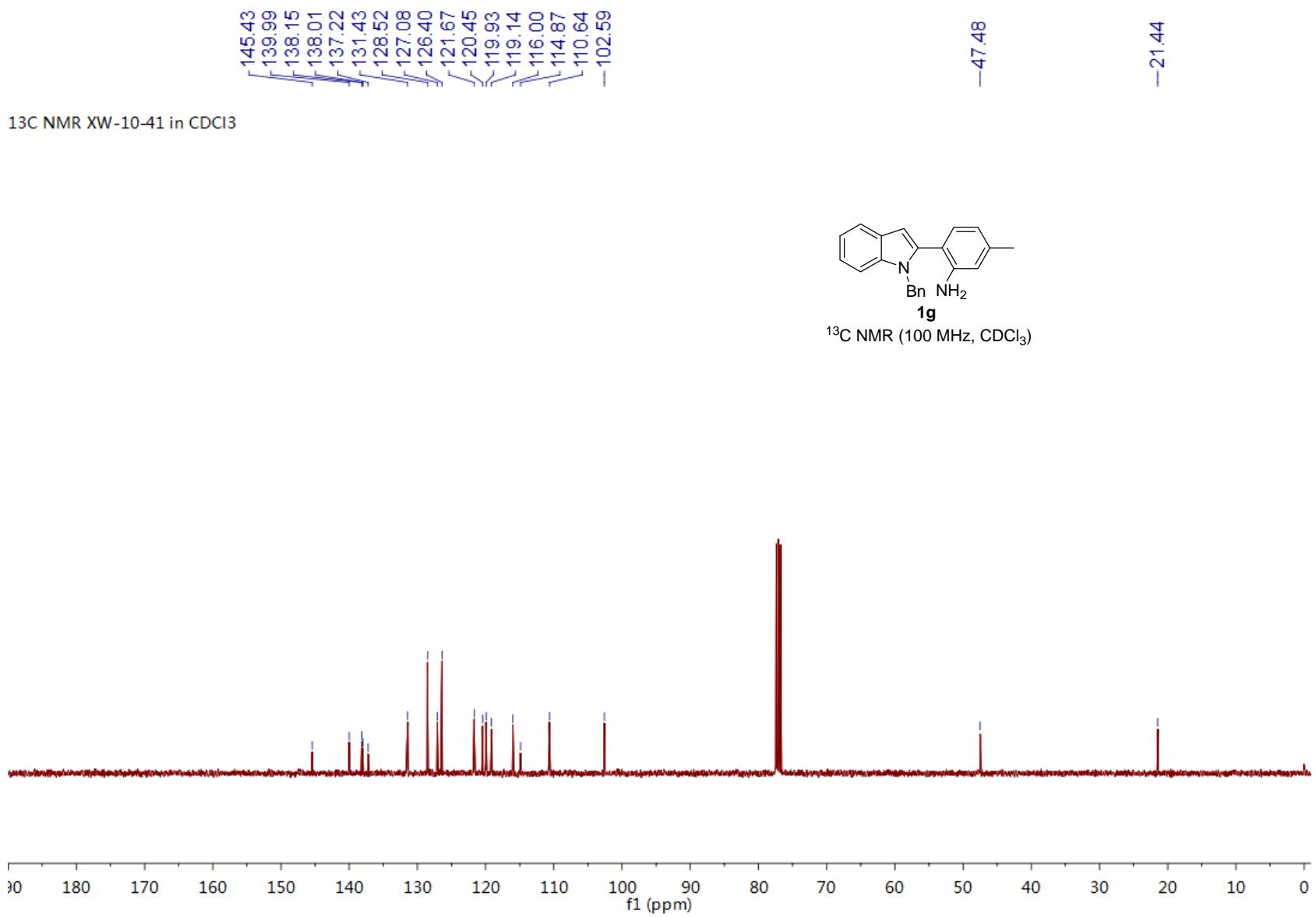
¹H NMR XW-10-96 in CDCl₃

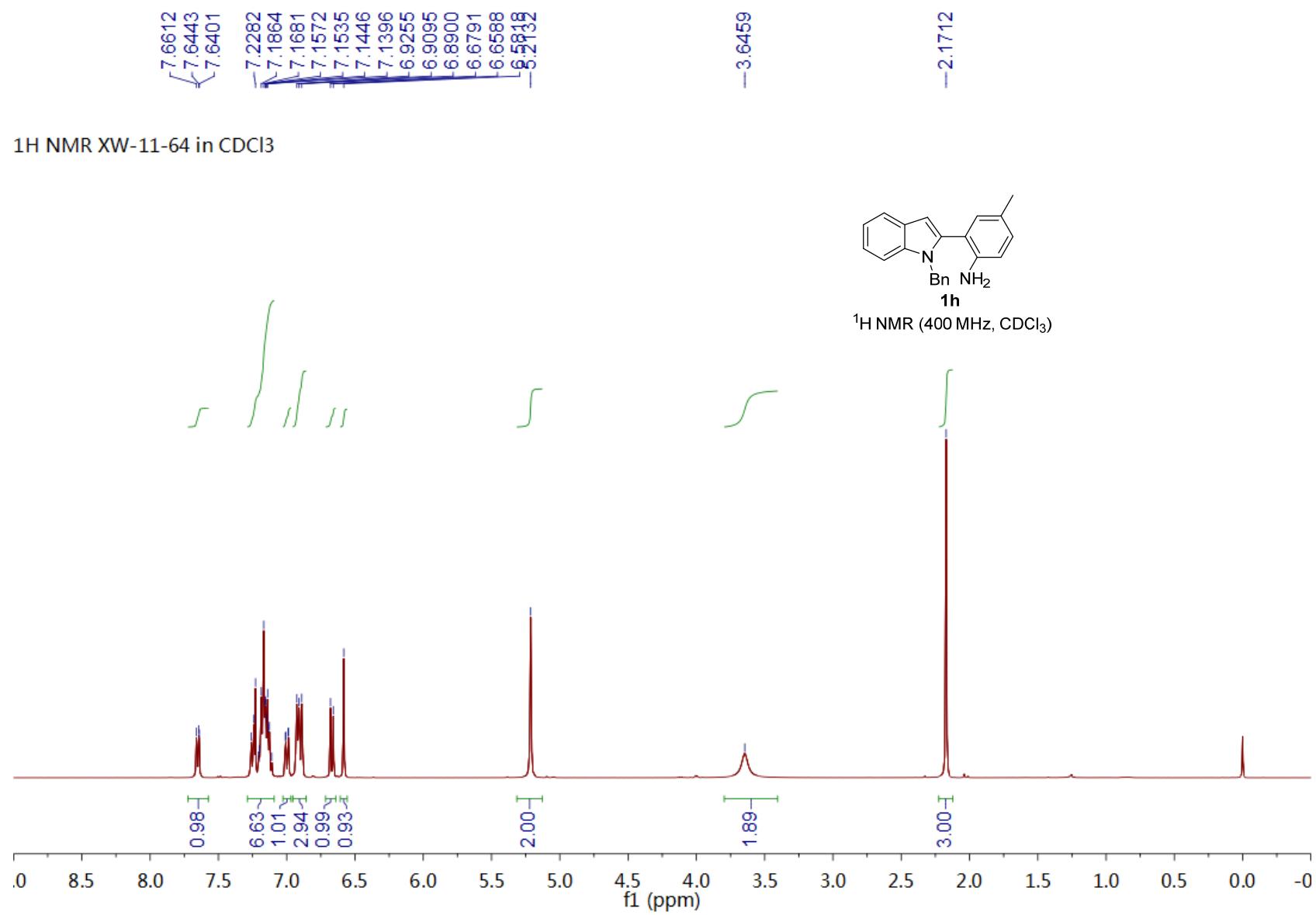


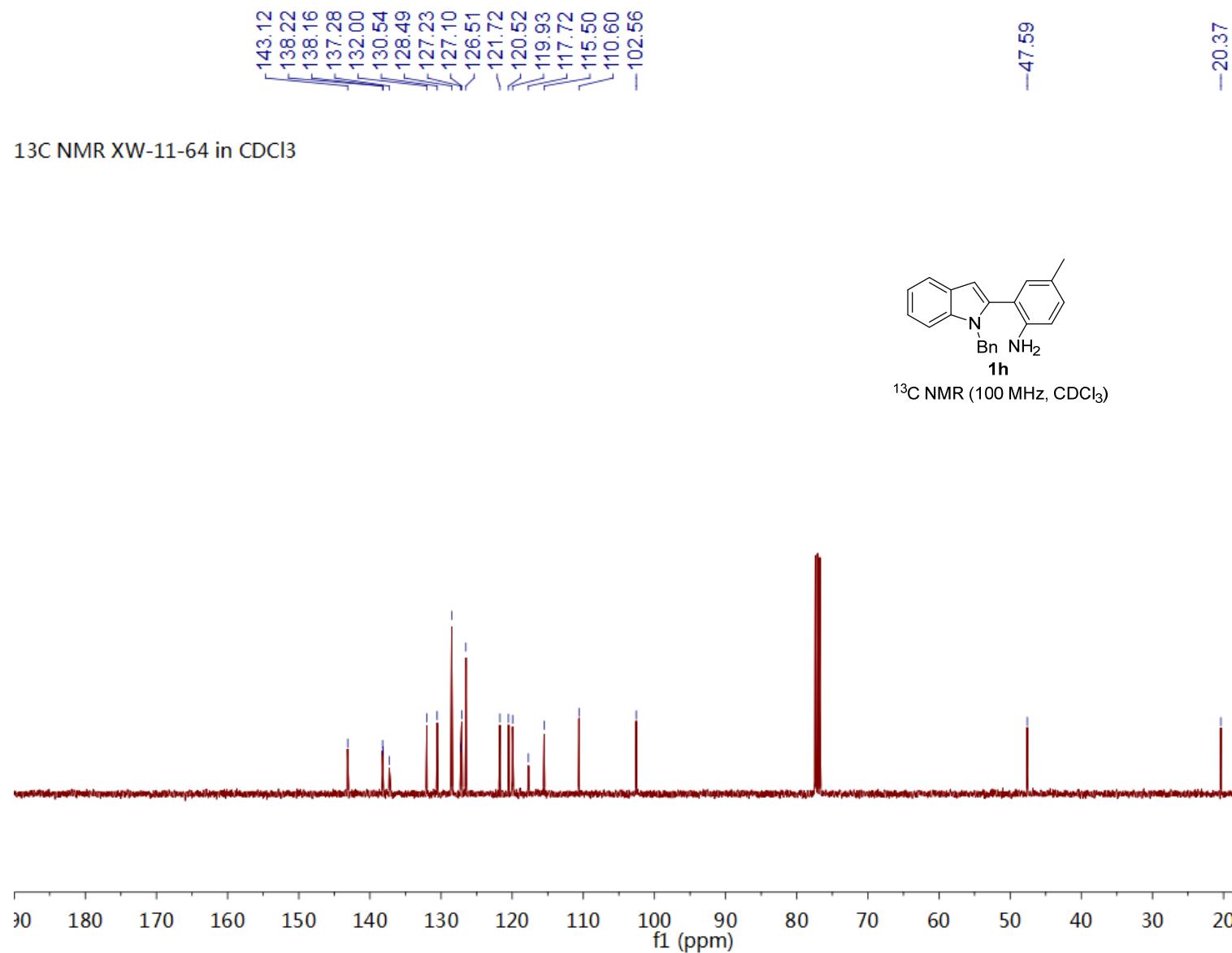
¹H NMR (400 MHz, CDCl₃)

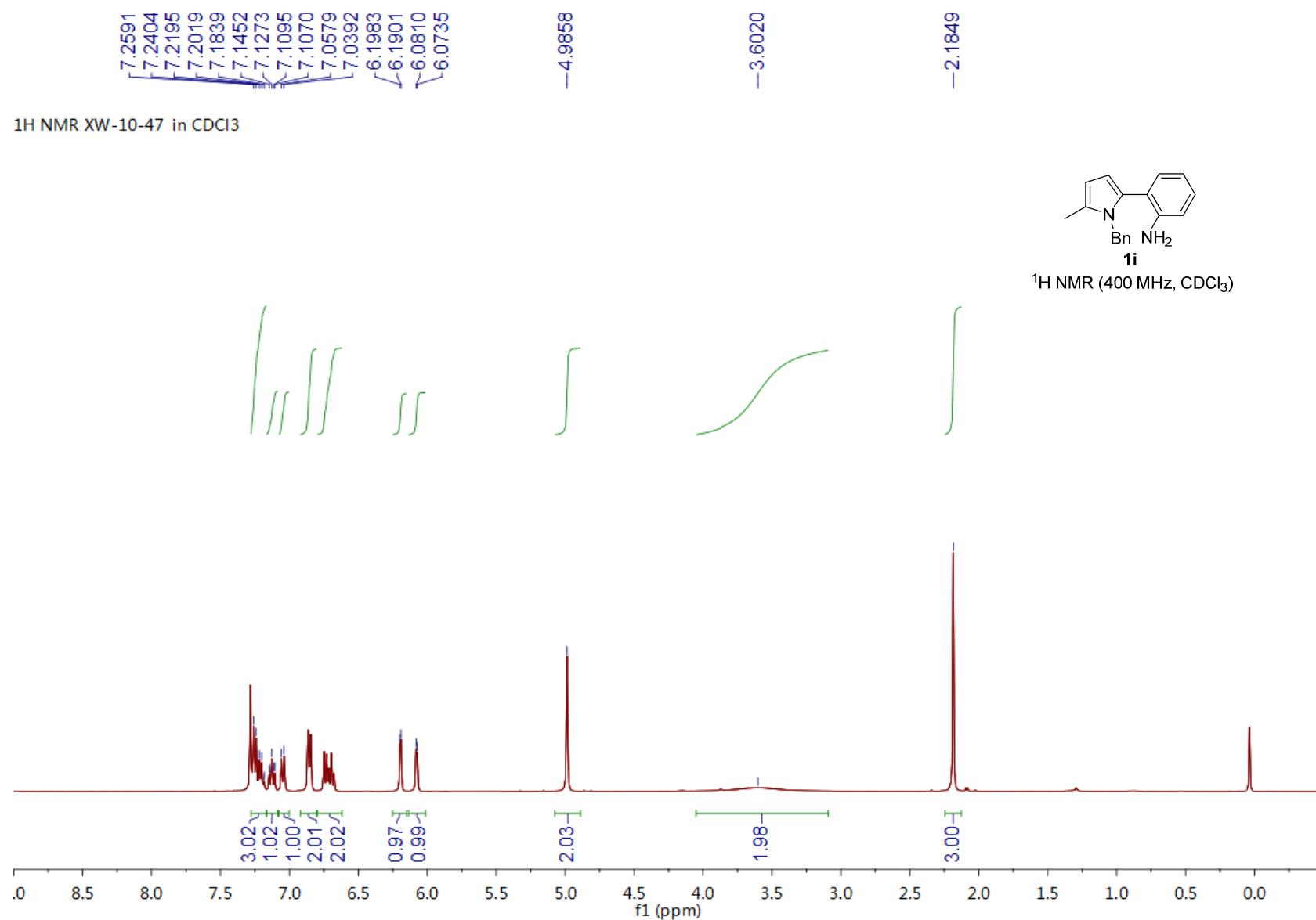


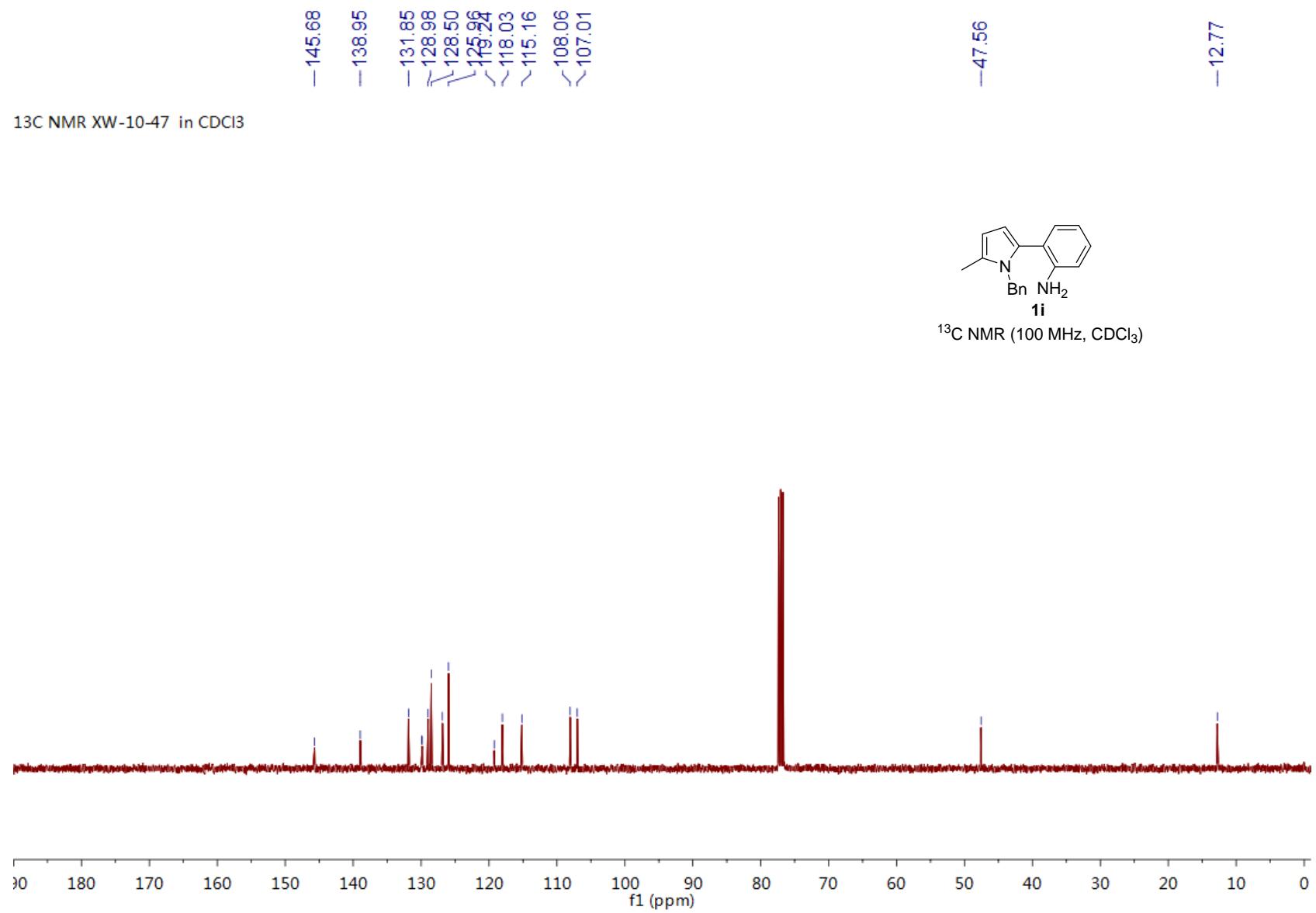


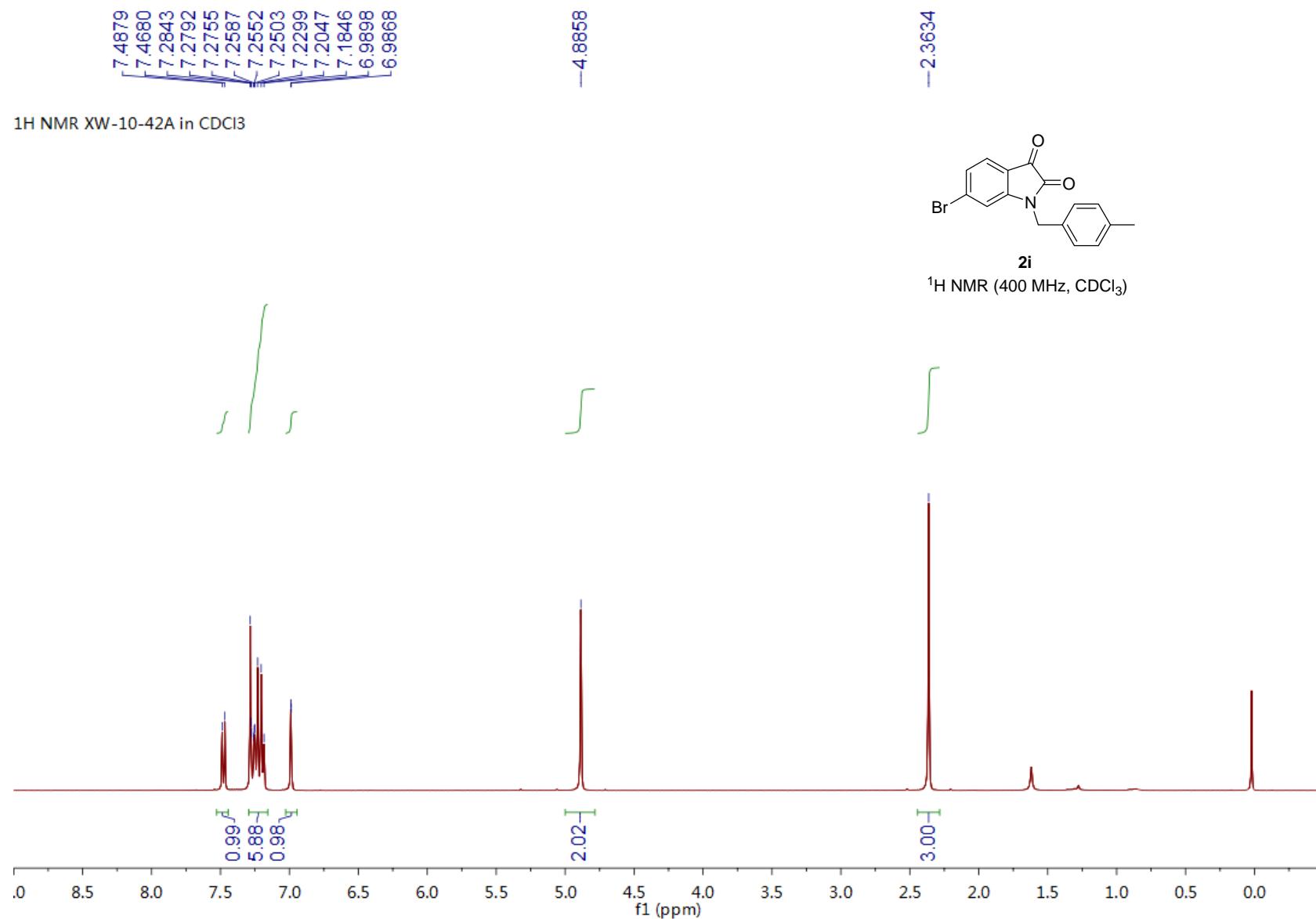


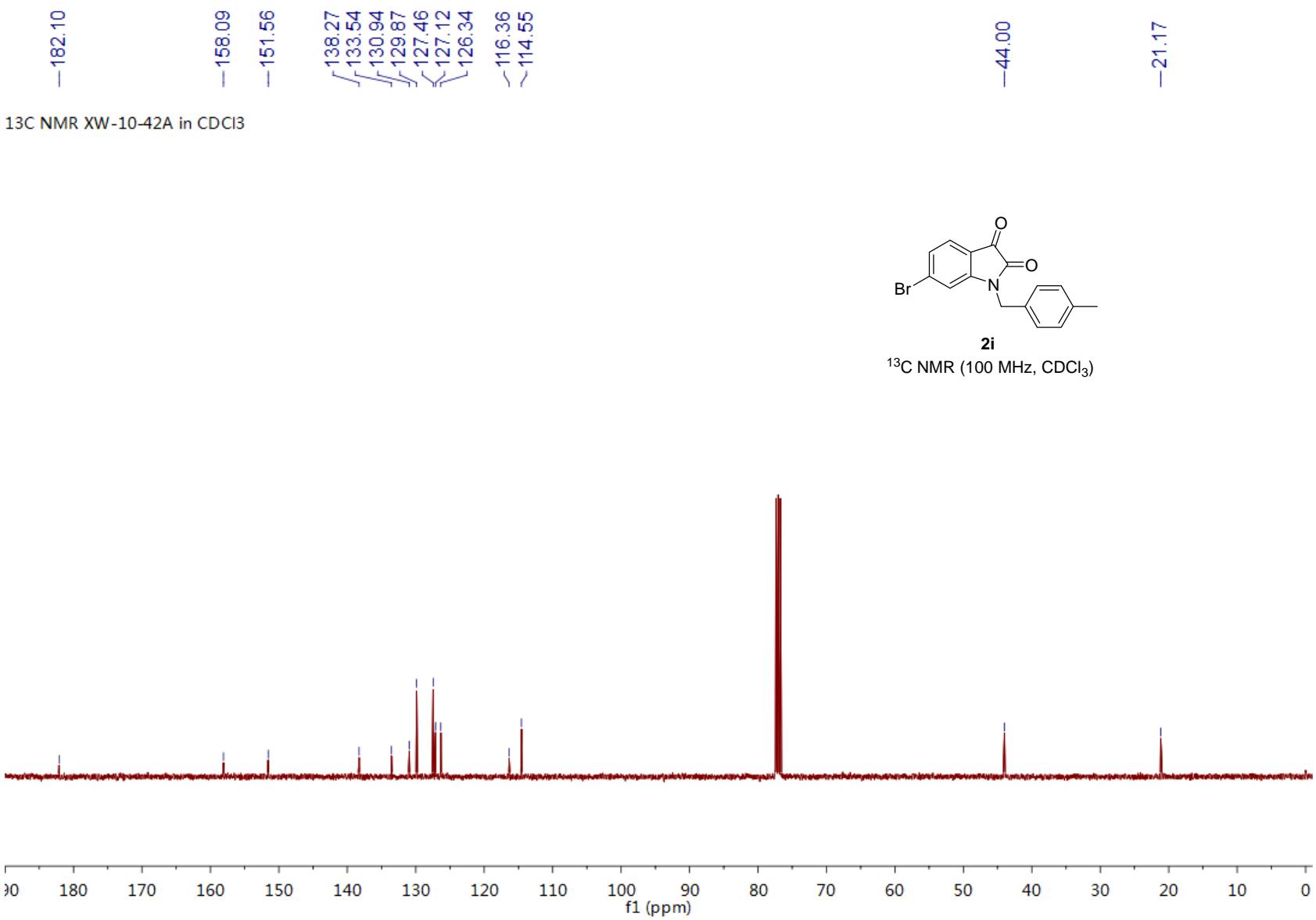


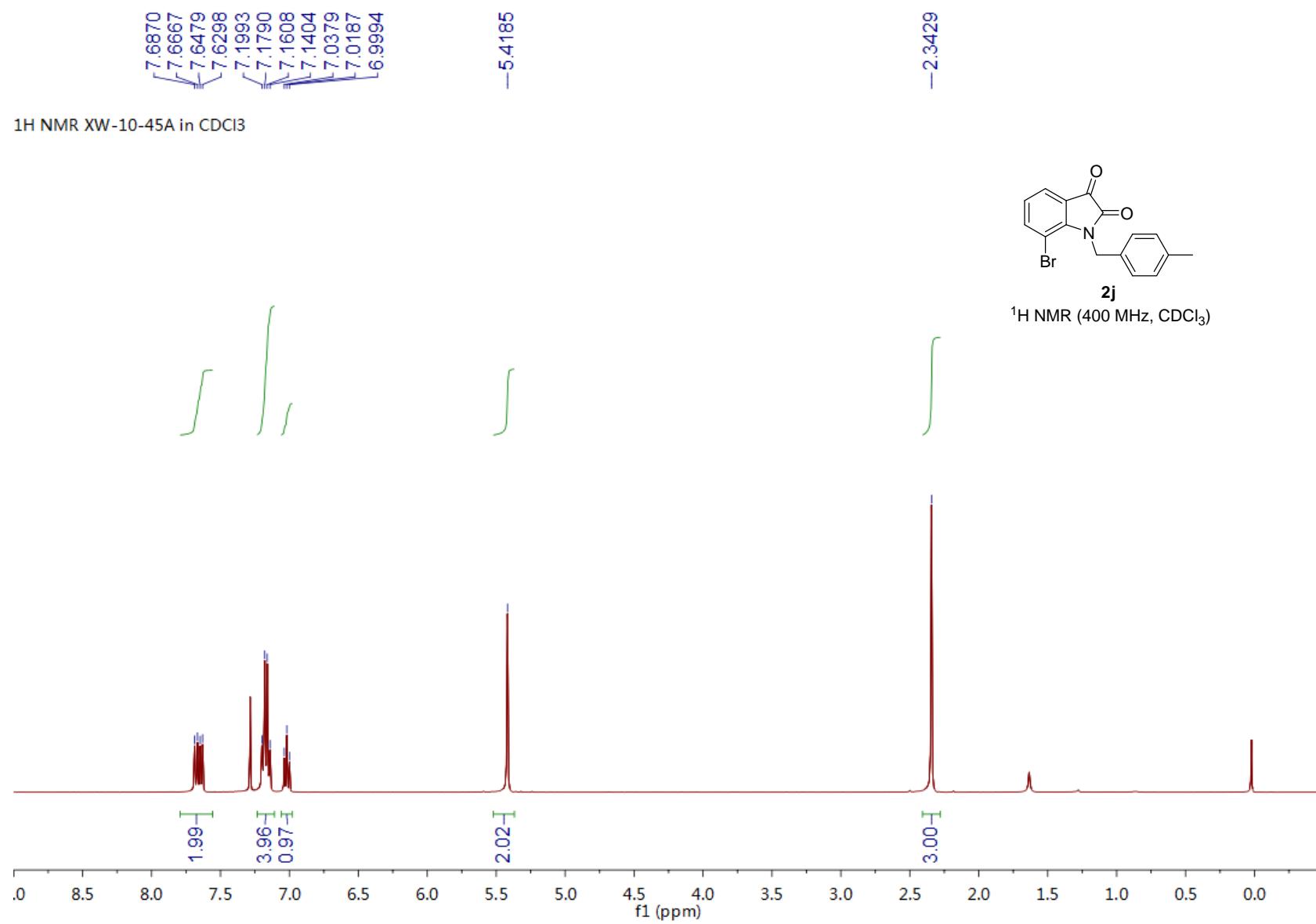


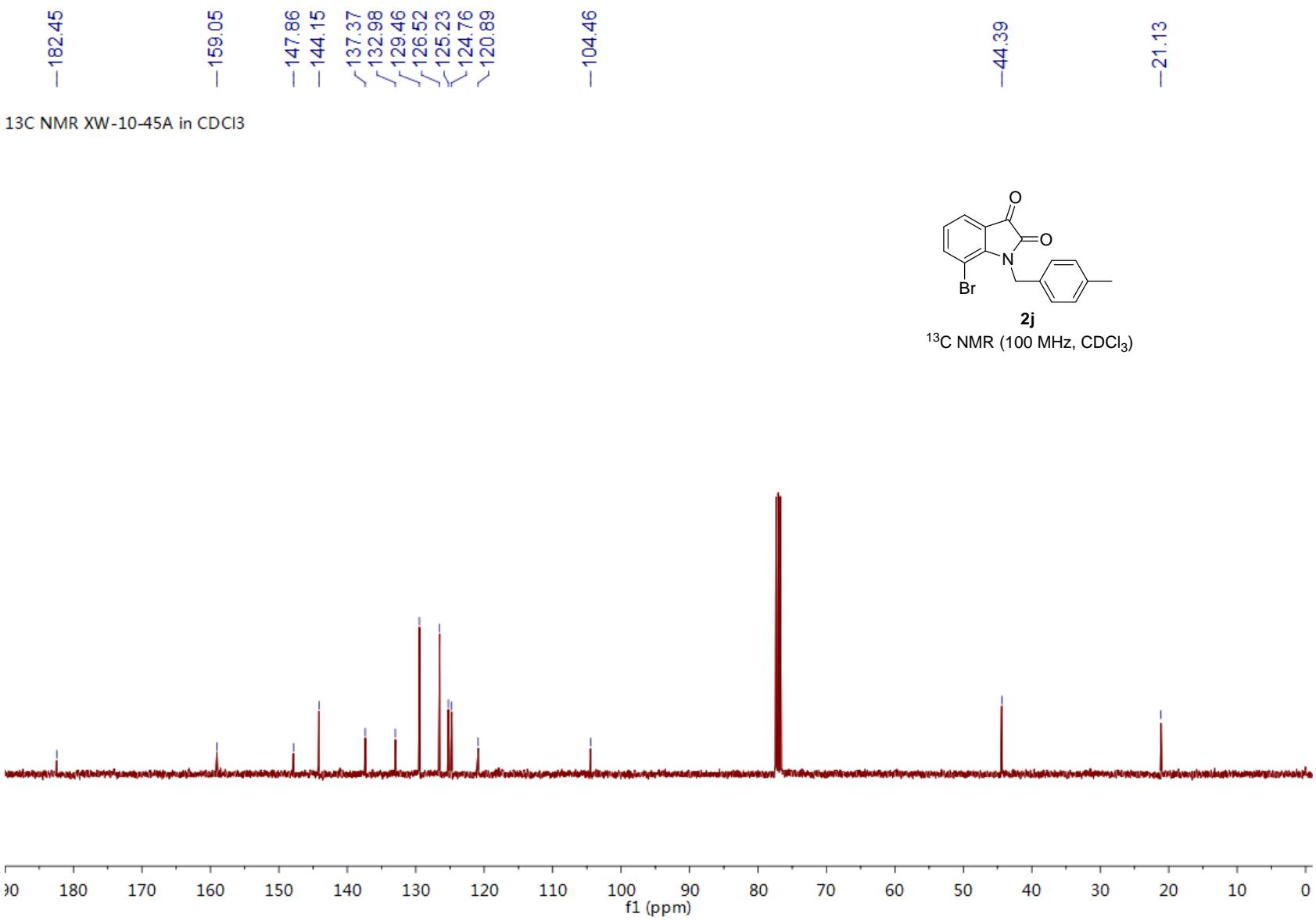


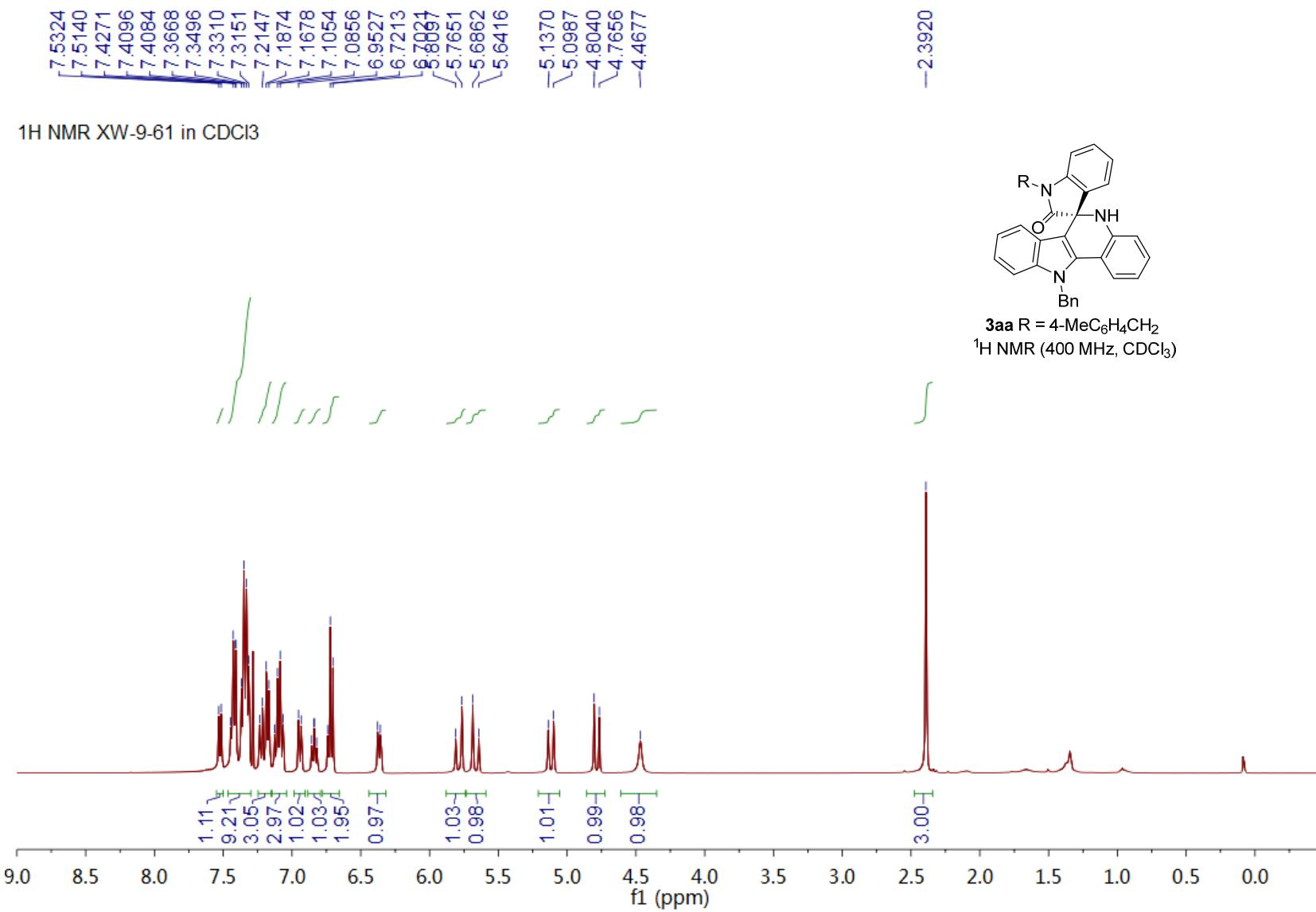


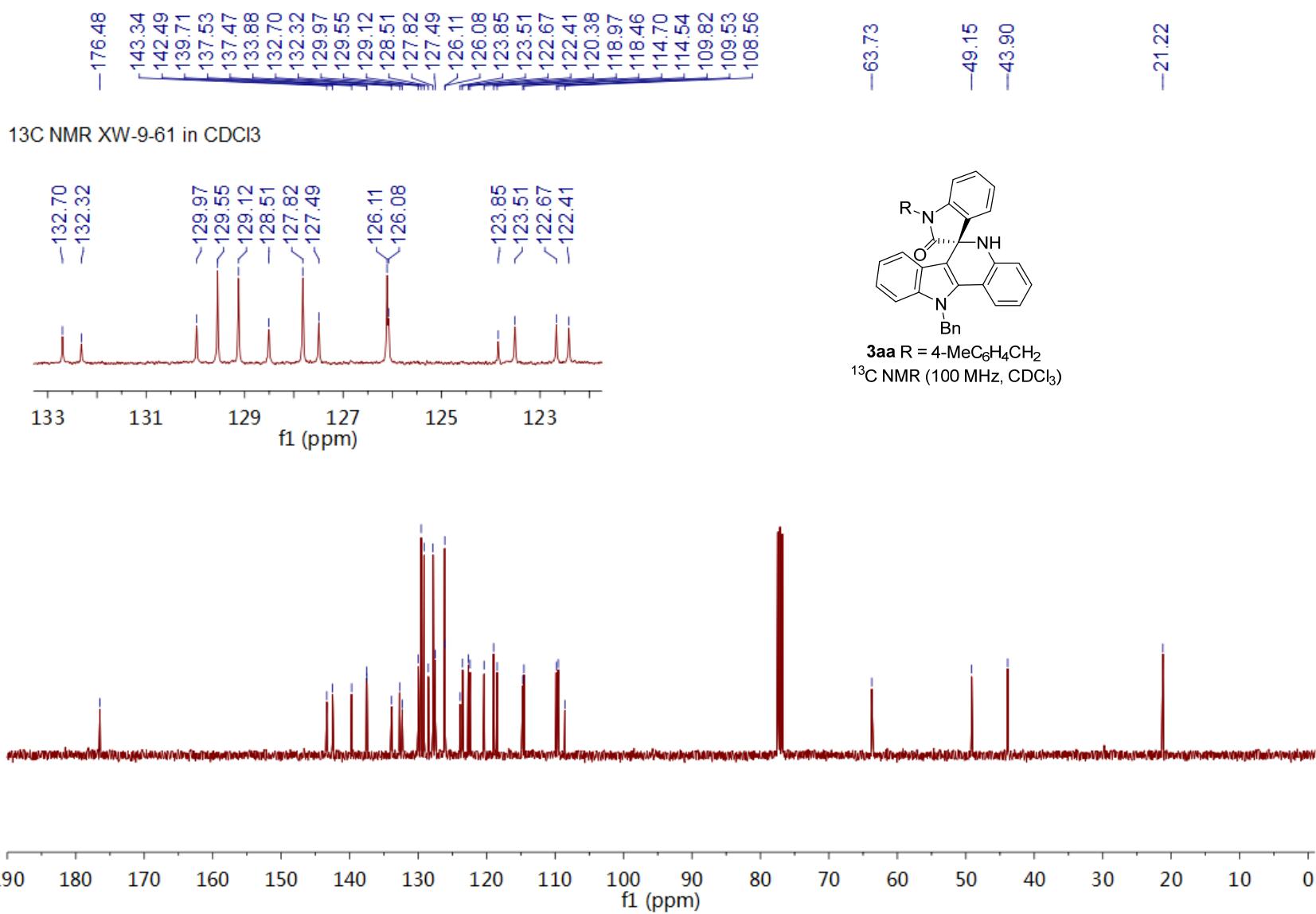


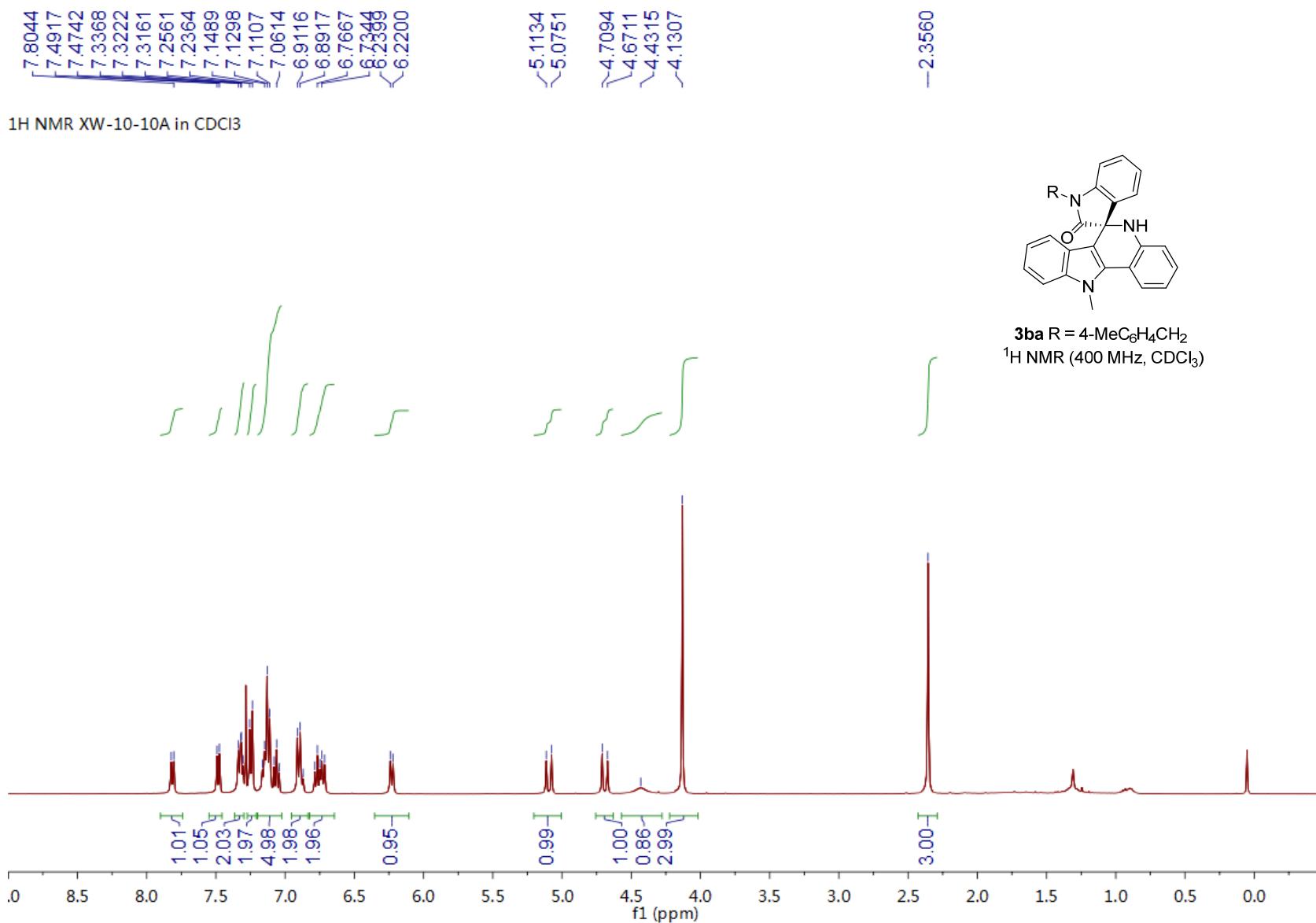


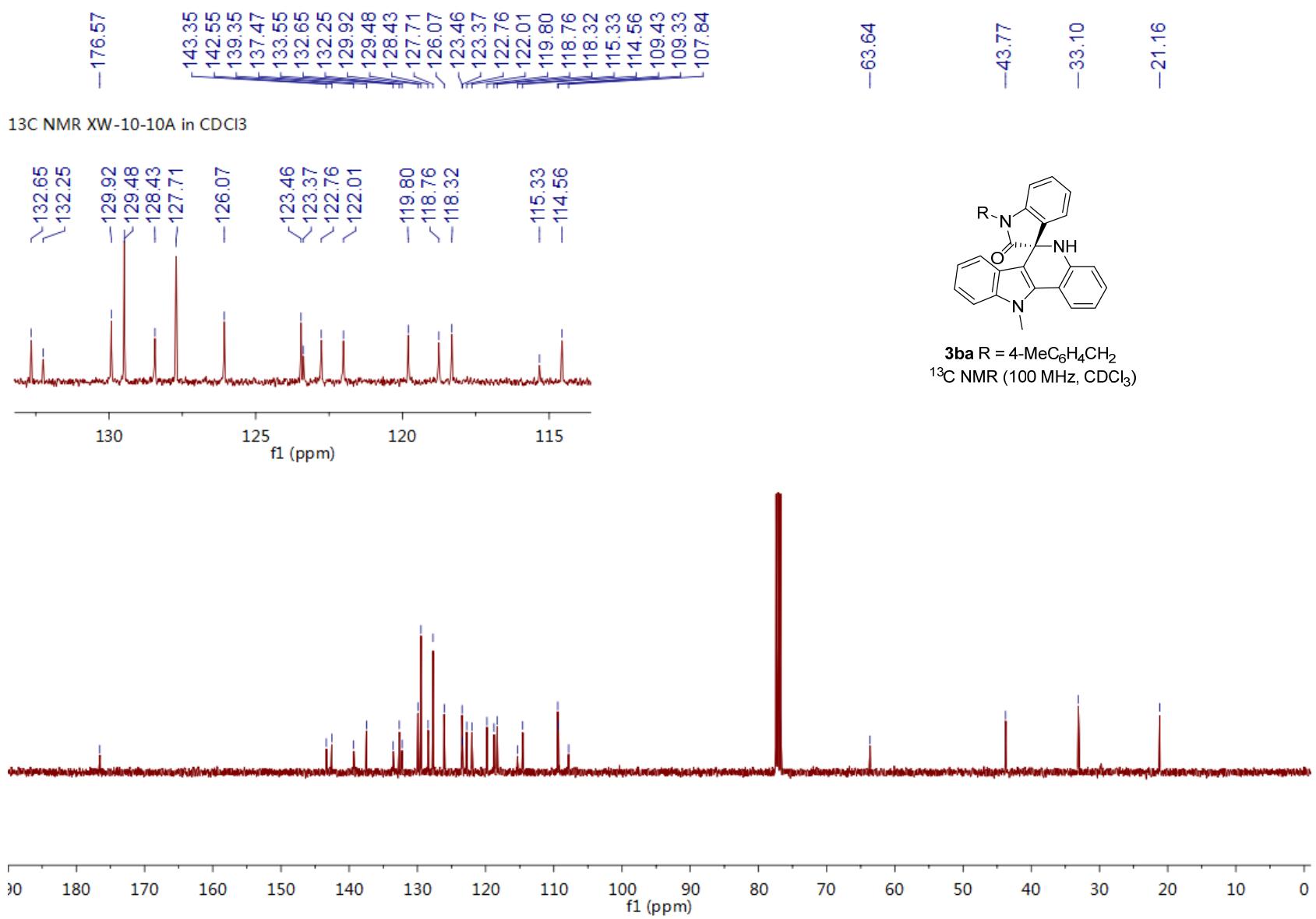


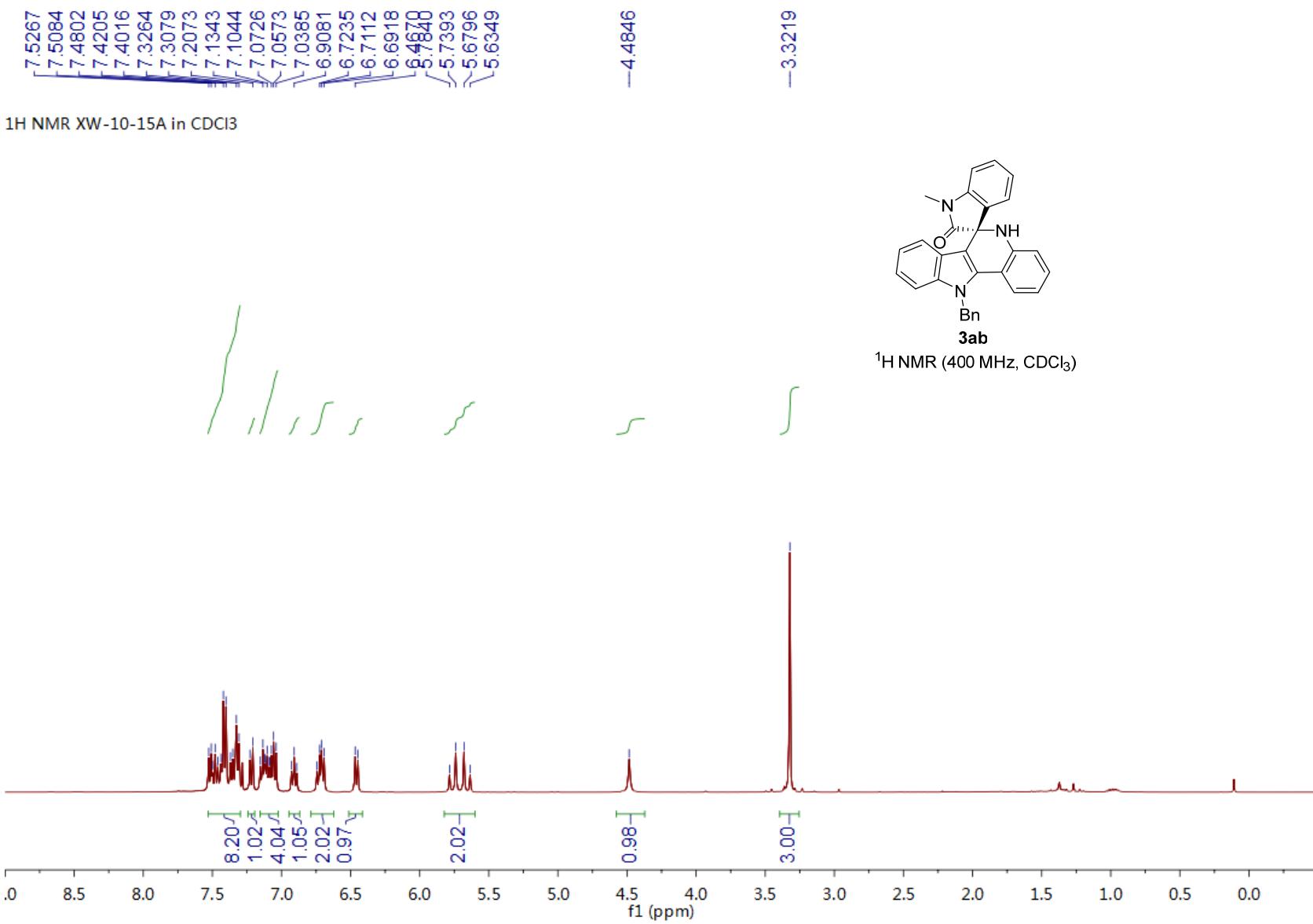


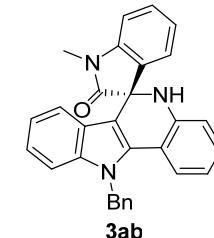
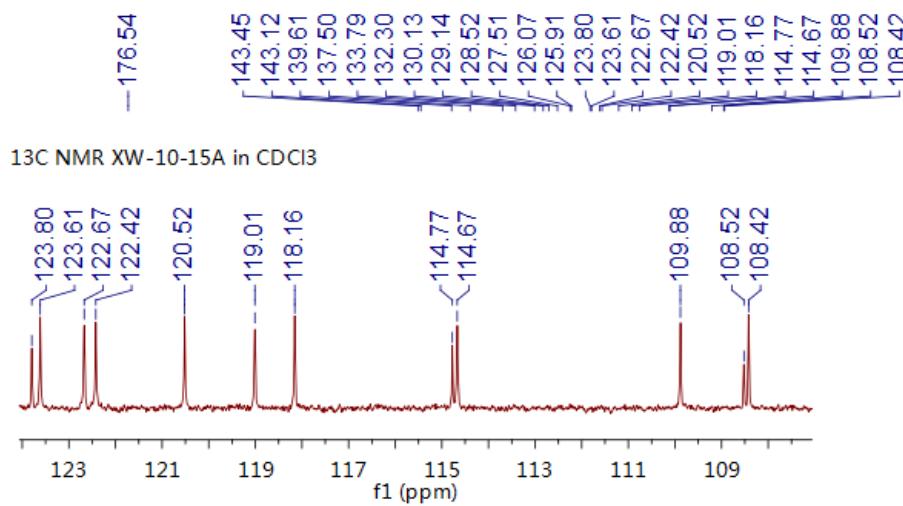




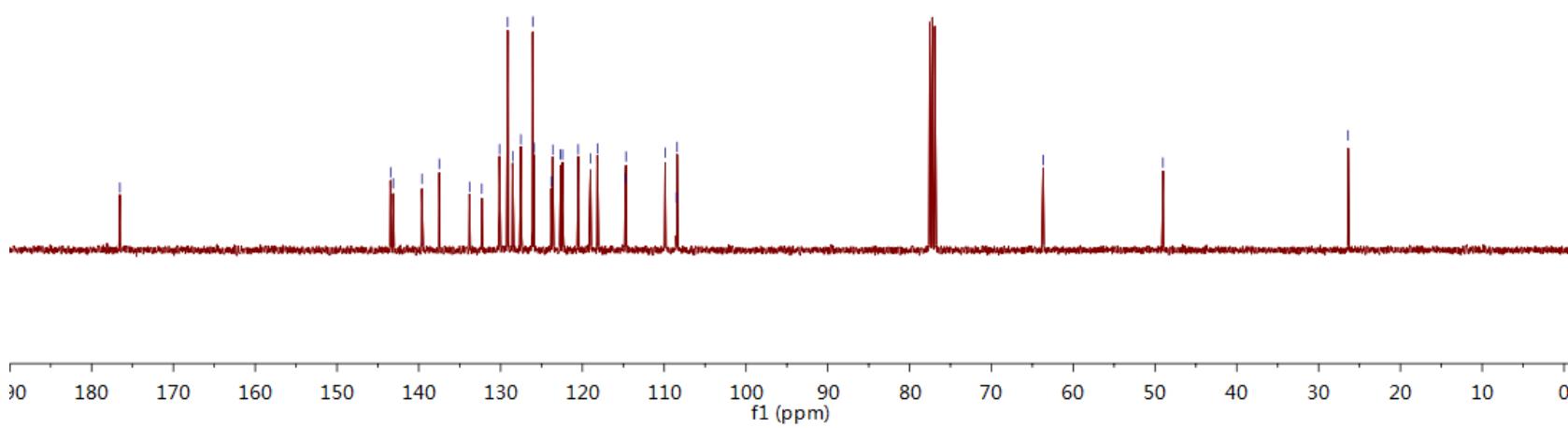






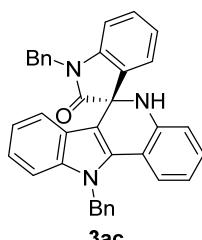
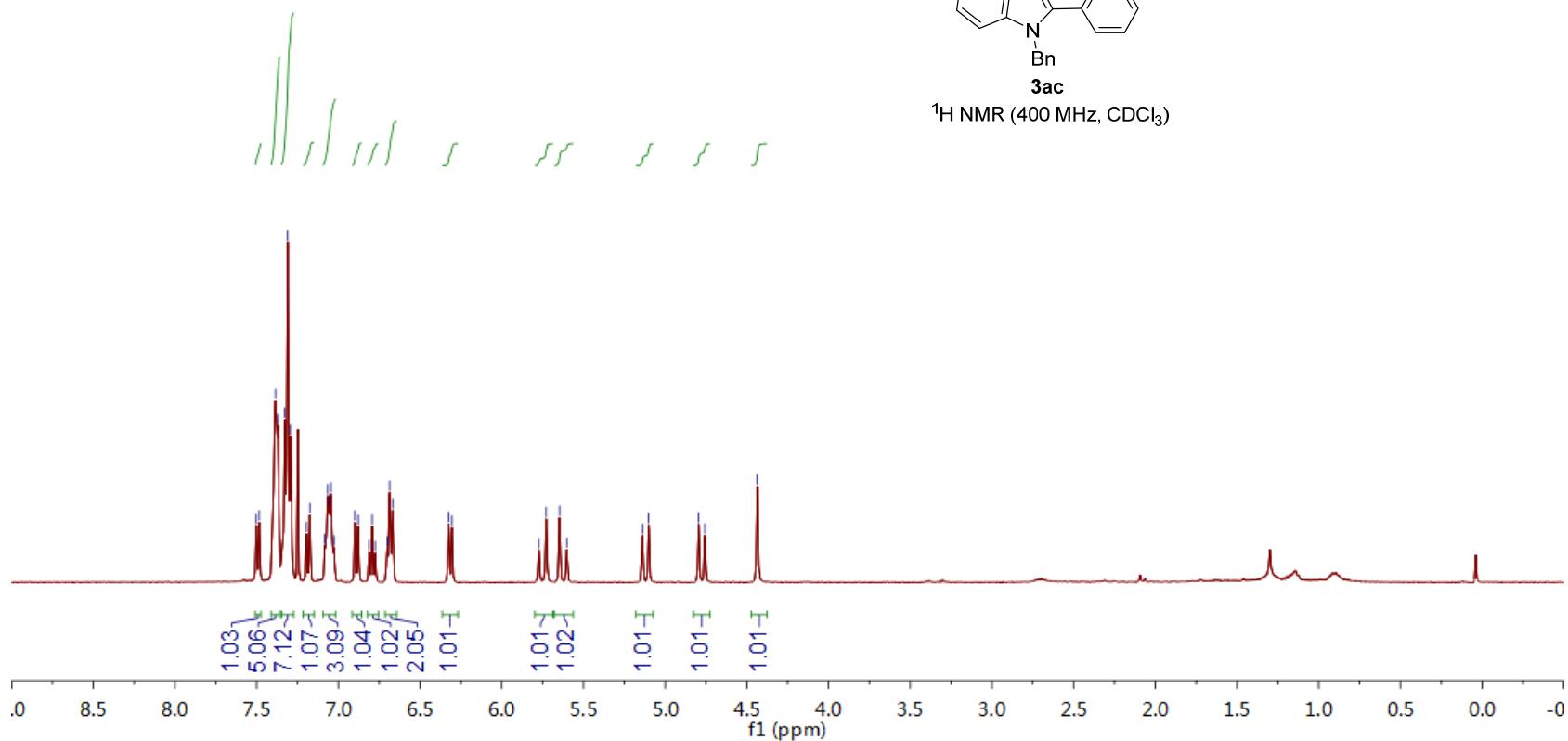


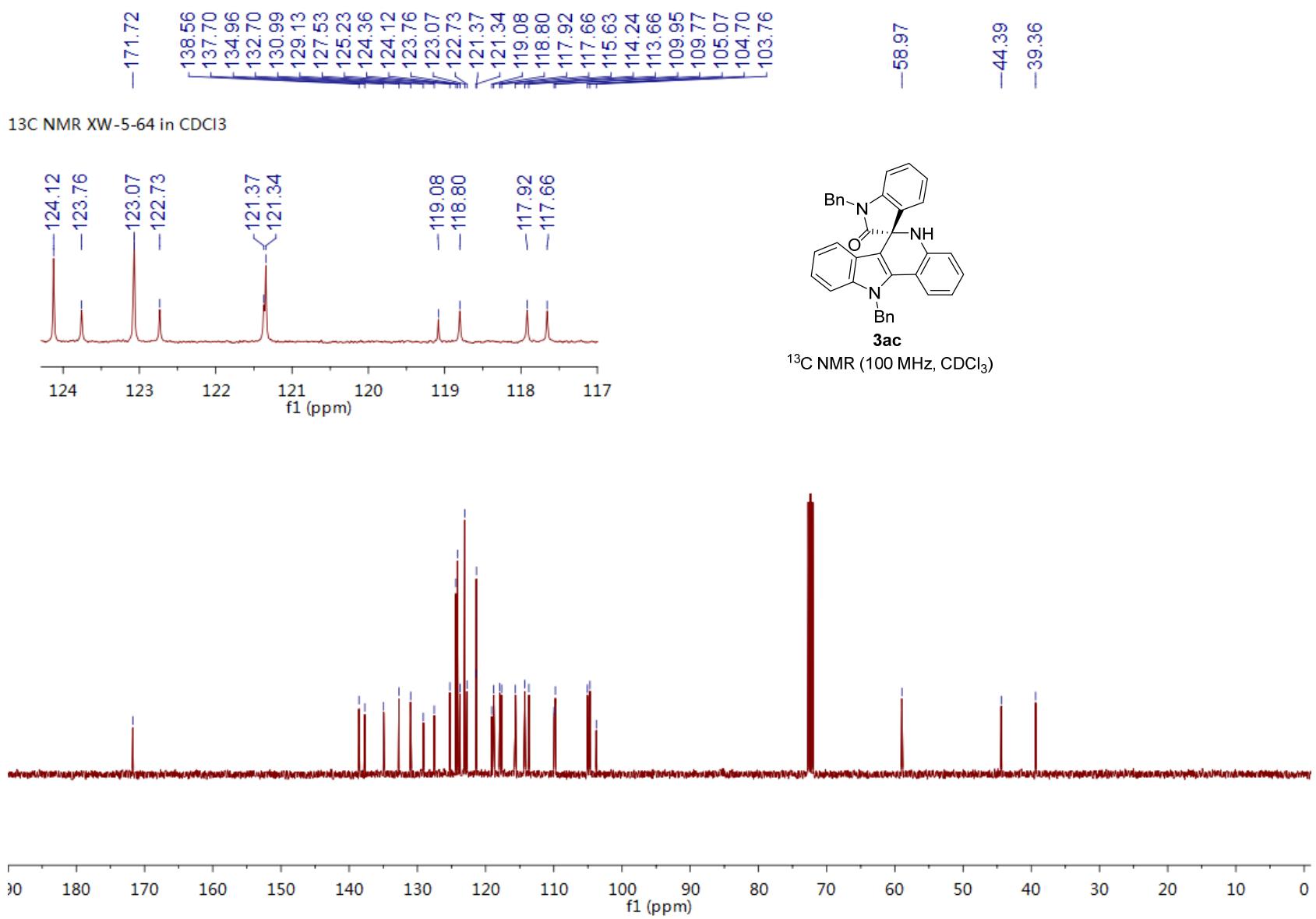
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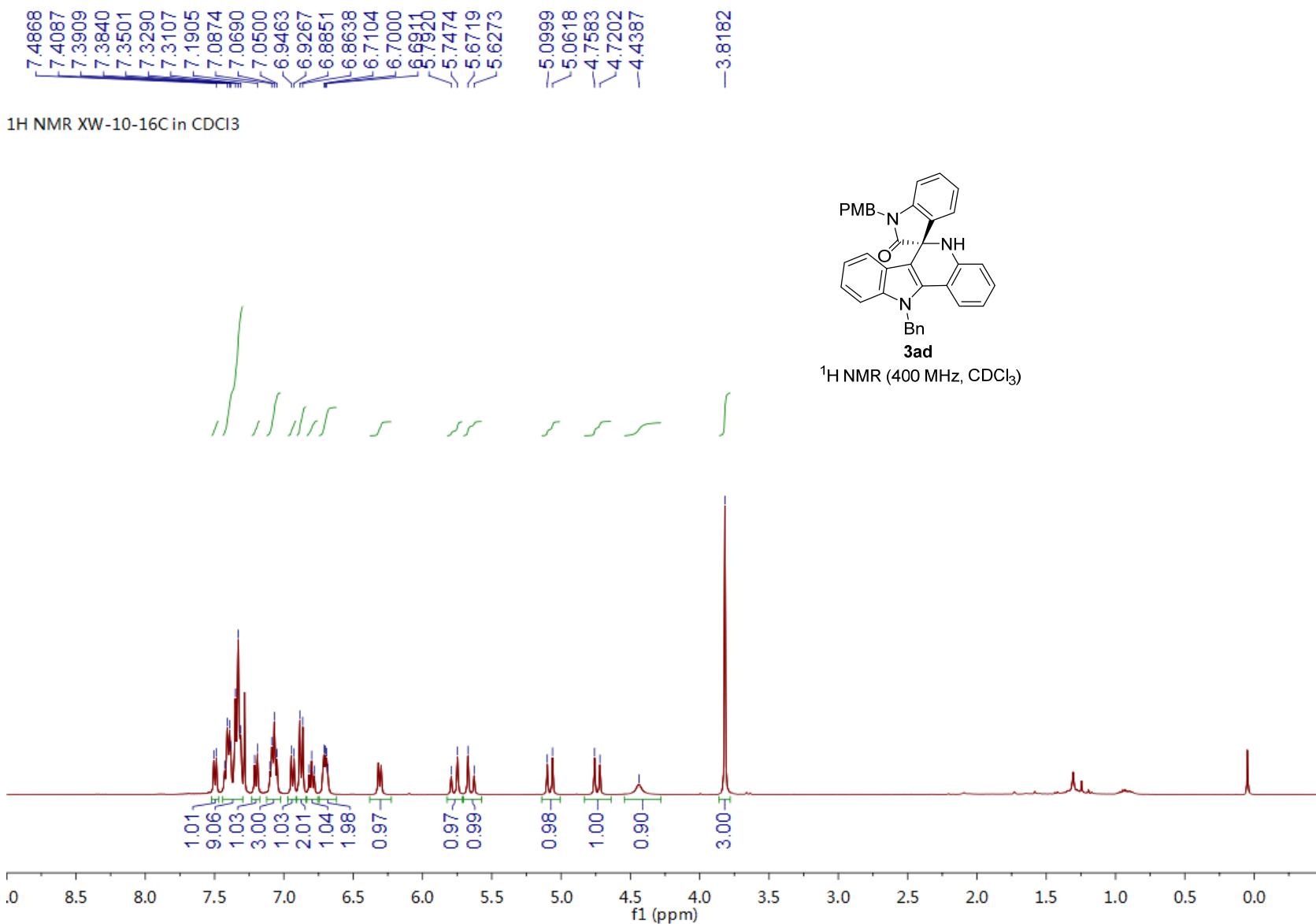


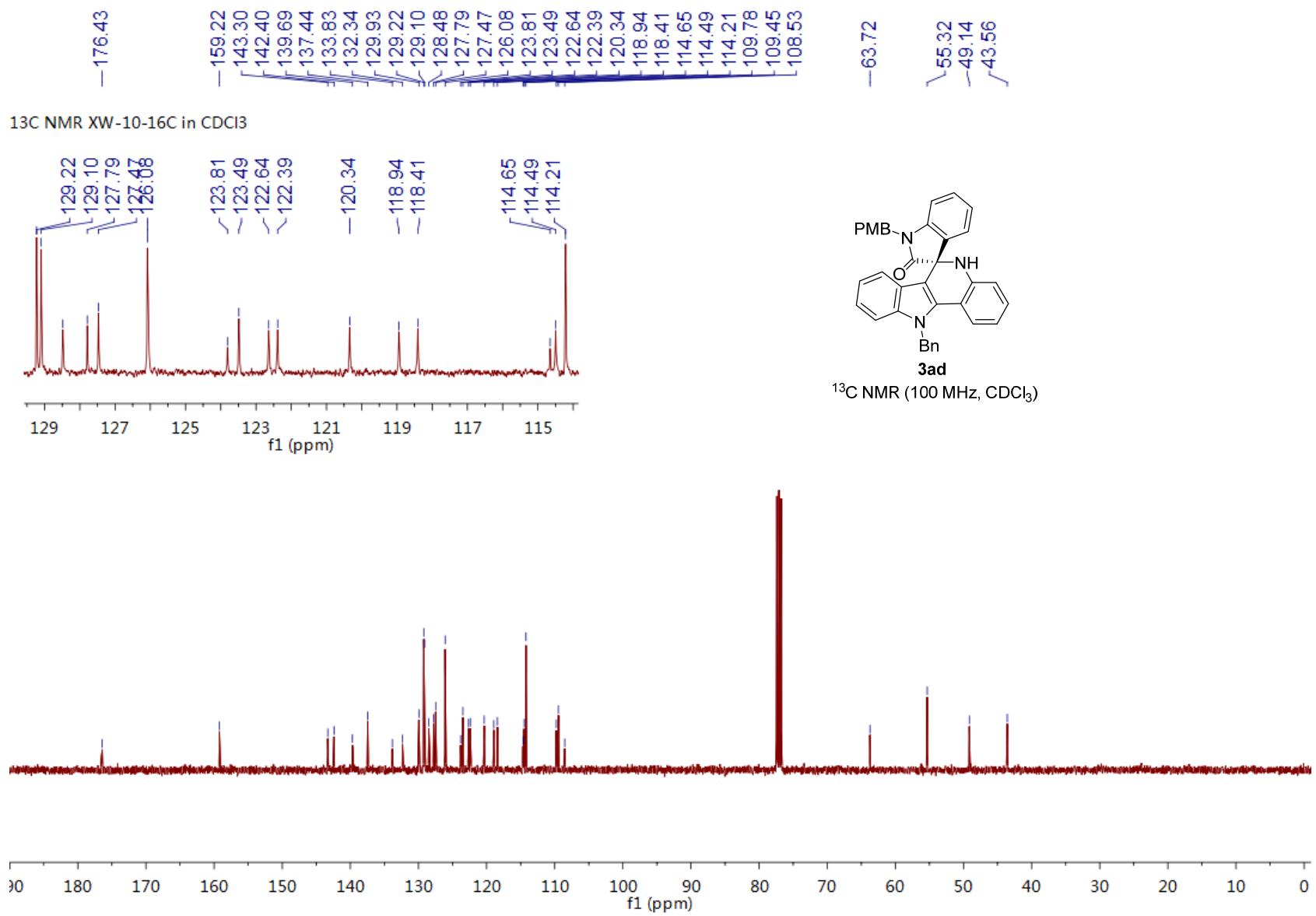
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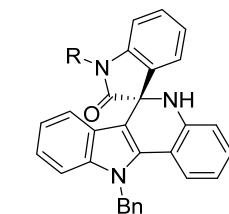
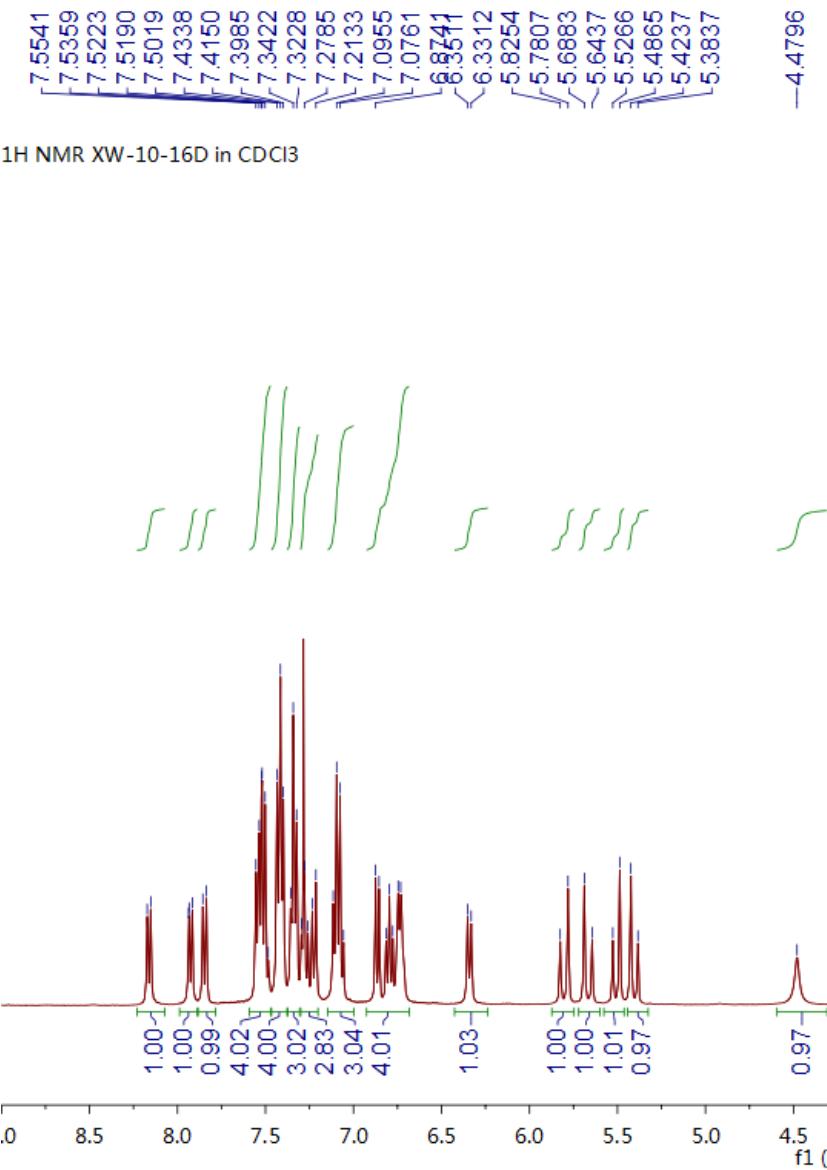
¹H NMR XW-5-64 in CDCl₃



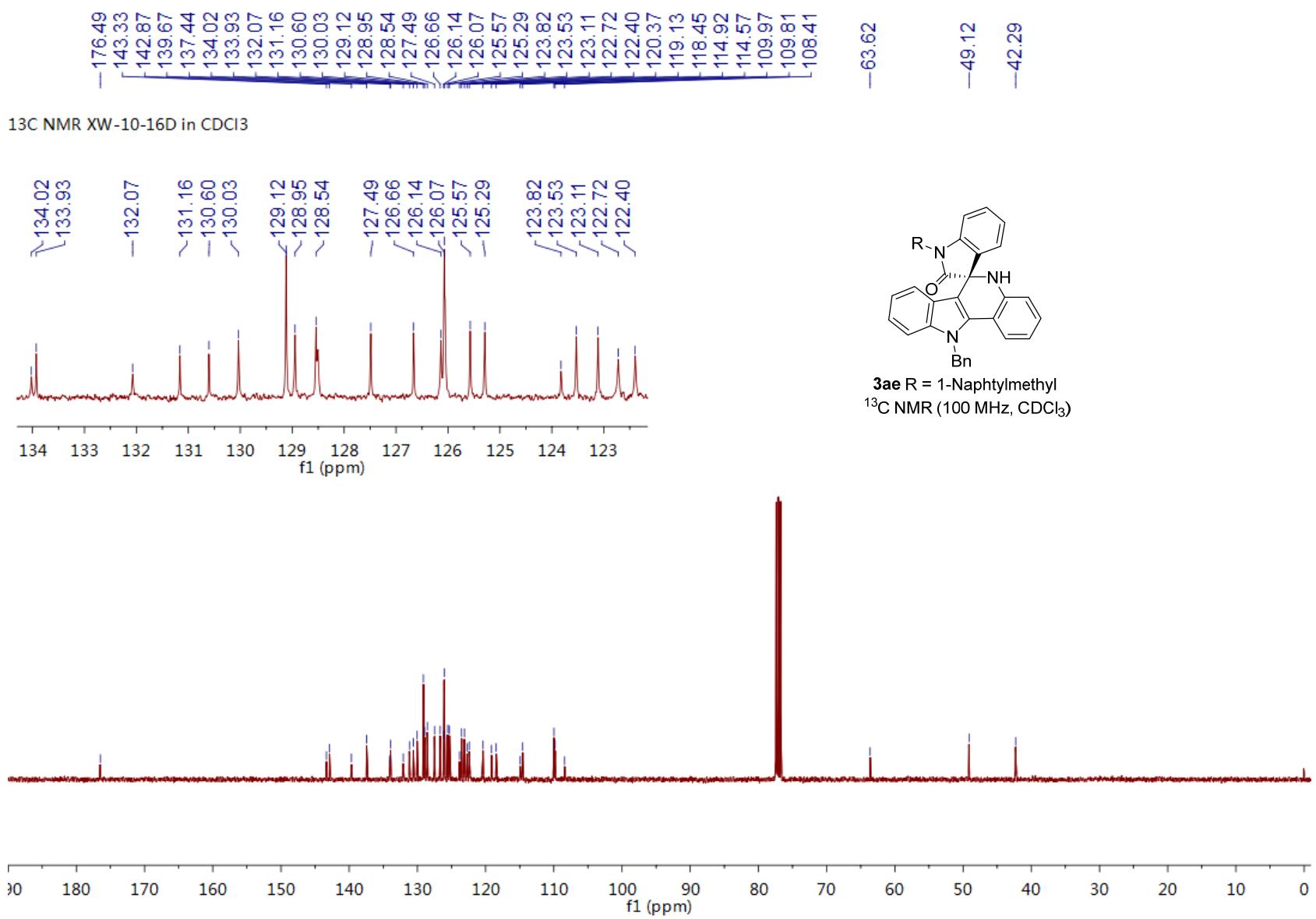


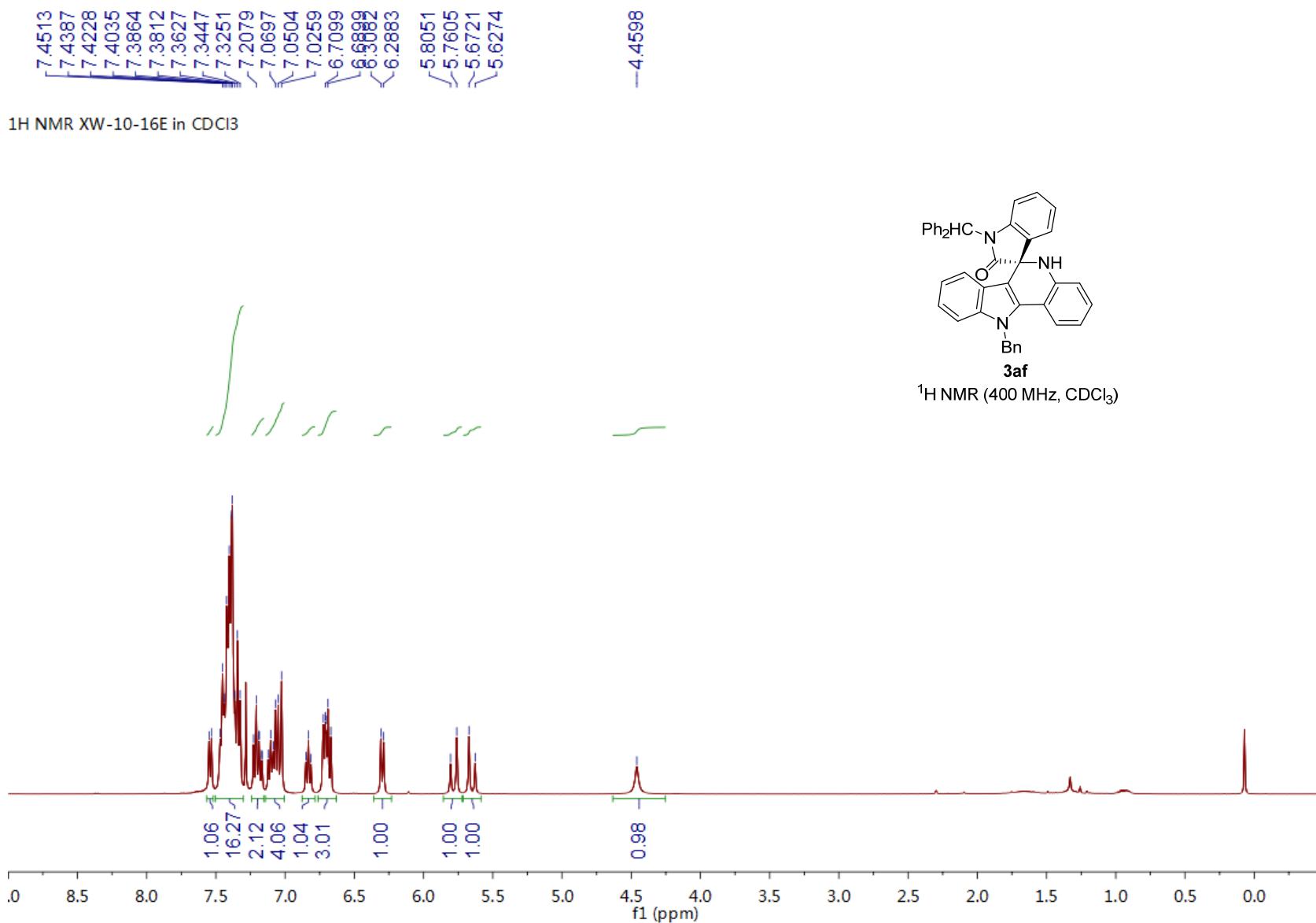


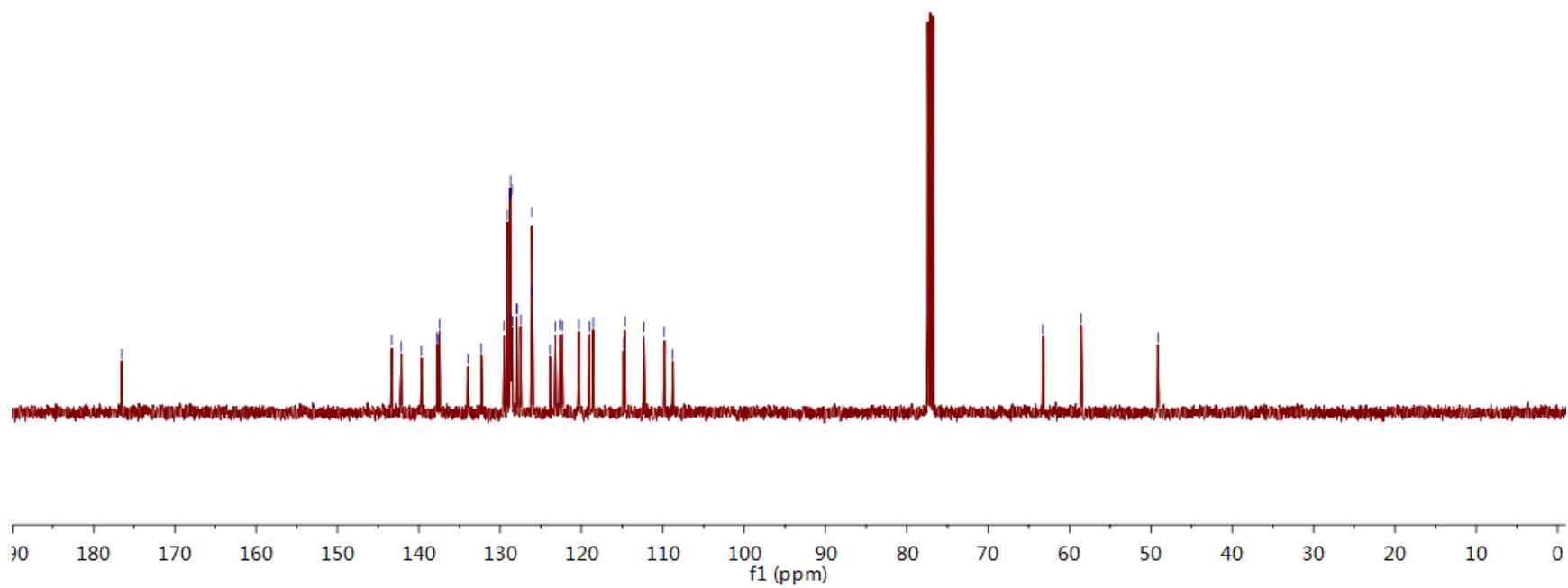
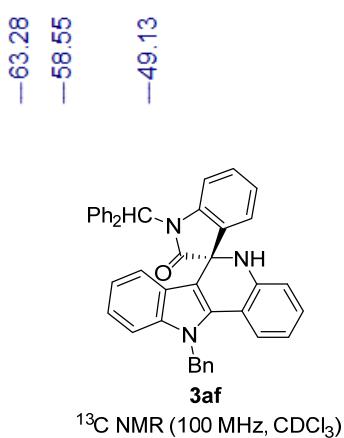
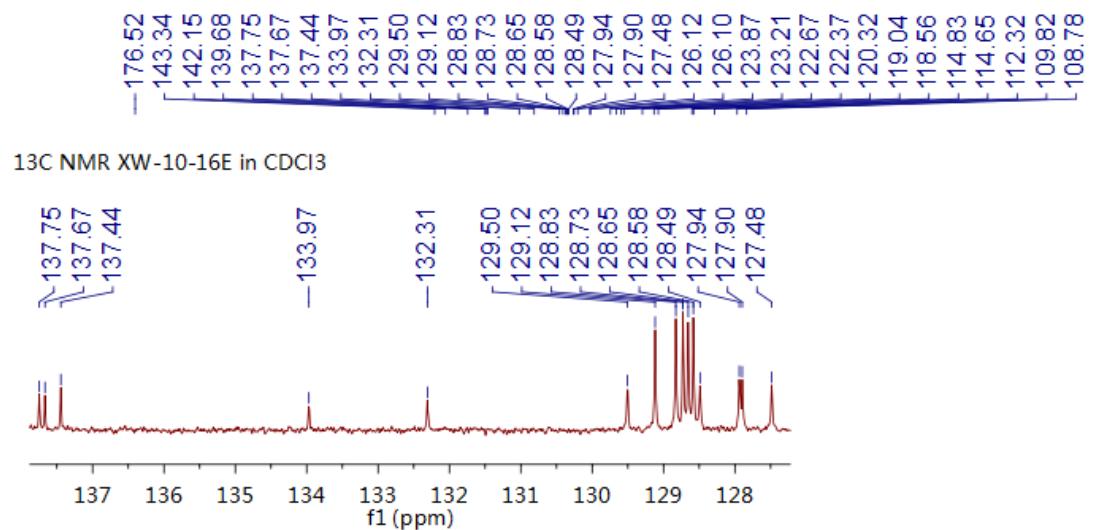


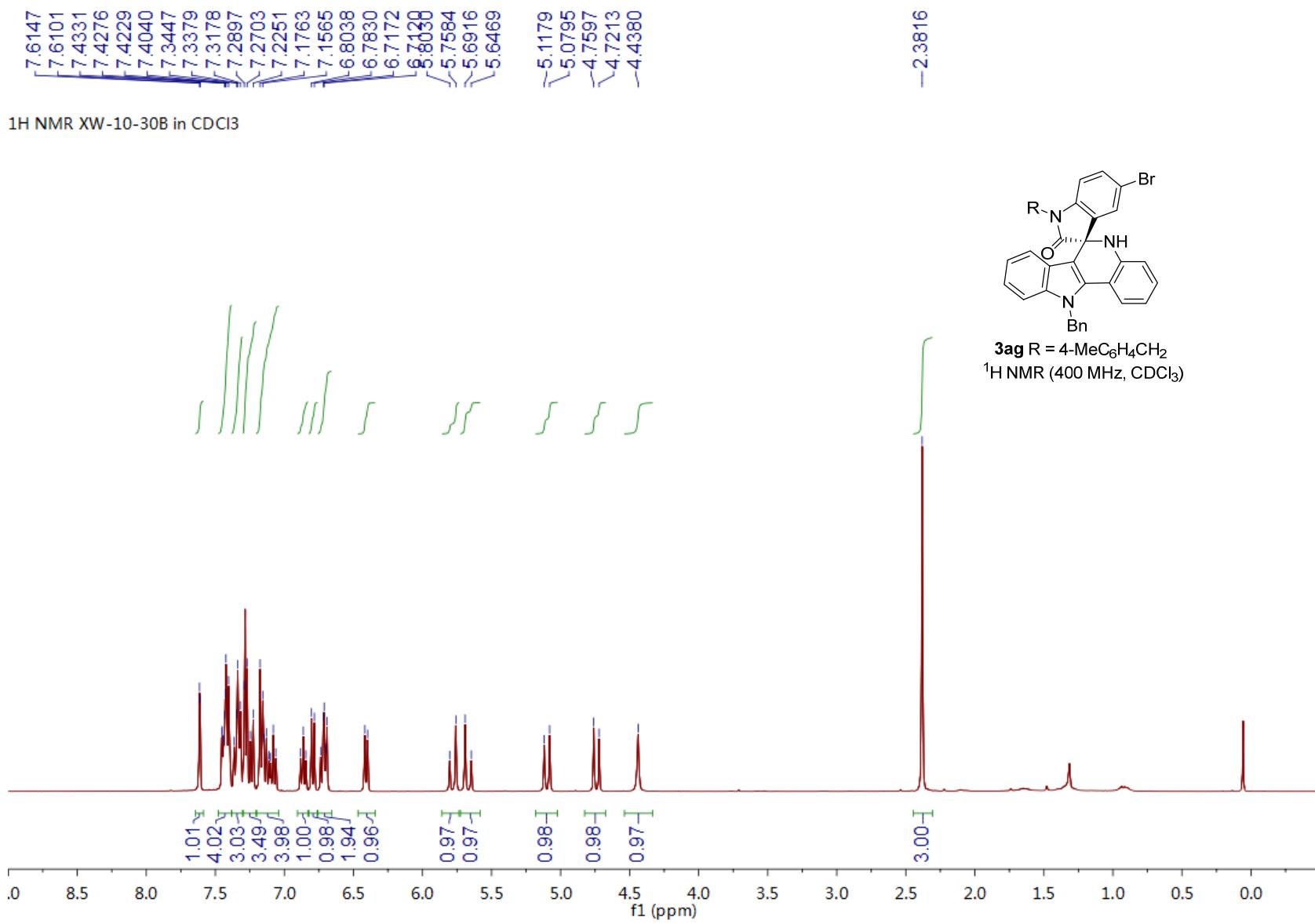


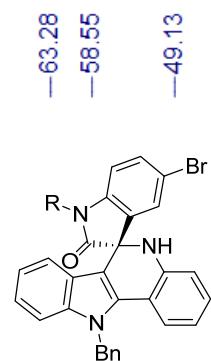
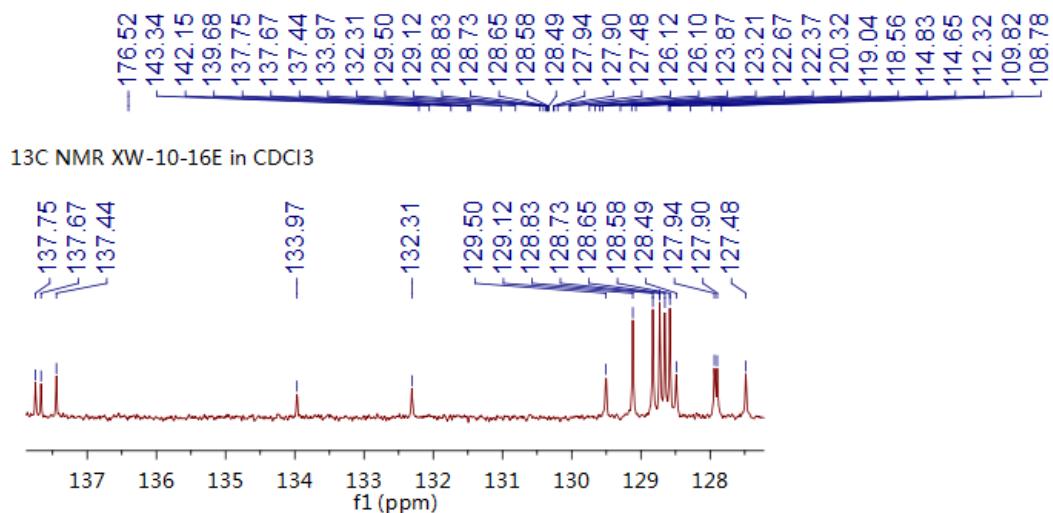
3ae R = 1-Naphthylmethyl
¹H NMR (400 MHz, CDCl₃)



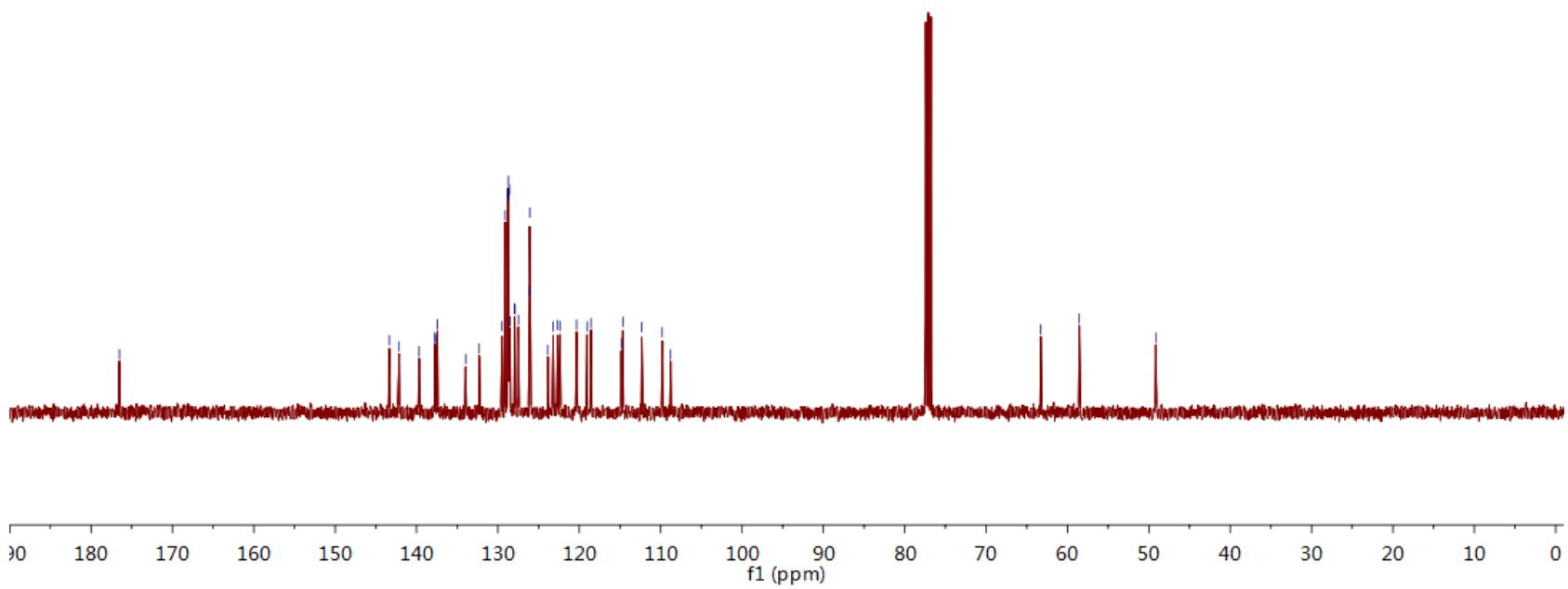


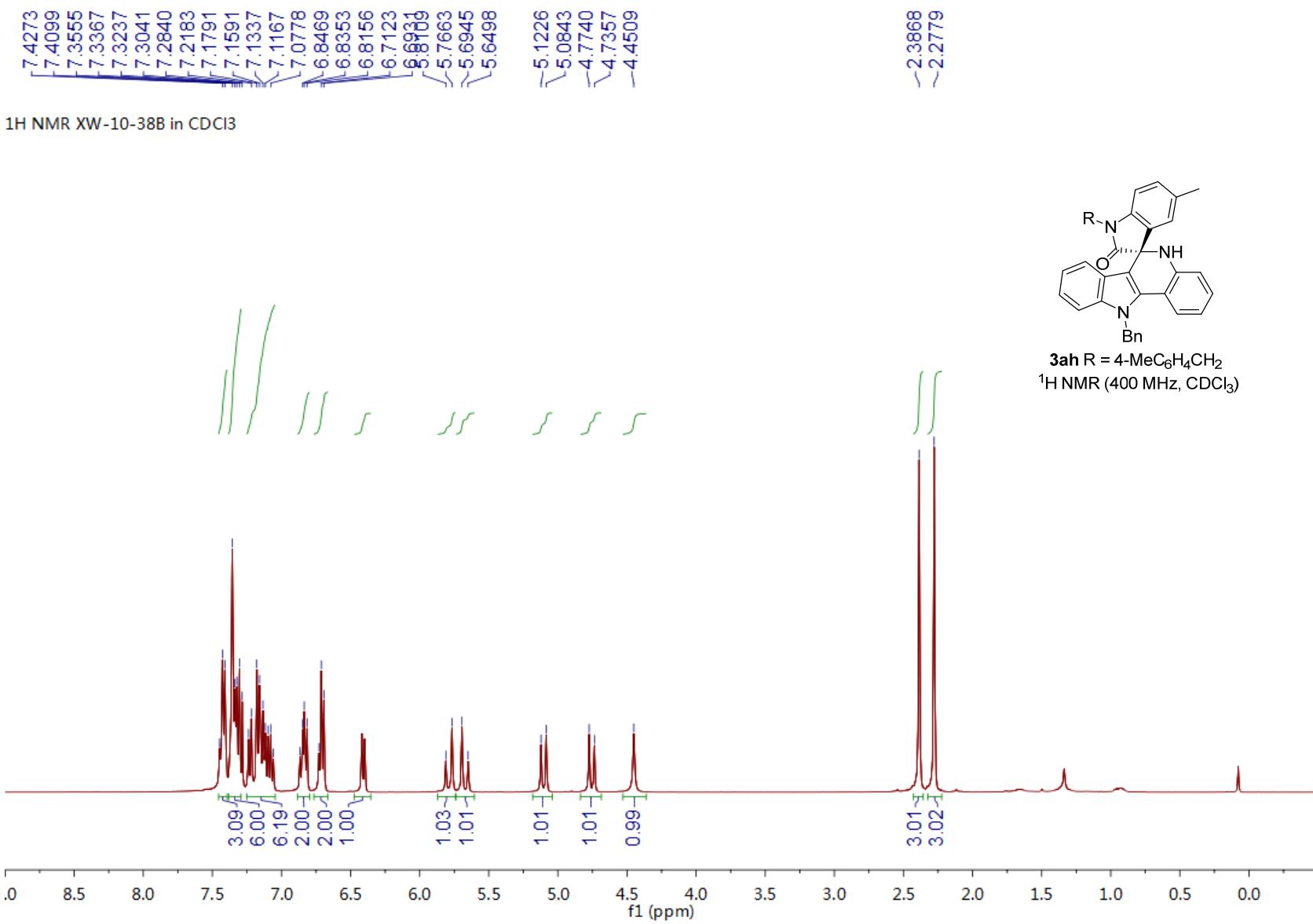


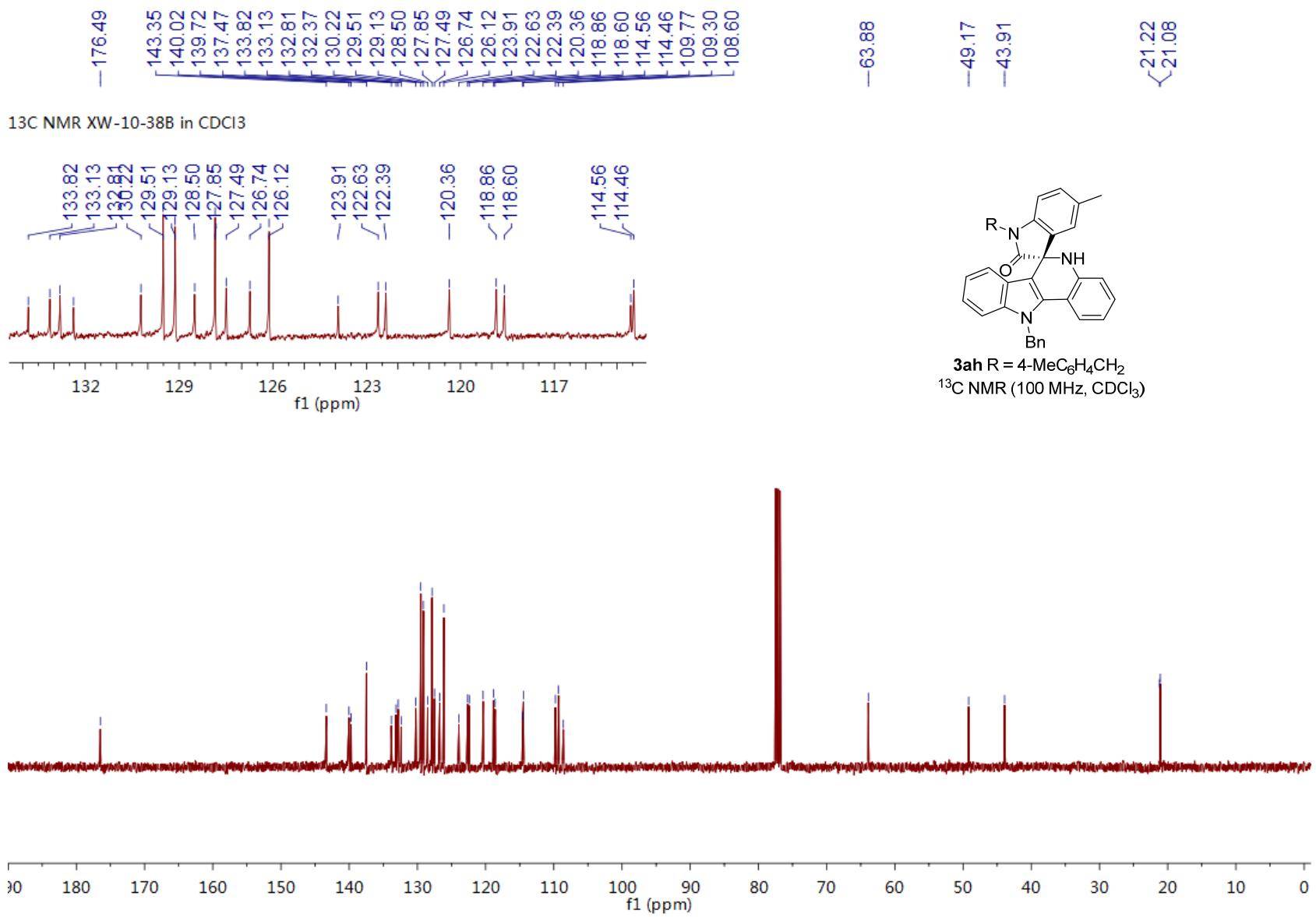


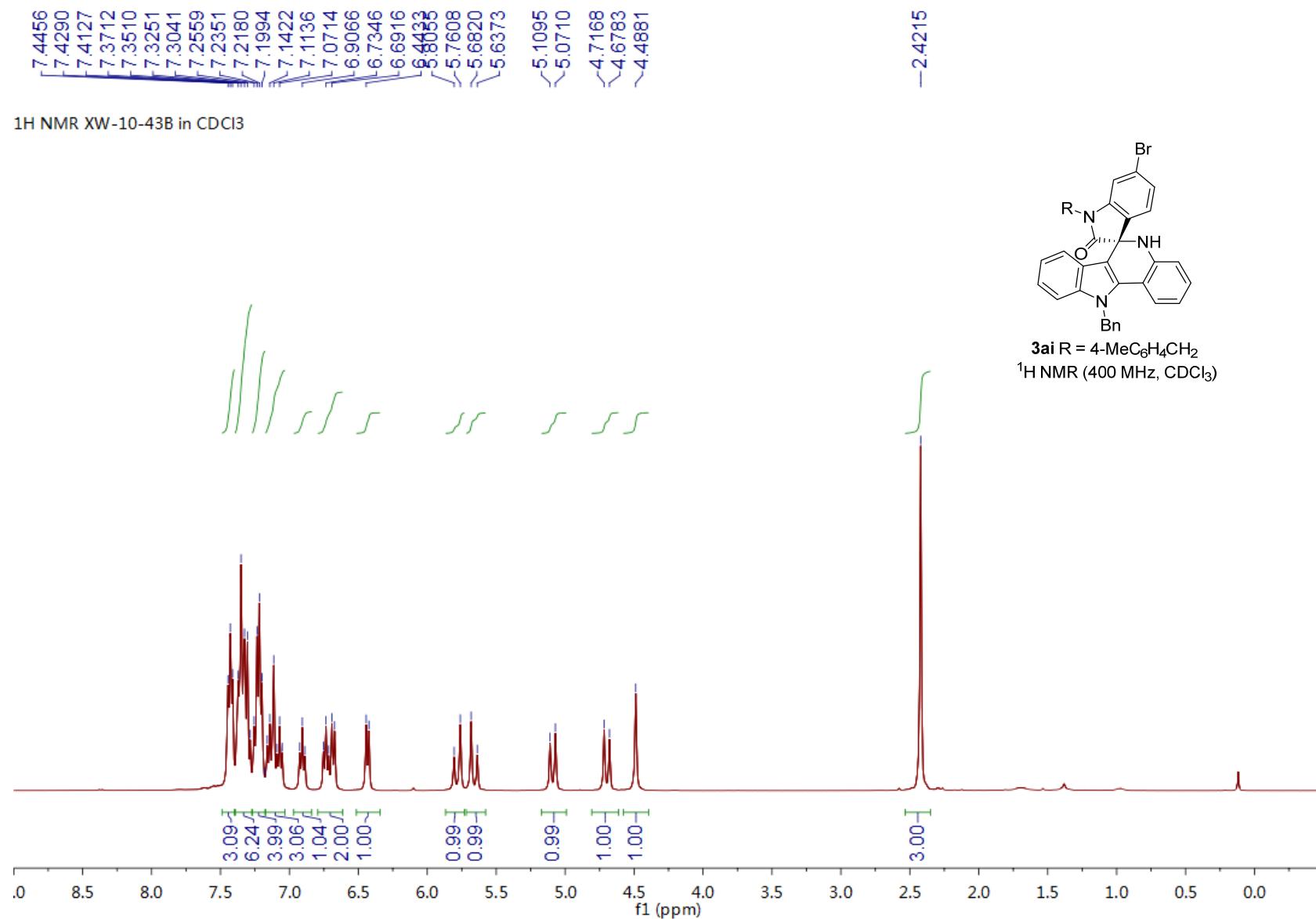


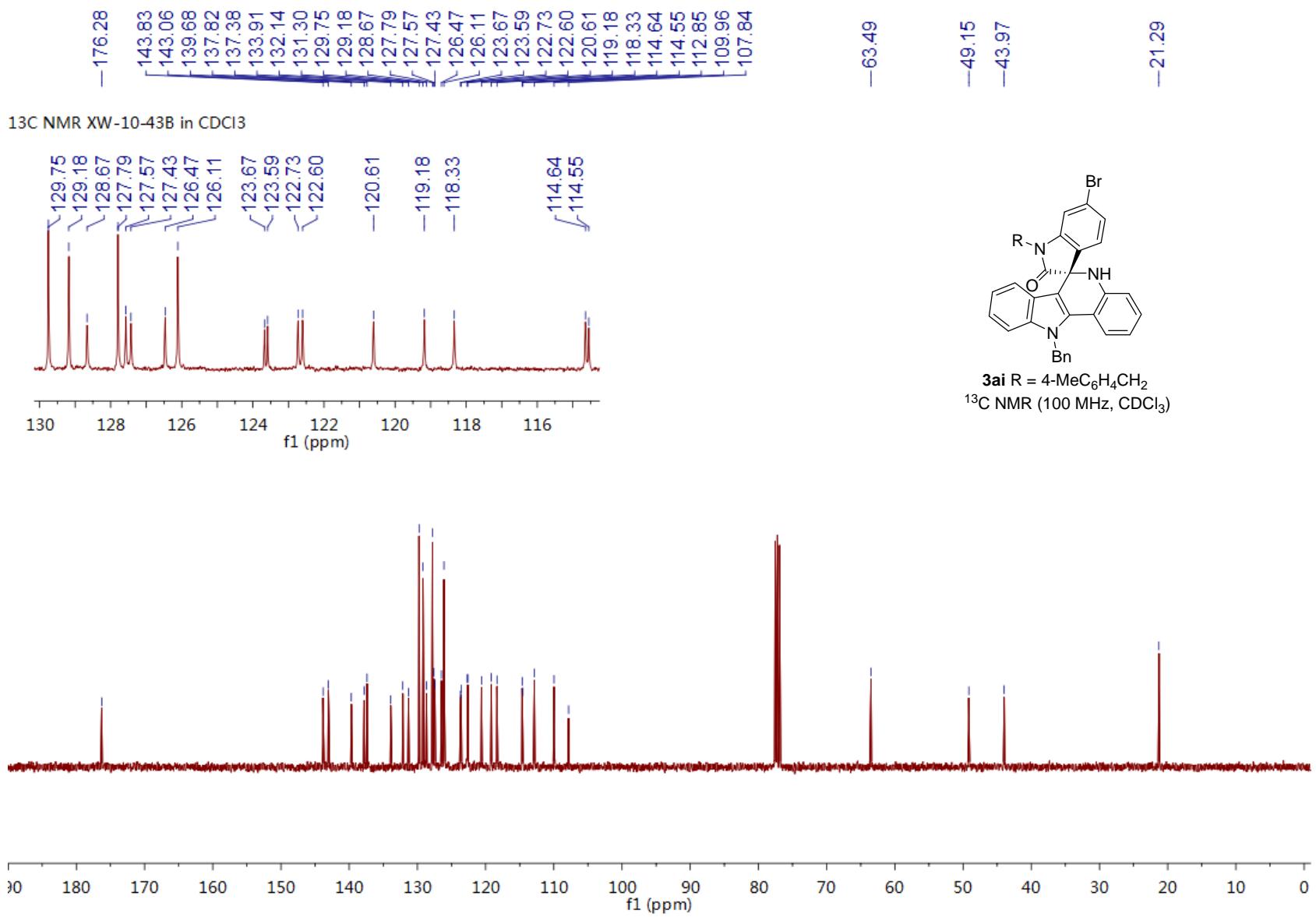
3ag R = 4-MeC₆H₄CH₂
¹³C NMR (100 MHz, CDCl₃)

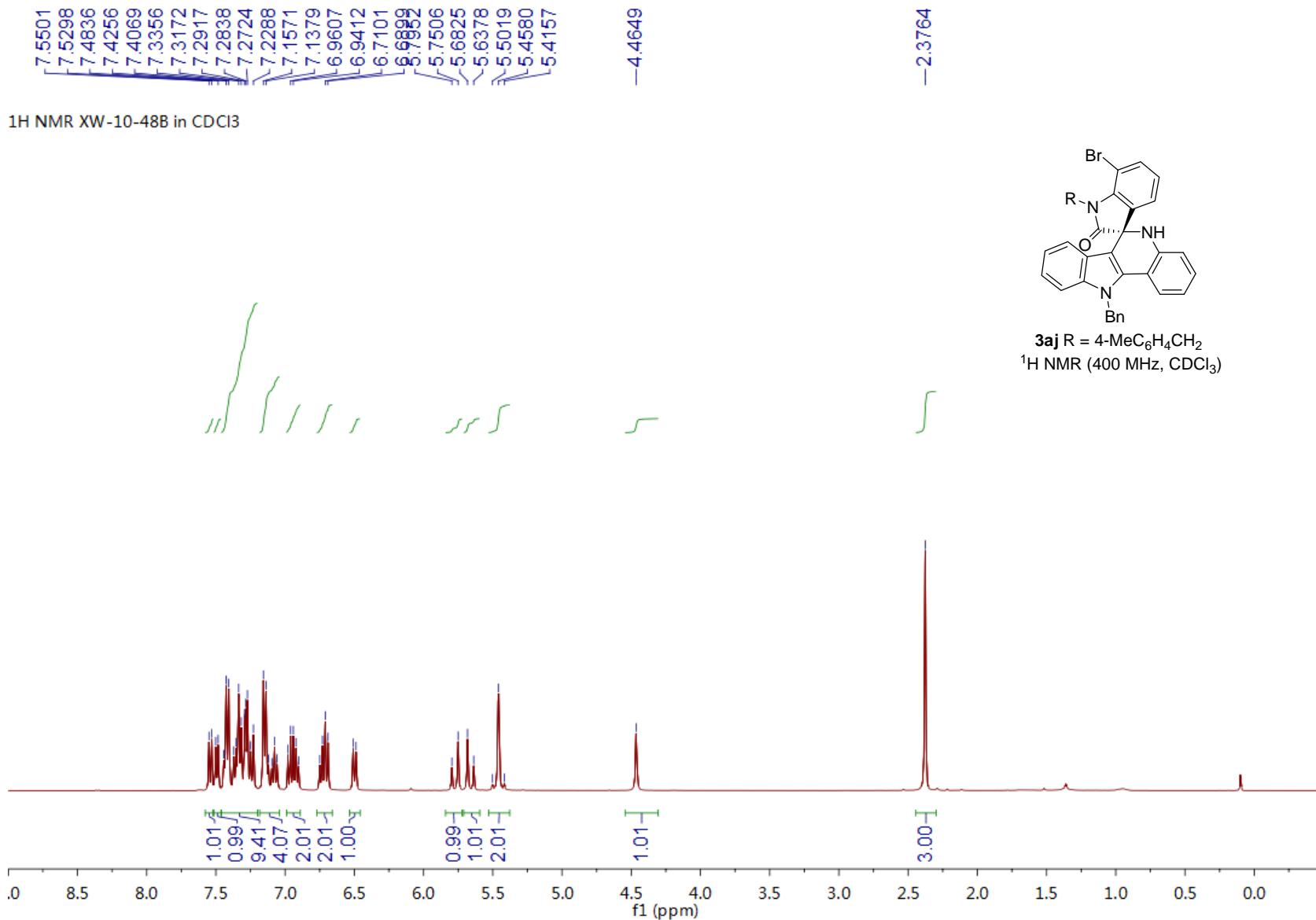


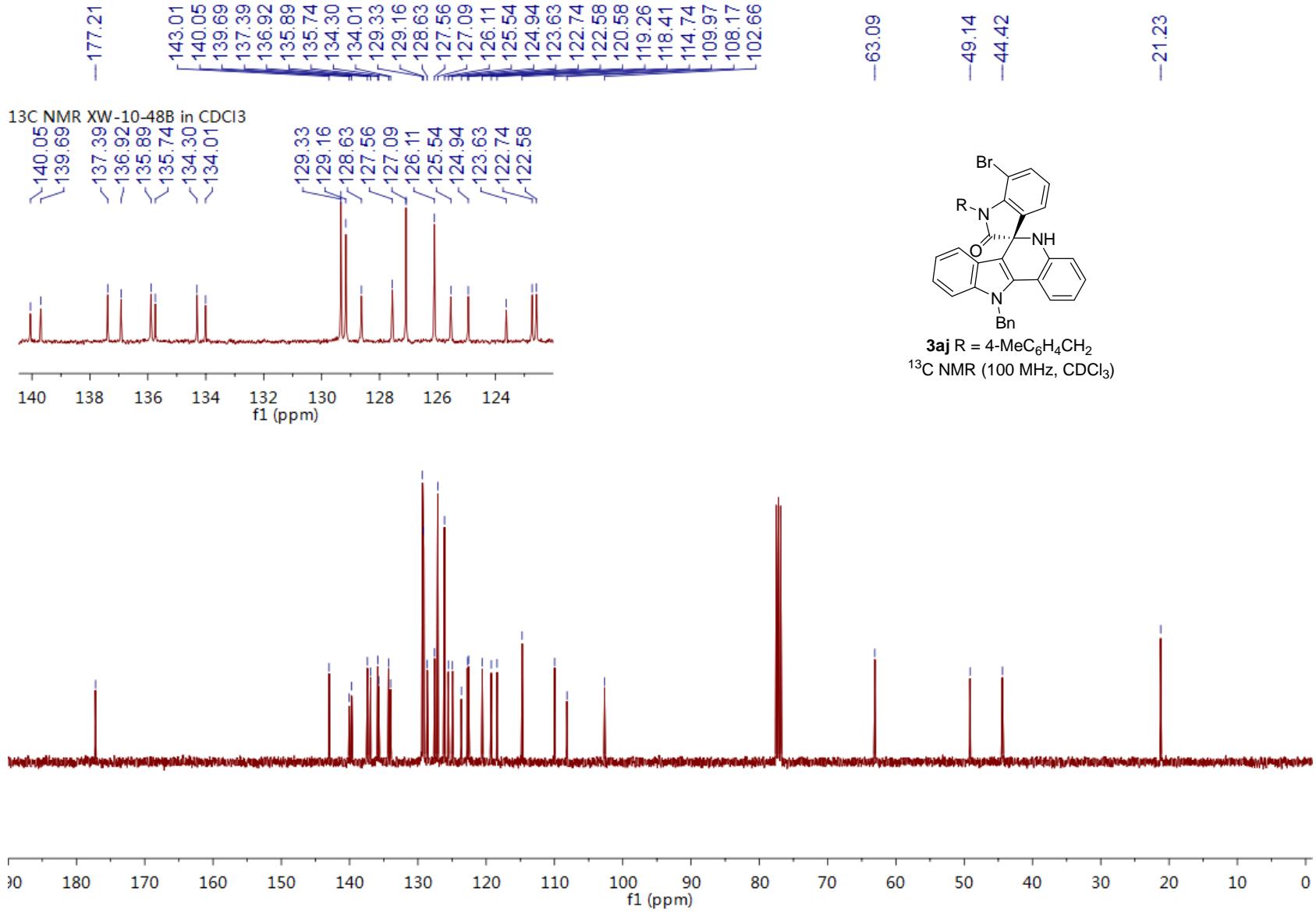


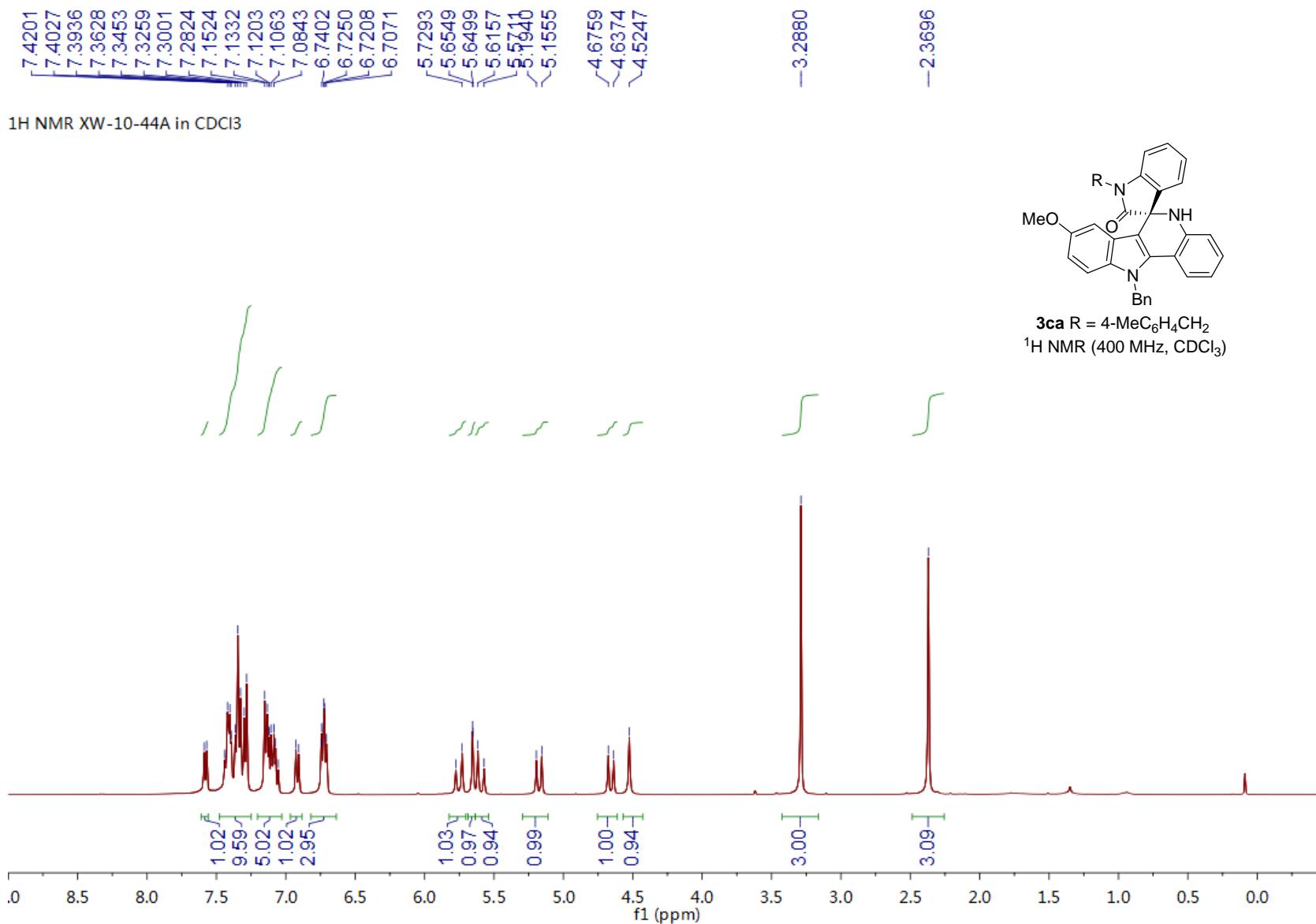


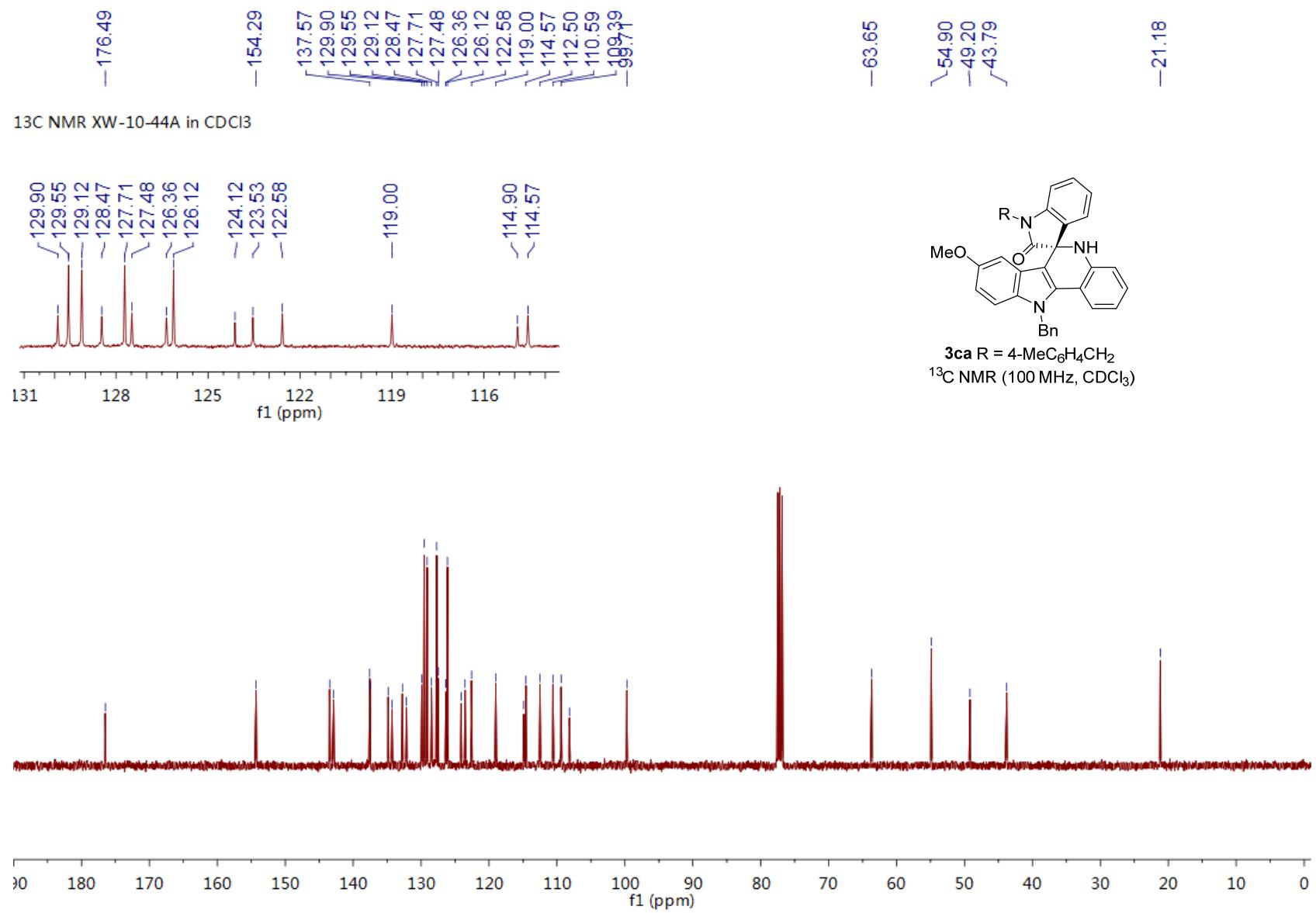


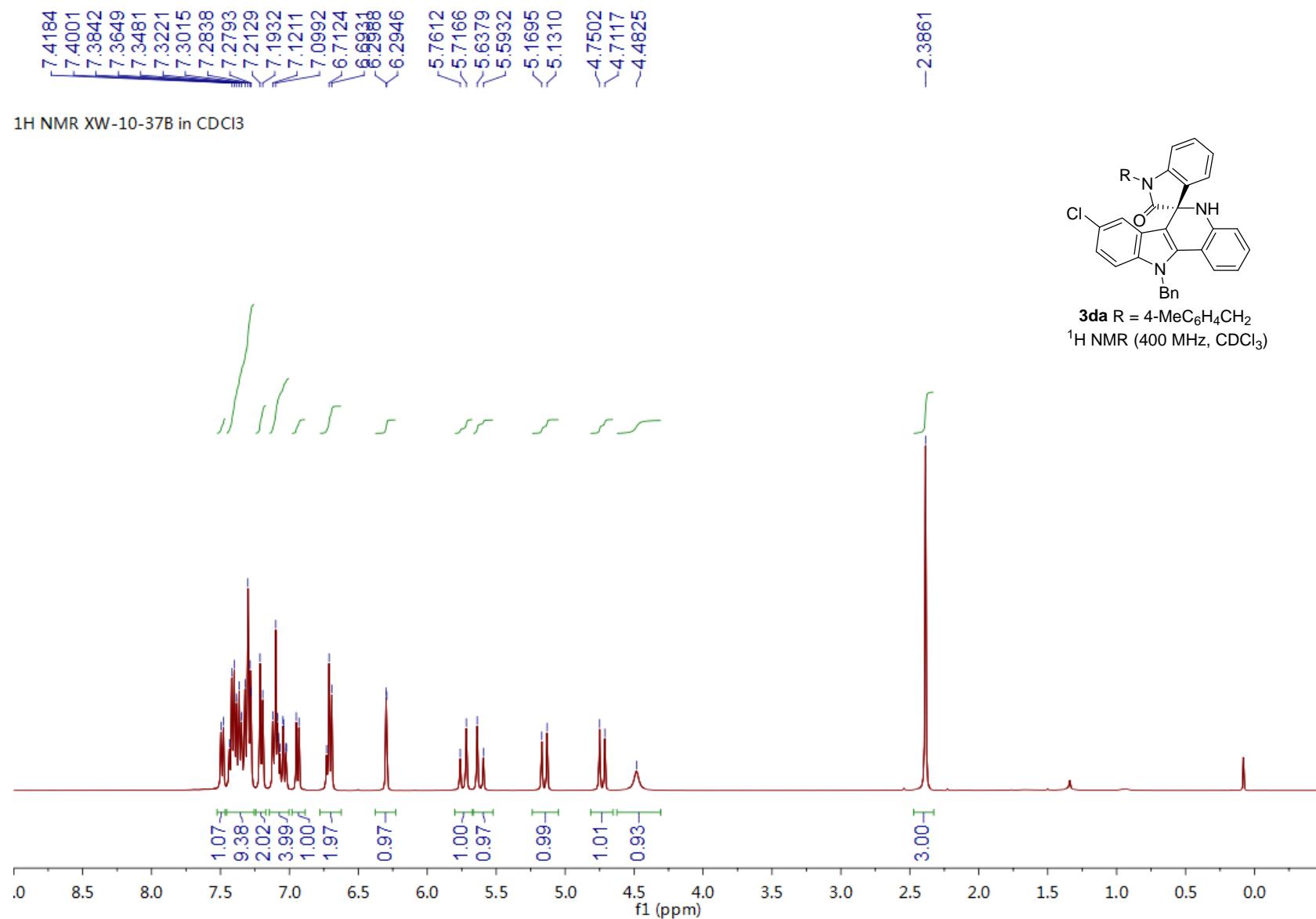


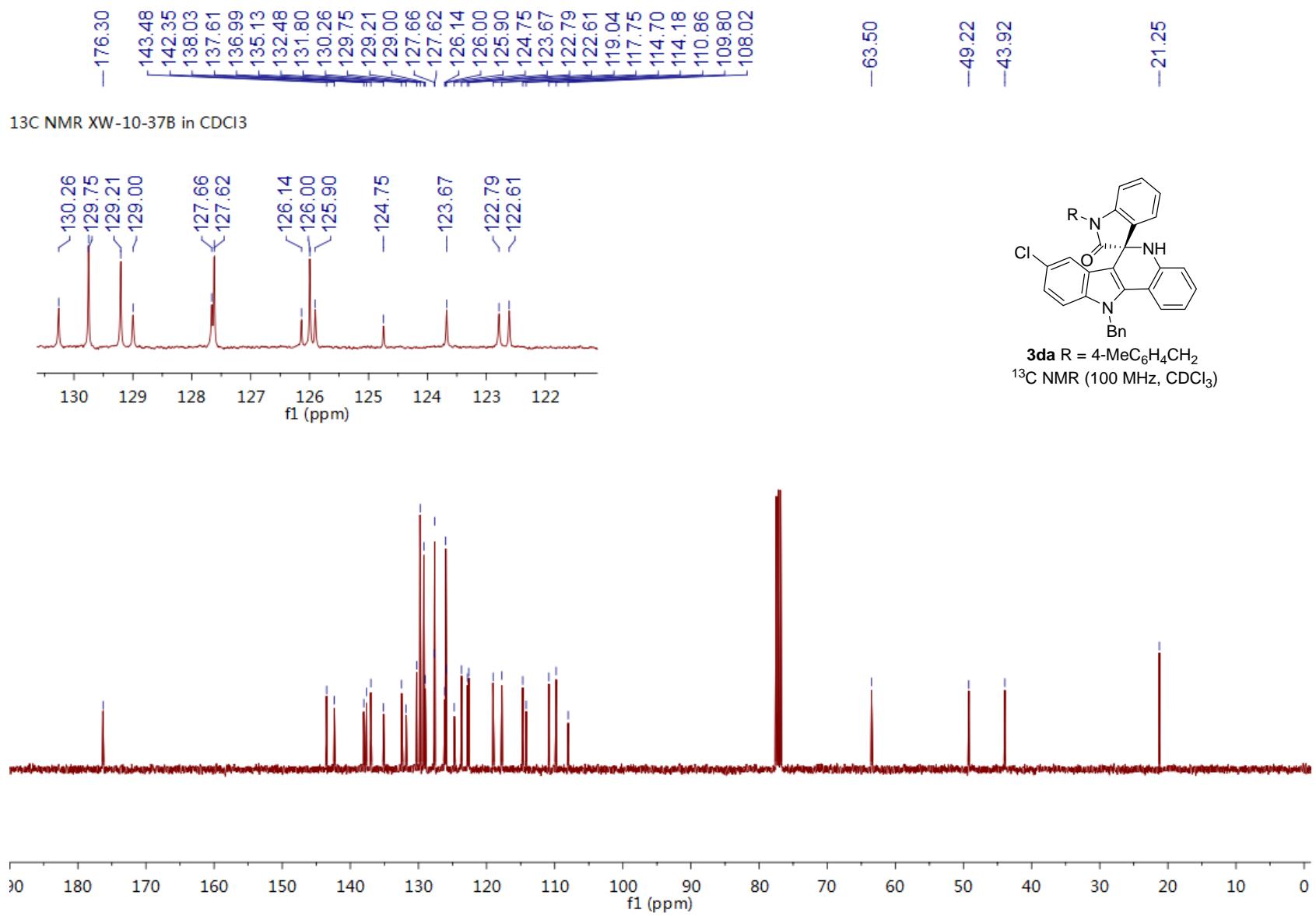


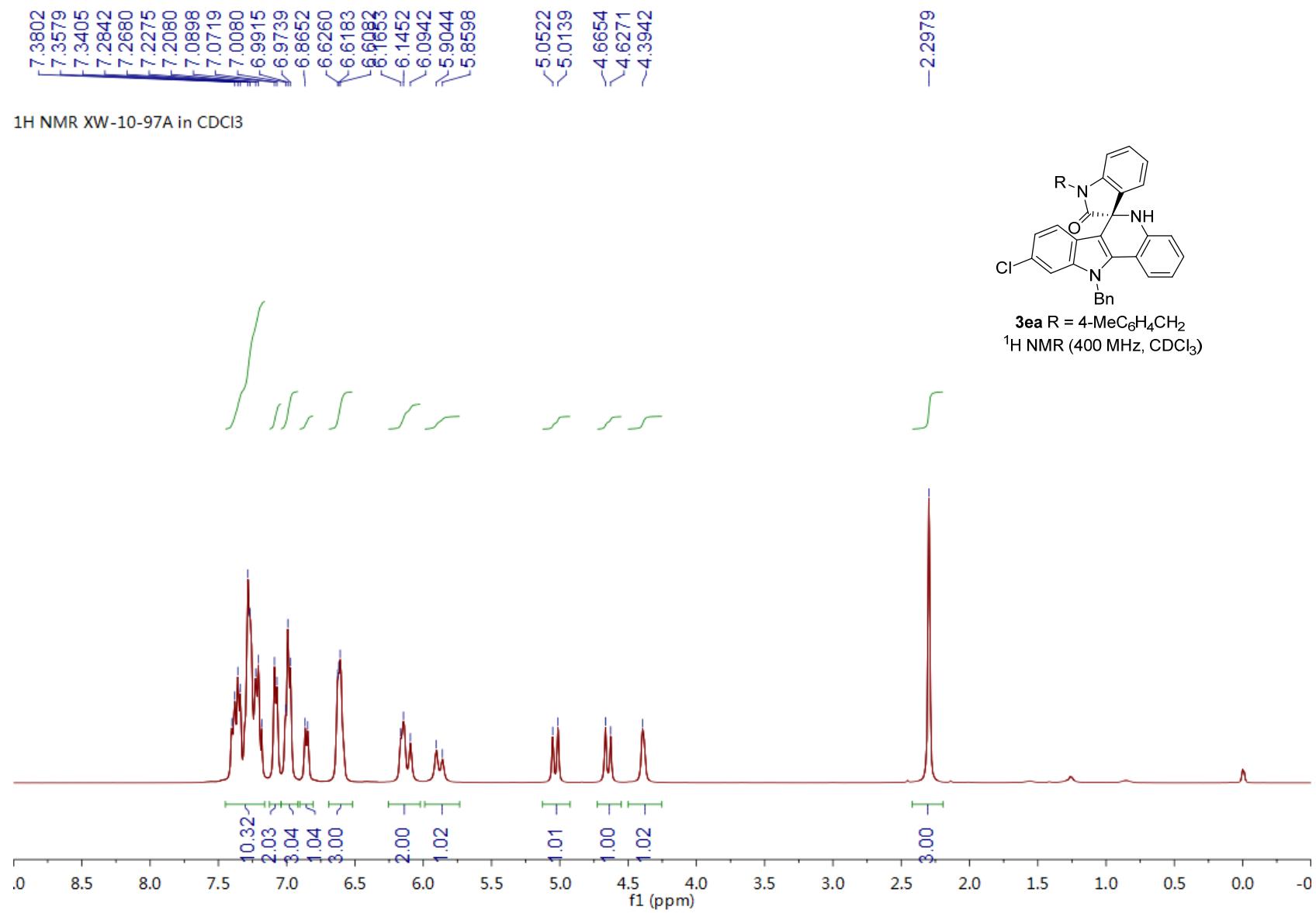


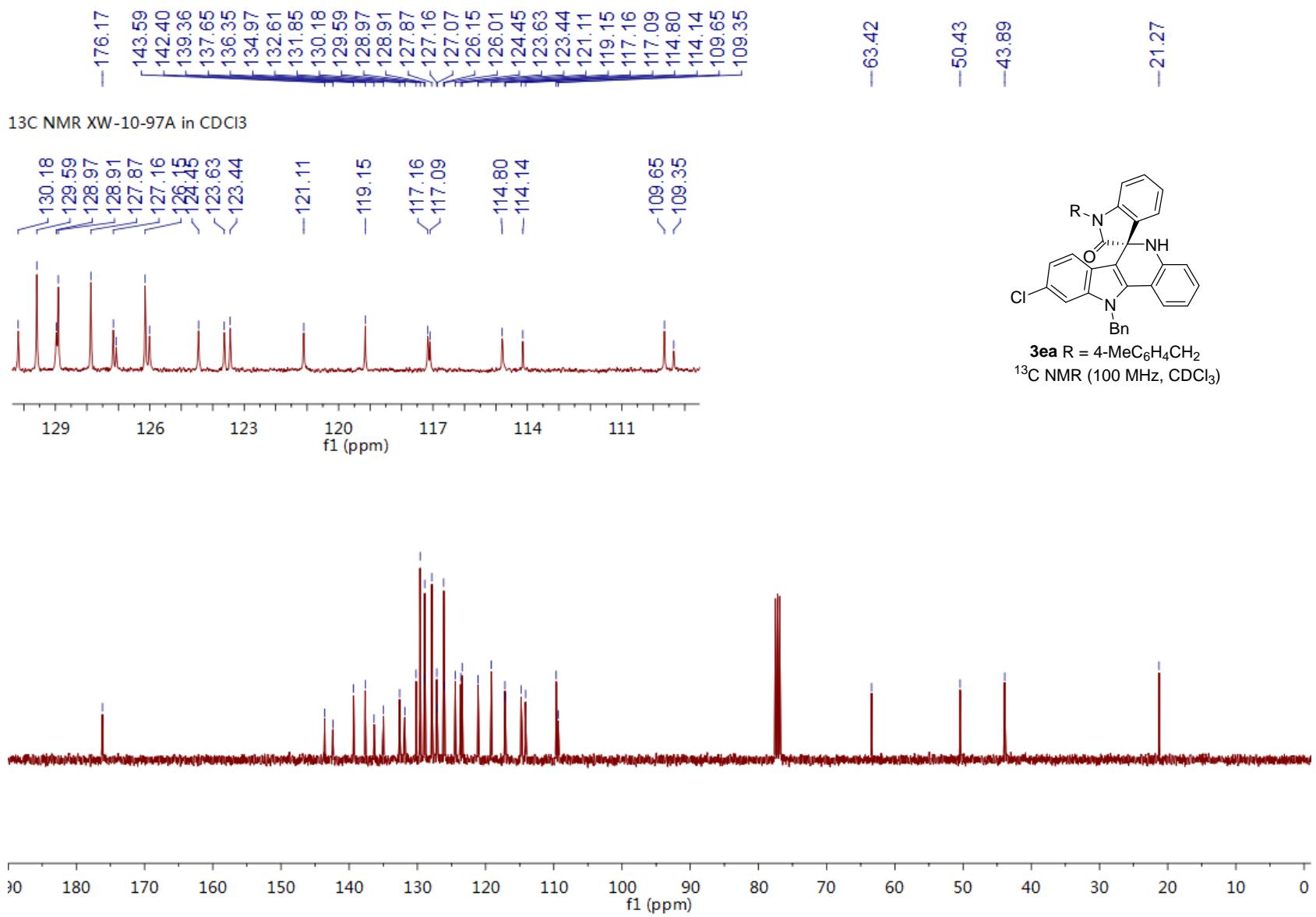


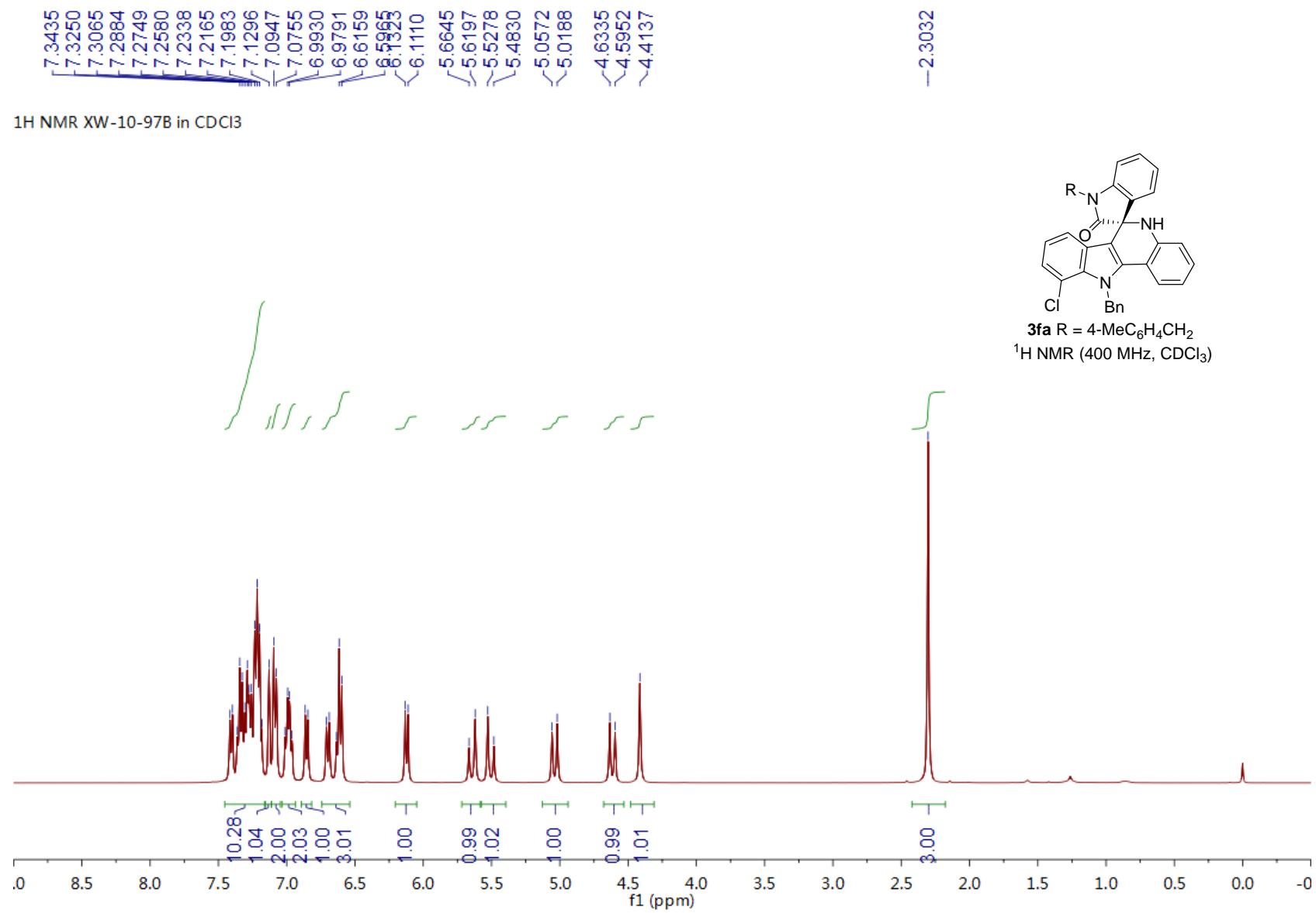


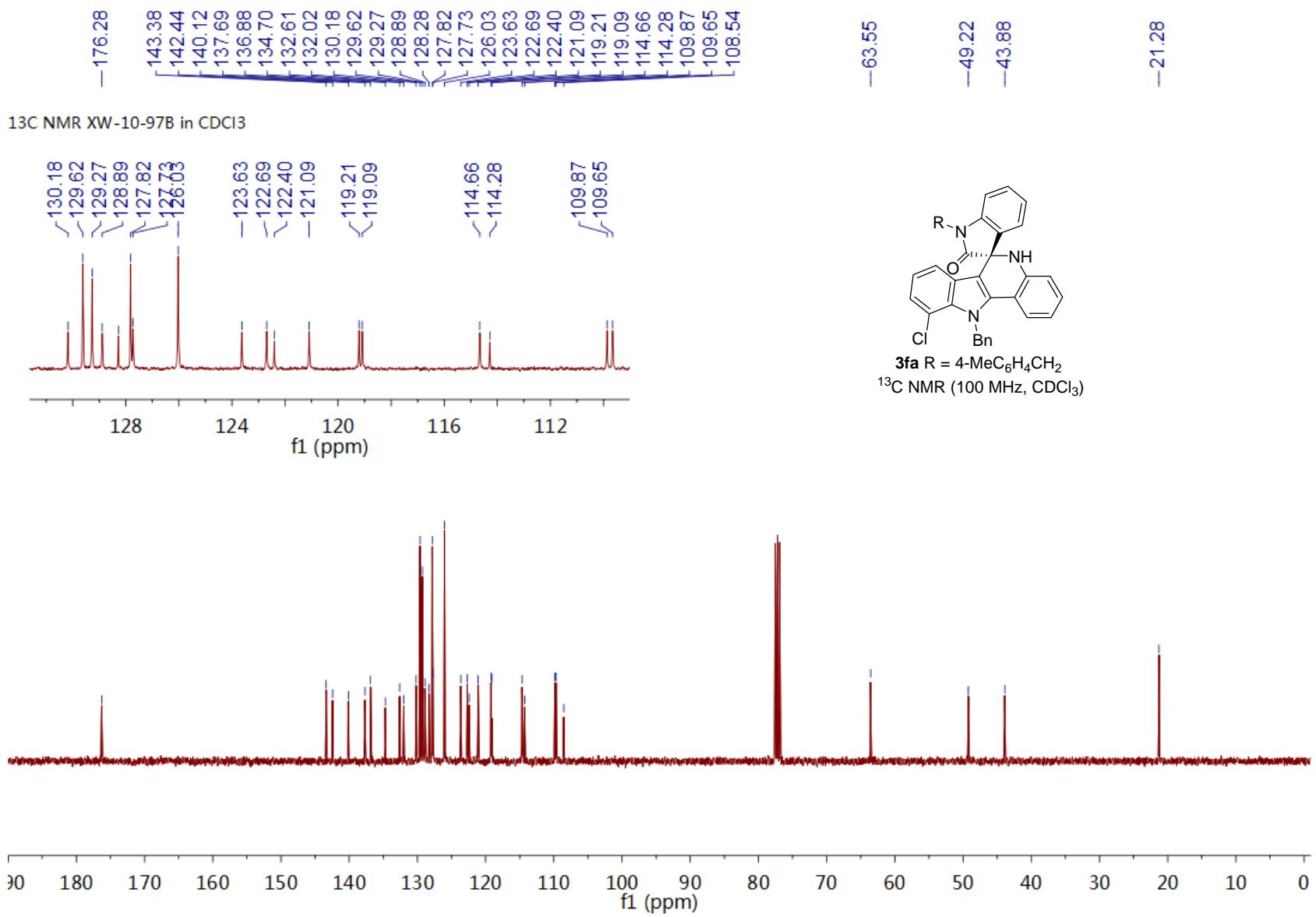


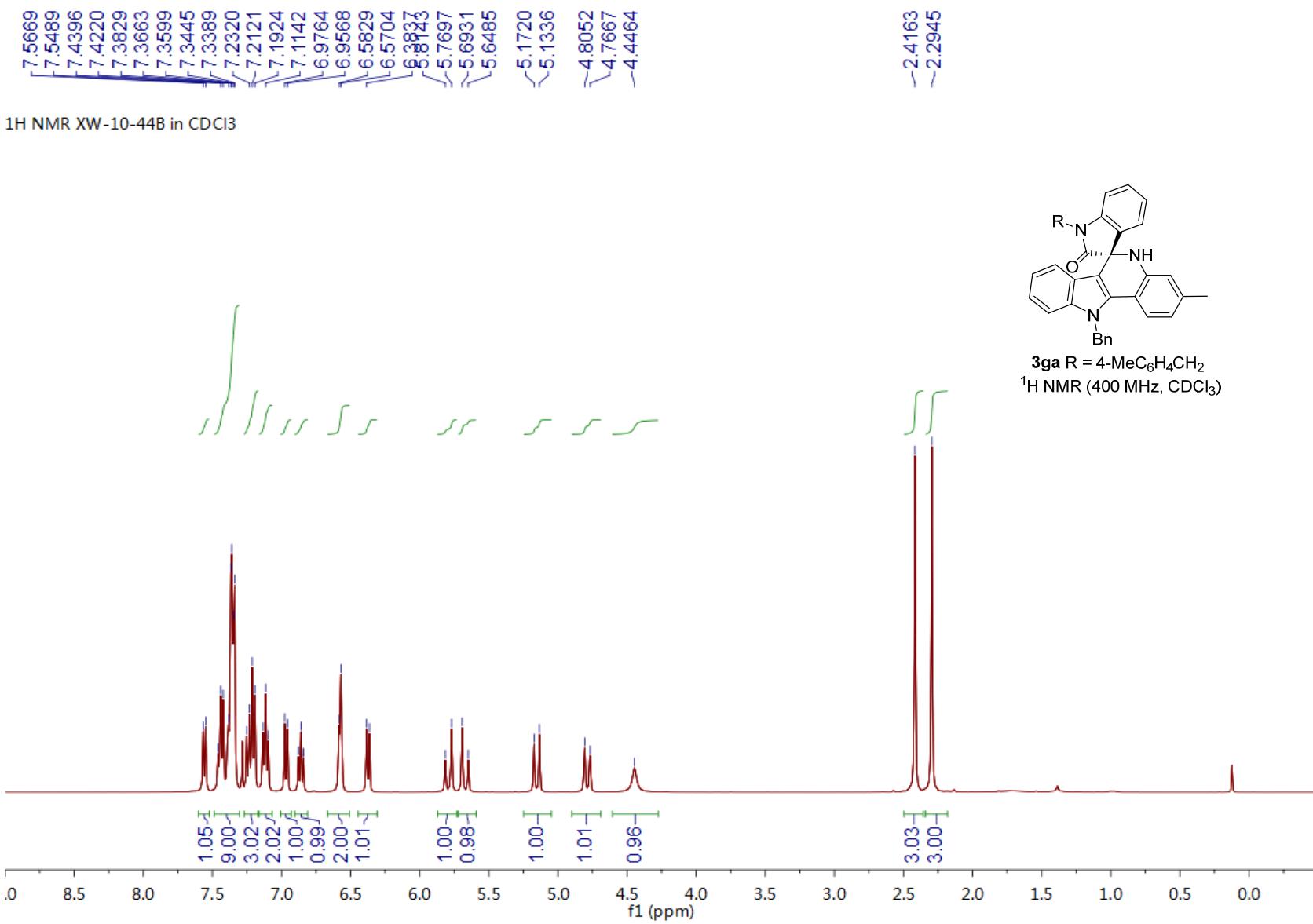


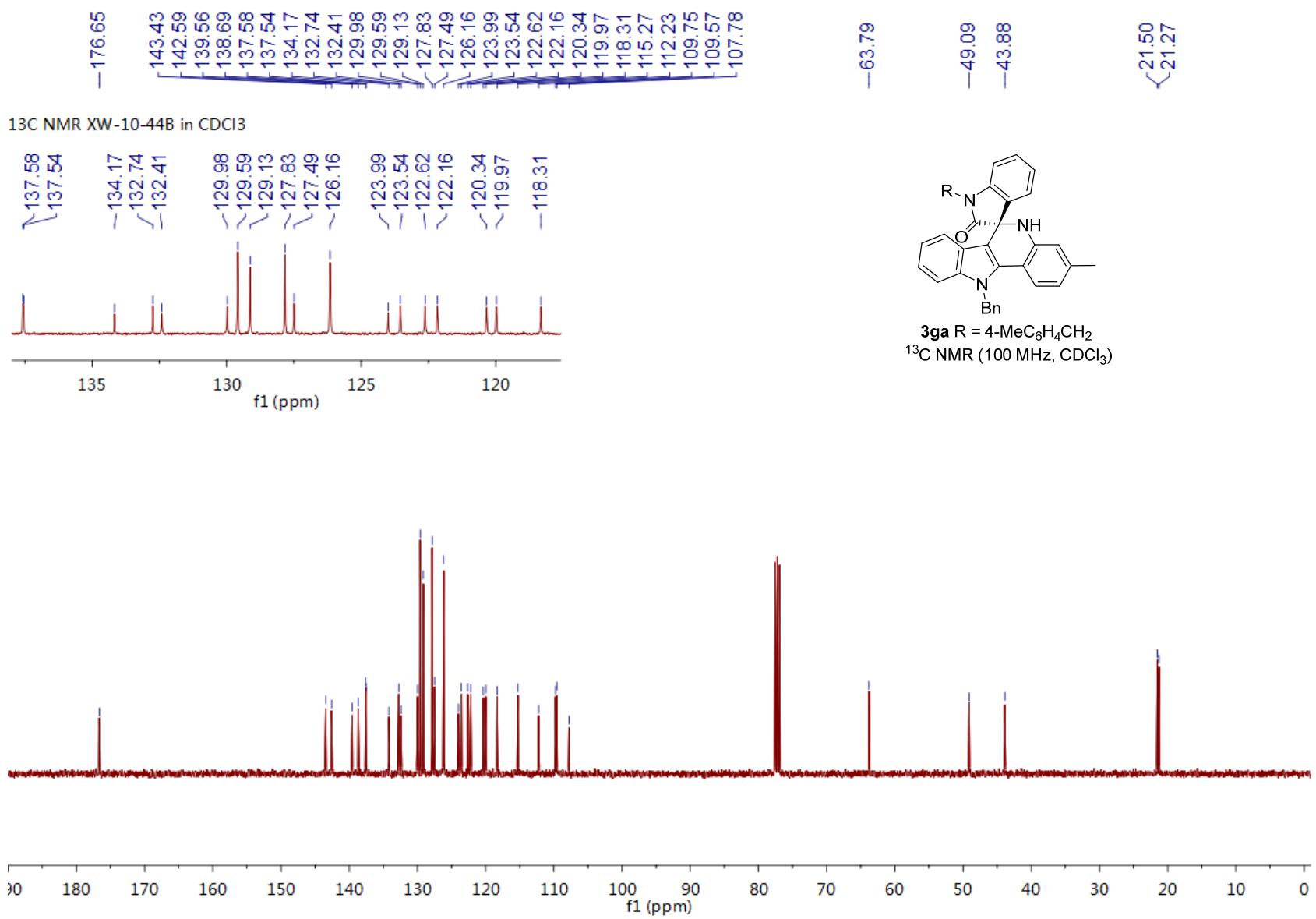


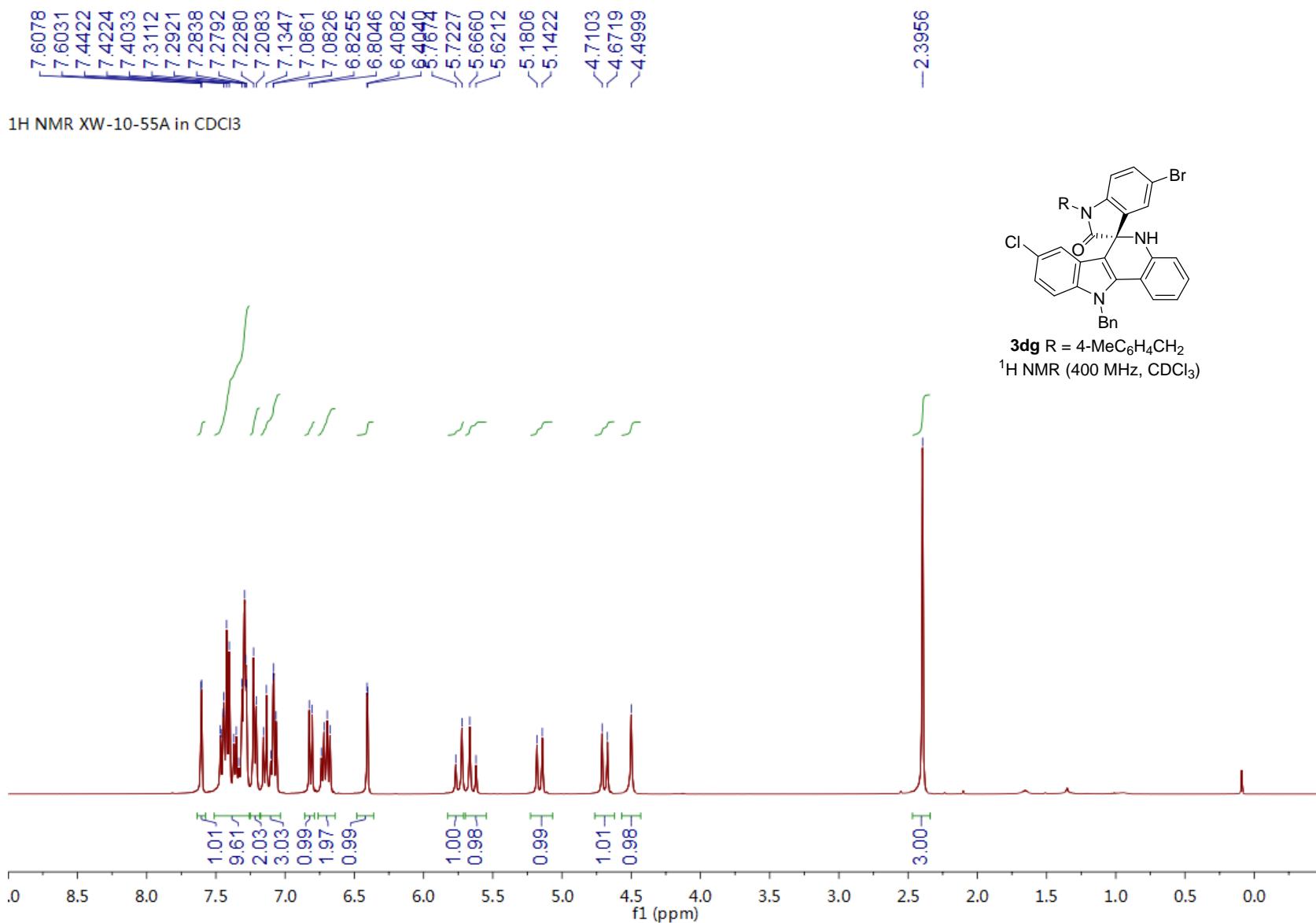


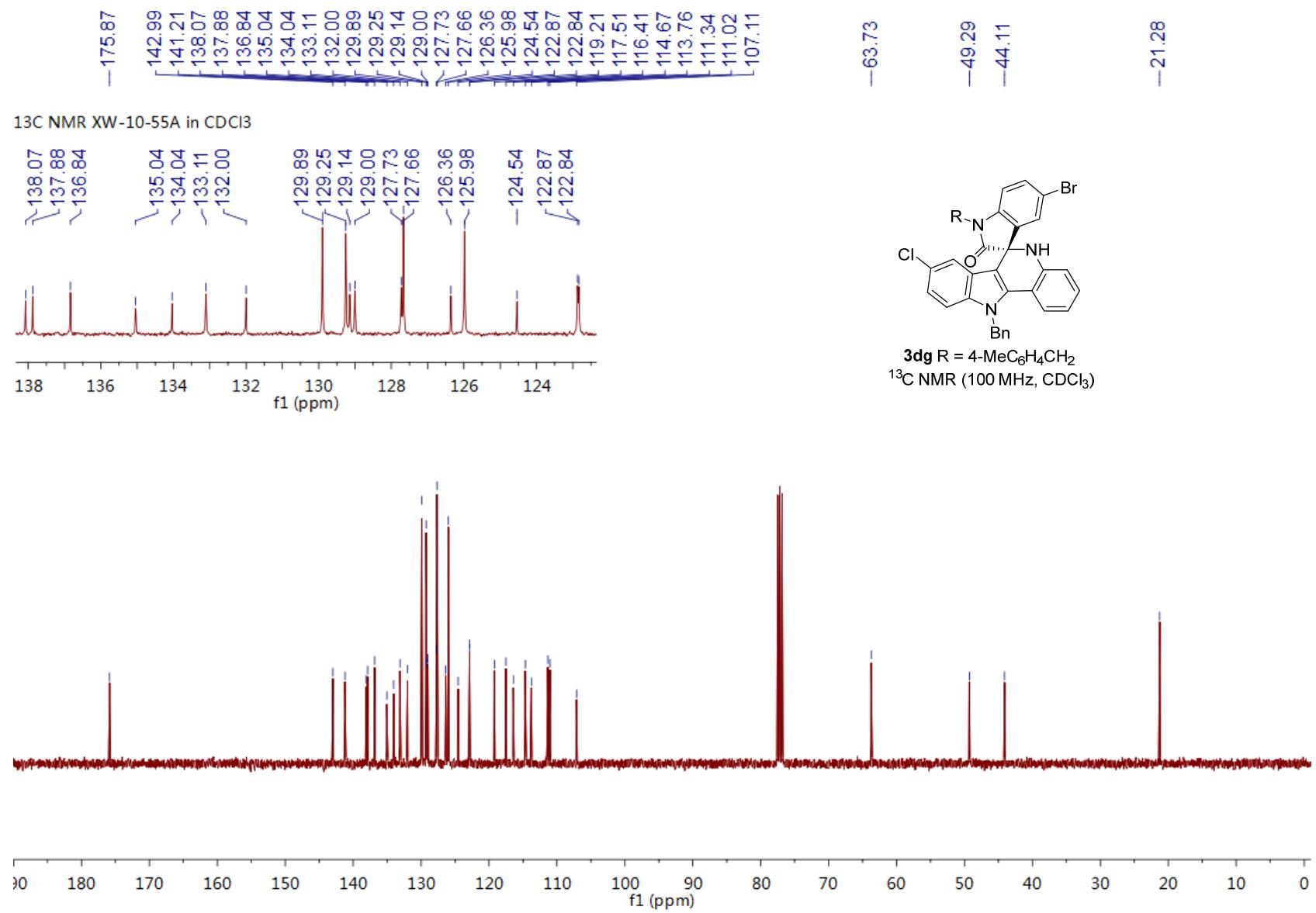


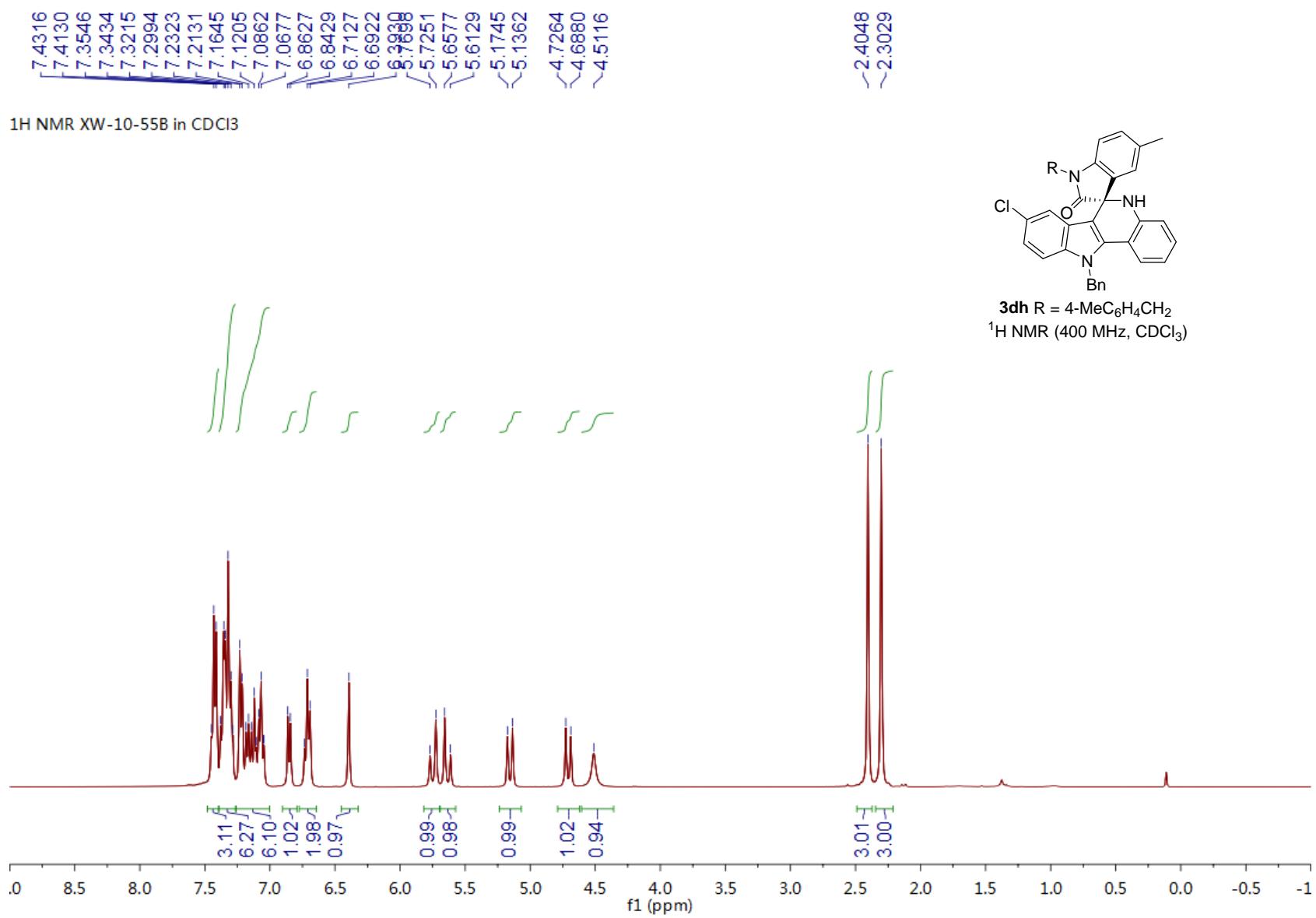


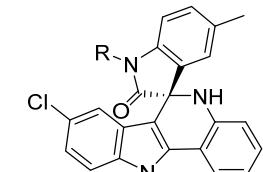
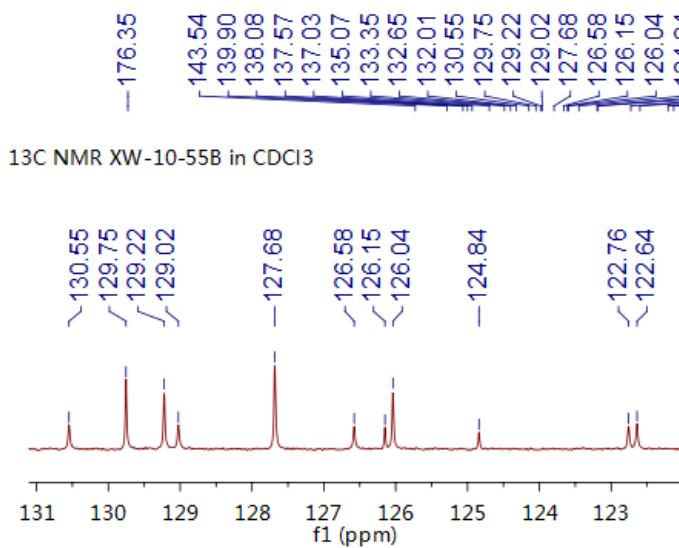




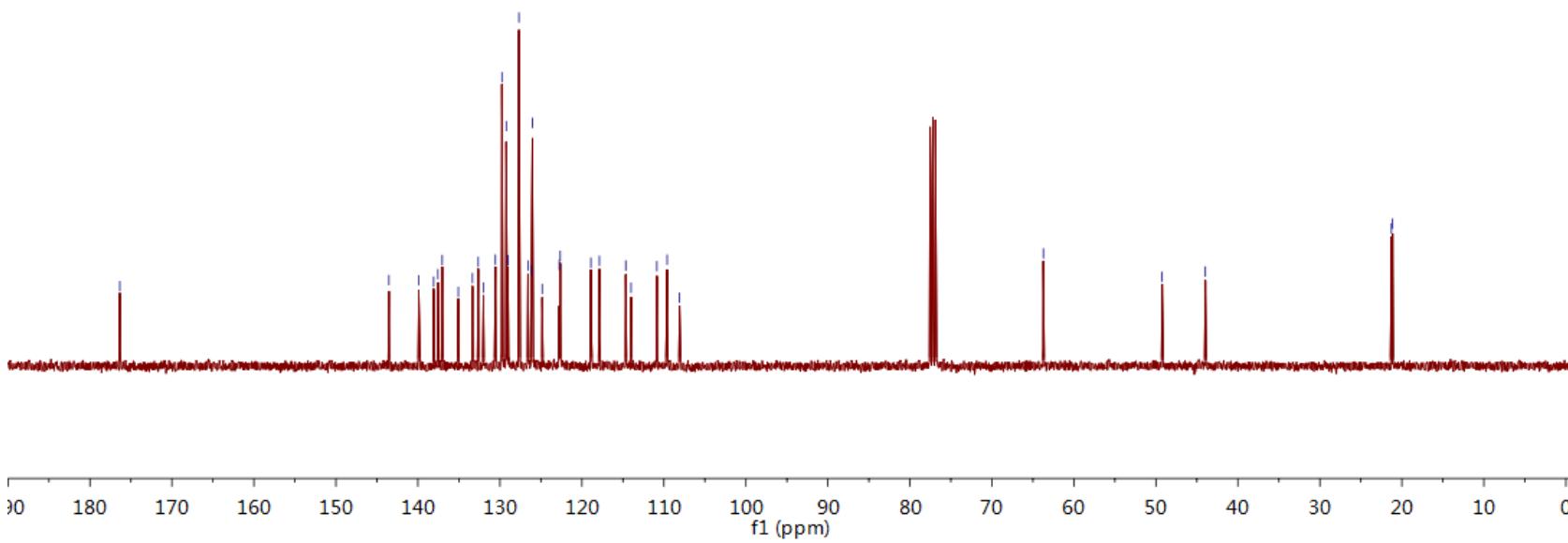
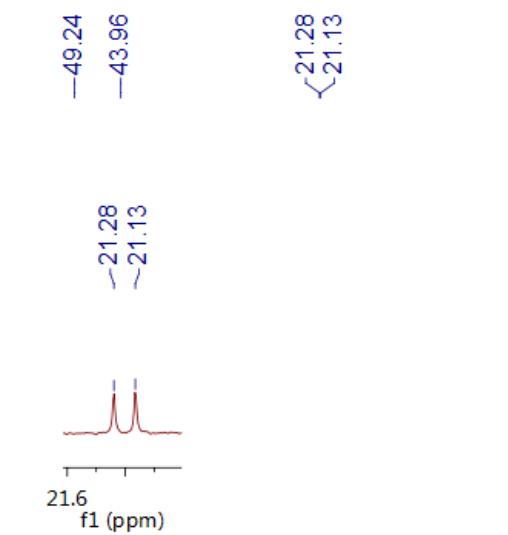






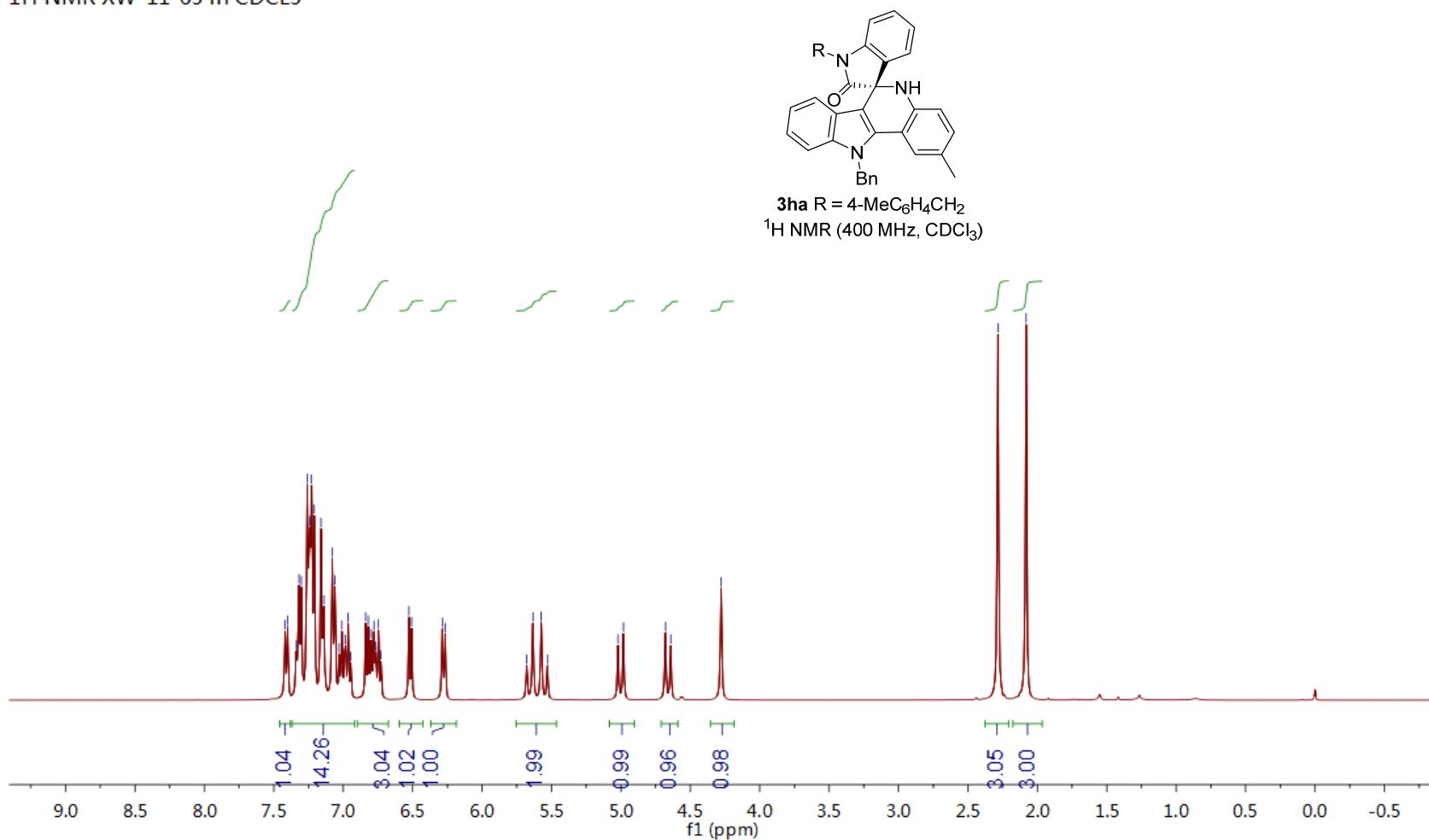


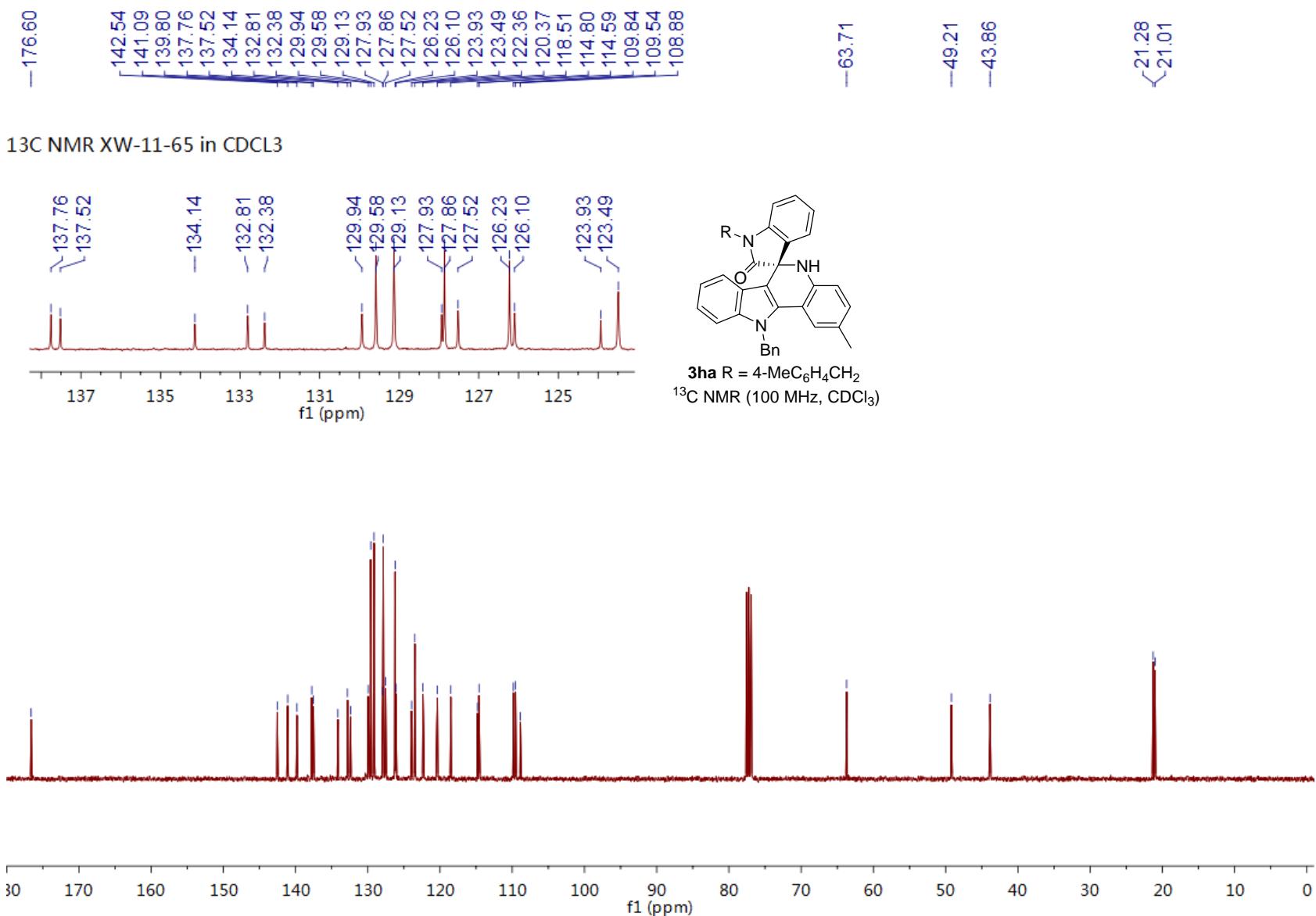
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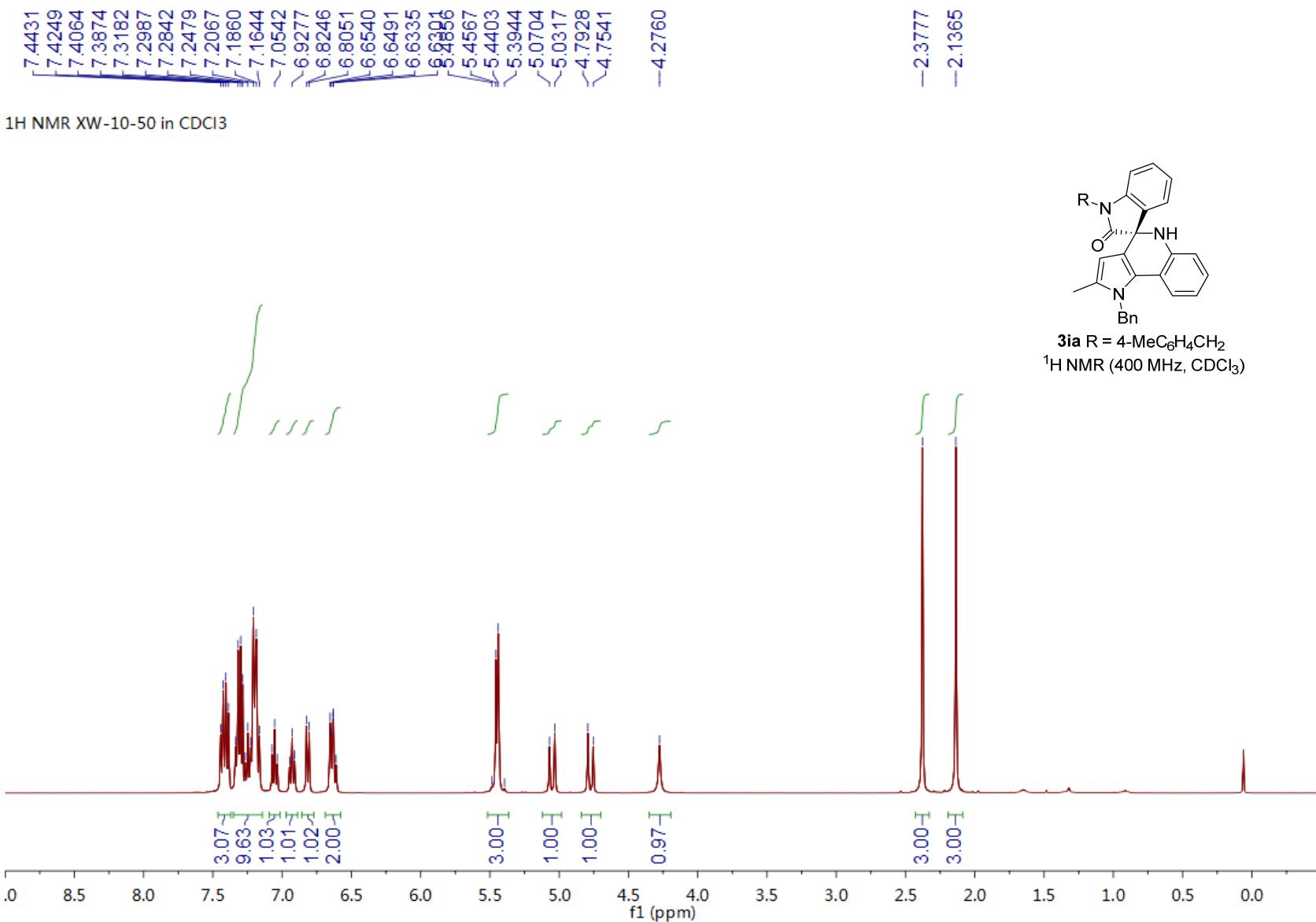


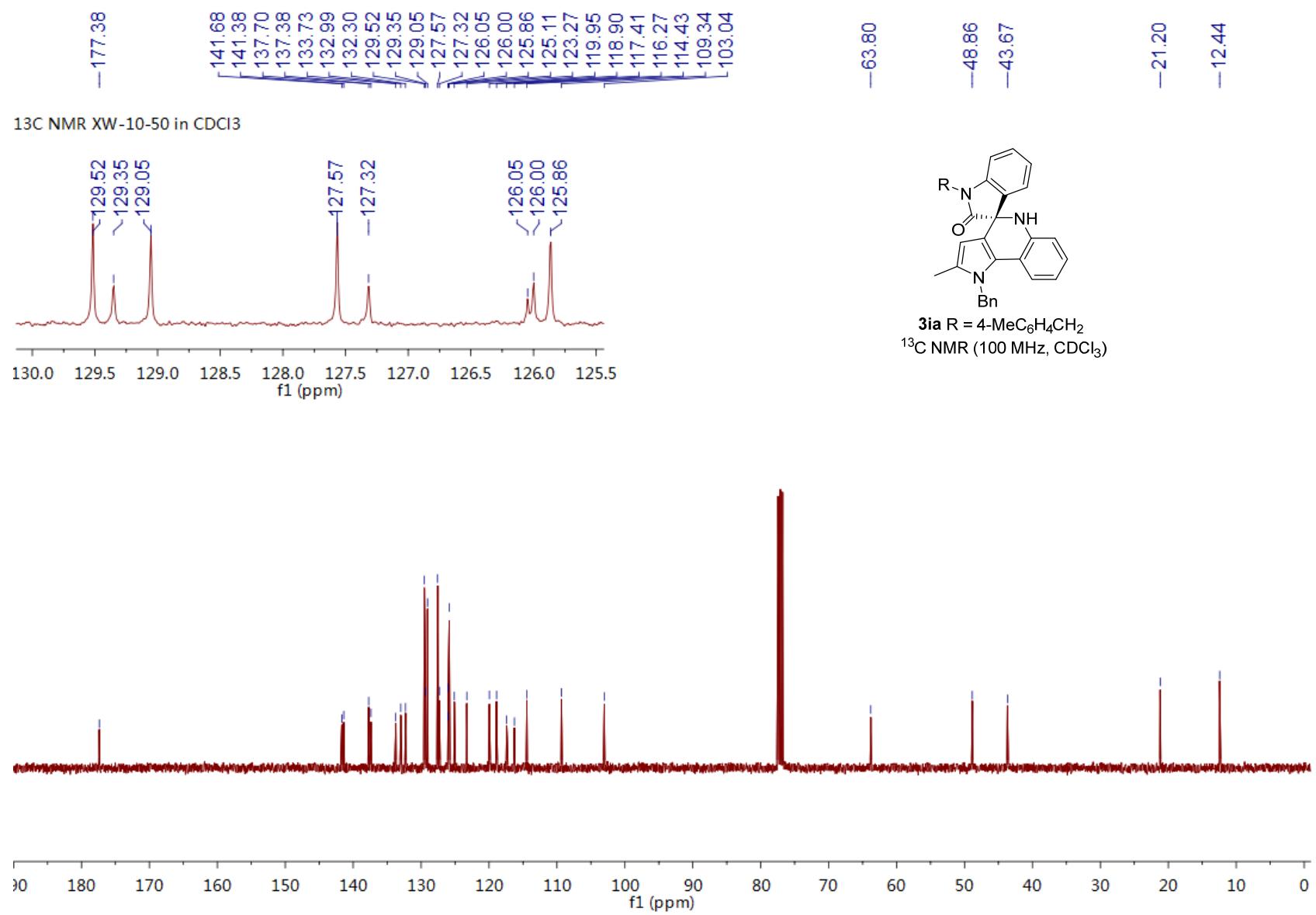
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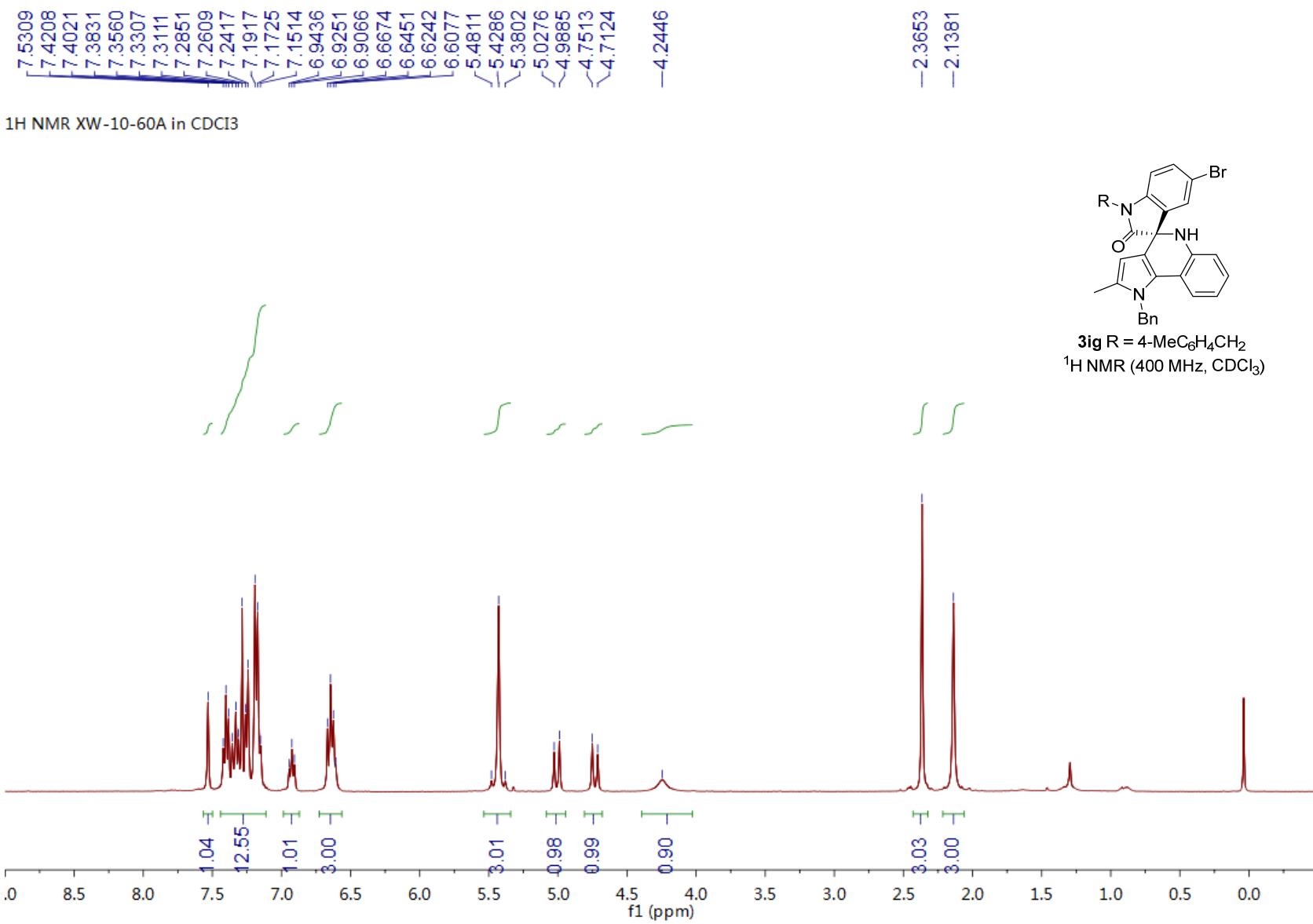
¹H NMR XW-11-65 in CDCl₃

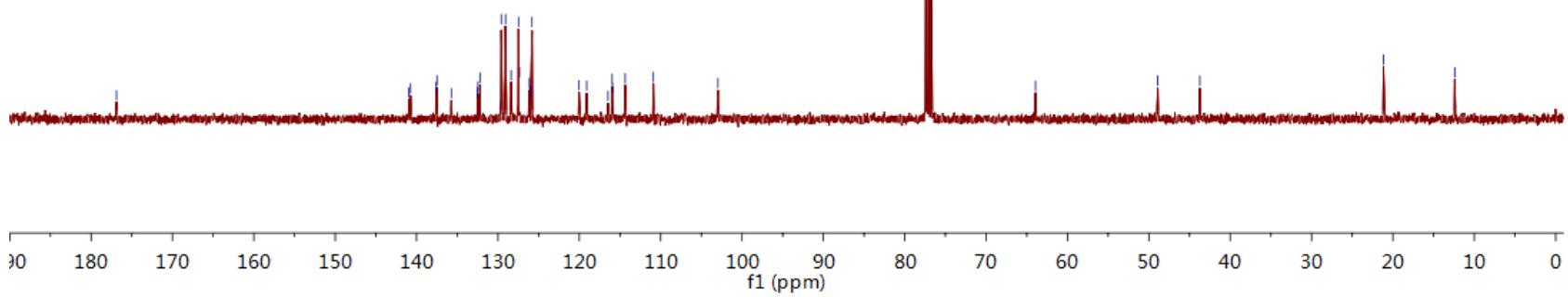
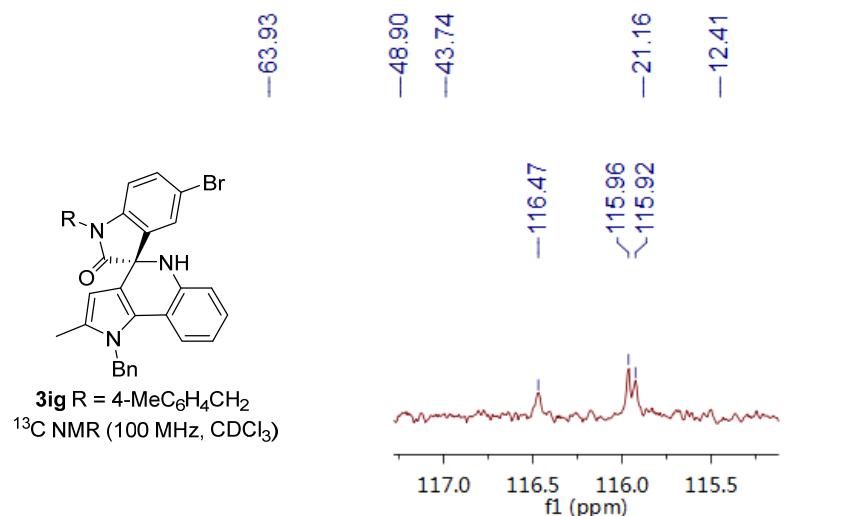
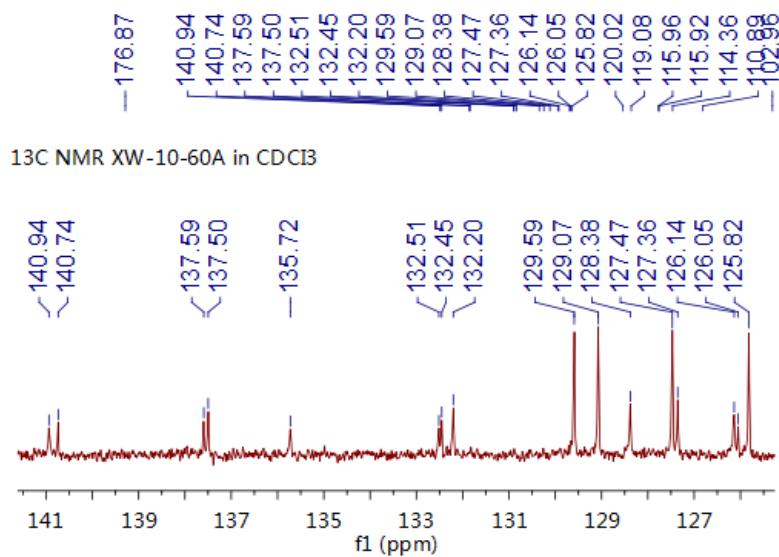


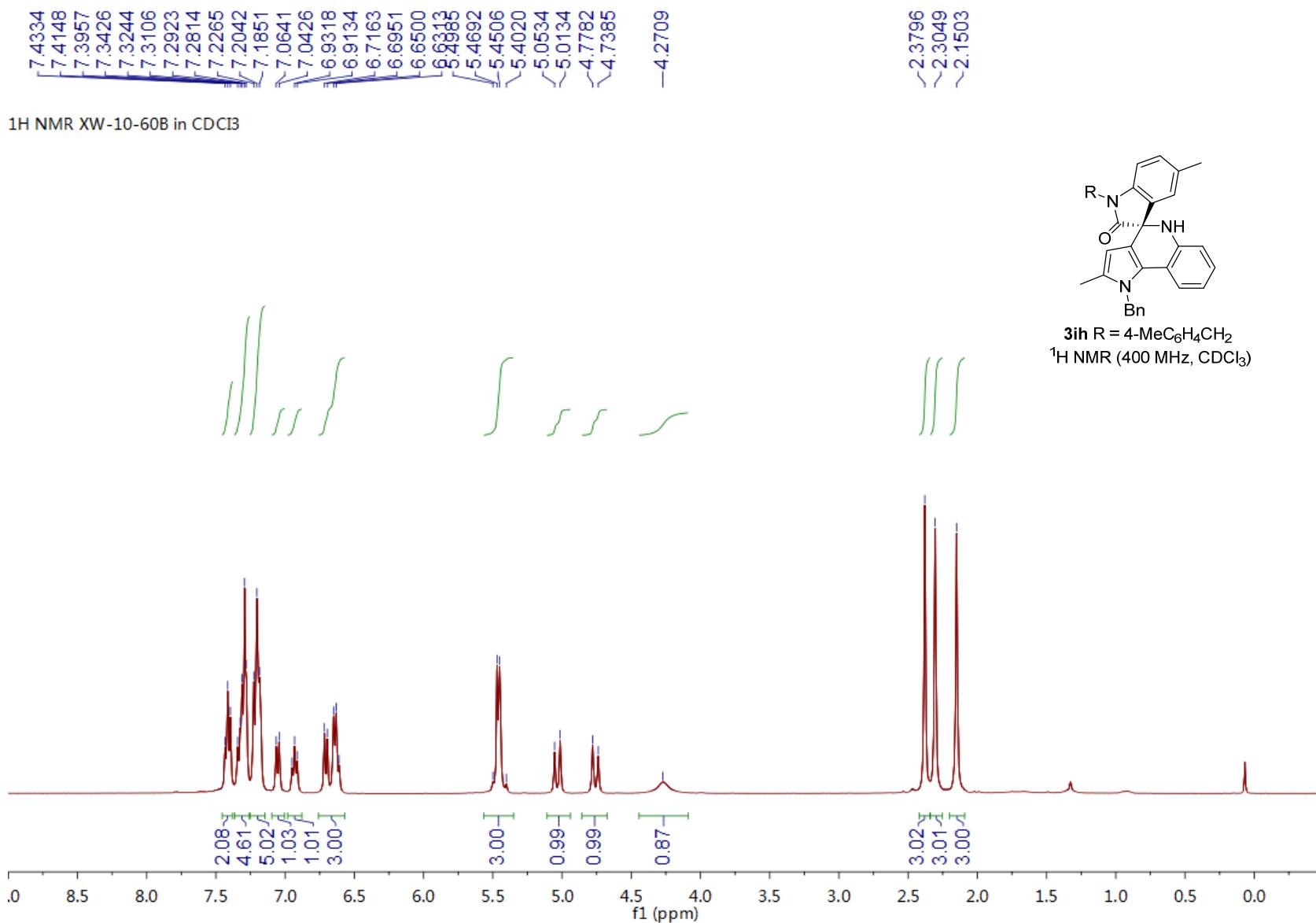


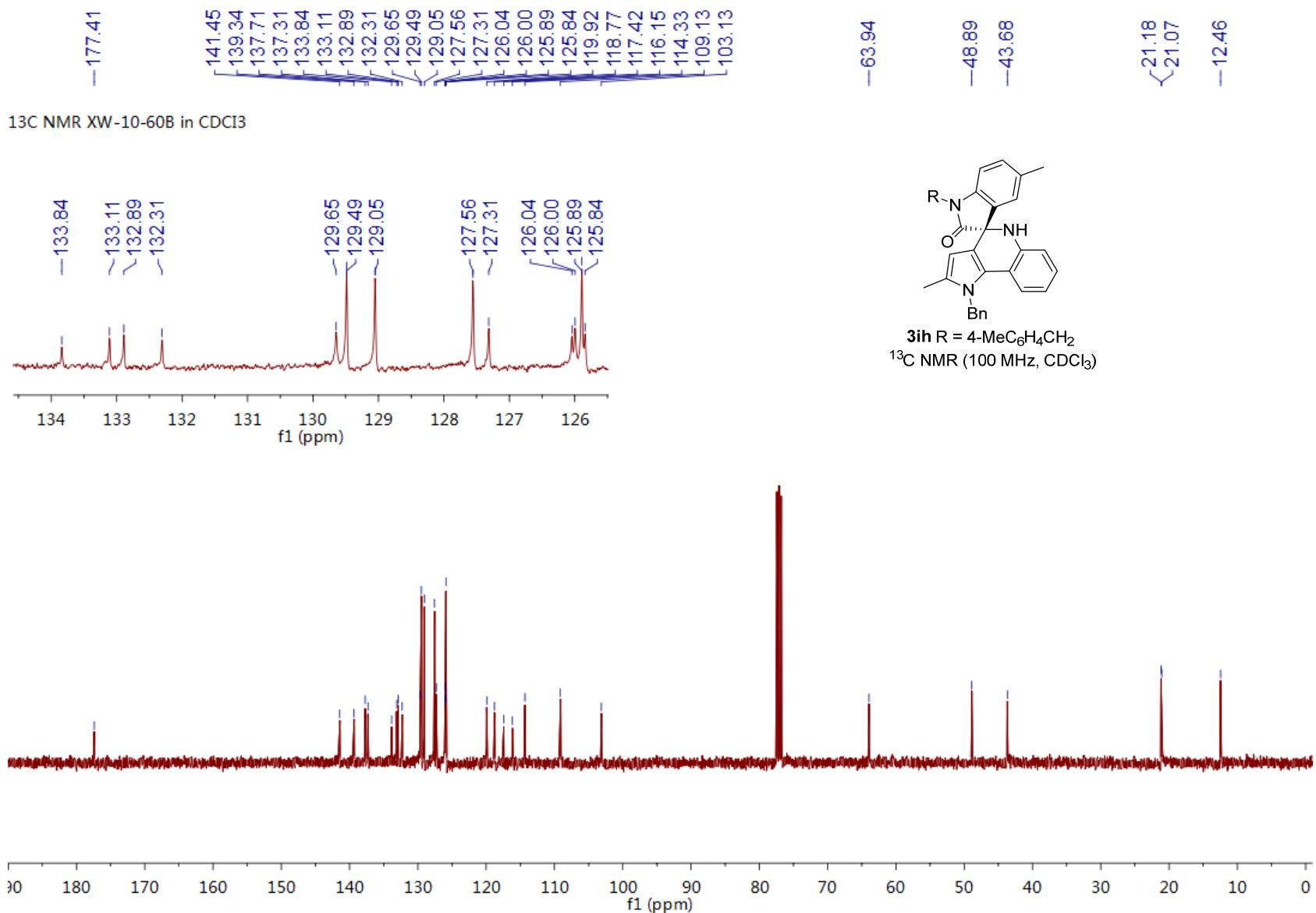


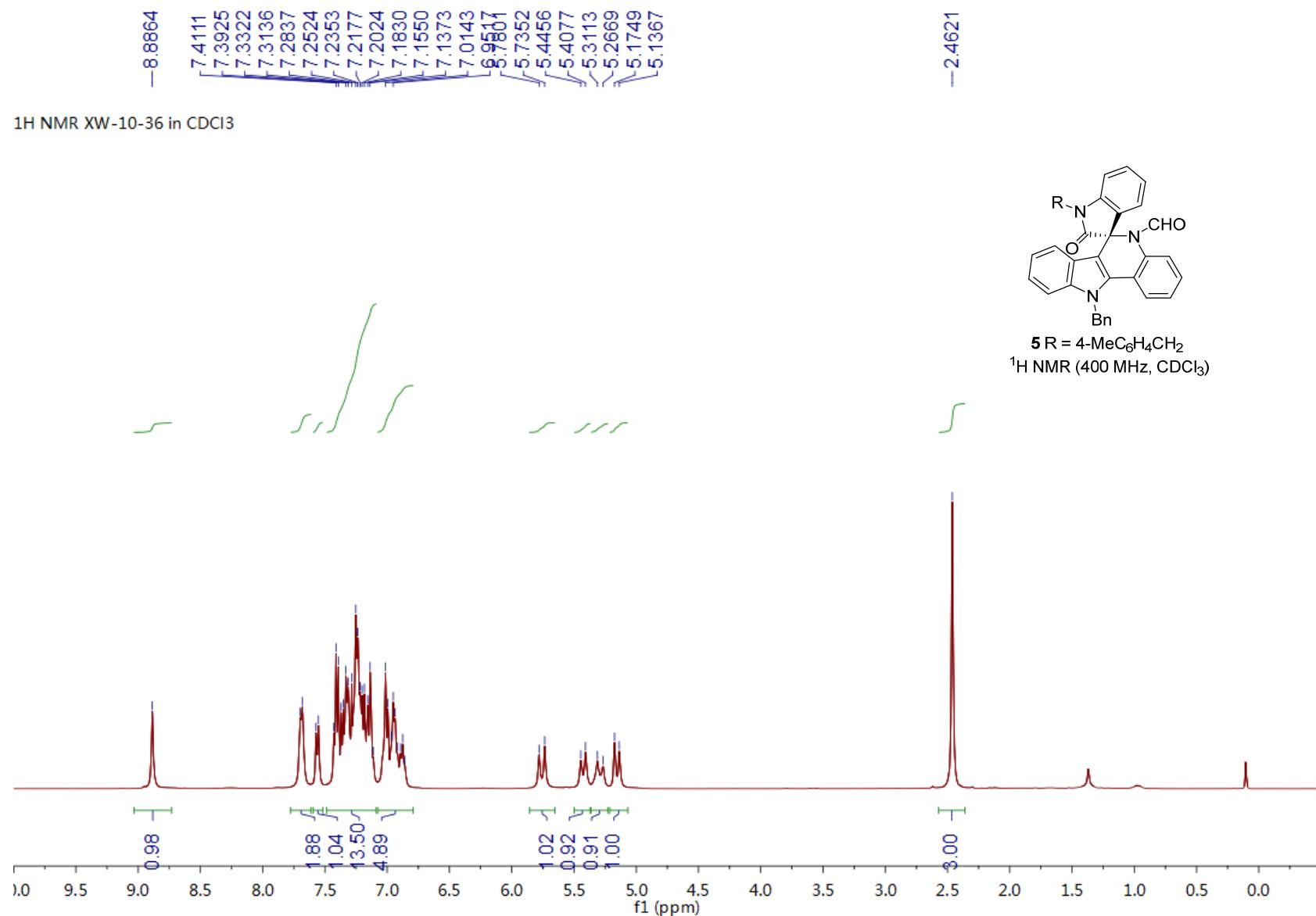


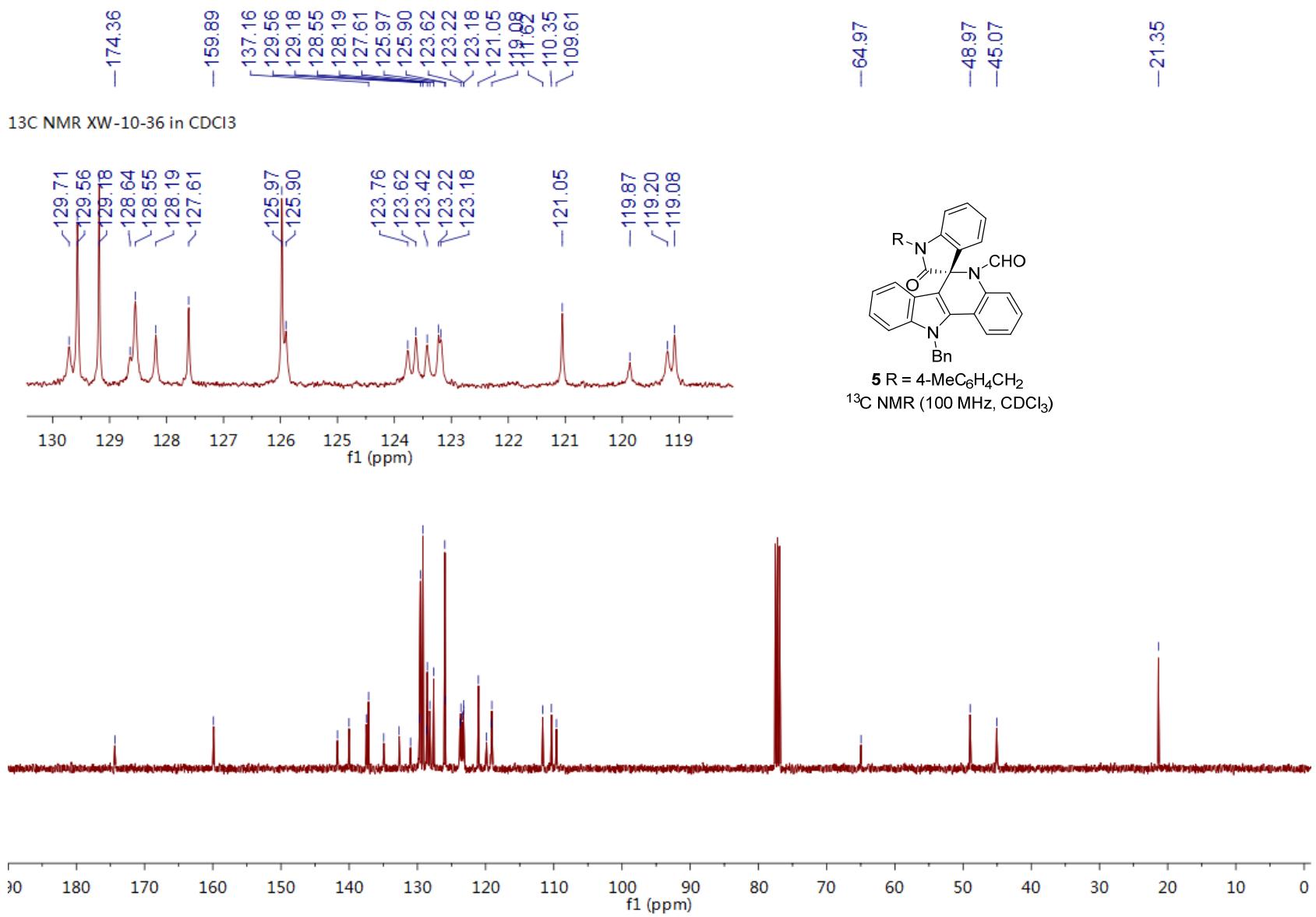


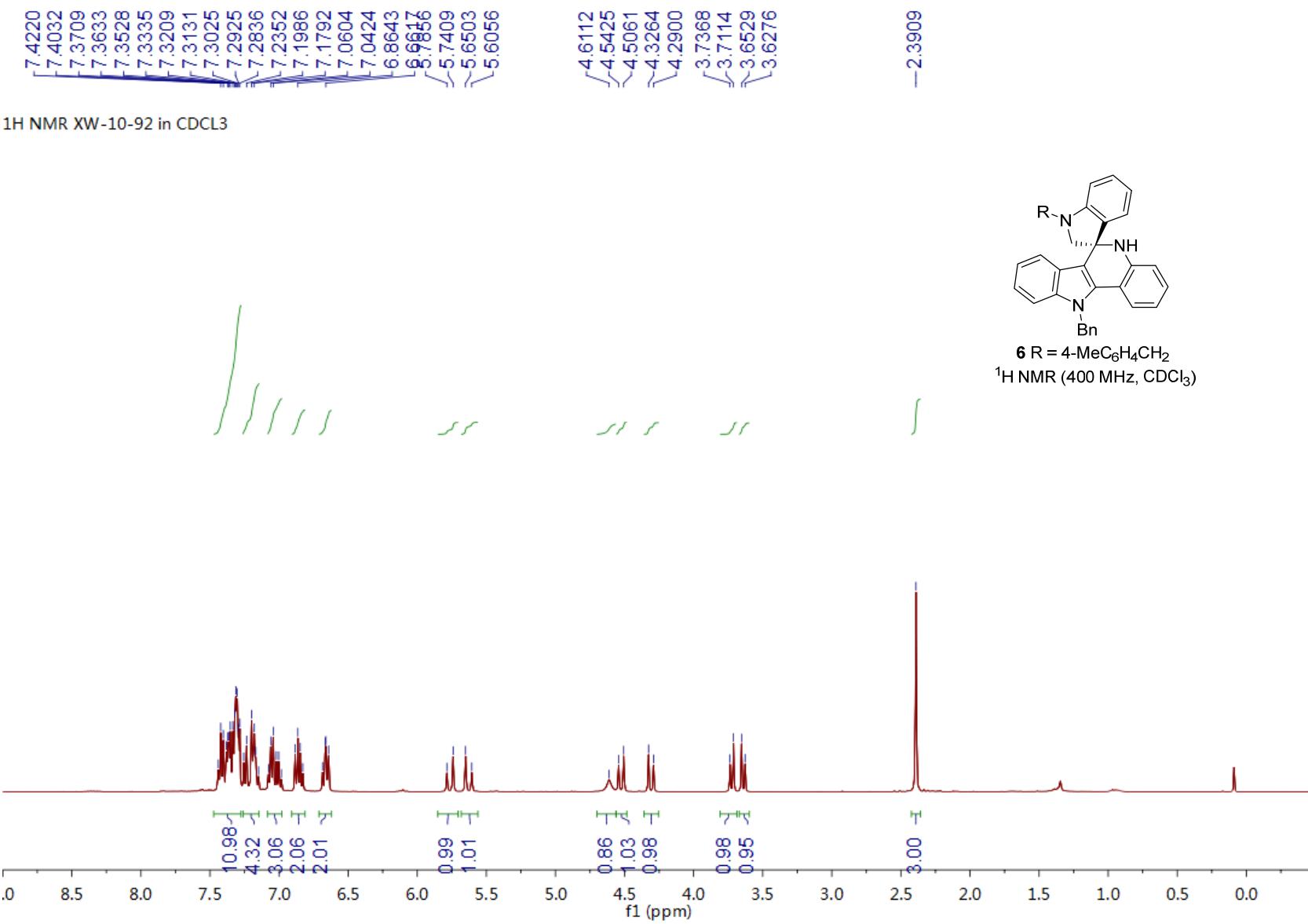


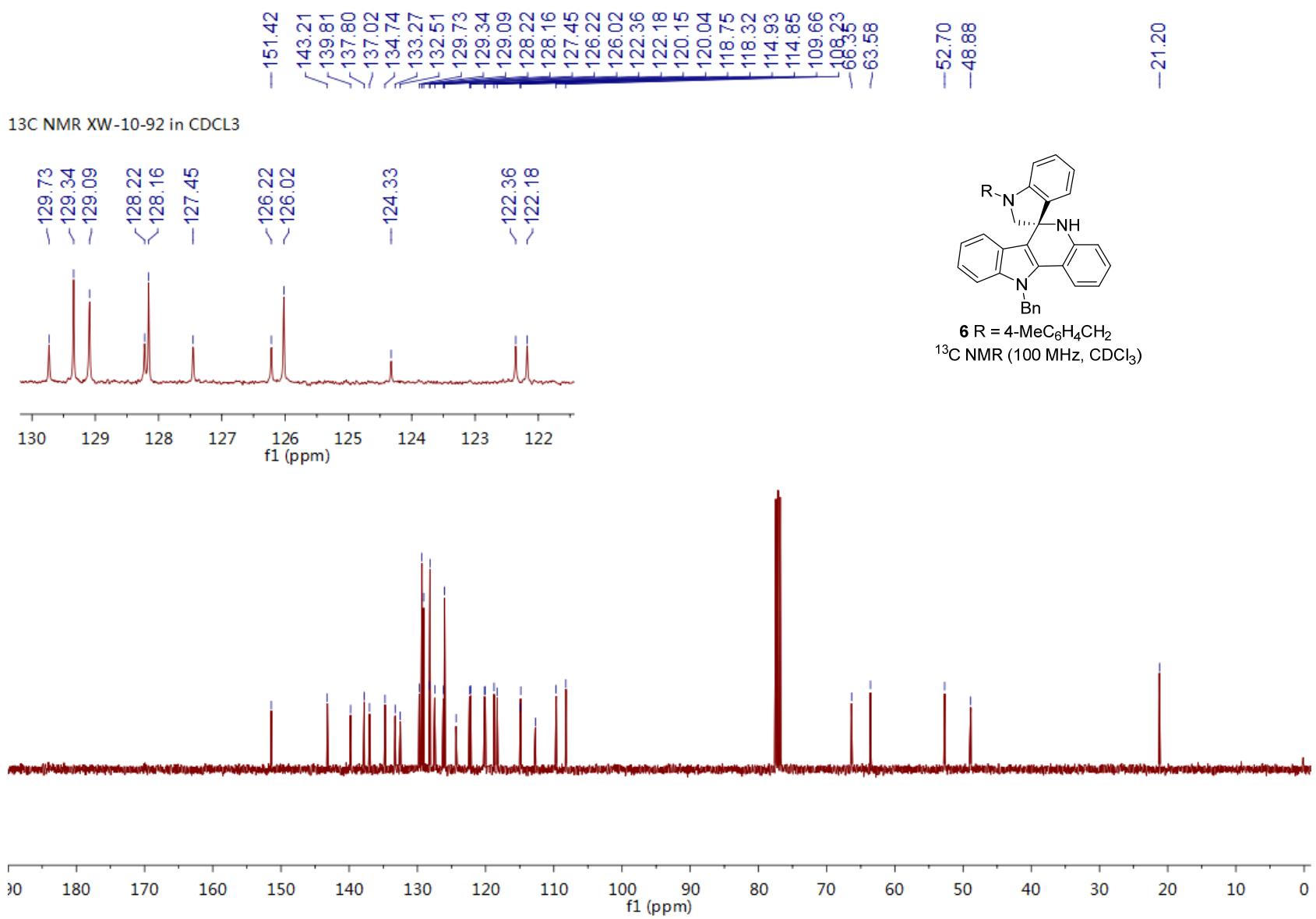






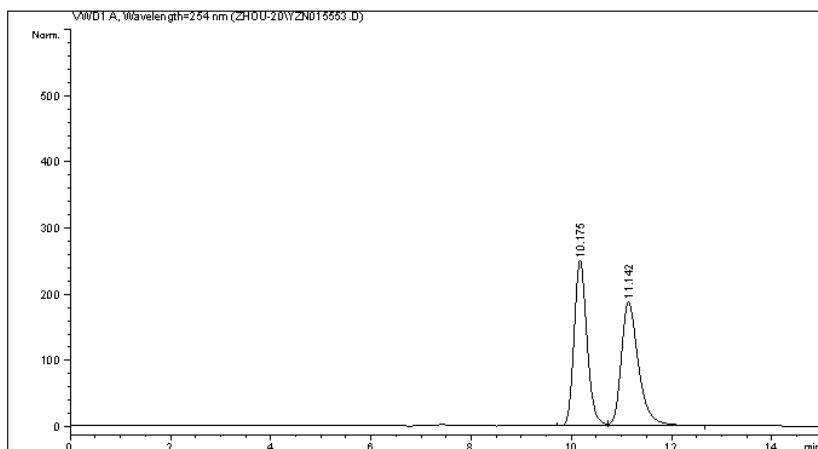






Data File C:\CHEM32\1\DATA\ZHOU-20\YZN015553.D
Sample Name: xw-9-61 rac

```
=====
Acq. Operator : 
Acq. Instrument : Instrument 1 Location : -
Injection Date : 7/31/2020 11:12:53 PM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 7/31/2020 10:54:20 PM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 12/18/2020 11:28:58 PM
(modified after loading)
Sample Info : IC, Hexane/i-PrOH = 70/30, 0.7 mL/min, 30 oC, 254 nm
```



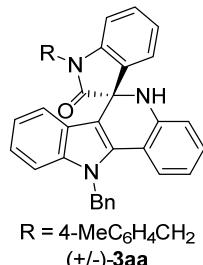
```
=====
Area Percent Report
=====
```

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

Signal 1: VWD1 A, Wavelength=254 nm

| Peak # | RetTime [min] | Type | Width [min] | Area mAU | *s | Height [mAU] | Area 1 | Area % |
|--------|---------------|------|-------------|------------|----|--------------|---------|--------|
| 1 | 10.175 | BV | 0.2758 | 4462.00244 | | 249.29639 | 49.9453 | |
| 2 | 11.142 | VB | 0.3624 | 4471.78174 | | 186.74049 | 50.0547 | |

Totals : 8933.78418 436.03688



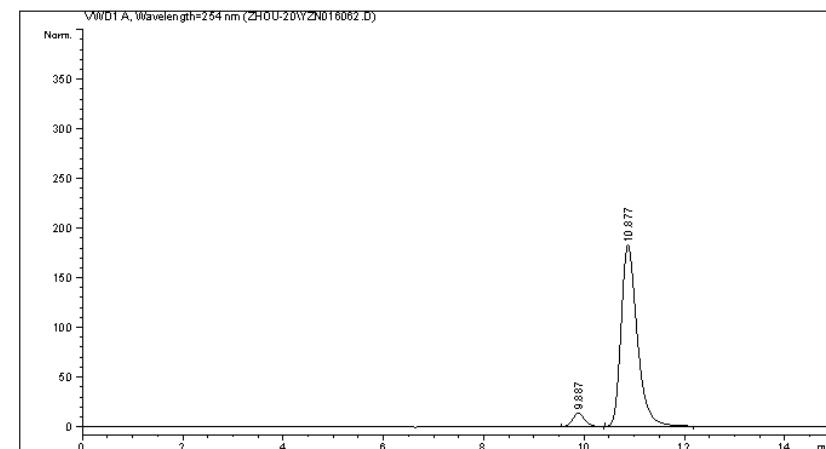
*** End of Report ***

Instrument 1 12/18/2020 11:29:04 PM

Page 1 of 1

Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016062.D
Sample Name: XW-10-6

```
=====
Acq. Operator : 
Acq. Instrument : Instrument 1 Location : -
Injection Date : 9/14/2020 9:53:14 PM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 9/14/2020 9:51:04 PM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 12/18/2020 11:27:56 PM
(modified after loading)
Sample Info : IC, Hexane/i-PrOH = 70/30, 0.7 mL/min, 30 oC, 254 nm
```



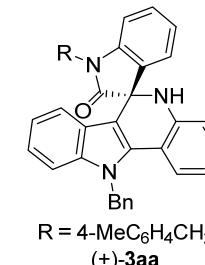
```
=====
Area Percent Report
=====
```

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

Signal 1: VWD1 A, Wavelength=254 nm

| Peak # | RetTime [min] | Type | Width [min] | Area mAU | *s | Height [mAU] | Area 1 | Area % |
|--------|---------------|------|-------------|------------|----|--------------|---------|--------|
| 1 | 9.887 | BB | 0.2596 | 226.01514 | | 13.48535 | 5.2481 | |
| 2 | 10.877 | BB | 0.3411 | 4080.58740 | | 182.41727 | 94.7519 | |

Totals : 4306.60254 195.90262



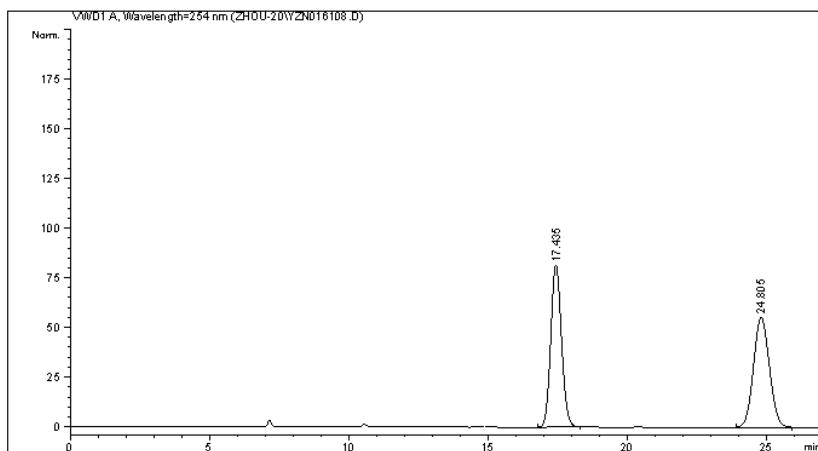
*** End of Report ***

Instrument 1 12/18/2020 11:28:06 PM

Page 1 of 1

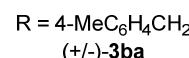
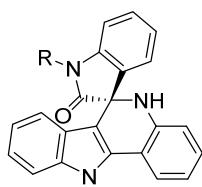
Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016108.D
Sample Name: XW-10-10A RAC

```
=====
Acq. Operator : Location : -
Acq. Instrument : Instrument 1
Injection Date : 9/17/2020 9:29:49 PM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 9/17/2020 9:09:34 PM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 12/18/2020 11:32:22 PM
(modified after loading)
Sample Info : AD-H, Hexane/i-PrOH = 70/30, 0.7 mL/min, 30 oC, 254 nm
```



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

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



Signal 1: VWD1 A, Wavelength=254 nm

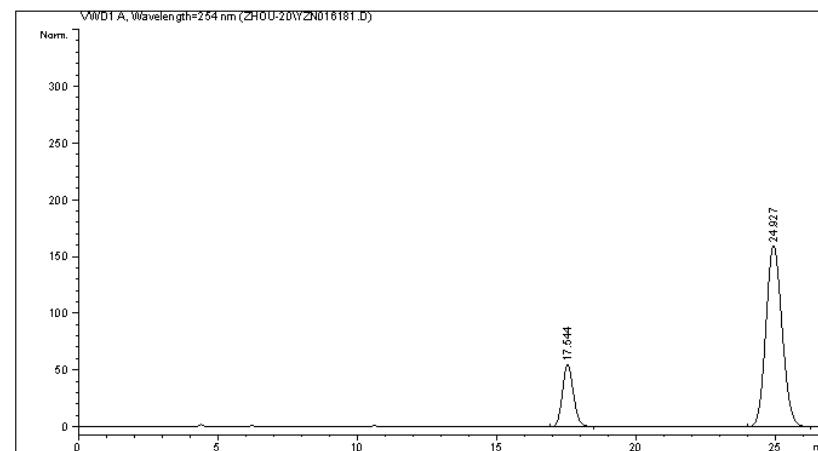
| Peak # | RetTime [min] | Type | Width [min] | Area mAU | *s | Height [mAU] | Area 1 | Area % |
|--------|---------------|------|-------------|------------|----------|--------------|--------|--------|
| 1 | 17.435 | BB | 0.4163 | 2185.58765 | 81.49146 | 49.8741 | | |
| 2 | 24.805 | BB | 0.6191 | 2196.62085 | 55.48695 | 50.1259 | | |

Totals : 4382.20850 136.97841

*** End of Report ***

Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016181.D
Sample Name: XW-10-10A cat

```
=====
Acq. Operator : Location : -
Acq. Instrument : Instrument 1
Injection Date : 9/22/2020 3:04:31 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 9/22/2020 3:03:56 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 12/18/2020 11:34:26 PM
(modified after loading)
Sample Info : AD-H, Hexane/i-PrOH = 70/30, 0.7 mL/min, 30 oC, 254 nm
```



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

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

Signal 1: VWD1 A, Wavelength=254 nm

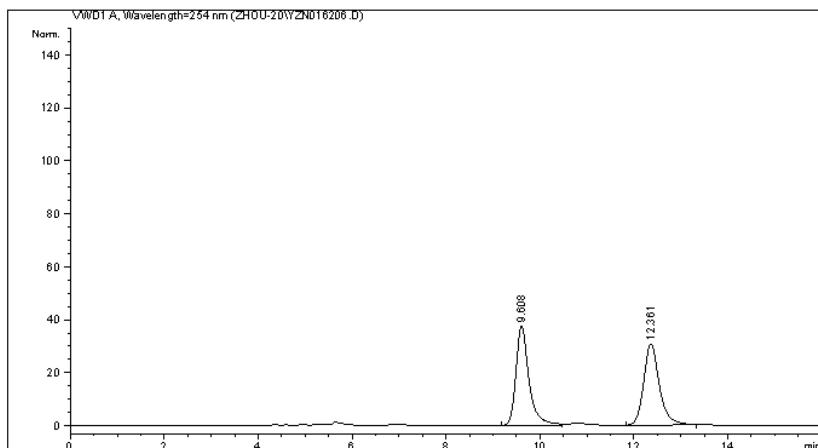
| Peak # | RetTime [min] | Type | Width [min] | Area mAU | *s | Height [mAU] | Area 1 | Area % |
|--------|---------------|------|-------------|------------|-----------|--------------|--------|--------|
| 1 | 17.544 | BB | 0.4226 | 1501.51807 | 54.88319 | 18.9758 | | |
| 2 | 24.927 | BB | 0.6271 | 6411.27490 | 159.69891 | 81.0242 | | |

Totals : 7912.79297 214.58210

*** End of Report ***

Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016206.D
Sample Name: XW-10-15A RAC

```
=====
Acq. Operator : Location : -
Acq. Instrument : Instrument 1
Injection Date : 9/24/2020 2:55:20 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 9/24/2020 2:49:03 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 12/19/2020 2:10:40 AM
(modified after loading)
Sample Info : IA, Hexane/i-PrOH = 70/30, 0.7 mL/min, 30 oC, 254 nm
```



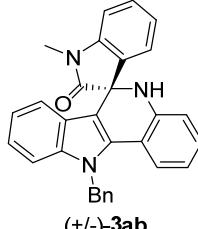
```
=====
Area Percent Report
```

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

Signal 1: VWD1 A, Wavelength=254 nm

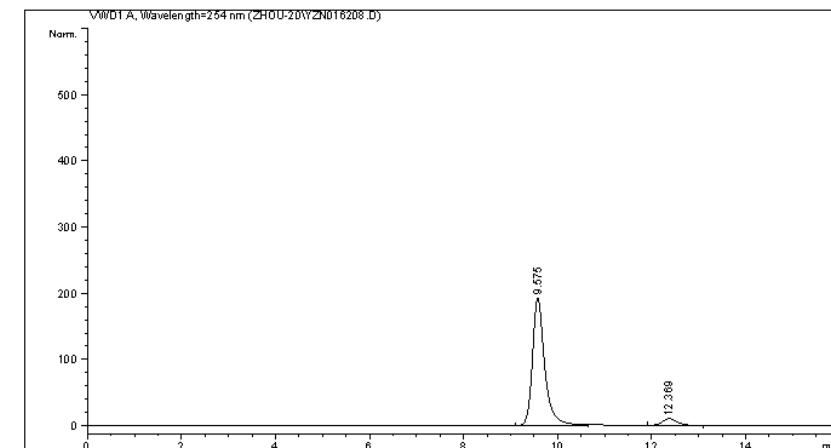
| Peak # | RetTime [min] | Type | Width [min] | Area mAU | *s | Height [mAU] | Area 1 | Area % |
|--------|---------------|------|-------------|-----------|----|--------------|---------|--------|
| 1 | 9.608 | BB | 0.2876 | 728.81732 | | 37.54621 | 50.5584 | |
| 2 | 12.361 | BB | 0.3488 | 712.71796 | | 30.78153 | 49.4416 | |

Totals : 1441.53528 68.32774



Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016206.D
Sample Name: XW-10-15A CAT

```
=====
Acq. Operator : Location : -
Acq. Instrument : Instrument 1
Injection Date : 9/24/2020 3:26:14 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 9/24/2020 3:25:19 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 12/19/2020 1:51:34 AM
(modified after loading)
Sample Info : IA, Hexane/i-PrOH = 70/30, 0.7 mL/min, 30 oC, 254 nm
```



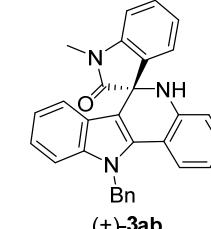
```
=====
Area Percent Report
```

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

Signal 1: VWD1 A, Wavelength=254 nm

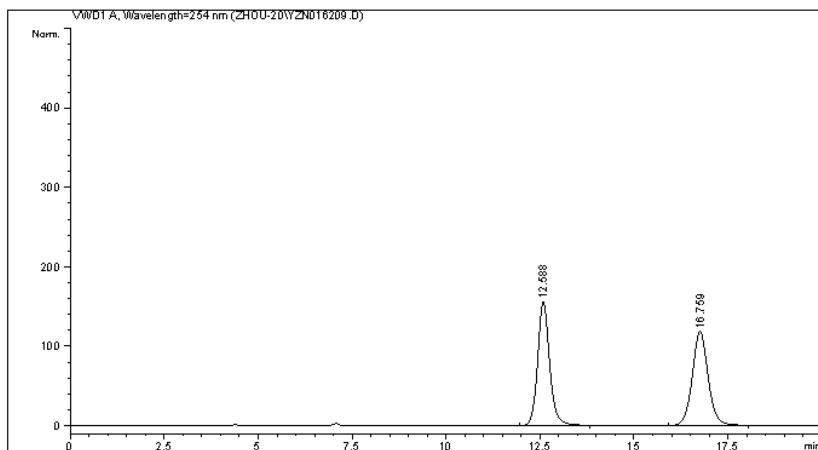
| Peak # | RetTime [min] | Type | Width [min] | Area mAU | *s | Height [mAU] | Area 1 | Area % |
|--------|---------------|------|-------------|------------|----|--------------|---------|--------|
| 1 | 9.575 | BB | 0.2694 | 3514.23120 | | 192.79233 | 93.7468 | |
| 2 | 12.369 | BB | 0.3471 | 234.41046 | | 10.24154 | 6.2532 | |

Totals : 3748.64166 203.03387



Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016209.D
Sample Name: XW-10-15B RAC

```
=====
Acq. Operator : Instrument 1 Location : -
Injection Date : 9/24/2020 3:53:50 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 9/24/2020 3:44:18 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 12/19/2020 1:56:55 AM
(modified after loading)
Sample Info : IA, Hexane/i-PrOH = 70/30, 0.7 mL/min, 30 oC, 254 nm
```



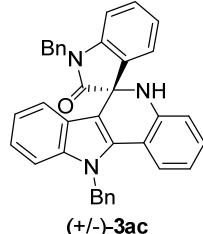
```
=====
Area Percent Report
```

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

Signal 1: VWD1 A, Wavelength=254 nm

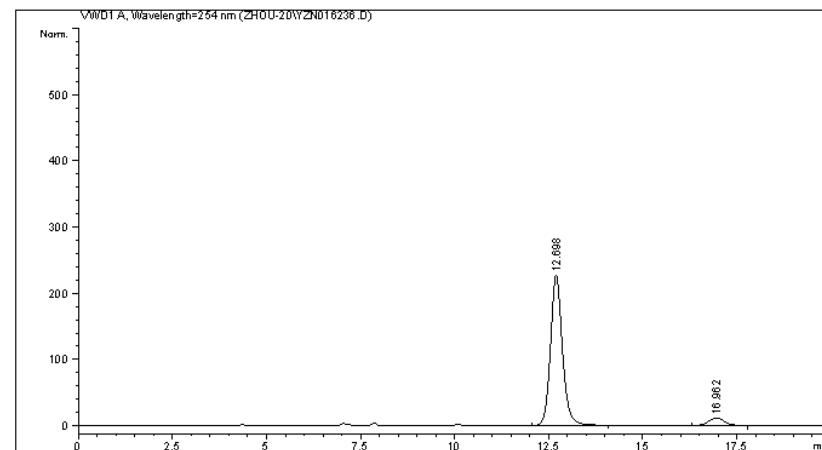
| Peak # | RetTime [min] | Type | Width [min] | Area mAU | Height *s | Area [mAU] | Area % |
|--------|---------------|------|-------------|------------|-----------|------------|--------|
| 1 | 12.588 | BB | 0.3351 | 3468.18823 | 155.98575 | 49.9513 | |
| 2 | 16.759 | BB | 0.4460 | 3474.95483 | 118.33647 | 50.0487 | |

Totals : 6943.14307 274.32222



Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016236.D
Sample Name: XW-10-15B CAT

```
=====
Acq. Operator : Instrument 1 Location : -
Injection Date : 9/25/2020 10:16:49 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 9/25/2020 10:15:24 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 12/19/2020 1:55:58 AM
(modified after loading)
Sample Info : IA, Hexane/i-PrOH = 70/30, 0.7 mL/min, 30 oC, 254nm
```



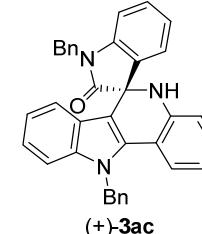
```
=====
Area Percent Report
```

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

Signal 1: VWD1 A, Wavelength=254 nm

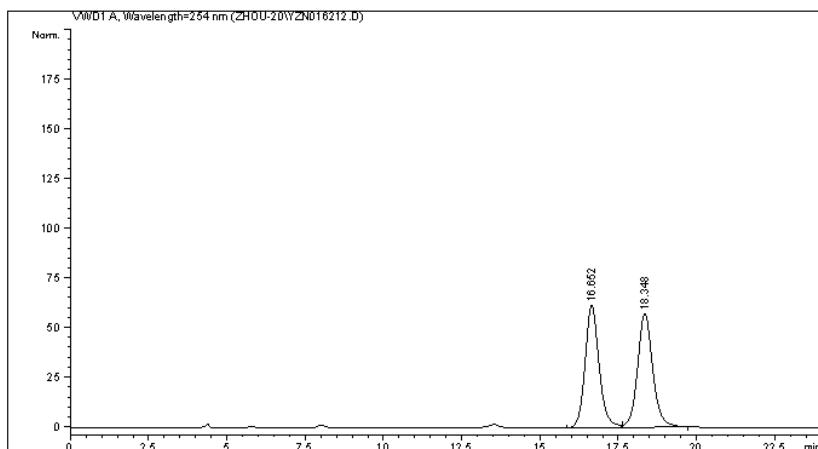
| Peak # | RetTime [min] | Type | Width [min] | Area mAU | Height *s | Area [mAU] | Area % |
|--------|---------------|------|-------------|------------|-----------|------------|--------|
| 1 | 12.698 | BB | 0.3344 | 5034.84229 | 227.09969 | 93.4322 | |
| 2 | 16.962 | BB | 0.4559 | 353.92331 | 11.90894 | 6.5678 | |

Totals : 5388.76559 239.00863



Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016212.D
Sample Name: XW-10-16C RAC

```
=====
Acq. Operator : Instrument 1 Location : -
Injection Date : 9/24/2020 6:35:44 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 9/24/2020 6:33:56 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 12/19/2020 1:59:11 AM
(modified after loading)
Sample Info : IA, Hexane/i-PrOH = 70/30, 0.7 mL/min, 30 oC, 254 nm
```



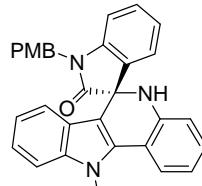
```
=====
Area Percent Report
```

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

Signal 1: VWD1 A, Wavelength=254 nm

| Peak # | RetTime [min] | Type | Width [min] | Area mAU | *s | Height [mAU] | Area 1 | Area % |
|--------|---------------|------|-------------|------------|----|--------------|---------|--------|
| 1 | 16.652 | BB | 0.4715 | 1912.82581 | | 61.59628 | 49.7201 | |
| 2 | 18.348 | BB | 0.5120 | 1934.36377 | | 57.26251 | 50.2799 | |

Totals : 3847.18958 118.85879



(±)-3ad

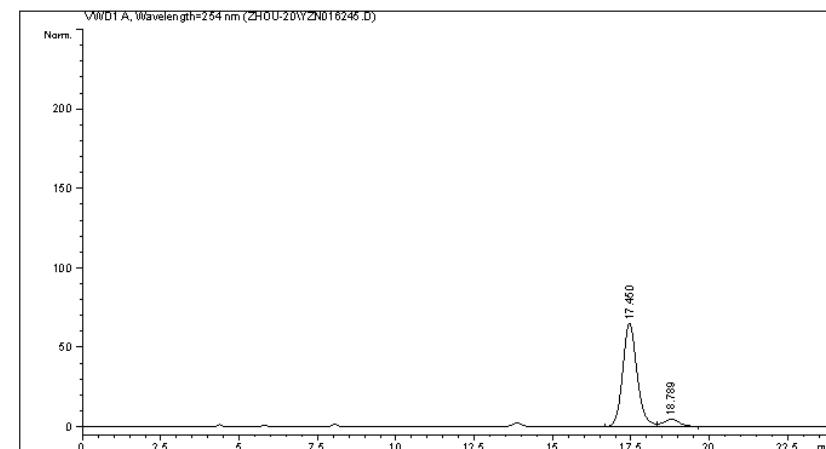
*** End of Report ***

Instrument 1 12/19/2020 2:00:22 AM

Page 1 of 1

Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016245.D
Sample Name: XW-10-16C CAT

```
=====
Acq. Operator : Instrument 1 Location : -
Injection Date : 9/26/2020 9:32:57 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 9/26/2020 9:31:31 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 12/19/2020 2:07:24 AM
(modified after loading)
Sample Info : IA, Hexane/i-PrOH = 70/30, 0.7 mL/min, 30 oC, 254 nm
```



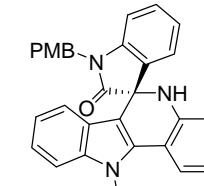
```
=====
Area Percent Report
```

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

Signal 1: VWD1 A, Wavelength=254 nm

| Peak # | RetTime [min] | Type | Width [min] | Area mAU | *s | Height [mAU] | Area 1 | Area % |
|--------|---------------|------|-------------|------------|----|--------------|---------|--------|
| 1 | 17.450 | BB | 0.4852 | 2079.87744 | | 65.29054 | 92.5309 | |
| 2 | 18.789 | BB | 0.5471 | 167.88756 | | 4.62718 | 7.4691 | |

Totals : 2247.76500 69.91773



(+)-3ad

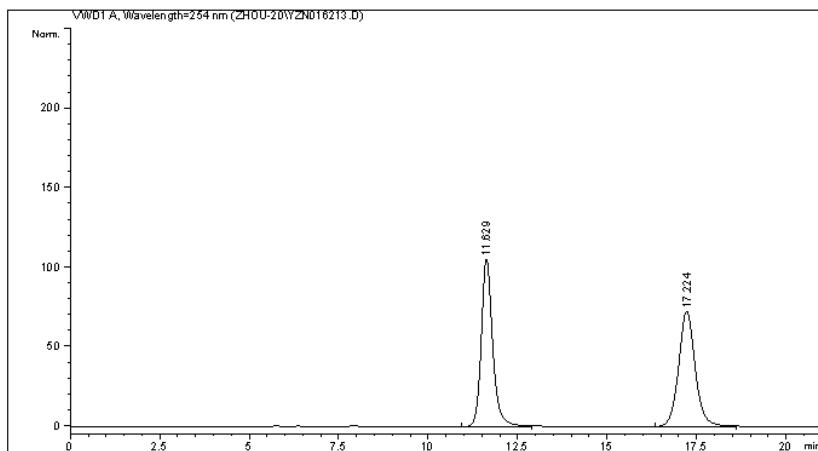
*** End of Report ***

Instrument 1 12/19/2020 2:07:50 AM

Page 1 of 1

Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016213.D
Sample Name: XW-10-16D RAC

```
=====
Acq. Operator : Instrument 1 Location : -
Injection Date : 9/24/2020 7:45:39 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 9/24/2020 7:13:34 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 12/19/2020 2:02:45 AM
(modified after loading)
Sample Info : IA, Hexane/i-PrOH = 70/30, 0.7 mL/min, 30 oC, 254 nm
```



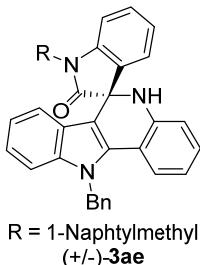
```
=====
Area Percent Report
```

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

Signal 1: VWD1 A, Wavelength=254 nm

| Peak RetTime | Type | Width | Area | Height | Area |
|--------------|------|--------|------------|-----------|---------|
| # [min] | | [min] | [mAU] | *s | [mAU] |
| 1 11.629 | BB | 0.3325 | 2333.34399 | 105.39973 | 50.0548 |
| 2 17.224 | BB | 0.4852 | 2328.23486 | 72.53037 | 49.9452 |

Totals : 4661.57886 177.93010



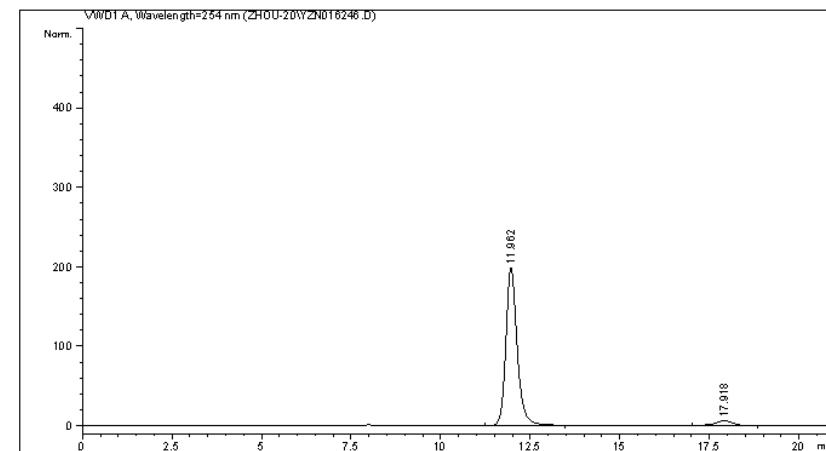
*** End of Report ***

Instrument 1 12/19/2020 2:02:49 AM

Page 1 of 1

Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016246.D
Sample Name: XW-10-16D CAT

```
=====
Acq. Operator : Instrument 1 Location : -
Injection Date : 9/26/2020 9:59:26 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 9/26/2020 9:57:14 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 12/19/2020 2:01:33 AM
(modified after loading)
Sample Info : IA, Hexane/i-PrOH = 70/30, 0.7 mL/min, 30 oC, 254 nm
```



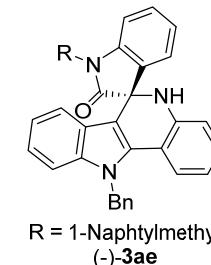
```
=====
Area Percent Report
```

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

Signal 1: VWD1 A, Wavelength=254 nm

| Peak RetTime | Type | Width | Area | Height | Area |
|--------------|------|--------|------------|-----------|---------|
| # [min] | | [min] | [mAU] | *s | [mAU] |
| 1 11.962 | BB | 0.3311 | 4383.09570 | 199.11383 | 95.0713 |
| 2 17.918 | BB | 0.5334 | 227.23030 | 6.27123 | 4.9287 |

Totals : 4610.32600 205.38506



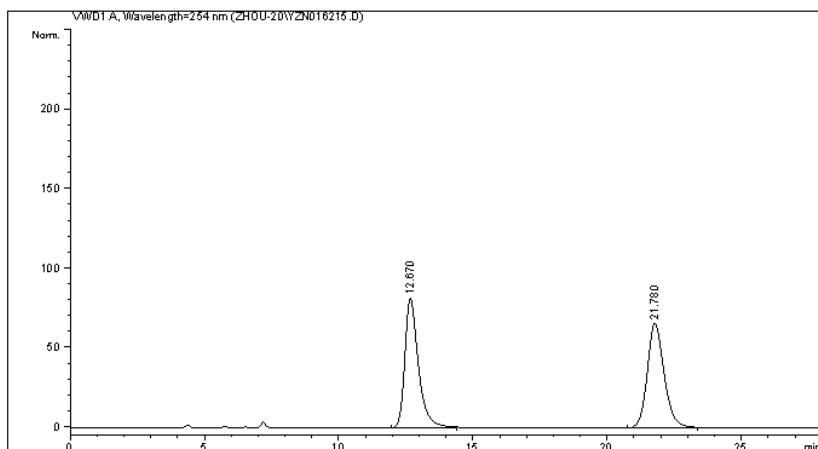
*** End of Report ***

Instrument 1 12/19/2020 2:01:44 AM

Page 1 of 1

Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016215.D
Sample Name: XW-10-16E RAC

```
=====
Acq. Operator : Instrument 1 Location : -
Injection Date : 9/24/2020 8:35:25 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 9/24/2020 8:34:23 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 12/21/2020 11:16:04 PM
(modified after loading)
Sample Info : IA, Hexane/i-PrOH = 70/30, 0.7 mL/min, 30 oC, 254 nm
```



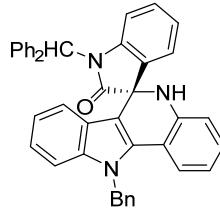
```
=====
Area Percent Report
=====
```

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

Signal 1: VWD1 A, Wavelength=254 nm

| Peak RetTime | Type | Width | Area | Height | Area | | |
|--------------|------|--------|------------|----------|---------|---|---|
| # [min] | | [min] | [mAU] | *s | [mAU] | 1 | % |
| 1 12.670 | BB | 0.5216 | 2843.33252 | 81.59217 | 49.8905 | | |
| 2 21.780 | BB | 0.6588 | 2855.81104 | 65.86108 | 50.1095 | | |

Totals : 5699.14355 147.45325



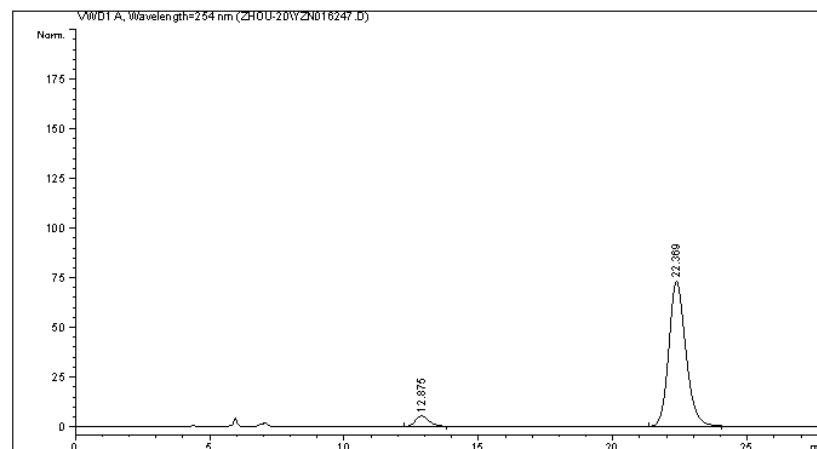
*** End of Report ***

Instrument 1 12/21/2020 11:16:18 PM

Page 1 of 1

Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016247.D
Sample Name: XW-10-16E CAT

```
=====
Acq. Operator : Instrument 1 Location : -
Injection Date : 9/26/2020 10:23:41 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 9/26/2020 10:21:52 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 12/19/2020 2:04:37 AM
(modified after loading)
Sample Info : IA, Hexane/i-PrOH = 70/30, 0.7 mL/min, 30 oC, 254 nm
```



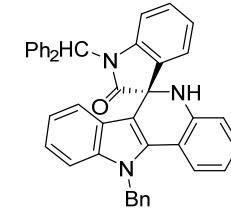
```
=====
Area Percent Report
=====
```

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

Signal 1: VWD1 A, Wavelength=254 nm

| Peak RetTime | Type | Width | Area | Height | Area | | |
|--------------|------|--------|------------|----------|---------|---|---|
| # [min] | | [min] | [mAU] | *s | [mAU] | 1 | % |
| 1 12.875 | BB | 0.5273 | 186.45036 | 5.31334 | 5.4764 | | |
| 2 22.369 | BB | 0.6721 | 3218.16675 | 73.13126 | 94.5236 | | |

Totals : 3404.61711 78.44460



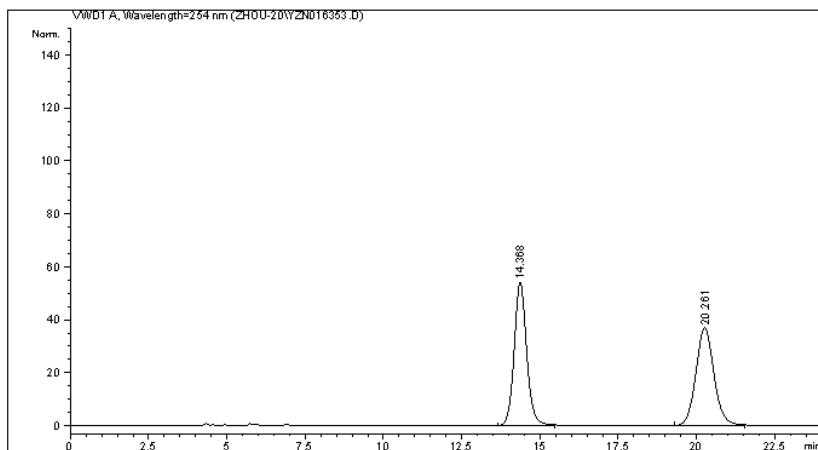
*** End of Report ***

Instrument 1 12/19/2020 2:04:42 AM

Page 1 of 1

Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016353.D
Sample Name: XW-10-30B

```
=====
Acq. Operator : 
Acq. Instrument : Instrument 1 Location : -
Injection Date : 10/15/2020 2:52:26 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 10/15/2020 2:51:06 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 12/19/2020 2:16:11 AM
(modified after loading)
Sample Info : IA, Hexane/i-PrOH =70/30, 0.7 mL/min, 30 oC, 254 nm
```



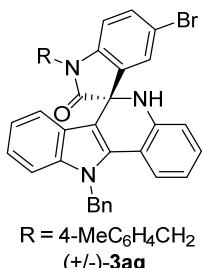
```
=====
Area Percent Report
=====

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

Signal 1: VWD1 A, Wavelength=254 nm

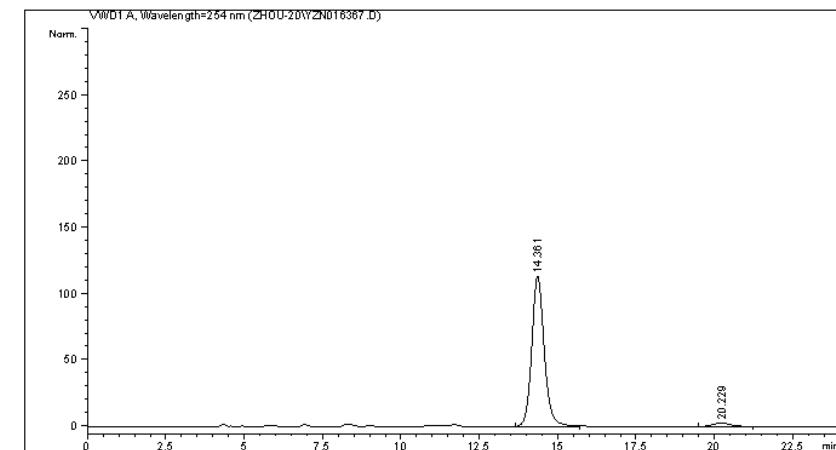
Peak RetTime Type Width Area Height Area
# [min] [min] mAU *s [mAU] 1 %
-----|-----|-----|-----|-----|-----|
1 14.368 BB 0.4189 1496.33398 54.07373 50.3012
2 20.261 BB 0.6167 1478.41333 36.84282 49.6988
-----|-----|-----|-----|-----|-----|
Totals : 2974.74731 90.91656
```

*** End of Report ***



Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016367.D
Sample Name: XW-10-30B CAT

```
=====
Acq. Operator : 
Acq. Instrument : Instrument 1 Location : -
Injection Date : 10/15/2020 11:08:21 PM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 10/15/2020 11:07:03 PM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 12/19/2020 2:14:42 AM
(modified after loading)
Sample Info : IA, Hexane/i-PrOH = 70/30, 0.7 mL/min, 30 oC, 254 nm
```



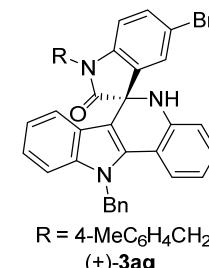
```
=====
Area Percent Report
=====

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

Signal 1: VWD1 A, Wavelength=254 nm

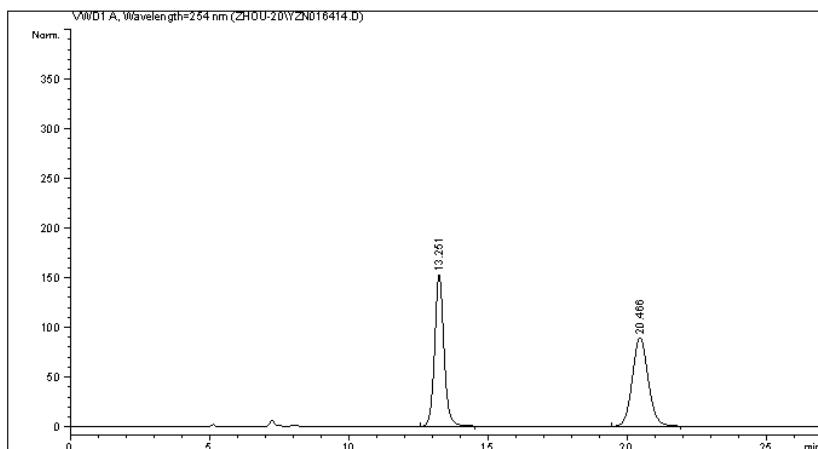
Peak RetTime Type Width Area Height Area
# [min] [min] mAU *s [mAU] 1 %
-----|-----|-----|-----|-----|
1 14.361 BB 0.4188 3138.32715 113.47487 96.6807
2 20.229 BB 0.5704 107.74787 2.69989 3.3193
-----|-----|-----|-----|-----|
Totals : 3246.07502 116.17476
```

*** End of Report ***



Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016414.D
Sample Name: XW-10-38B RAC

```
=====
Acq. Operator : Instrument 1 Location : -
Injection Date : 10/18/2020 7:52:48 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 10/18/2020 7:51:41 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 12/19/2020 2:18:11 AM
(modified after loading)
Sample Info : IA, Hexane/i-PrOH = 60/40, 0.6 mL/min, 30 oC, 254 nm
```



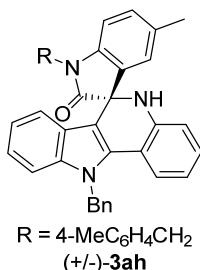
```
=====
Area Percent Report
=====
```

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

Signal 1: VWD1 A, Wavelength=254 nm

| Peak # | RetTime [min] | Type | Width [min] | Area mAU | Height *s | Area [mAU] | Area % |
|--------|---------------|------|-------------|------------|-----------|------------|--------|
| 1 | 13.251 | BB | 0.3538 | 3555.85278 | 152.36217 | 50.0734 | |
| 2 | 20.466 | BB | 0.6077 | 3545.42554 | 89.50841 | 49.9266 | |

Totals : 7101.27832 241.87057



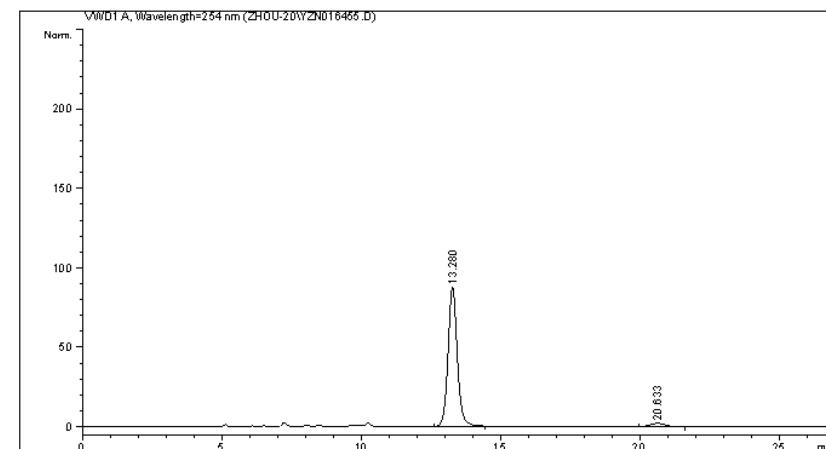
*** End of Report ***

Instrument 1 12/19/2020 2:18:16 AM

Page 1 of 1

Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016455.D
Sample Name: XW-10-38B CAT

```
=====
Acq. Operator : Instrument 1 Location : -
Injection Date : 10/22/2020 4:33:00 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 10/22/2020 4:29:17 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 12/19/2020 2:20:02 AM
(modified after loading)
Sample Info : IA, Hexane/i-PrOH = 60/40, 0.6 mL/min, 30 oC, 254 nm
```



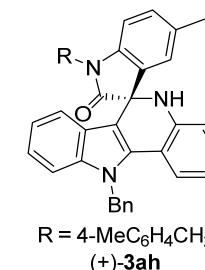
```
=====
Area Percent Report
=====
```

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

Signal 1: VWD1 A, Wavelength=254 nm

| Peak # | RetTime [min] | Type | Width [min] | Area mAU | Height *s | Area [mAU] | Area % |
|--------|---------------|------|-------------|------------|-----------|------------|--------|
| 1 | 13.280 | VB | 0.3528 | 2034.13989 | 87.49046 | 96.1910 | |
| 2 | 20.633 | BB | 0.5438 | 80.54794 | 2.09896 | 3.8090 | |

Totals : 2114.68784 89.58943



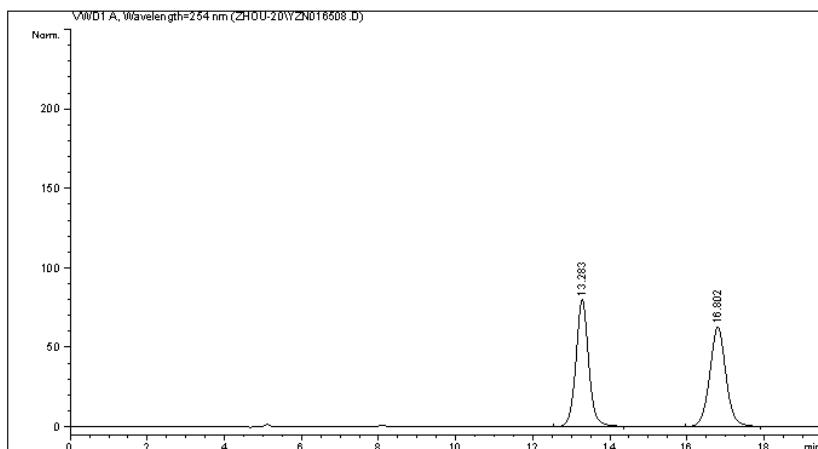
*** End of Report ***

Instrument 1 12/19/2020 2:20:08 AM

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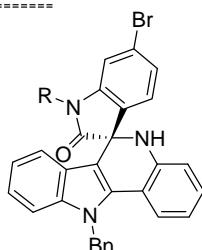
Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016508.D
Sample Name: XW-10-43B RAC

```
=====
Acq. Operator : 
Acq. Instrument : Instrument 1 Location : - 
Injection Date : 10/26/2020 11:20:50 PM 
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M 
Last changed : 10/26/2020 11:19:23 PM 
(modified after loading) 
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M 
Last changed : 12/19/2020 2:25:42 AM 
(modified after loading) 
Sample Info : IA, Hexane/i-PrOH = 60/40, 0.6 mL/min, 30 oC, 254 nm
```



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

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



R = 4-MeC₆H₄CH₂
(+/-)-3ai

| Peak # | RetTime [min] | Type | Width [min] | Area mAU | *s | Height [mAU] | Area 1 | Area % |
|--------|---------------|------|-------------|------------|----|--------------|---------|--------|
| 1 | 13.283 | BB | 0.3492 | 1845.13708 | | 79.98314 | 50.0106 | |
| 2 | 16.802 | BB | 0.4460 | 1844.35498 | | 62.79567 | 49.9894 | |

Totals : 3689.49207 142.77881

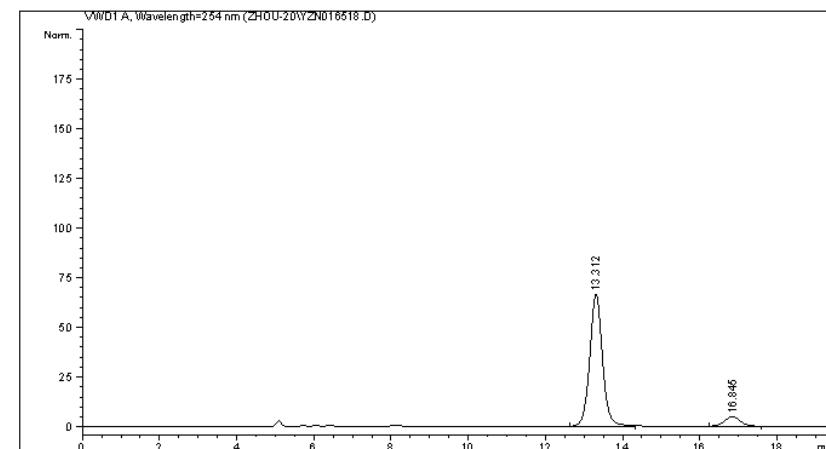
*** End of Report ***

Instrument 1 12/19/2020 2:25:46 AM

Page 1 of 1

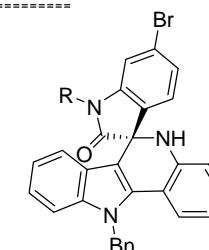
Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016518.D
Sample Name: XW-10-43B cat

```
=====
Acq. Operator : 
Acq. Instrument : Instrument 1 Location : - 
Injection Date : 10/28/2020 2:42:26 AM 
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M 
Last changed : 10/28/2020 2:41:12 AM 
(modified after loading) 
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M 
Last changed : 12/19/2020 2:25:00 AM 
(modified after loading) 
Sample Info : IA, Hexane/i-PrOH = 60/40, 0.6 mL/min, 30 oC, 254 nm
```



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

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



R = 4-MeC₆H₄CH₂
(+)-3ai

| Peak # | RetTime [min] | Type | Width [min] | Area mAU | *s | Height [mAU] | Area 1 | Area % |
|--------|---------------|------|-------------|------------|----|--------------|---------|--------|
| 1 | 13.312 | BB | 0.3468 | 1522.23108 | | 66.57588 | 91.5383 | |
| 2 | 16.845 | BB | 0.4347 | 140.71384 | | 4.84898 | 8.4617 | |

Totals : 1662.94492 71.42486

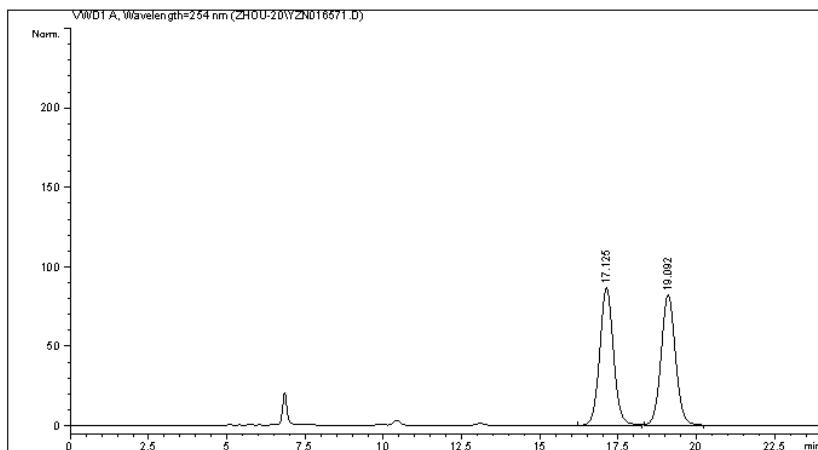
*** End of Report ***

Instrument 1 12/19/2020 2:25:10 AM

Page 1 of 1

Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016571.D
Sample Name: XW-10-48B RAC

```
=====
Acq. Operator : 
Acq. Instrument : Instrument 1 Location : - 
Injection Date : 11/1/2020 3:51:57 AM 
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M 
Last changed : 11/1/2020 3:49:01 AM 
(modified after loading) 
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M 
Last changed : 12/19/2020 2:30:21 AM 
(modified after loading) 
Sample Info : IA, Hexane/i-PrOH = 70/30, 0.7 mL/min, 30 oC, 254 nm
```



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

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

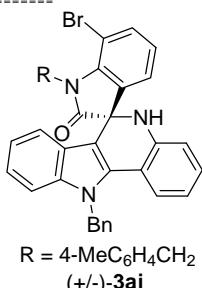
Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type Width Area Height Area
# [min] [min] mAU *s [mAU] 1 %
-----|-----|-----|-----|-----|-----|
1 17.125 BB 0.4704 2669.21289 86.90723 50.3499
2 19.092 BB 0.4944 2632.11694 82.20609 49.6501

Totals : 5301.32983 169.11331
=====

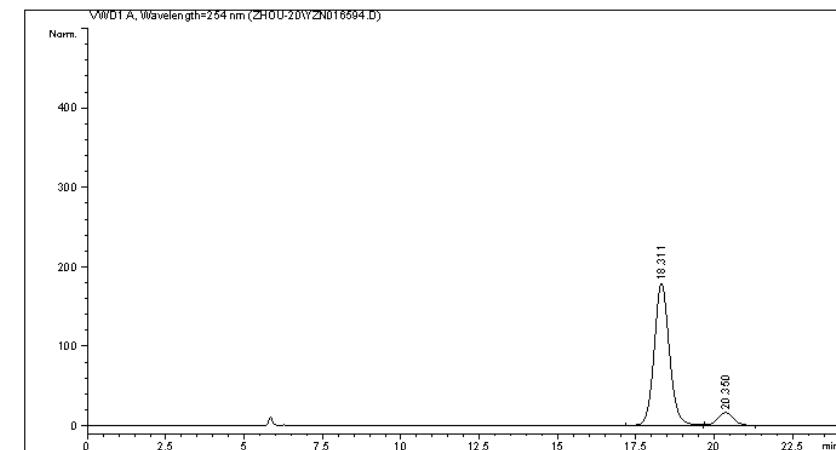
R = 4-MeC6H4CH2
(+/-)-3aj
=====

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



Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016594.D
Sample Name: XW-10-48B cat

```
=====
Acq. Operator : 
Acq. Instrument : Instrument 1 Location : - 
Injection Date : 11/3/2020 4:31:40 AM 
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M 
Last changed : 11/3/2020 4:30:55 AM 
(modified after loading) 
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M 
Last changed : 12/19/2020 2:27:52 AM 
(modified after loading) 
Sample Info : IA, Hexane/i-PrOH = 70/30, 0.7 mL/min, 30 oC, 254 nm
```



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

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

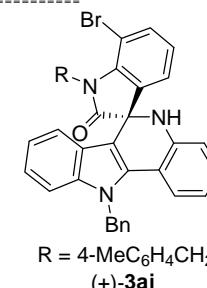
Signal 1: VWD1 A, Wavelength=254 nm

Peak RetTime Type Width Area Height Area
# [min] [min] mAU *s [mAU] 1 %
-----|-----|-----|-----|-----|
1 18.311 BB 0.5169 6057.19043 179.09027 91.2656
2 20.350 BB 0.5527 579.68994 16.20663 8.7344

Totals : 6636.88037 195.29690
=====

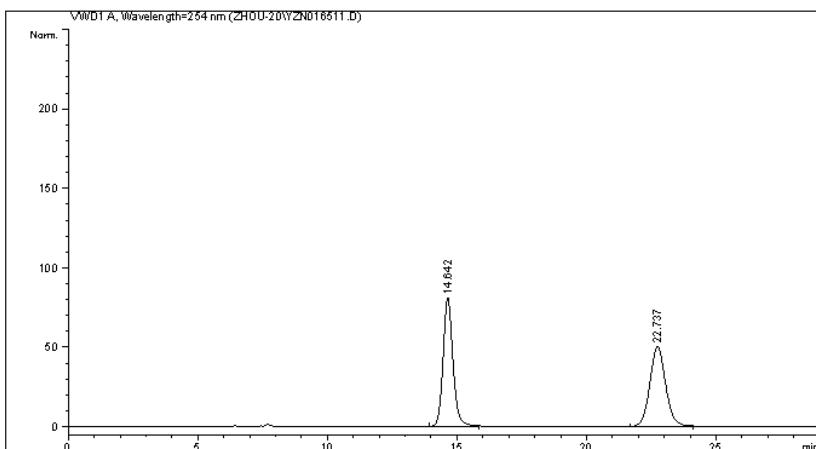
R = 4\text{-MeC}_6\text{H}_4\text{CH}_2
(+)-3aj
=====

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



Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016511.D
Sample Name: XW-10-44A rac

```
=====
Acq. Operator : Instrument 1 Location : -
Injection Date : 10/27/2020 8:52:00 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 10/27/2020 8:09:50 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 12/19/2020 2:48:21 AM
(modified after loading)
Sample Info : IA, Hexane/i-PrOH = 60/40, 0.6 mL/min, 30 oC, 254 nm
```

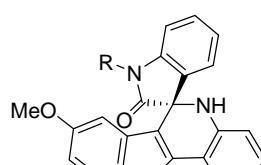


```
=====
Area Percent Report
=====
```

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

Signal 1: VWD1 A, Wavelength=254 nm

| Peak # | RetTime [min] | Type | Width [min] | Area mAU | Height *s | [mAU] | Area 1 | Area % |
|--------|---------------|------|-------------|------------|-----------|---------|--------|--------|
| 1 | 14.642 | BB | 0.4012 | 2137.57715 | 80.96248 | 50.2157 | | |
| 2 | 22.737 | BB | 0.6492 | 2119.21191 | 50.25697 | 49.7843 | | |



R = 4-MeC₆H₄CH₂
(+)-3ca

Totals : 4256.78906 131.21944

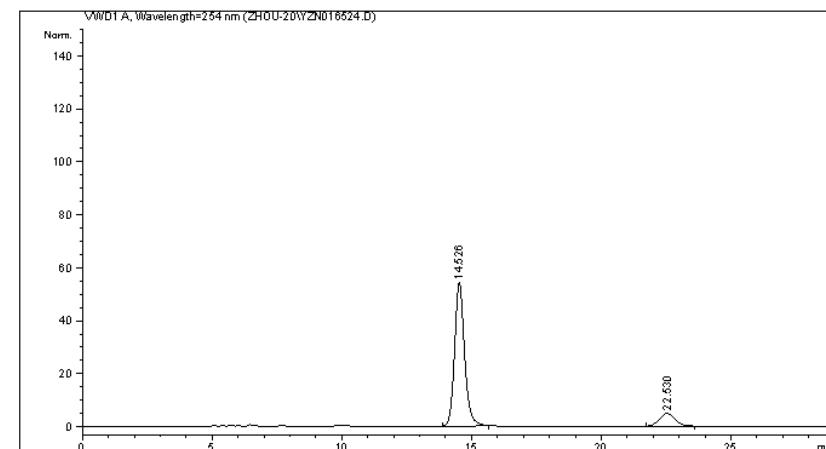
=====
*** End of Report ***

Instrument 1 12/19/2020 2:48:27 AM

Page 1 of 1

Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016524.D
Sample Name: XW-10-44A CAT

```
=====
Acq. Operator : Instrument 1 Location : -
Injection Date : 10/28/2020 9:50:57 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 10/28/2020 9:49:58 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 12/19/2020 2:47:24 AM
(modified after loading)
Sample Info : IA, Hexane/i-PrOH = 60/40, 0.6 mL/min, 30 oC, 254 nm
```



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

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

Signal 1: VWD1 A, Wavelength=254 nm

| Peak # | RetTime [min] | Type | Width [min] | Area mAU | Height *s | [mAU] | Area 1 | Area % |
|--------|---------------|------|-------------|------------|-----------|---------|--------|--------|
| 1 | 14.526 | BB | 0.4080 | 1454.11096 | 54.13524 | 87.5646 | | |
| 2 | 22.530 | BB | 0.6385 | 206.50369 | 4.85919 | 12.4354 | | |

Totals : 1660.61465 58.99443

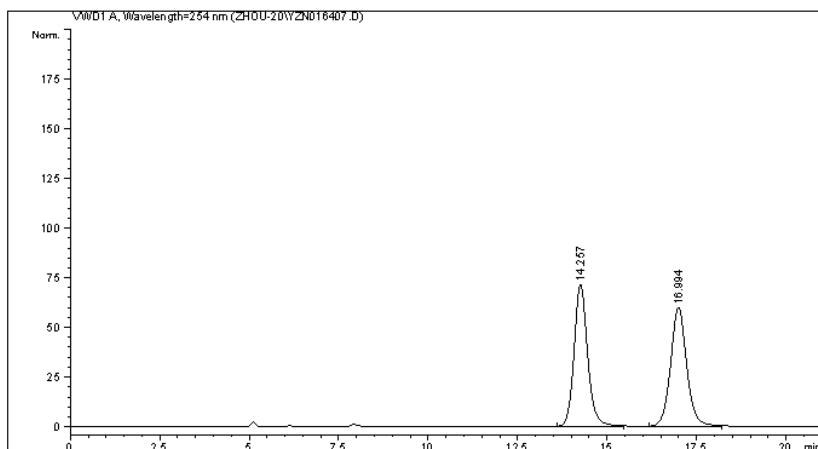
=====
*** End of Report ***

Instrument 1 12/19/2020 2:47:33 AM

Page 1 of 1

Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016407.D
Sample Name: XW-10-37B RAC

```
=====
Acq. Operator : Instrument 1 Location : -
Injection Date : 10/18/2020 4:14:57 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 10/18/2020 4:14:01 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 12/19/2020 2:55:31 AM
(modified after loading)
Sample Info : IA, Hexane/i-PrOH = 60/40, 0.6 mL/min, 30 oC, 254 nm
```



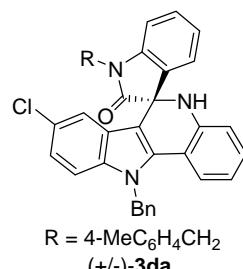
```
=====
Area Percent Report
```

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

Signal 1: VWD1 A, Wavelength=254 nm

| Peak # | RetTime [min] | Type | Width [min] | Area mAU | *s | Height [mAU] | Area 1 | Area % |
|--------|---------------|------|-------------|------------|----|--------------|---------|--------|
| 1 | 14.257 | BB | 0.3954 | 1870.82324 | | 71.52449 | 50.0682 | |
| 2 | 16.994 | BB | 0.4751 | 1865.72571 | | 59.73225 | 49.9318 | |

Totals : 3736.54895 131.25674



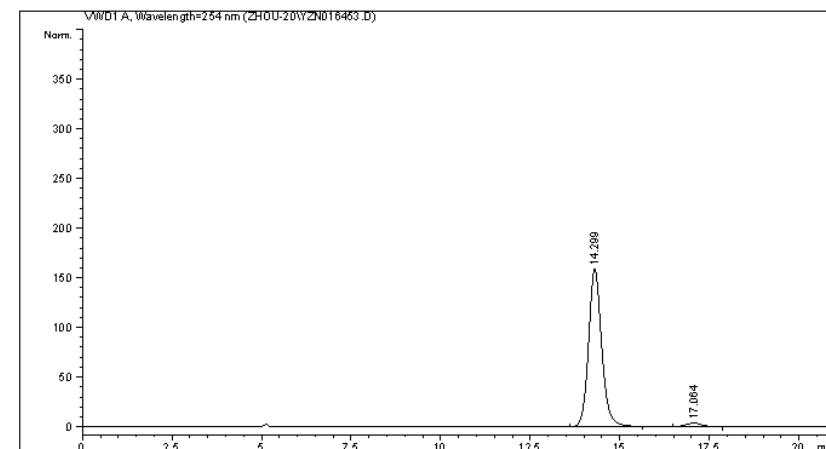
*** End of Report ***

Instrument 1 12/19/2020 2:55:35 AM

Page 1 of 1

Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016453.D
Sample Name: XW-10-37B CAT

```
=====
Acq. Operator : Instrument 1 Location : -
Injection Date : 10/22/2020 3:40:34 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 10/22/2020 3:38:44 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 12/19/2020 2:54:45 AM
(modified after loading)
Sample Info : IA, Hexane/i-PrOH = 60/40, 0.6 mL/min, 30 oC, 254 nm
```



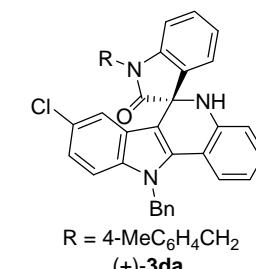
```
=====
Area Percent Report
```

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

Signal 1: VWD1 A, Wavelength=254 nm

| Peak # | RetTime [min] | Type | Width [min] | Area mAU | *s | Height [mAU] | Area 1 | Area % |
|--------|---------------|------|-------------|------------|----|--------------|---------|--------|
| 1 | 14.299 | BB | 0.3852 | 4060.72583 | | 159.08444 | 97.2041 | |
| 2 | 17.064 | BB | 0.4568 | 116.80001 | | 3.82423 | 2.7959 | |

Totals : 4177.52584 162.90867



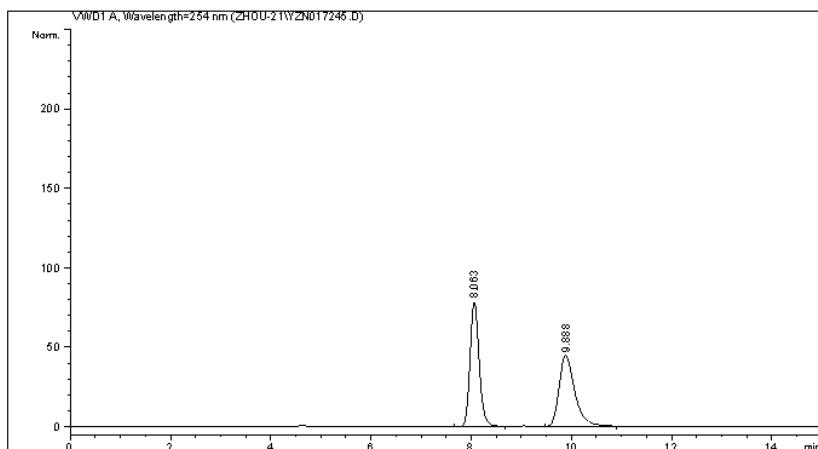
*** End of Report ***

Instrument 1 12/19/2020 2:54:50 AM

Page 1 of 1

Data File C:\CHEM32\1\DATA\ZHOU-21\YZN017245.D
Sample Name: XW-10-97A RAC

```
=====
Acq. Operator : Instrument 1 Location : -
Injection Date : 1/6/2021 10:01:40 PM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 1/6/2021 10:00:40 PM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 1/11/2021 4:34:50 AM
(modified after loading)
Sample Info : IC, Hexane/i-PrOH = 70/30, 0.7 mL/min, 30 oC, 254 nm
```



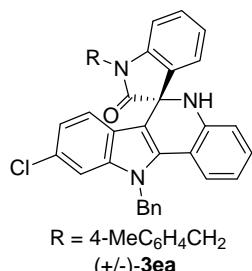
```
=====
Area Percent Report
```

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

Signal 1: VWD1 A, Wavelength=254 nm

| Peak # | RetTime [min] | Type | Width [min] | Area mAU | Height *s | Area [mAU] | Area % |
|--------|---------------|------|-------------|------------|-----------|------------|--------|
| 1 | 8.063 | BB | 0.1952 | 1000.18292 | 78.53724 | 50.5875 | |
| 2 | 9.888 | BB | 0.3309 | 976.95264 | 44.66202 | 49.4125 | |

Totals : 1977.13556 123.19926



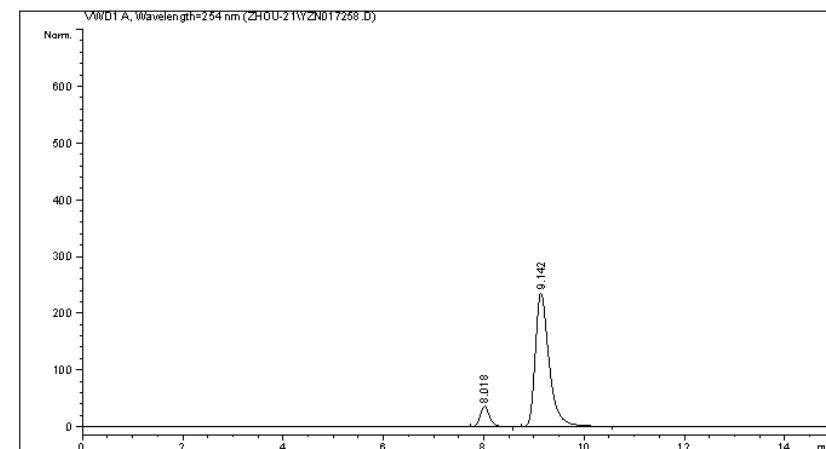
*** End of Report ***

Instrument 1 1/11/2021 4:34:54 AM

Page 1 of 1

Data File C:\CHEM32\1\DATA\ZHOU-21\YZN017258.D
Sample Name: XW-10-97A CAT

```
=====
Acq. Operator : Instrument 1 Location : -
Injection Date : 1/7/2021 9:27:49 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 1/7/2021 9:27:00 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 1/11/2021 4:33:47 AM
(modified after loading)
Sample Info : IC, Hexane/i-PrOH = 70/30, 0.7 mL/min, 30 oC, 254 nm
```



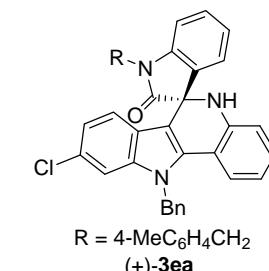
```
=====
Area Percent Report
```

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

Signal 1: VWD1 A, Wavelength=254 nm

| Peak # | RetTime [min] | Type | Width [min] | Area mAU | Height *s | Area [mAU] | Area % |
|--------|---------------|------|-------------|------------|-----------|------------|--------|
| 1 | 8.018 | BB | 0.1990 | 462.10522 | 35.71333 | 9.3183 | |
| 2 | 9.142 | BB | 0.2885 | 4497.02295 | 235.30499 | 90.6817 | |

Totals : 4959.12817 271.01833



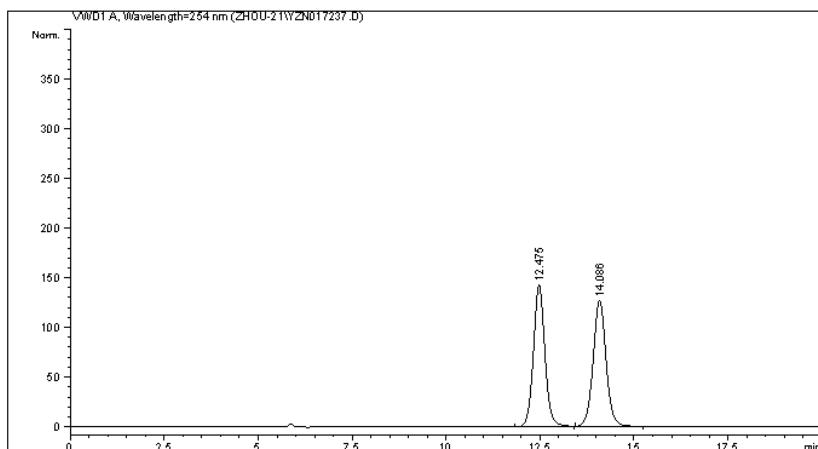
*** End of Report ***

Instrument 1 1/11/2021 4:33:52 AM

Page 1 of 1

Data File C:\CHEM32\1\DATA\ZHOU-21\YZN017237.D
Sample Name: XW-10-97B RAC

```
=====
Acq. Operator : Instrument 1 Location : -
Injection Date : 1/6/2021 8:28:28 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 1/6/2021 8:26:27 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 1/11/2021 4:35:46 AM
(modified after loading)
Sample Info : IA, Hexane/i-PrOH = 70/30, 0.7 mL/min, 30 oC, 254 nm
```

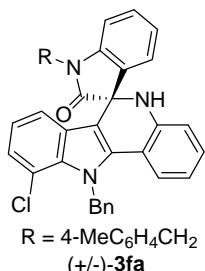


```
=====
Area Percent Report
```

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

Signal 1: VWD1 A, Wavelength=254 nm

| Peak # | RetTime [min] | Type | Width [min] | Area mAU | Height *s | Area [mAU] | Area % |
|----------|---------------|------|-------------|------------|-----------|------------|--------|
| 1 | 12.475 | BB | 0.3252 | 3060.90967 | 143.11720 | 49.9116 | |
| 2 | 14.086 | BB | 0.3672 | 3071.75439 | 127.40106 | 50.0884 | |
| Totals : | | | | 6132.66406 | 270.51826 | | |



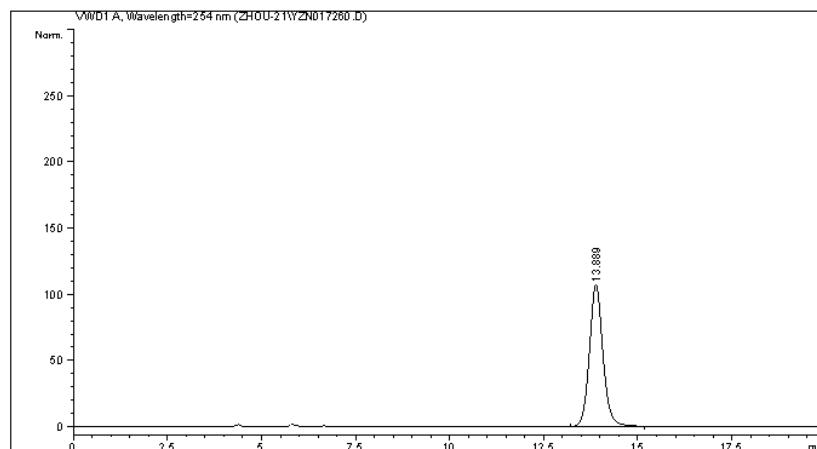
*** End of Report ***

Instrument 1 1/11/2021 4:35:55 AM

Page 1 of 1

Data File C:\CHEM32\1\DATA\ZHOU-21\YZN017260.D
Sample Name: XW-10-97B CAT

```
=====
Acq. Operator : Instrument 1 Location : -
Injection Date : 1/7/2021 10:06:07 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 1/7/2021 10:05:29 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 1/11/2021 4:41:48 AM
(modified after loading)
Sample Info : IA, Hexane/i-PrOH = 70/30, 0.7 mL/min, 30 oC, 254 nm
```



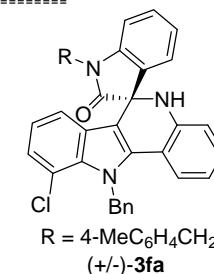
```
=====
Area Percent Report
```

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

Signal 1: VWD1 A, Wavelength=254 nm

| Peak # | RetTime [min] | Type | Width [min] | Area mAU | Height *s | Area [mAU] | Area % |
|--------|---------------|------|-------------|------------|-----------|------------|--------|
| 1 | 13.889 | BB | 0.3832 | 2700.14111 | 106.99911 | 100.0000 | |

Totals : 2700.14111 106.99911



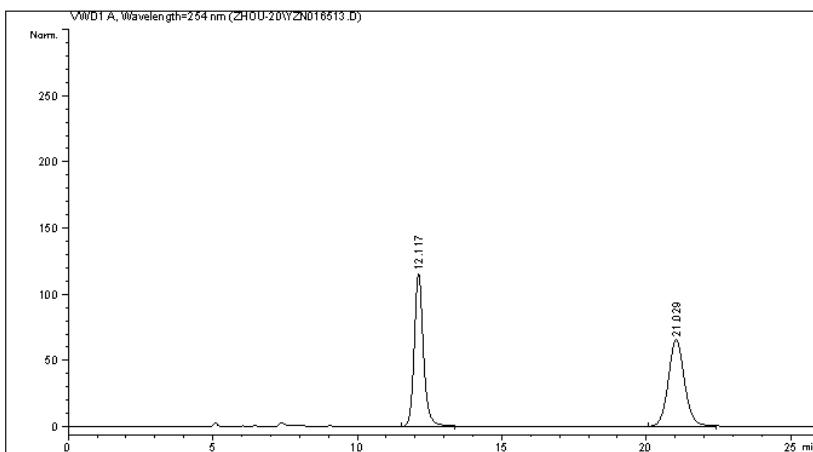
*** End of Report ***

Instrument 1 1/11/2021 4:41:54 AM

Page 1 of 1

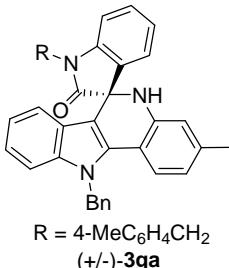
Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016513.D
Sample Name: XW-10-44B rac

```
=====
Acq. Operator : Instrument 1 Location : -
Injection Date : 10/27/2020 9:57:39 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 10/27/2020 9:55:33 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 12/19/2020 3:03:39 AM
(modified after loading)
Sample Info : IA, Hexane/i-PrOH = 60/40, 0.6 mL/min, 30 oC, 254 nm
```



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

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



| Peak RetTime | Type | Width | Area | Height | Area |
|--------------|------|--------|------------|-----------|---------|
| # [min] | | [min] | [mAU] | *s | [mAU] |
| 1 12.117 | BB | 0.3328 | 2545.72754 | 115.52590 | 50.0554 |
| 2 21.029 | BB | 0.5962 | 2540.09424 | 65.34975 | 49.9446 |

Totals : 5085.82178 180.87565

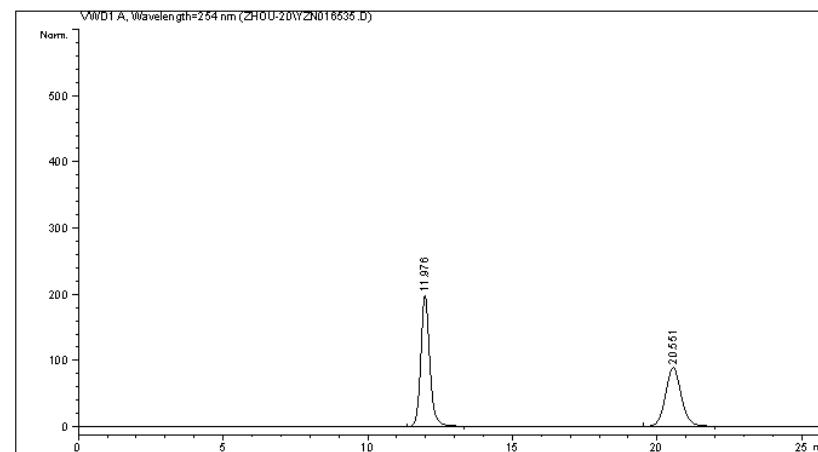
```
=====
*** End of Report ***
=====
```

Instrument 1 12/19/2020 3:03:43 AM

Page 1 of 1

Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016535.D
Sample Name: XW-10-44B cat

```
=====
Acq. Operator : Instrument 1 Location : -
Injection Date : 10/29/2020 7:22:03 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 10/29/2020 7:20:38 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 12/19/2020 3:02:52 AM
(modified after loading)
Sample Info : IA, Hexane/i-PrOH = 60/40, 0.6 mL/min, 30 oC, 254 nm
```



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

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

Signal 1: VWD1 A, Wavelength=254 nm

| Peak RetTime | Type | Width | Area | Height | Area |
|--------------|------|--------|------------|-----------|---------|
| # [min] | | [min] | [mAU] | *s | [mAU] |
| 1 11.976 | BB | 0.3246 | 4276.56299 | 198.15448 | 55.8524 |
| 2 20.551 | BB | 0.5799 | 3380.34351 | 89.00921 | 44.1476 |

Totals : 7656.90649 287.16369

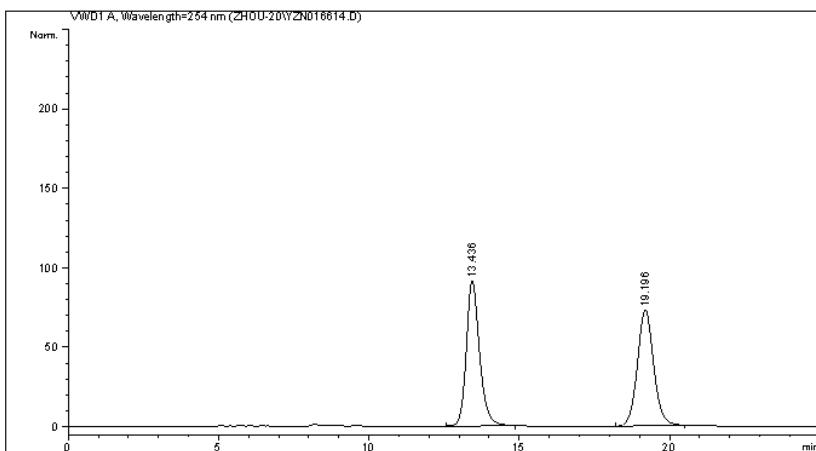
```
=====
*** End of Report ***
=====
```

Instrument 1 12/19/2020 3:02:57 AM

Page 1 of 1

Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016614.D
Sample Name: XW-10-55A rac

```
=====
Acq. Operator : Instrument 1 Location : -
Injection Date : 11/5/2020 9:42:14 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 11/5/2020 9:40:55 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 12/19/2020 3:05:10 AM
(modified after loading)
Sample Info : IA, Hexane/i-PrOH = 60/40, 0.6 mL/min, 30 oC, 254 nm
```

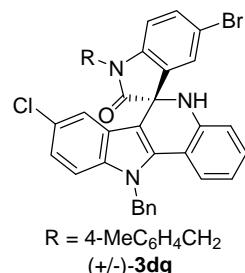


```
=====
Area Percent Report
=====

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

Signal 1: VWD1 A, Wavelength=254 nm

| Peak | RetTime | Type | Width | Area | Height | Area | | |
|----------|---------|------|--------|------------|-----------|---------|---|---|
| # | [min] | | [min] | [mAU] | *s | [mAU] | 1 | % |
| 1 | 13.436 | BB | 0.4610 | 2806.00610 | 91.53064 | 50.6048 | | |
| 2 | 19.196 | BB | 0.5718 | 2738.93701 | 72.97864 | 49.3952 | | |
| Totals : | | | | 5544.94312 | 164.50928 | | | |



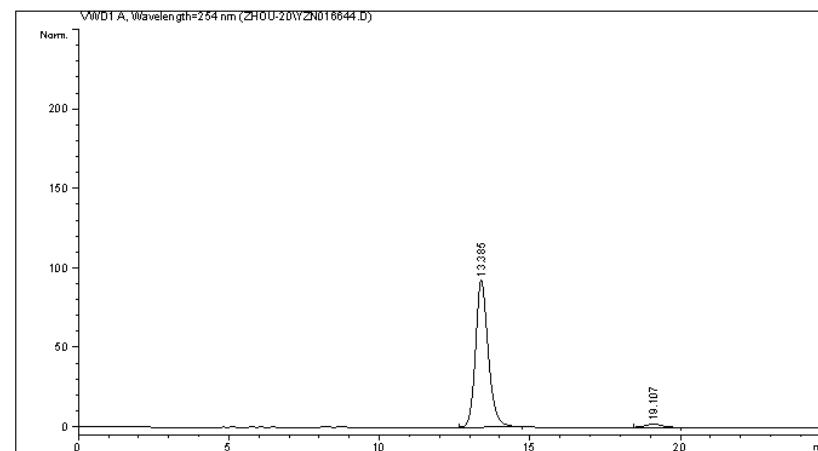
=====
*** End of Report ***
=====

Instrument 1 12/19/2020 3:05:14 AM

Page 1 of 1

Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016644.D
Sample Name: XW-10-55A cat

```
=====
Acq. Operator : Instrument 1 Location : -
Injection Date : 11/10/2020 3:34:38 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 11/10/2020 3:28:54 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 12/19/2020 3:05:10 AM
(modified after loading)
Sample Info : IA, Hexane/i-PrOH = 60/40, 0.6 mL/min, 30 oC, 254 nm
```

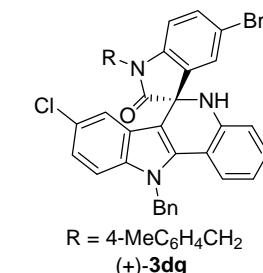


```
=====
Area Percent Report
=====

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

Signal 1: VWD1 A, Wavelength=254 nm

| Peak | RetTime | Type | Width | Area | Height | Area | | |
|----------|---------|------|--------|------------|----------|---------|---|---|
| # | [min] | | [min] | [mAU] | *s | [mAU] | 1 | % |
| 1 | 13.385 | BB | 0.4470 | 2733.41504 | 92.40006 | 97.2511 | | |
| 2 | 19.107 | BB | 0.5481 | 77.26305 | 2.09565 | 2.7489 | | |
| Totals : | | | | 2810.67809 | 94.49572 | | | |



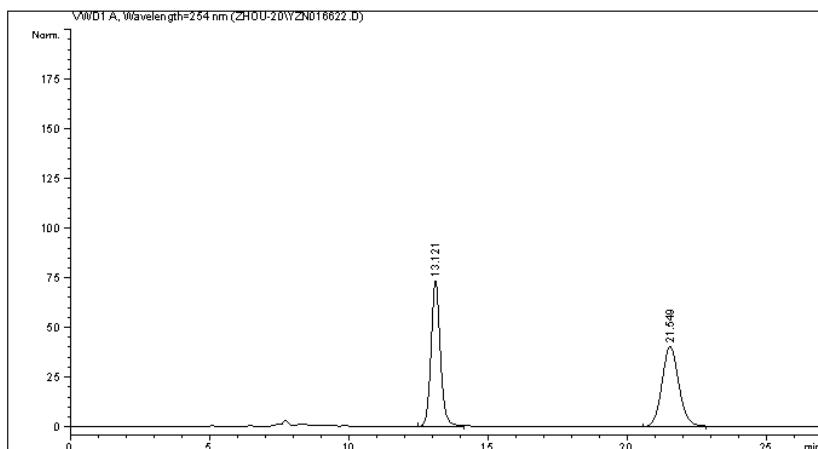
=====
*** End of Report ***
=====

Instrument 1 12/19/2020 3:05:56 AM

Page 1 of 1

Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016622.D
Sample Name: XW-10-55B rac

```
=====
Acq. Operator : Instrument 1 Location : -
Injection Date : 11/6/2020 2:49:22 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 11/6/2020 2:42:33 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 12/19/2020 3:07:49 AM
(modified after loading)
Sample Info : IA, Hexane/i-PrOH = 60/40, 0.6 mL/min, 30 oC, 254 nm
```



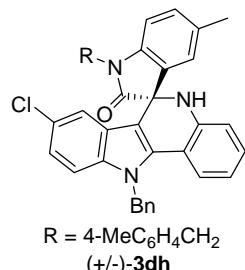
```
=====
Area Percent Report
=====
```

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

Signal 1: VWD1 A, Wavelength=254 nm

| Peak RetTime | Type | Width | Area | Height | Area |
|--------------|------|--------|------------|----------|---------|
| # [min] | | [min] | [mAU] | *s | [mAU] |
| 1 13.121 | BB | 0.3505 | 1694.55554 | 73.51107 | 50.0829 |
| 2 21.549 | BB | 0.6452 | 1688.94641 | 40.25878 | 49.9171 |

Totals : 3383.50195 113.76985



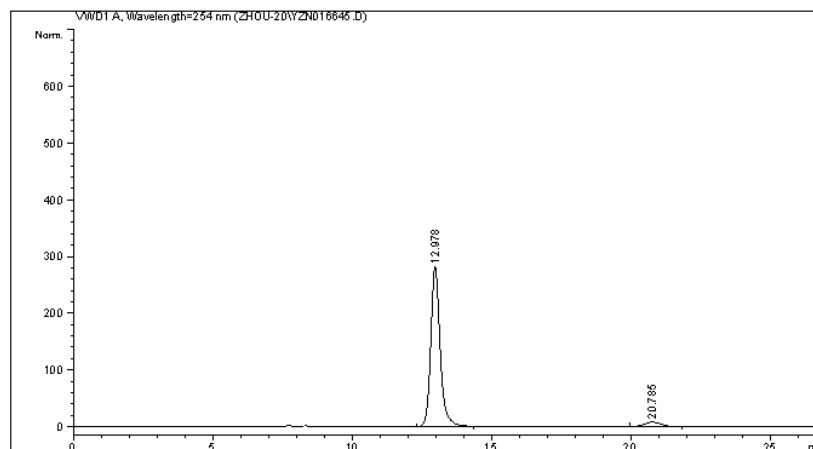
=====
*** End of Report ***
=====

Instrument 1 12/19/2020 3:07:53 AM

Page 1 of 1

Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016645.D
Sample Name: XW-10-55B cat

```
=====
Acq. Operator : Instrument 1 Location : -
Injection Date : 11/10/2020 4:08:53 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 11/10/2020 4:03:35 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 12/19/2020 3:07:04 AM
(modified after loading)
Sample Info : IA, Hexane/i-PrOH = 60/40, 0.6 mL/min, 30 oC, 254 nm
```



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

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

Signal 1: VWD1 A, Wavelength=254 nm

| Peak RetTime | Type | Width | Area | Height | Area |
|--------------|------|--------|------------|-----------|---------|
| # [min] | | [min] | [mAU] | *s | [mAU] |
| 1 12.978 | BB | 0.3513 | 6569.81885 | 281.09216 | 95.3011 |
| 2 20.785 | BB | 0.6192 | 323.92932 | 7.95479 | 4.6989 |

Totals : 6893.74817 289.04695

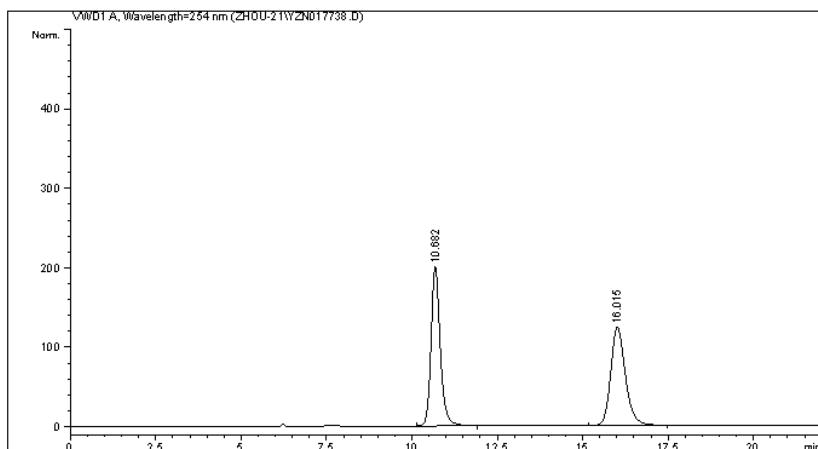
=====
*** End of Report ***
=====

Instrument 1 12/19/2020 3:07:08 AM

Page 1 of 1

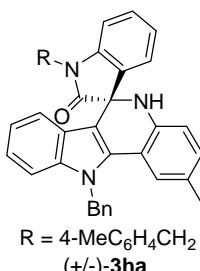
Data File C:\CHEM32\1\DATA\ZHOU-21\YZN017738.D
Sample Name: XW-11-65 RAC

```
=====
Acq. Operator : Instrument 1 Location : -
Injection Date : 3/19/2021 6:58:58 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 3/19/2021 5:56:51 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 3/20/2021 4:55:26 AM
(modified after loading)
Sample Info : IA, Hexane/i-PrOH = 60/40, 0.6 mL/min, 30 oC, 254 nm
```



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

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



| Peak # | RetTime [min] | Type | Width [min] | Area mAU | Height *s | Area [mAU] | Area 1 | Area % |
|----------|---------------|------|-------------|------------|-----------|------------|--------|--------|
| 1 | 10.682 | BB | 0.2826 | 3757.04736 | 200.58127 | 50.1099 | | |
| 2 | 16.015 | BB | 0.4574 | 3740.56934 | 124.28168 | 49.8901 | | |
| Totals : | | | | 7497.61670 | 324.86295 | | | |

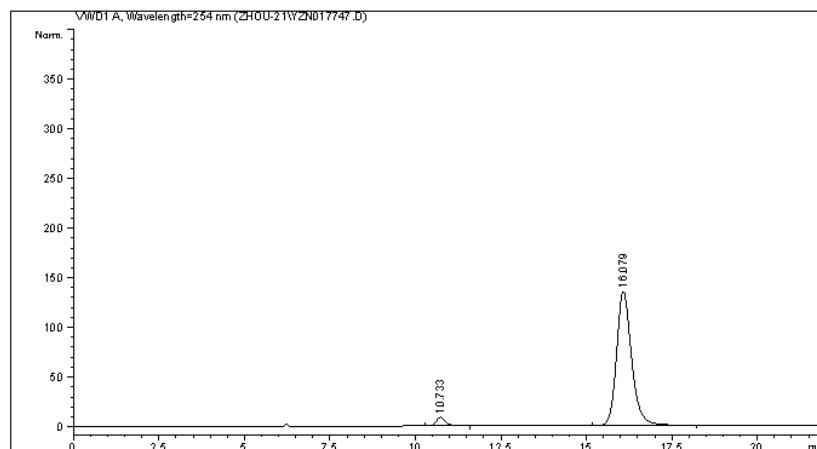
```
=====
*** End of Report ***
=====
```

Instrument 1 3/20/2021 4:55:35 AM

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Data File C:\CHEM32\1\DATA\ZHOU-21\YZN017747.D
Sample Name: XW-11-65 CAT

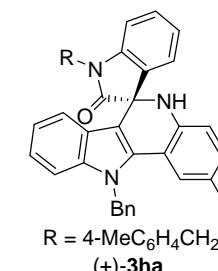
```
=====
Acq. Operator : Instrument 1 Location : -
Injection Date : 3/20/2021 4:33:15 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 3/20/2021 3:56:21 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 3/20/2021 4:59:22 AM
(modified after loading)
Sample Info : IA, Hexane/i-PrOH = 60/40, 0.6 mL/min, 30 oC, 254 nm
```



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

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

Signal 1: VWD1 A, Wavelength=254 nm



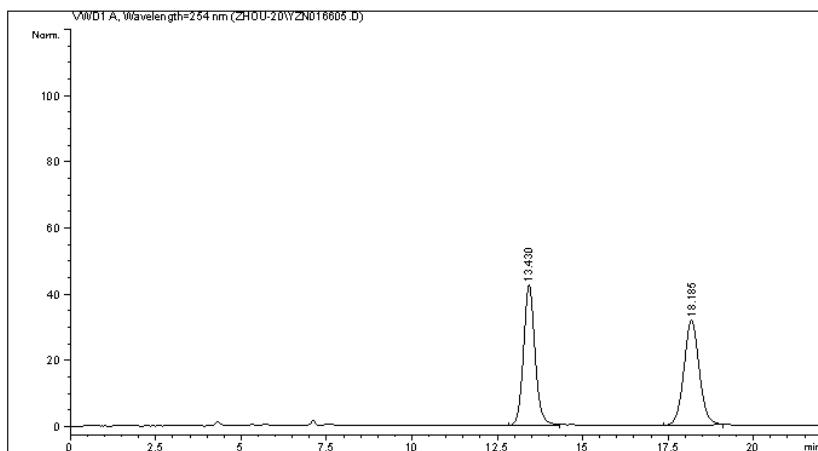
```
=====
*** End of Report ***
=====
```

Instrument 1 3/20/2021 4:59:32 AM

Page 1 of 1

Data File C:\CHEM32\1\DATA\ZHOUE-20\YZN016605.D
Sample Name: XW-10-50 rac

```
=====
Acq. Operator : 
Acq. Instrument : Instrument 1 Location : - 
Injection Date : 11/4/2020 10:05:49 AM 
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M 
Last changed : 11/4/2020 10:05:23 AM 
(modified after loading) 
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M 
Last changed : 12/19/2020 3:13:34 AM 
(modified after loading) 
Sample Info : IA, Hexane/i-PrOH = 70/30, 0.7 mL/min, 30 oC, 254nm
```



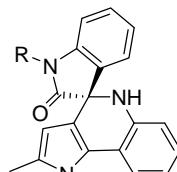
```
=====
Area Percent Report
```

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

Signal 1: VWD1 A, Wavelength=254 nm

| Peak # | RetTime [min] | Type | Width [min] | Area mAU | Height *s | Area [mAU] | Area % |
|--------|---------------|------|-------------|-----------|-----------|------------|--------|
| 1 | 13.430 | BB | 0.3574 | 994.99695 | 42.30383 | 50.1745 | |
| 2 | 18.185 | BB | 0.4776 | 988.07788 | 31.66379 | 49.8255 | |

Totals : 1983.07483 73.96762



R = 4-MeC₆H₄CH₂
(+/-)-3ia

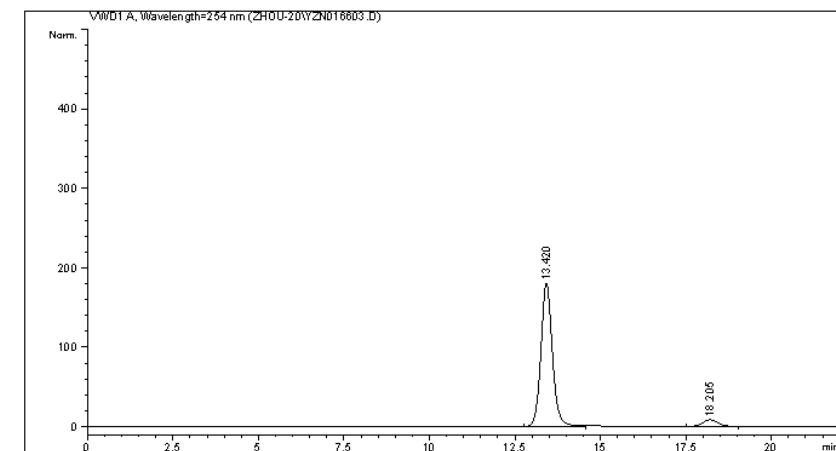
*** End of Report ***

Instrument 1 12/19/2020 3:13:38 AM

Page 1 of 1

Data File C:\CHEM32\1\DATA\ZHOUE-20\YZN016603.D
Sample Name: XW-10-50 cat

```
=====
Acq. Operator : 
Acq. Instrument : Instrument 1 Location : - 
Injection Date : 11/4/2020 9:29:57 AM 
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M 
Last changed : 11/4/2020 9:28:52 AM 
(modified after loading) 
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M 
Last changed : 12/19/2020 3:12:33 AM 
(modified after loading) 
Sample Info : IA, Hexane/i-PrOH = 70/30, 0.7 mL/min, 30 oC, 254nm
```



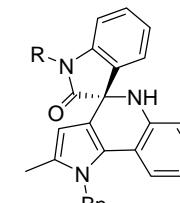
```
=====
Area Percent Report
```

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

Signal 1: VWD1 A, Wavelength=254 nm

| Peak # | RetTime [min] | Type | Width [min] | Area mAU | Height *s | Area [mAU] | Area % |
|--------|---------------|------|-------------|------------|-----------|------------|--------|
| 1 | 13.420 | BB | 0.3542 | 4182.51074 | 179.95024 | 94.0745 | |
| 2 | 18.205 | BB | 0.4892 | 263.44443 | 8.37613 | 5.9255 | |

Totals : 4445.95517 188.32637



R = 4-MeC₆H₄CH₂
(-)-3ia

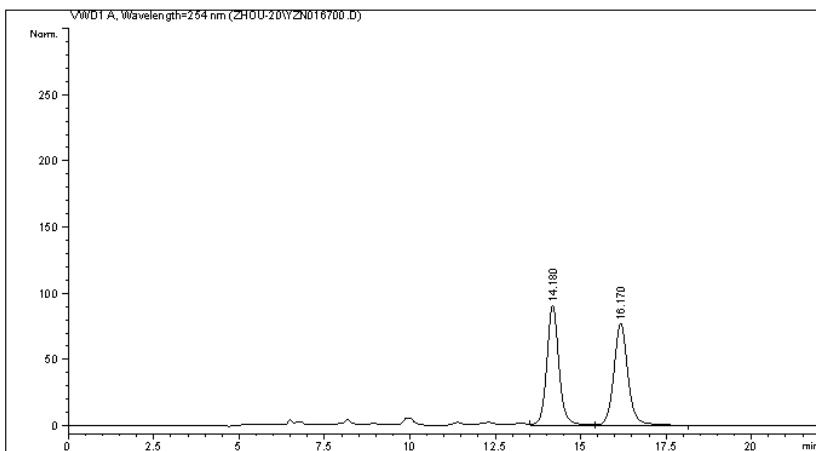
*** End of Report ***

Instrument 1 12/19/2020 3:12:37 AM

Page 1 of 1

Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016700.D
Sample Name: XW-10-60A RAC

```
=====
Acq. Operator : 
Acq. Instrument : Instrument 1 Location : -
Injection Date : 11/13/2020 8:54:26 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 11/13/2020 8:50:47 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 12/19/2020 3:16:30 AM
(modified after loading)
Sample Info : IA, Hexane/i-PrOH = 60/40, 0.6 mL/min, 30 oC, 254 nm
```



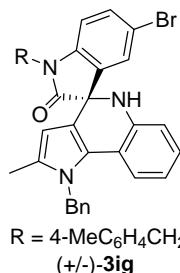
```
=====
Area Percent Report
=====
```

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

Signal 1: VWD1 A, Wavelength=254 nm

| Peak # | RetTime [min] | Type | Width [min] | Area mAU | Height *s | Area [mAU] | Area % |
|--------|---------------|------|-------------|------------|-----------|------------|--------|
| 1 | 14.180 | VV | 0.3767 | 2248.19409 | 90.65881 | 50.1228 | |
| 2 | 16.170 | VB | 0.4376 | 2237.18164 | 77.09158 | 49.8772 | |

Totals : 4485.37573 167.75038



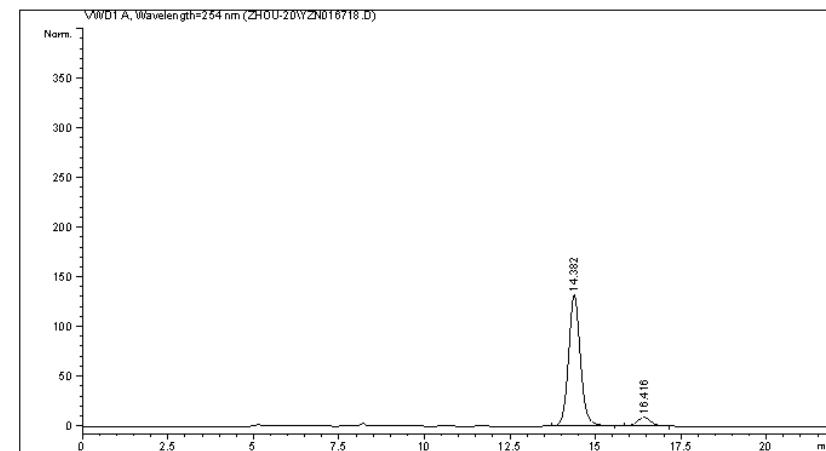
*** End of Report ***

Instrument 1 12/19/2020 3:16:33 AM

Page 1 of 1

Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016718.D
Sample Name: XW-10-60A cat

```
=====
Acq. Operator : 
Acq. Instrument : Instrument 1 Location : -
Injection Date : 11/16/2020 9:46:02 PM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 11/16/2020 9:45:01 PM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 12/19/2020 3:18:00 AM
(modified after loading)
Sample Info : IA, Hexane/i-PrOH = 60/40, 0.6 mL/min, 30 oC, 254 nm
```



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

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

Signal 1: VWD1 A, Wavelength=254 nm

| Peak # | RetTime [min] | Type | Width [min] | Area mAU | Height *s | Area [mAU] | Area % |
|--------|---------------|------|-------------|------------|-----------|------------|--------|
| 1 | 14.382 | BB | 0.3672 | 3184.39038 | 132.08698 | 93.0135 | |
| 2 | 16.416 | BB | 0.4287 | 239.18806 | 8.61687 | 6.9865 | |

Totals : 3423.57845 140.70385



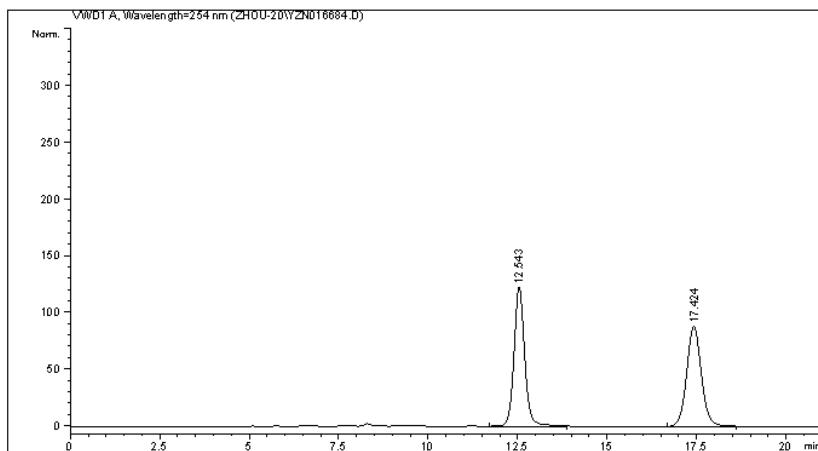
*** End of Report ***

Instrument 1 12/19/2020 3:18:06 AM

Page 1 of 1

Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016684.D
Sample Name: XW-10-60B RAC

```
=====
Acq. Operator : 
Acq. Instrument : Instrument 1 Location : - 
Injection Date : 11/12/2020 10:51:27 PM 
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M 
Last changed : 11/12/2020 10:26:27 PM 
(modified after loading) 
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M 
Last changed : 12/19/2020 3:21:21 AM 
(modified after loading) 
Sample Info : IA, Hexane/i-PrOH = 60/40, 0.6 mL/min, 30 oC, 254 nm
```



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

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

Signal 1: VWD1 A, Wavelength=254 nm

| Peak # | RetTime [min] | Type | Width [min] | Area mAU | *s | [mAU] | Height | Area % |
|--------|---------------|------|-------------|------------|-----------|---------|--------|--------|
| 1 | 12.543 | BB | 0.3145 | 2543.30713 | 122.74456 | 50.3190 | | |
| 2 | 17.424 | BB | 0.4343 | 2511.06274 | 88.53037 | 49.6810 | | |

Totals : 5054.36987 211.27493



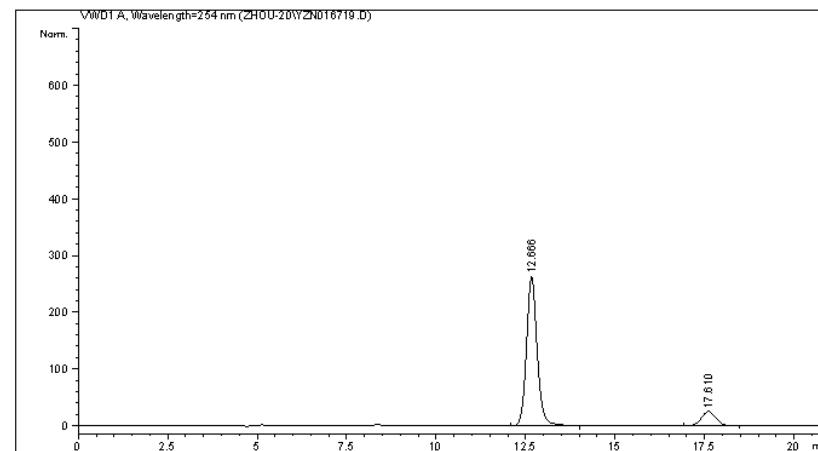
*** End of Report ***

Instrument 1 12/19/2020 3:21:25 AM

Page 1 of 1

Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016719.D
Sample Name: XW-10-60B cat

```
=====
Acq. Operator : 
Acq. Instrument : Instrument 1 Location : - 
Injection Date : 11/16/2020 10:14:48 PM 
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M 
Last changed : 11/16/2020 10:10:45 PM 
(modified after loading) 
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M 
Last changed : 12/19/2020 3:19:57 AM 
(modified after loading) 
Sample Info : IA, Hexane/i-PrOH = 60/40, 0.6 mL/min, 30 oC, 254 nm
```



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

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

Signal 1: VWD1 A, Wavelength=254 nm

| Peak # | RetTime [min] | Type | Width [min] | Area mAU | *s | [mAU] | Height | Area % |
|--------|---------------|------|-------------|------------|-----------|---------|--------|--------|
| 1 | 12.666 | BB | 0.3153 | 5465.86035 | 262.96729 | 88.1550 | | |
| 2 | 17.610 | BB | 0.4407 | 734.42566 | 25.62043 | 11.8450 | | |

Totals : 6200.28601 288.58771



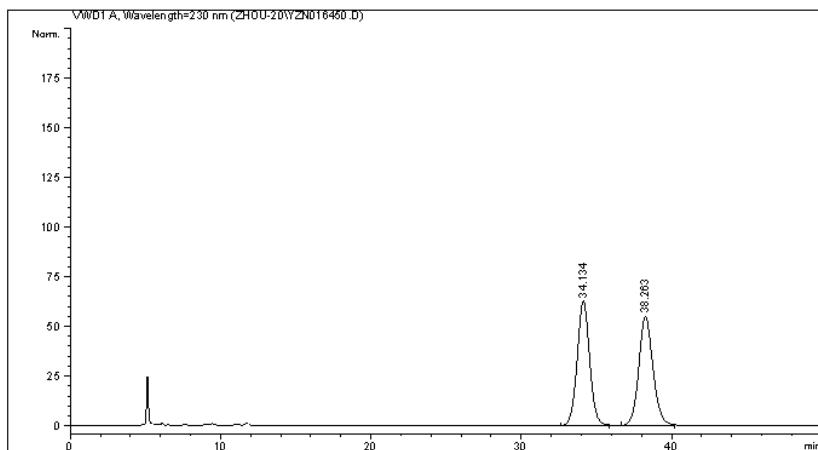
*** End of Report ***

Instrument 1 12/19/2020 3:20:00 AM

Page 1 of 1

Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016450.D
Sample Name: XW-10-36 RAC

```
=====
Acq. Operator : 
Acq. Instrument : Instrument 1 Location : -
Injection Date : 10/22/2020 1:46:01 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 10/22/2020 1:12:18 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 12/19/2020 3:11:03 AM
(modified after loading)
Sample Info : IA, Hexane/i-PrOH = 60/40, 0.6 mL/min, 30 oC, 230 nm
```



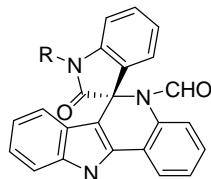
```
=====
Area Percent Report
=====
```

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 | Height *s | Area [mAU] | Area 1 | Area % |
|--------|---------------|------|-------------|------------|-----------|------------|--------|--------|
| 1 | 34.134 | BB | 0.8786 | 3615.13892 | 62.64392 | 50.2233 | | |
| 2 | 38.263 | BB | 1.0049 | 3582.99829 | 54.66850 | 49.7767 | | |

Totals : 7198.13721 117.31242



R = 4-MeC₆H₄CH₂
(+/-)-5

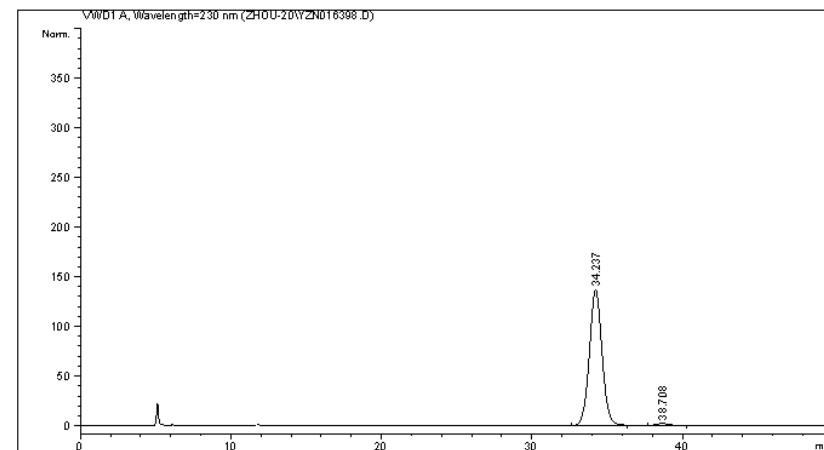
*** End of Report ***

Instrument 1 12/19/2020 3:11:10 AM

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Data File C:\CHEM32\1\DATA\ZHOU-20\YZN016398.D
Sample Name: XW-10-36

```
=====
Acq. Operator : 
Acq. Instrument : Instrument 1 Location : -
Injection Date : 10/17/2020 11:24:58 PM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 10/17/2020 11:12:20 PM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 12/19/2020 3:10:25 AM
(modified after loading)
Sample Info : IA, Hexane/i-PrOH = 60/40, 0.6 mL/min, 30 oC, 230 nm
```



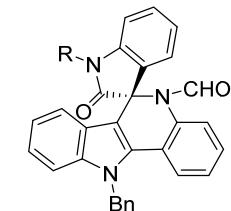
```
=====
Area Percent Report
=====
```

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 | Height *s | Area [mAU] | Area 1 | Area % |
|--------|---------------|------|-------------|------------|-----------|------------|--------|--------|
| 1 | 34.237 | BB | 0.8989 | 8030.18994 | 136.50606 | 98.4075 | | |
| 2 | 38.708 | BB | 0.7501 | 129.95135 | 2.09006 | 1.5925 | | |

Totals : 8160.14130 138.59612



R = 4-MeC₆H₄CH₂
(-)5

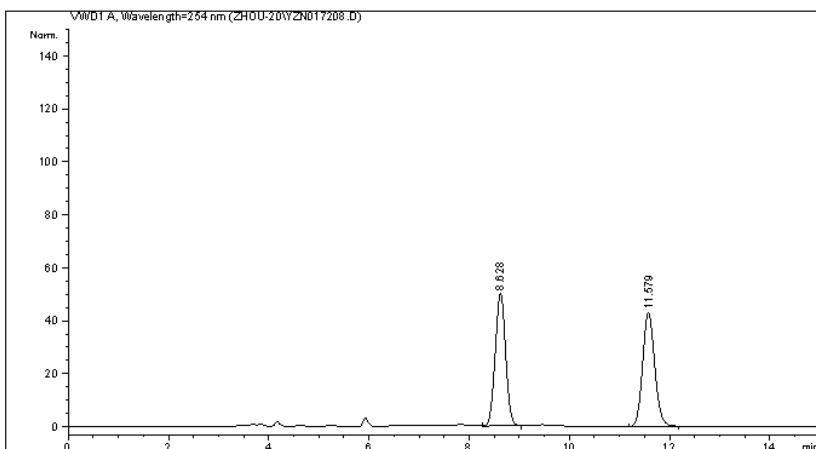
*** End of Report ***

Instrument 1 12/19/2020 3:10:29 AM

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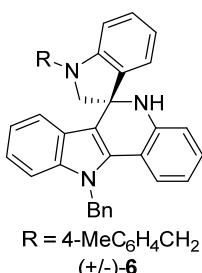
Data File C:\CHEM32\1\DATA\ZHOU-20\YZN017206.D
Sample Name: XW-10-92 RAC

```
=====
Acq. Operator : Location : -
Acq. Instrument : Instrument 1
Injection Date : 1/3/2021 7:35:49 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 1/3/2021 7:34:12 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 1/11/2021 4:32:18 AM
(modified after loading)
Sample Info : AD-H, Hexane/i-PrOH = 90/10, 0.8 mL/min, 30 oC, 254 nm
```



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

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



| Peak # | RetTime [min] | Type | Width [min] | Area mAU | *s | Height [mAU] | Area 1 | Area % |
|----------|---------------|------|-------------|------------|----------|--------------|--------|--------|
| 1 | 8.628 | BV | 0.2245 | 718.86334 | 49.99403 | 49.9963 | | |
| 2 | 11.579 | BB | 0.2594 | 718.96851 | 42.94012 | 50.0037 | | |
| Totals : | | | | 1437.83185 | | 92.93415 | | |

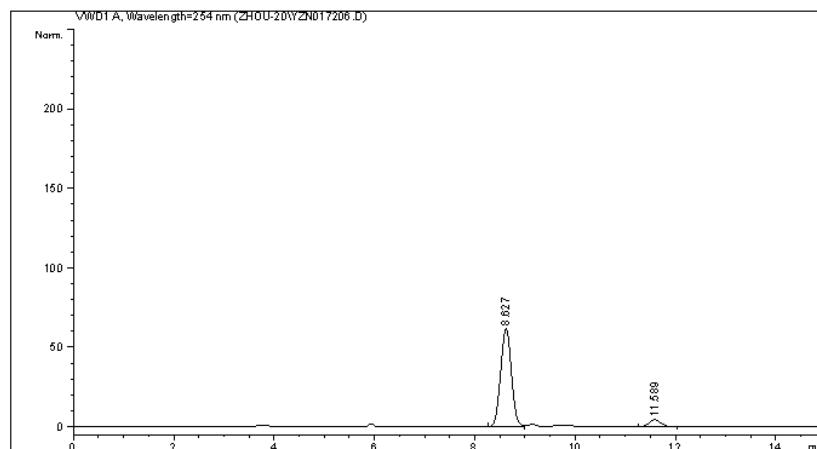
=====
*** End of Report ***
=====

Instrument 1 1/11/2021 4:32:25 AM

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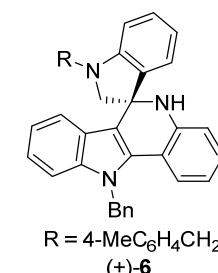
Data File C:\CHEM32\1\DATA\ZHOU-20\YZN017206.D
Sample Name: XW-10-92 CAT

```
=====
Acq. Operator : Location : -
Acq. Instrument : Instrument 1
Injection Date : 1/3/2021 6:34:15 AM
Acq. Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 1/3/2021 6:33:17 AM
(modified after loading)
Analysis Method : C:\CHEM32\1\METHODS\DEF_LC.M
Last changed : 1/11/2021 4:44:00 AM
(modified after loading)
Sample Info : AD-H, Hexane/i-PrOH = 90/10, 0.8 mL/min, 30 oC, 254 nm
```



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

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



| Peak # | RetTime [min] | Type | Width [min] | Area mAU | *s | Height [mAU] | Area 1 | Area % |
|----------|---------------|------|-------------|-----------|----------|--------------|--------|--------|
| 1 | 8.627 | BV | 0.2359 | 922.53577 | 61.59550 | 92.6691 | | |
| 2 | 11.589 | BB | 0.2618 | 72.97975 | 4.36927 | 7.3309 | | |
| Totals : | | | | 995.51552 | | 65.96477 | | |

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

Instrument 1 1/11/2021 4:44:06 AM

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