Supporting Information

For

# Synthesis, Biological Evaluation, and Structure-Activity Relationships of Tri- and Tetrasubstituted Olefins Related to *iso*Combretastatin A-4 as New Tubulin Inhibitors

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## List of Contents

## Superimposition of geometries for compounds 3j (a), 3k (b), 3l (c) and 4b with and without protein

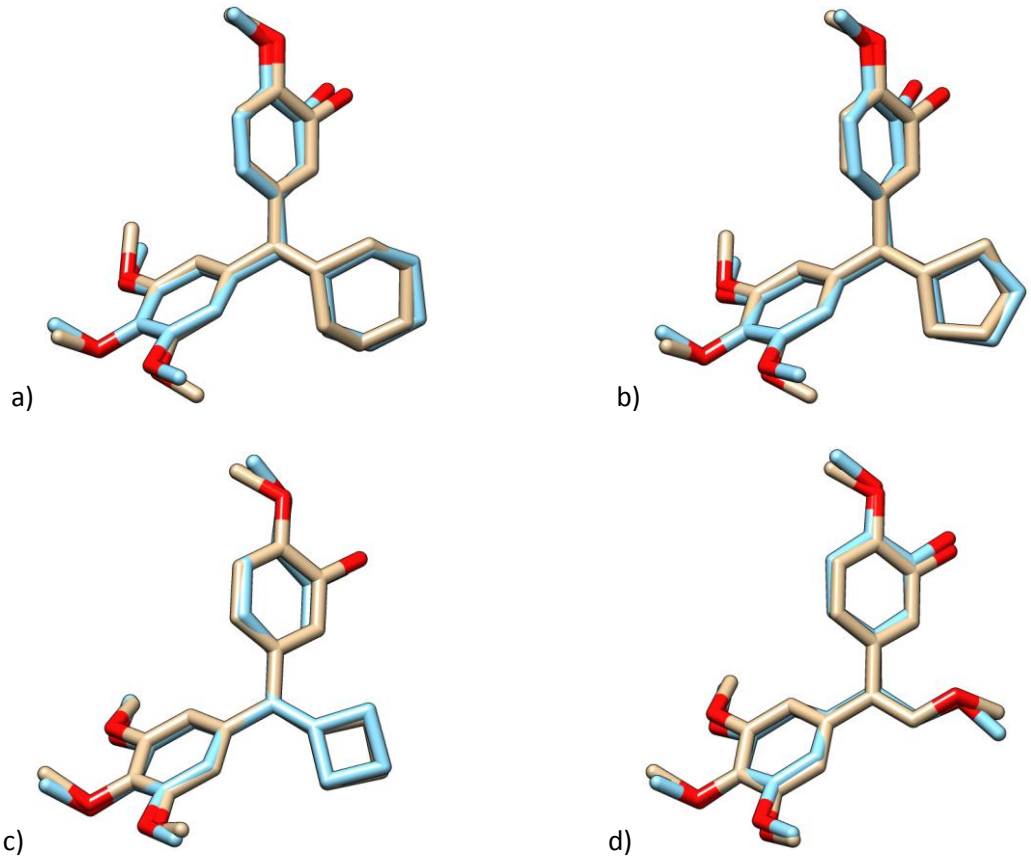
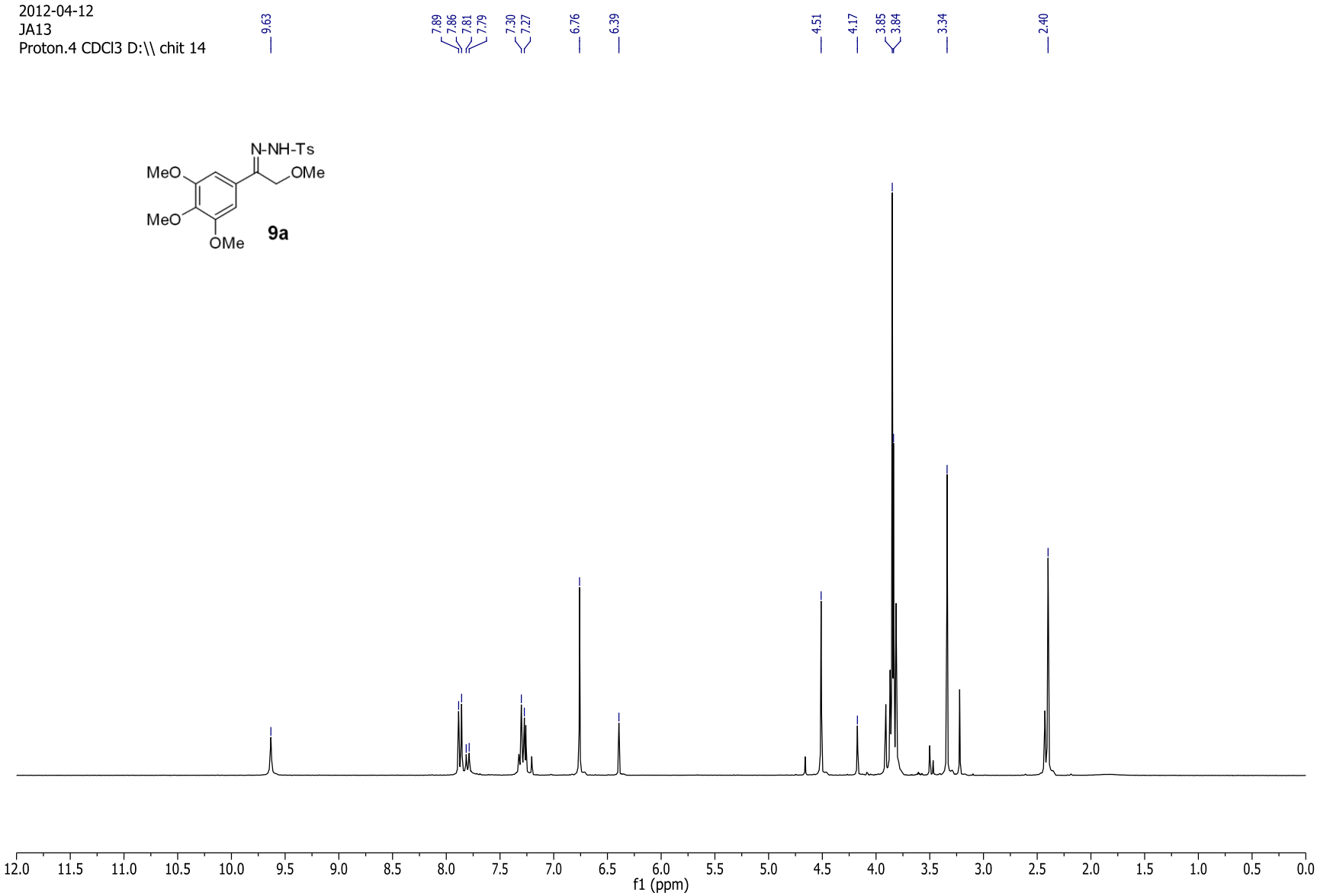
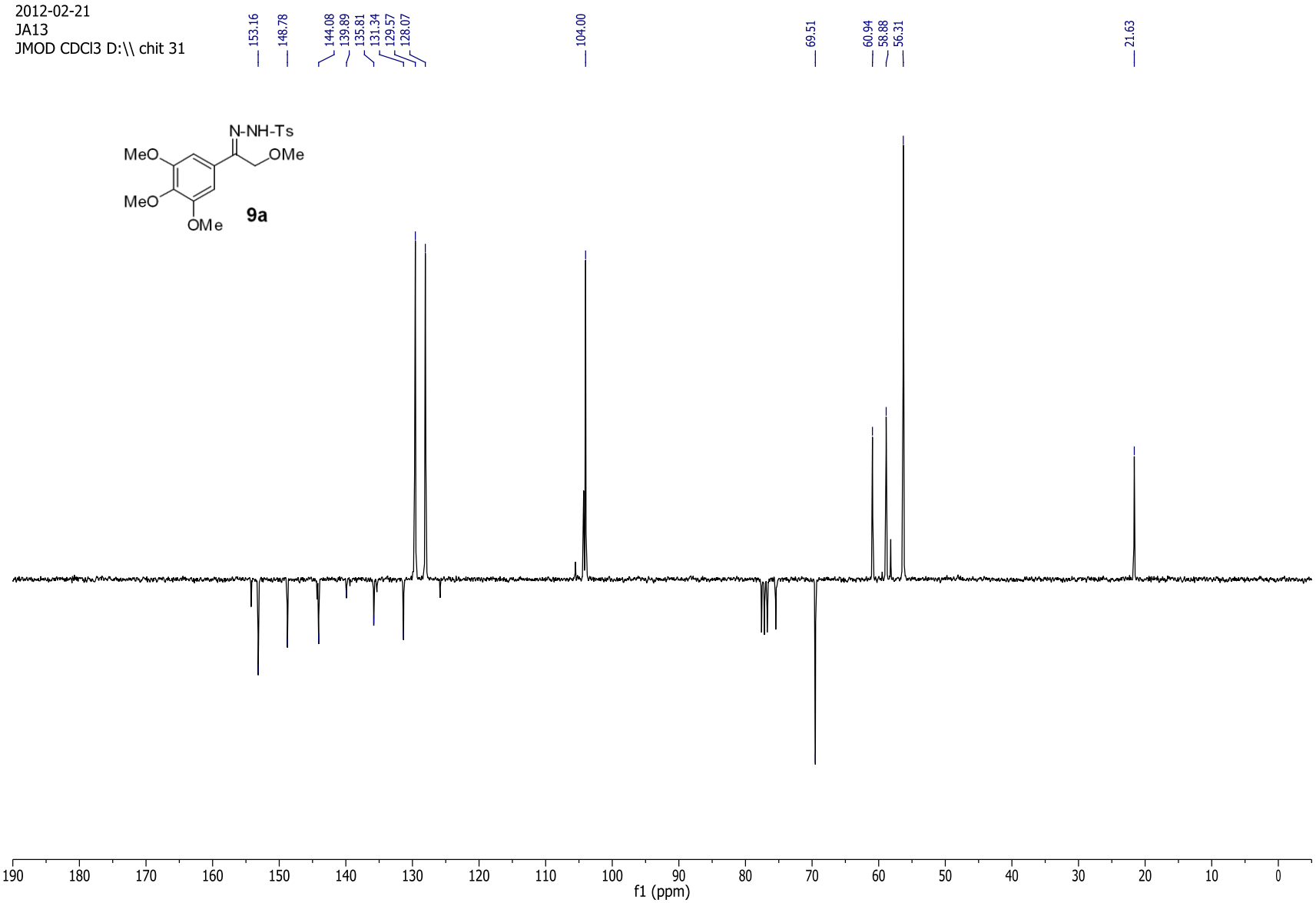
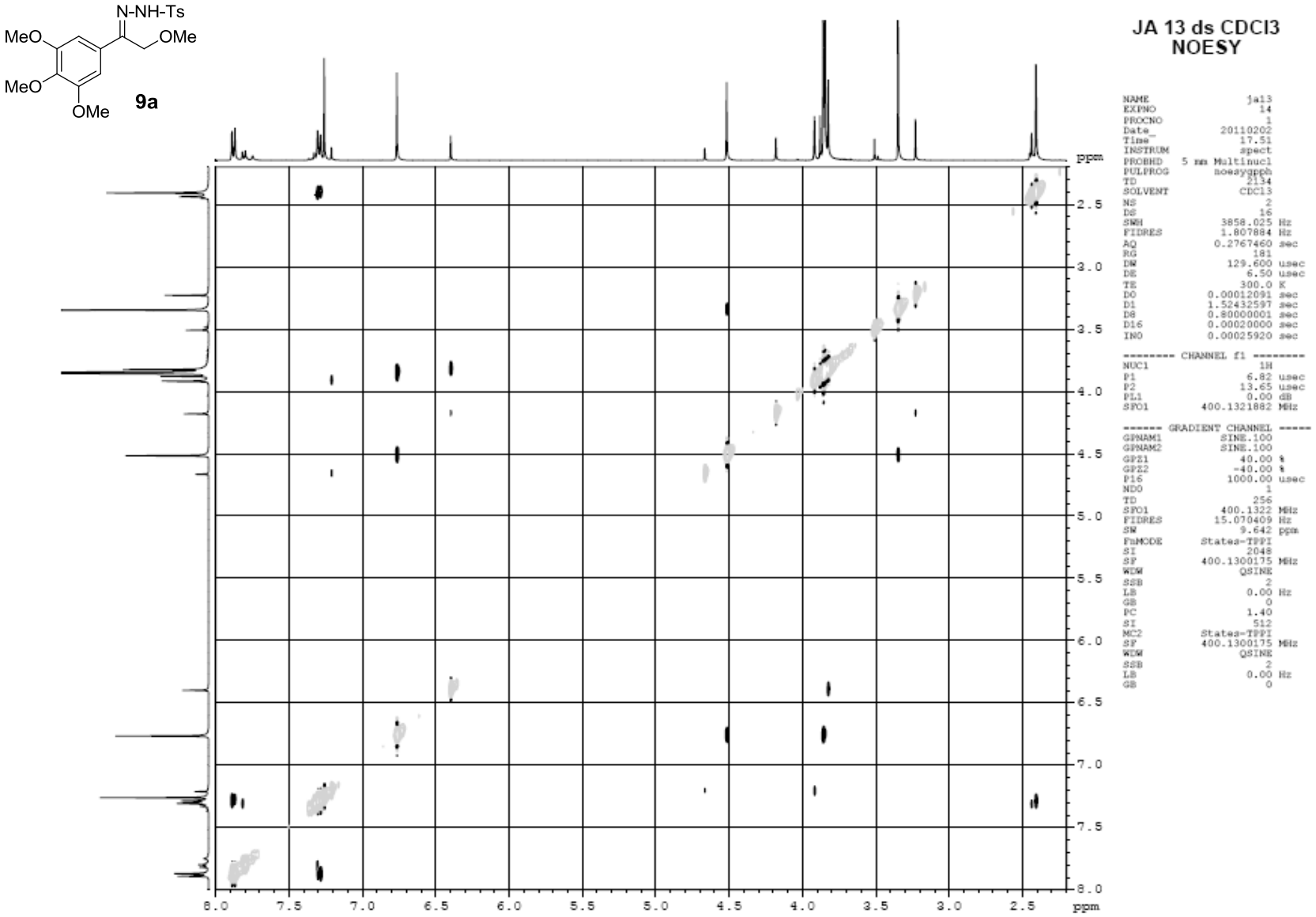



**Figure S1.** Superimposition of geometries for compounds **3j** (a), **3k** (b), **3l** (c) and **4b** (d) as docked in the colchicine binding site (brown color) and optimized without the protein to the closest B3LYP/6-31G* energy minimum (blue color). Respective RMSD within each subfigure are 0.54, 0.66, 0.50 and 0.52 Å.

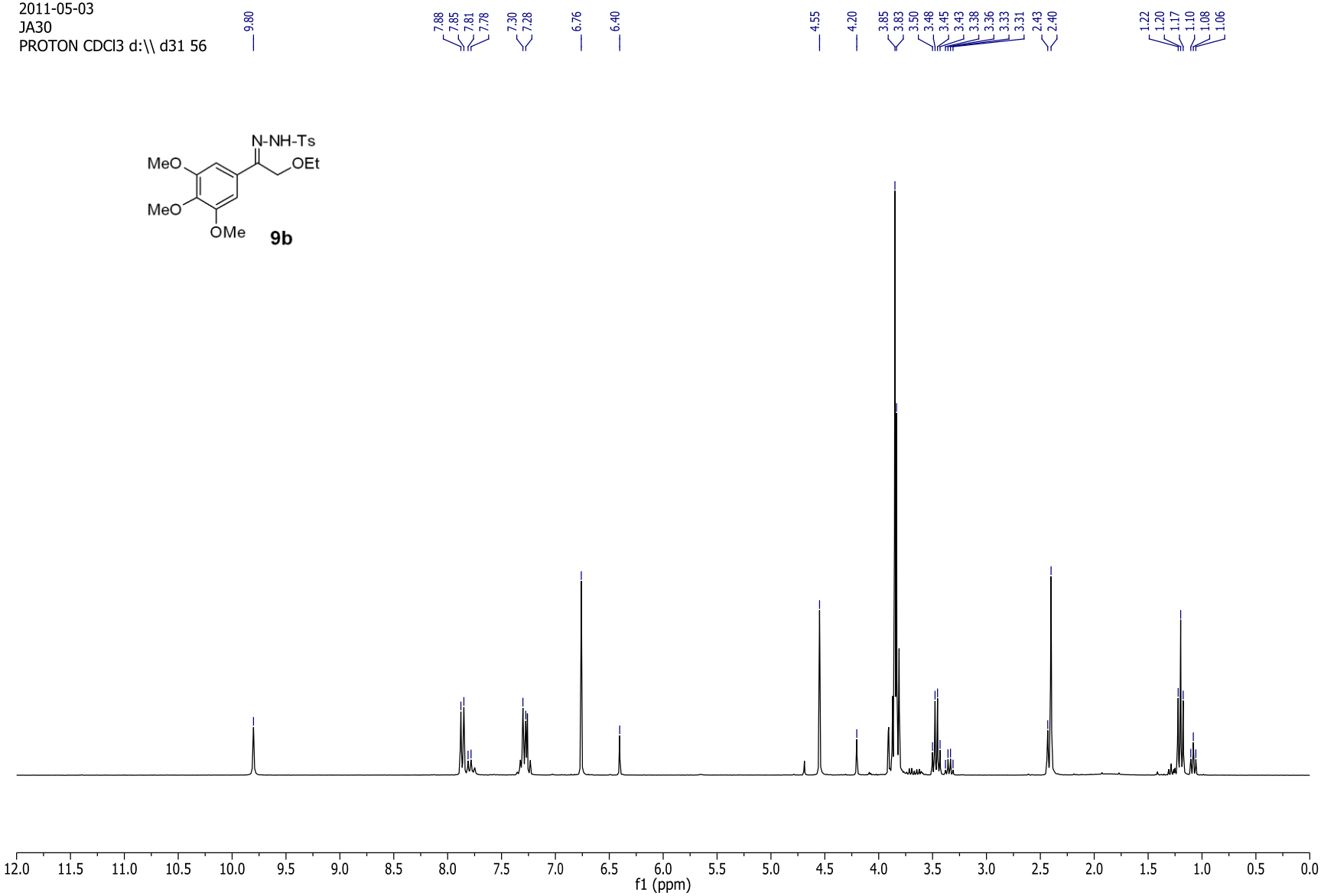
# $^{1}$H NMR and $^{13}$C Spectra of hydrazones compounds

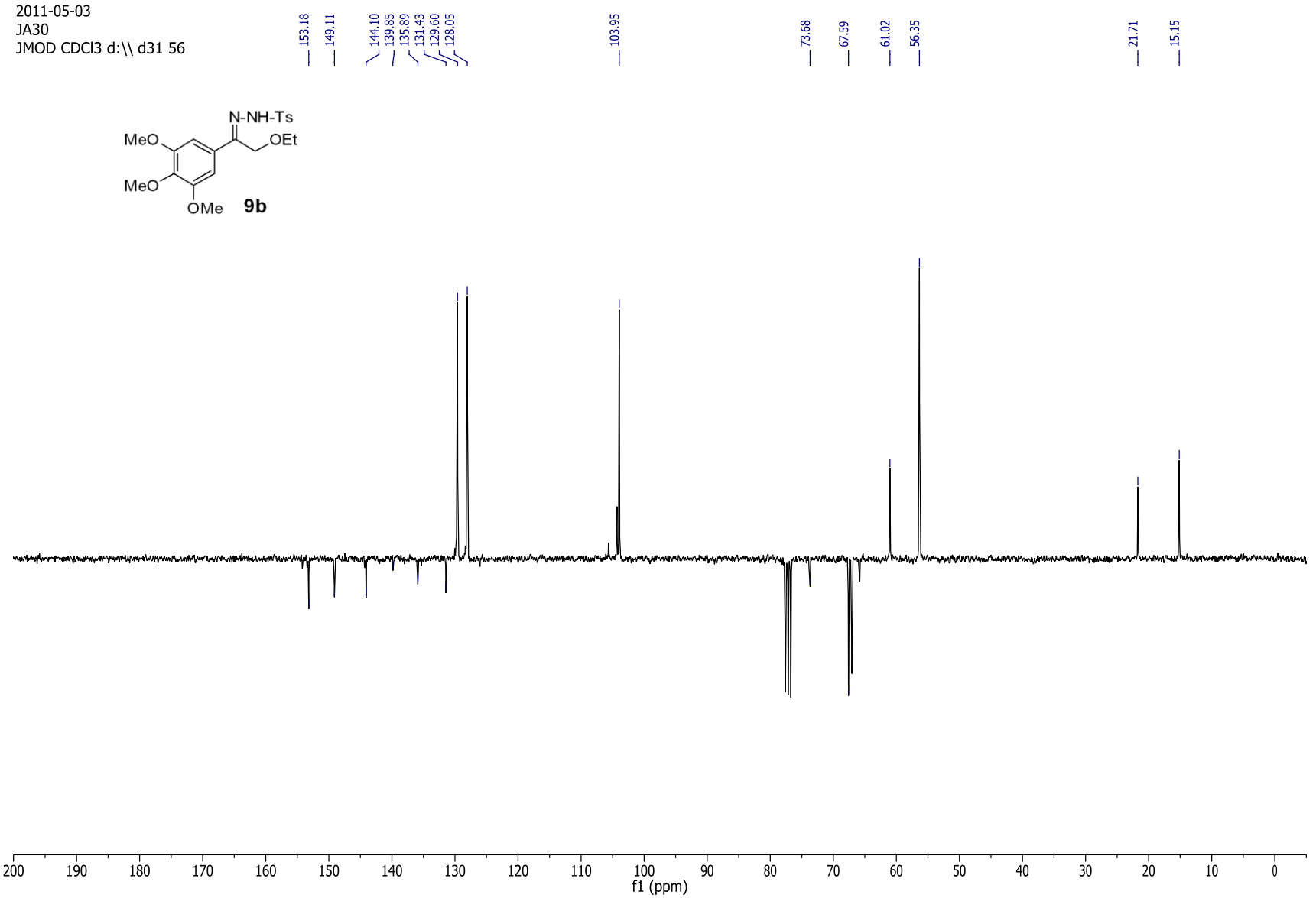


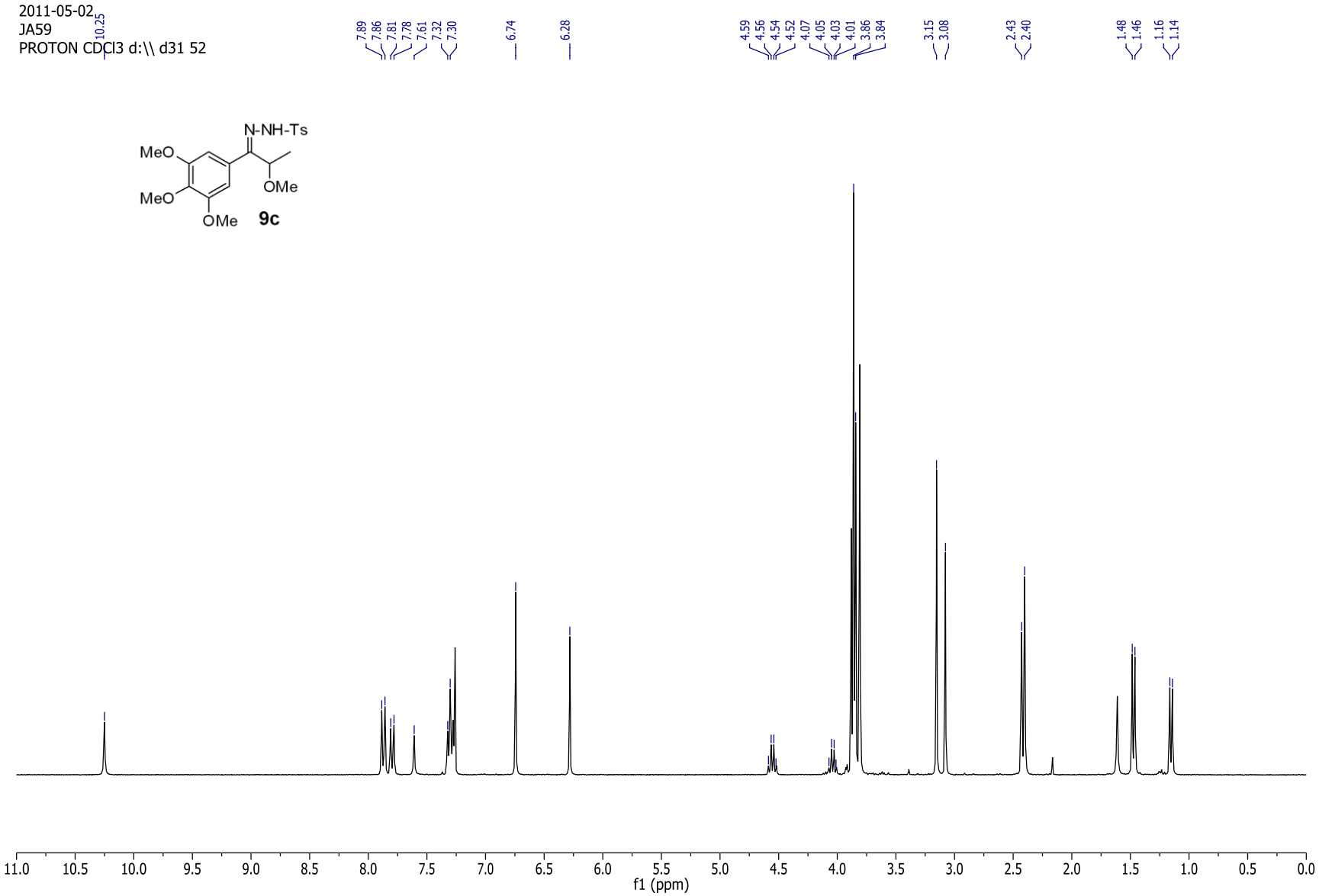


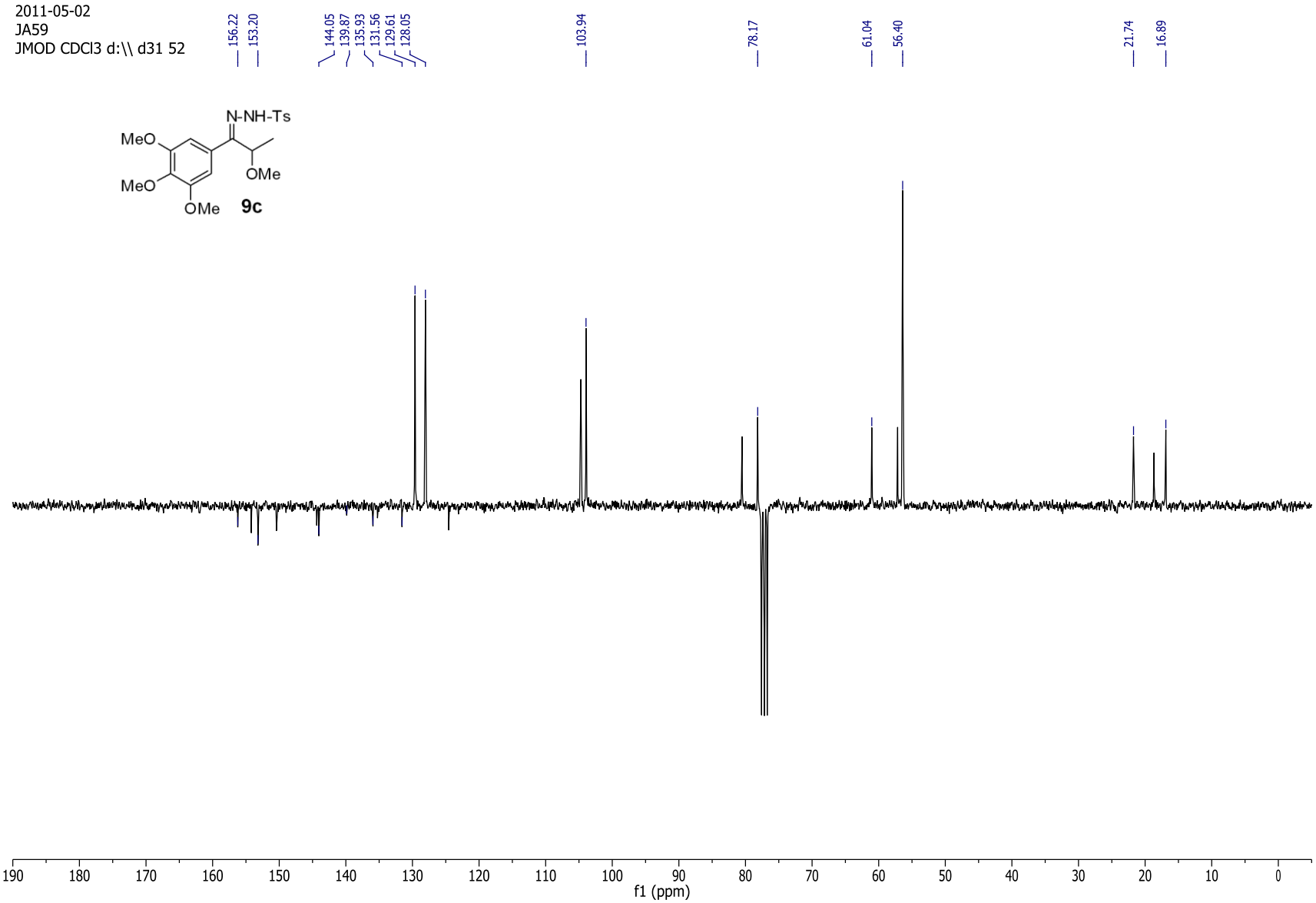


2011-05-03
JA30
PROTON CDCl3 d:\\ d31 56



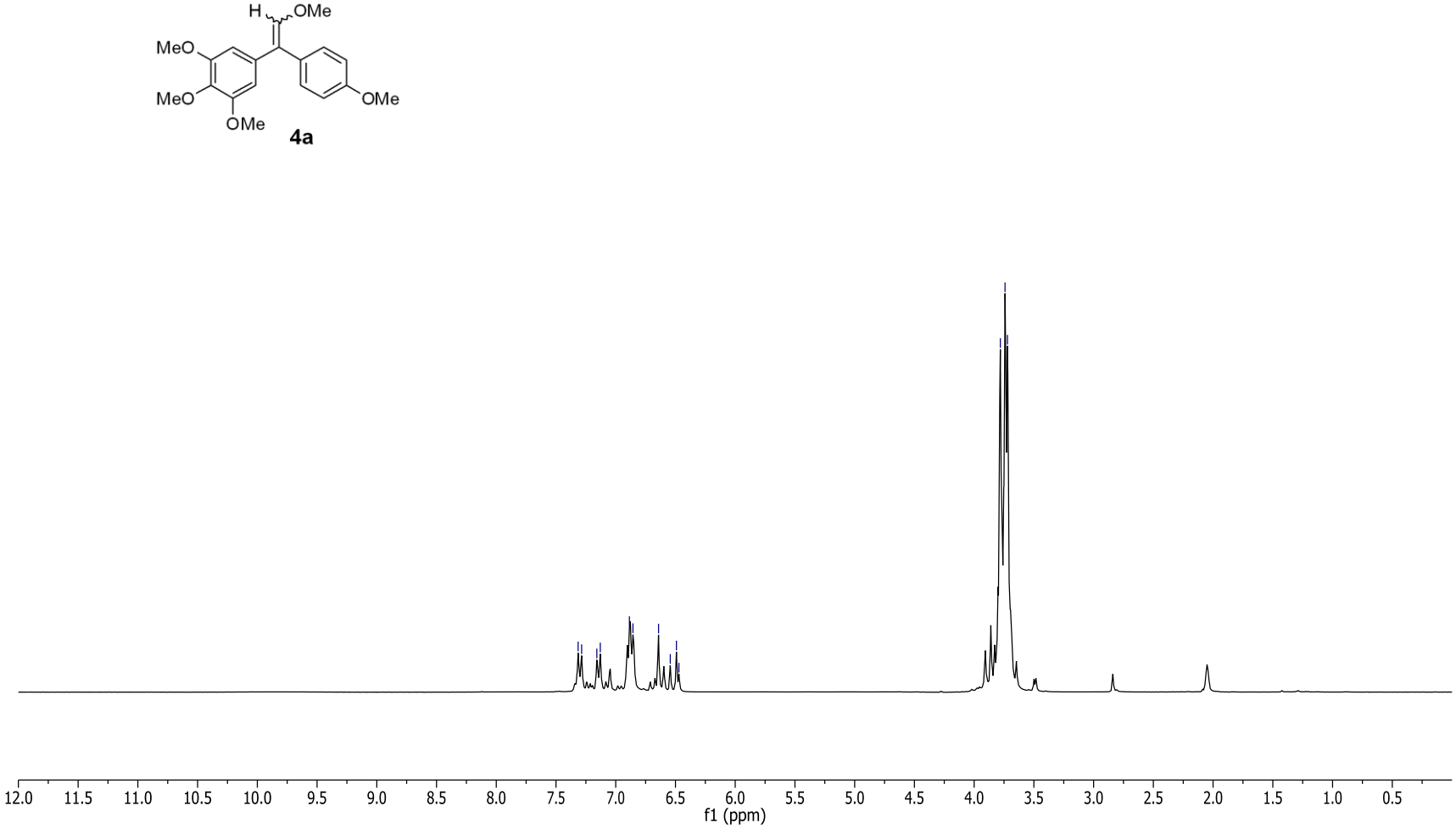






# $^{1}$H NMR and $^{13}$C Spectra of Tri- and Tetrasbtituted Olefins

2011-02-24
JA38 P
PROTON Acetone d:\\ d31 7



ja38
JA38 ds acetone-d6
Carbone par J Modulation

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159.12
154.19
153.83
147.32
146.74
146.62
137.37
136.29
134.58
133.60
131.79
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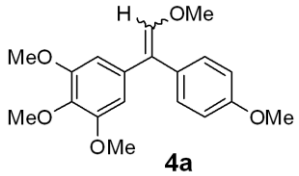
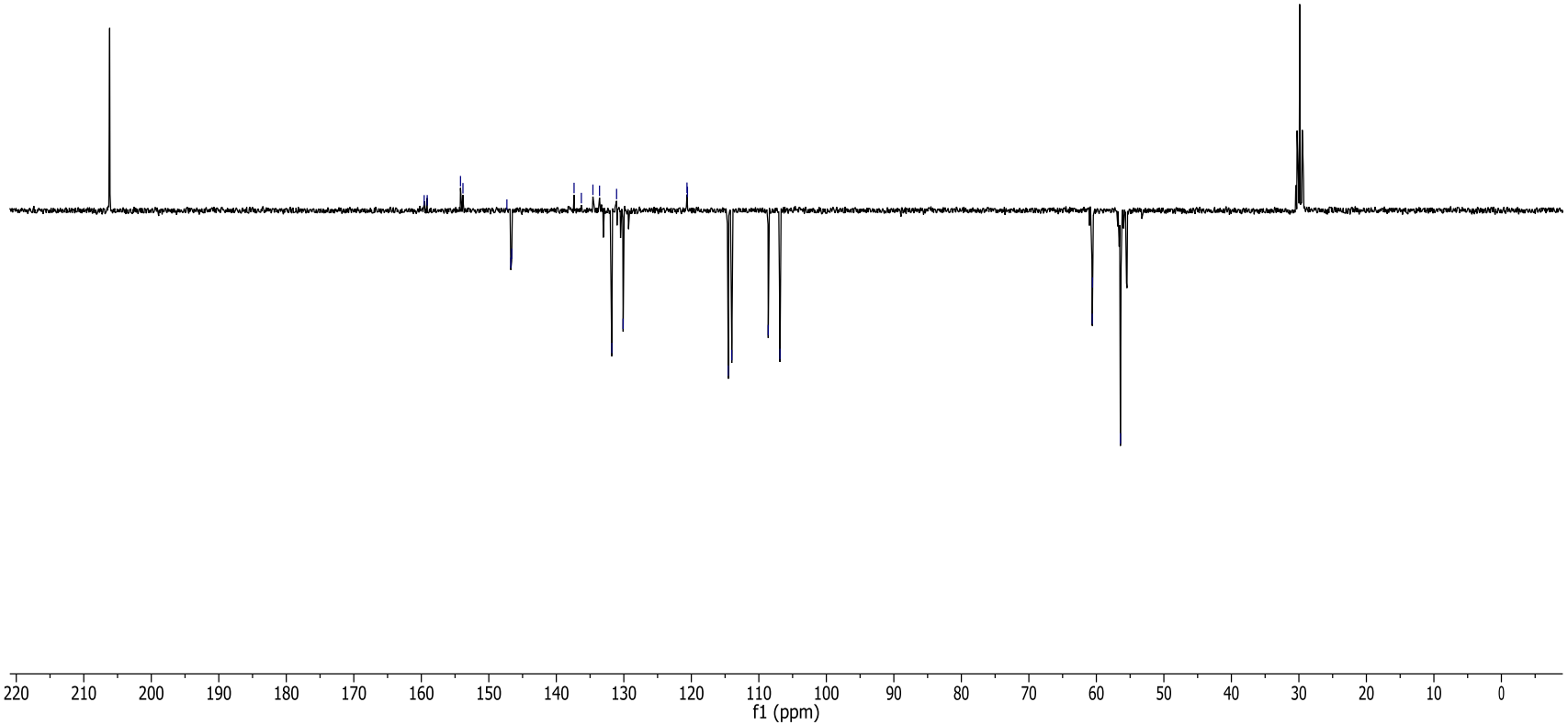
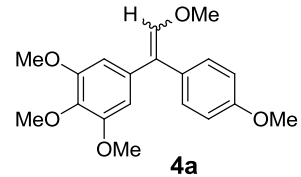



**4a**






**4a**

**JA38 ds acetone-d6**
**NOESY Correlations spatiales H...H**

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| PULPROG | noesygpph | |
| TD | 2134 | |
| SOLVENT | Acetone | |
| NS | 2 | |
| DS | 16 | |
| SWH | 2741.228 | Hz |
| FIDRES | 1.284549 | Hz |
| AQ | 0.3894740 | sec |
| RG | 35.9 | |
| DW | 182.400 | usec |
| DE | 6.50 | usec |
| TE | 300.0 | K |
| D0 | 0.00017371 | sec |
| D1 | 1.40909004 | sec |
| D8 | 0.80000001 | sec |
| D16 | 0.00020000 | sec |
| IN0 | 0.00036480 | sec |
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| P1 | 6.82 | usec |
| P2 | 13.65 | usec |
| PL1 | 0.00 | dB |
| SFO1 | 400.1319551 | MHz |
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| GPZ1 | 40.00 | % |
| P16 | 1000.00 | usec |
| NDO | 1 | |
| TD | 256 | |
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| SW | 6.851 | ppm |
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| SSB | 2 | |
| LB | 0.00 | Hz |
| GB | 0 | |
| PC | 1.40 | |
| SI | 512 | |
| MC2 | States-TPPI | |
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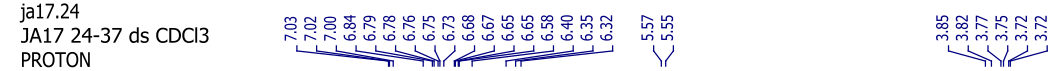
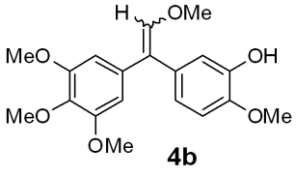
ja17.24
JA17 24-37 ds CDCl3
PROTON

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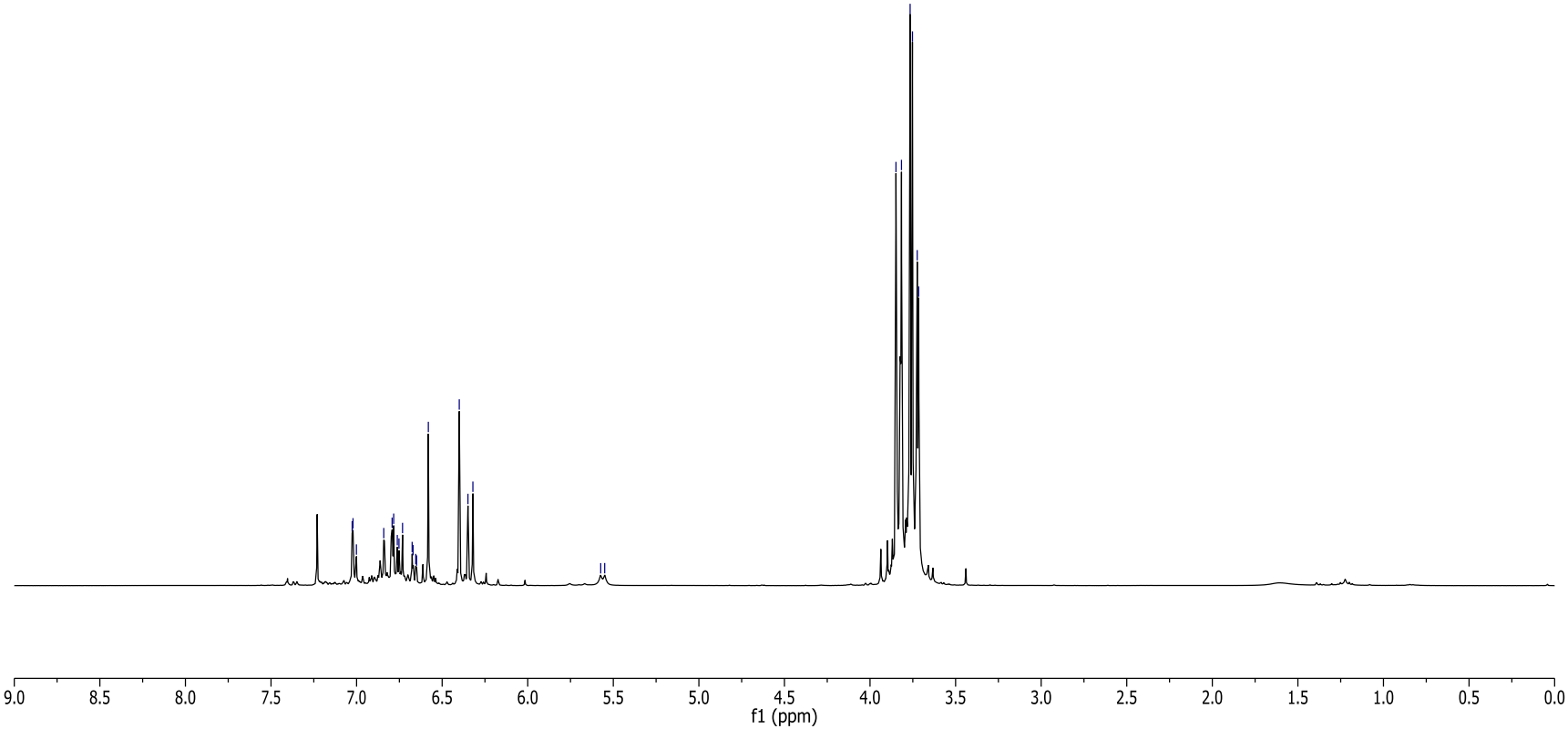

ja17.24
JA17 24-37 ds CDCl3
Carbone par J Modulation

153.05
152.82
145.72
145.59
145.05
137.08
136.38
133.80
133.27
130.99
121.77
120.25
120.22
119.97
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114.50
110.58
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61.00
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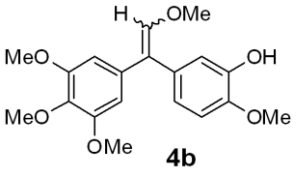
56.10

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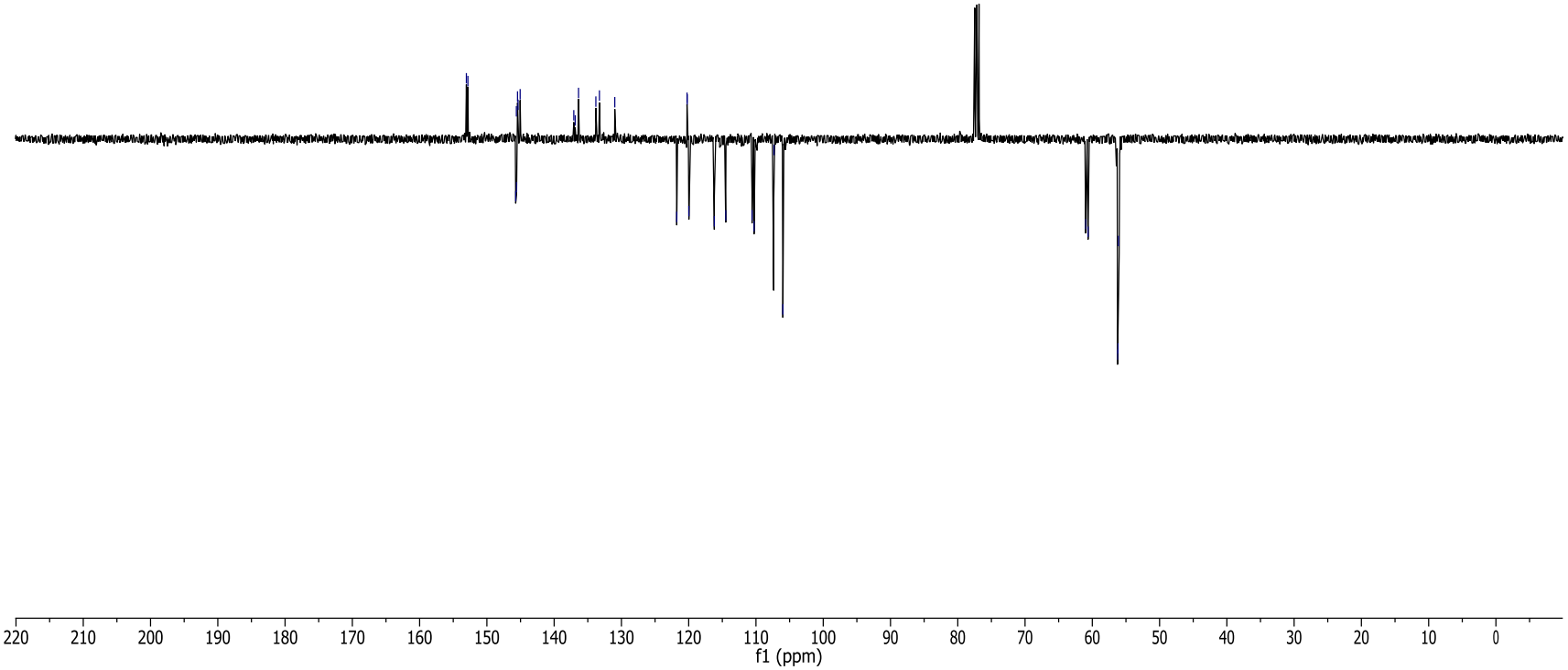

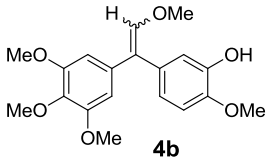


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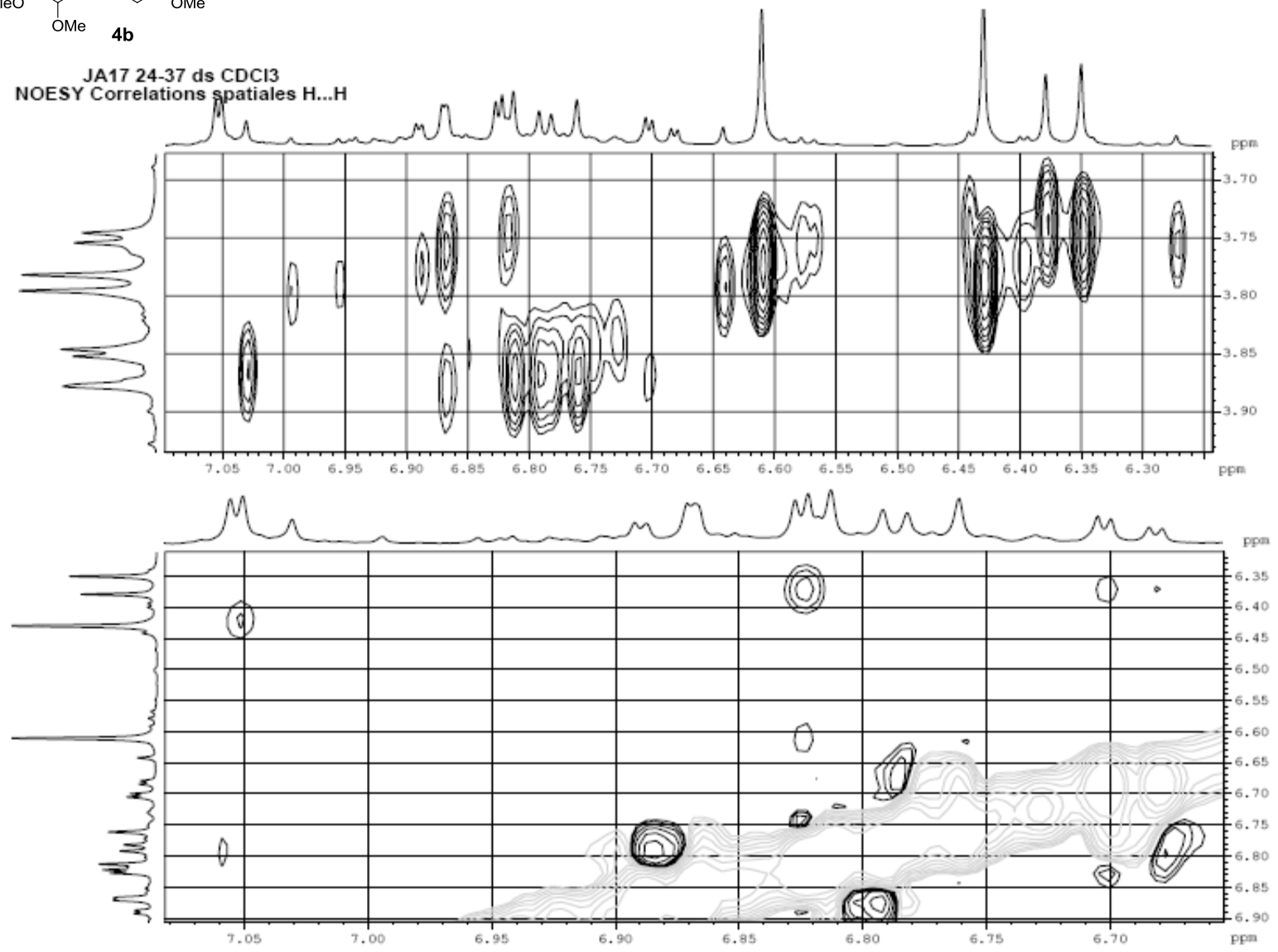

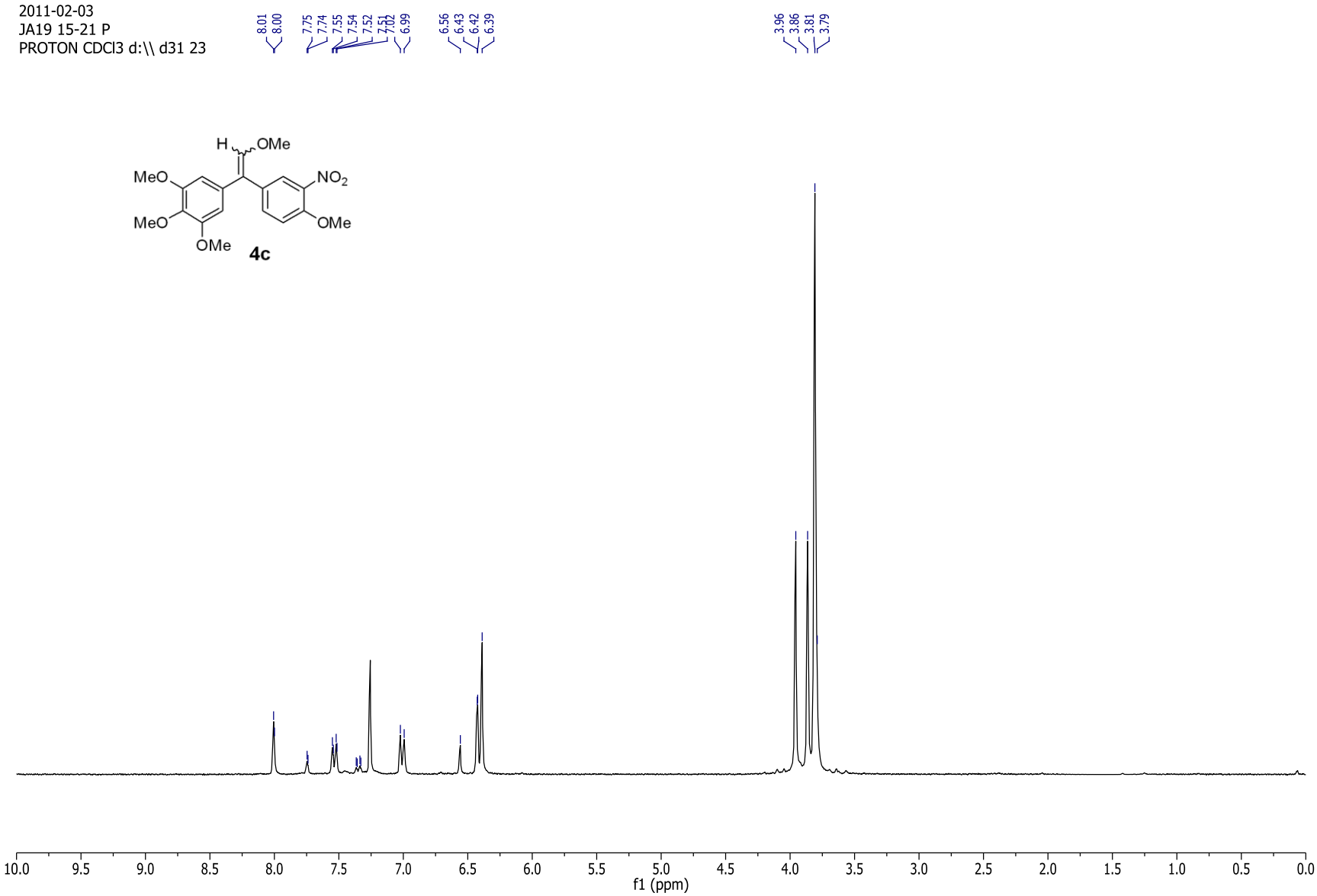

ja19
Carbone par J Modulation

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135.05
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130.40
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118.10
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106.09
61.07
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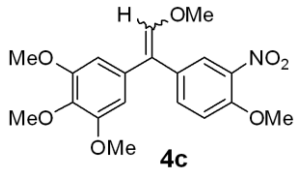
56.35

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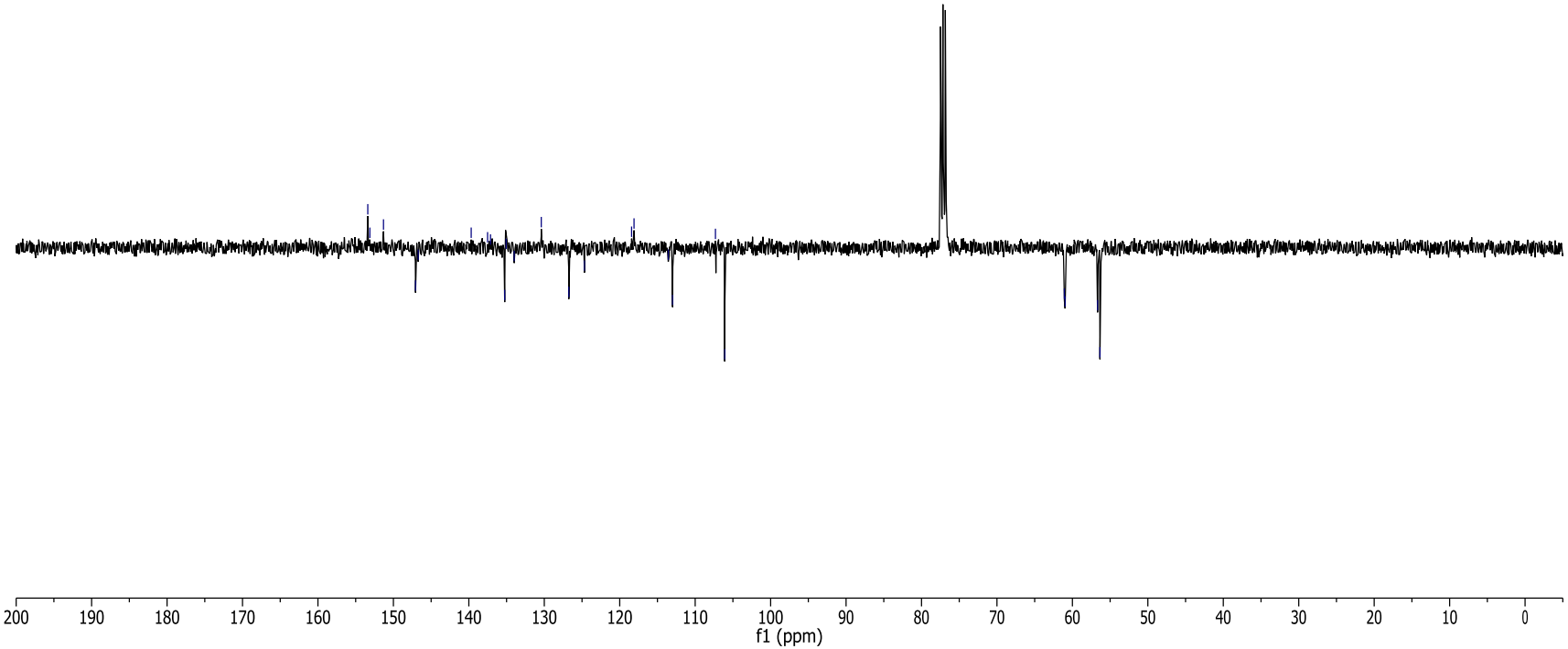

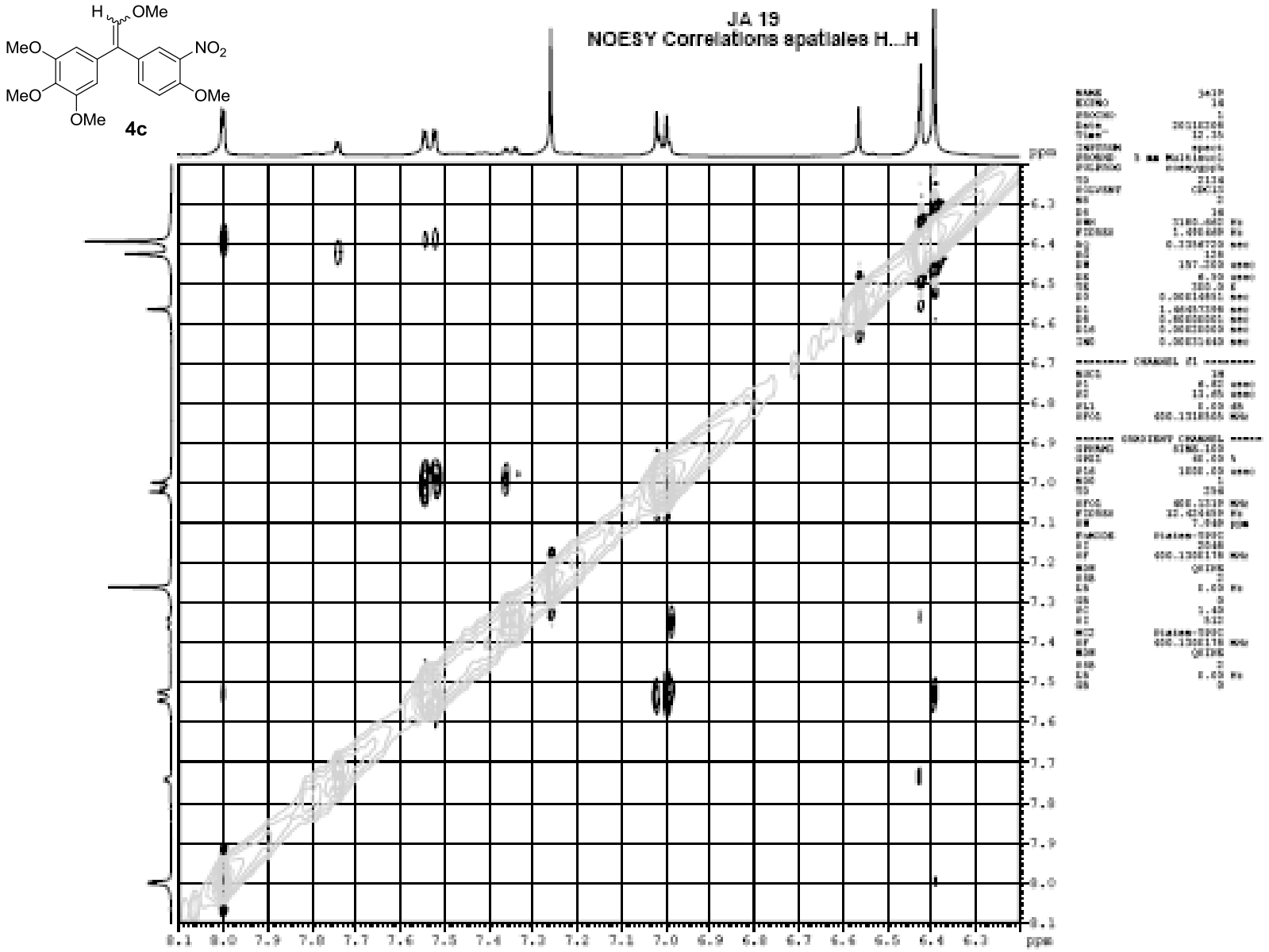

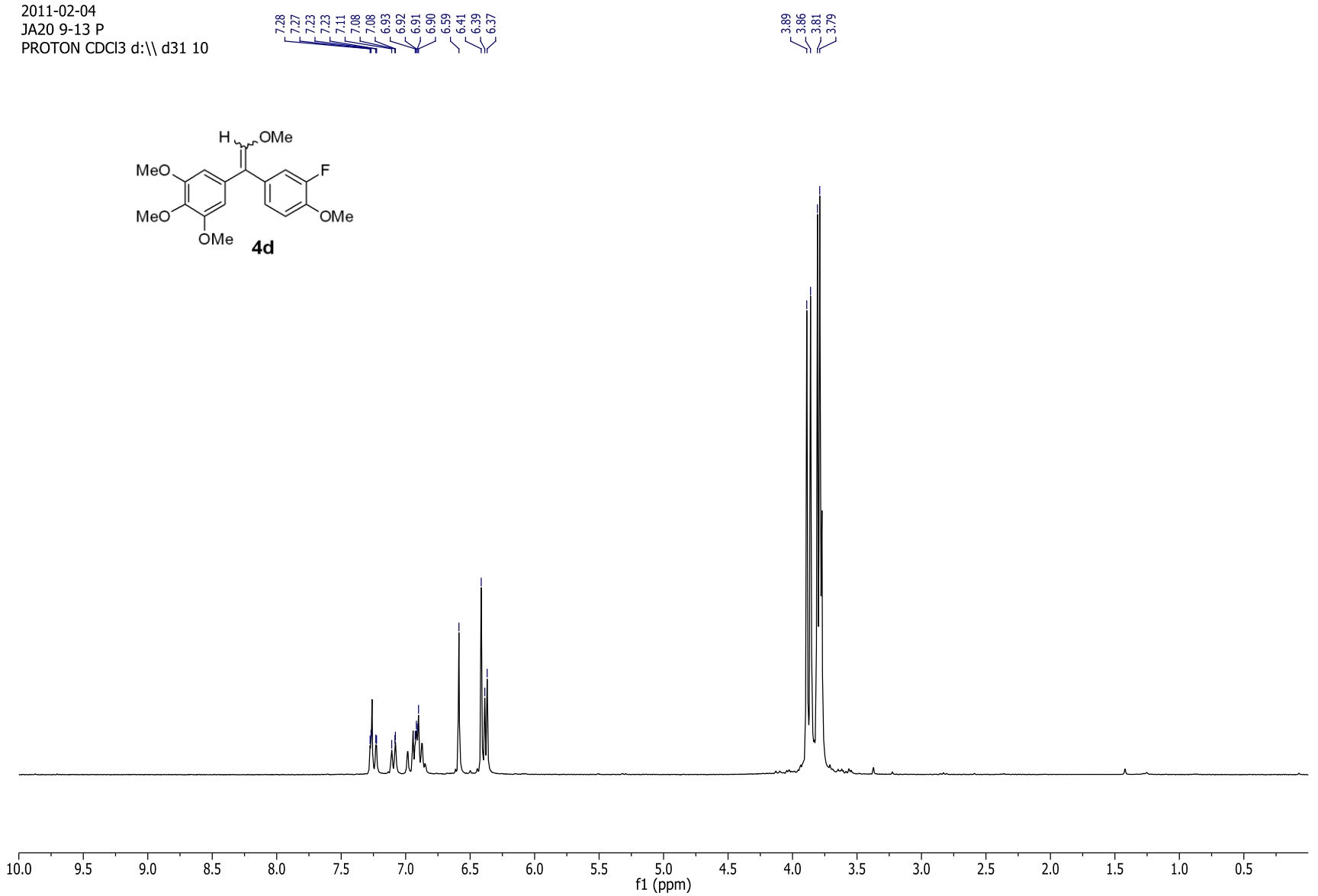

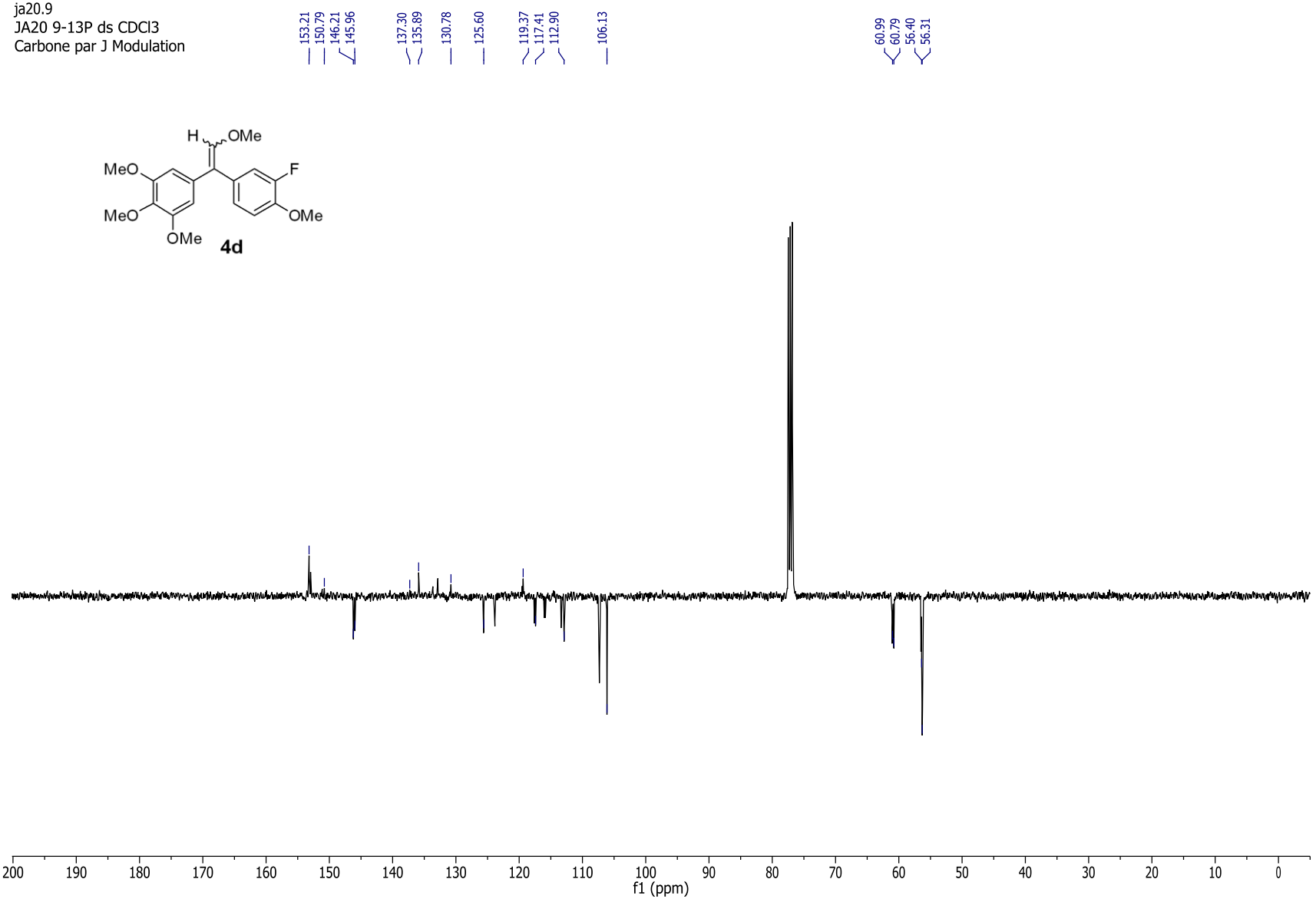

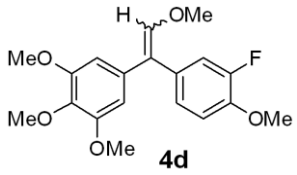


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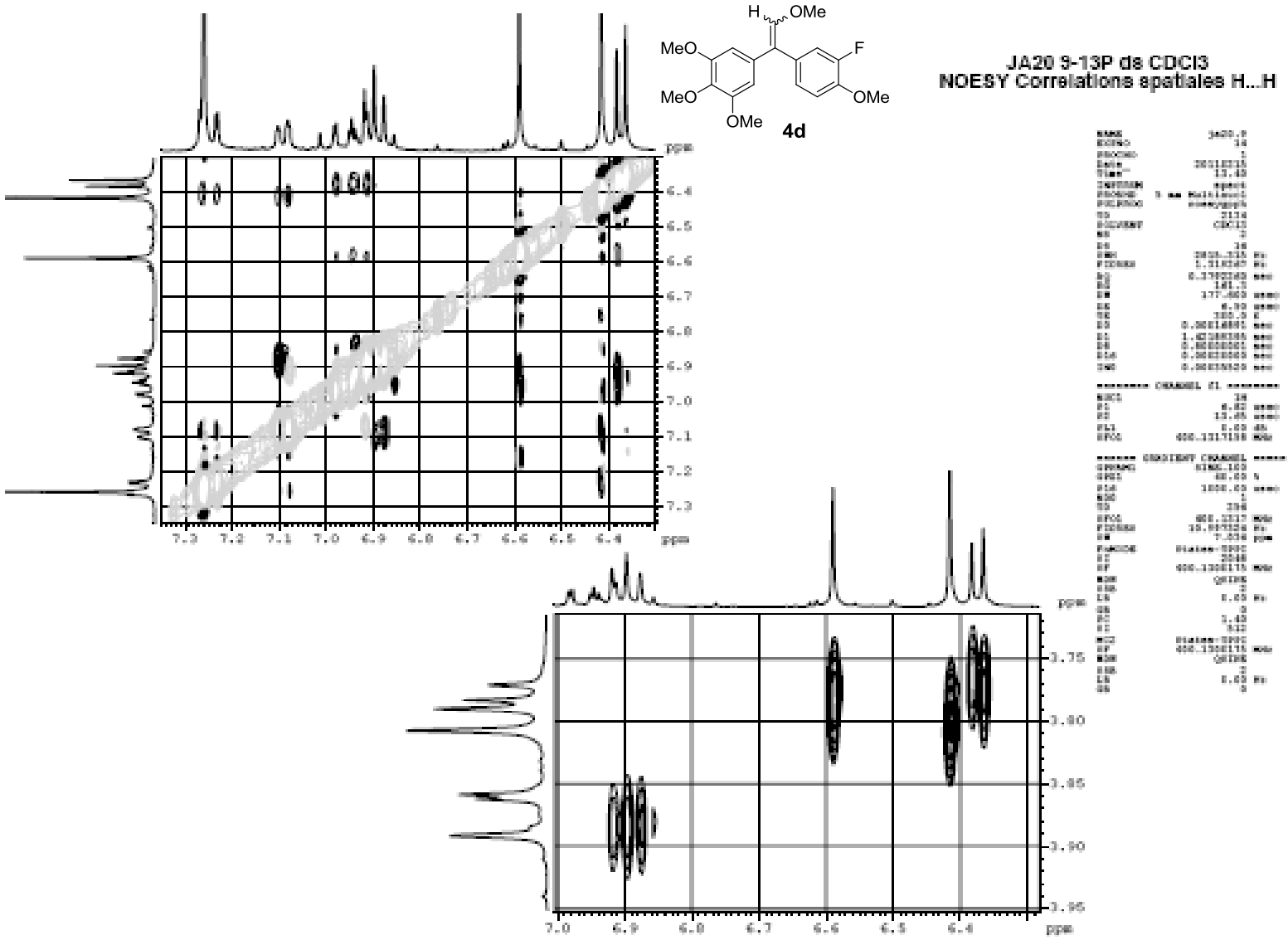
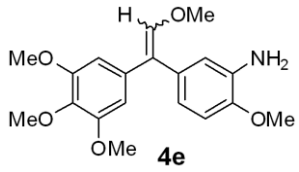


2012-02-21
JA128
Proton.4 Acetone D:\\ chit 23

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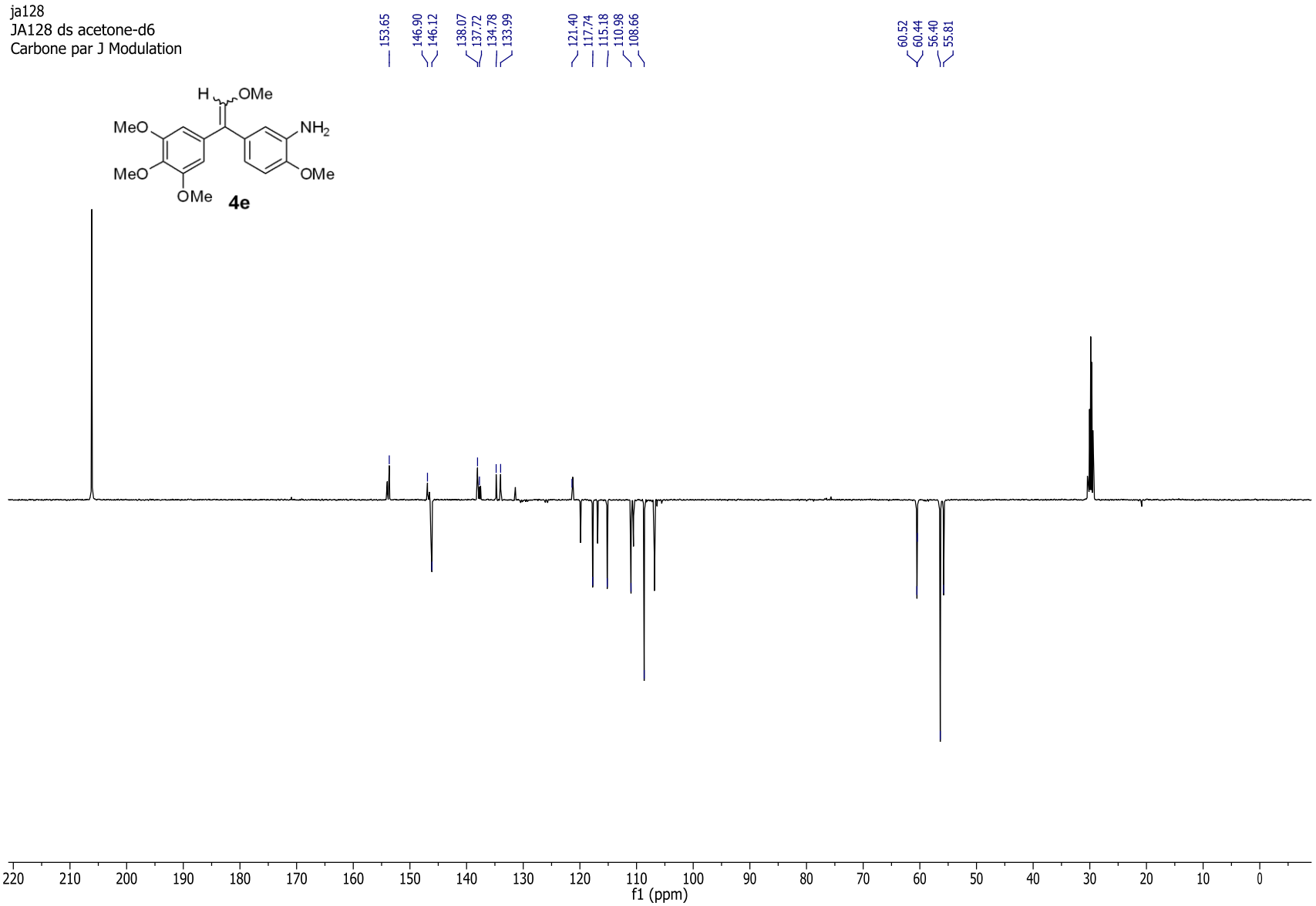

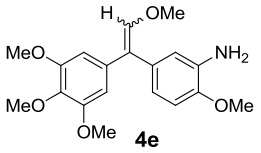


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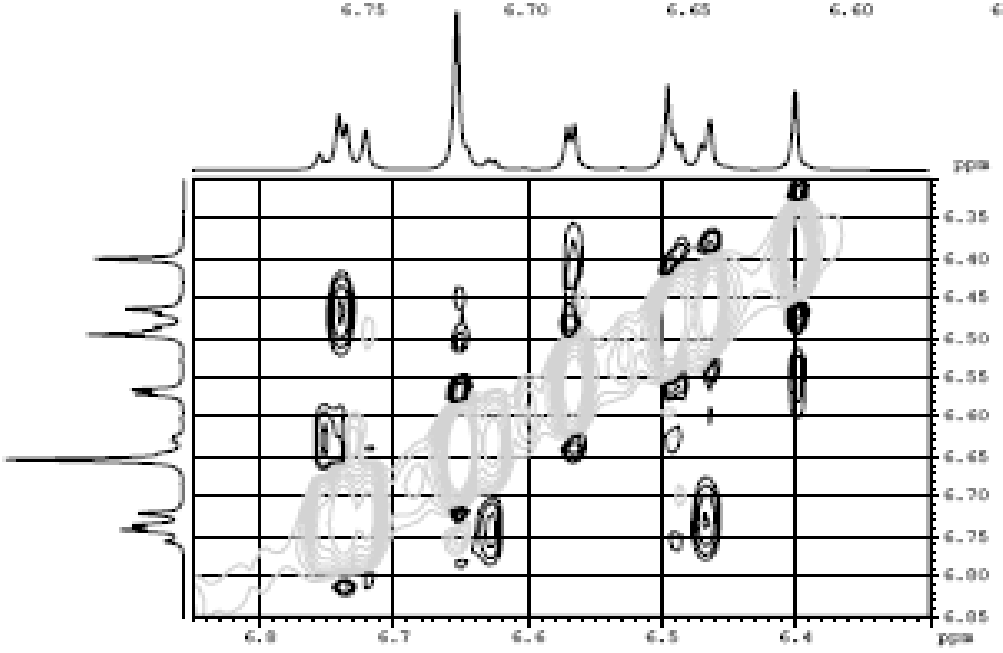
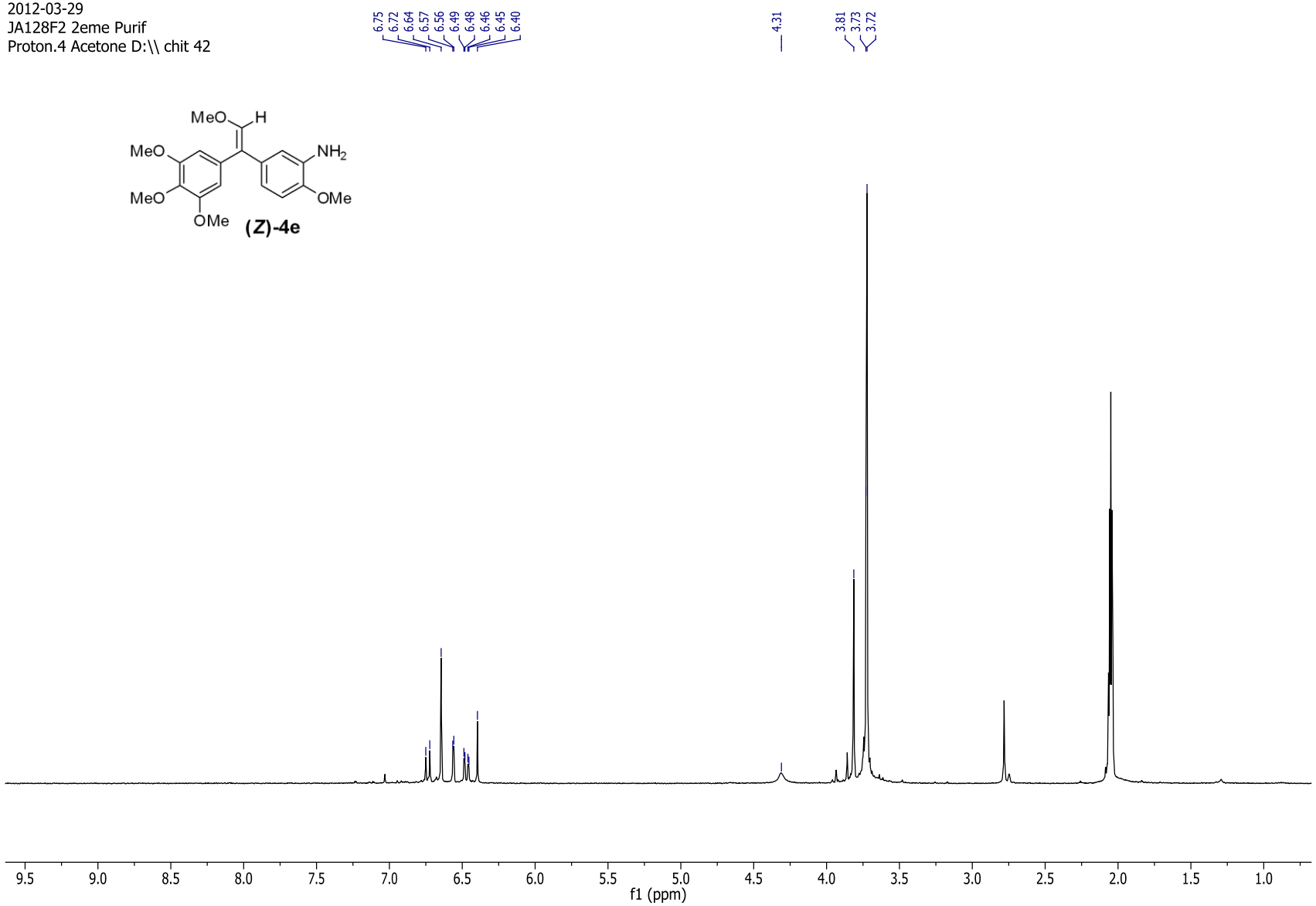
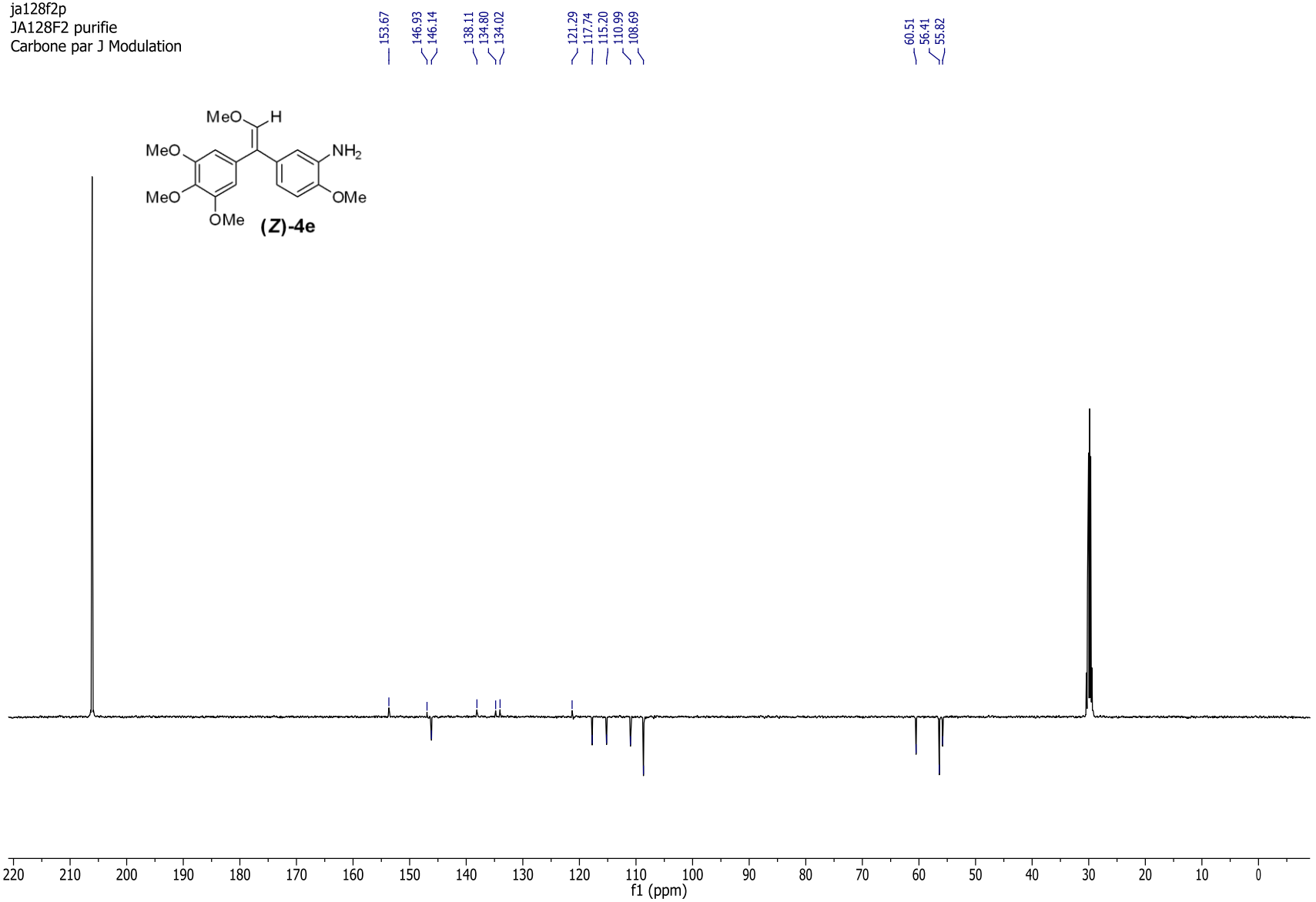
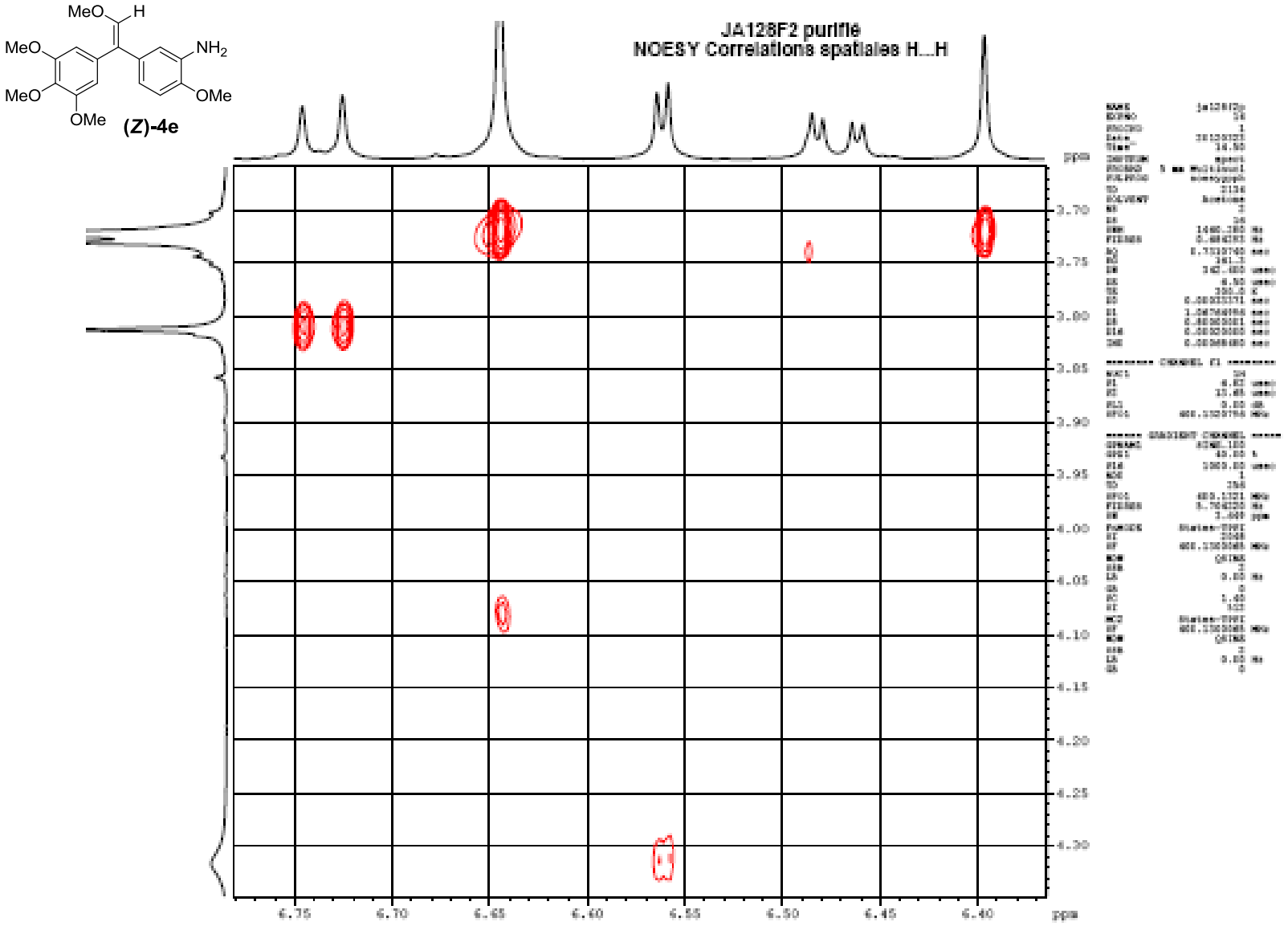
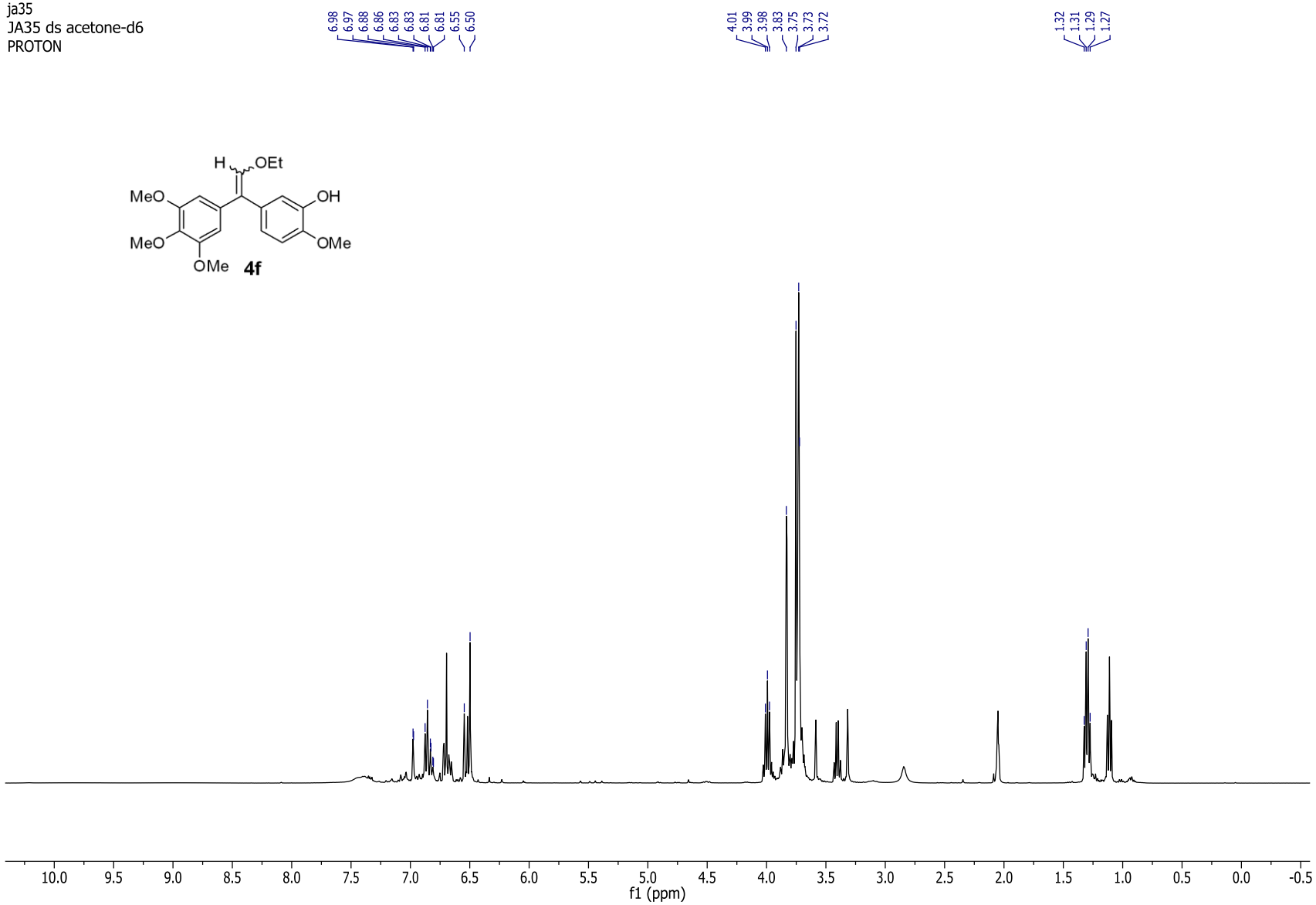


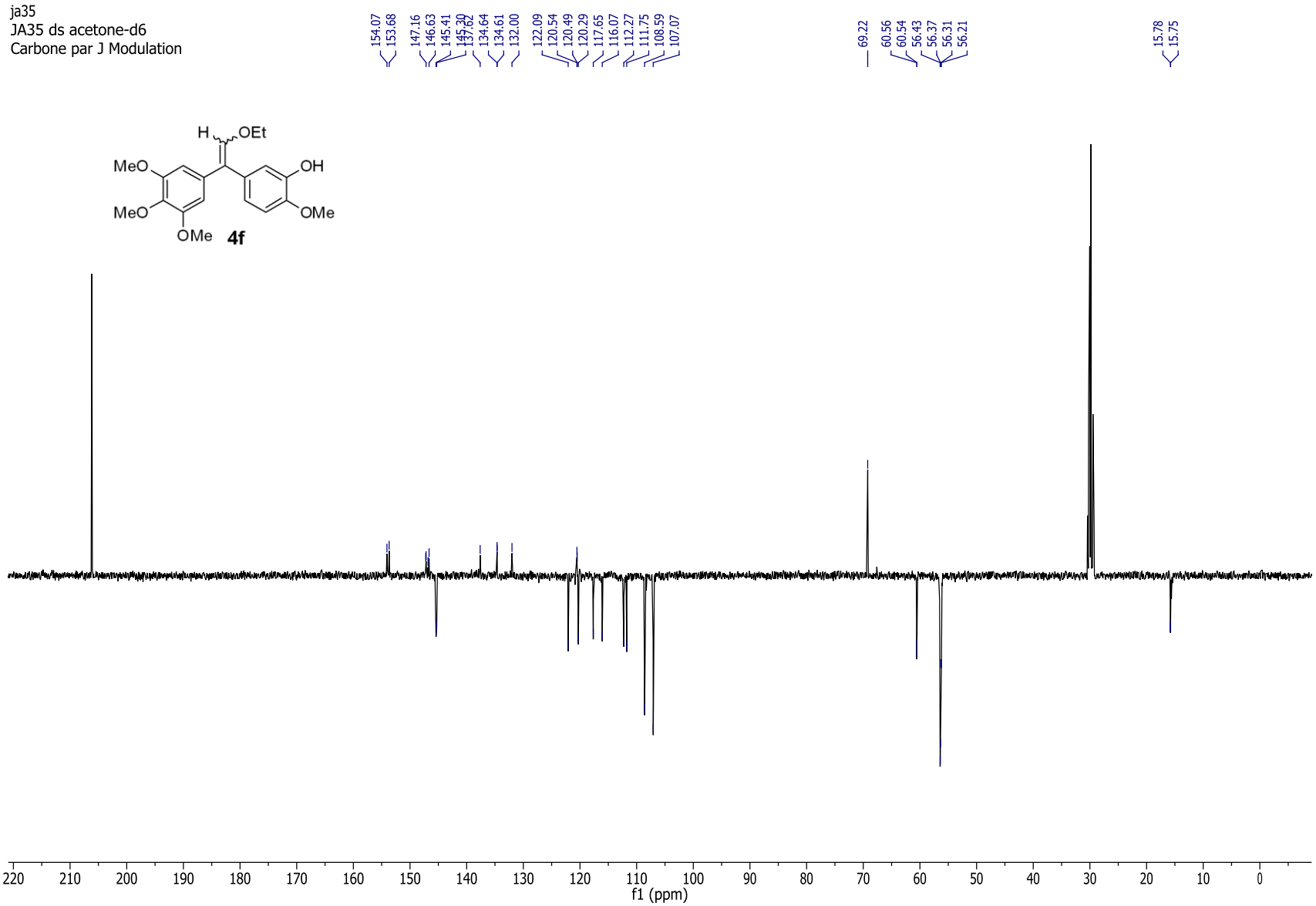


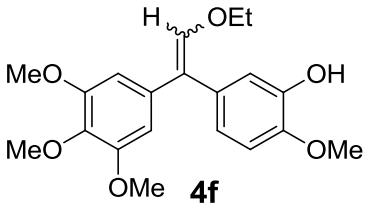




ja35
JA35 ds acetone-d6
PROTON

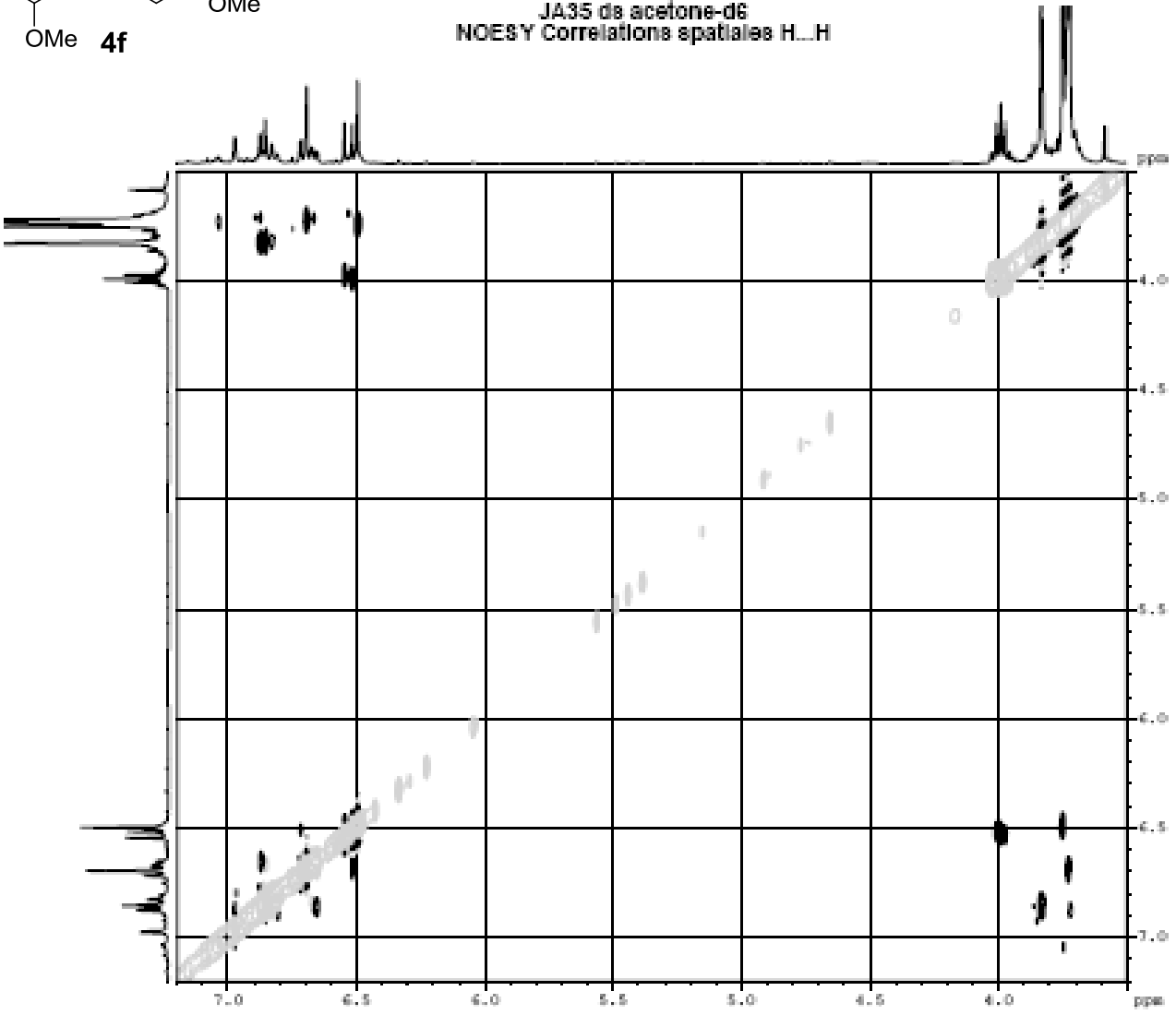


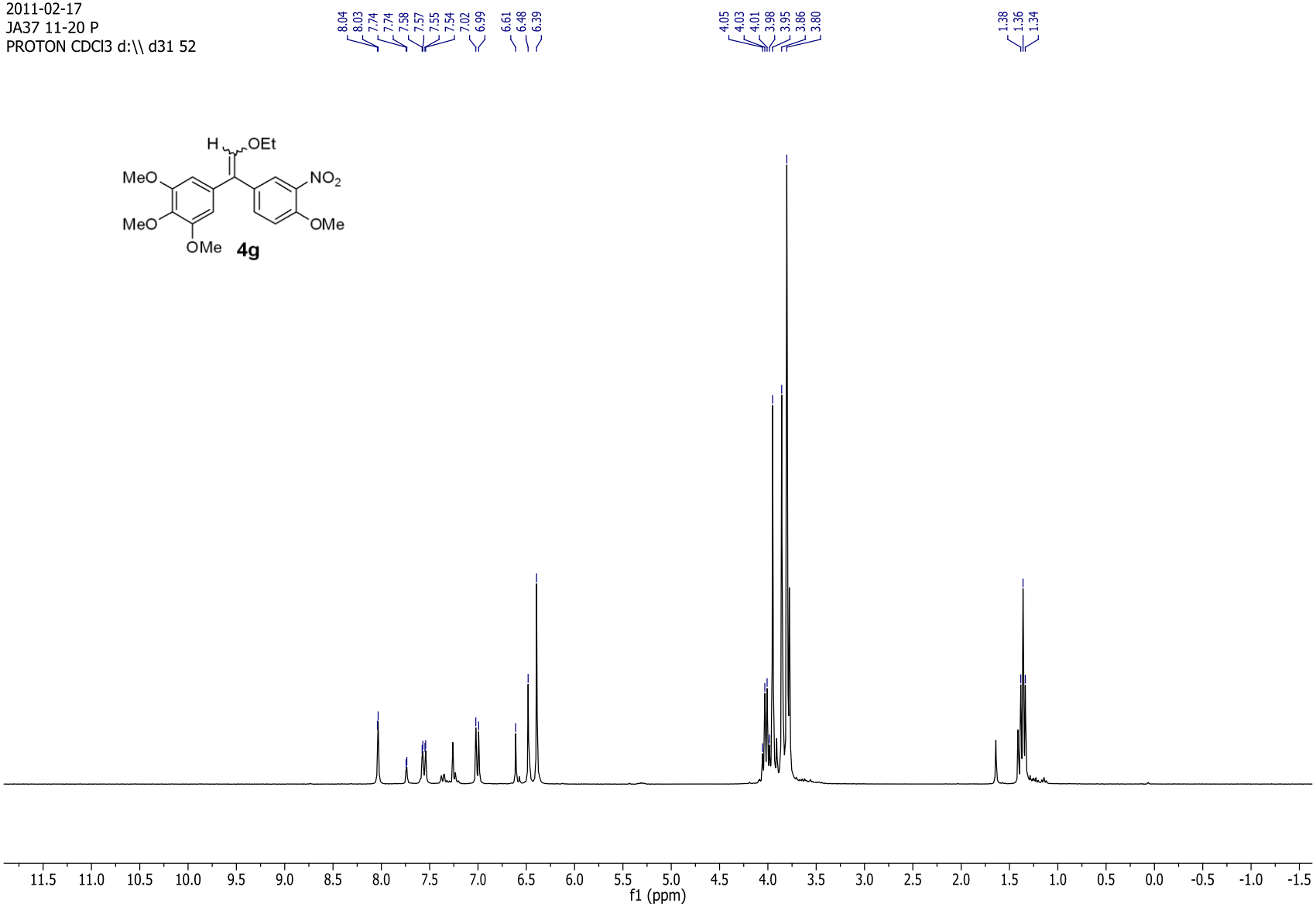


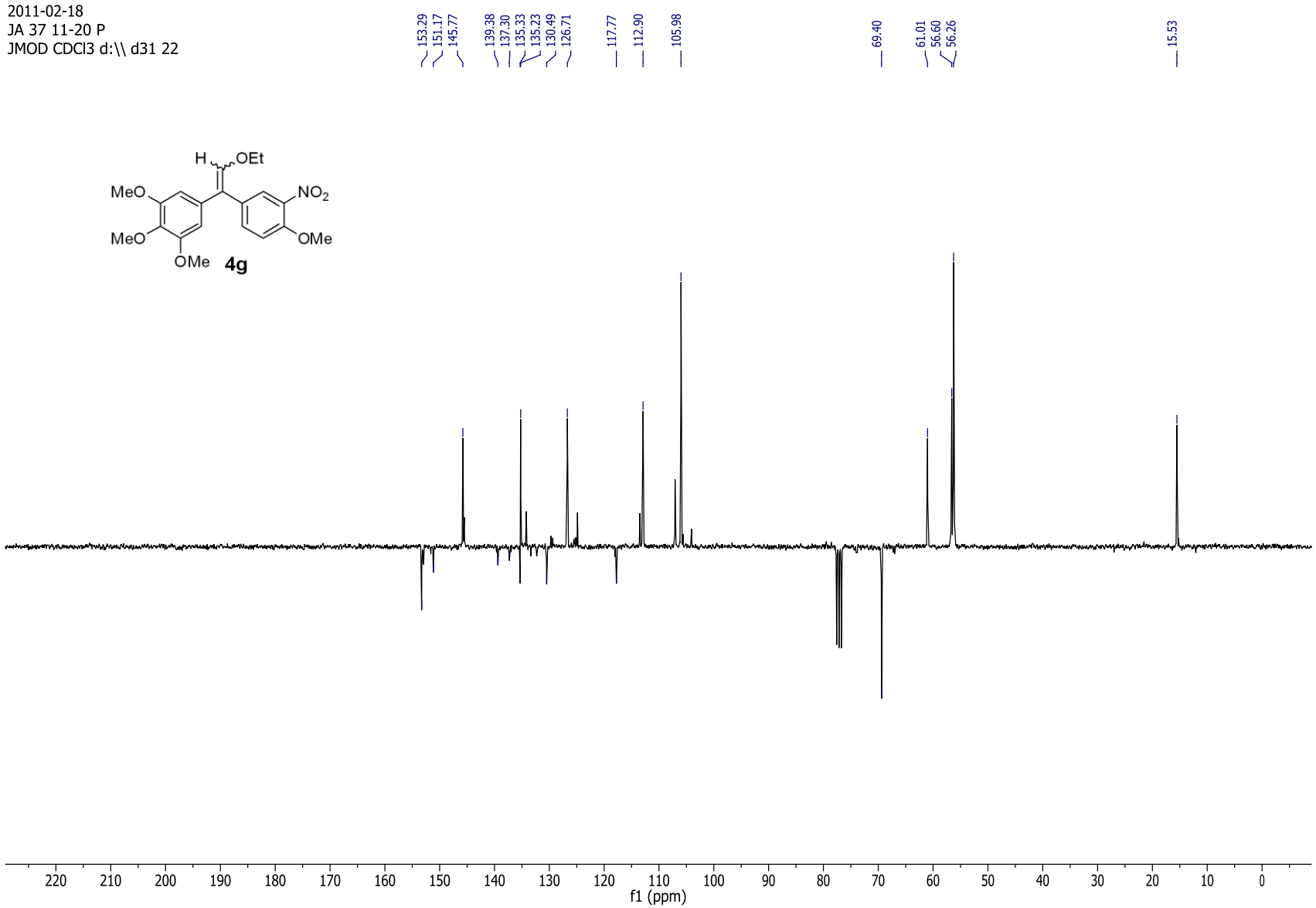



**4f**

JA35 ds acetone-d6
NOESY Correlations spatiales H...H







ja124p
JA124P ds acetone-d6
PROTON

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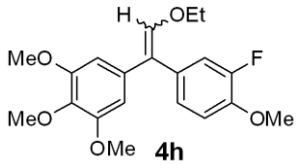
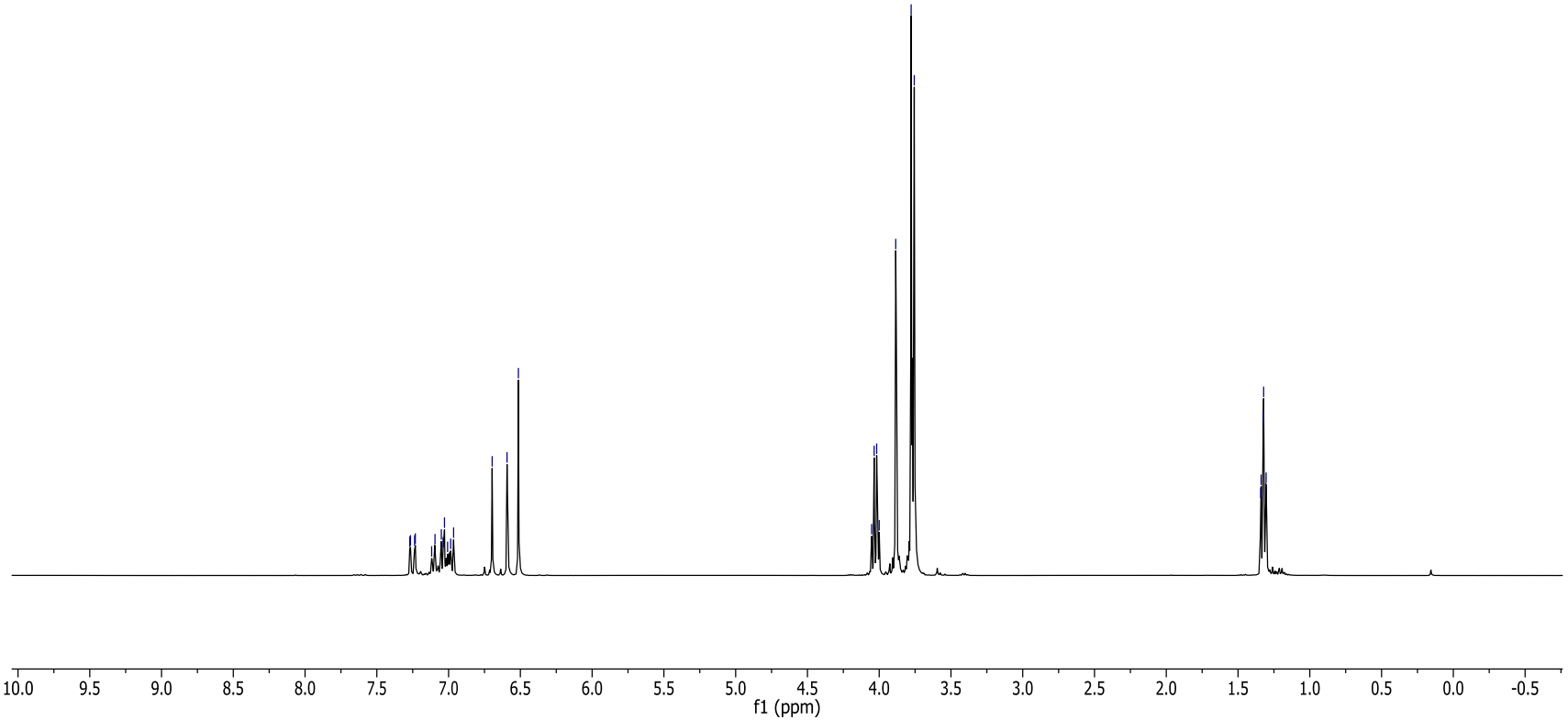
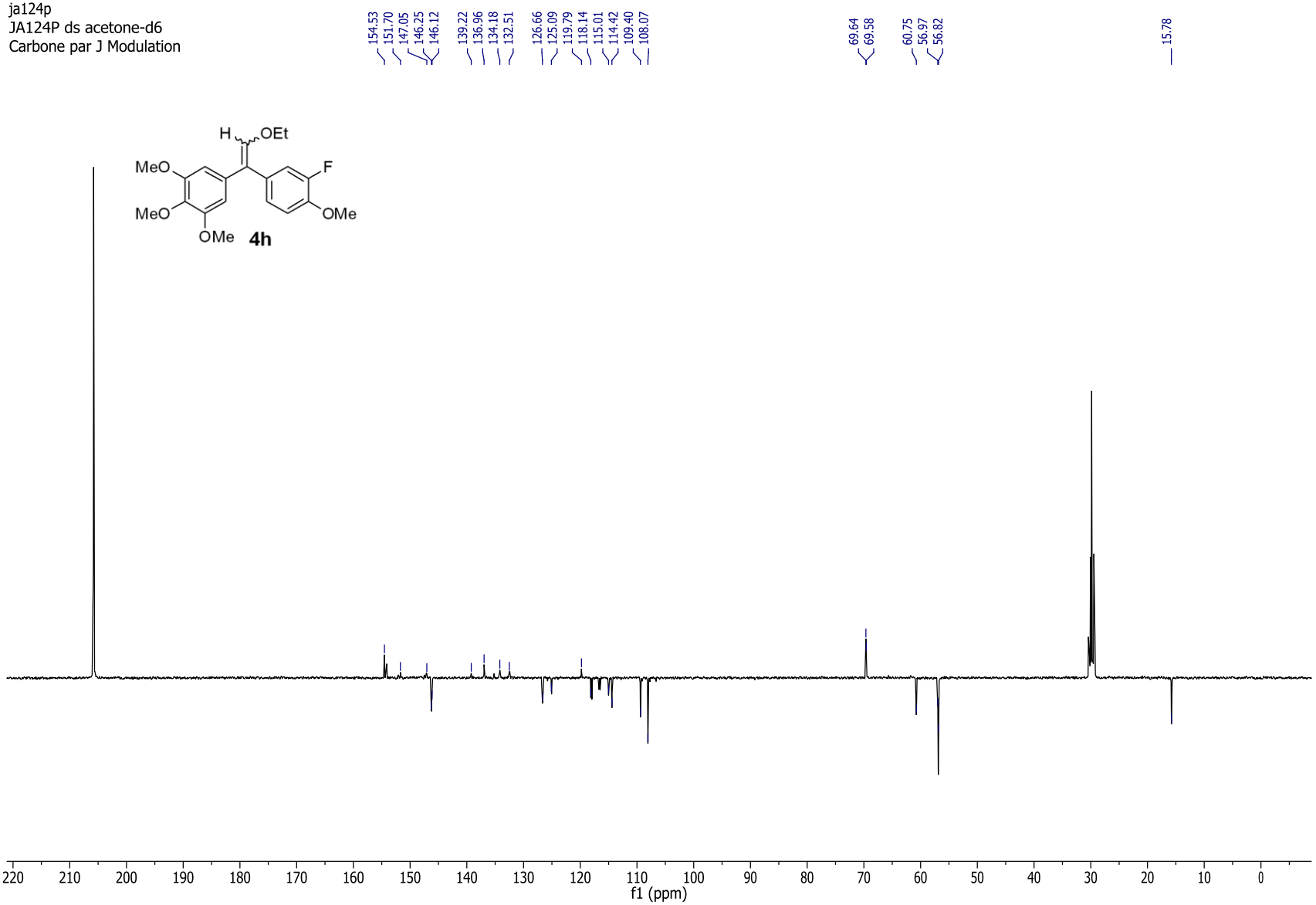
4.05 4.04 4.02 4.00 3.88 3.78 3.76

1.34 1.34 1.32 1.32 1.31 1.30

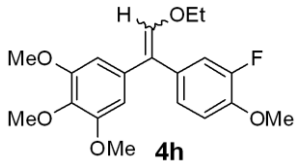



**4h**





2012.04.17
JA124'
F19CPD Aceton v biocis 7

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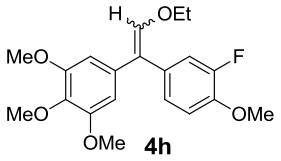
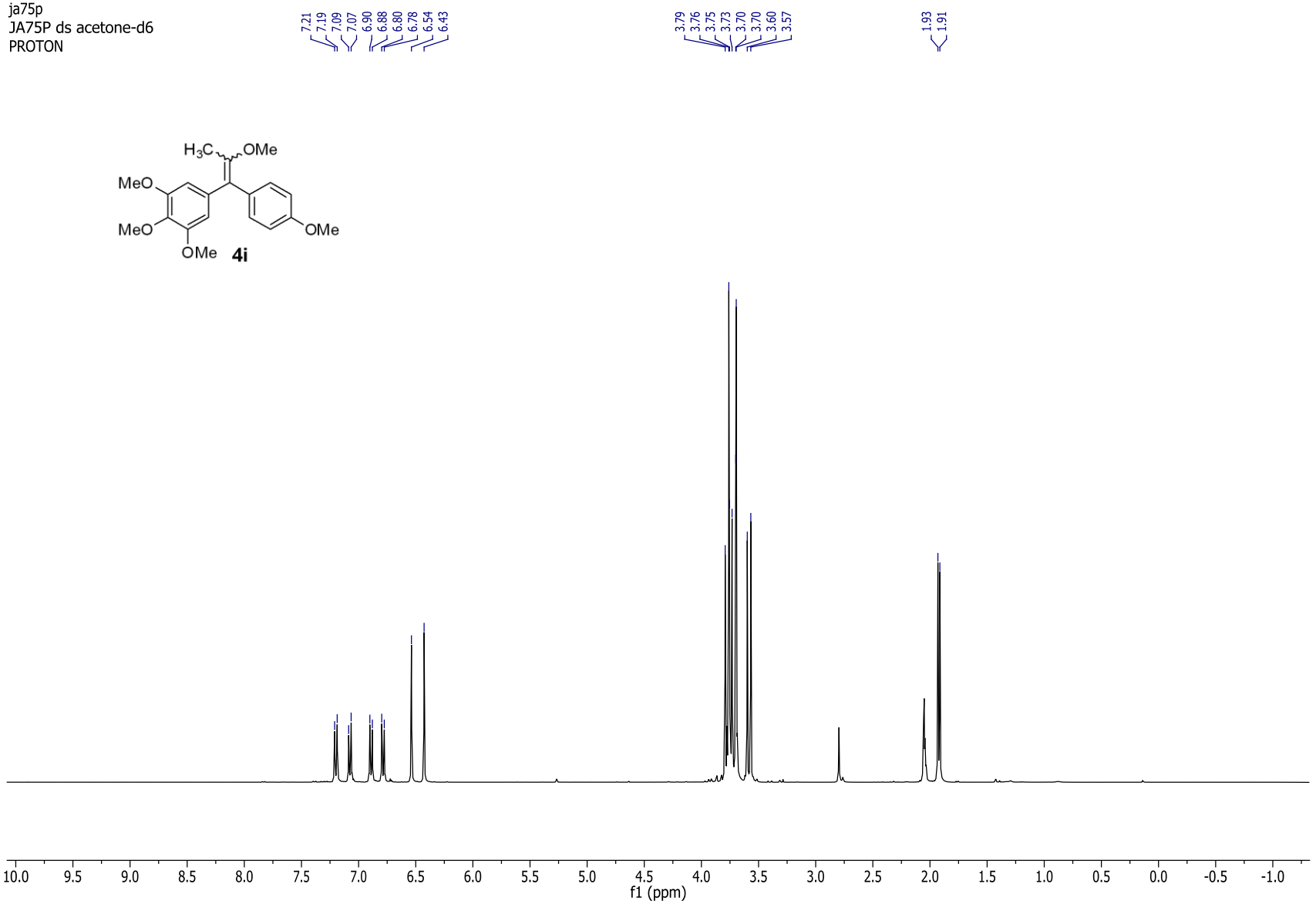
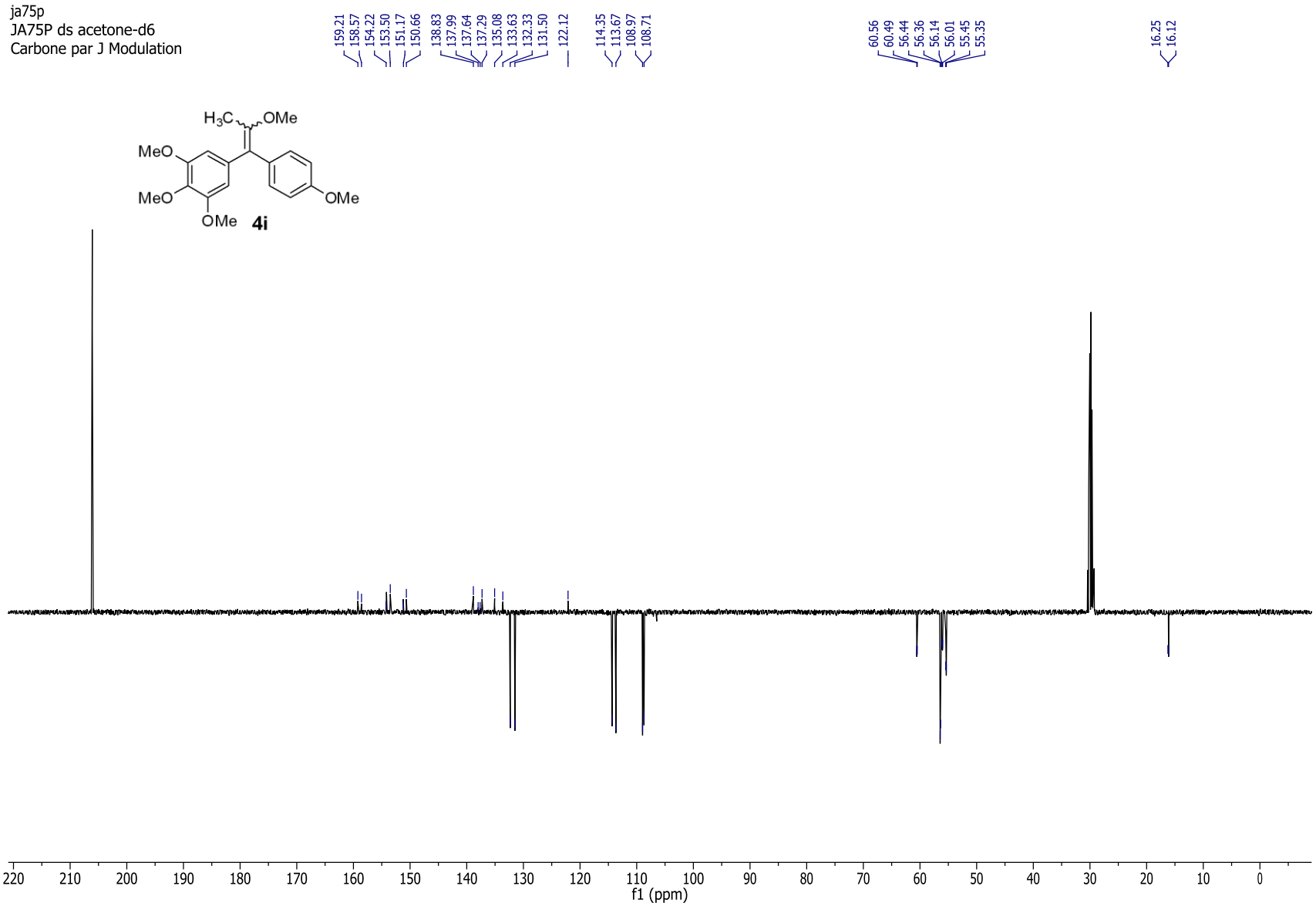
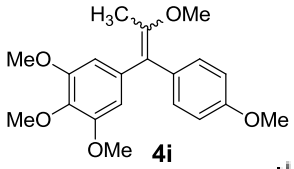



**4h**

ja75p
JA75P ds acetone-d6
PROTON








**4i**

ja74p
JA74P ds acetone-d6
PROTON

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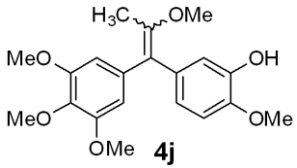


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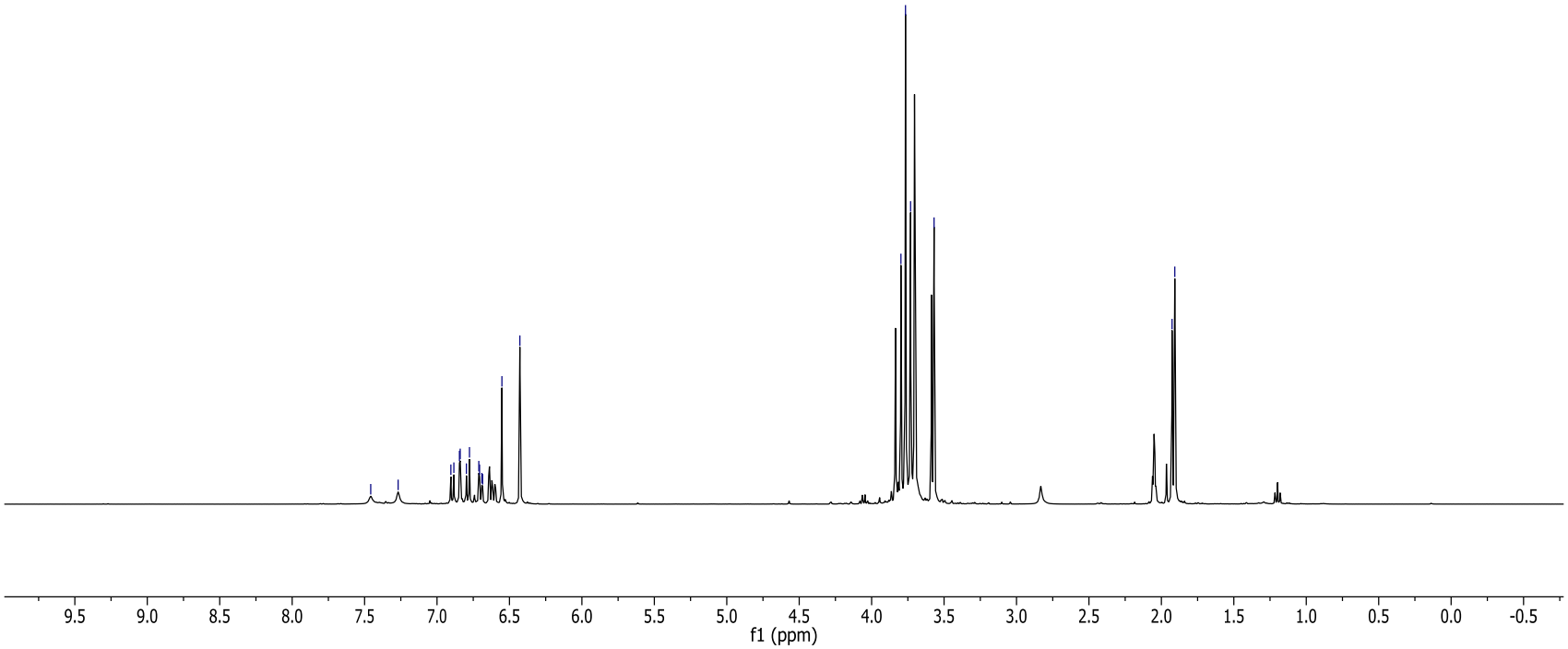

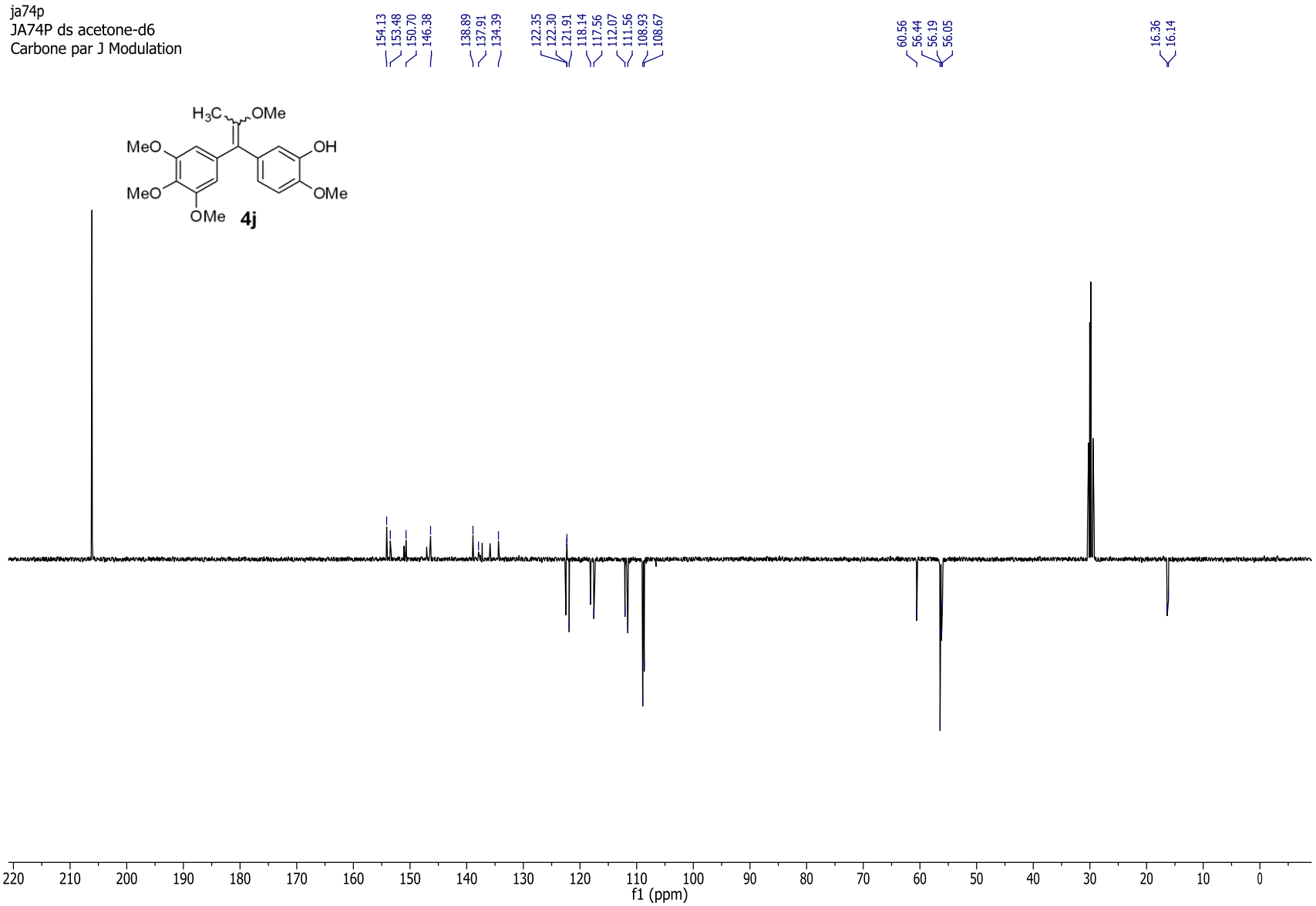

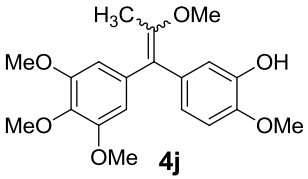


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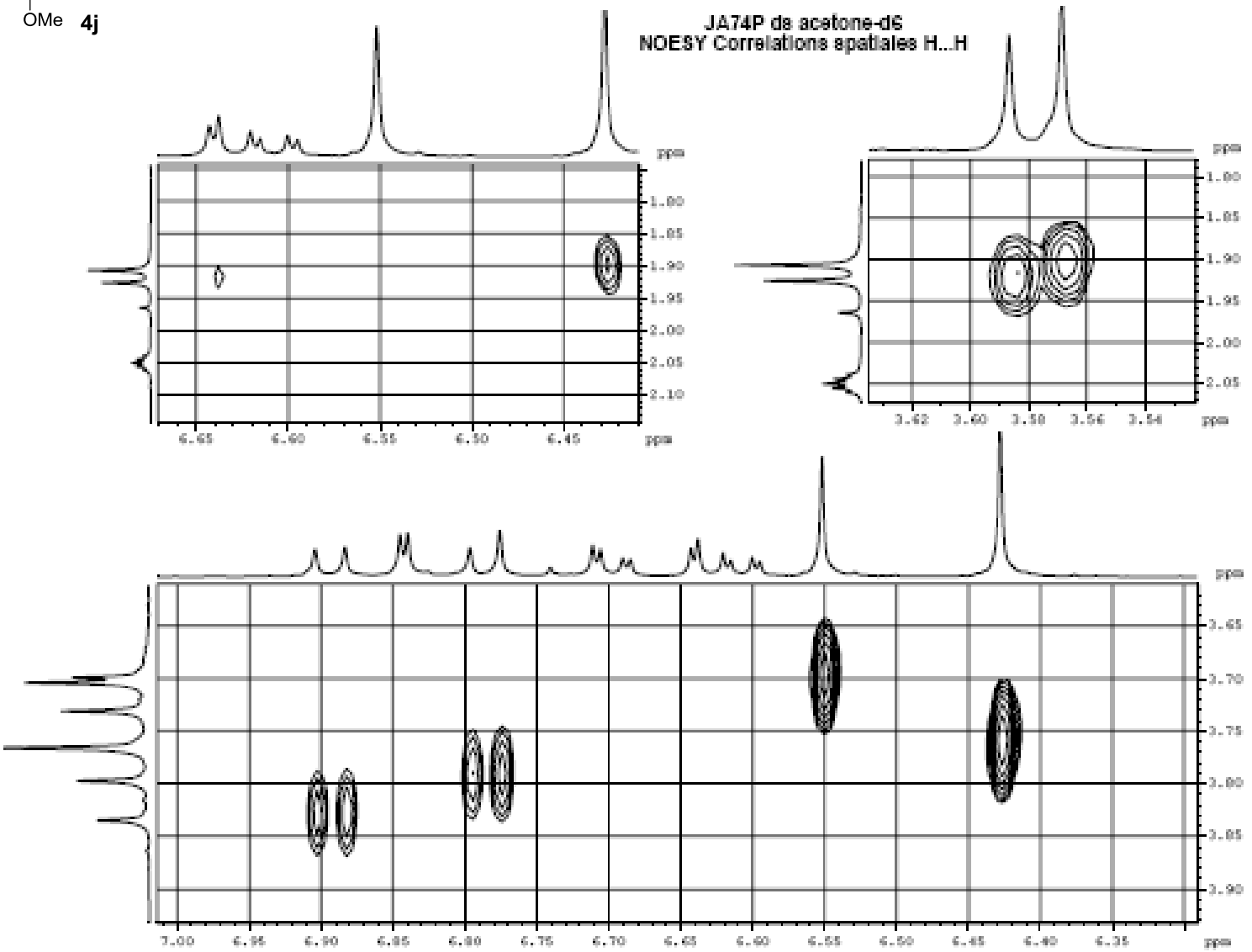

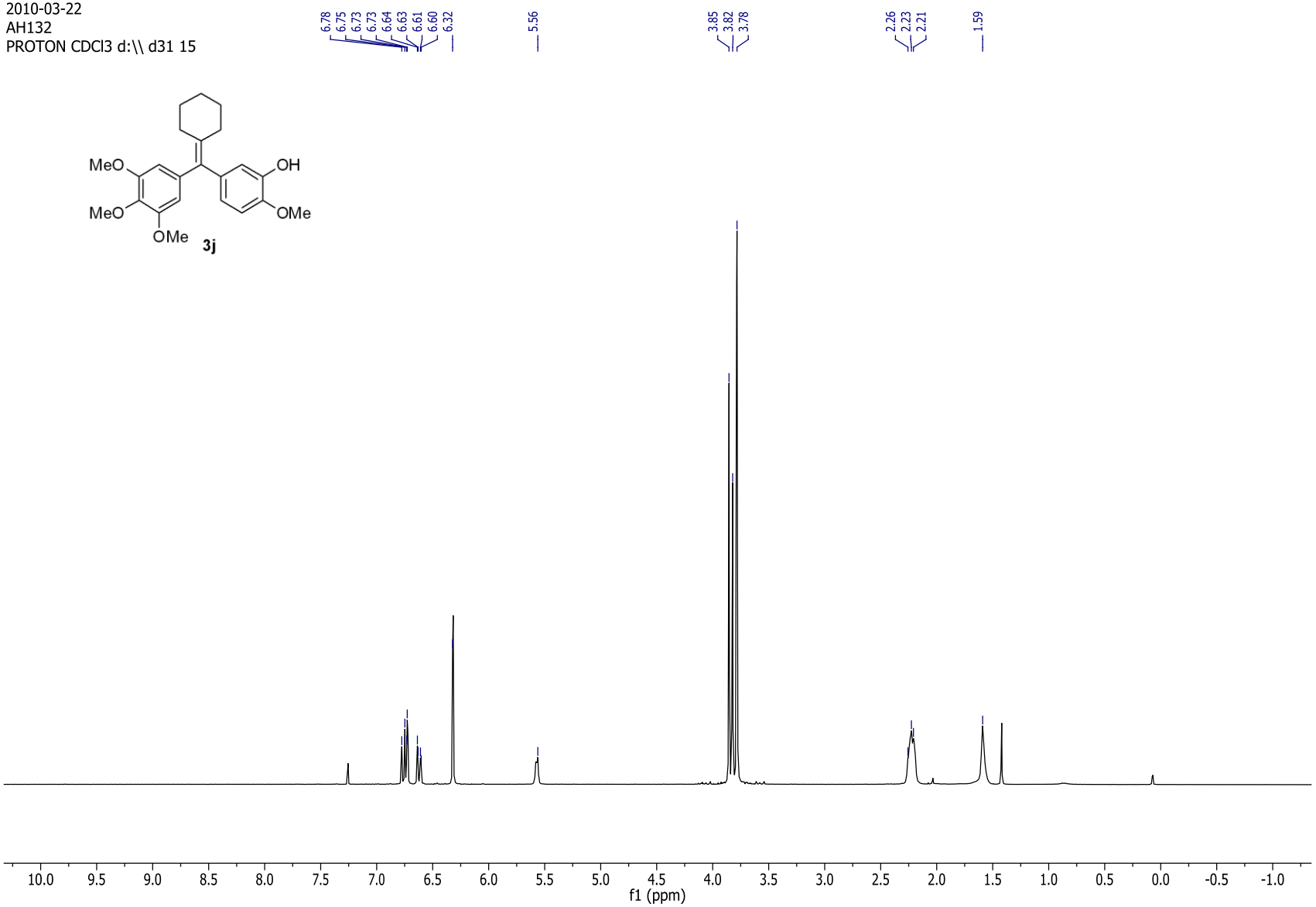

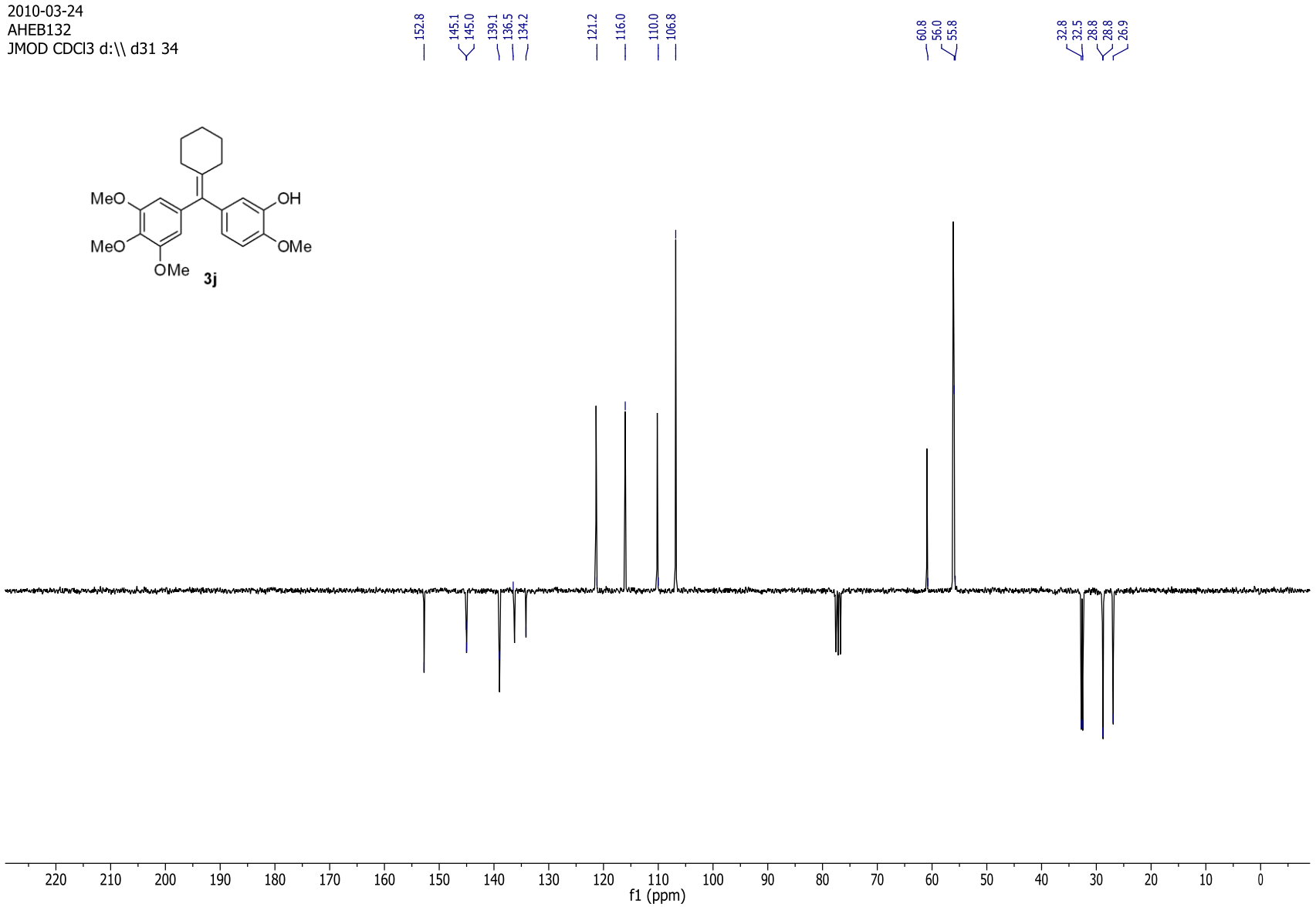

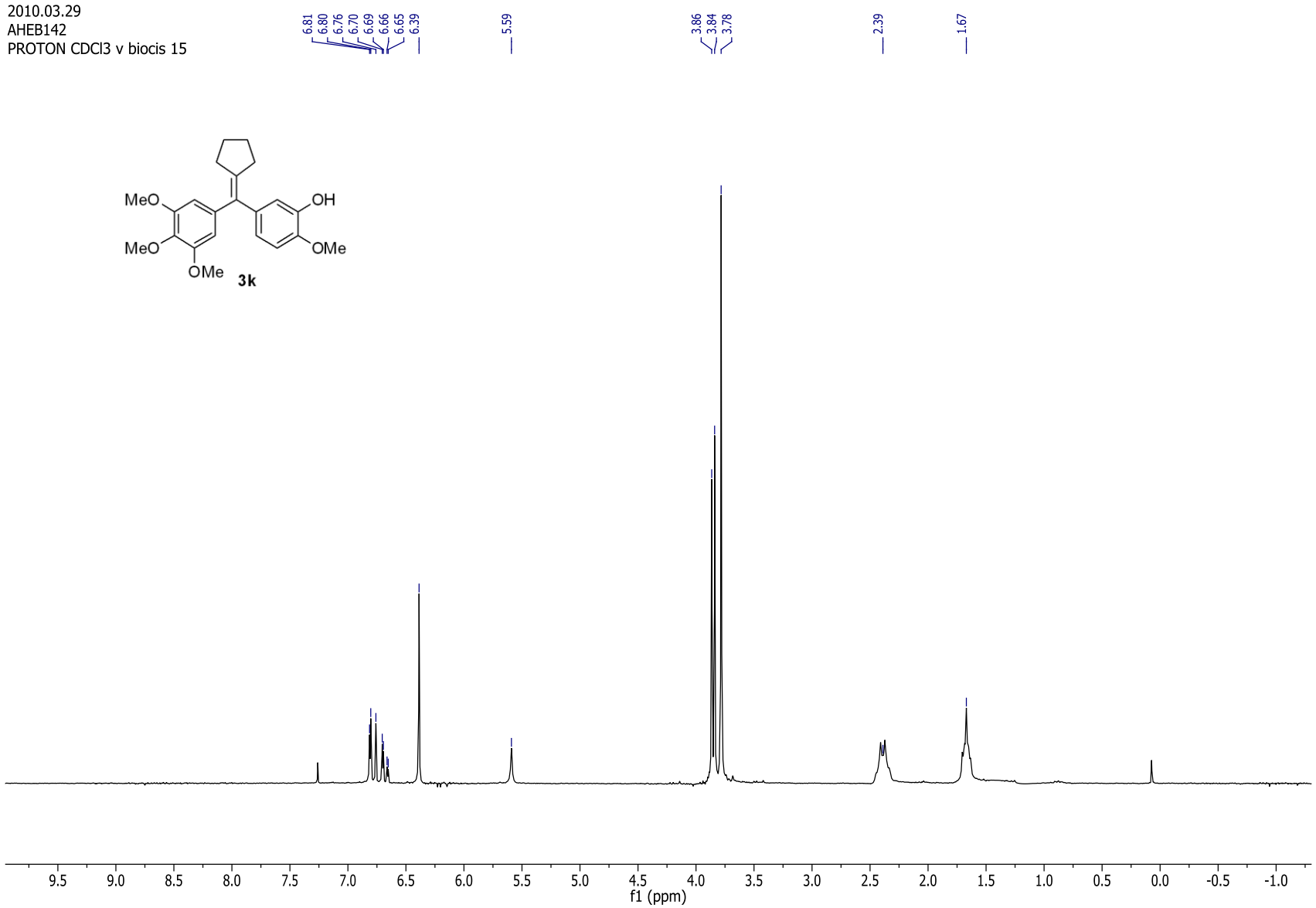

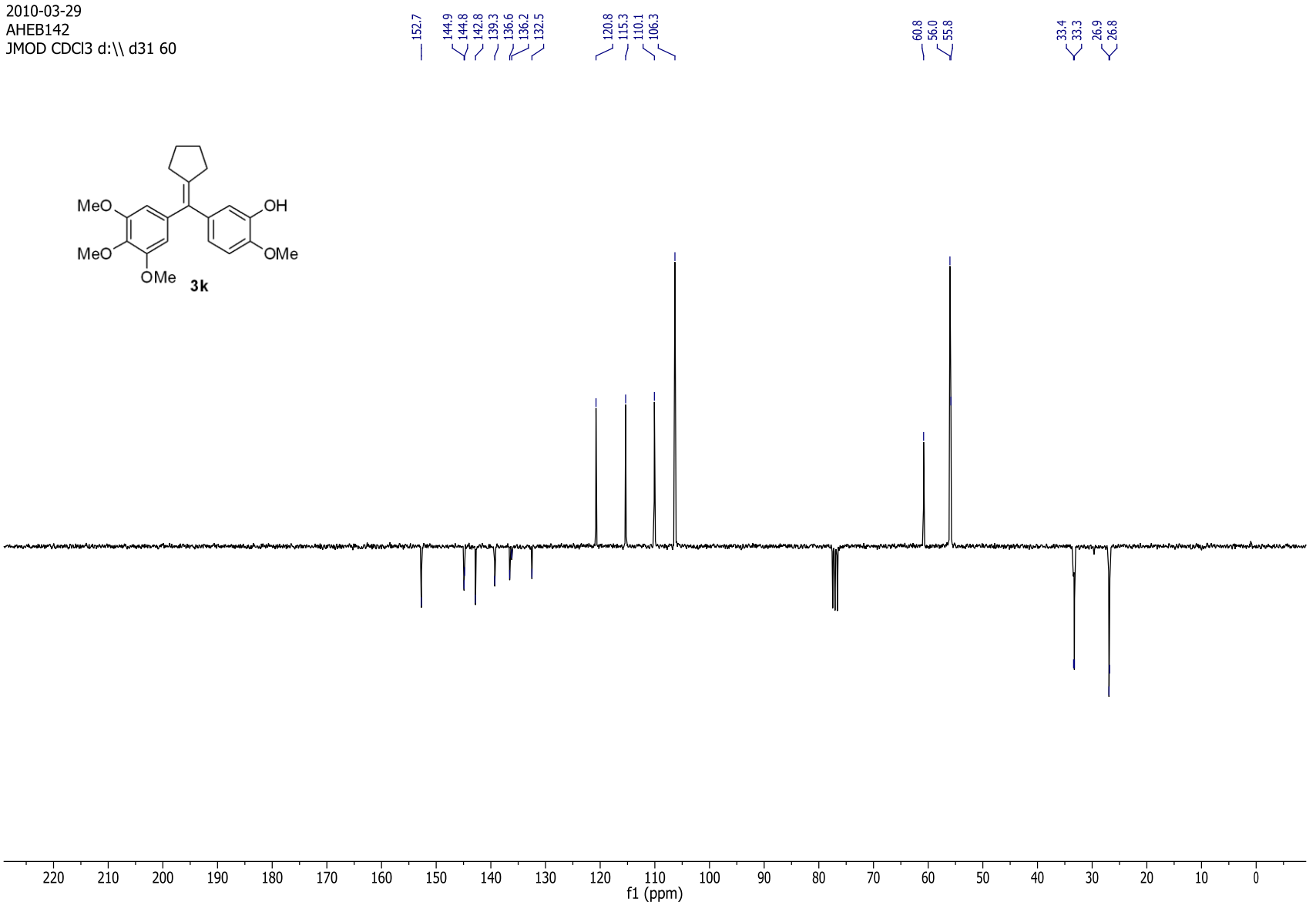

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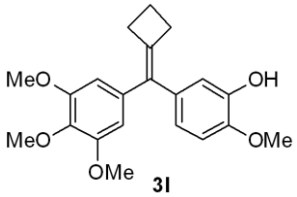


**3l**

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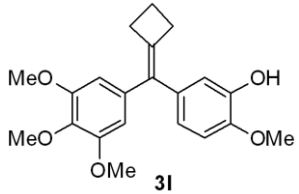


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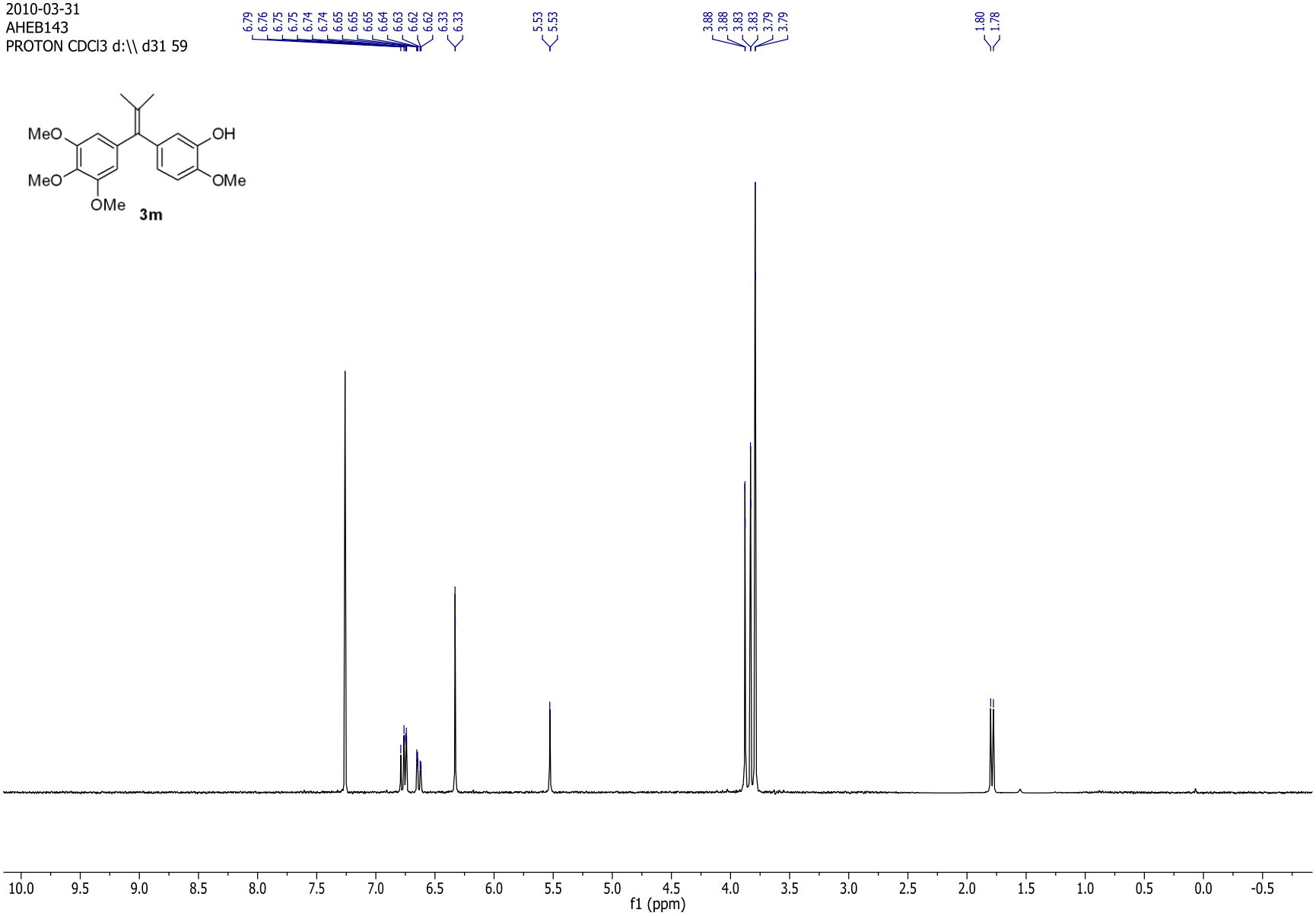

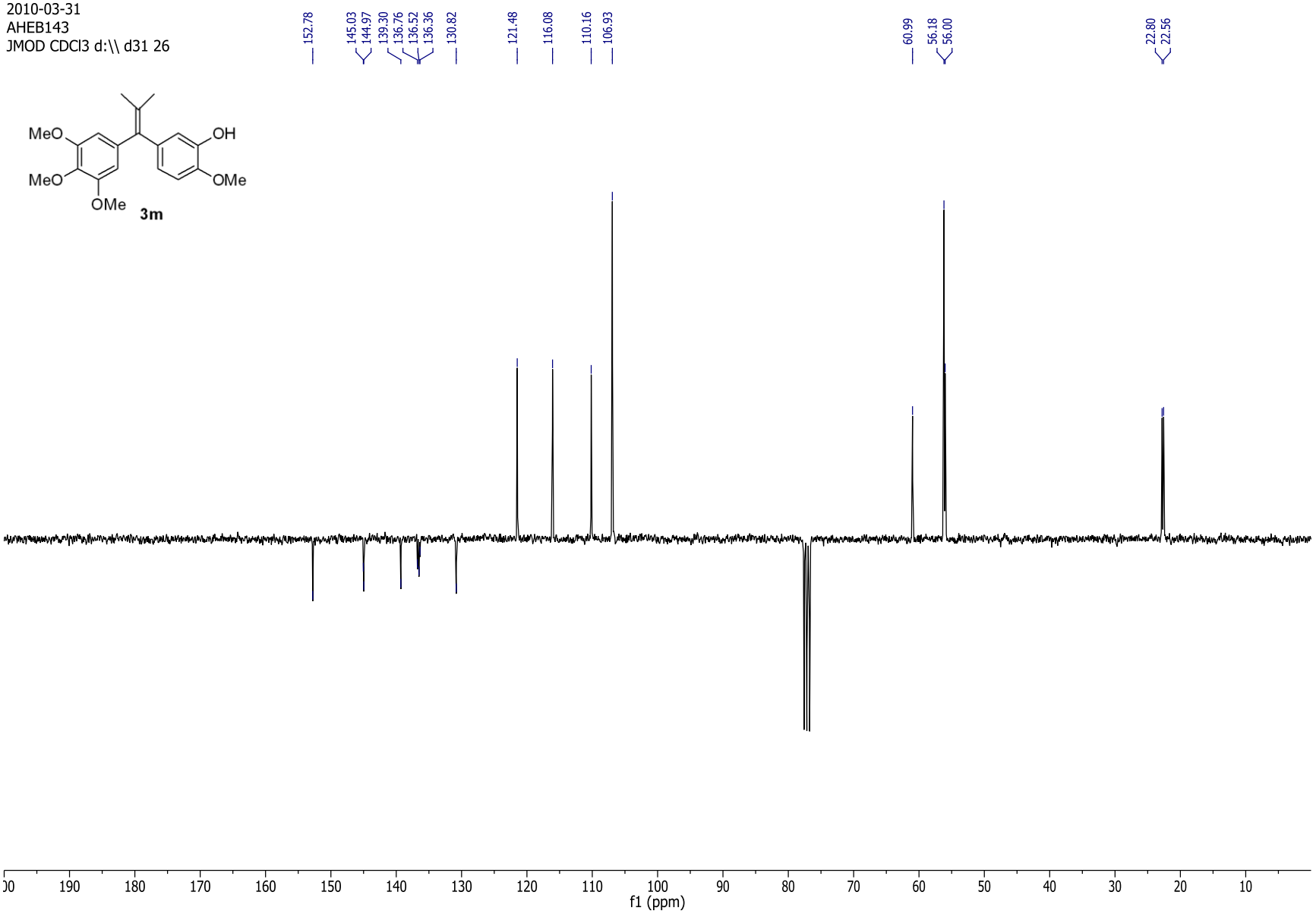

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AH EB 139
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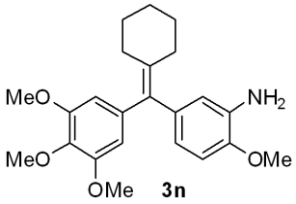


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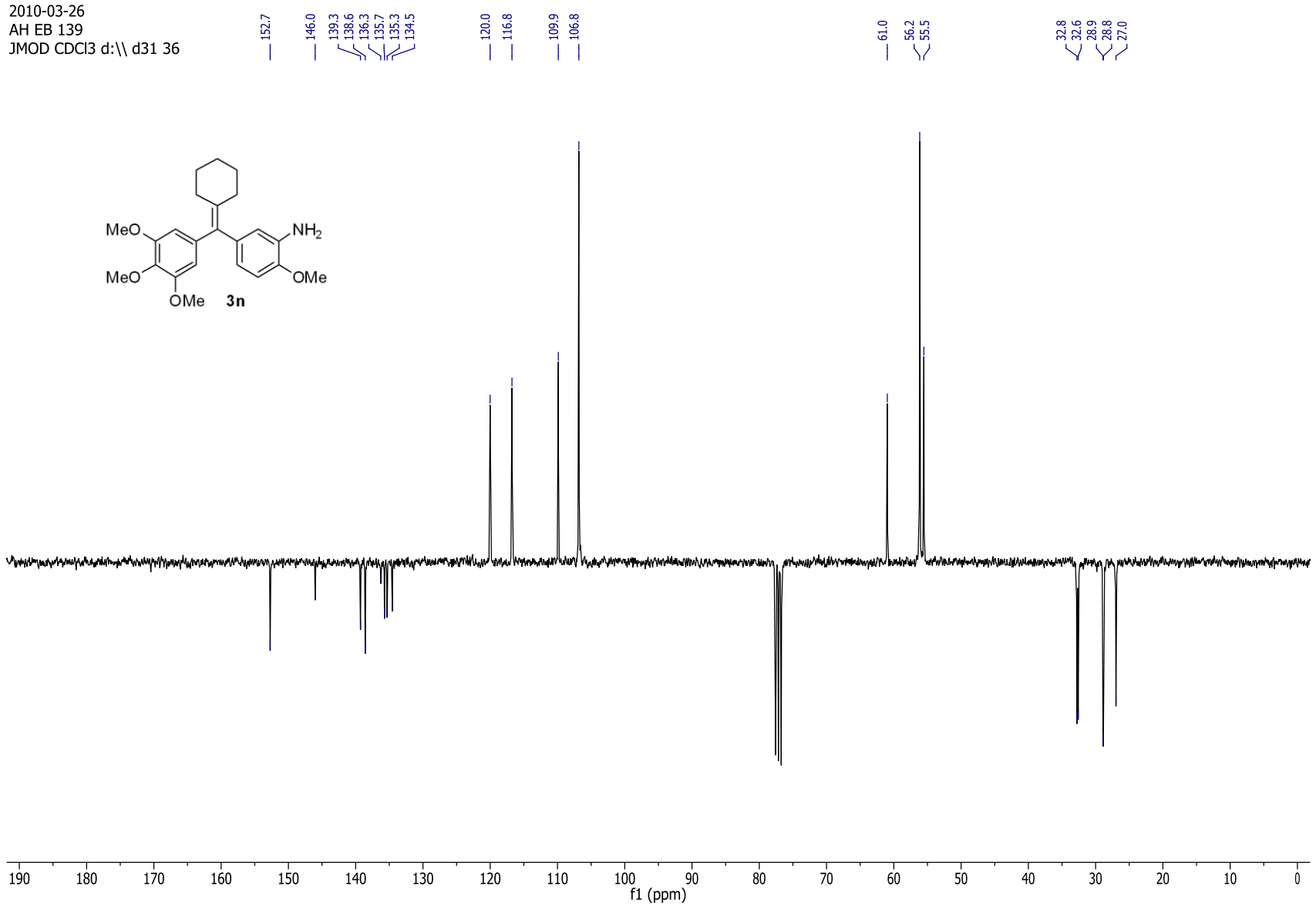

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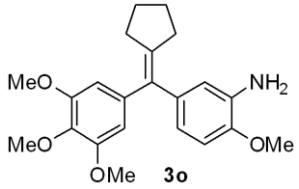


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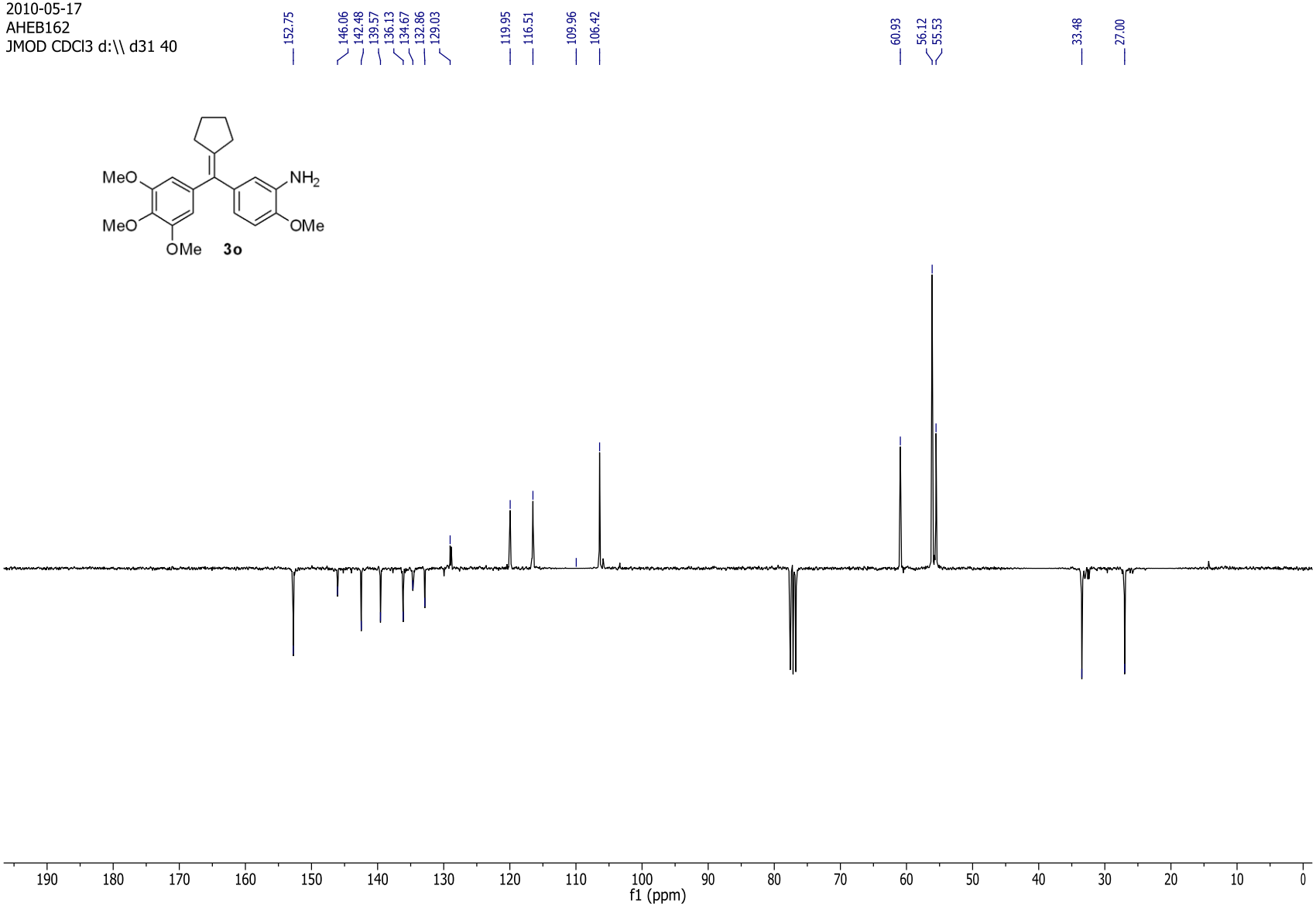

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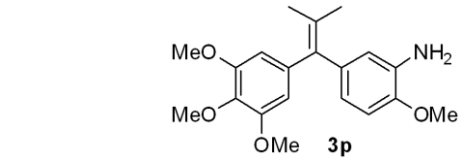


**3p**