

*Supplementary Material for:*

**Chemoenzymatic Syntheses of Some Analogues of the Tricarboyclic Core of the  
Anti-bacterial Agent Platencin and the Biological Evaluation of Certain of Their  
N-Arylpropionamide Derivatives**

Rehmani N. Muhammad,<sup>a</sup> Ee Ling Chang,<sup>a</sup> Alistair G. Draffan,<sup>b</sup> Anthony C. Willis,<sup>a</sup>  
Paul D. Carr<sup>a</sup> and Martin G. Banwell<sup>a,\*</sup>

<sup>a</sup>Research School of Chemistry, Institute of Advanced Studies,  
The Australian National University, Canberra, ACT 2601

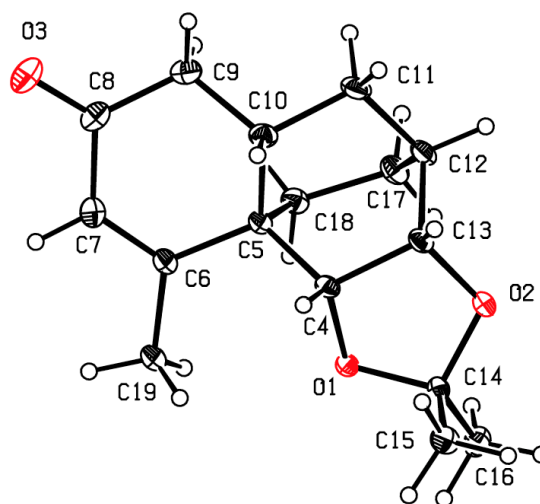
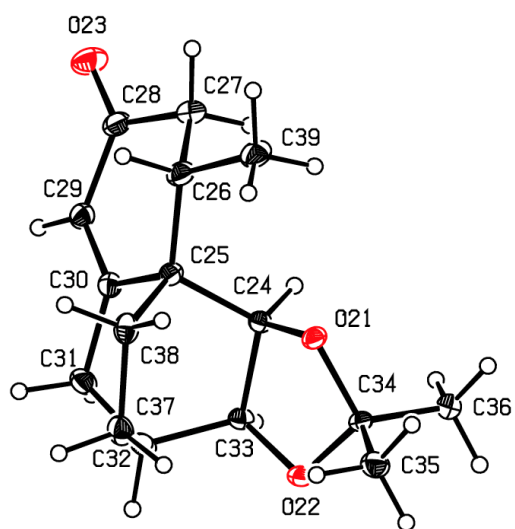
and

<sup>b</sup>Biota Scientific Management Pty Ltd, Melbourne, VIC 3168

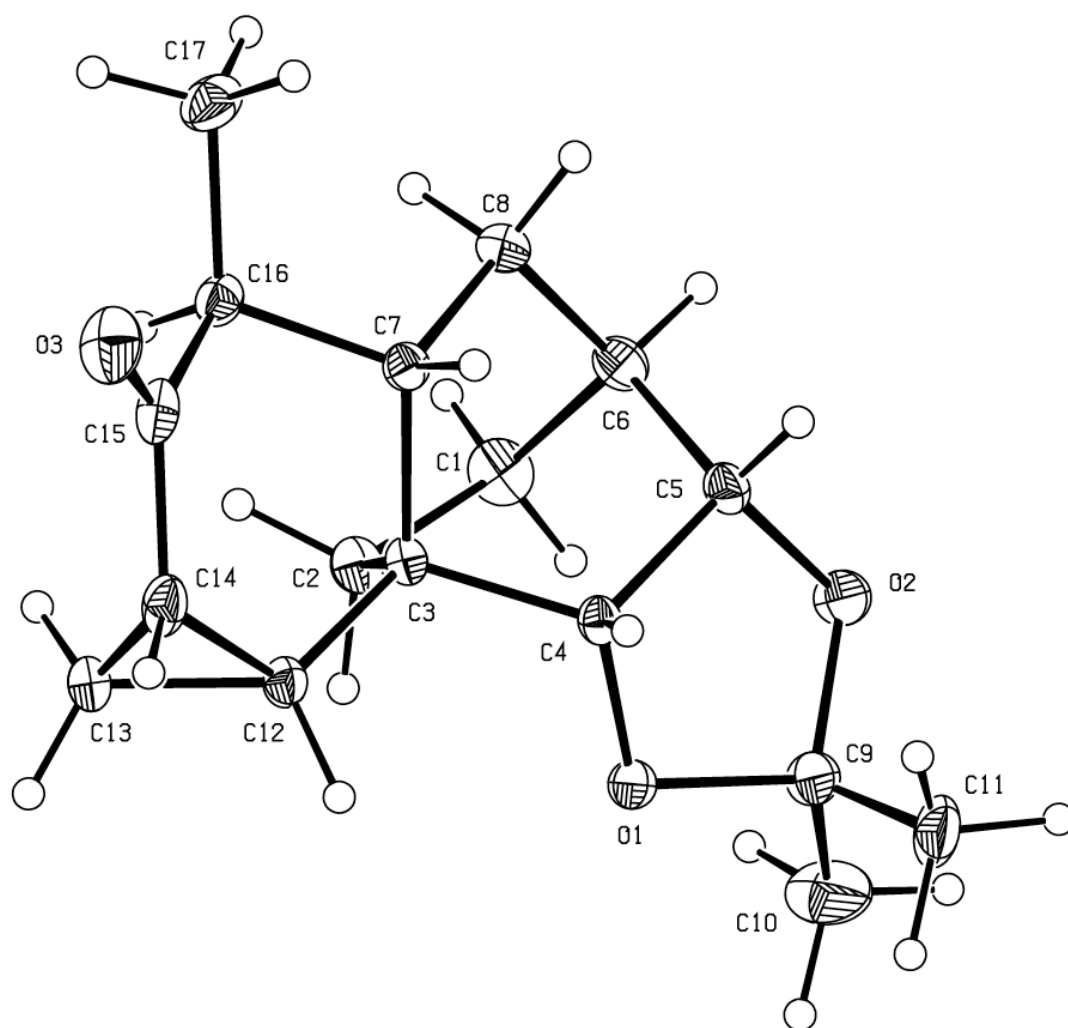
\*Corresponding author. Email: [Martin.Banwell@anu.edu.au](mailto:Martin.Banwell@anu.edu.au)

## CONTENTS PAGE

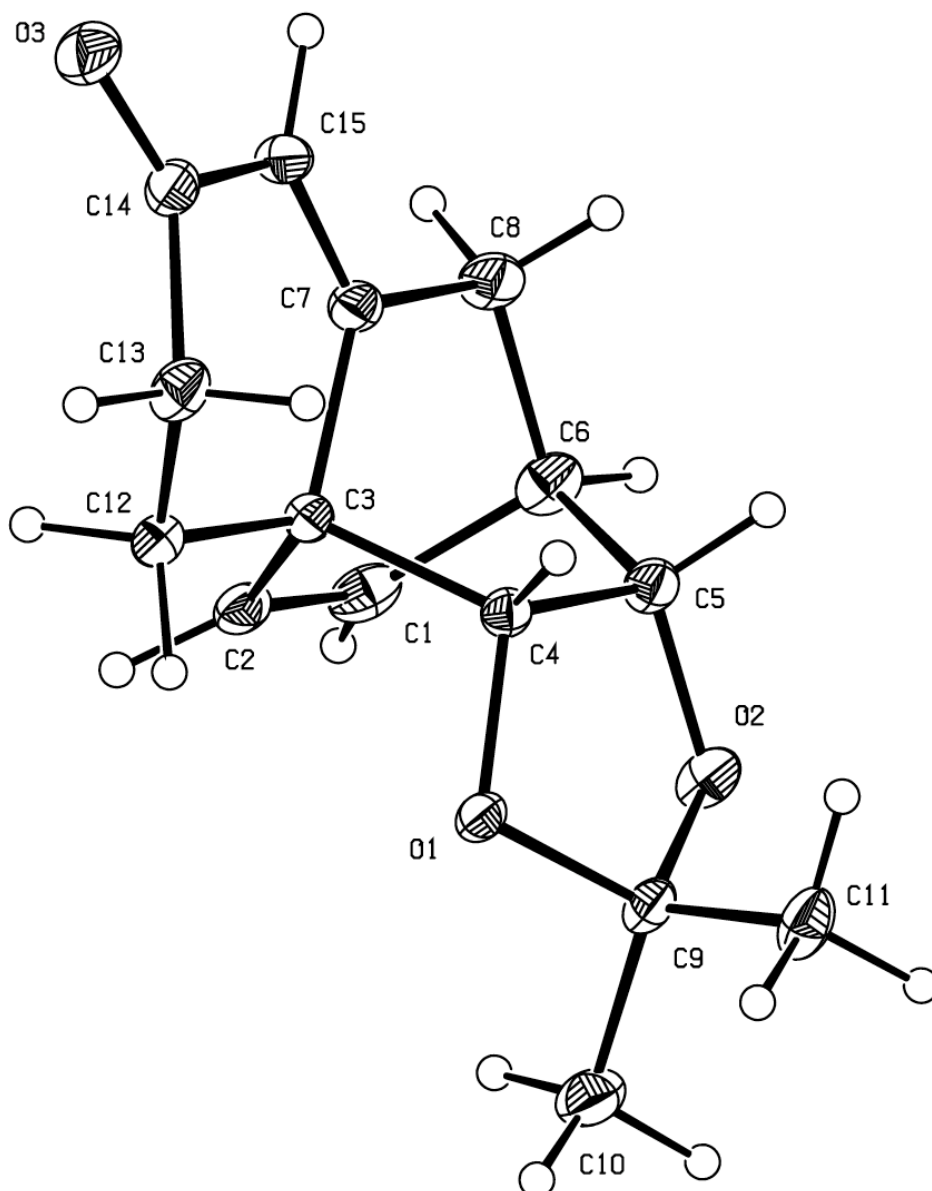
Figure S1: Anisotropic Displacement Ellipsoid Plot from the Single-crystal X-ray Analysis of the Admixture of Compounds Compound <b>15</b> and <b>32</b>	S3
Figure S2: Anisotropic Displacement Ellipsoid Plot from the Single-crystal X-ray Analysis of Compound <b>28</b>	S4
Figure S3: Anisotropic Displacement Ellipsoid Plot from the Single-crystal X-ray Analysis of Compound <b>34</b>	S5
Figure S4: Anisotropic Displacement Ellipsoid Plot from the Single-crystal X-ray Analysis of Compound <b>35</b>	S6
Figure S5: Anisotropic Displacement Ellipsoid Plot from the Single-crystal X-ray Analysis of Compound <b>37</b>	S7
$^1\text{H}$ and/or $^{13}\text{C}$ NMR spectra of compounds <b>14-20, 25-40, 43-59, 61</b> and <b>64</b>	S8



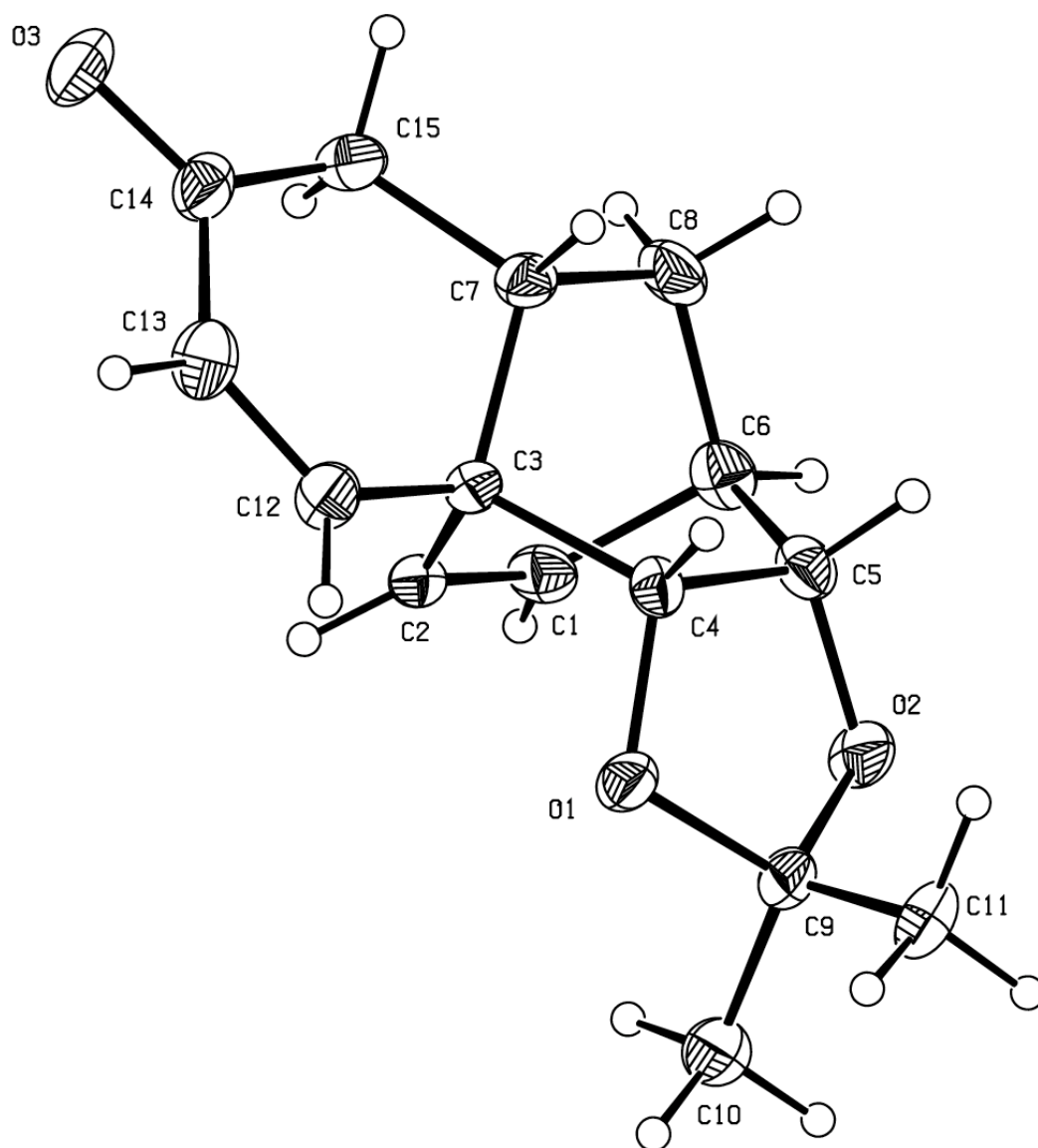
**Figure S1:** Structures of compounds **15** and **32** (CCDC 1832710). Anisotropic displacement ellipsoids show 30% probability levels. Hydrogen atoms are drawn as circles with small radii.



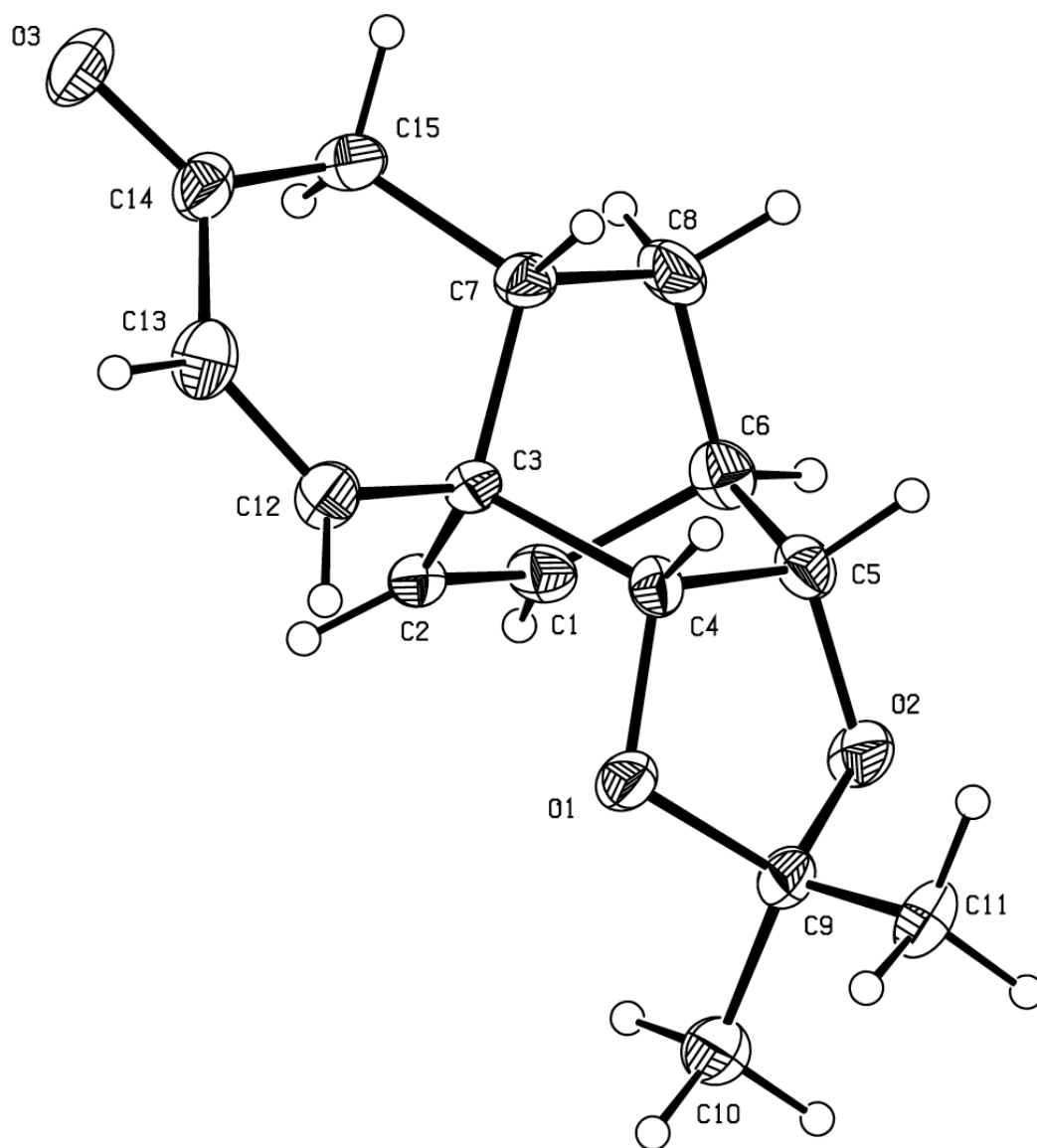
**Figure S2:** Structure of compound **28** (CCDC 1827734). Anisotropic displacement ellipsoids show 30% probability levels. Hydrogen atoms are drawn as circles with small radii.



**Figure S3:** Structure of compound **34** (CCDC 1827735) and associated water molecules. Anisotropic displacement ellipsoids show 30% probability levels. Hydrogen atoms are drawn as circles with small radii.

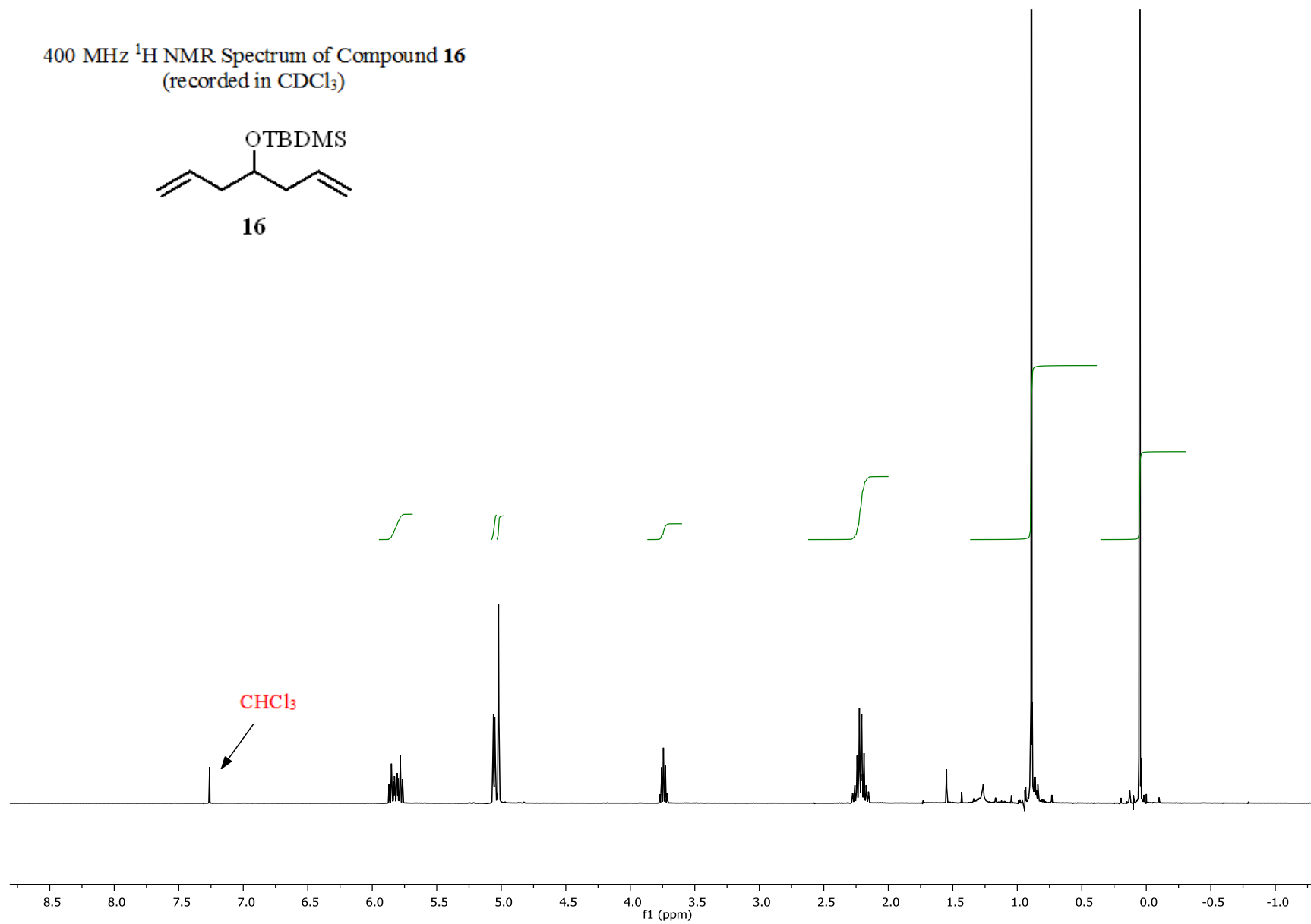
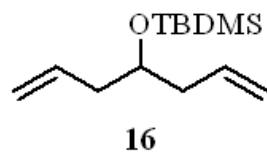


**Figure S4:** Structure of compound **35** (CCDC 1827736). Anisotropic displacement ellipsoids show 30% probability levels. Hydrogen atoms are drawn as circles with small radii.

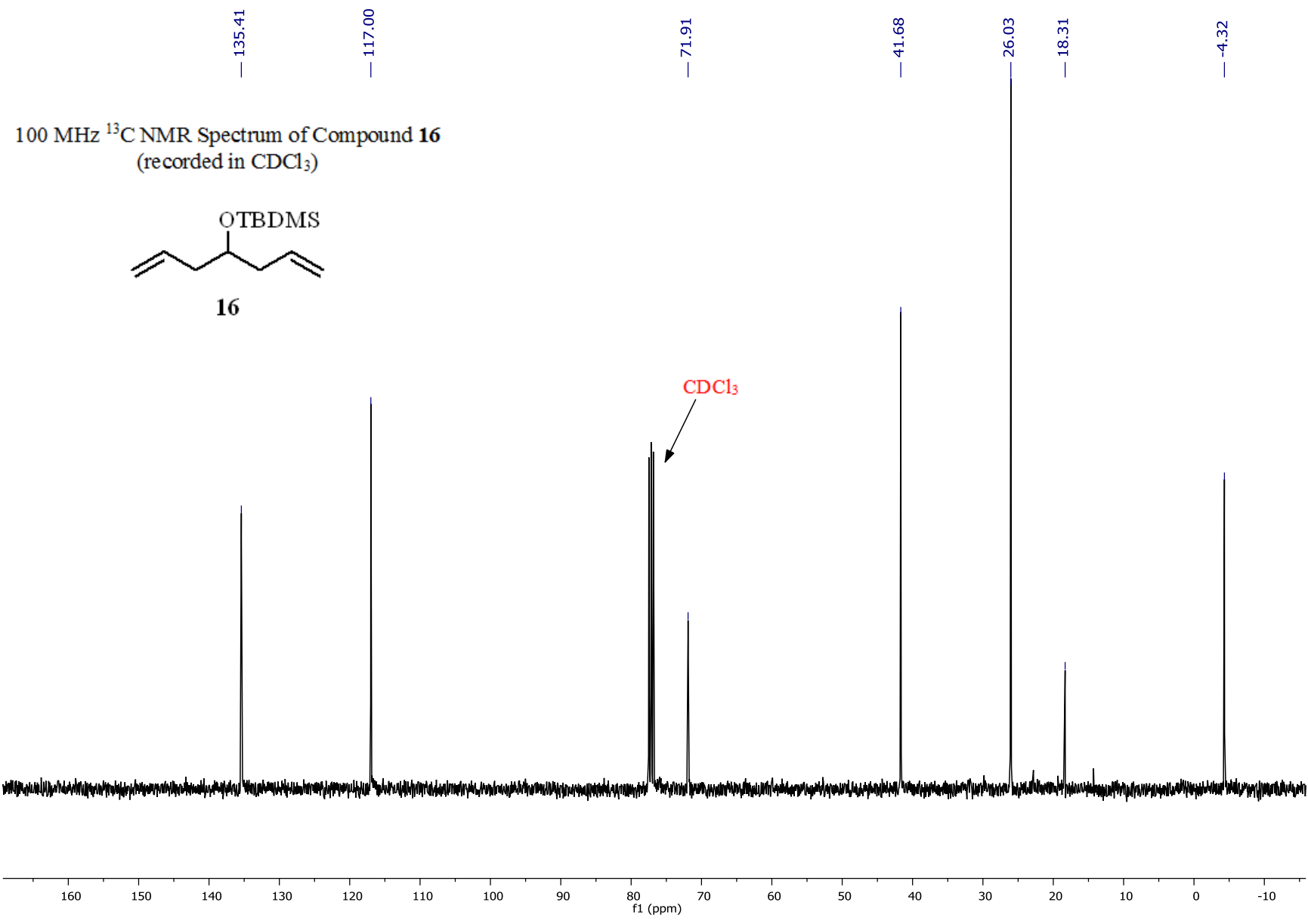


**Figure S5:** Structure of compound **37** (CCDC 1827737). Anisotropic displacement ellipsoids show 30% probability levels. Hydrogen atoms are drawn as circles with small radii.

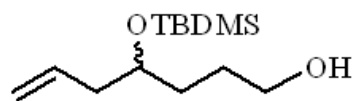
400 MHz  $^1\text{H}$  NMR Spectrum of Compound **16**  
(recorded in  $\text{CDCl}_3$ )



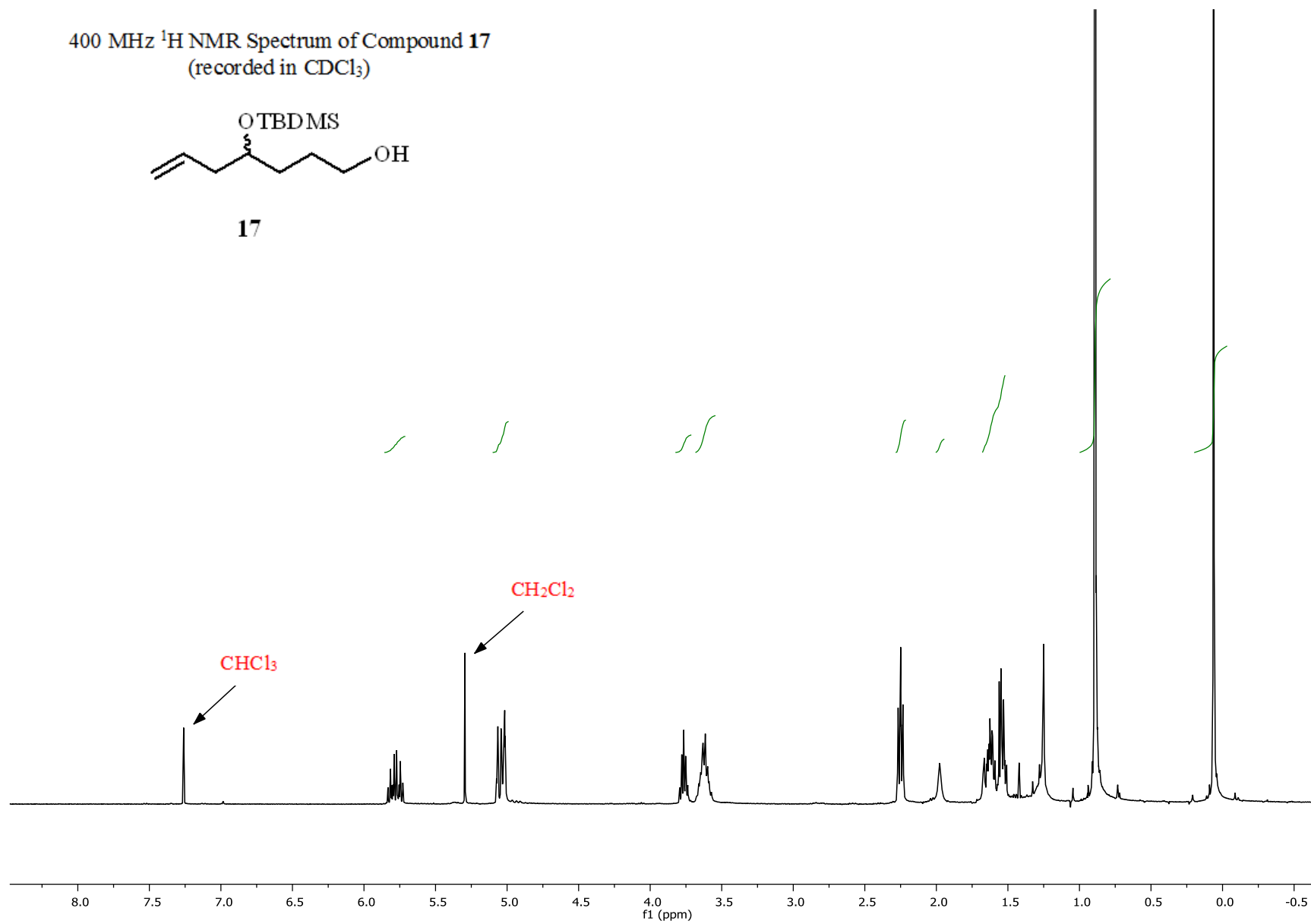




400 MHz  $^1\text{H}$  NMR Spectrum of Compound 17  
(recorded in  $\text{CDCl}_3$ )

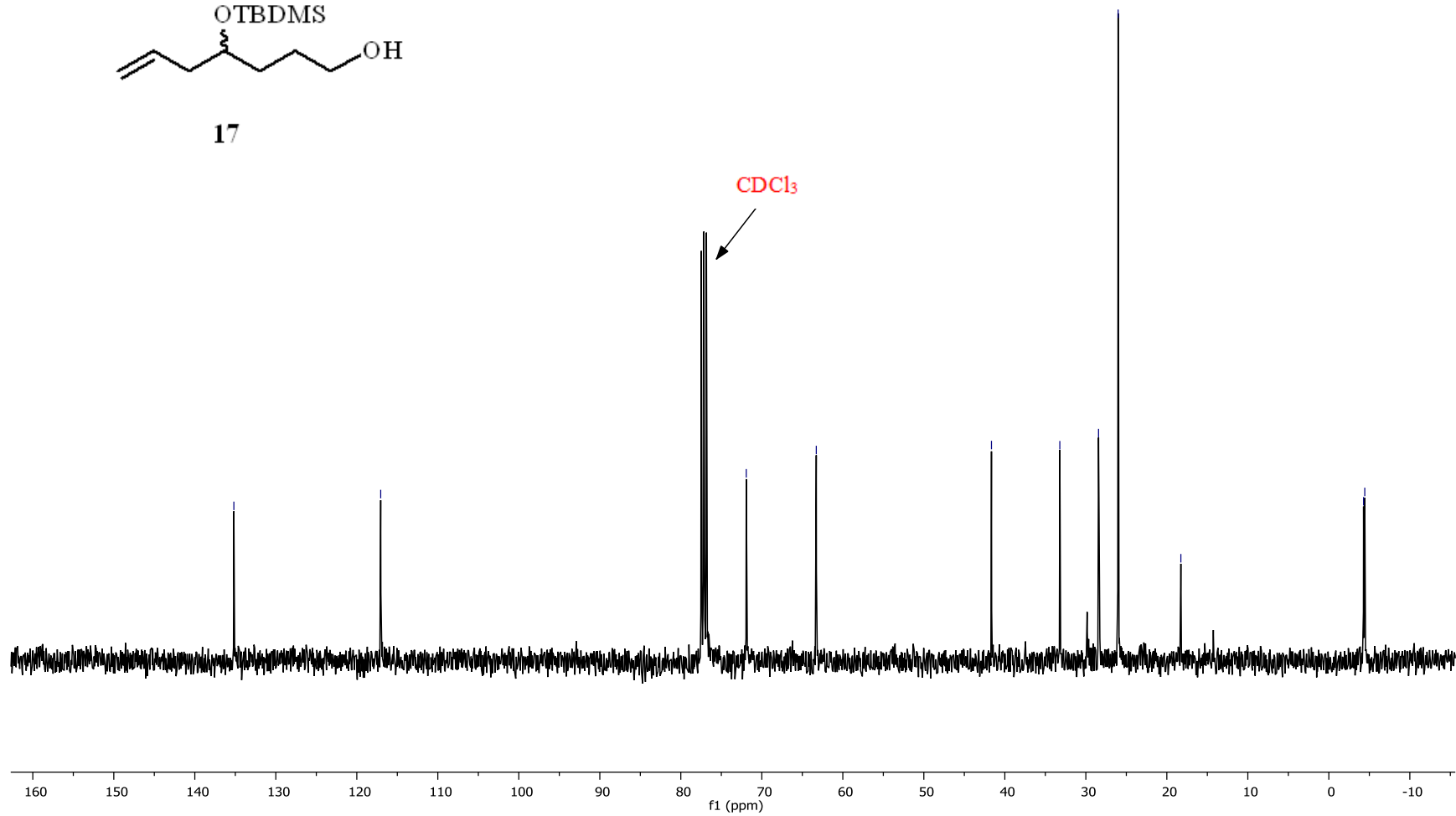
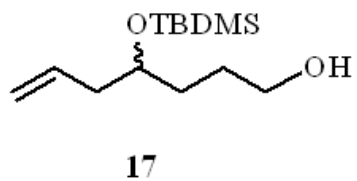


17

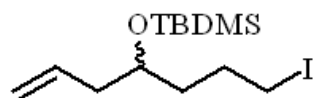


135.18      117.05      71.92      63.28      41.65      33.21  
28.43      26.01      18.27      -4.29  
-4.44

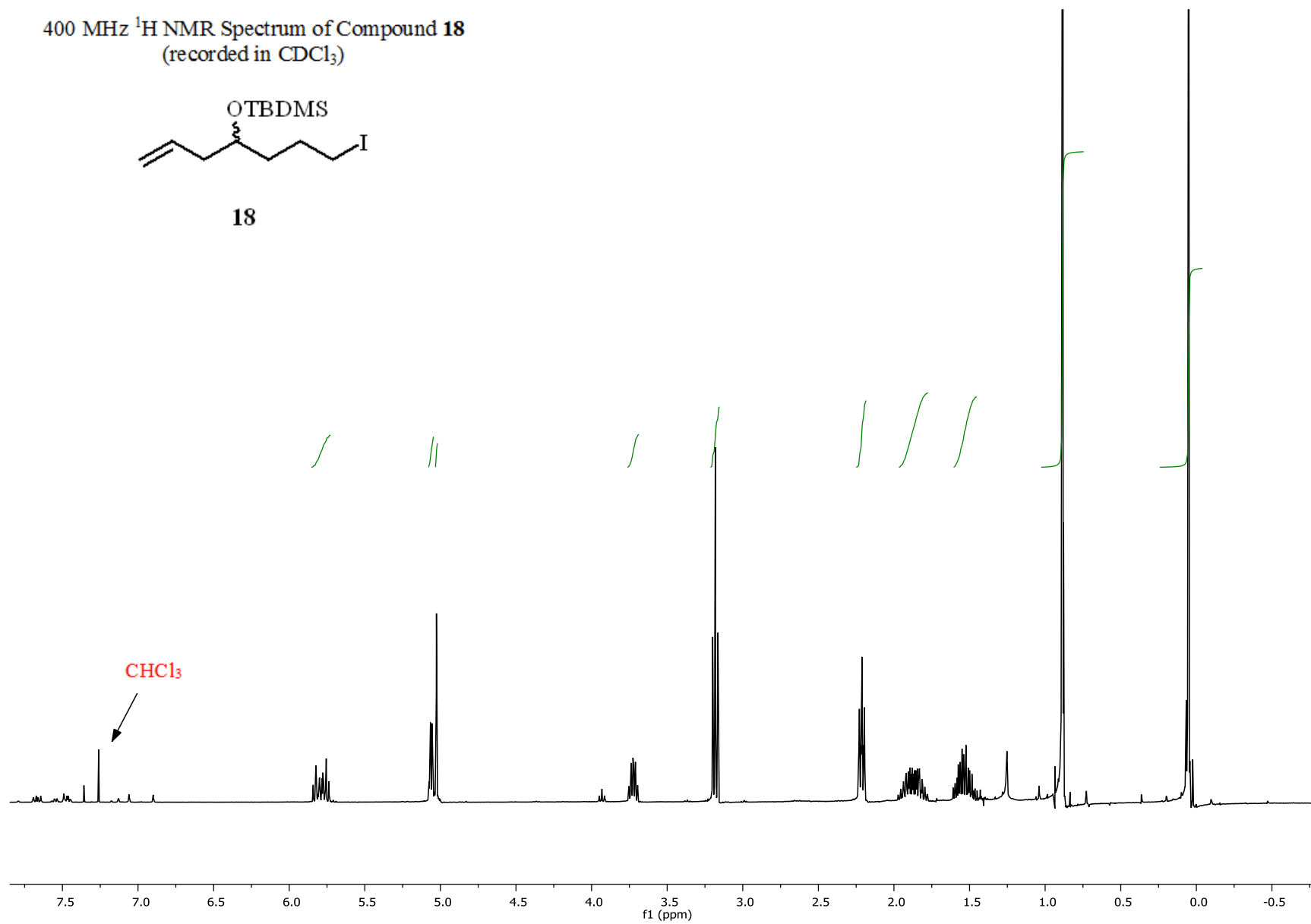
101 MHz  $^{13}\text{C}$  NMR Spectrum of Compound **17**  
(recorded in  $\text{CDCl}_3$ )



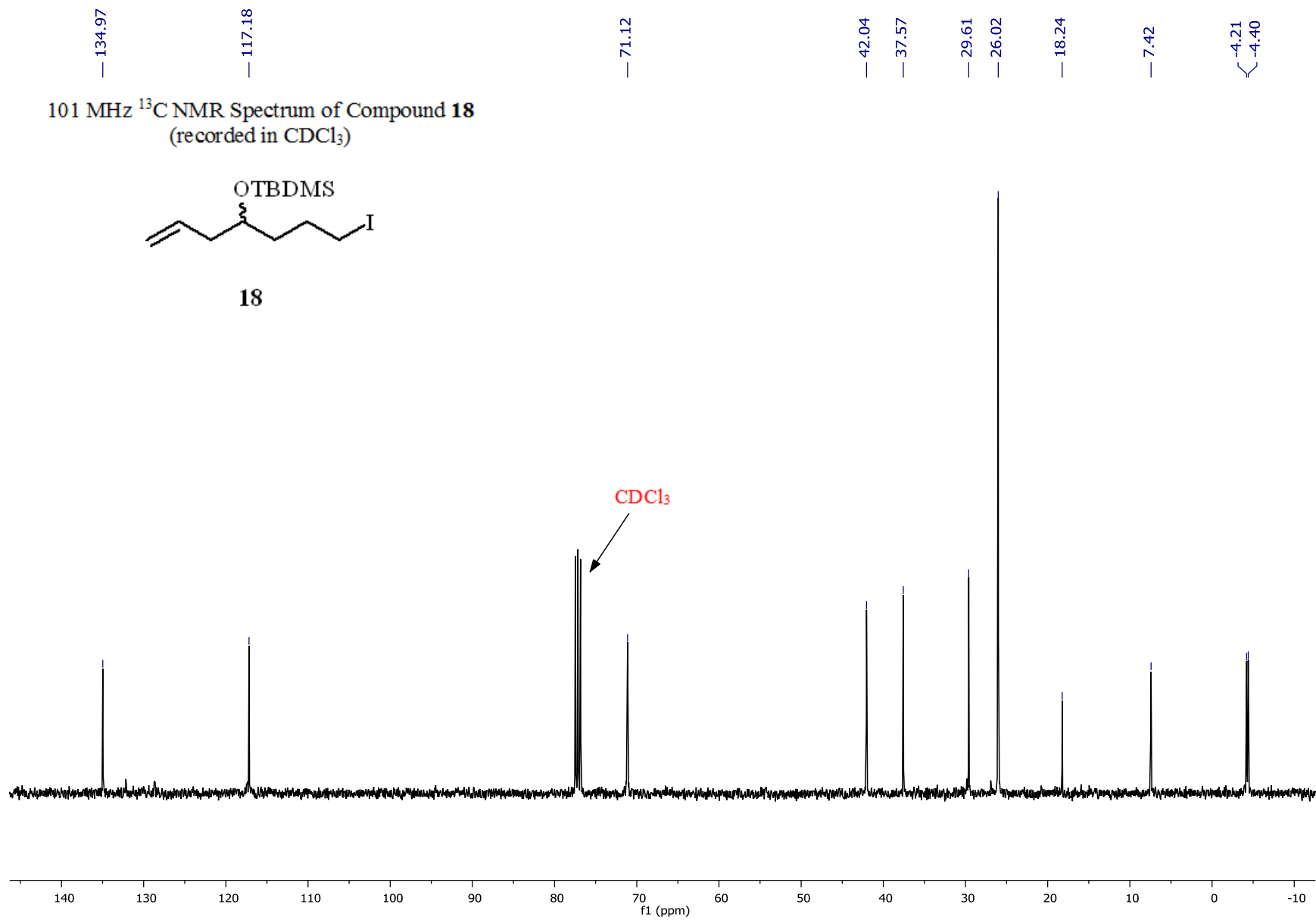
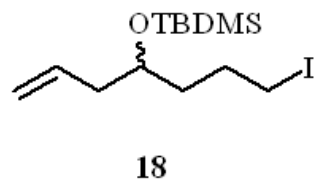
400 MHz  $^1\text{H}$  NMR Spectrum of Compound **18**  
(recorded in  $\text{CDCl}_3$ )



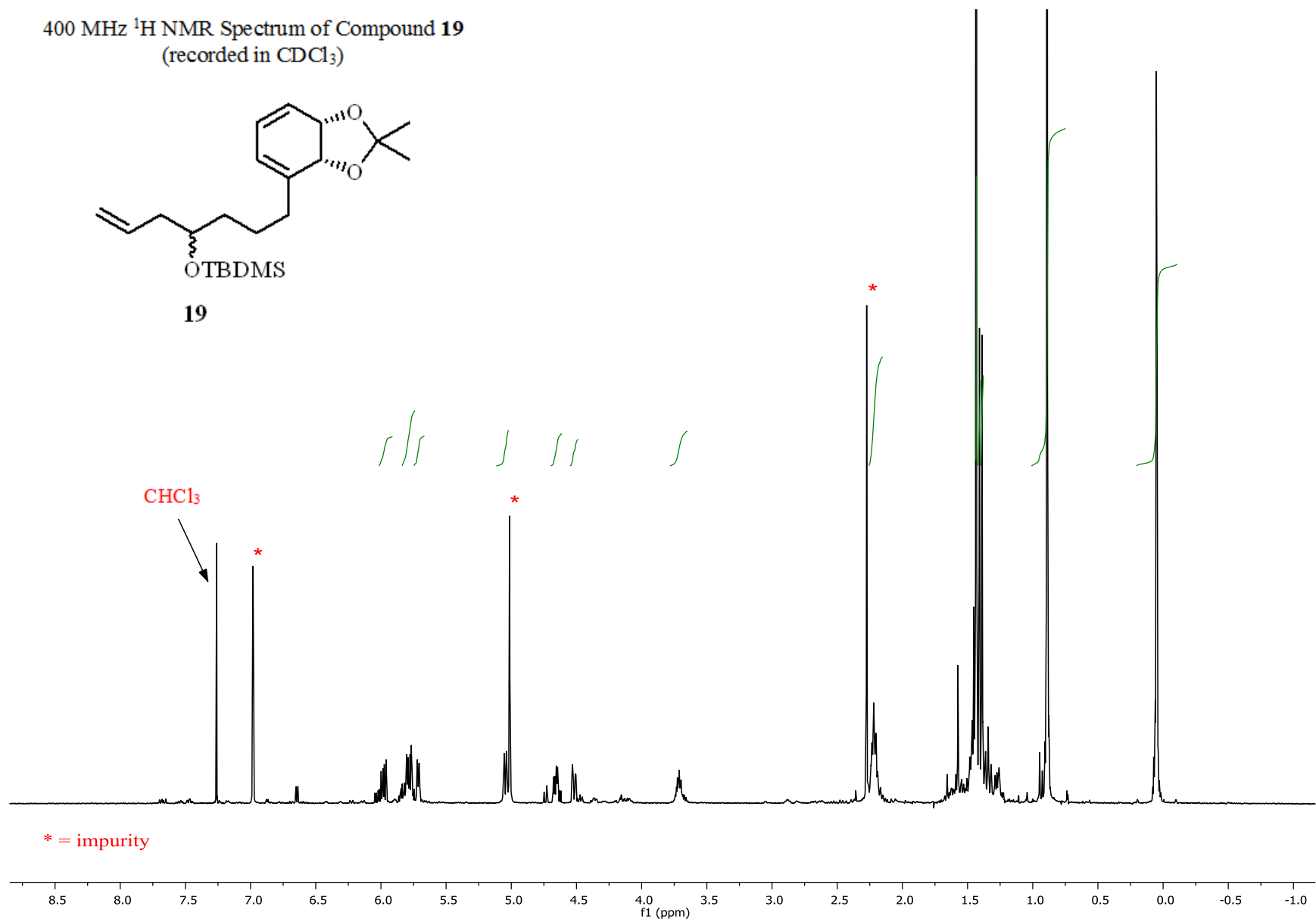
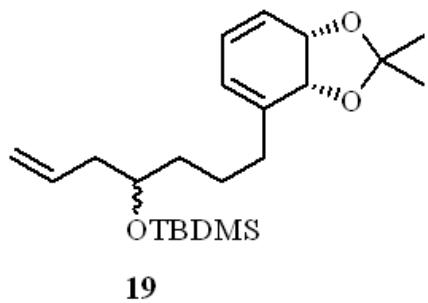
**18**



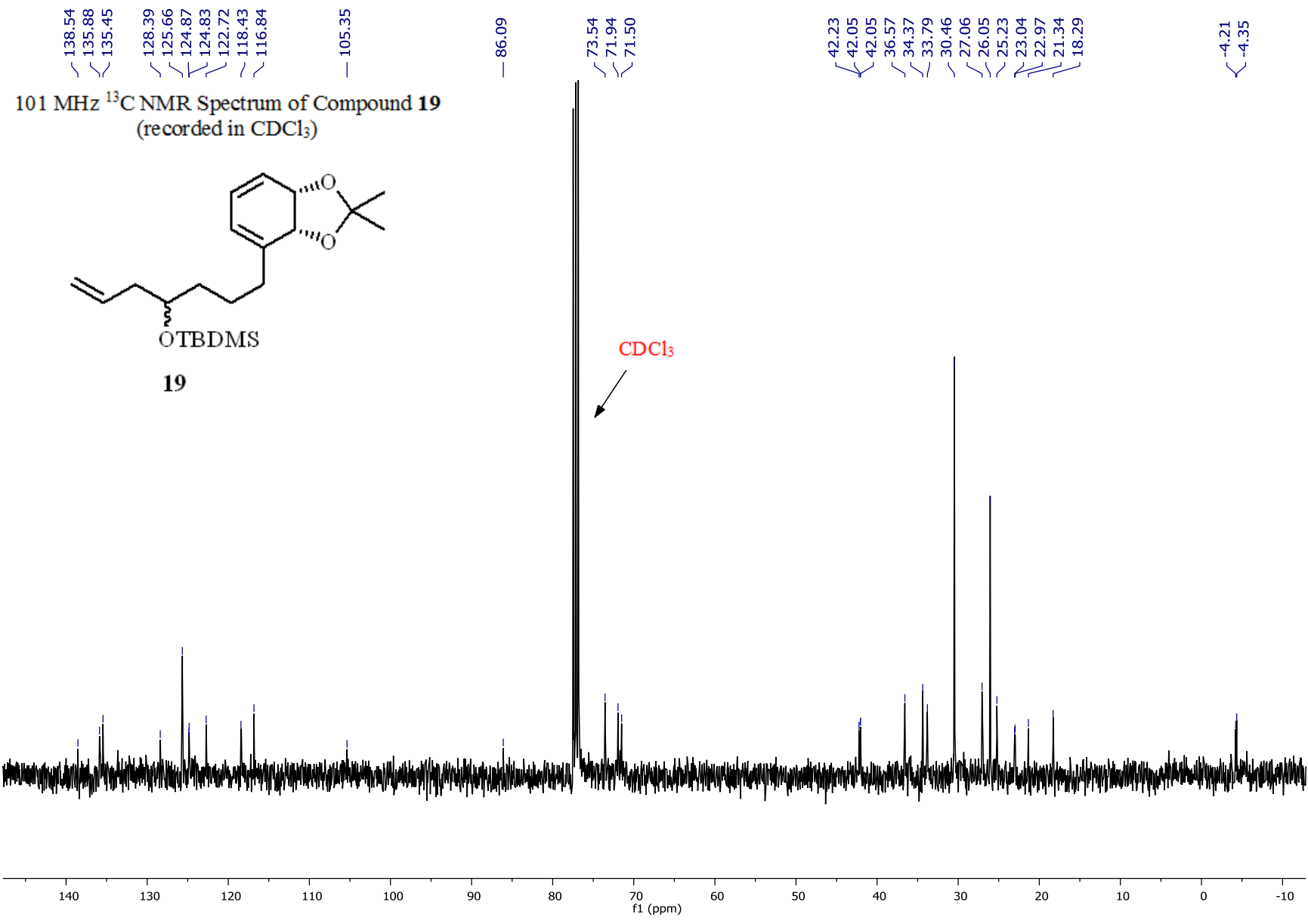
101 MHz  $^{13}\text{C}$  NMR Spectrum of Compound **18**  
(recorded in  $\text{CDCl}_3$ )

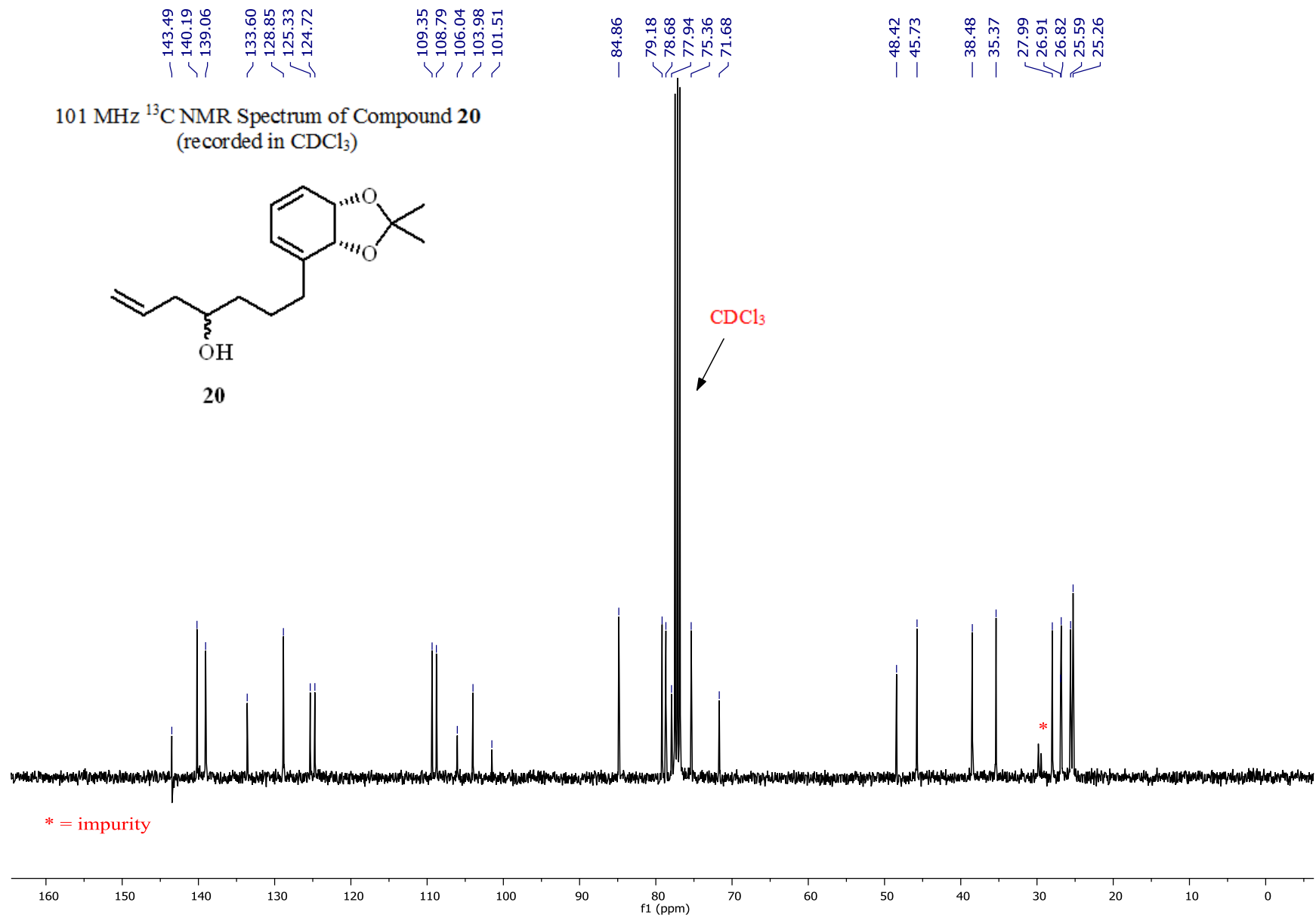


400 MHz  $^1\text{H}$  NMR Spectrum of Compound **19**  
(recorded in  $\text{CDCl}_3$ )



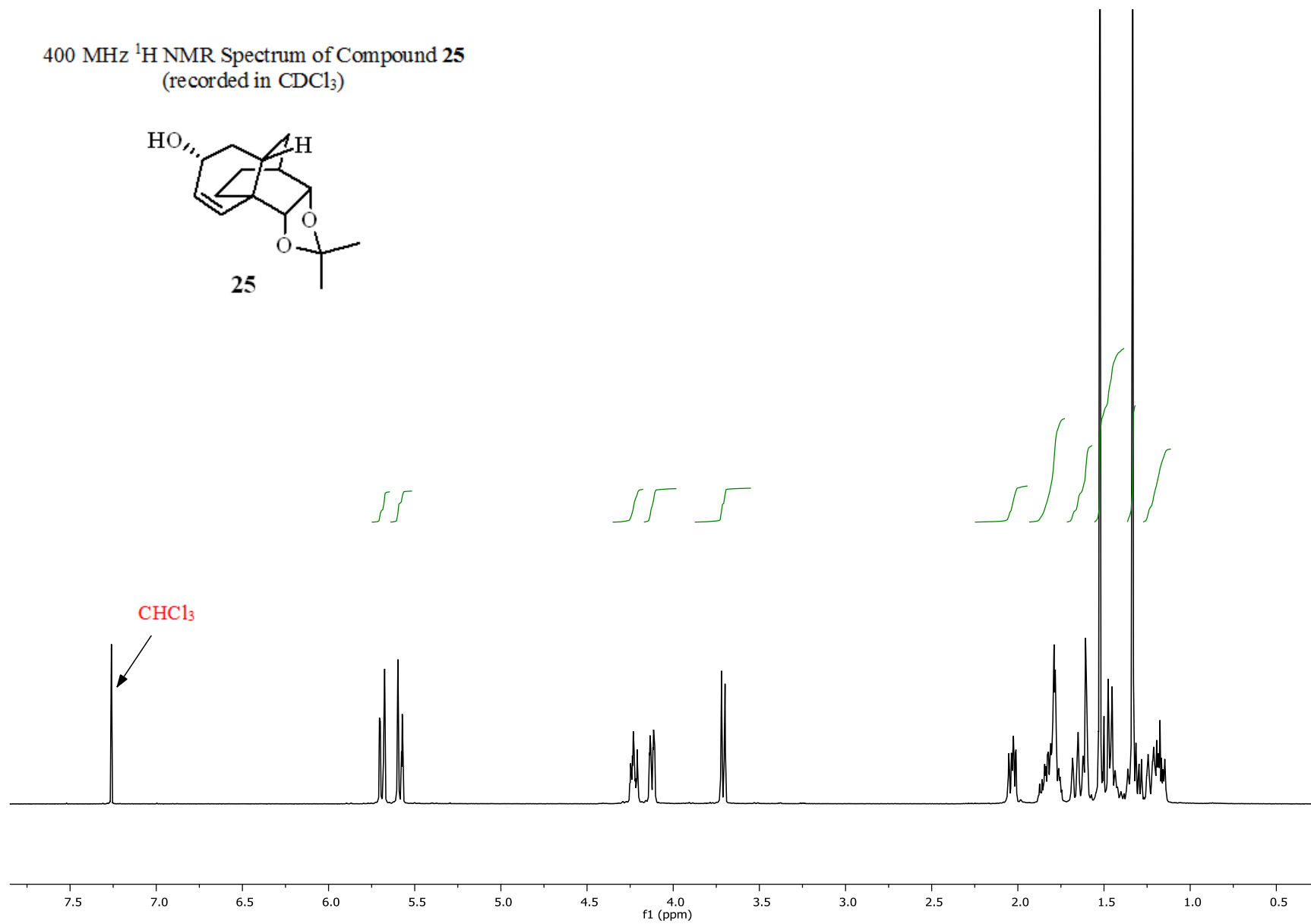
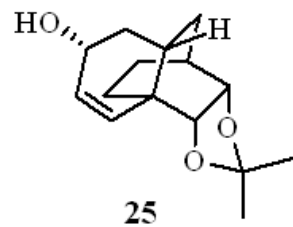
\* = impurity

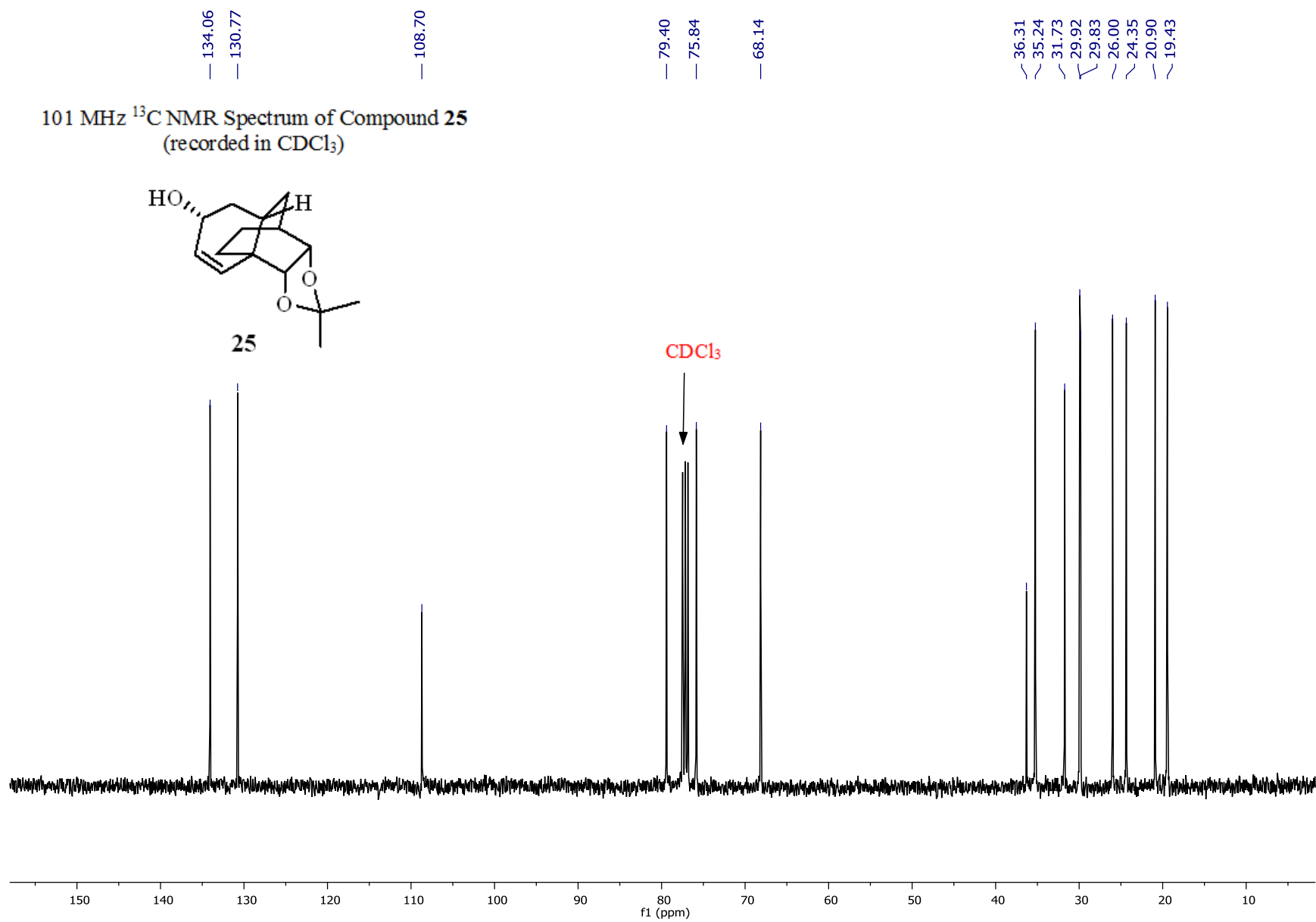




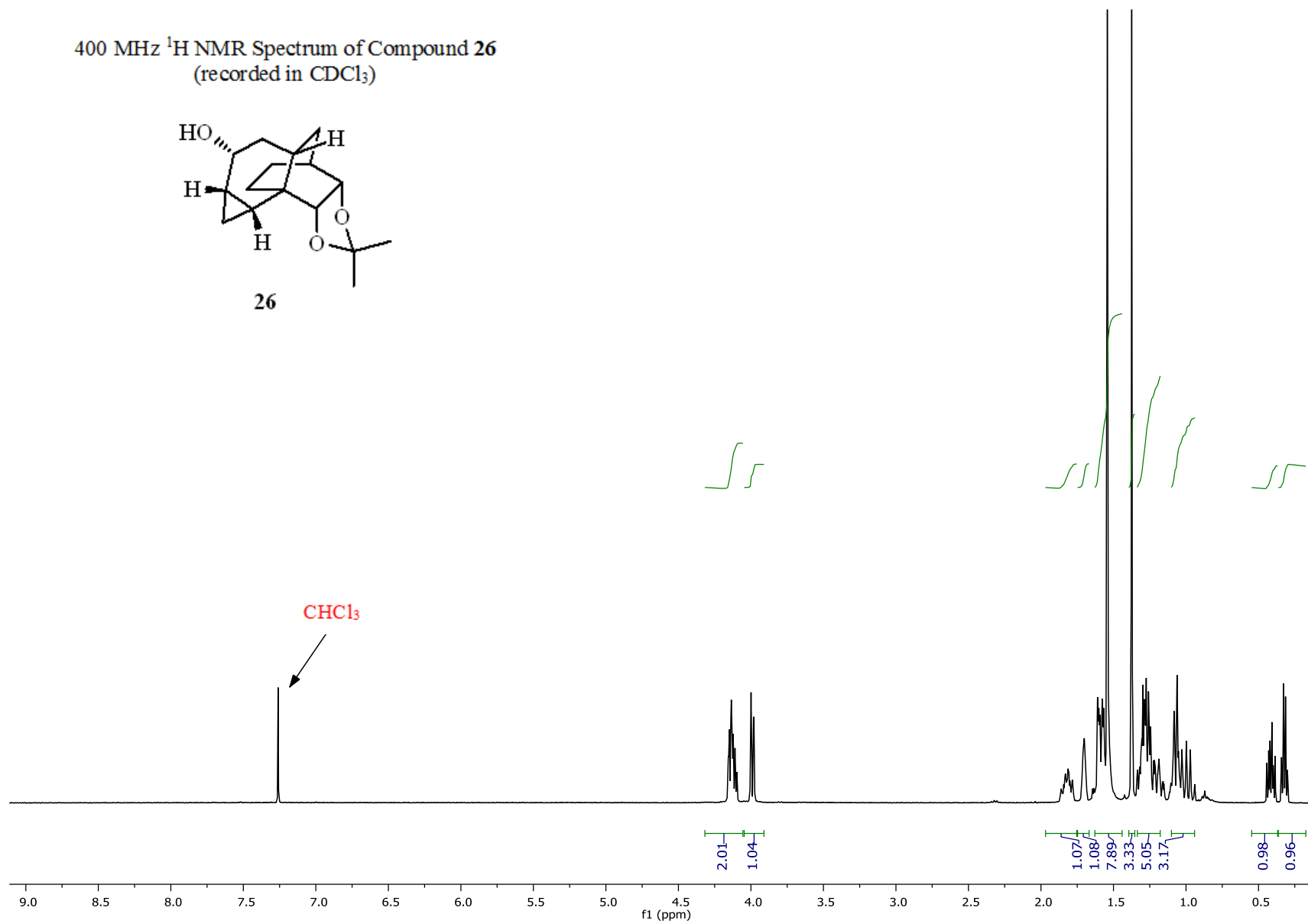
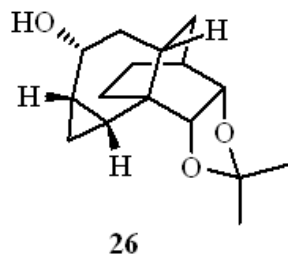


400 MHz  $^1\text{H}$  NMR Spectrum of Compound **25**  
(recorded in  $\text{CDCl}_3$ )

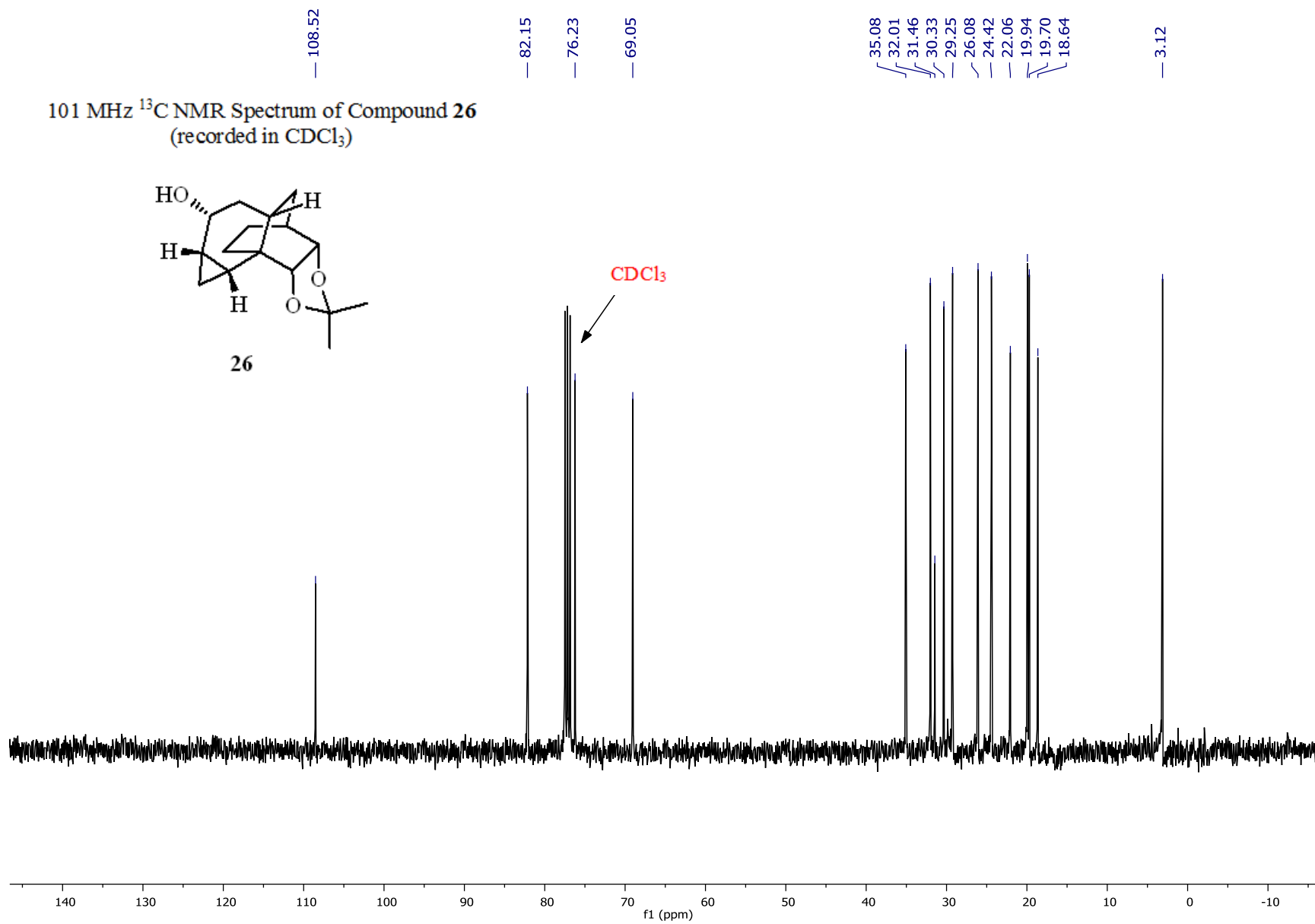
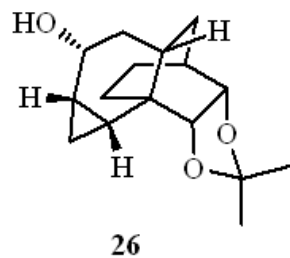




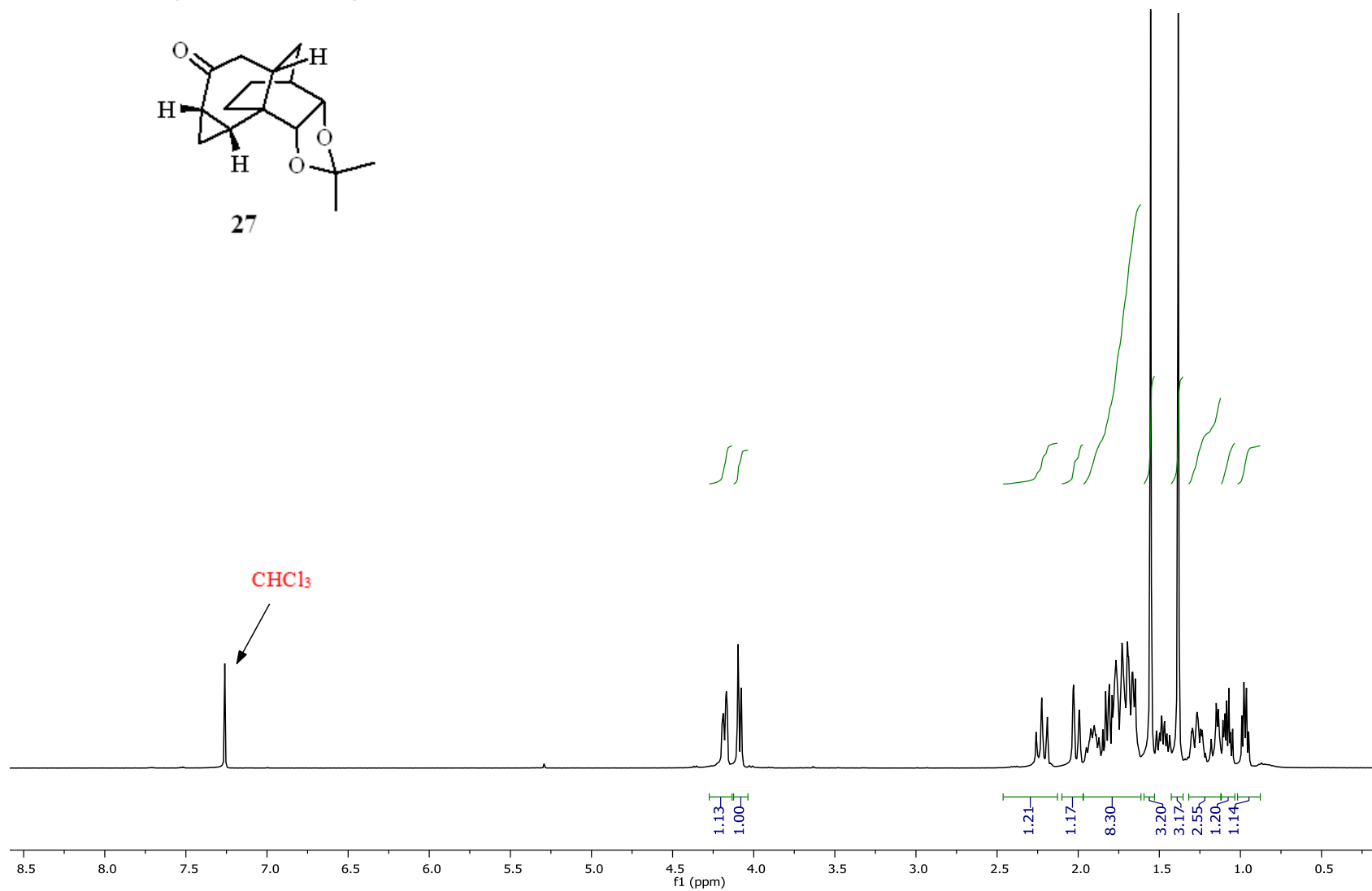
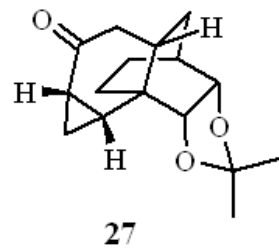
400 MHz  $^1\text{H}$  NMR Spectrum of Compound **26**  
(recorded in  $\text{CDCl}_3$ )

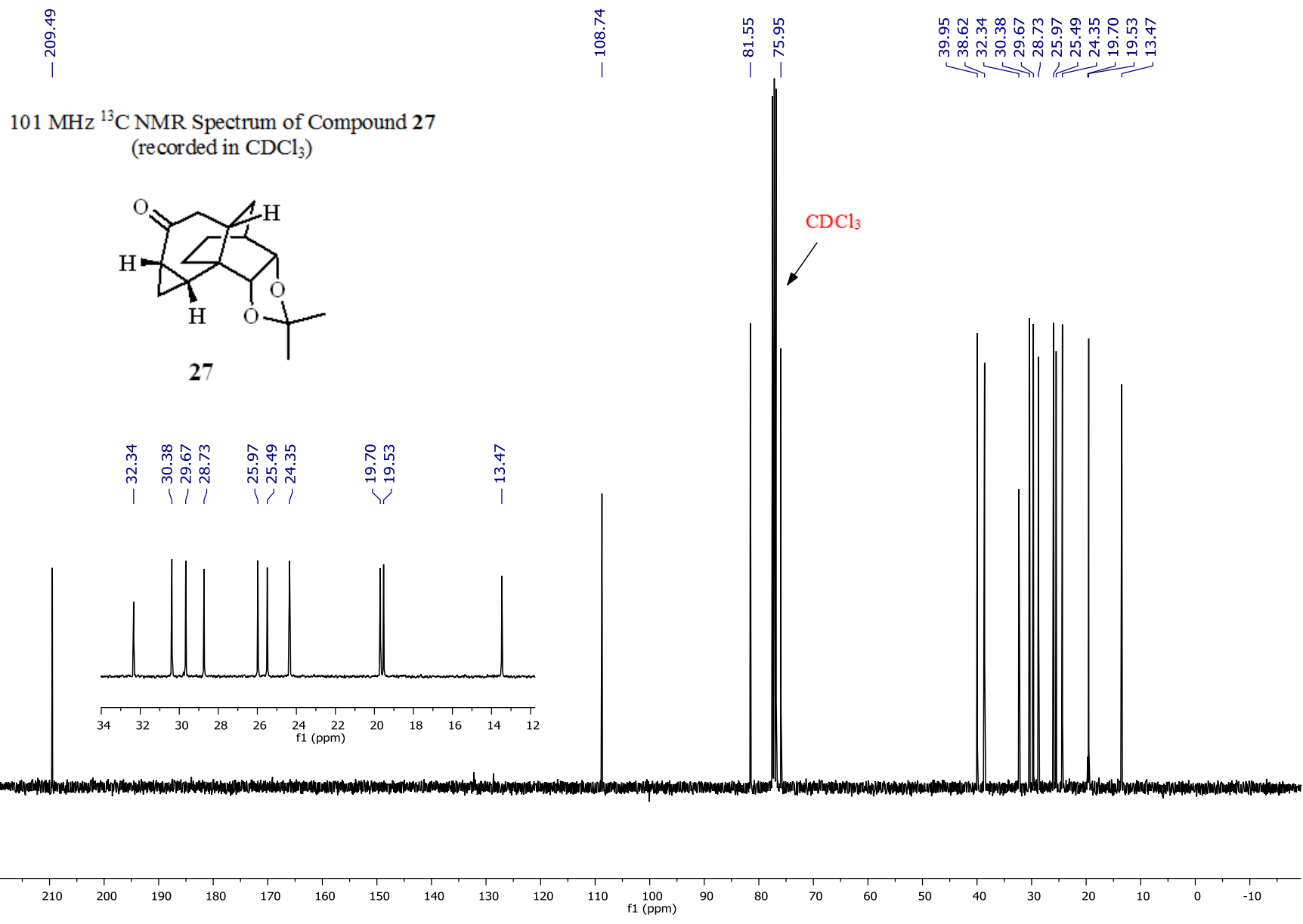


101 MHz  $^{13}\text{C}$  NMR Spectrum of Compound **26**  
(recorded in  $\text{CDCl}_3$ )

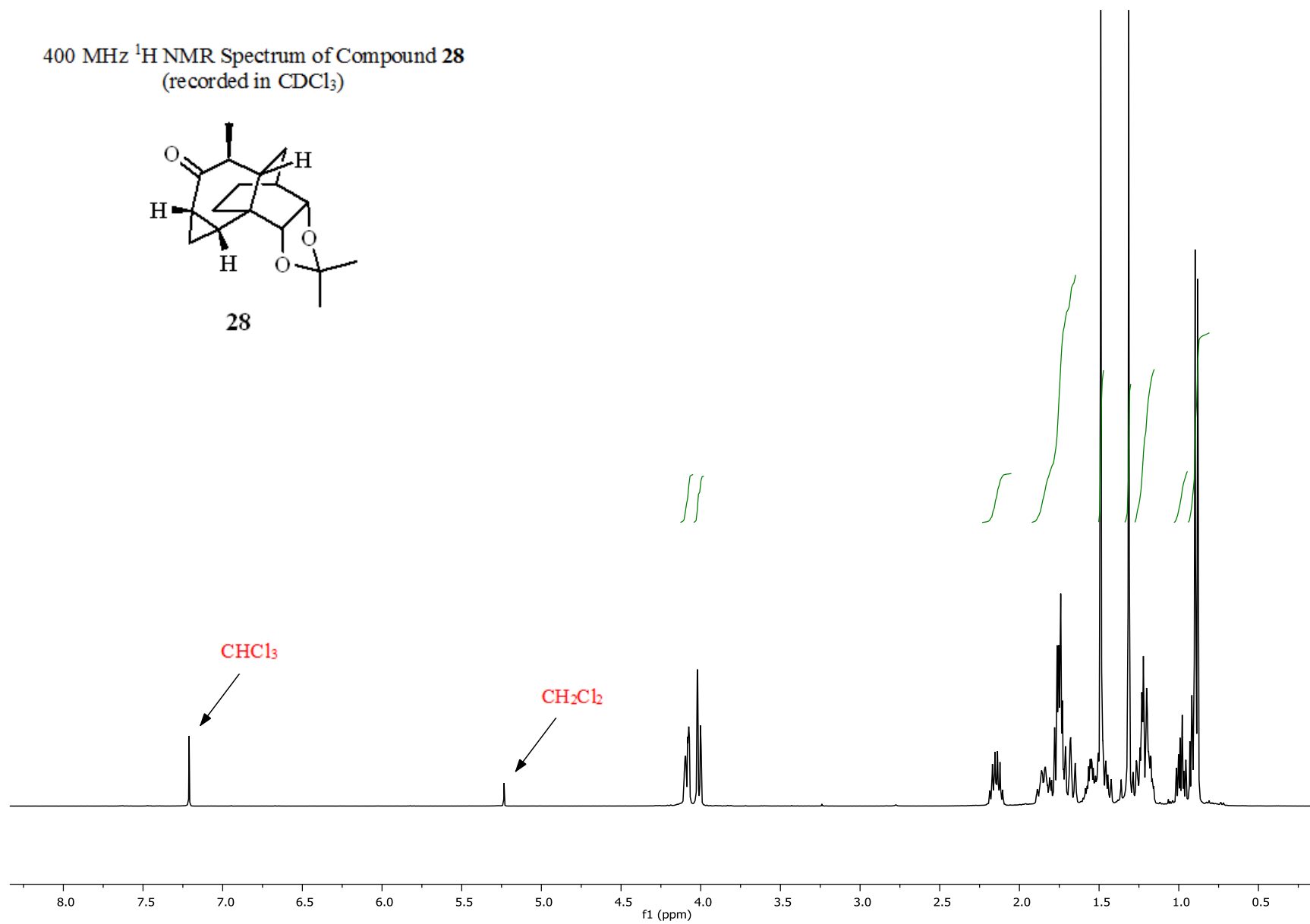
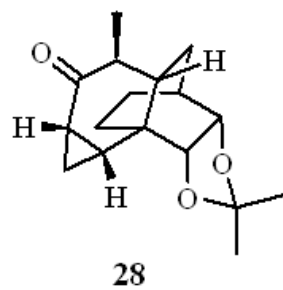


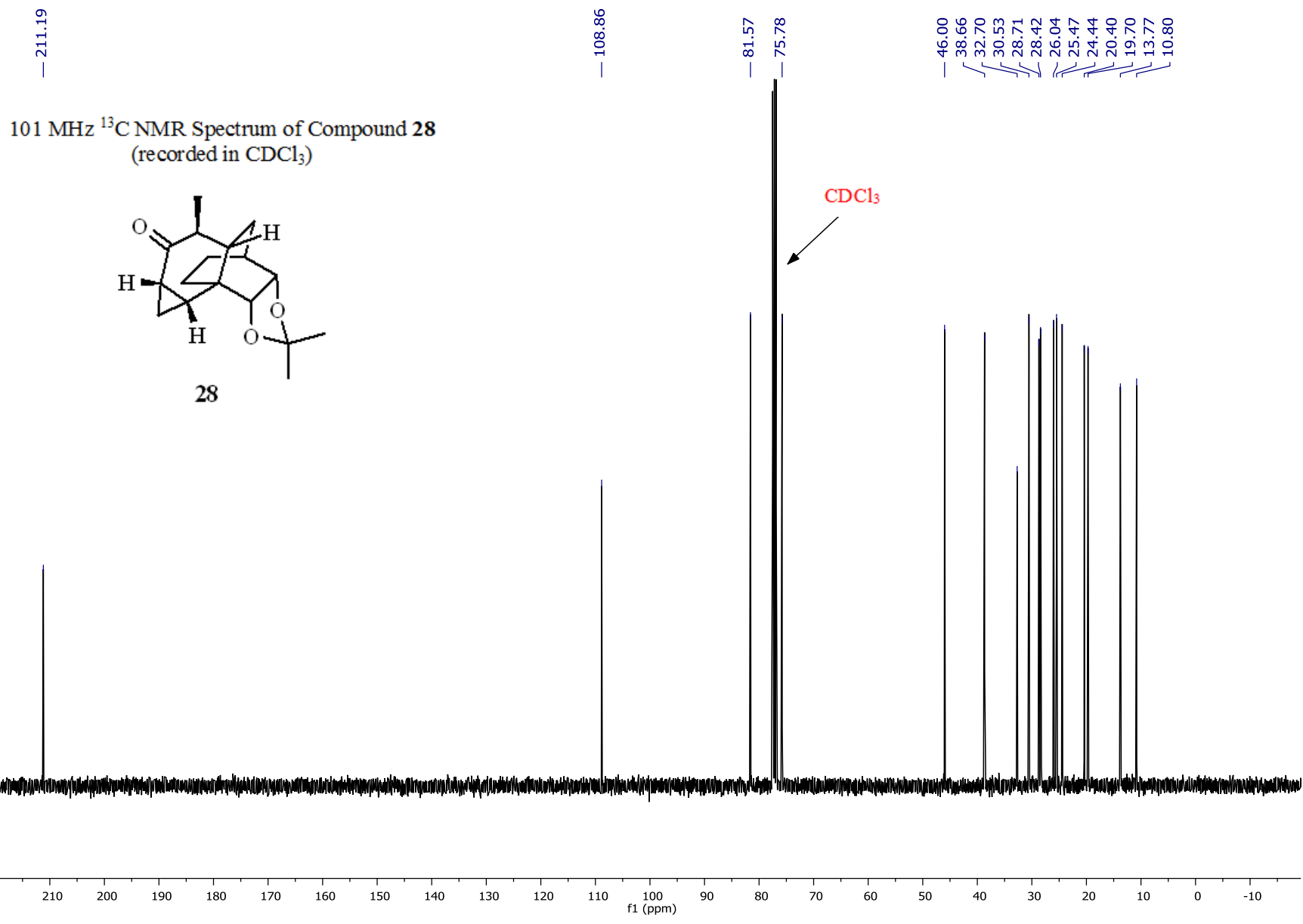
400 MHz  $^1\text{H}$  NMR Spectrum of Compound 27  
(recorded in  $\text{CDCl}_3$ )





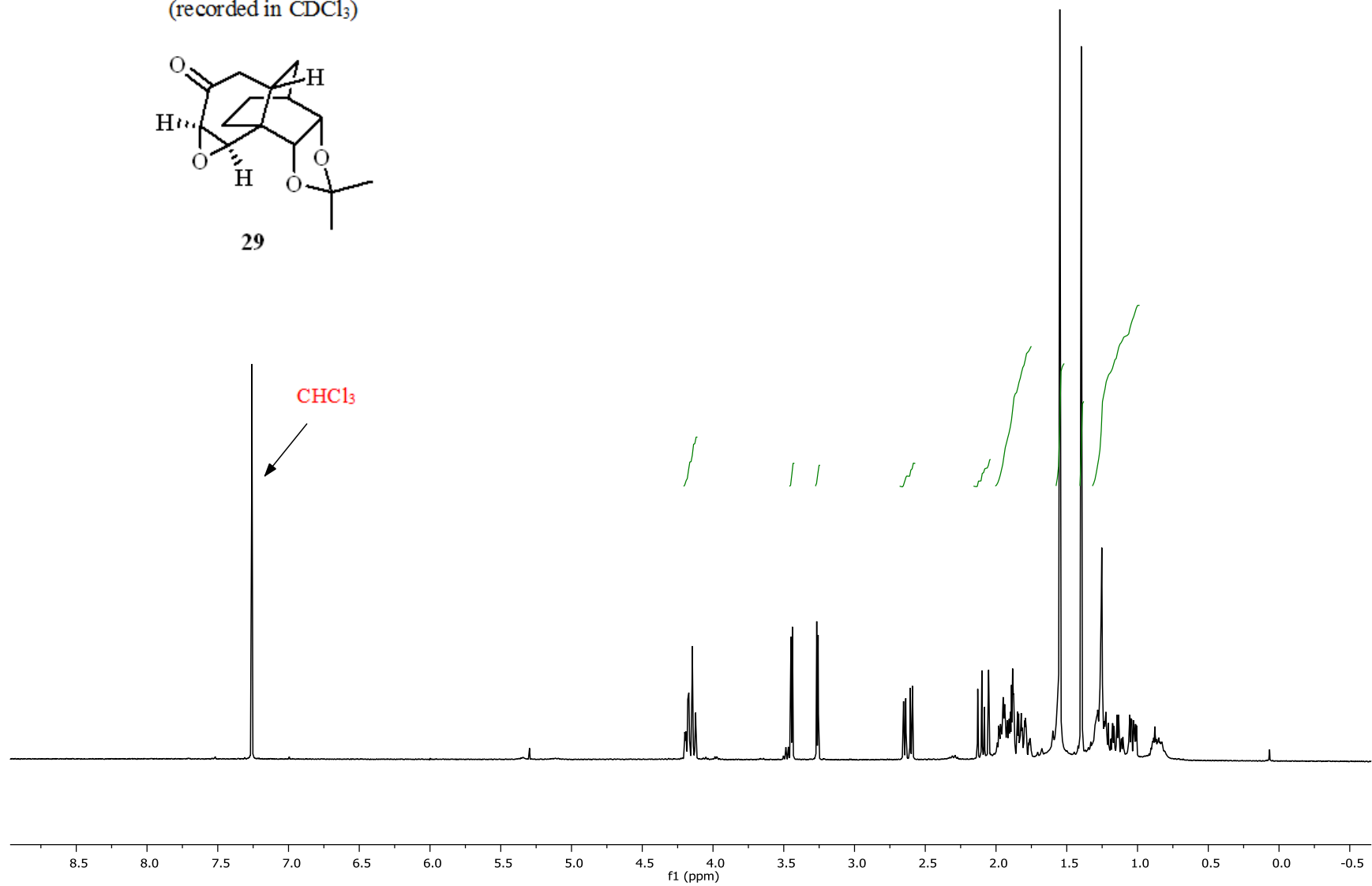
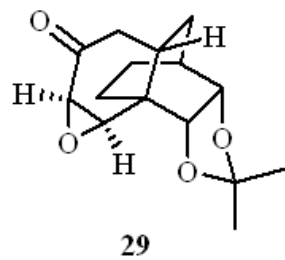
400 MHz  $^1\text{H}$  NMR Spectrum of Compound **28**  
(recorded in  $\text{CDCl}_3$ )



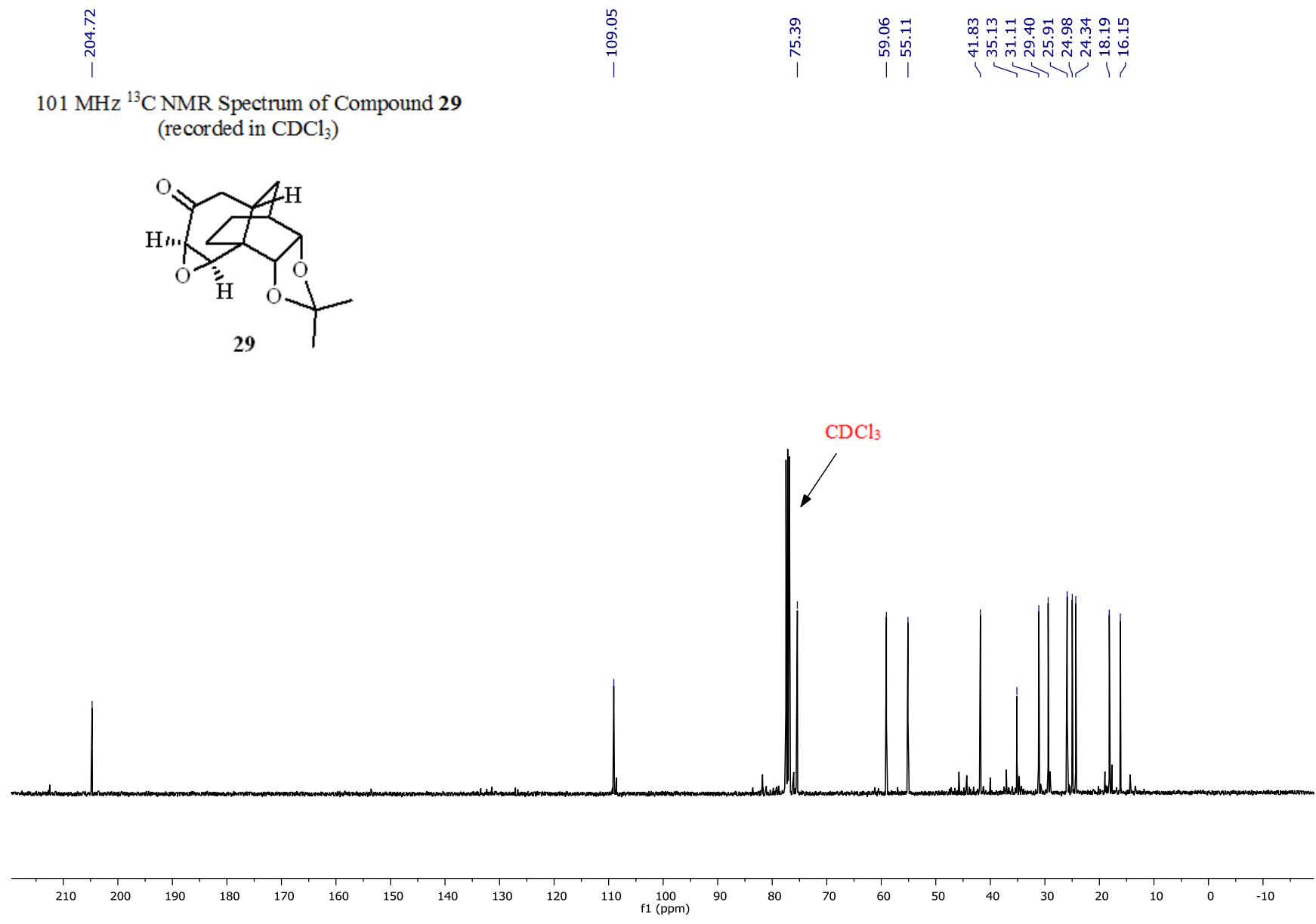
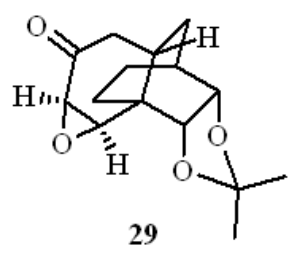




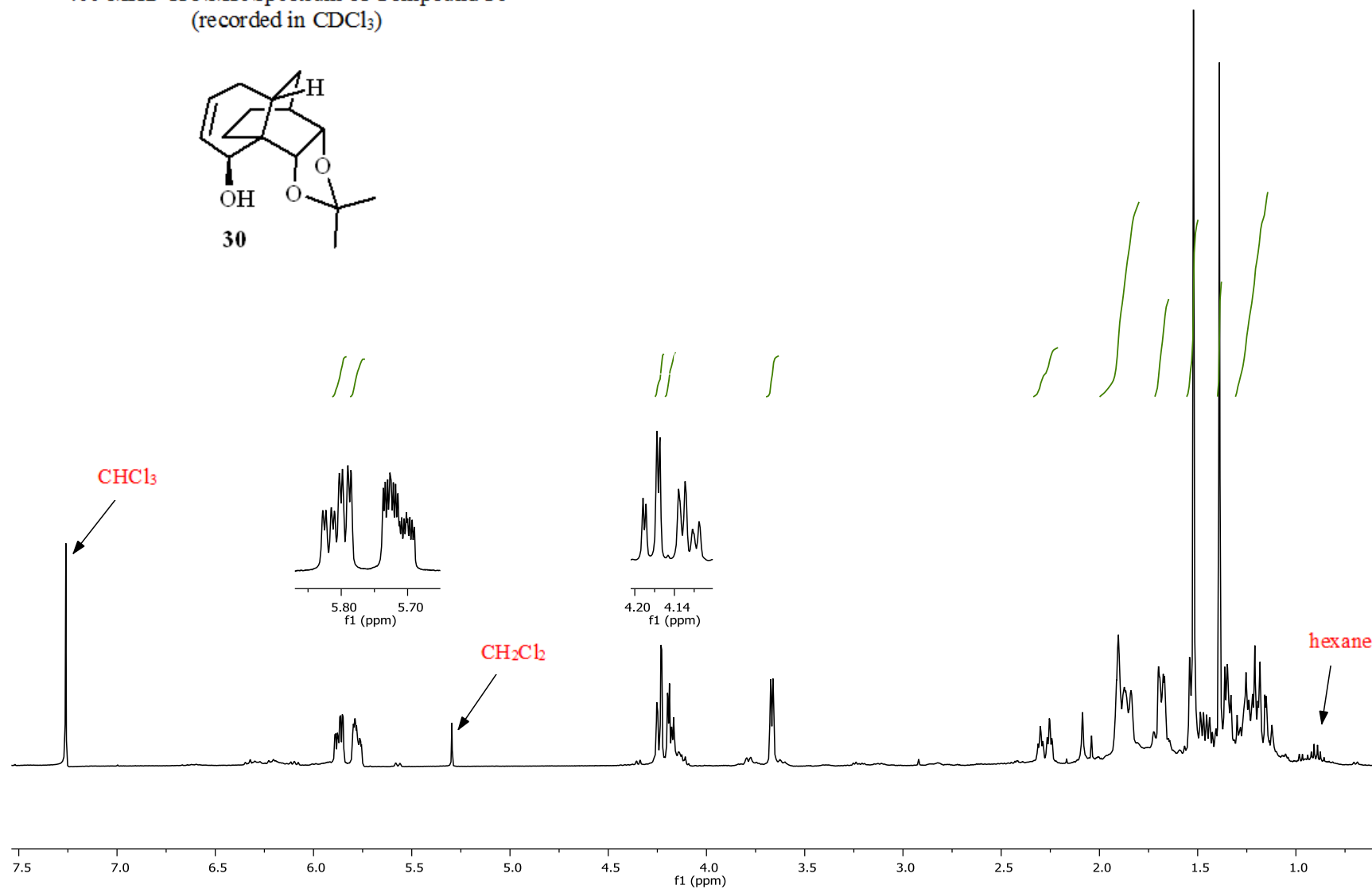
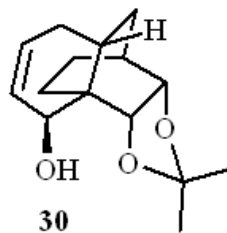
400 MHz  $^1\text{H}$  NMR Spectrum of Compound **29**  
(recorded in  $\text{CDCl}_3$ )

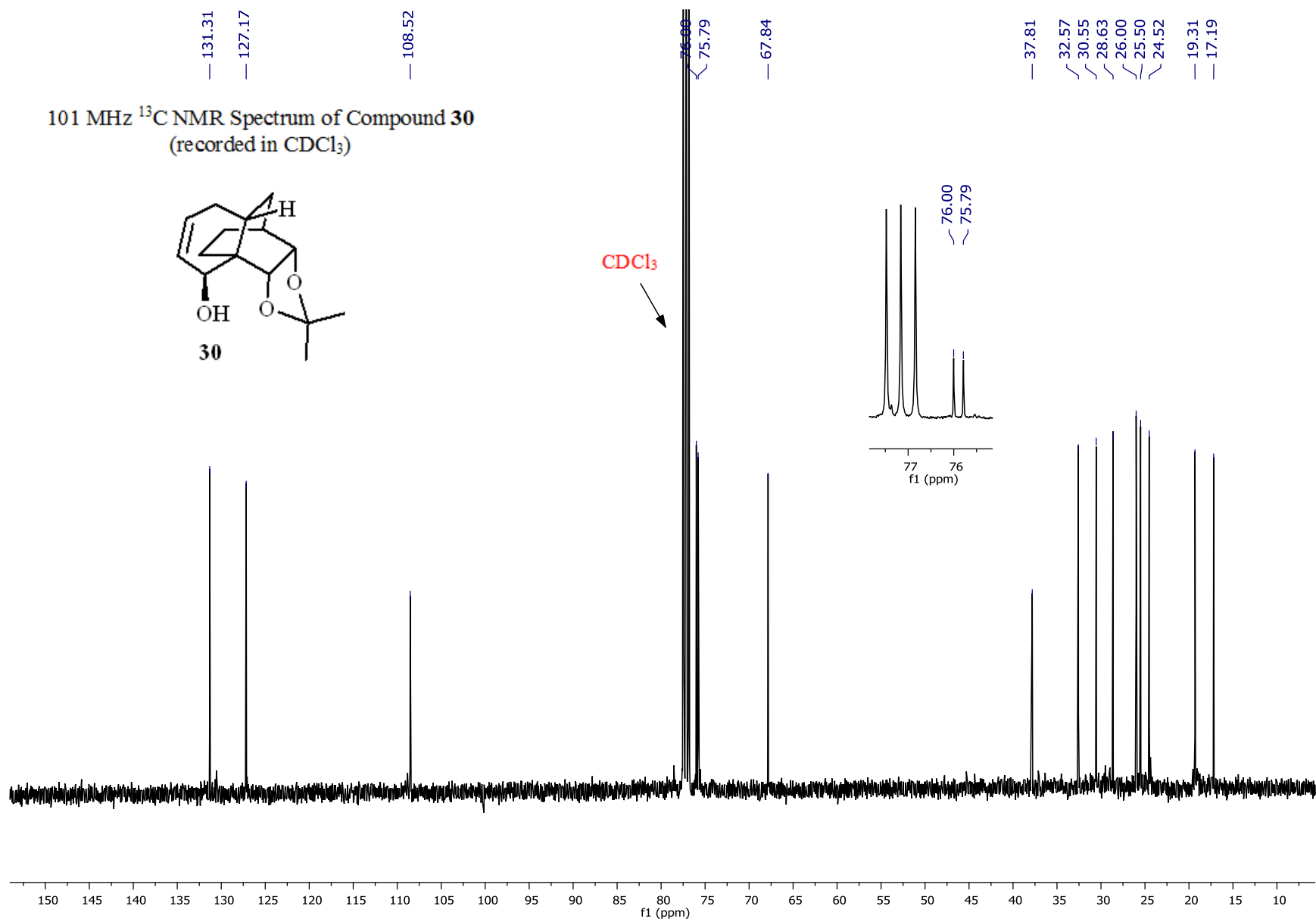


101 MHz  $^{13}\text{C}$  NMR Spectrum of Compound **29**  
(recorded in  $\text{CDCl}_3$ )

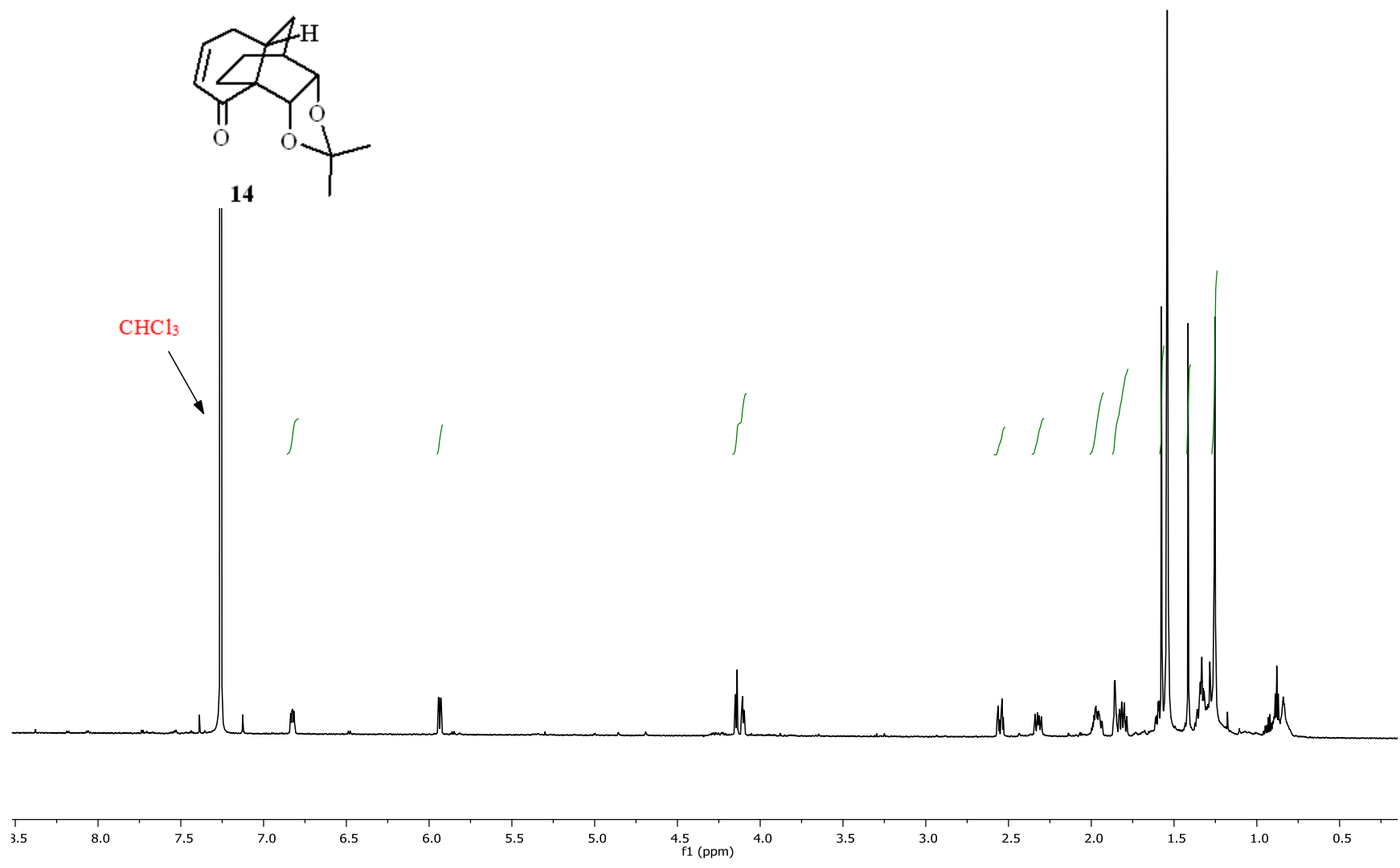
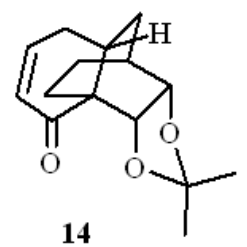


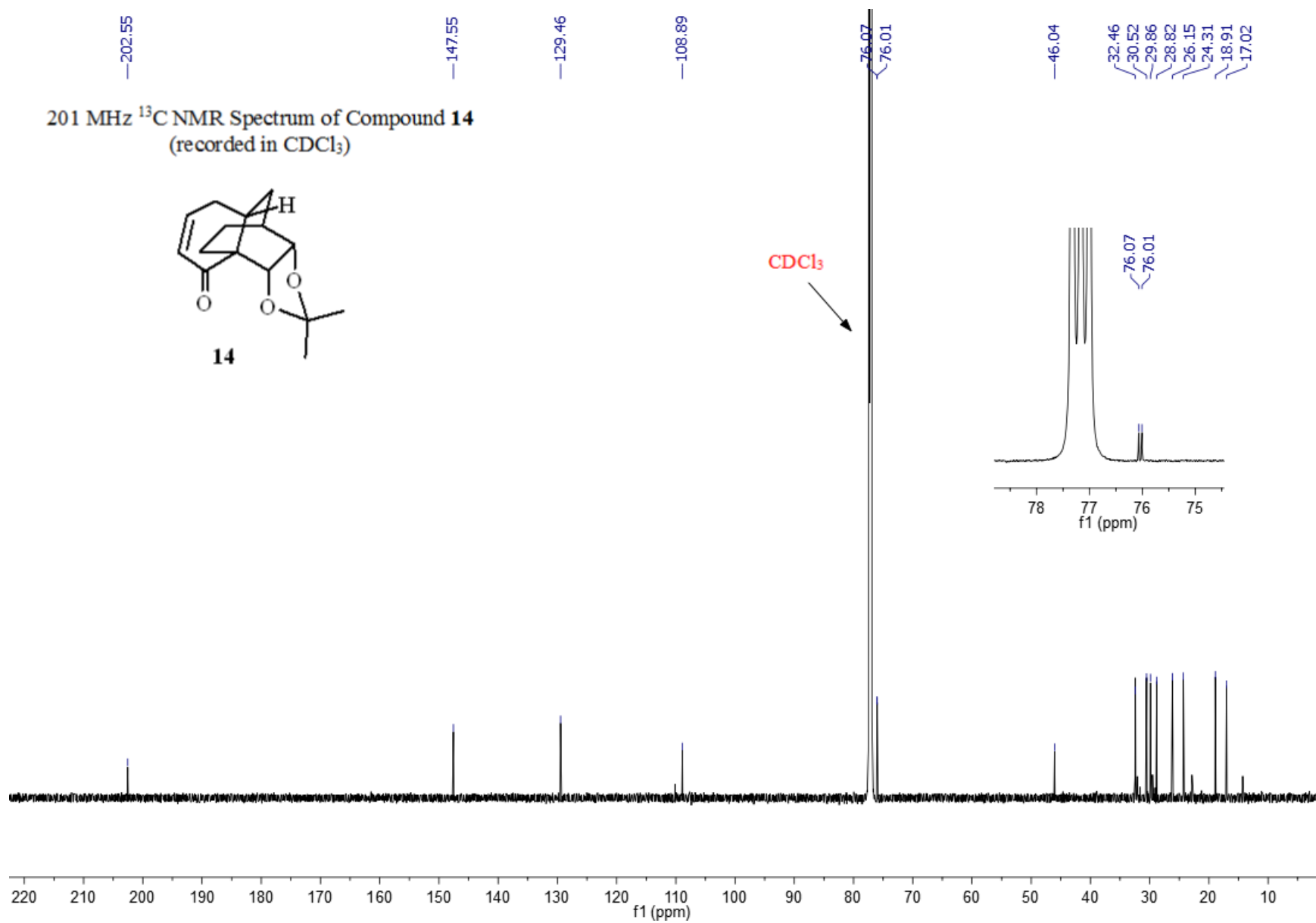
400 MHz  $^1\text{H}$  NMR Spectrum of Compound **30**  
(recorded in  $\text{CDCl}_3$ )



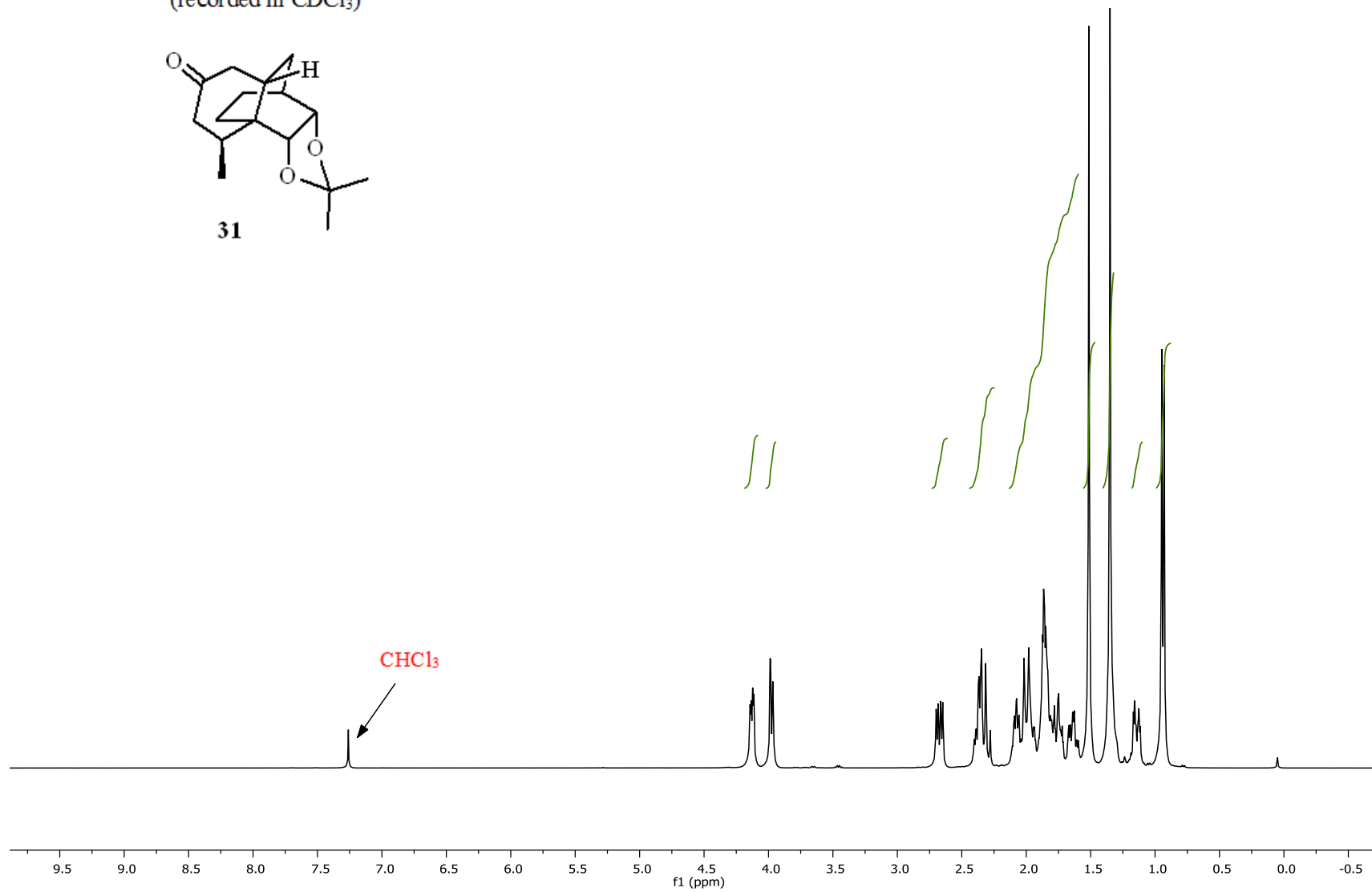
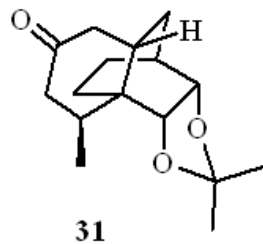


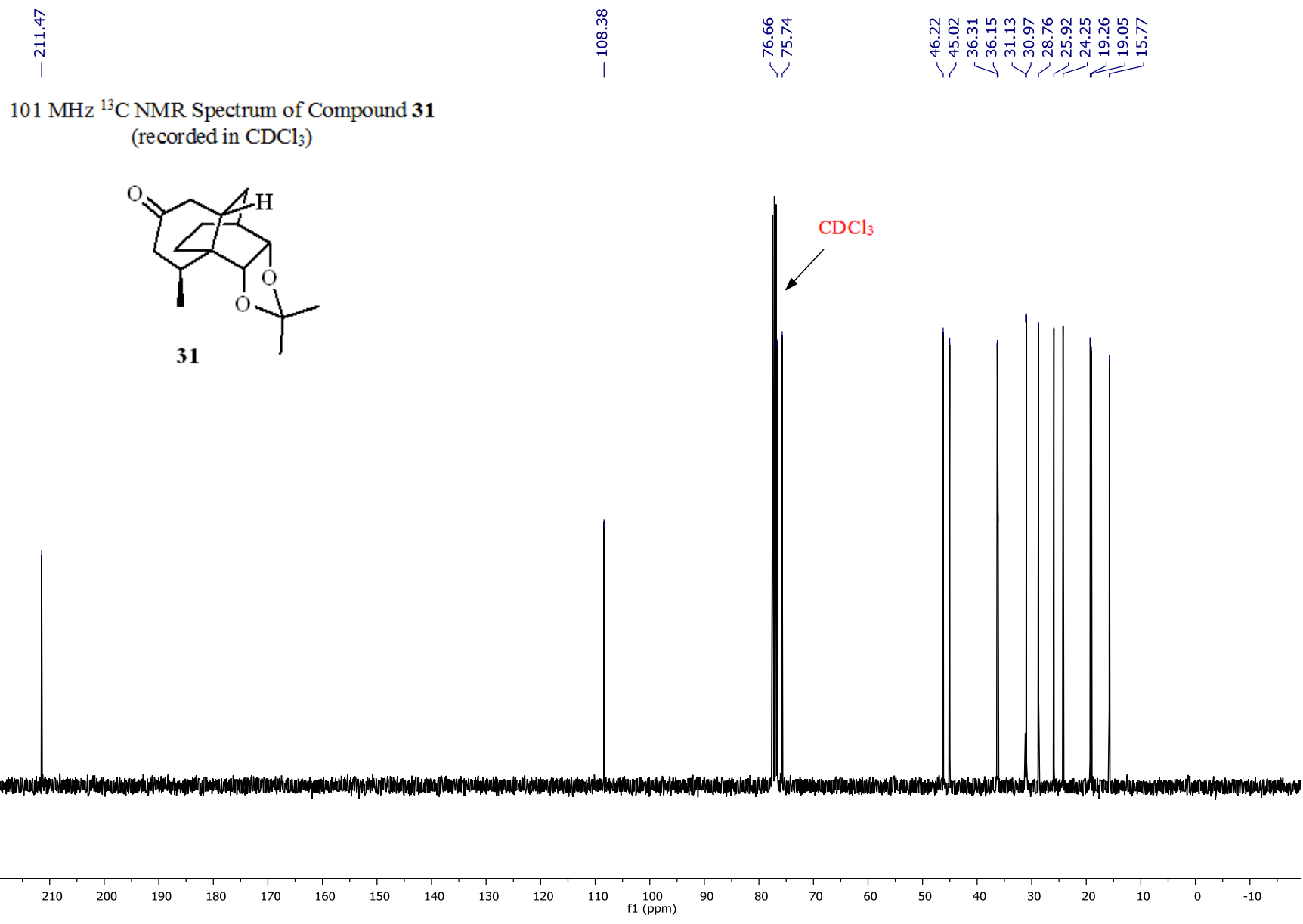
800 MHz  $^1\text{H}$  NMR Spectrum of Compound **14**  
(recorded in  $\text{CDCl}_3$ )





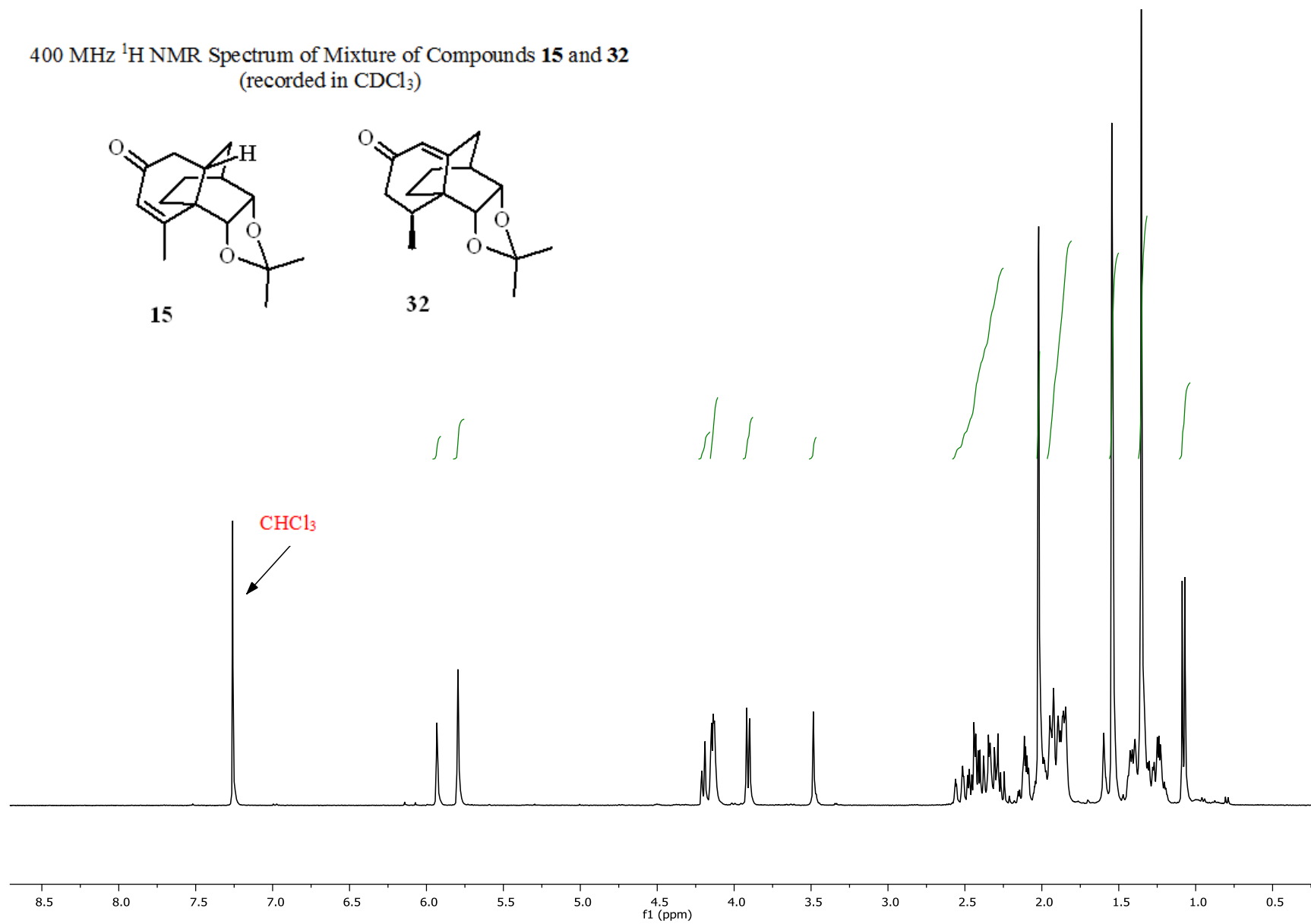
400 MHz  $^1\text{H}$  NMR Spectrum of Compound **31**  
(recorded in  $\text{CDCl}_3$ )

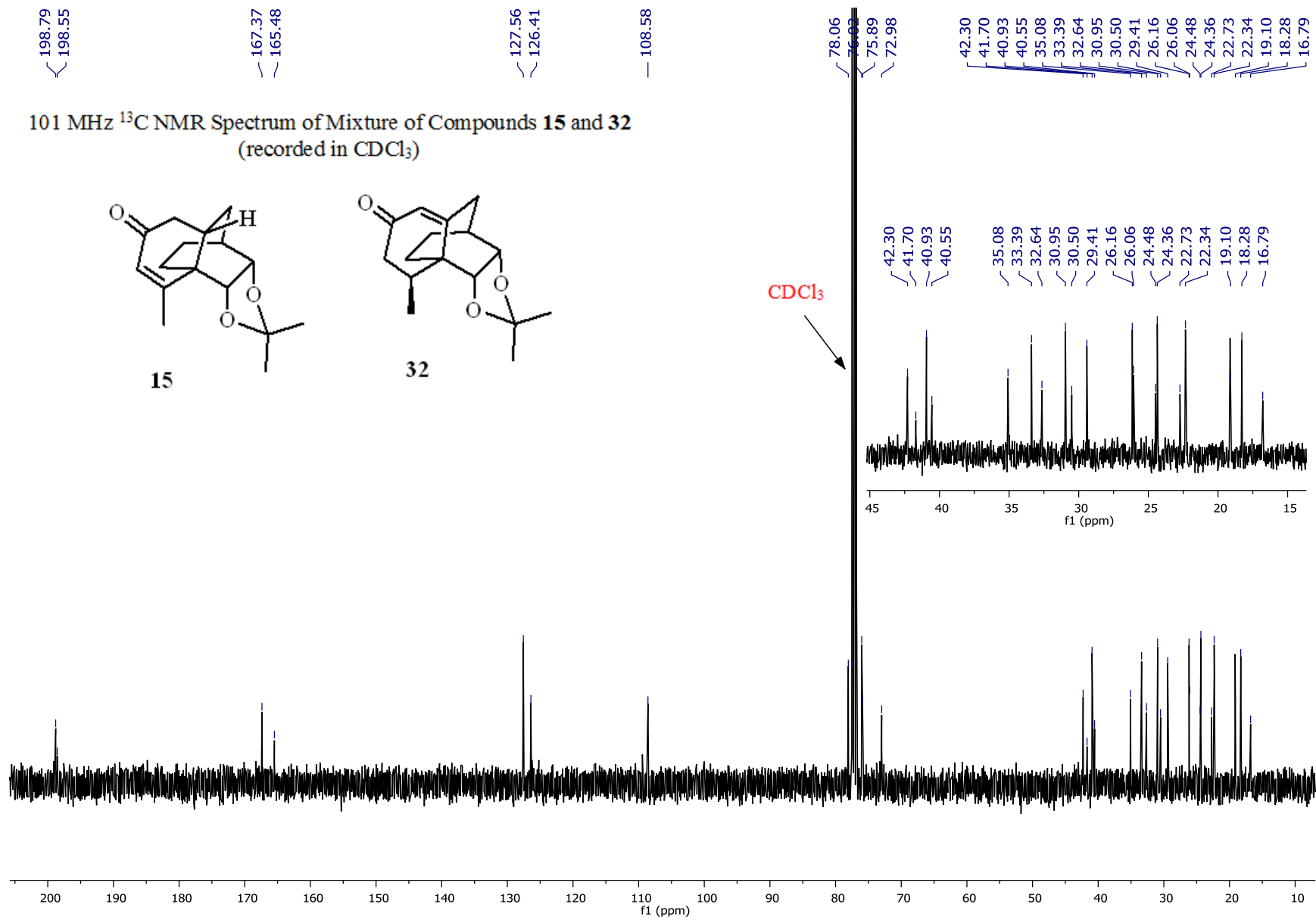




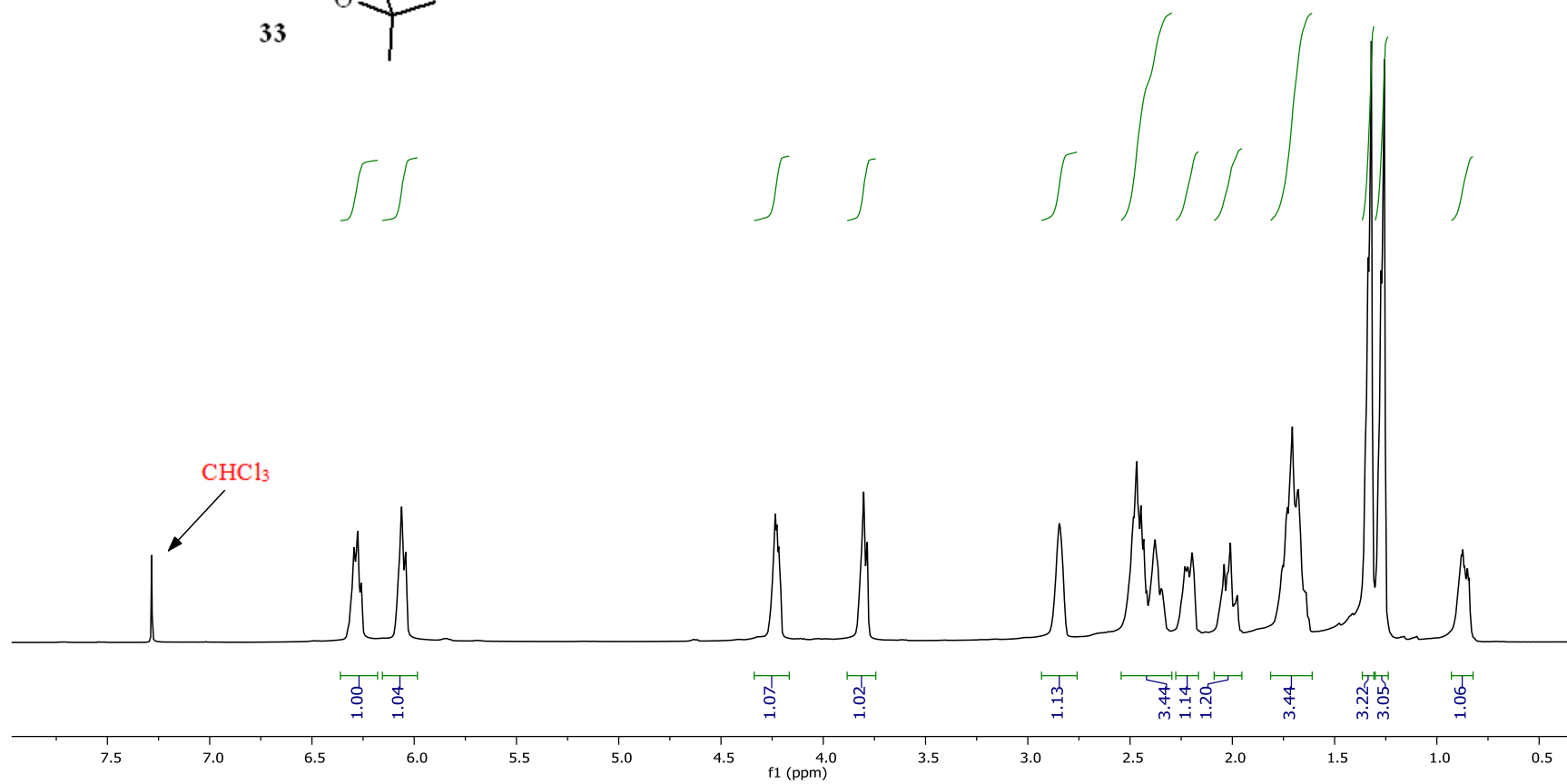
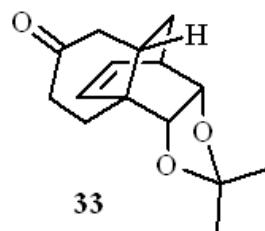


400 MHz  $^1\text{H}$  NMR Spectrum of Mixture of Compounds **15** and **32**  
(recorded in  $\text{CDCl}_3$ )





400 MHz  $^1\text{H}$  NMR Spectrum of Compound **33**  
(recorded in  $\text{CDCl}_3$ )



— 211.12

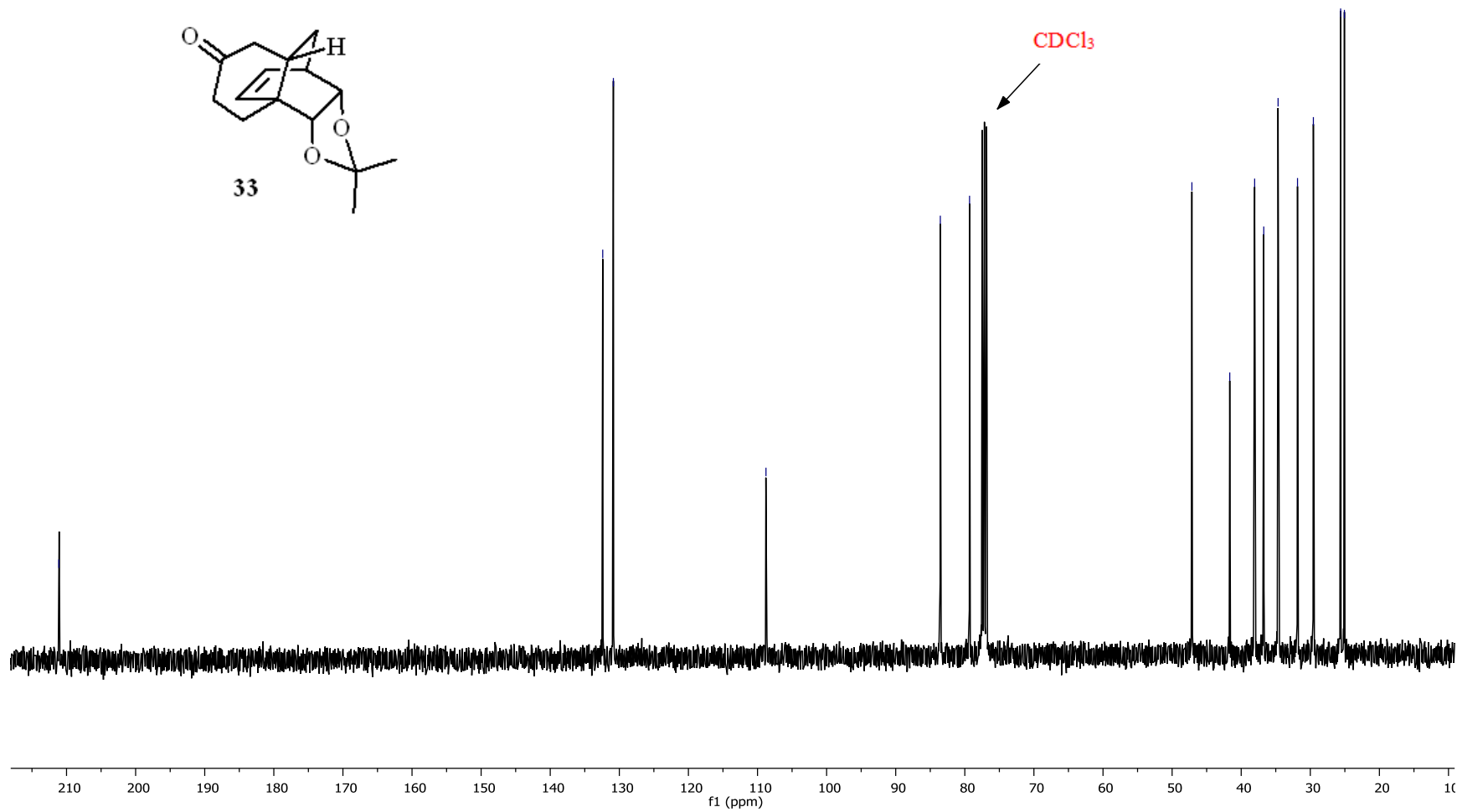
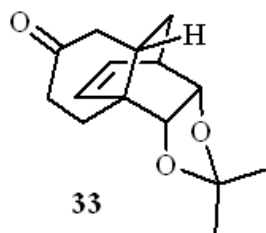
— 132.40  
— 130.86

— 108.77

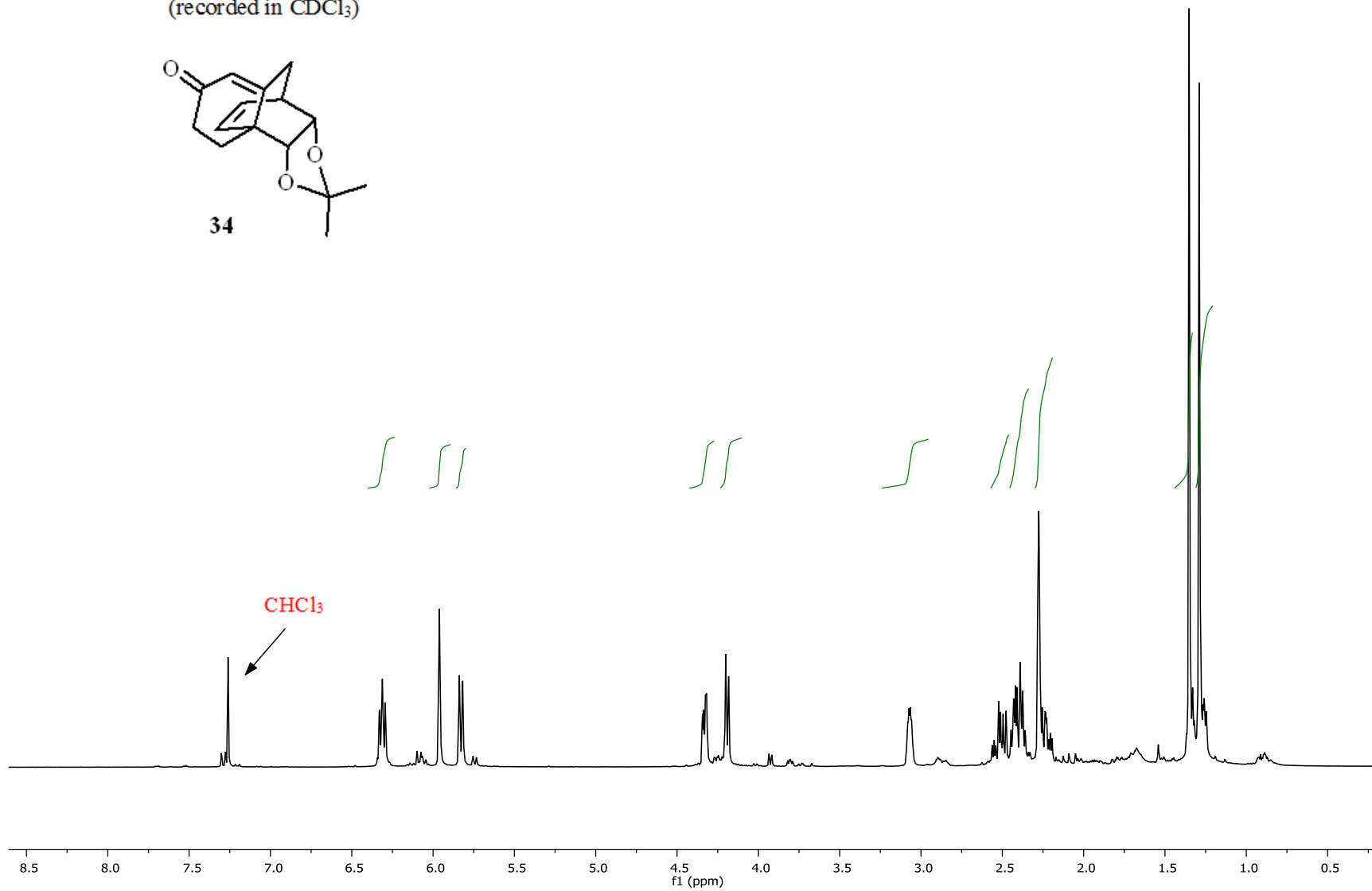
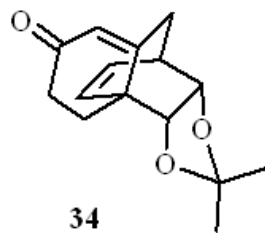
— 83.54  
— 79.31

— 47.14  
— 41.66  
— 38.06  
— 36.74  
— 34.66  
— 31.85  
— 29.55  
— 25.61  
— 25.06

101 MHz  $^{13}\text{C}$  NMR Spectrum of Compound **33**  
(recorded in  $\text{CDCl}_3$ )



400 MHz  $^1\text{H}$  NMR Spectrum of Compound **34**  
(recorded in  $\text{CDCl}_3$ )



— 197.92

— 162.33

— 133.22  
— 132.16

— 125.92

— 109.90

— 78.87  
— 78.56

— 44.46

— 35.83

— 33.69

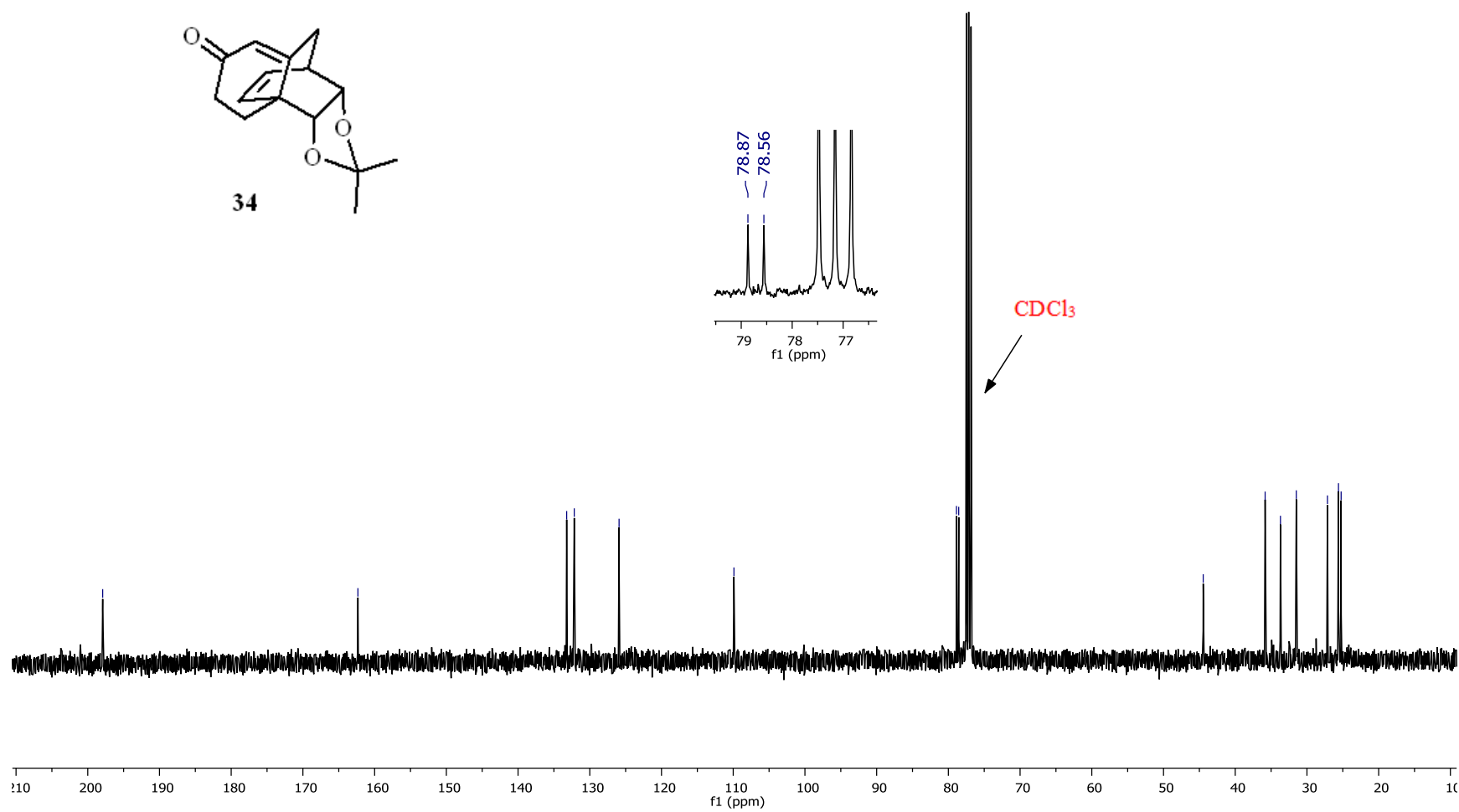
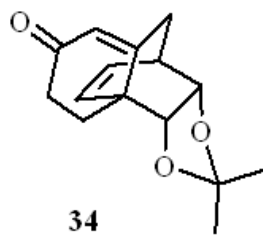
— 31.49

— 27.14

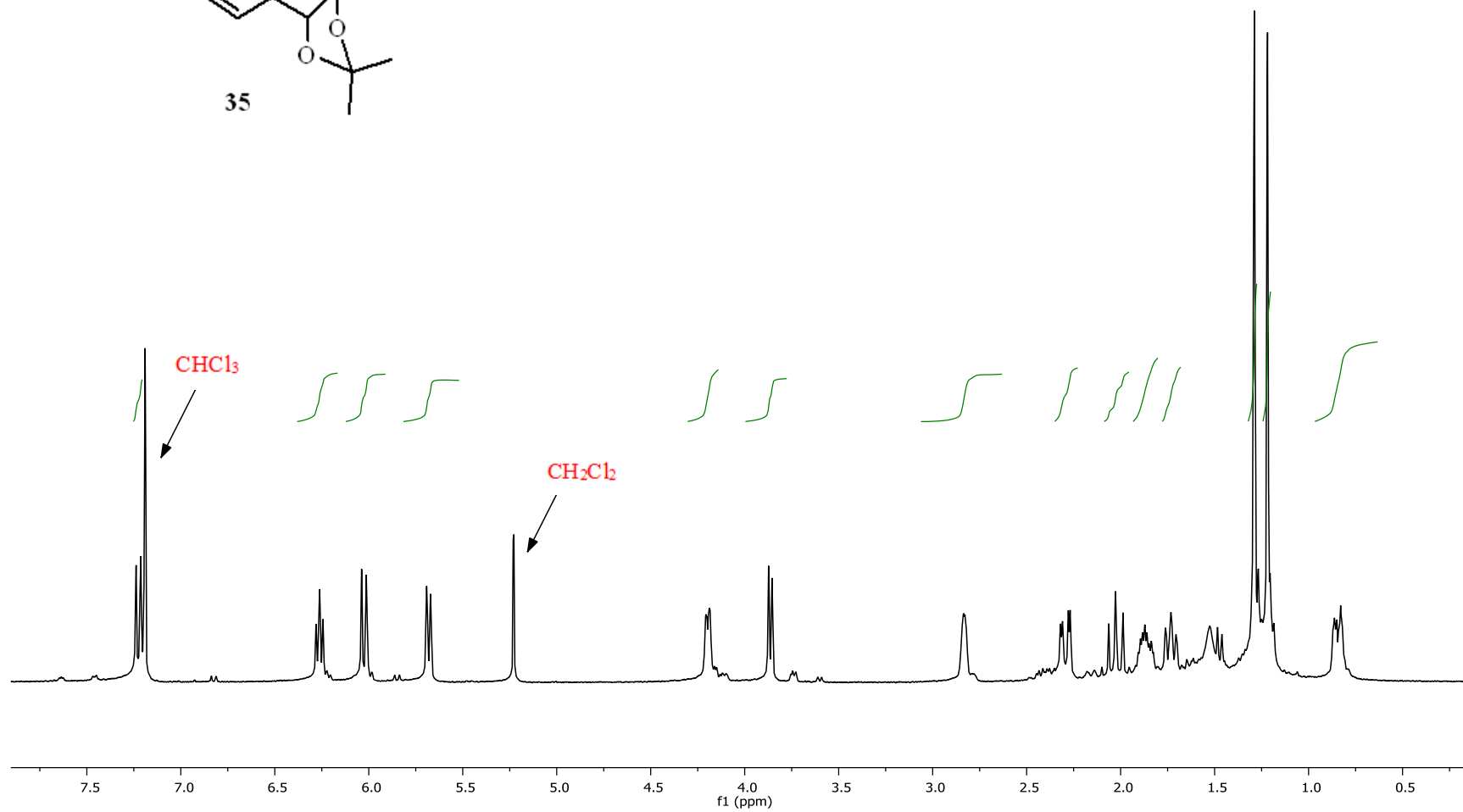
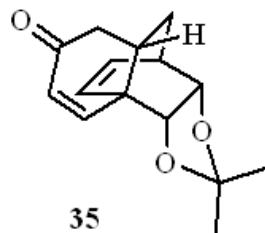
— 25.61

— 25.23

101 MHz  $^{13}\text{C}$  NMR Spectrum of Compound **34**  
(recorded in  $\text{CDCl}_3$ )

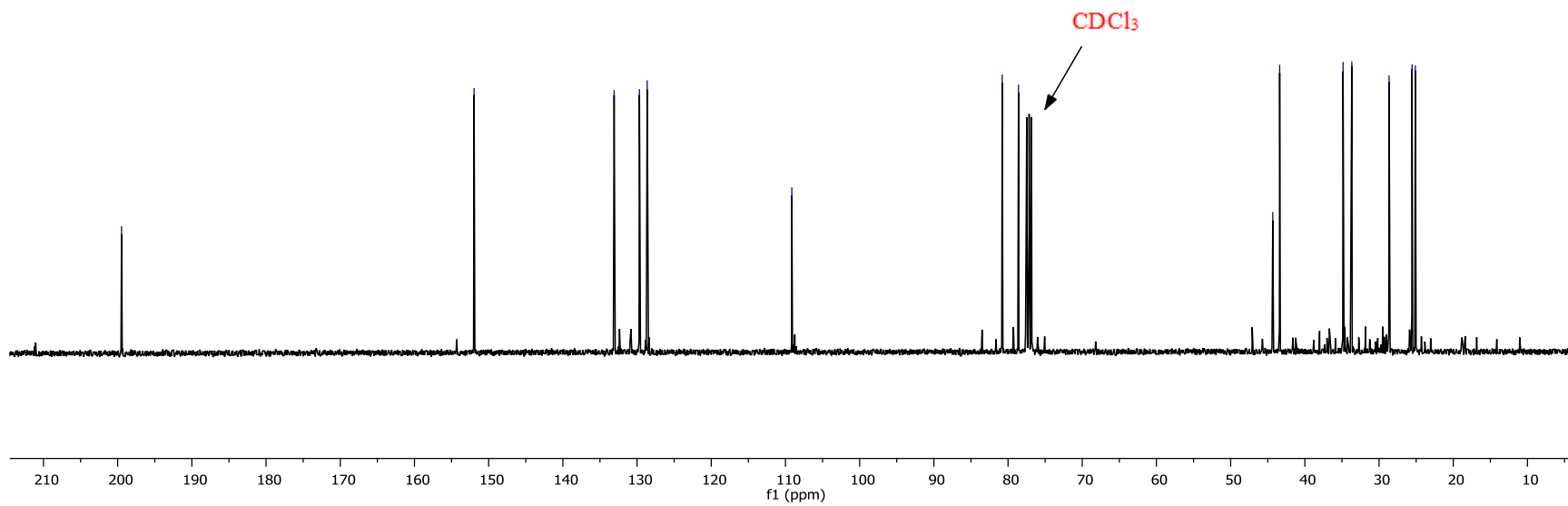
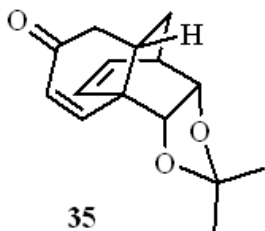


400 MHz  $^1\text{H}$  NMR Spectrum of Compound **35**  
(recorded in  $\text{CDCl}_3$ )



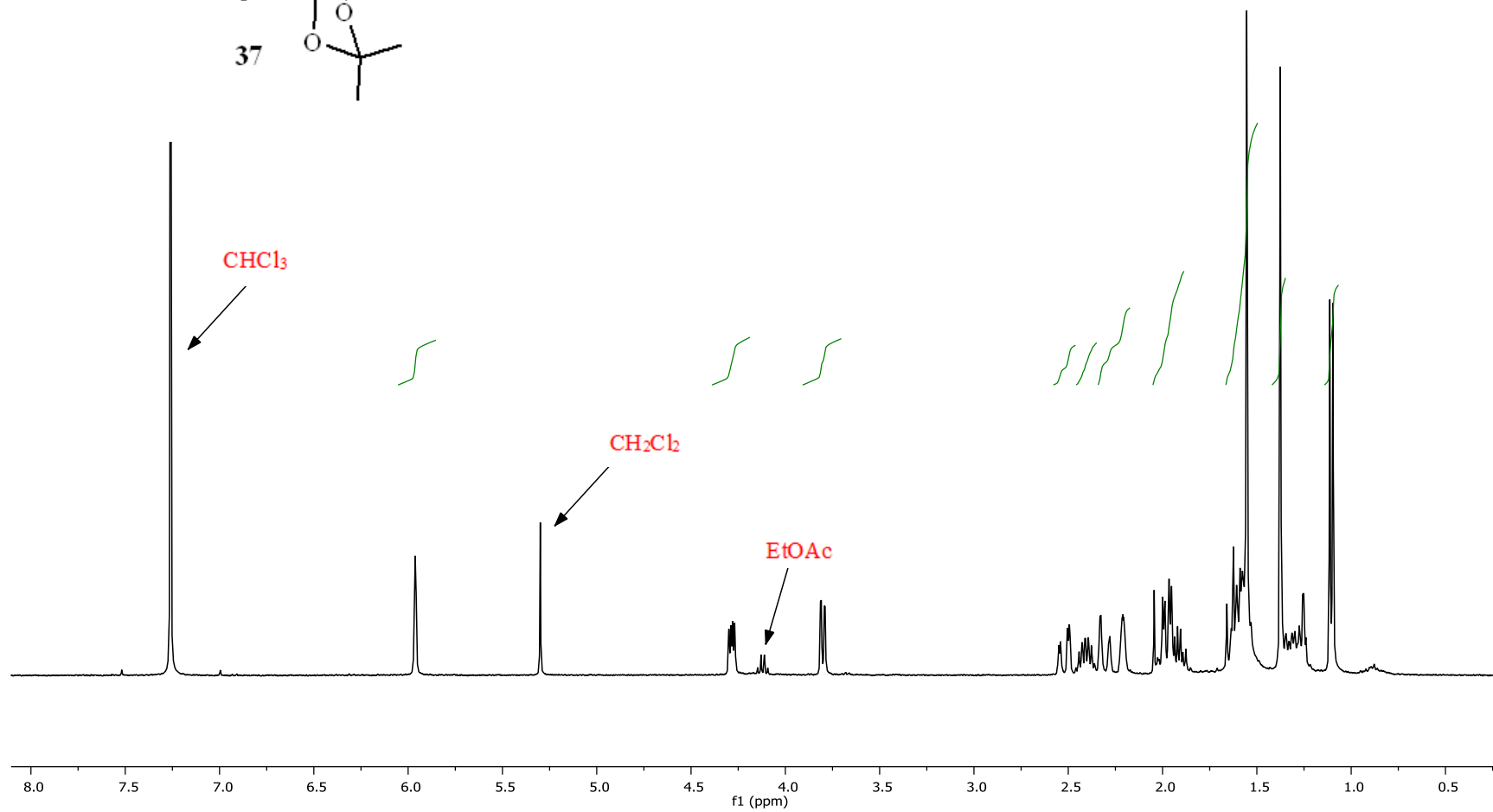
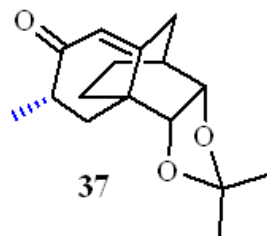
— 199.48  
— 151.96  
— 133.09  
— 129.68  
— 128.63  
— 109.14  
— 80.79  
— 78.59  
— 44.32  
— 43.39  
— 34.85  
— 33.67  
— 28.65  
— 25.55  
— 25.10

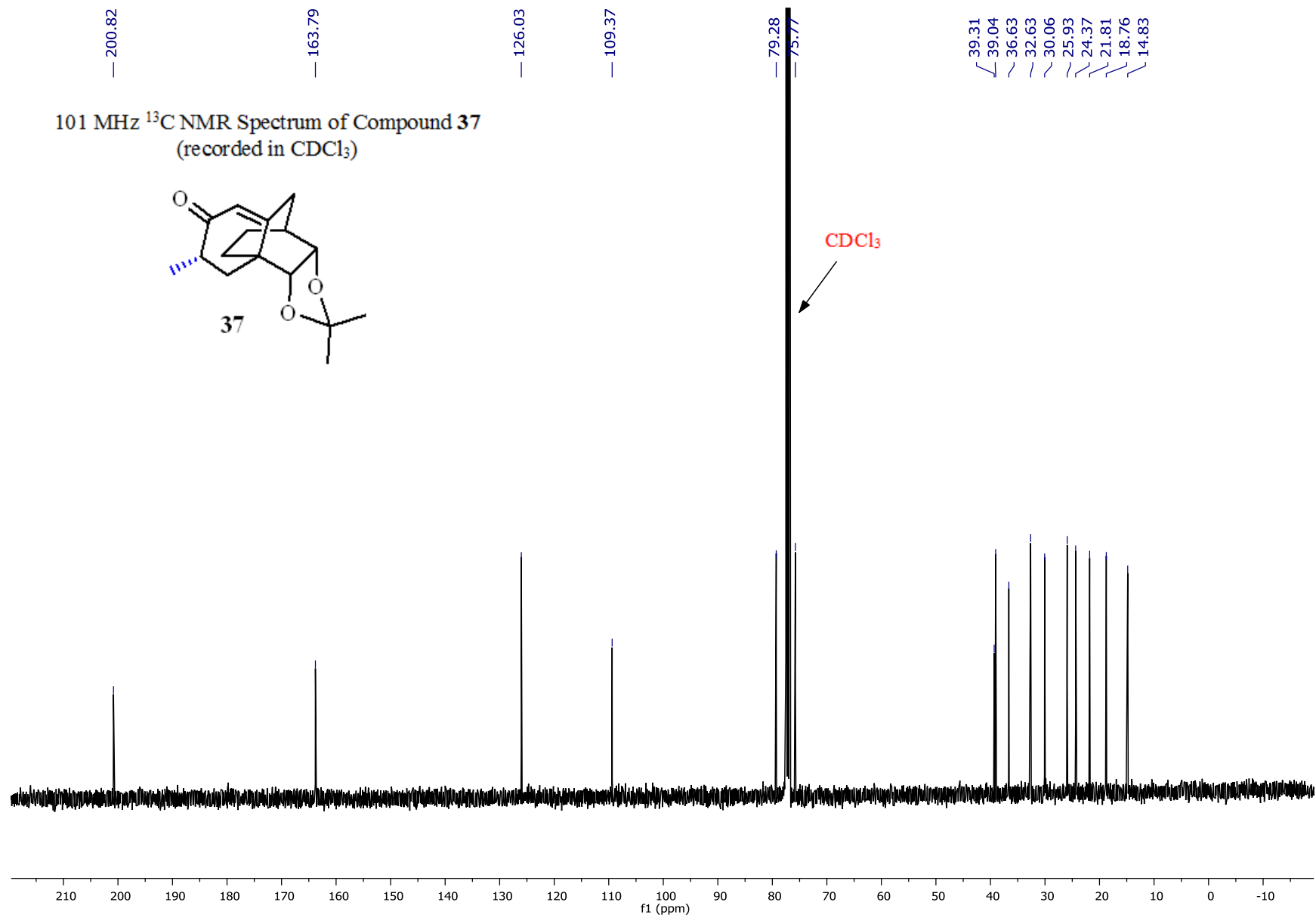
101 MHz  $^{13}\text{C}$  NMR Spectrum of Compound **35**  
(recorded in  $\text{CDCl}_3$ )



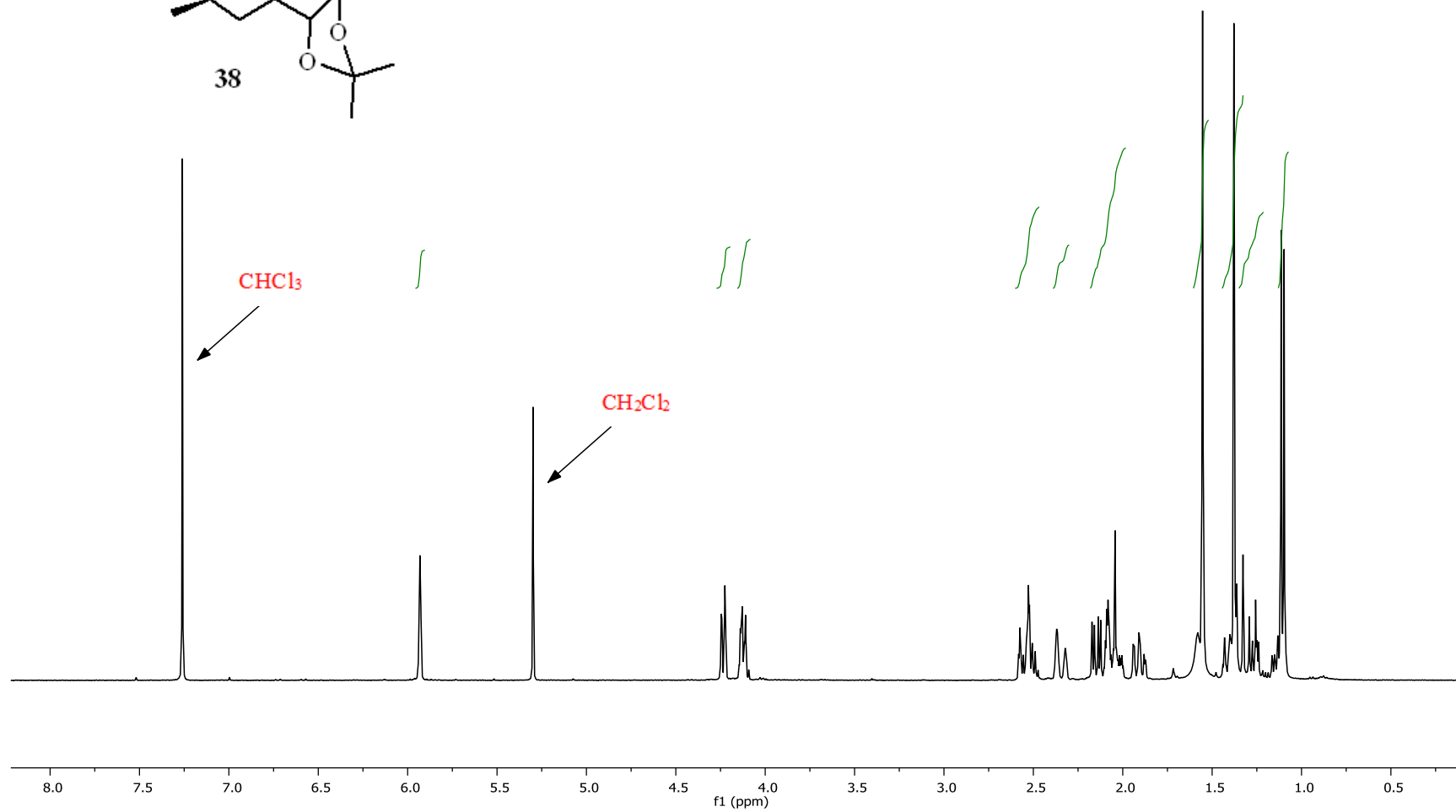
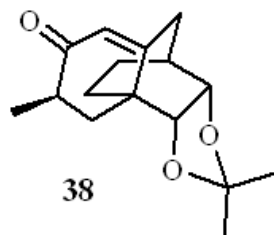


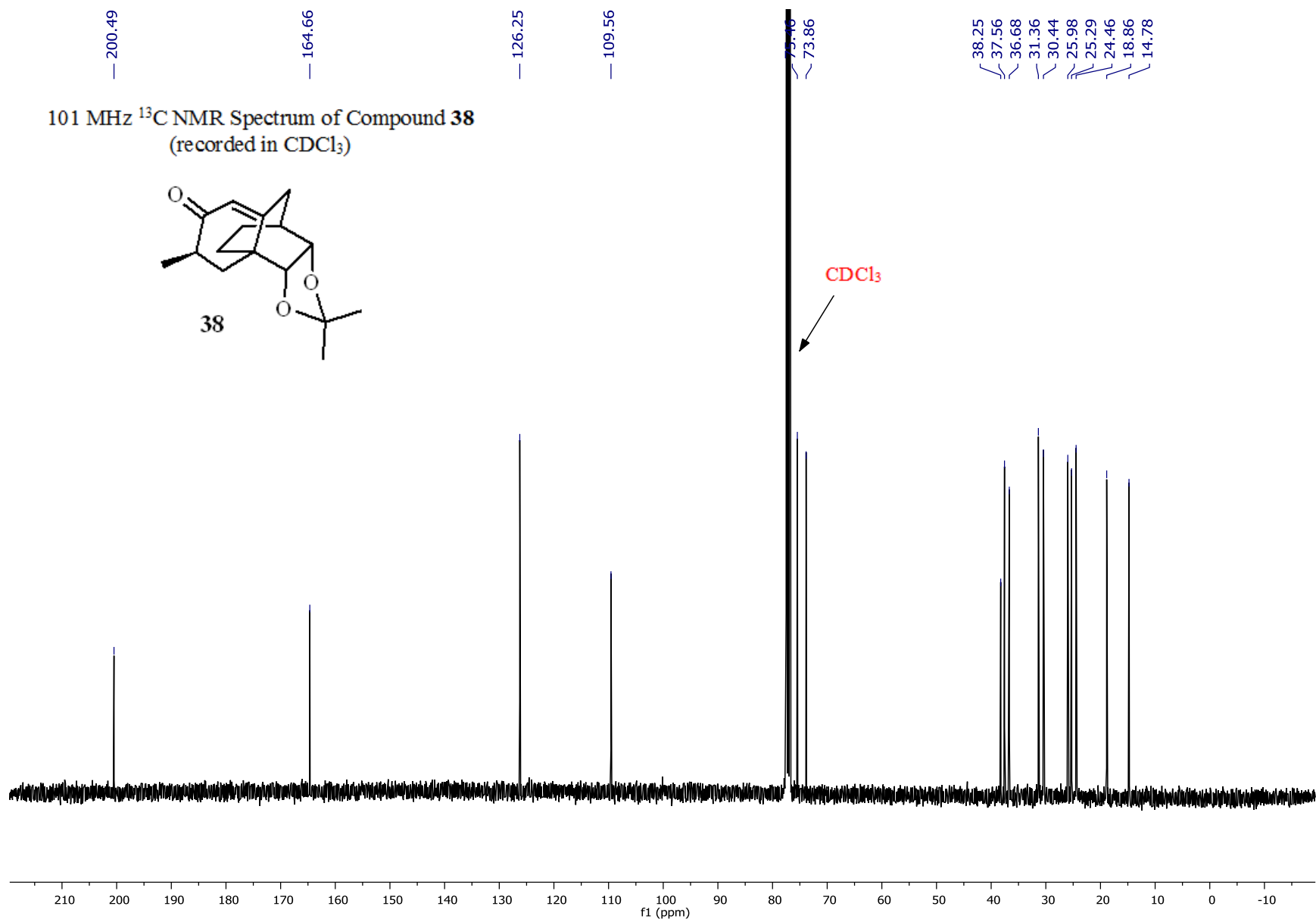
400 MHz  $^1\text{H}$  NMR Spectrum of Compound **37**  
(recorded in  $\text{CDCl}_3$ )



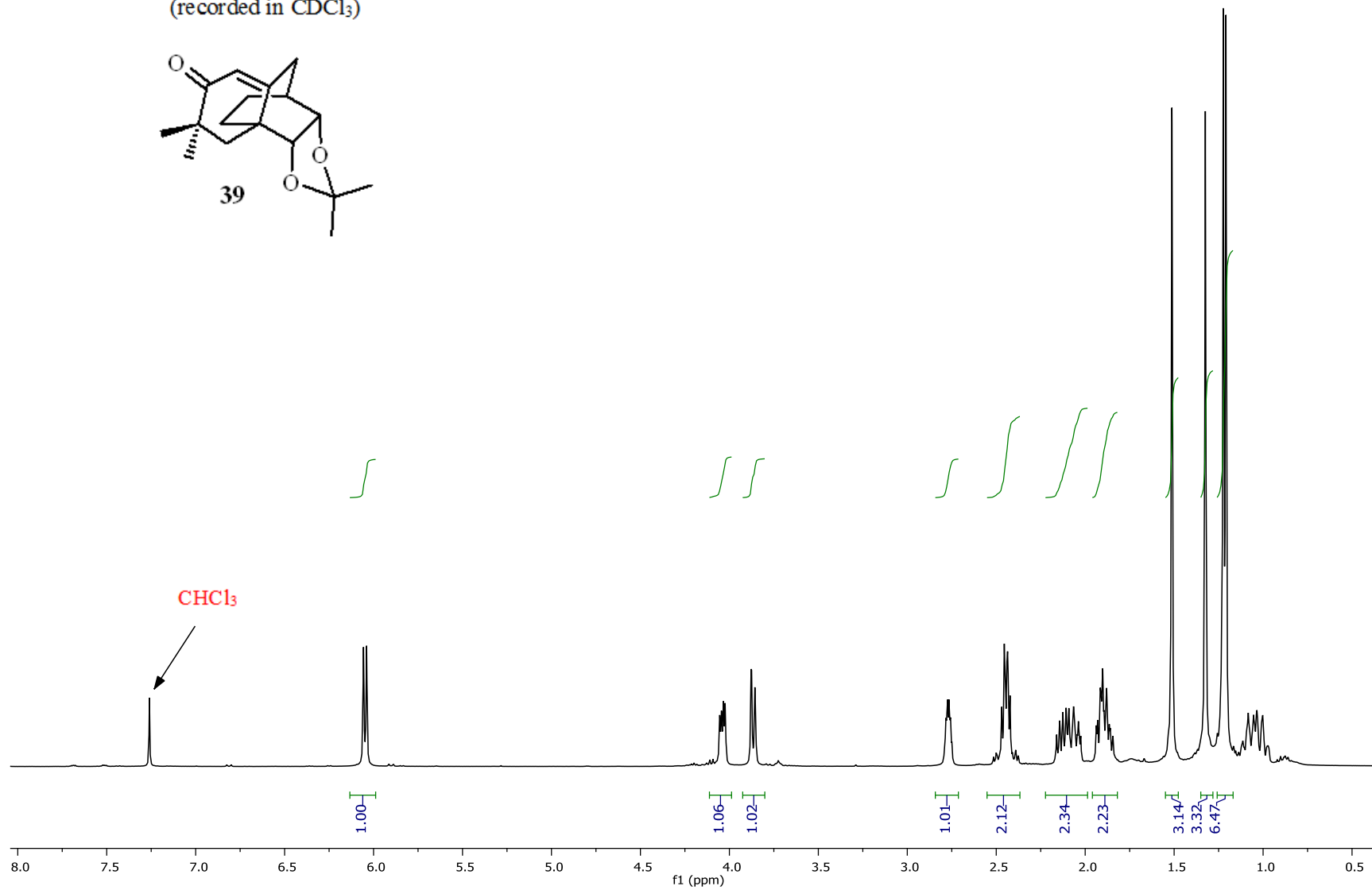
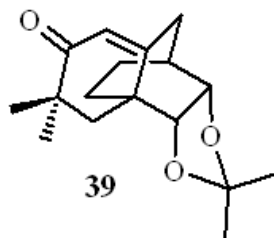


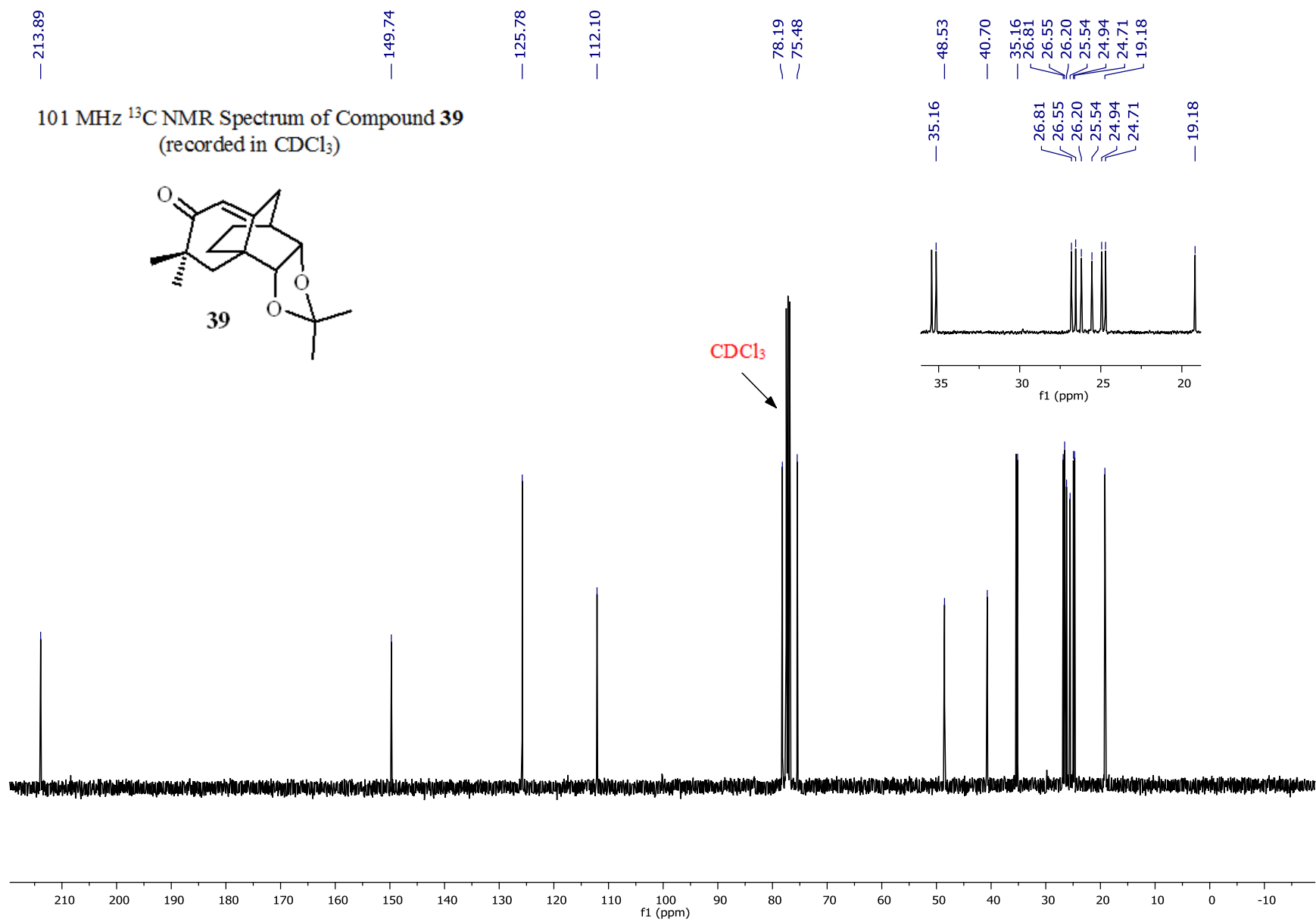
400 MHz  $^1\text{H}$  NMR Spectrum of Compound **38**  
(recorded in  $\text{CDCl}_3$ )



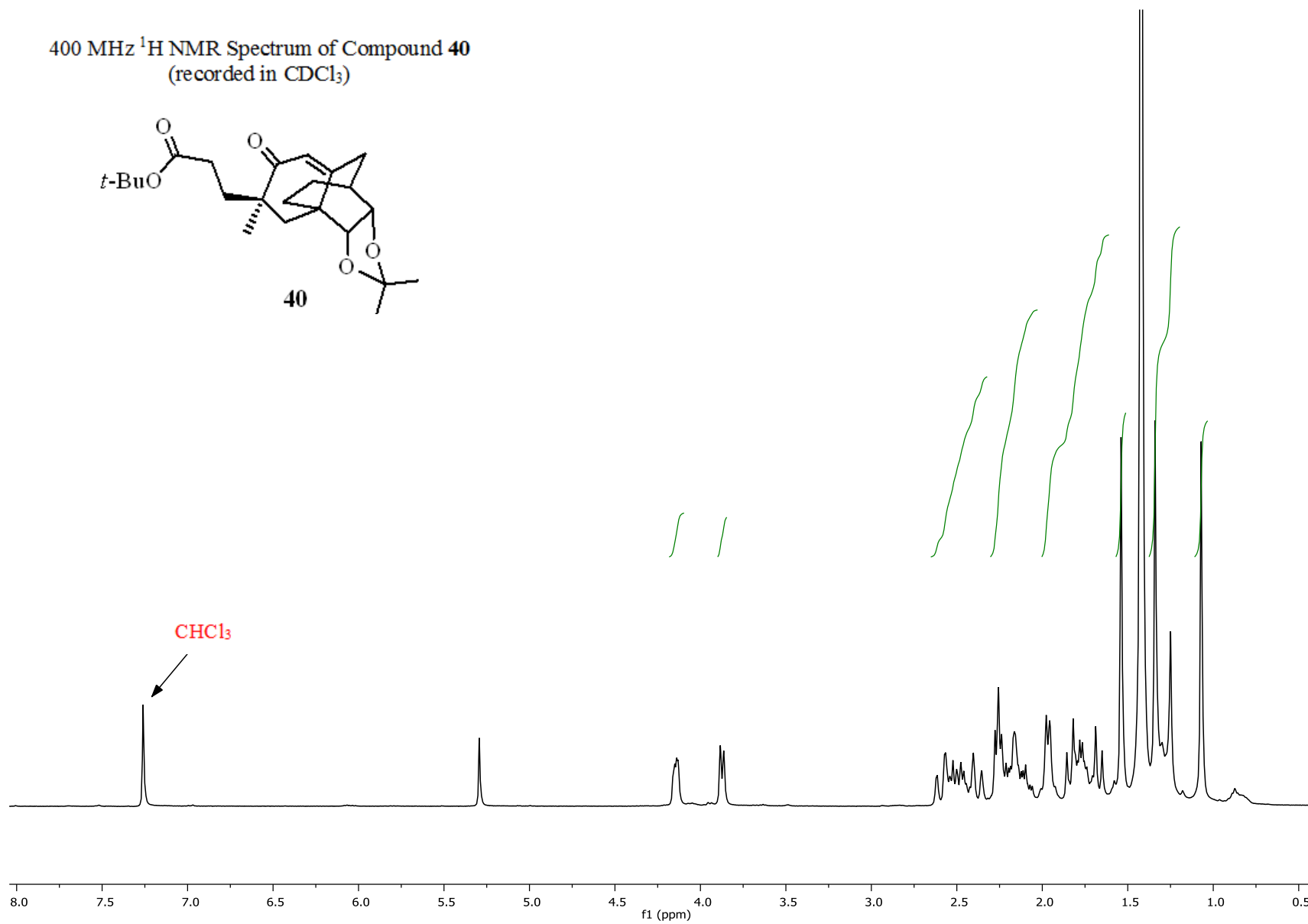
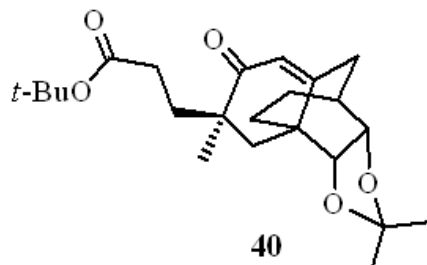


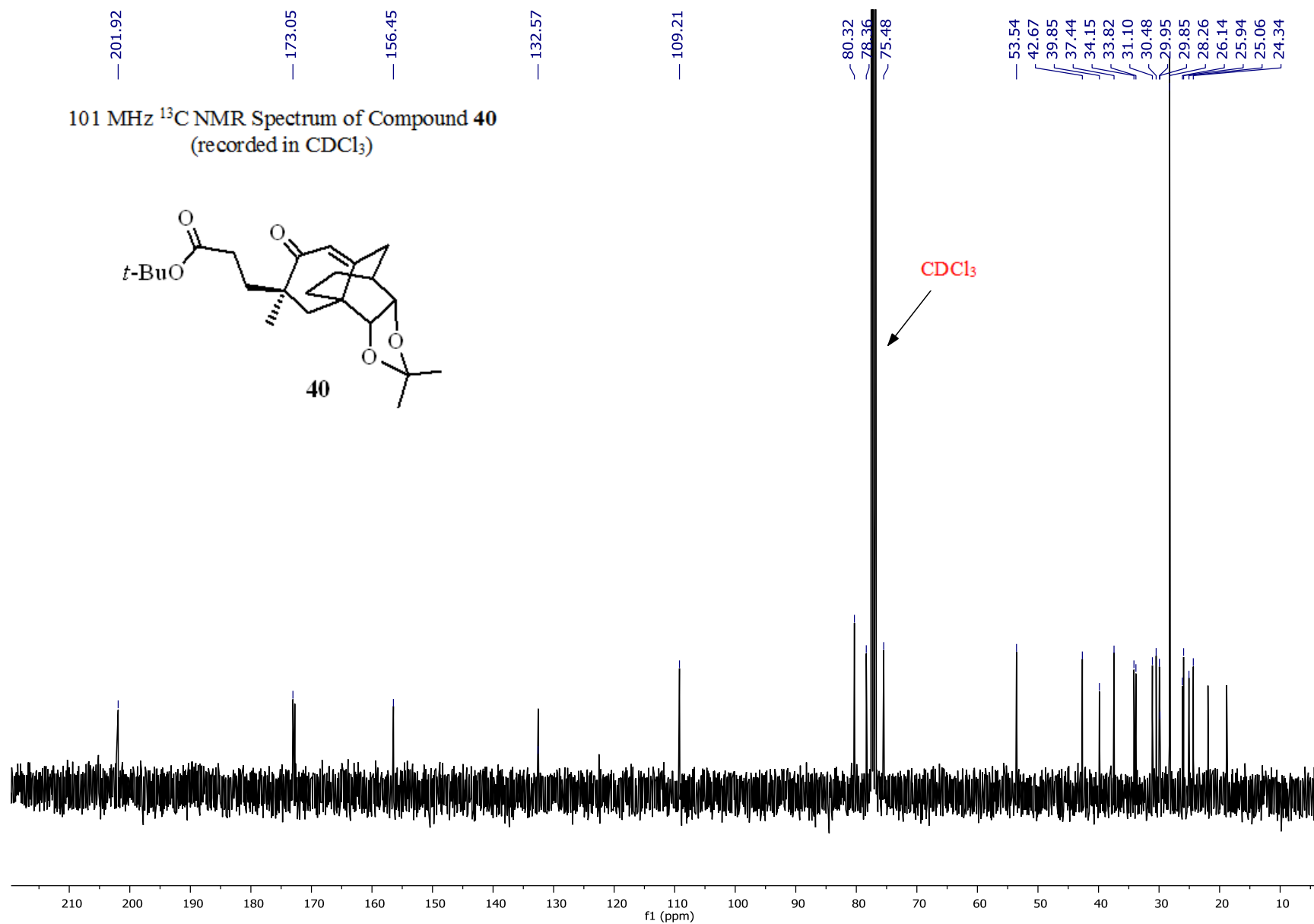
400 MHz  $^1\text{H}$  NMR Spectrum of Compound **39**  
(recorded in  $\text{CDCl}_3$ )





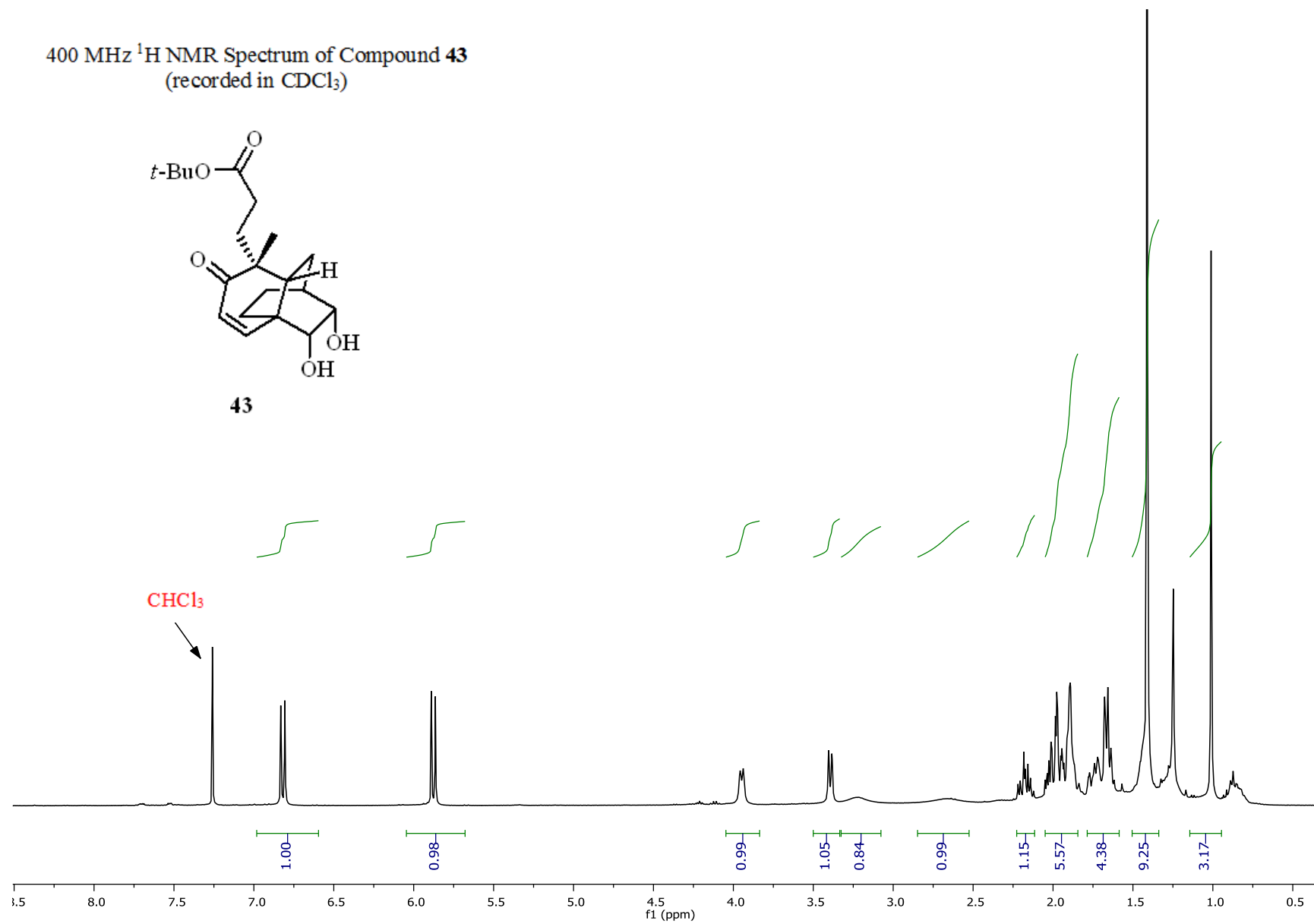
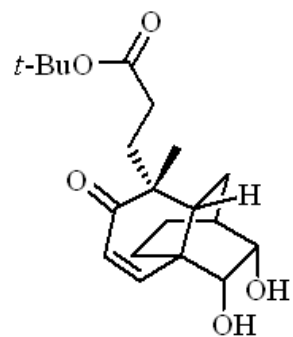
400 MHz  $^1\text{H}$  NMR Spectrum of Compound **40**  
(recorded in  $\text{CDCl}_3$ )

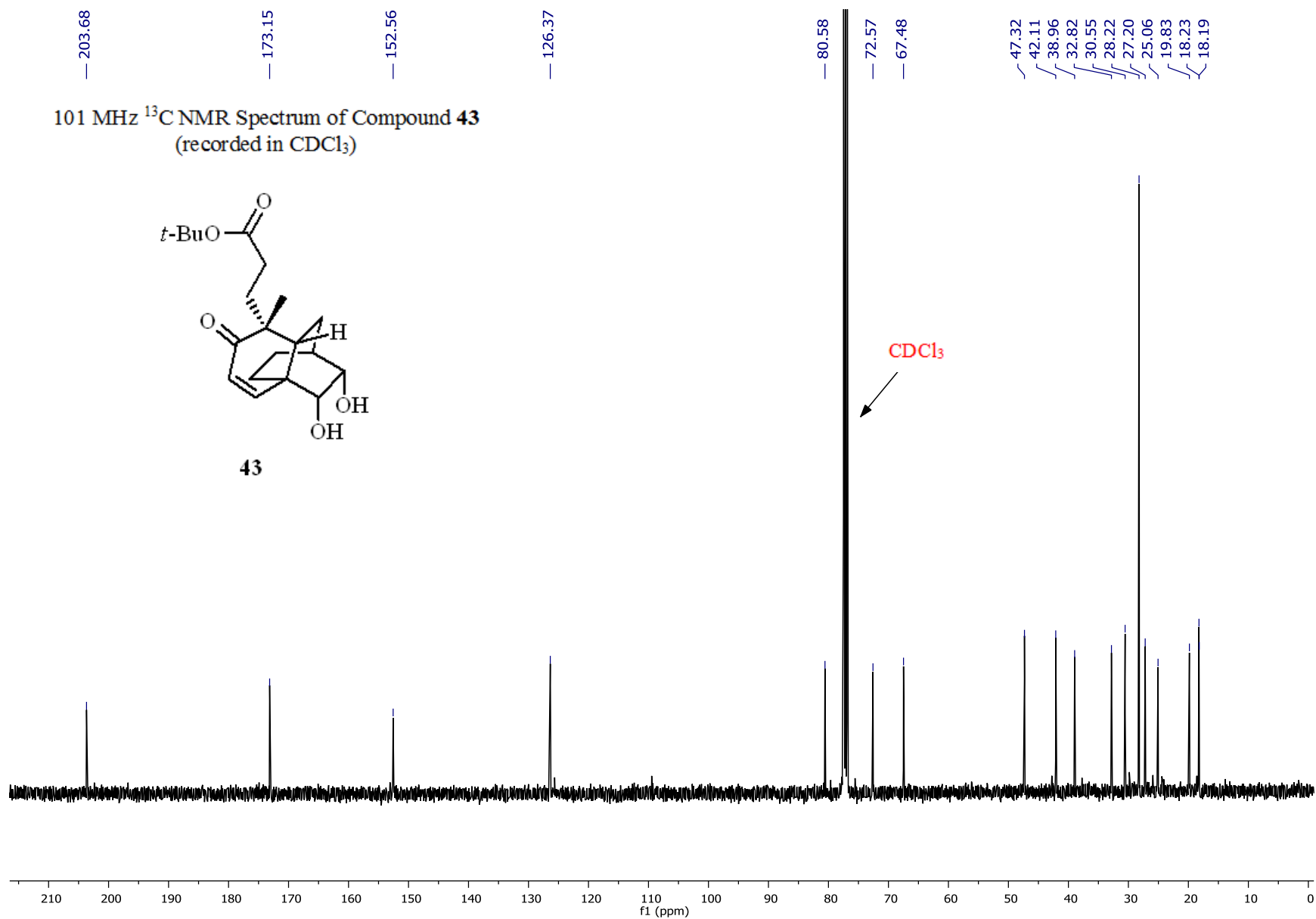




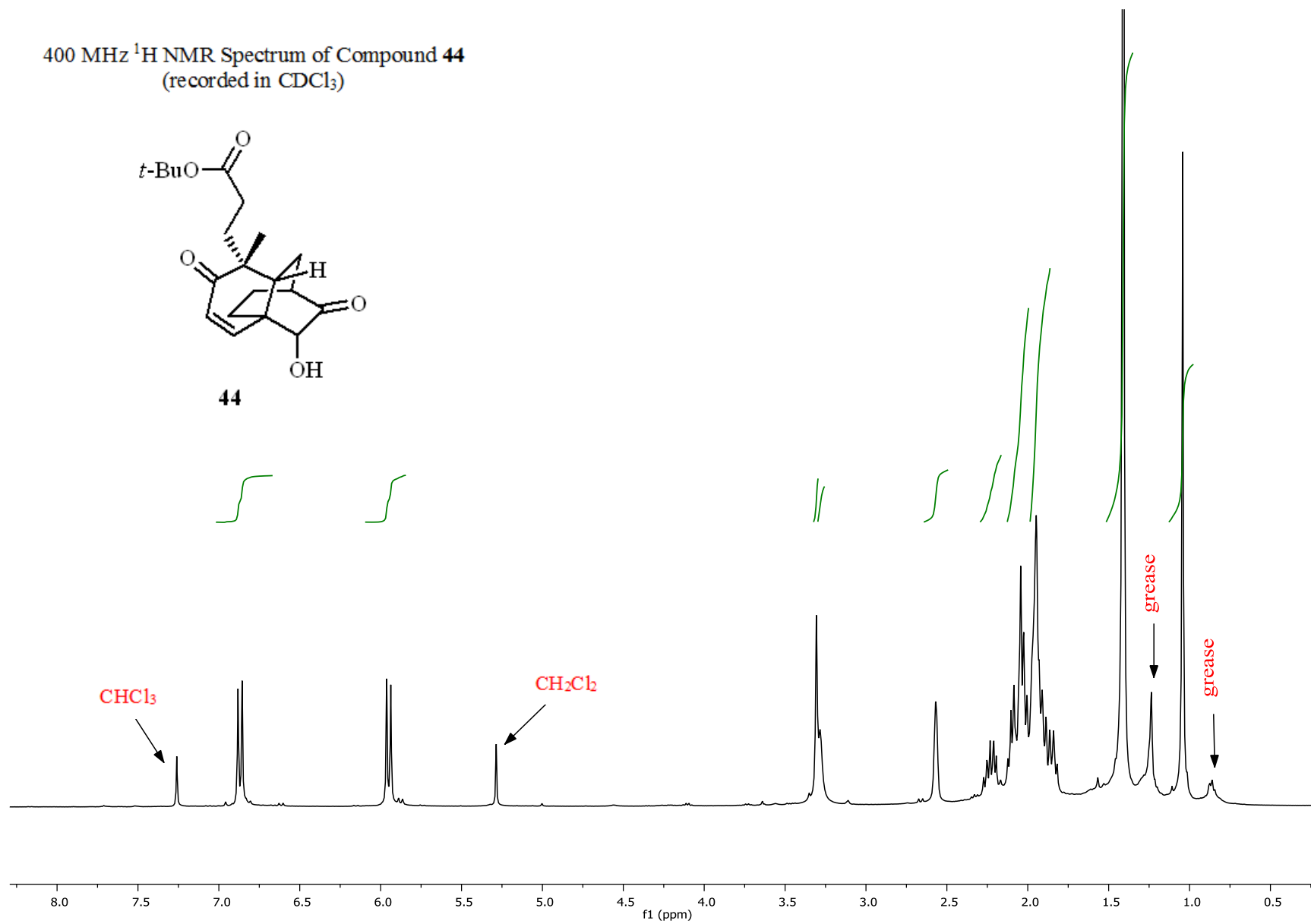
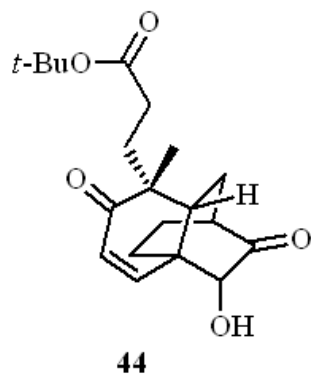


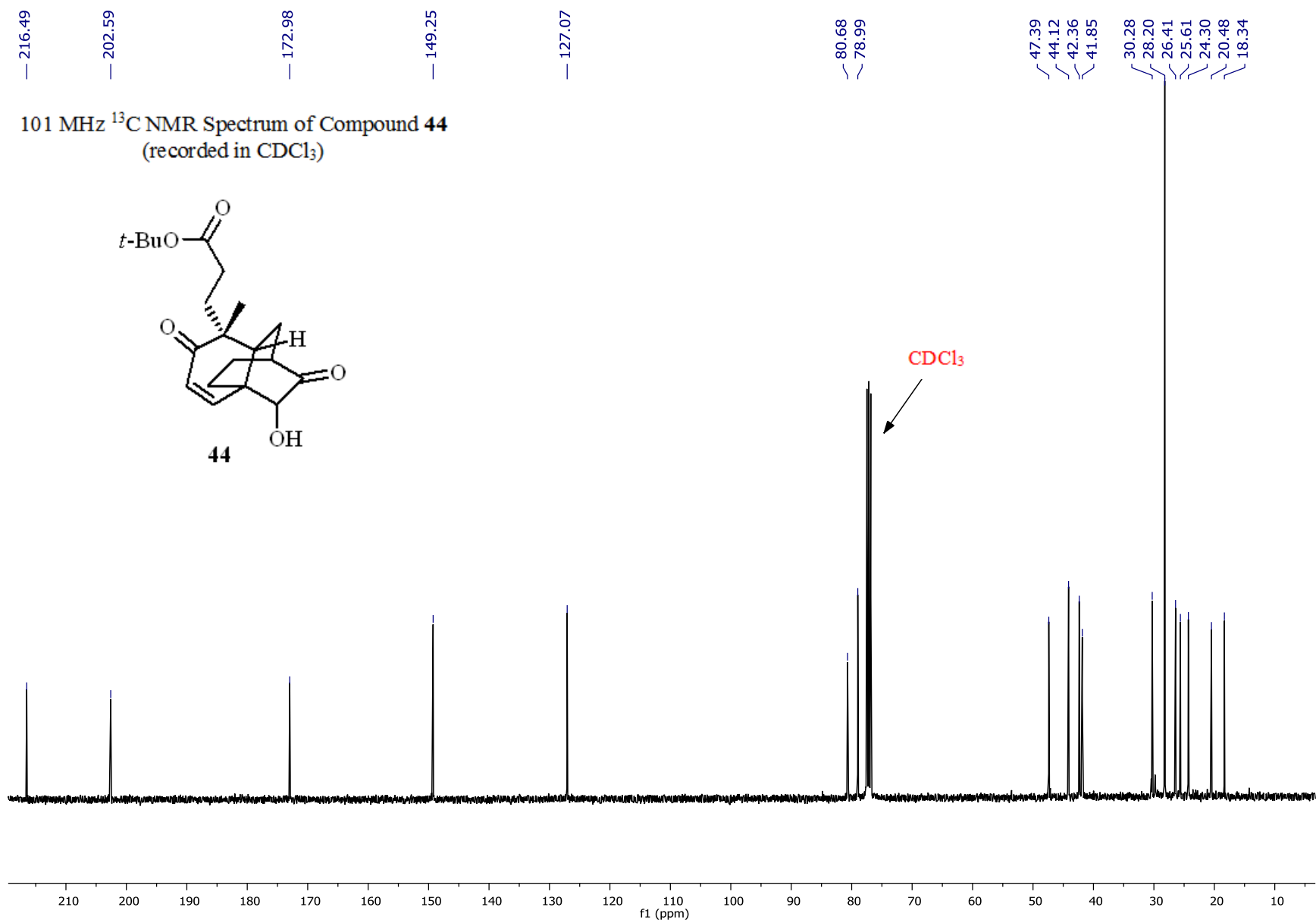
400 MHz  $^1\text{H}$  NMR Spectrum of Compound **43**  
(recorded in  $\text{CDCl}_3$ )



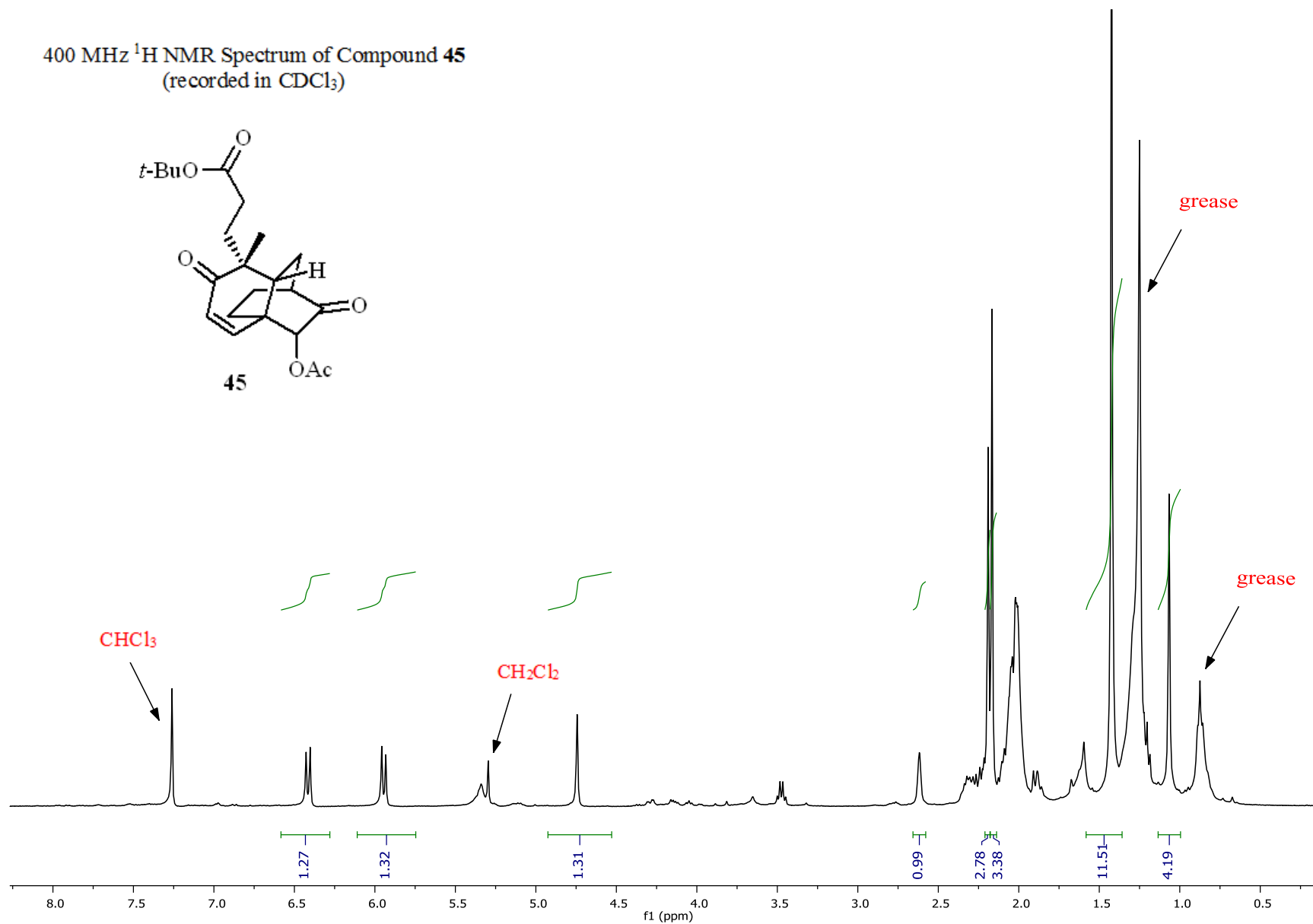
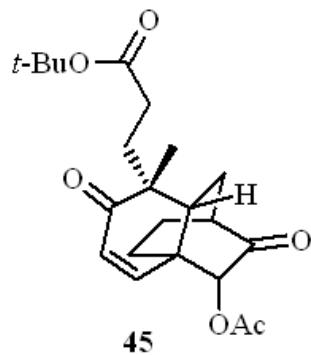


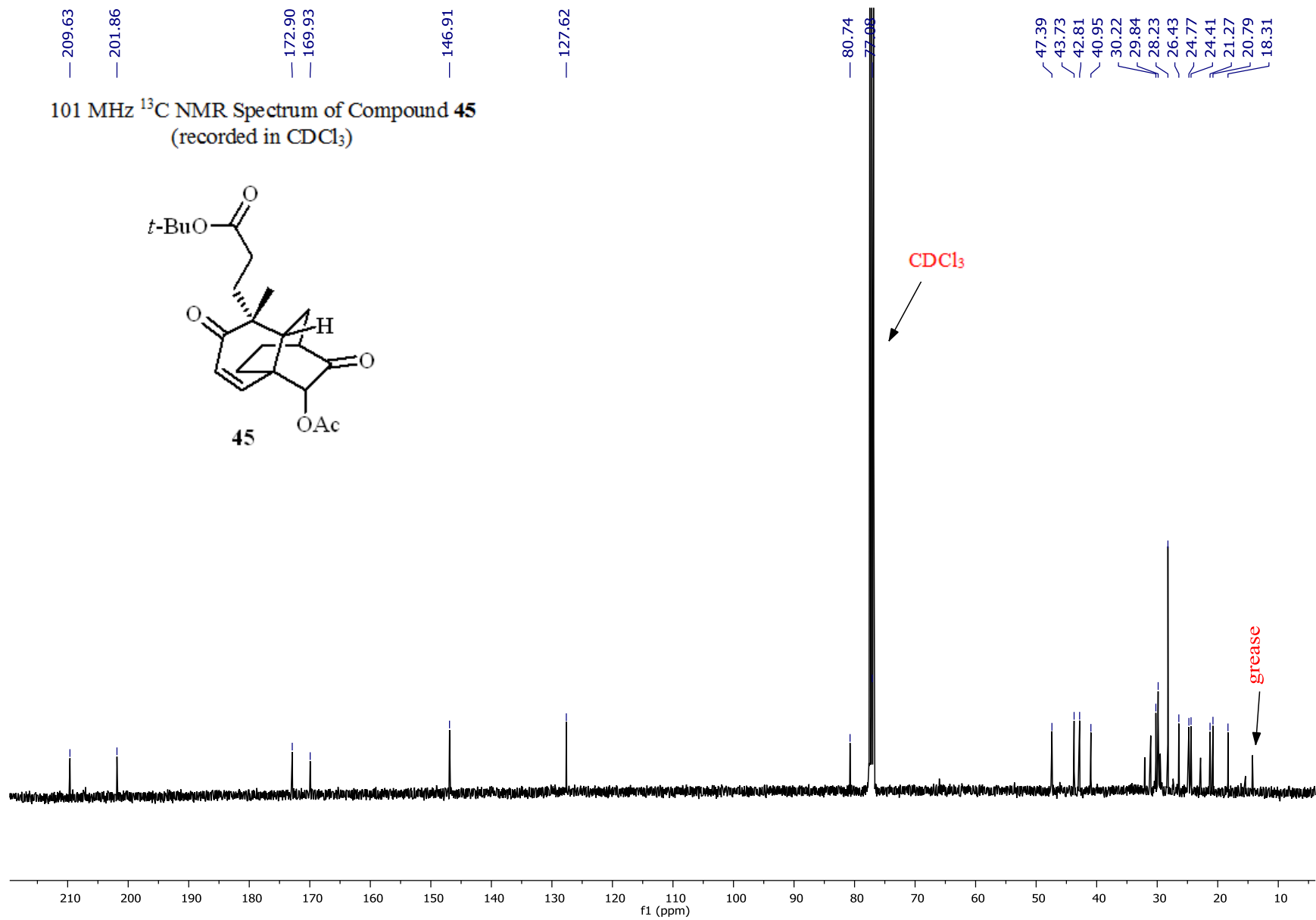
400 MHz  $^1\text{H}$  NMR Spectrum of Compound **44**  
(recorded in  $\text{CDCl}_3$ )



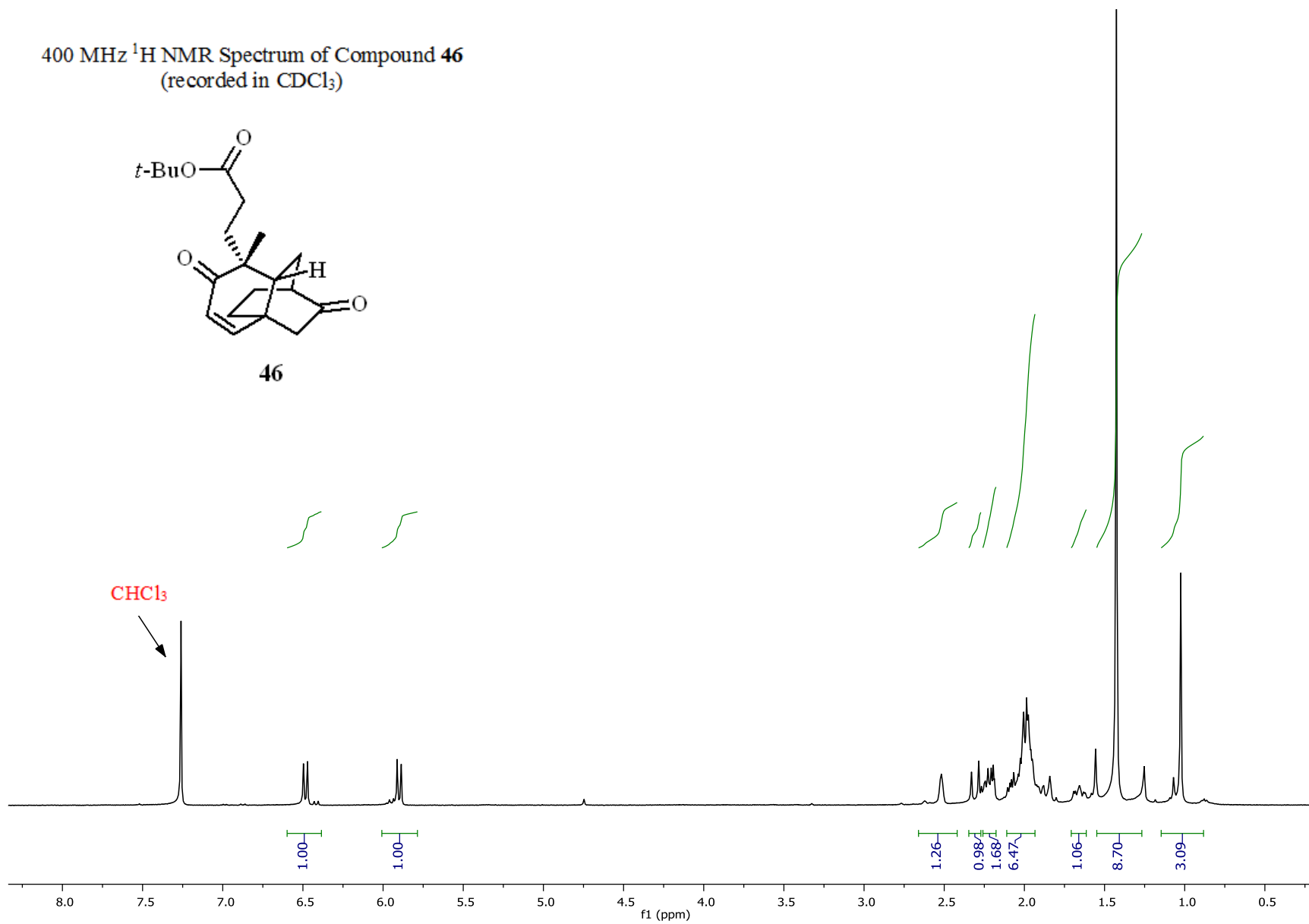
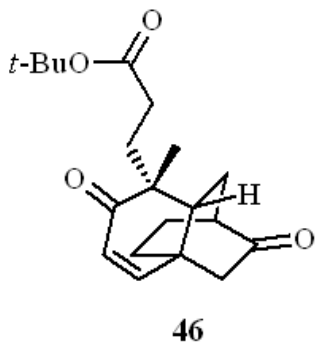


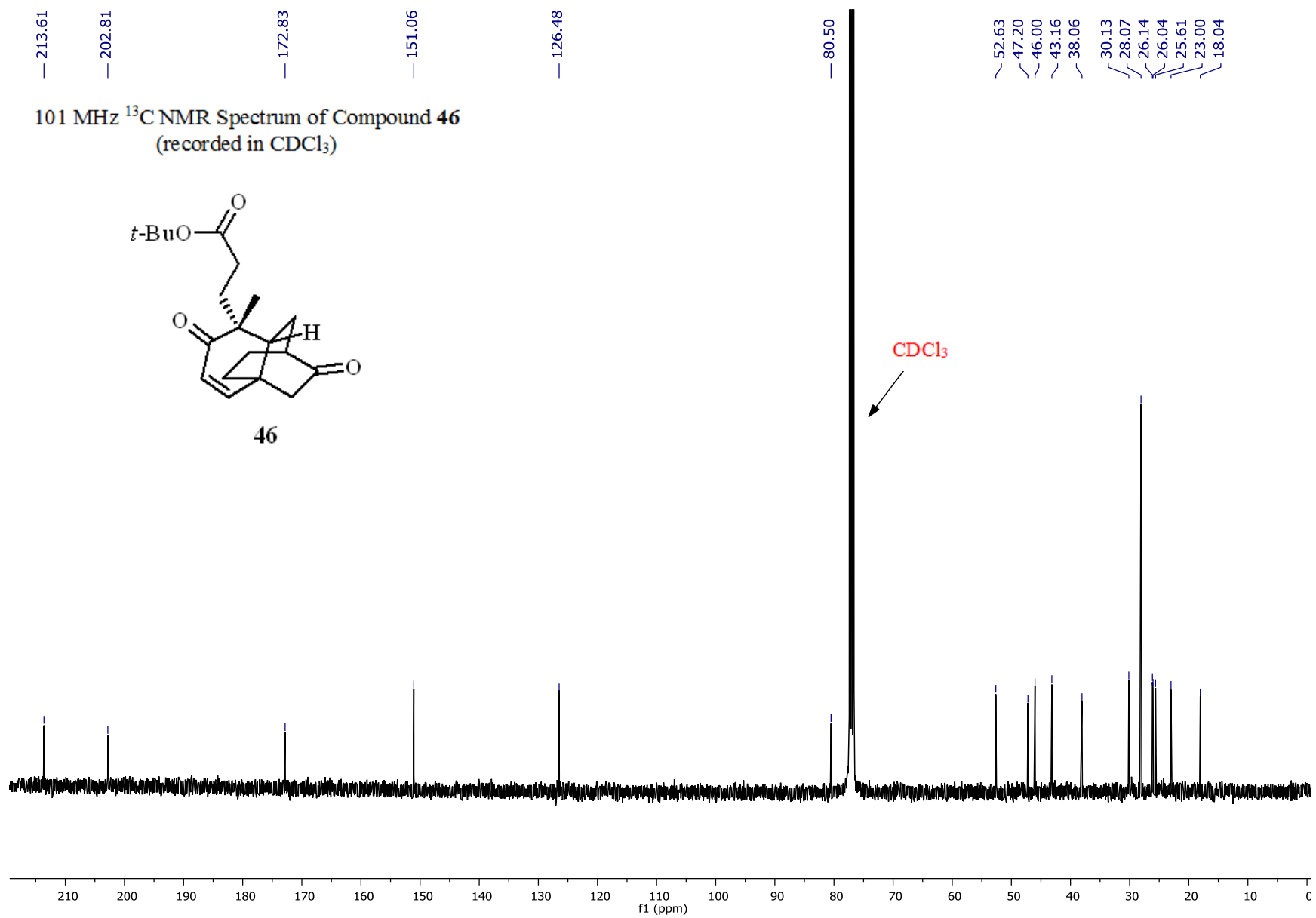
400 MHz  $^1\text{H}$  NMR Spectrum of Compound **45**  
(recorded in  $\text{CDCl}_3$ )





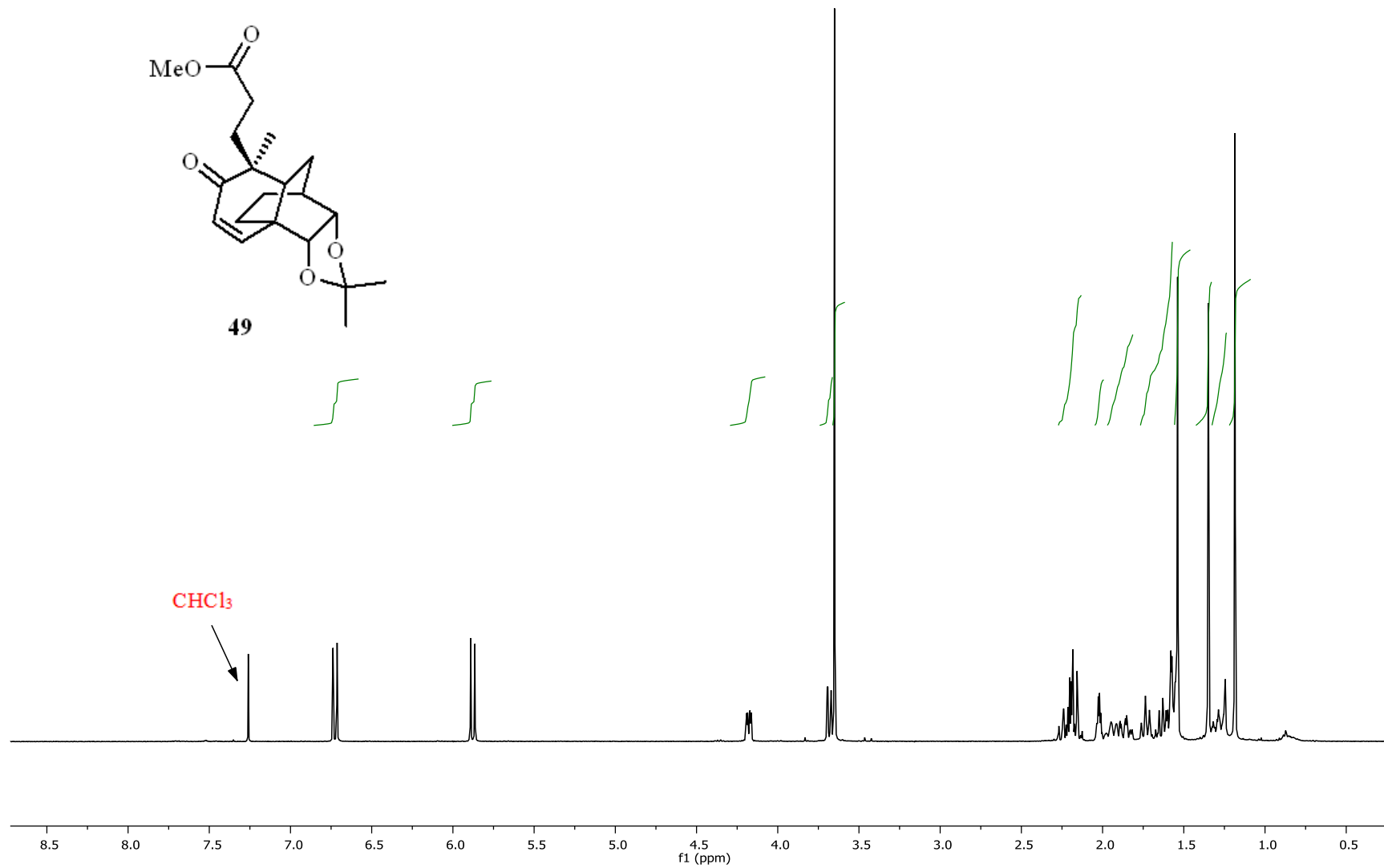
400 MHz  $^1\text{H}$  NMR Spectrum of Compound **46**  
(recorded in  $\text{CDCl}_3$ )

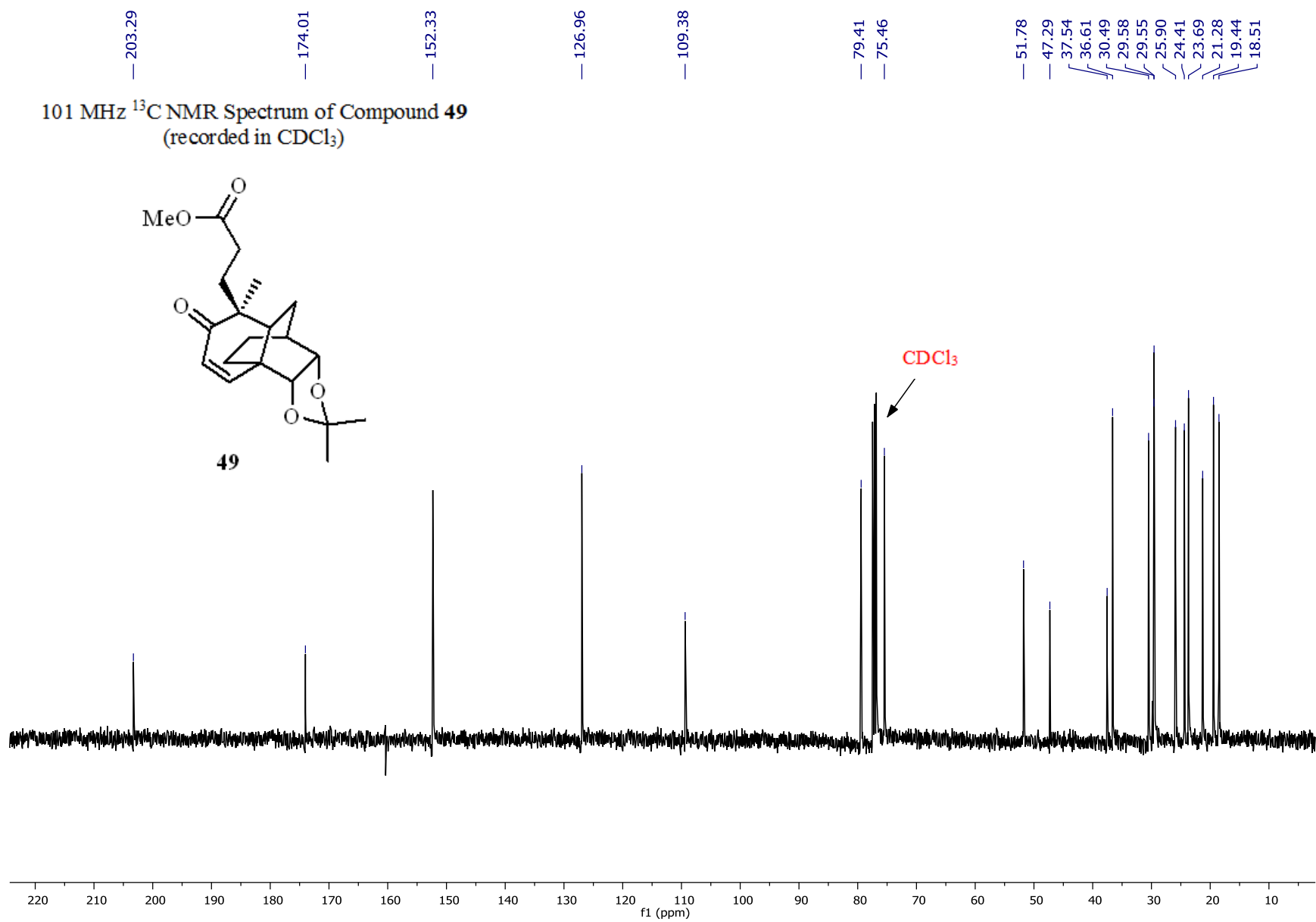




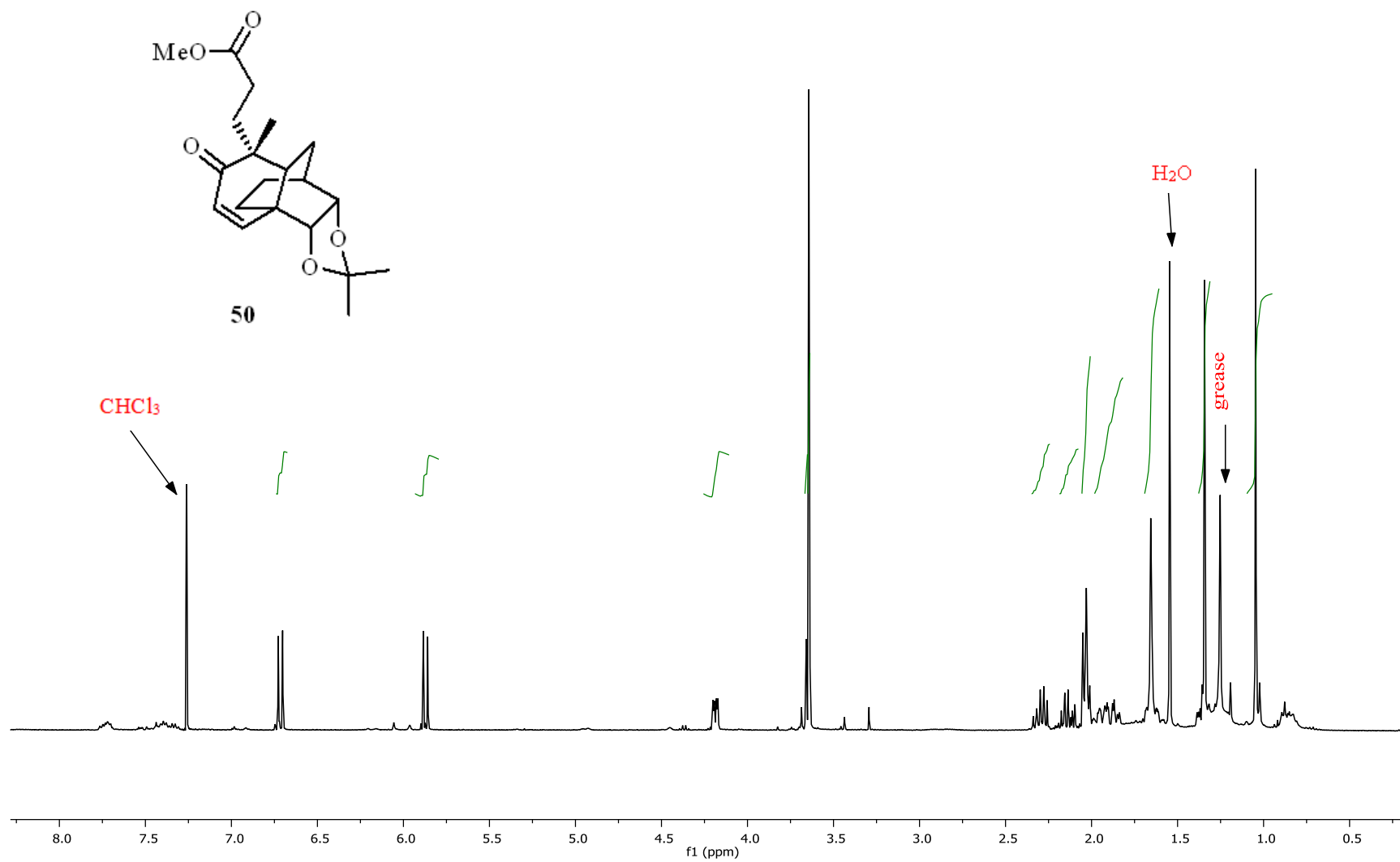


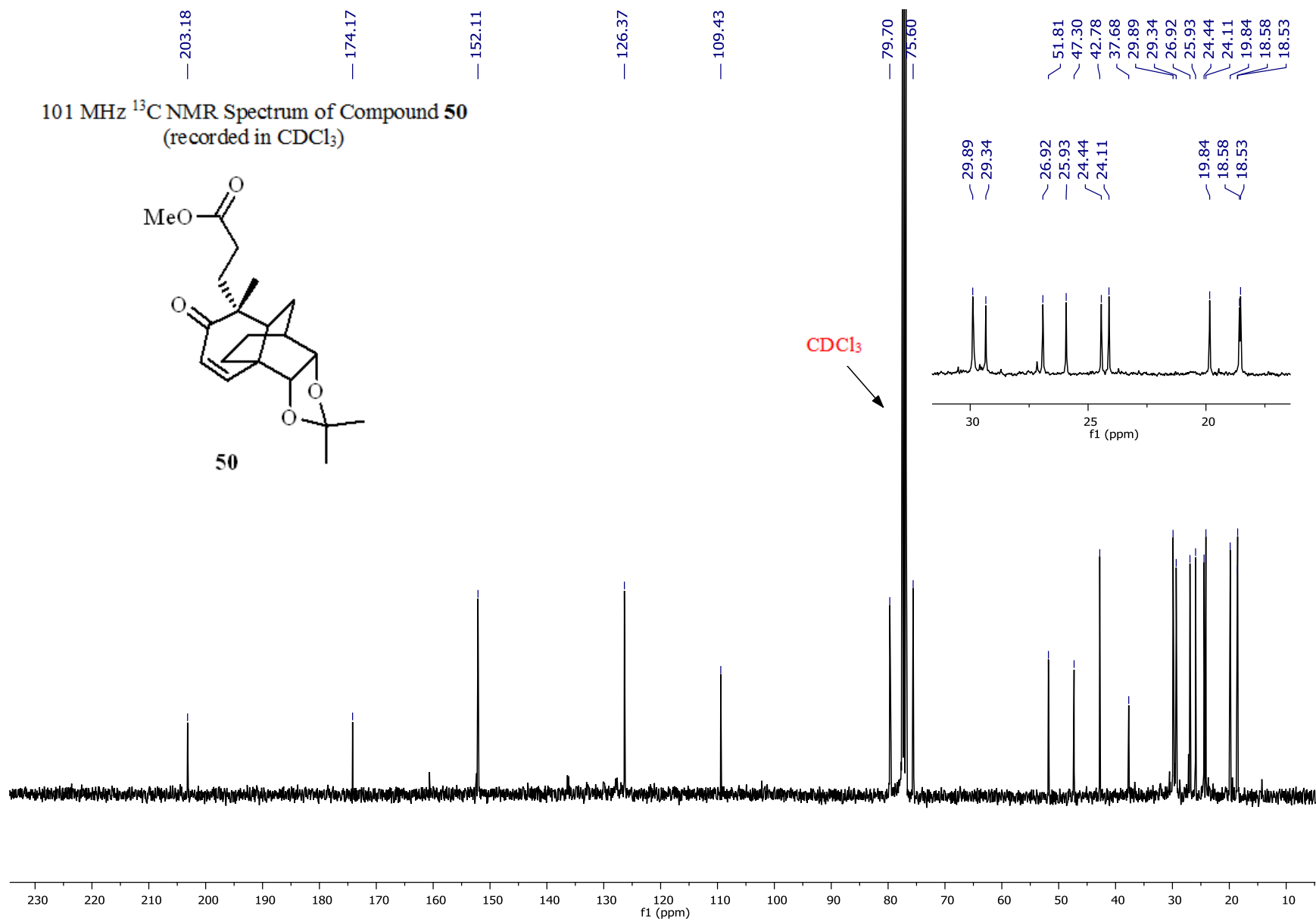
400 MHz  $^1\text{H}$  NMR Spectrum of Compound **49**  
(recorded in  $\text{CDCl}_3$ )



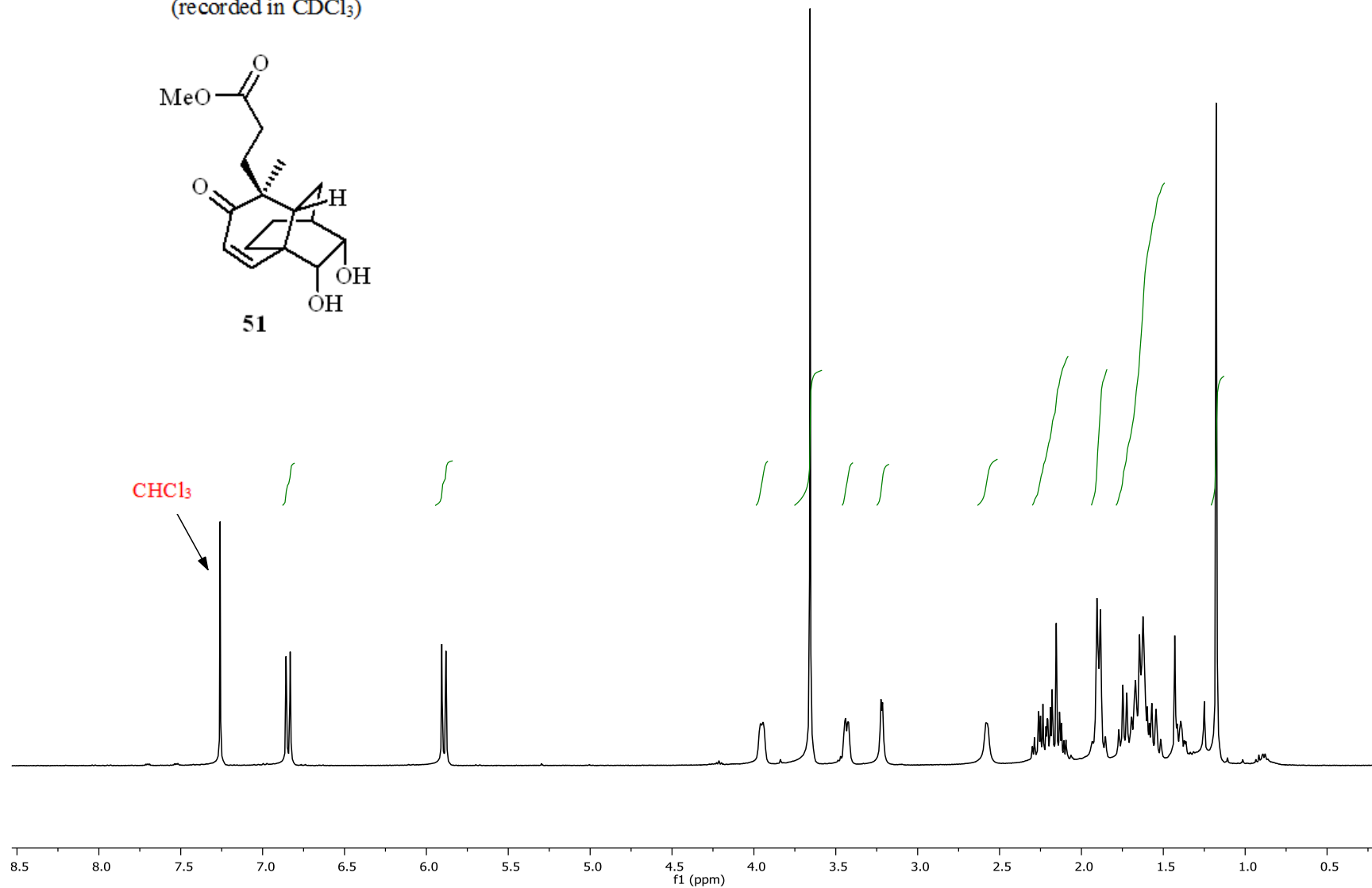
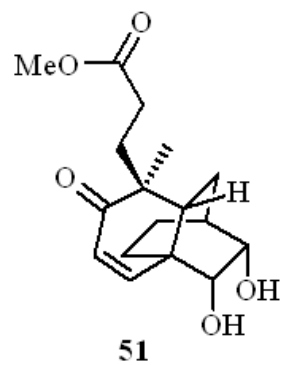


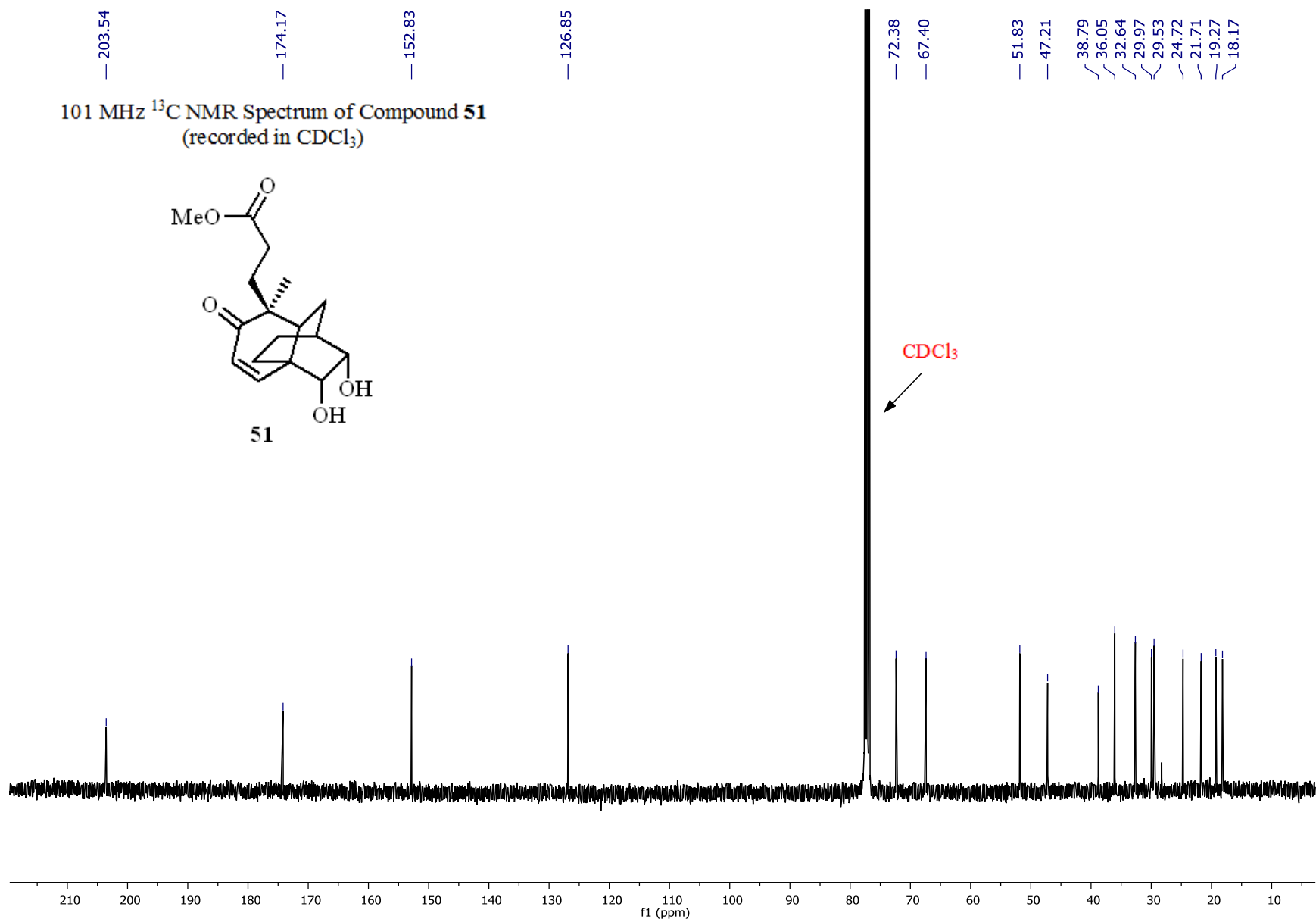
400 MHz  $^1\text{H}$  NMR Spectrum of Compound **50**  
(recorded in  $\text{CDCl}_3$ )



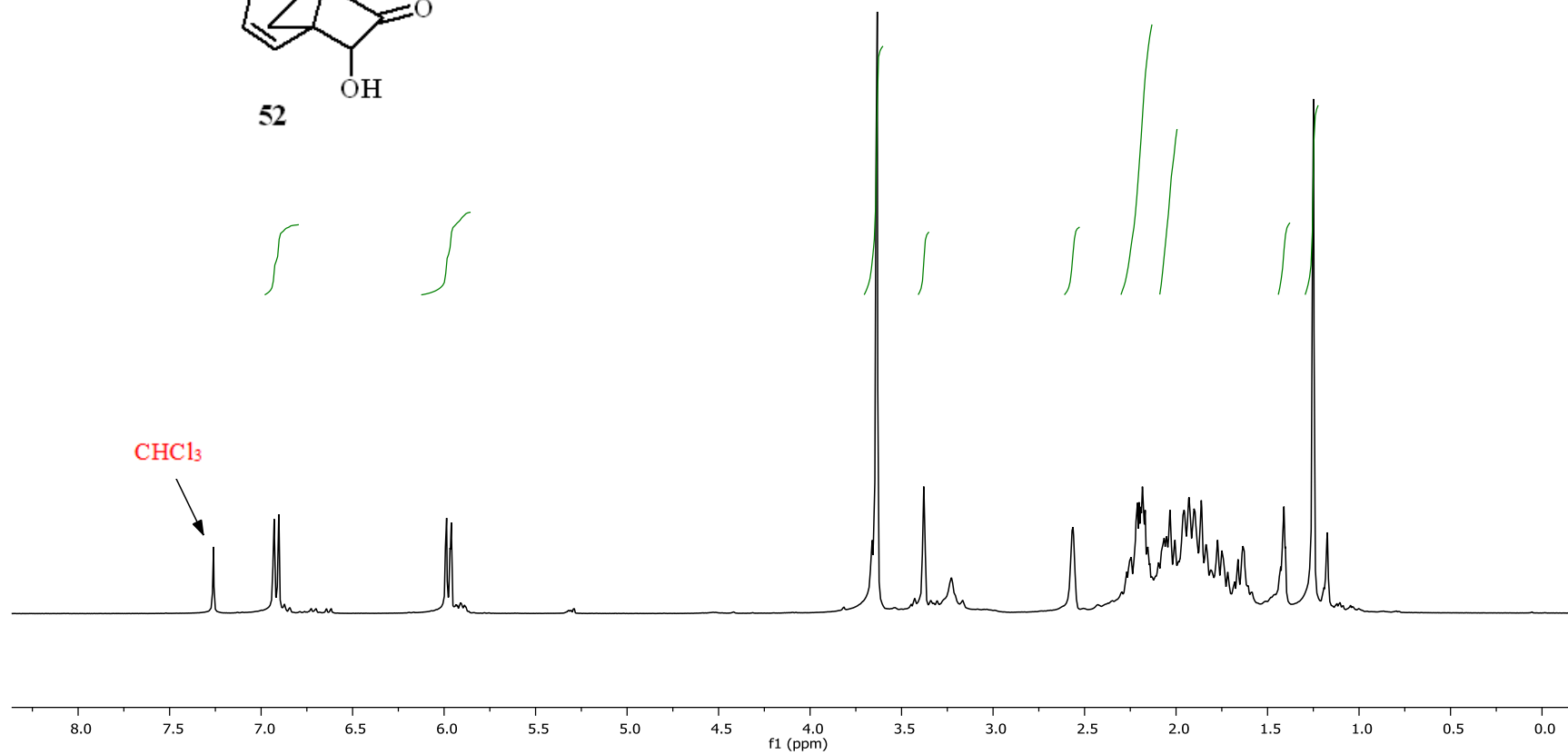
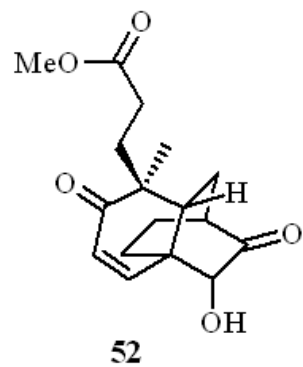


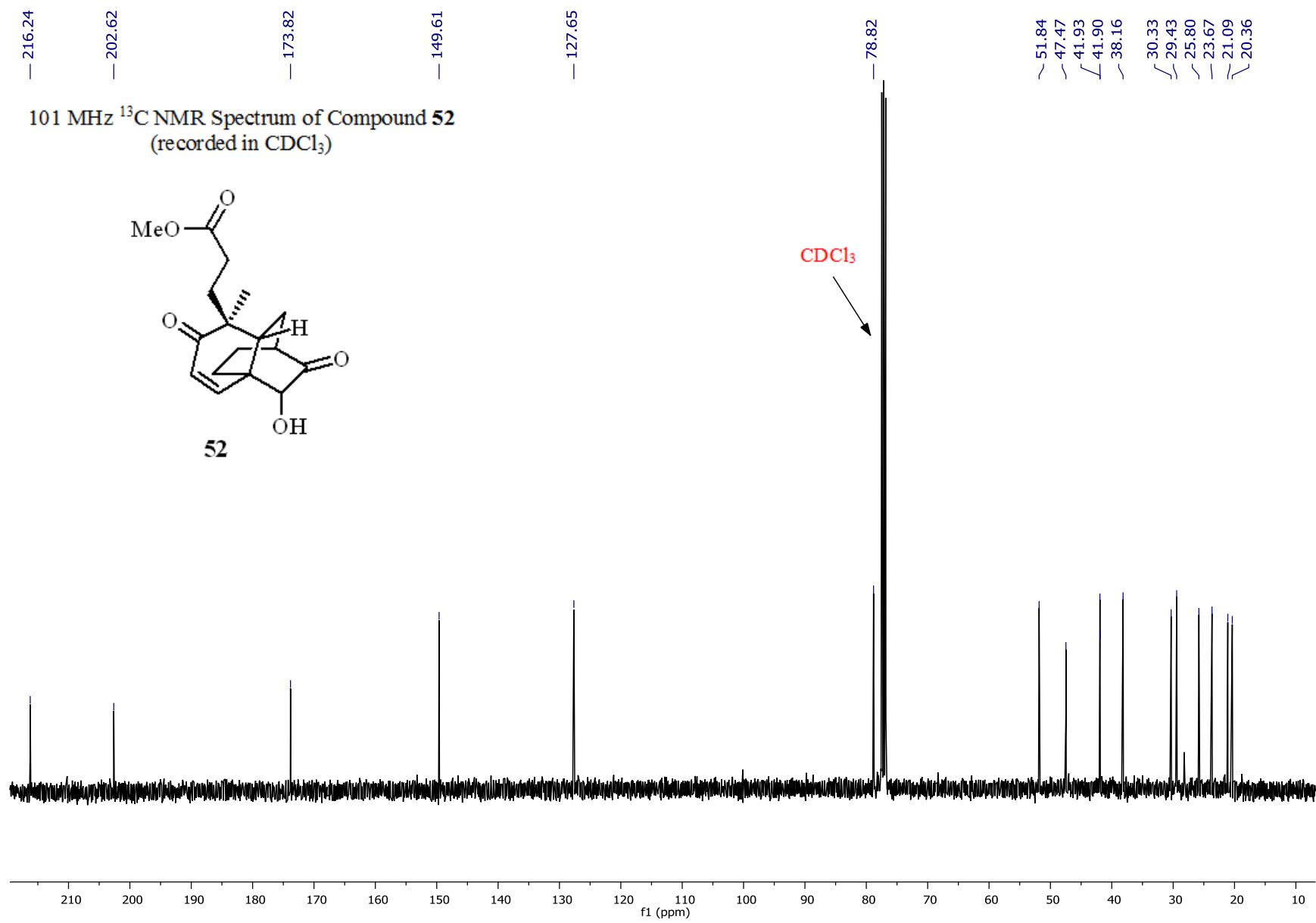
400 MHz  $^1\text{H}$  NMR Spectrum of Compound **51**  
(recorded in  $\text{CDCl}_3$ )





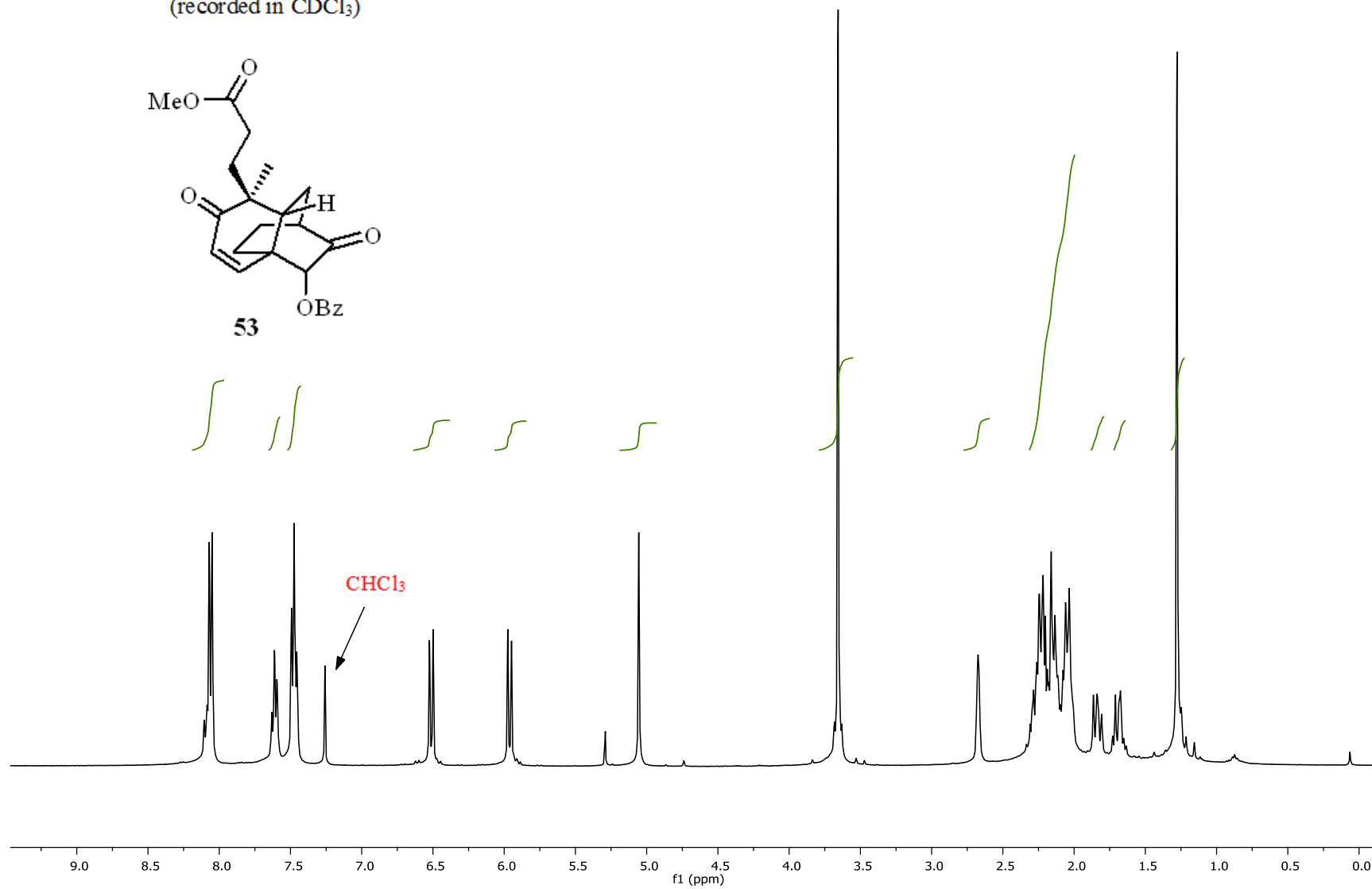
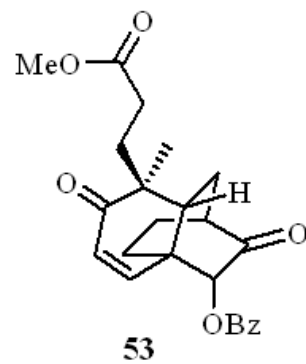
400 MHz  $^1\text{H}$  NMR Spectrum of Compound **52**  
(recorded in  $\text{CDCl}_3$ )

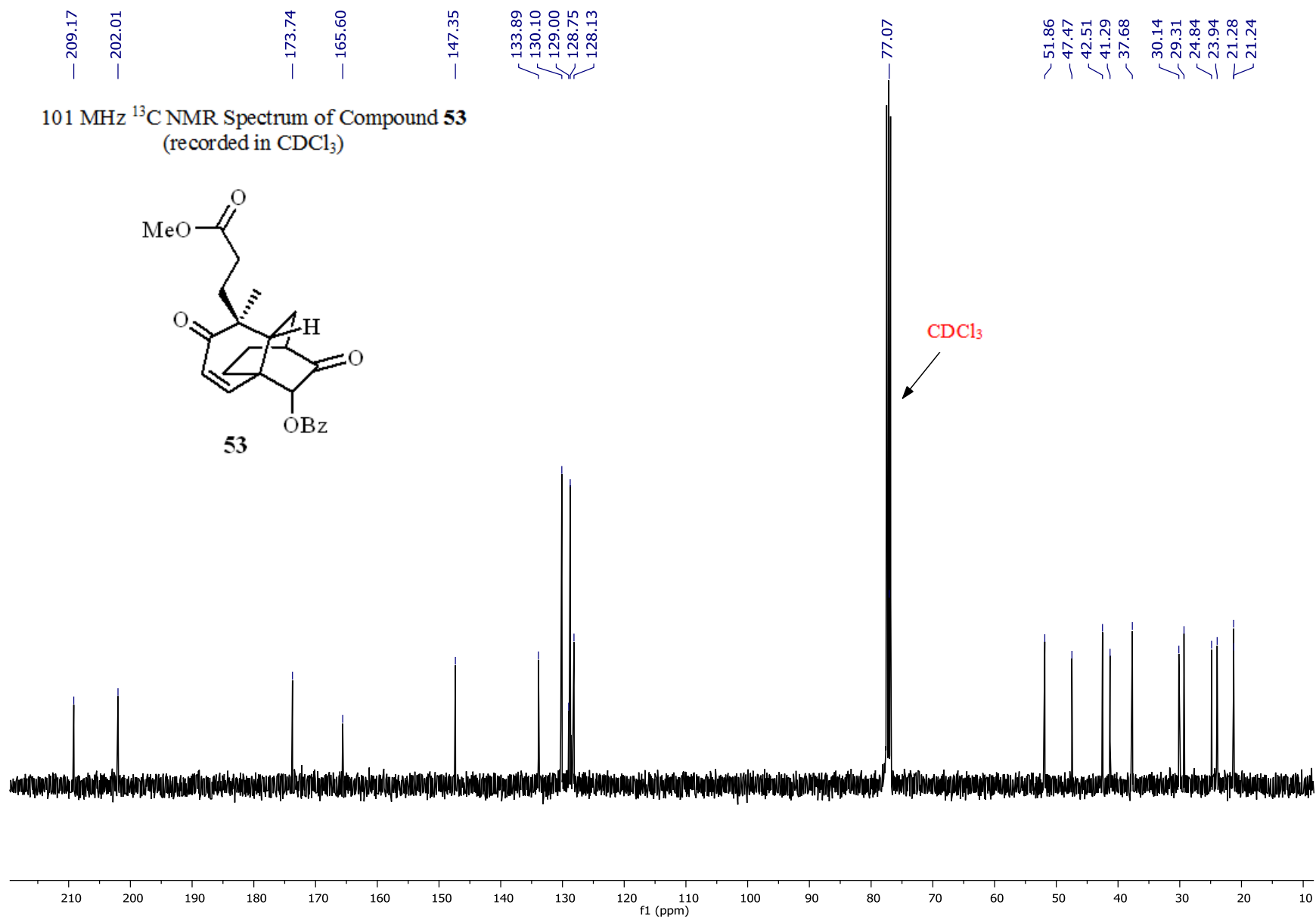




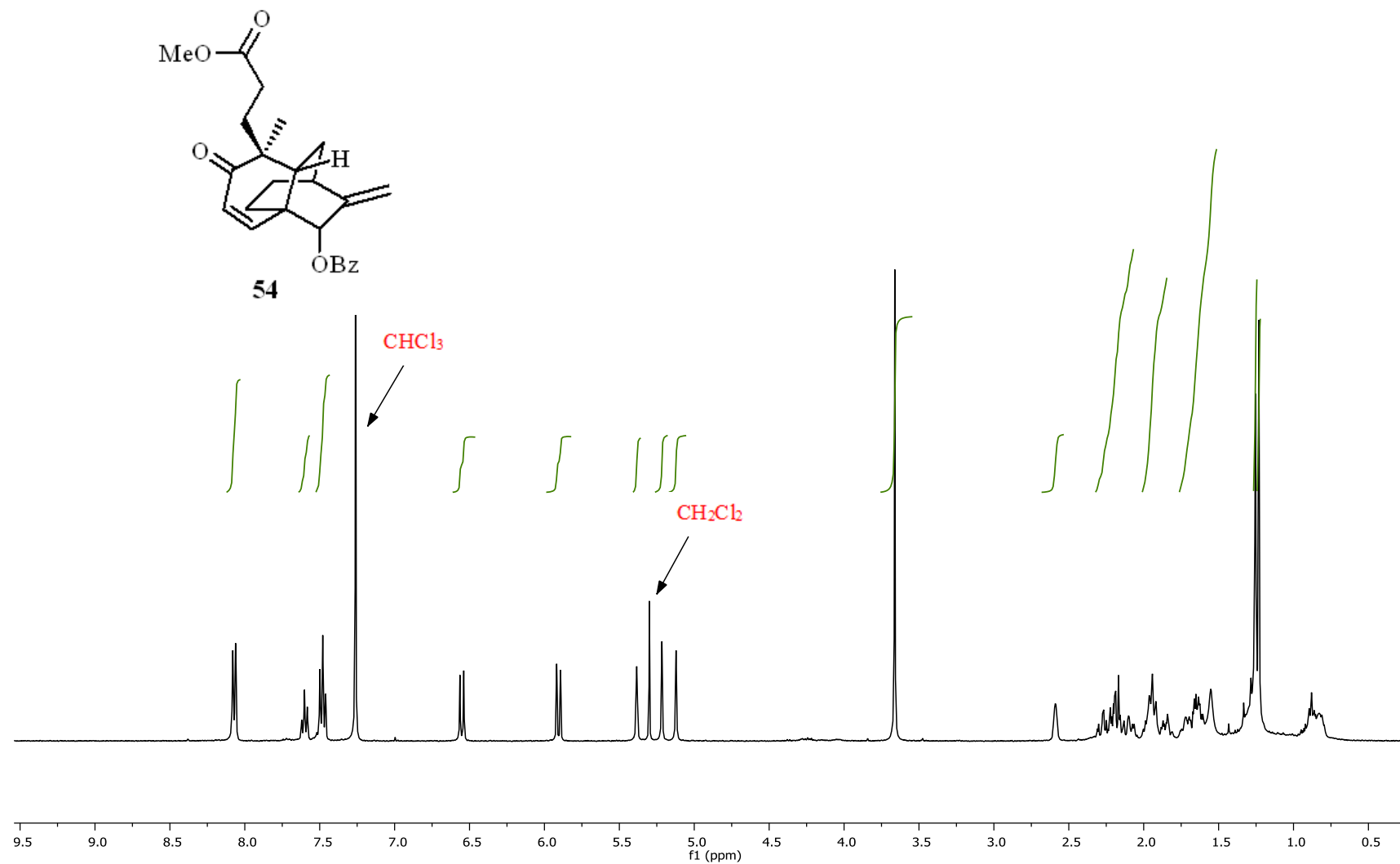


400 MHz  $^1\text{H}$  NMR Spectrum of Compound **53**  
(recorded in  $\text{CDCl}_3$ )

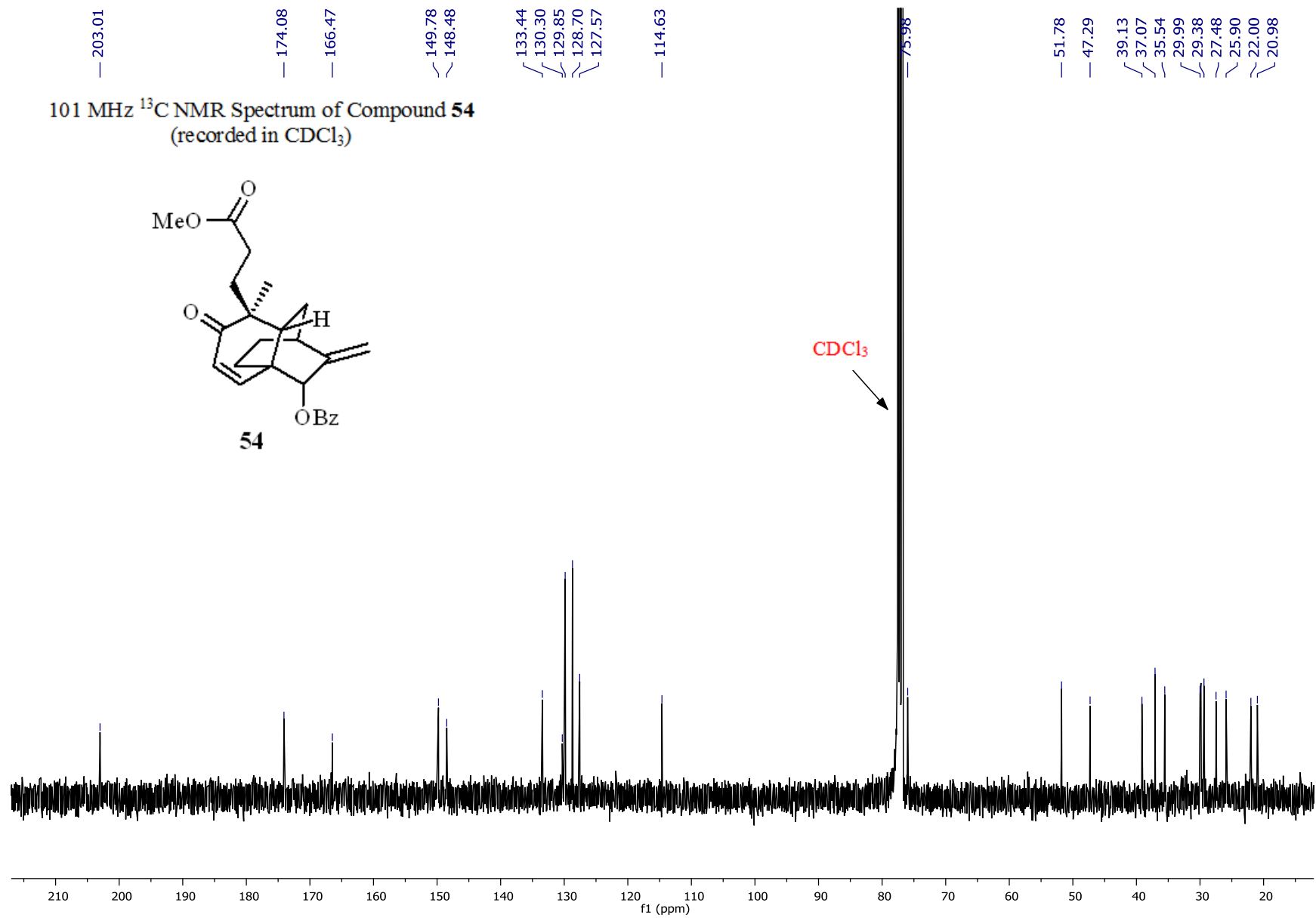
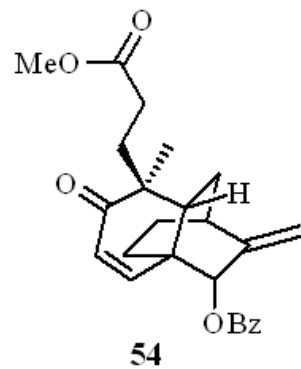




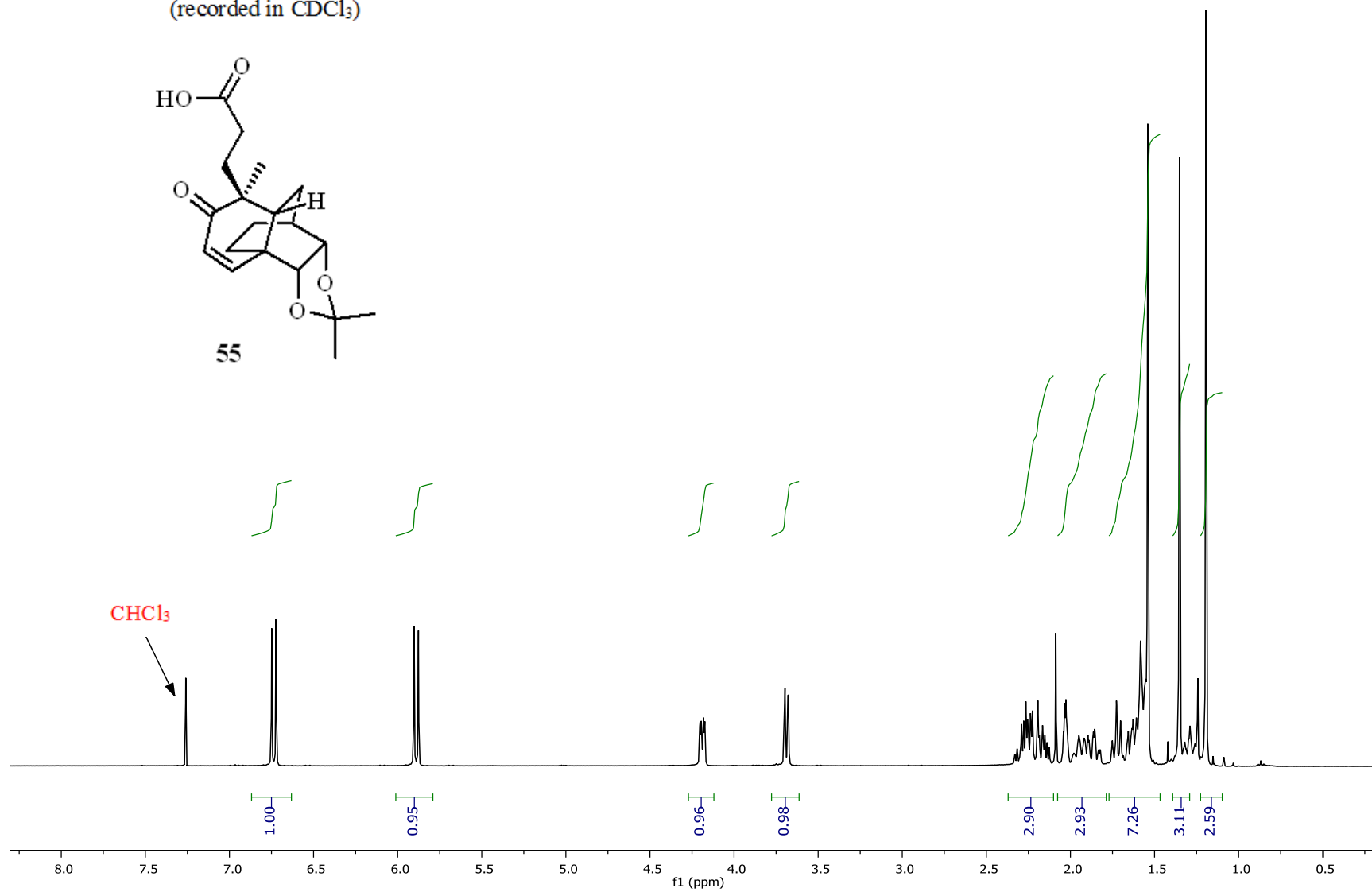
400 MHz  $^1\text{H}$  NMR Spectrum of Compound **54**  
(recorded in  $\text{CDCl}_3$ )

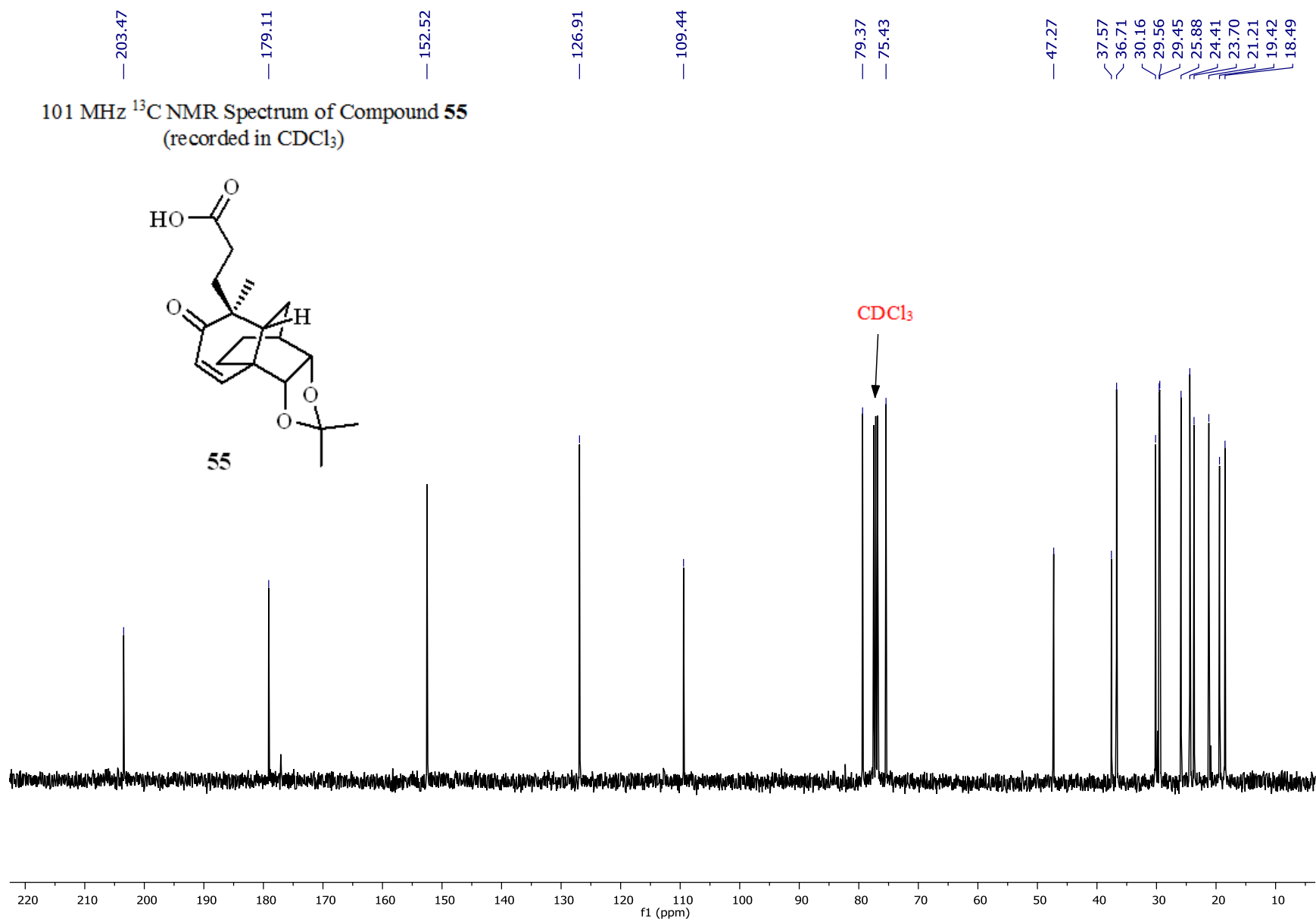


101 MHz  $^{13}\text{C}$  NMR Spectrum of Compound **54**  
(recorded in  $\text{CDCl}_3$ )

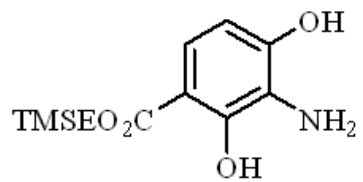


400 MHz  $^1\text{H}$  NMR Spectrum of Compound **55**  
(recorded in  $\text{CDCl}_3$ )

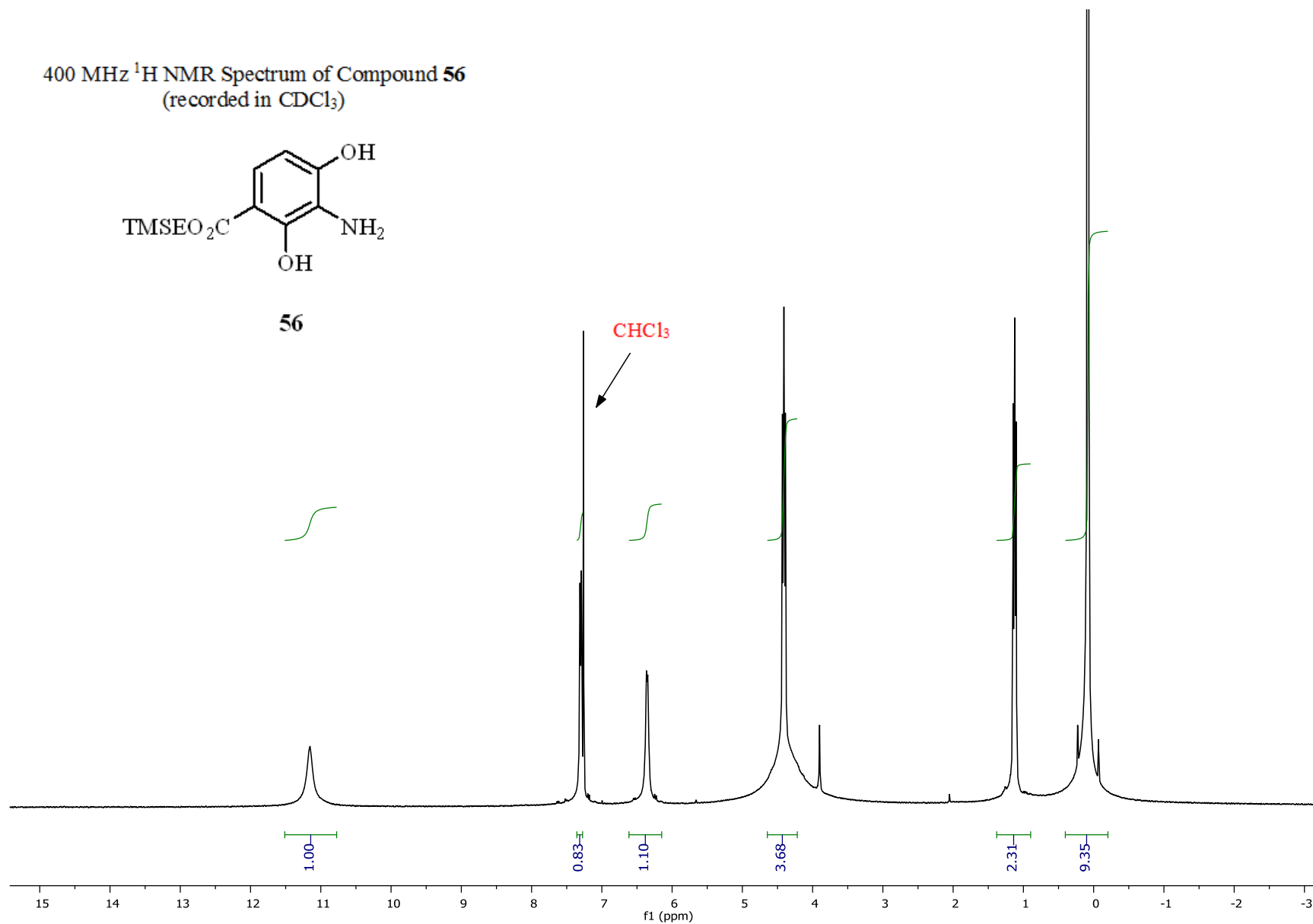




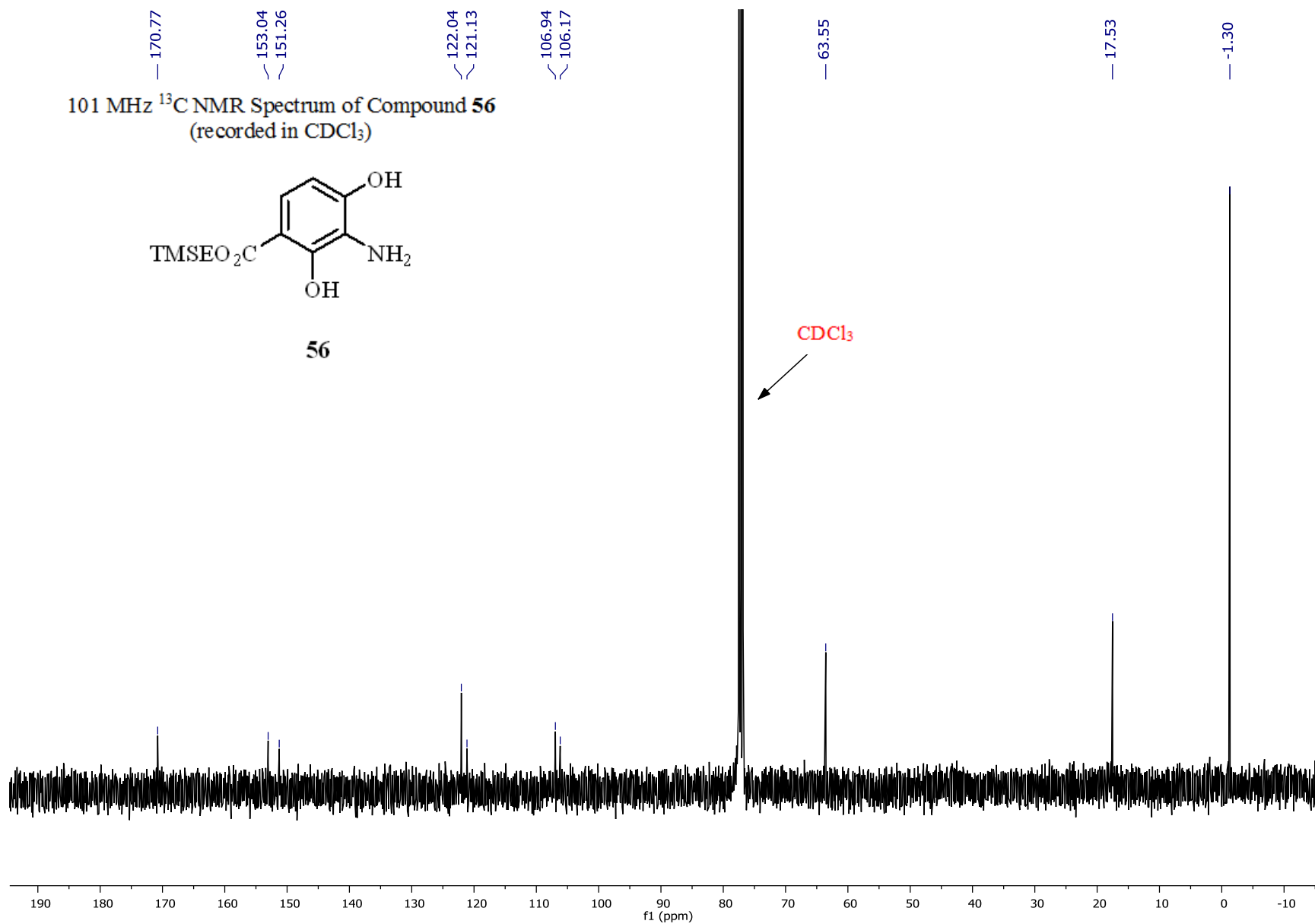
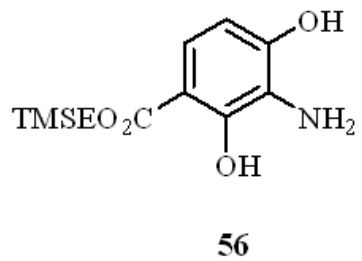
400 MHz  $^1\text{H}$  NMR Spectrum of Compound **56**  
(recorded in  $\text{CDCl}_3$ )



**56**

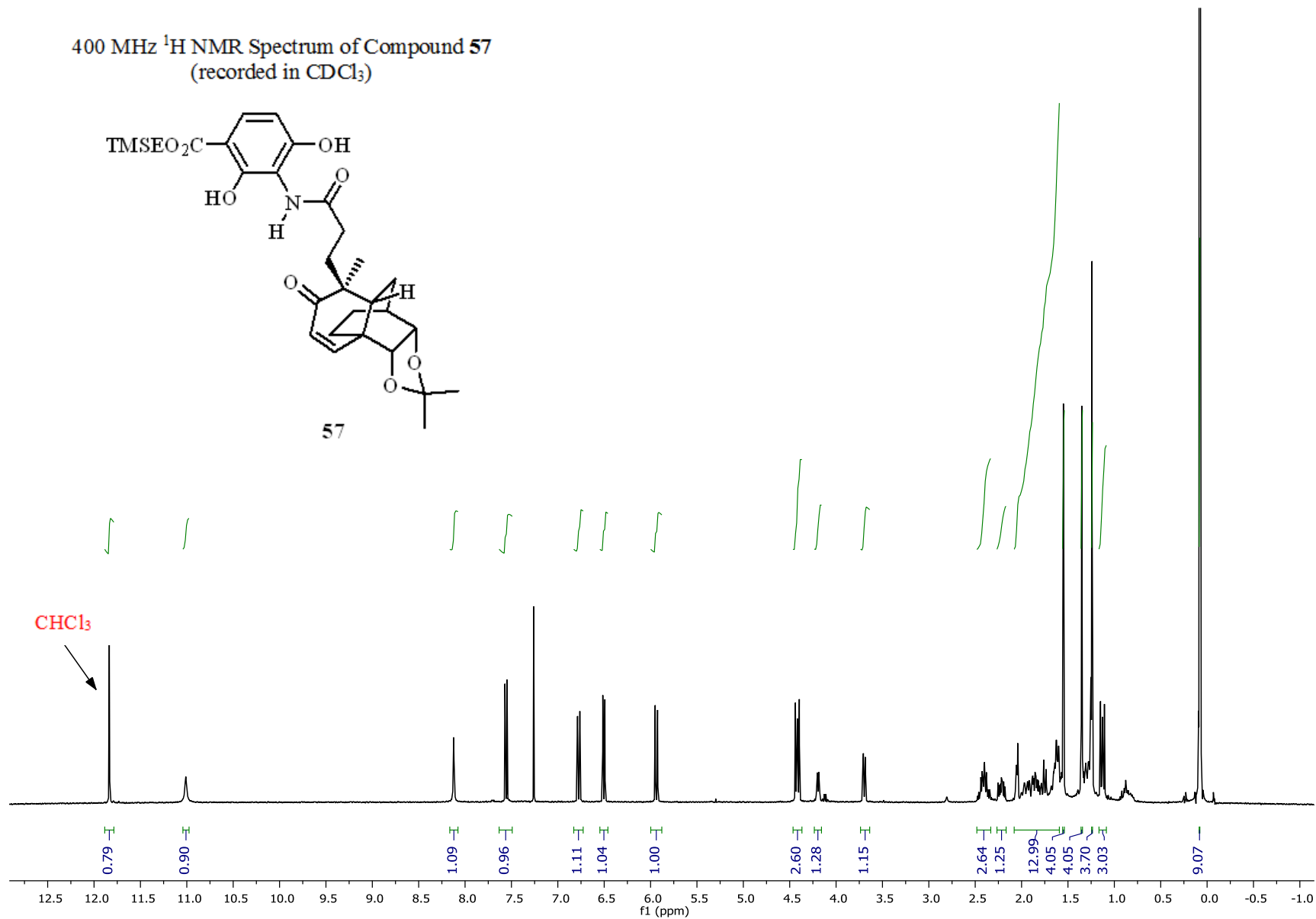


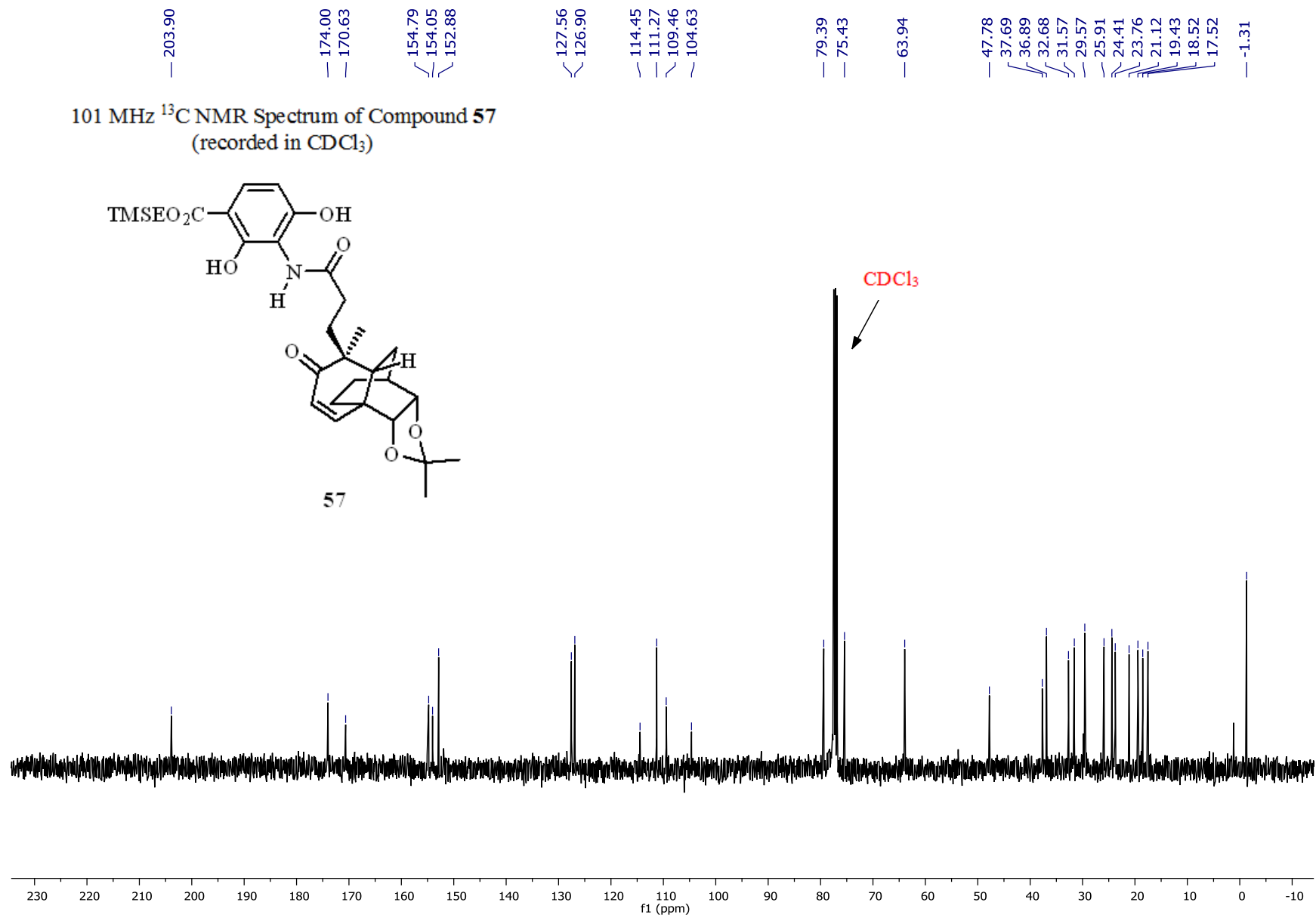
101 MHz  $^{13}\text{C}$  NMR Spectrum of Compound **56**  
(recorded in  $\text{CDCl}_3$ )



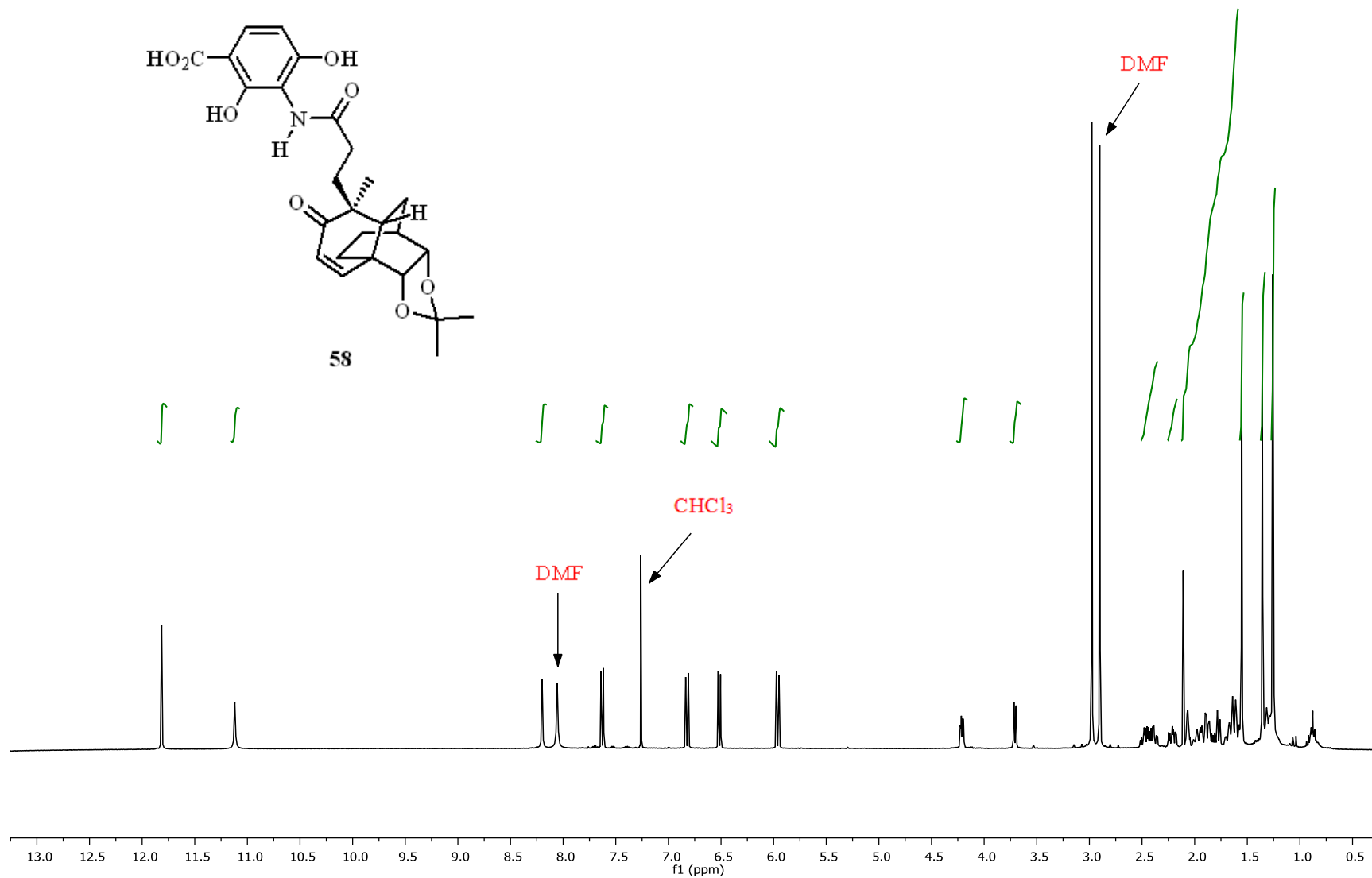


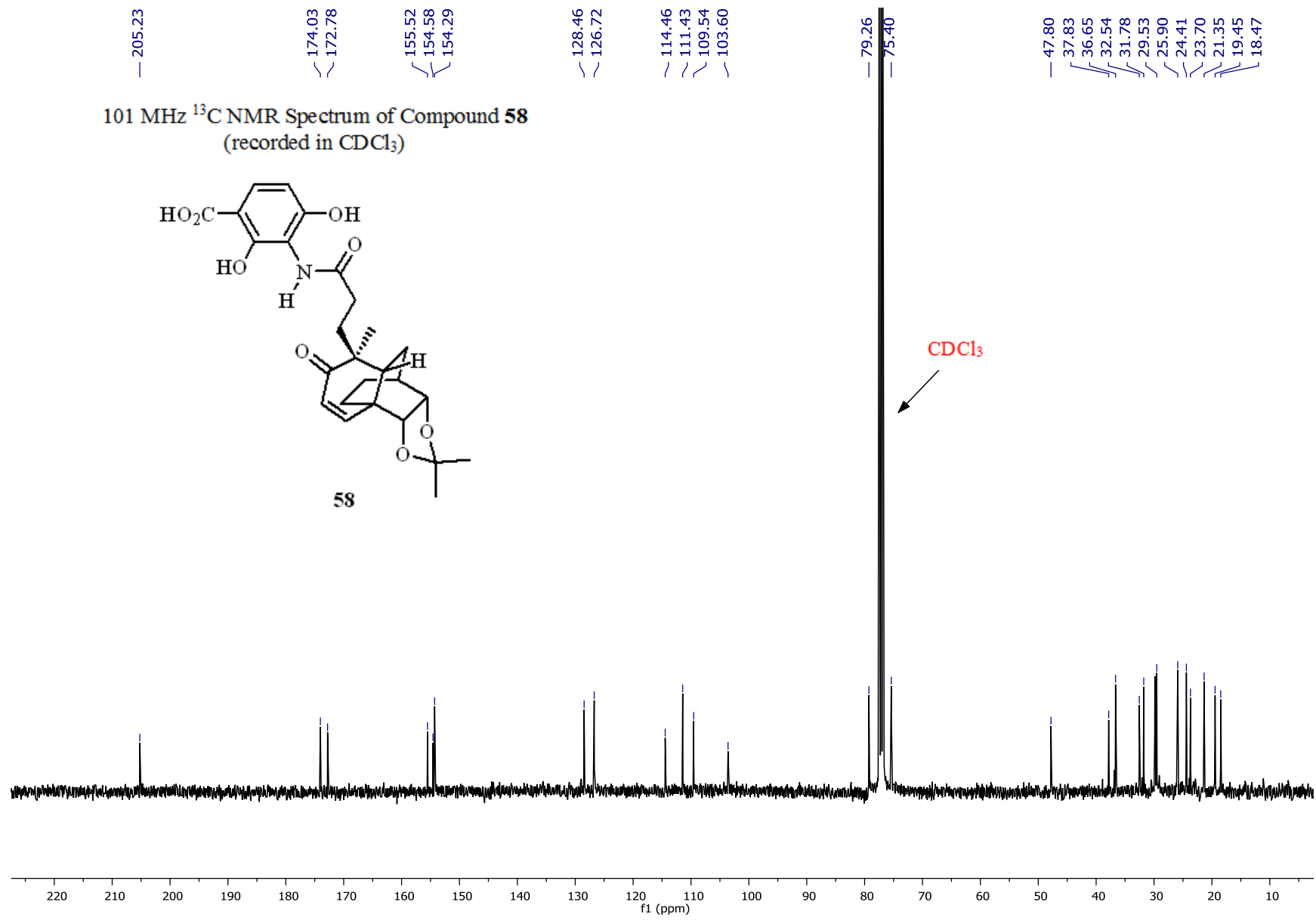
400 MHz  $^1\text{H}$  NMR Spectrum of Compound **57**  
(recorded in  $\text{CDCl}_3$ )



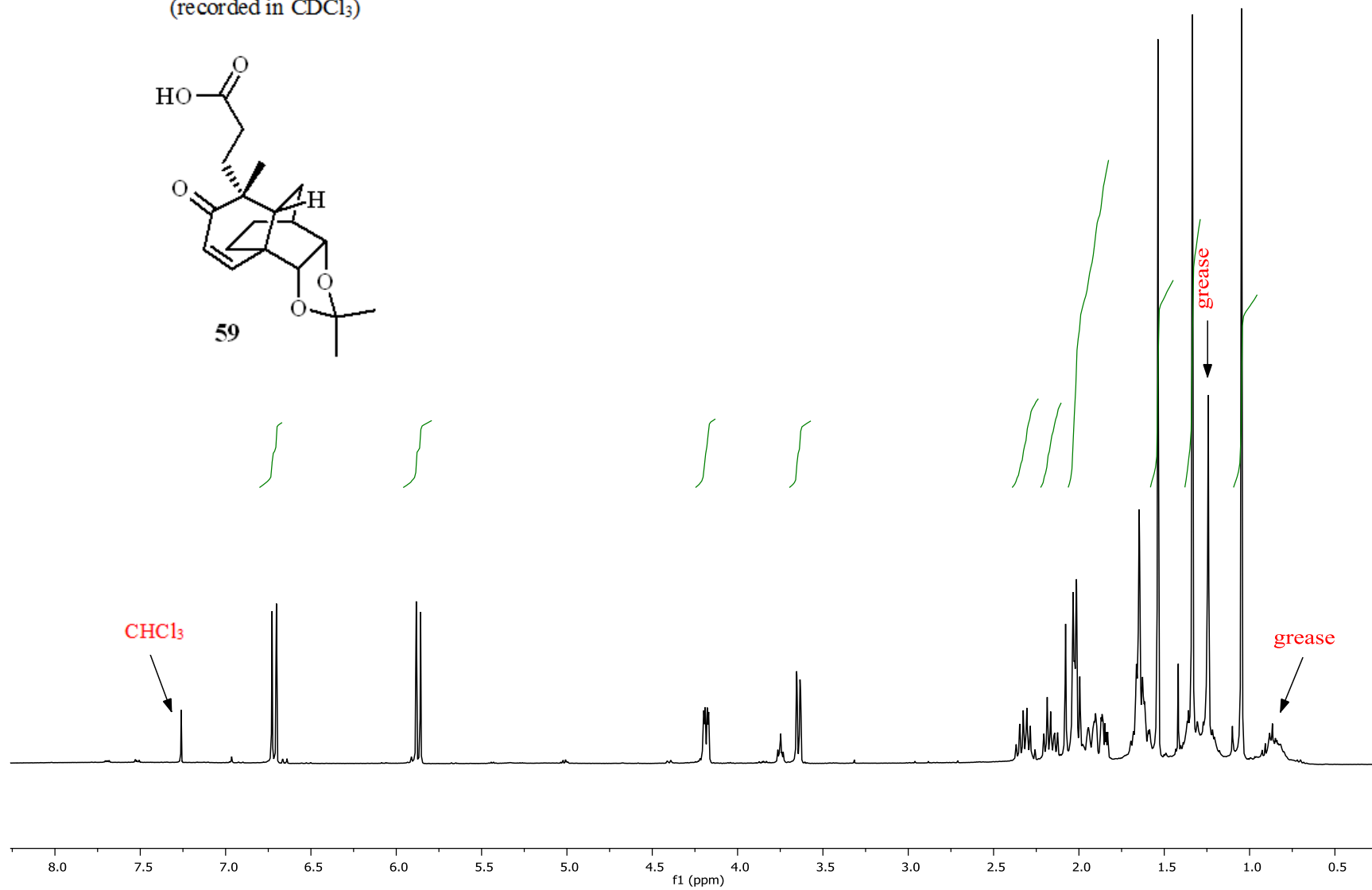
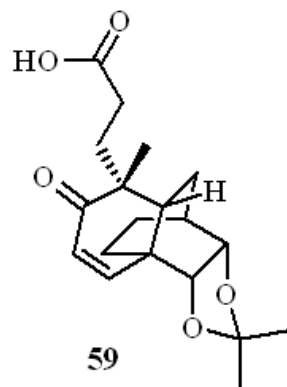


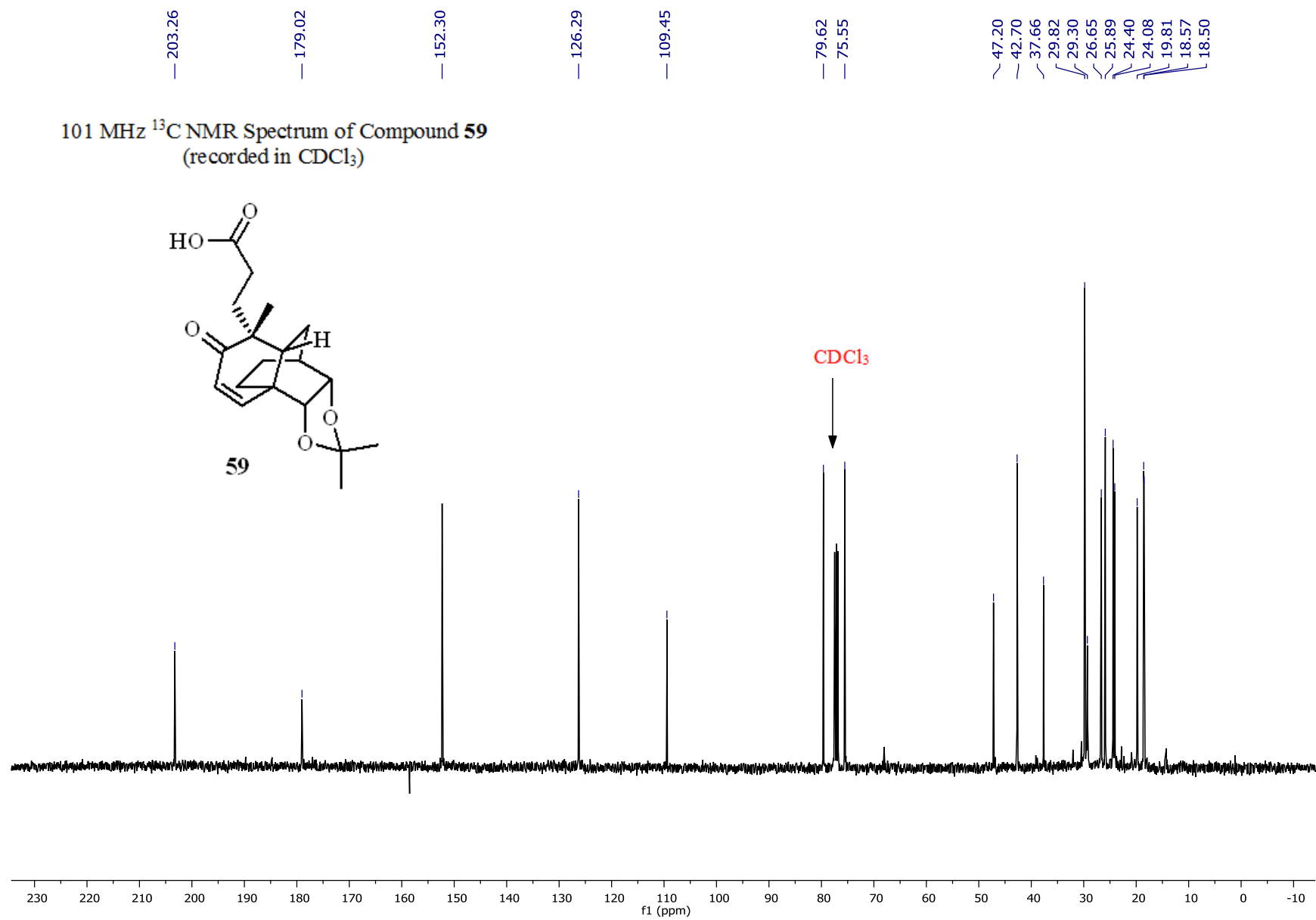
400 MHz  $^1\text{H}$  NMR Spectrum of Compound **58**  
(recorded in  $\text{CDCl}_3$ )



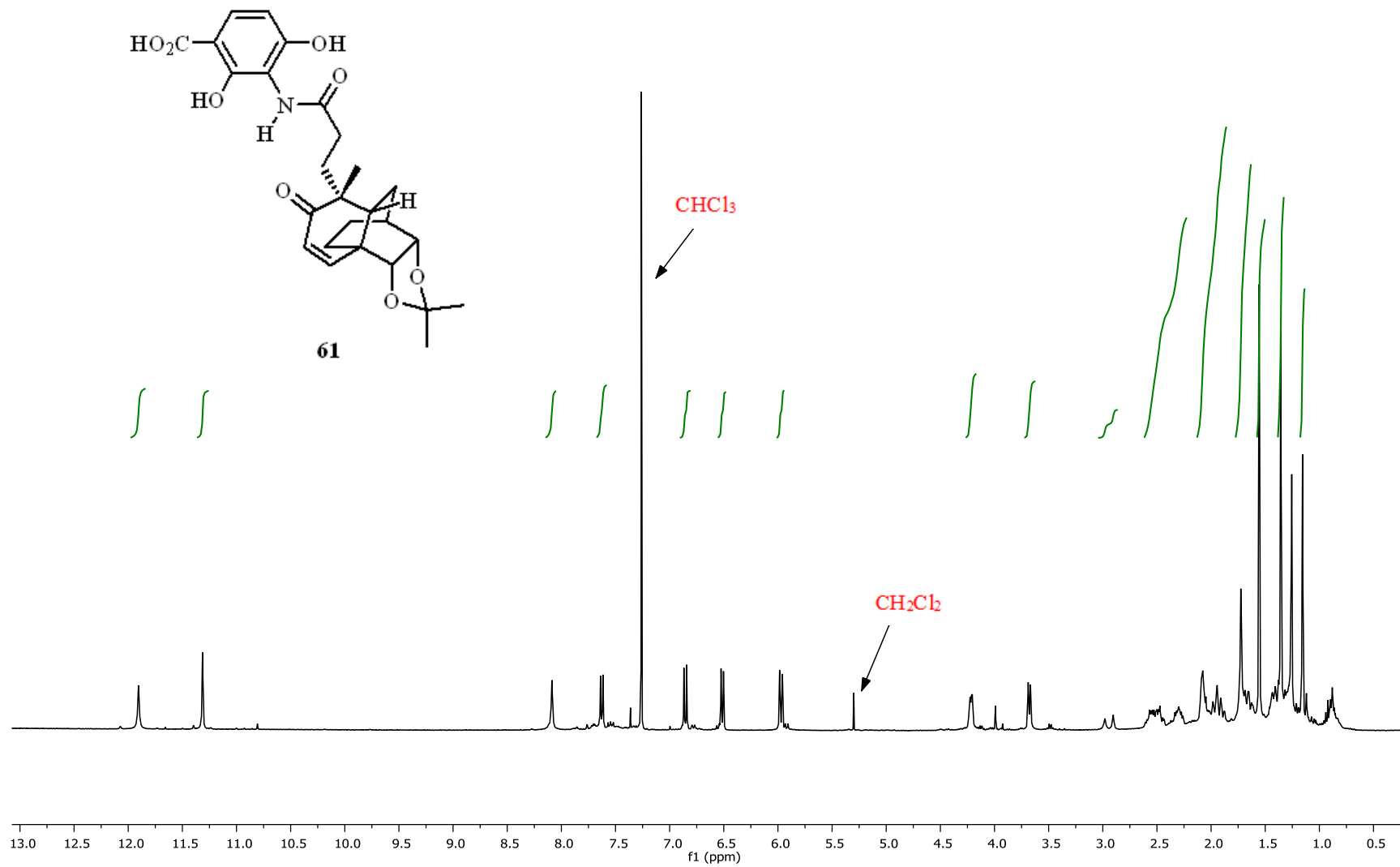


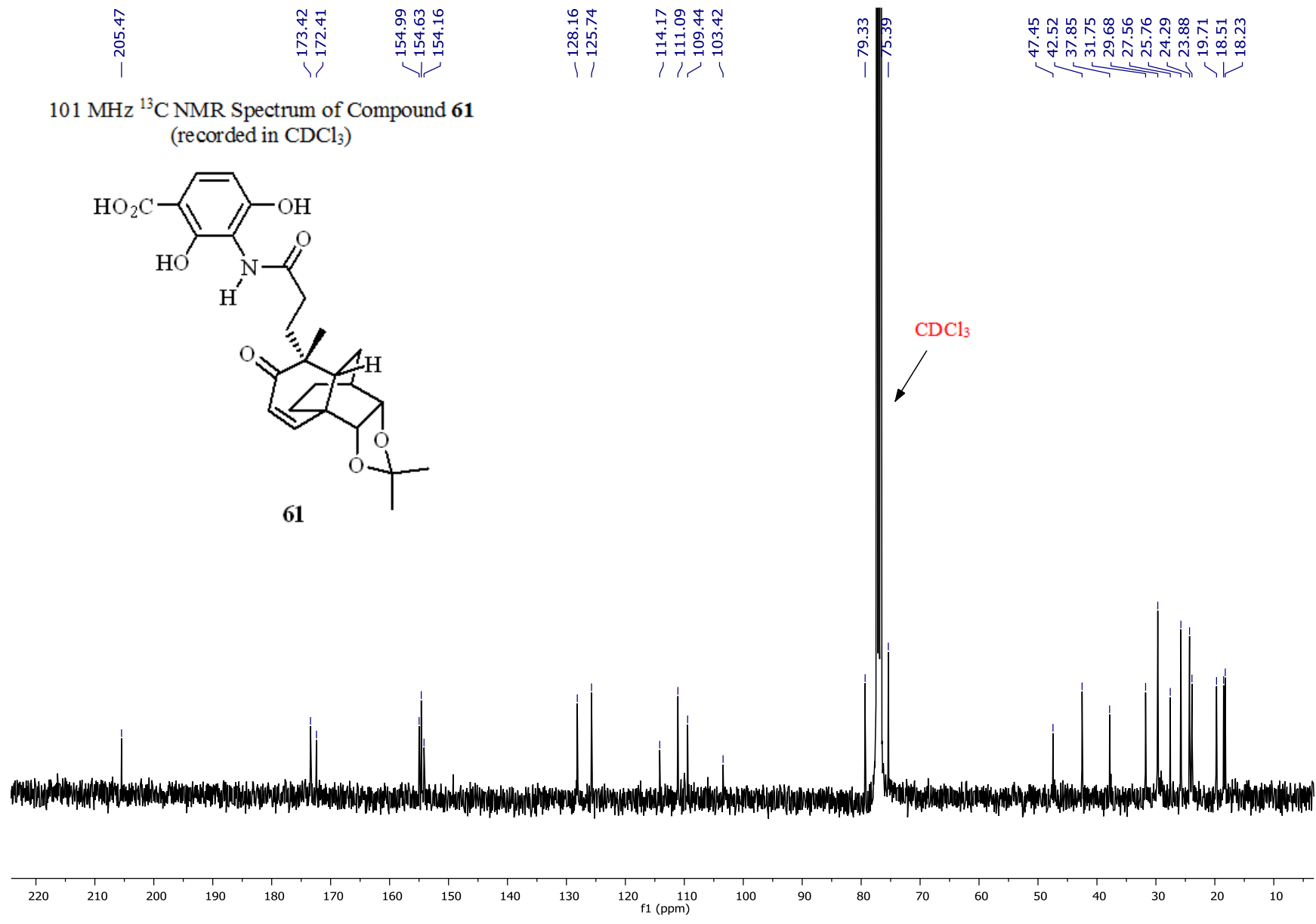
400 MHz  $^1\text{H}$  NMR Spectrum of Compound **59**  
(recorded in  $\text{CDCl}_3$ )





400 MHz  $^1\text{H}$  NMR Spectrum of Compound **61**  
(recorded in  $\text{CDCl}_3$ )







800 MHz  $^1\text{H}$  NMR Spectrum of Compound **64**  
(recorded in  $\text{CDCl}_3$ )

