

**Establishing the Absolute Configuration of the Asbestinins: Enantioselective Total
Synthesis of 11-Acetoxy-4-deoxyasbestinin D**

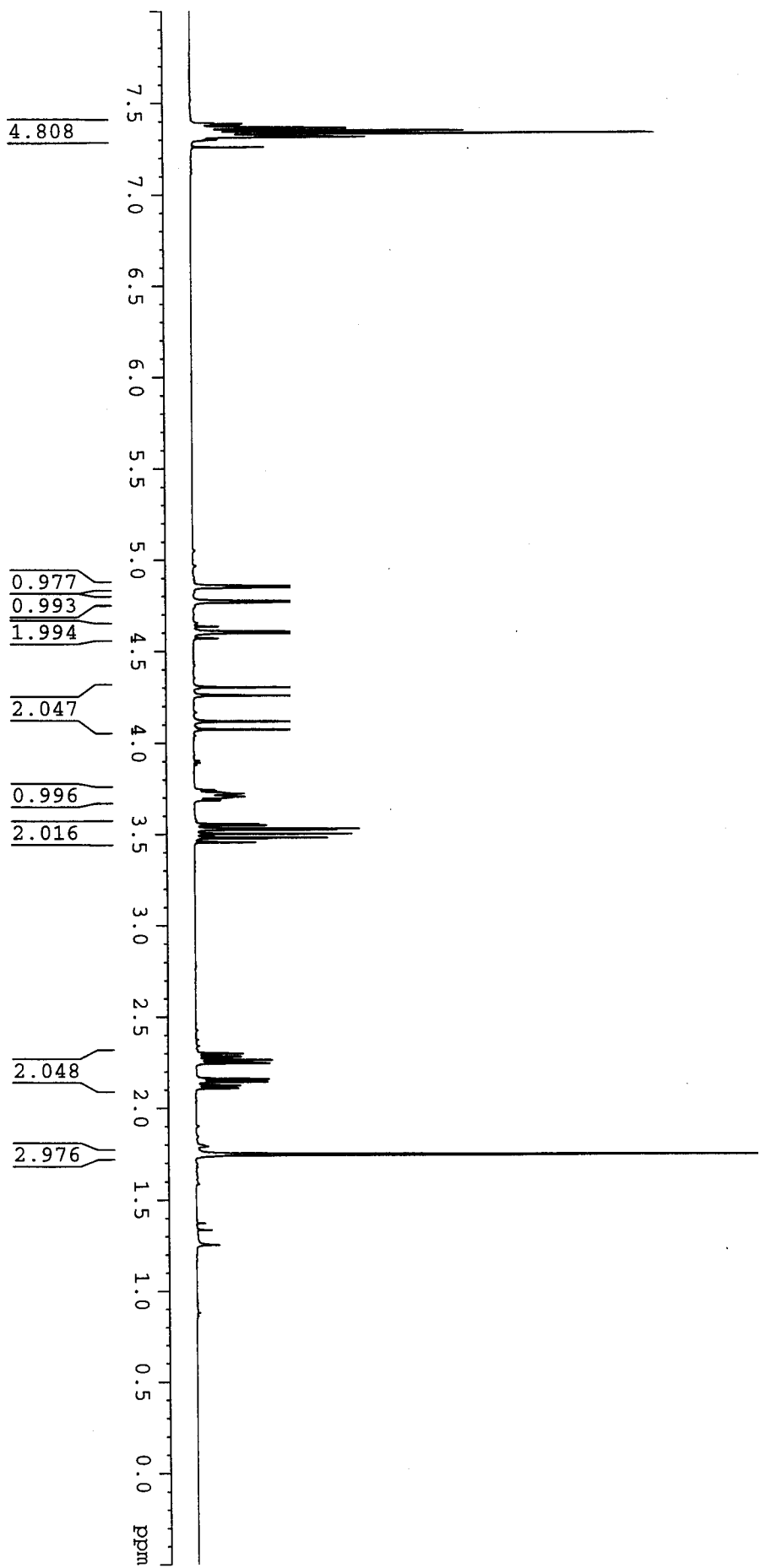
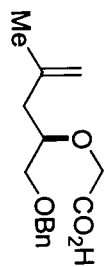
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The University of North Carolina at
Chapel Hill
Chapel Hill, North Carolina 27599-3290*

crimmins@email.unc.edu

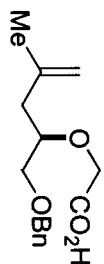
Supporting Information: NMR Spectra

400 MHz in CDCl₃

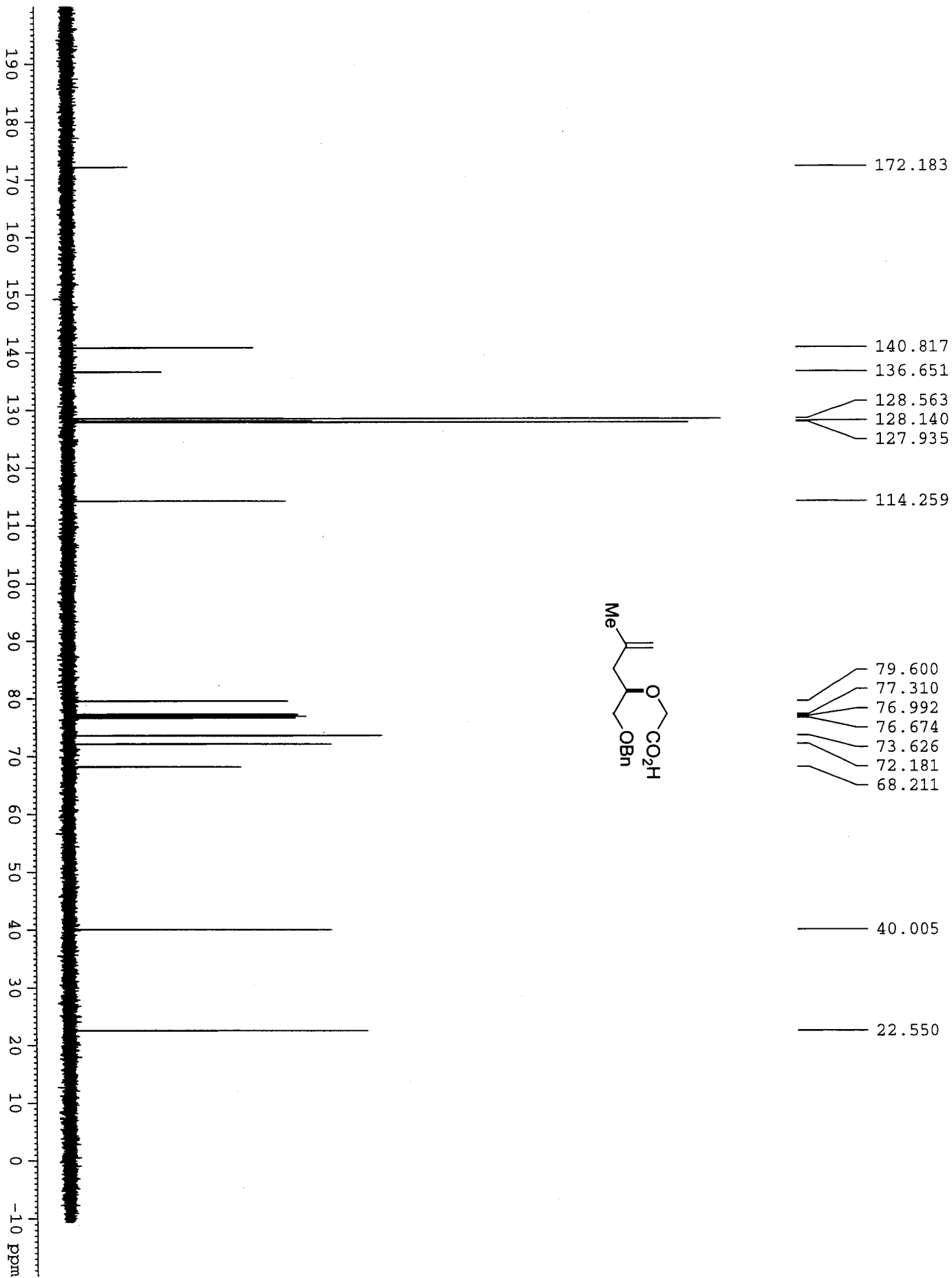


S2

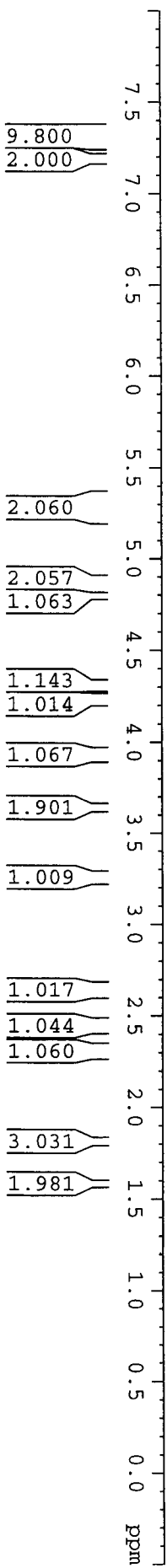
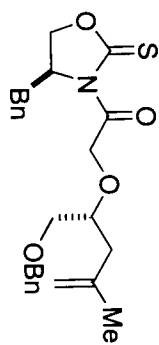
100 MHz in CDCl₃



S3

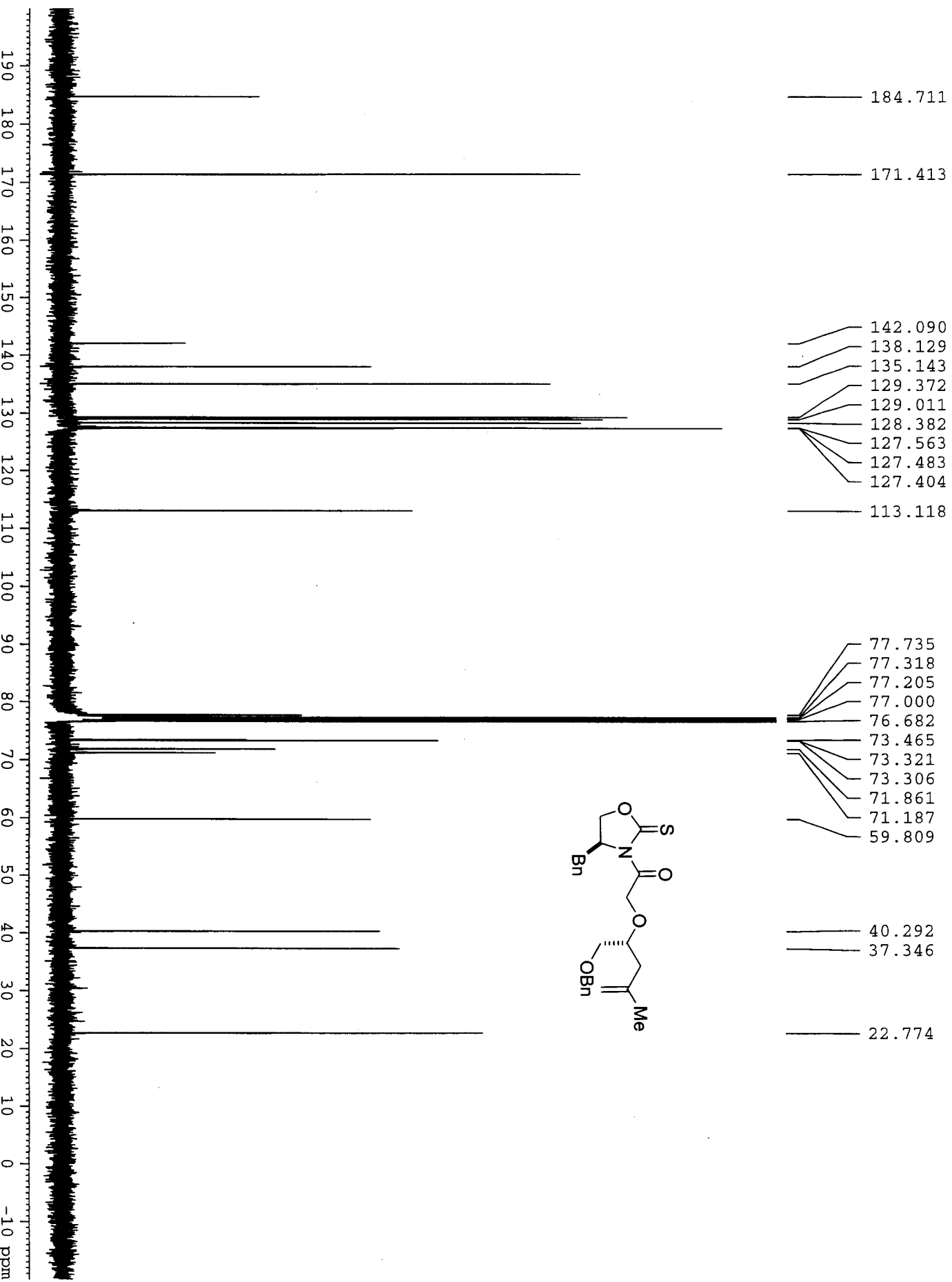


400 MHz in CDCl₃

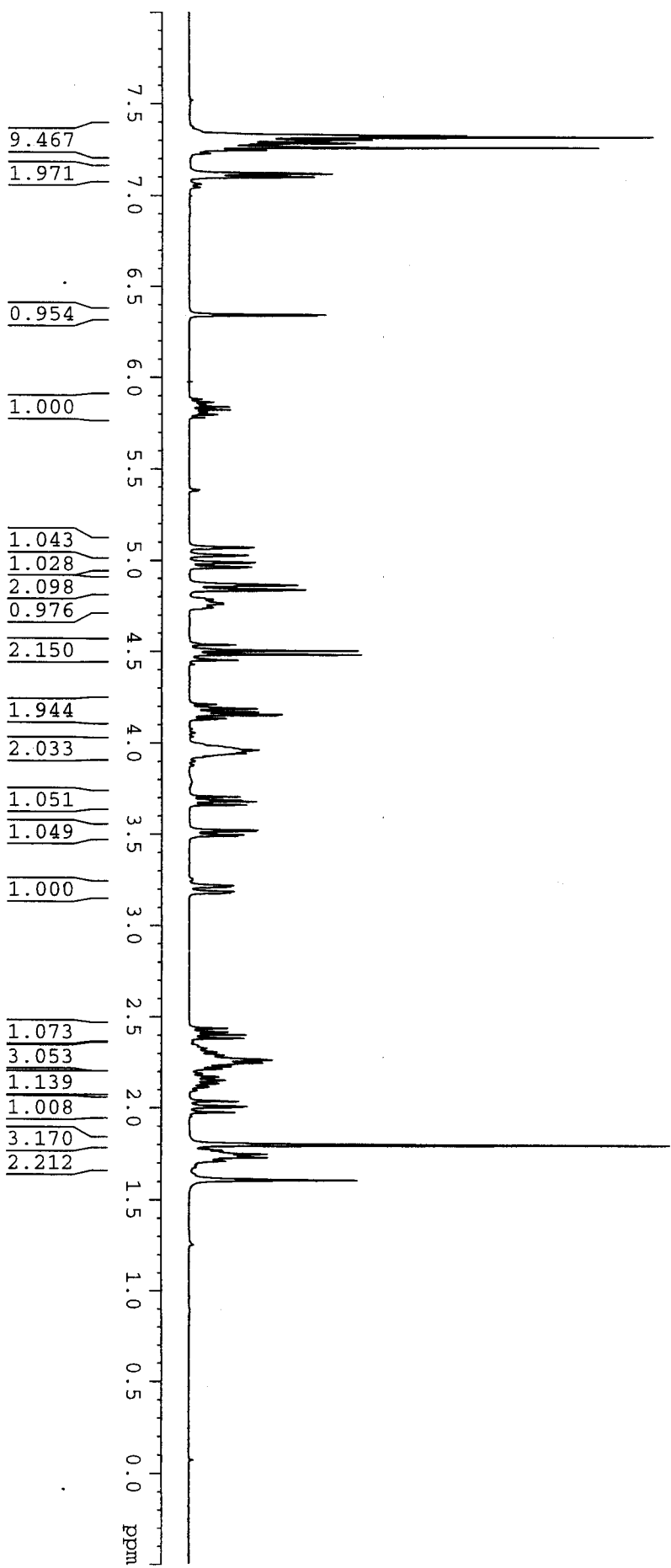
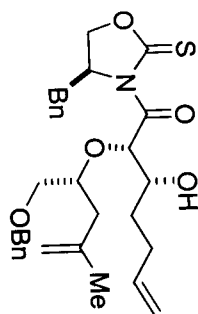


S4

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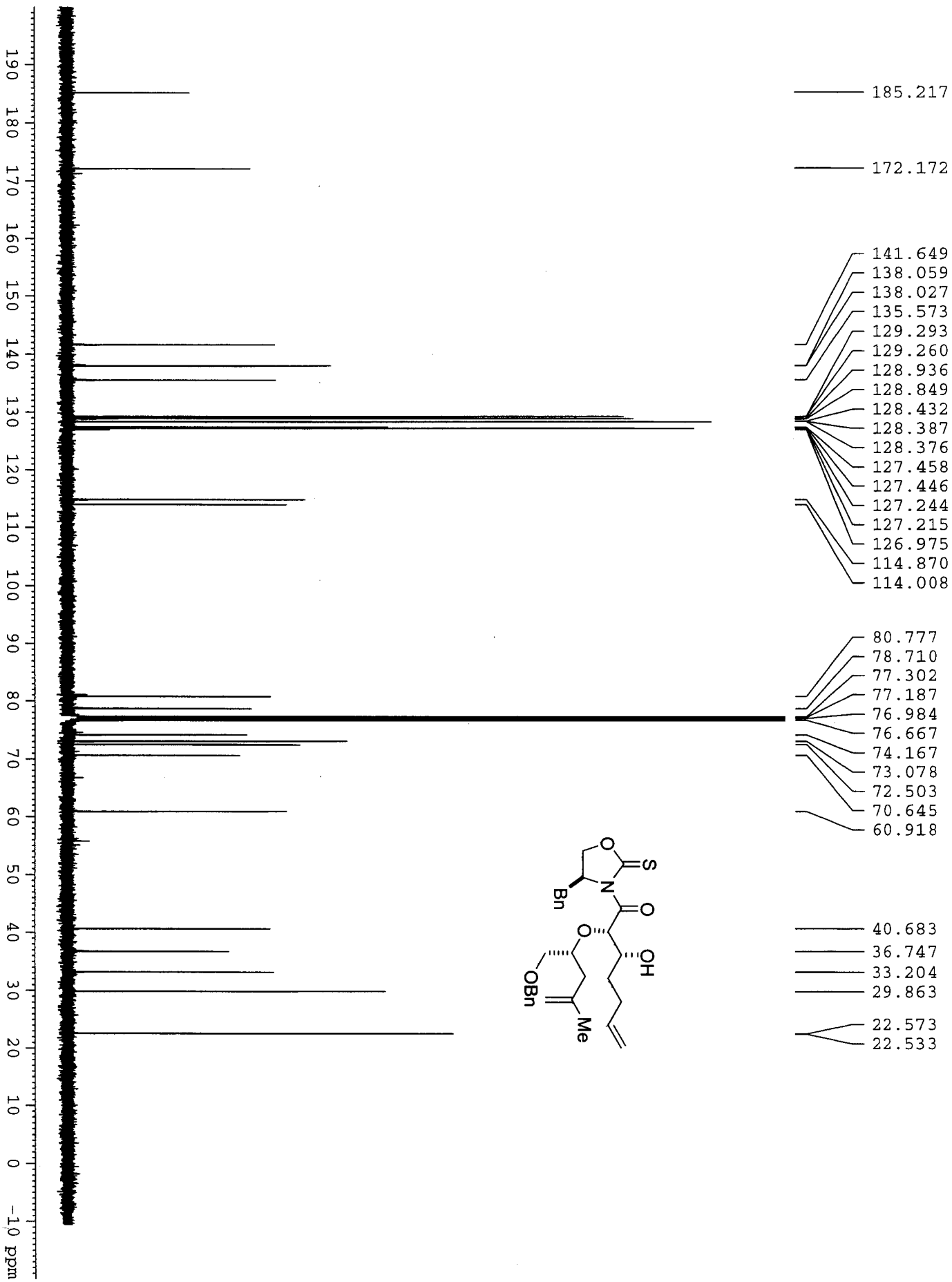
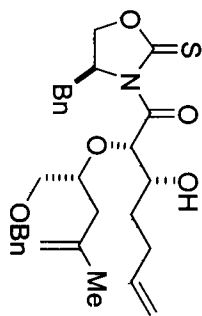


400 MHz in CDCl₃



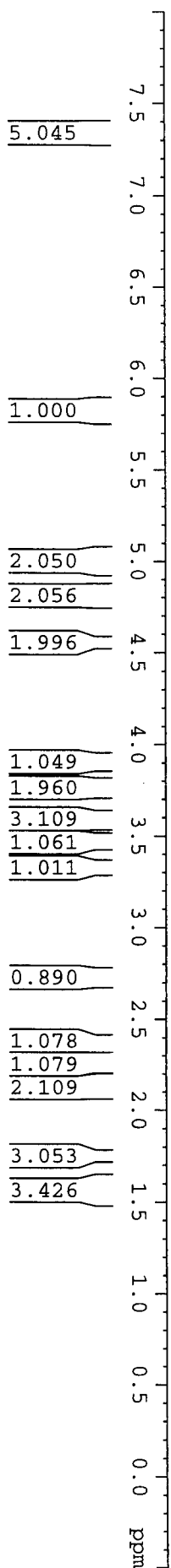
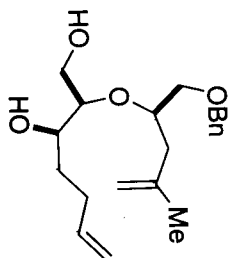
S6

100 MHz in CDCl₃



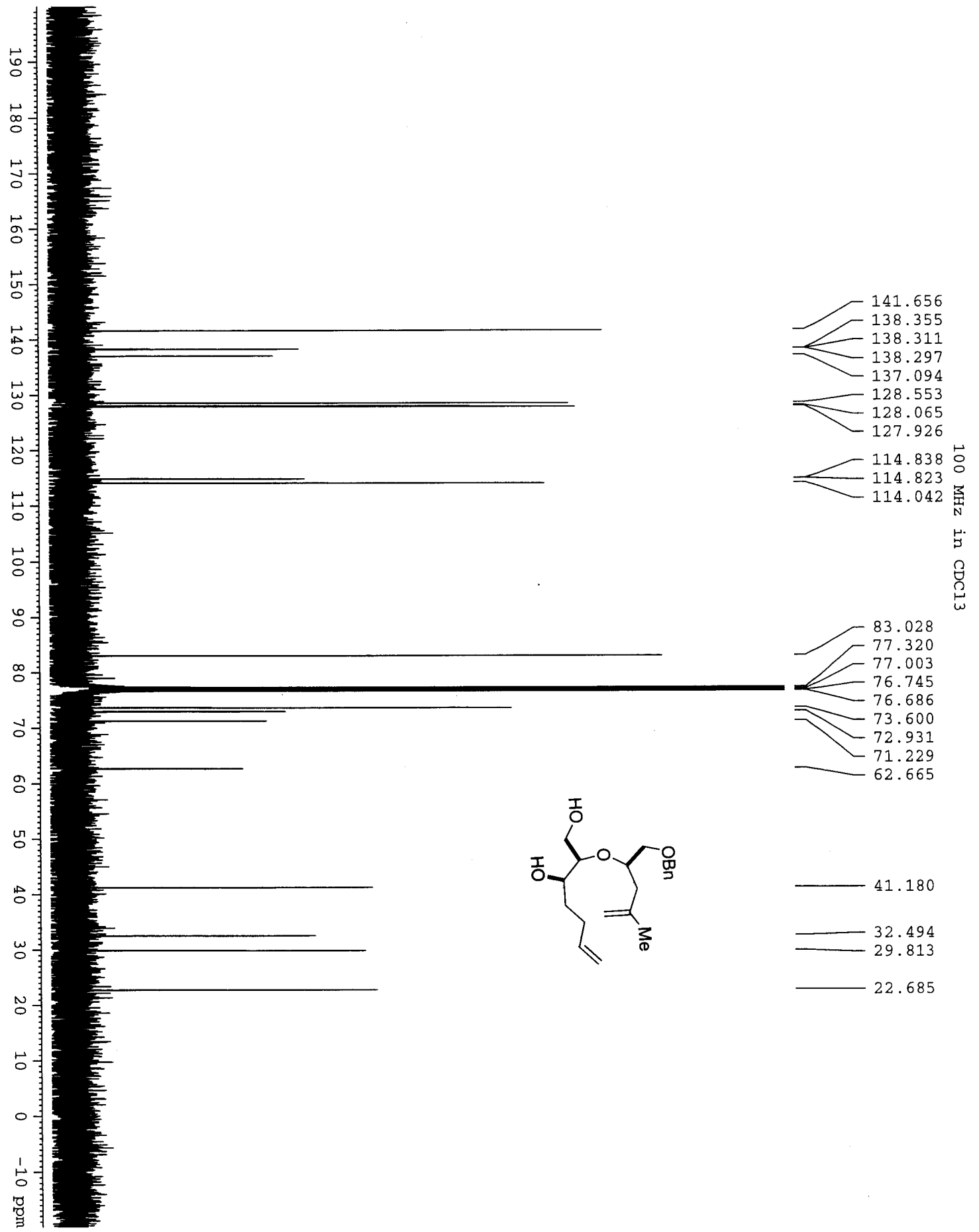
S7

400 MHz in CDCl₃

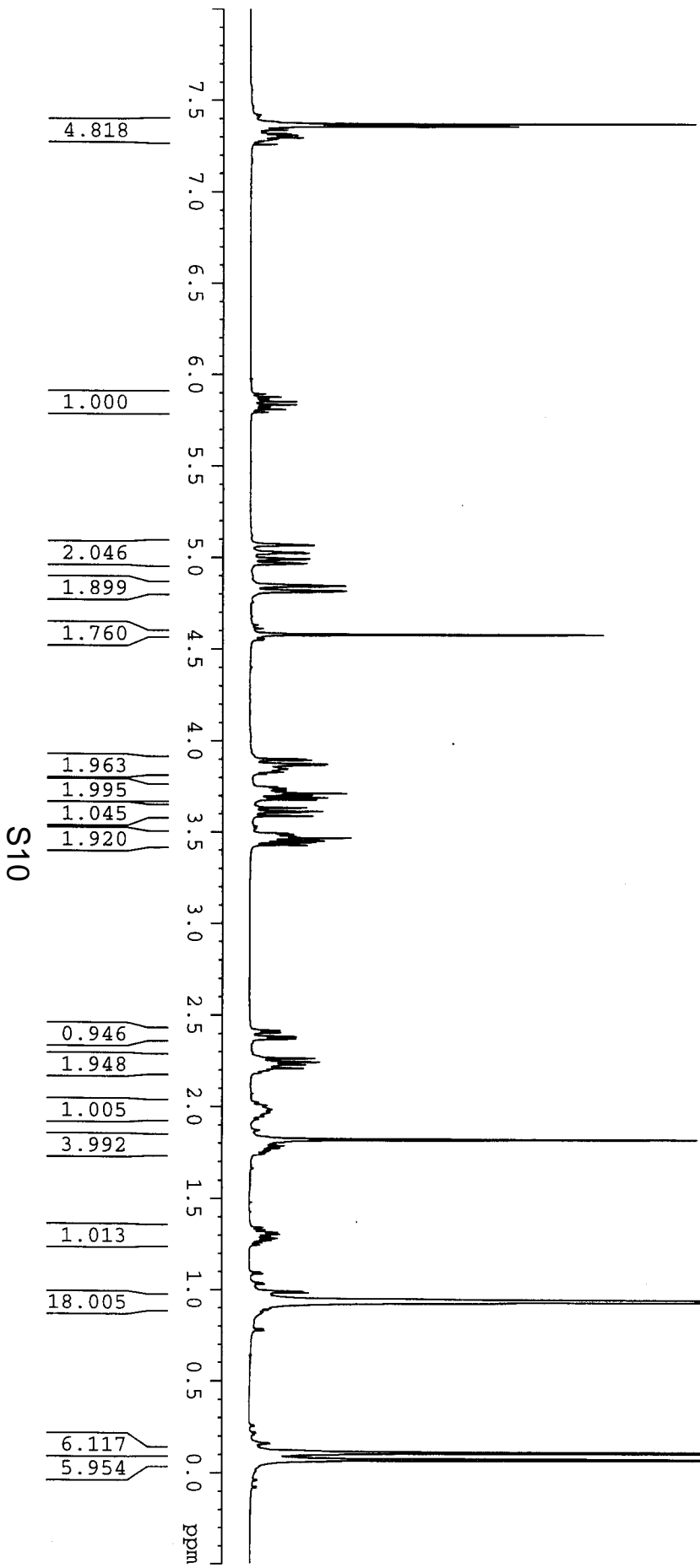
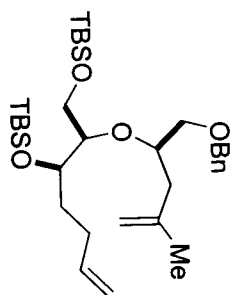


S8

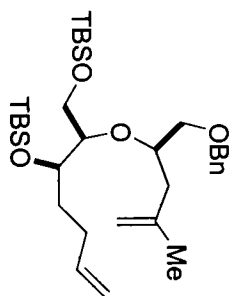
S9



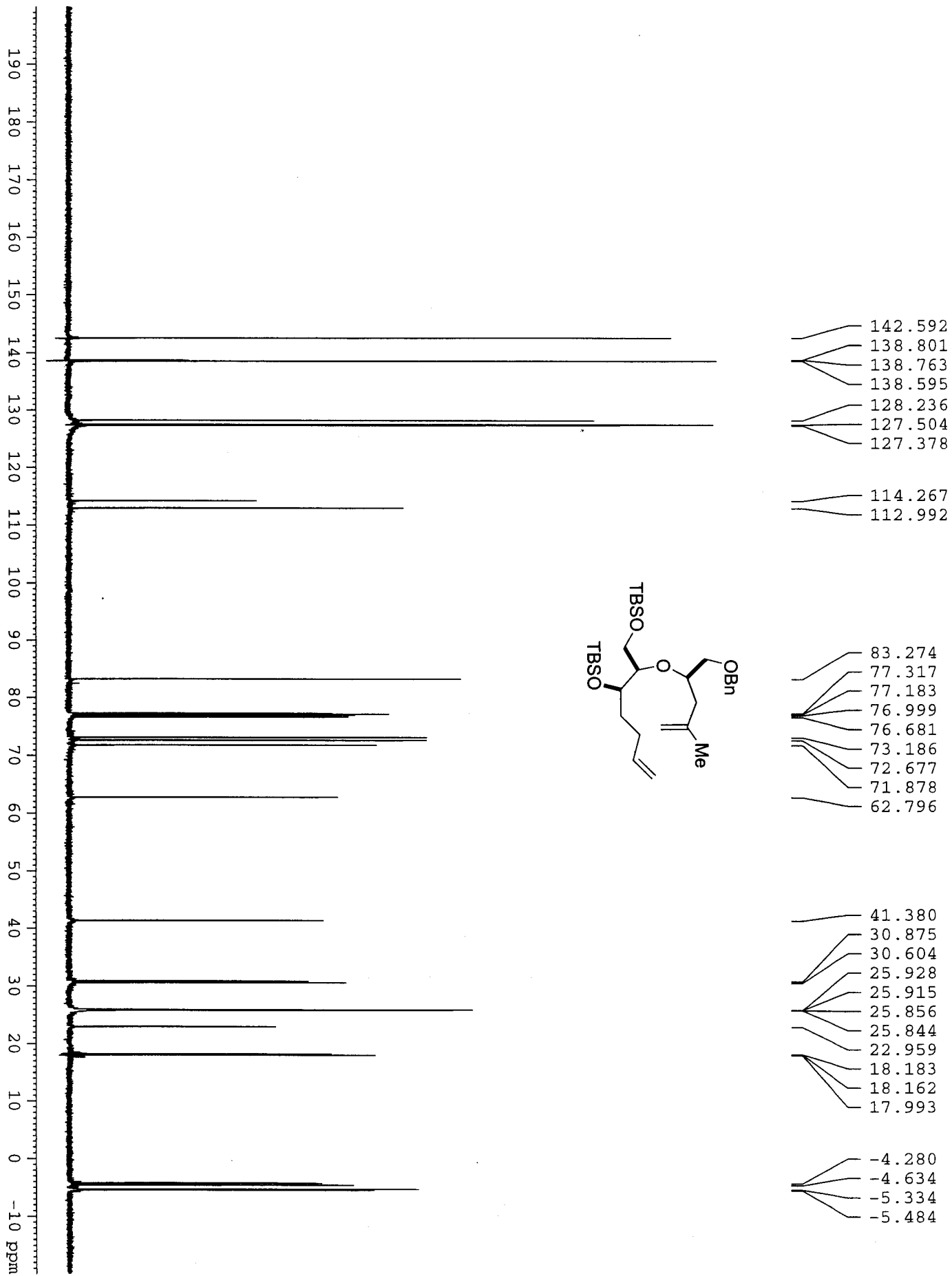
400MHz in CDCl3



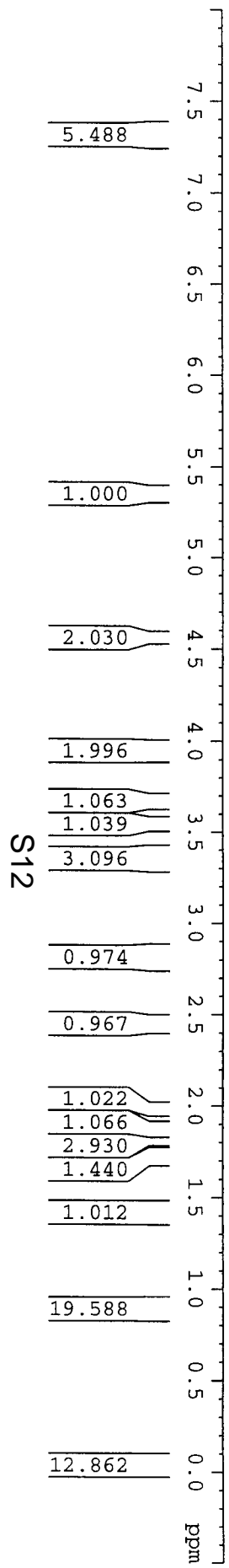
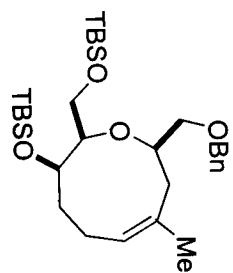
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S11



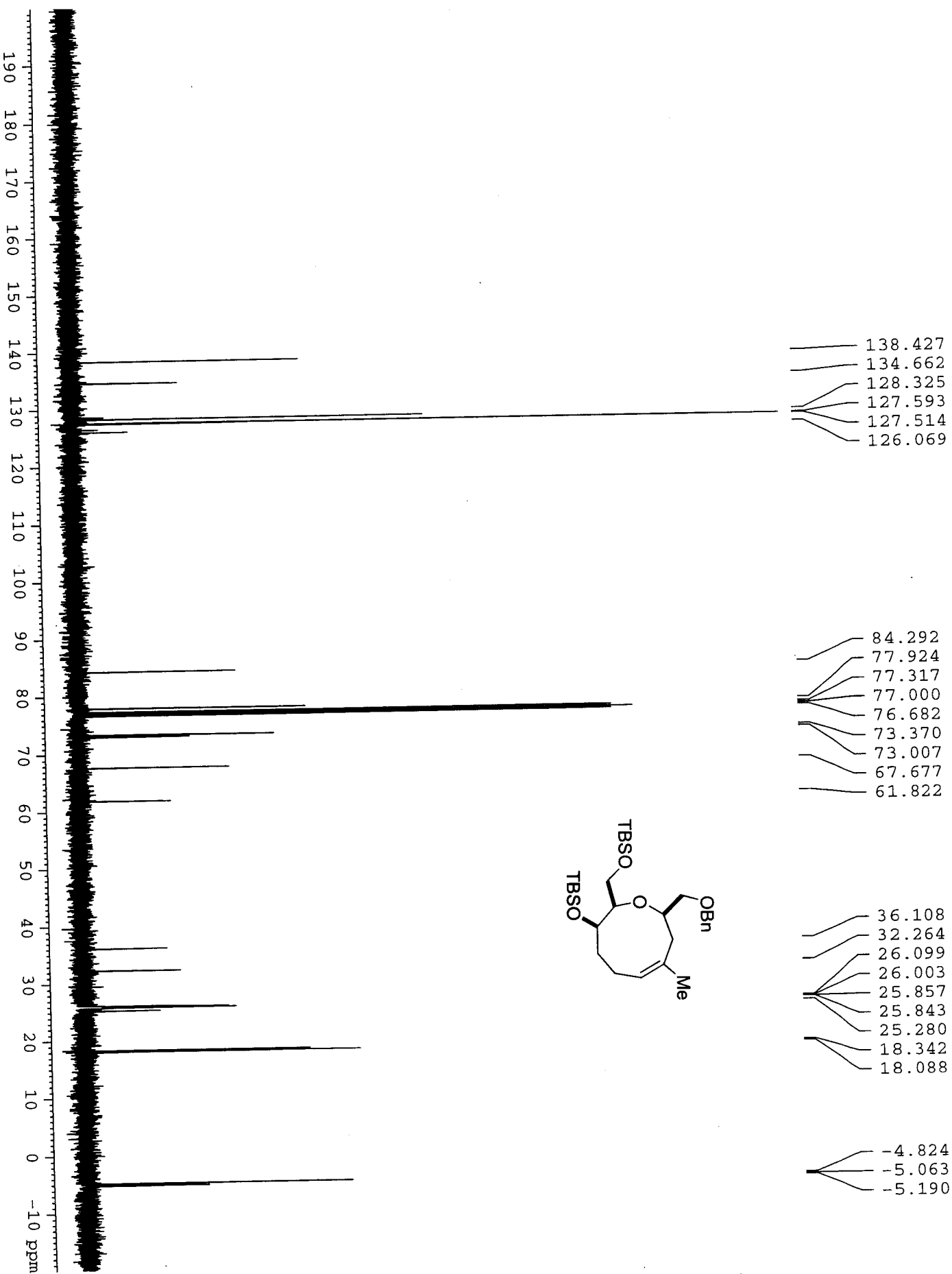
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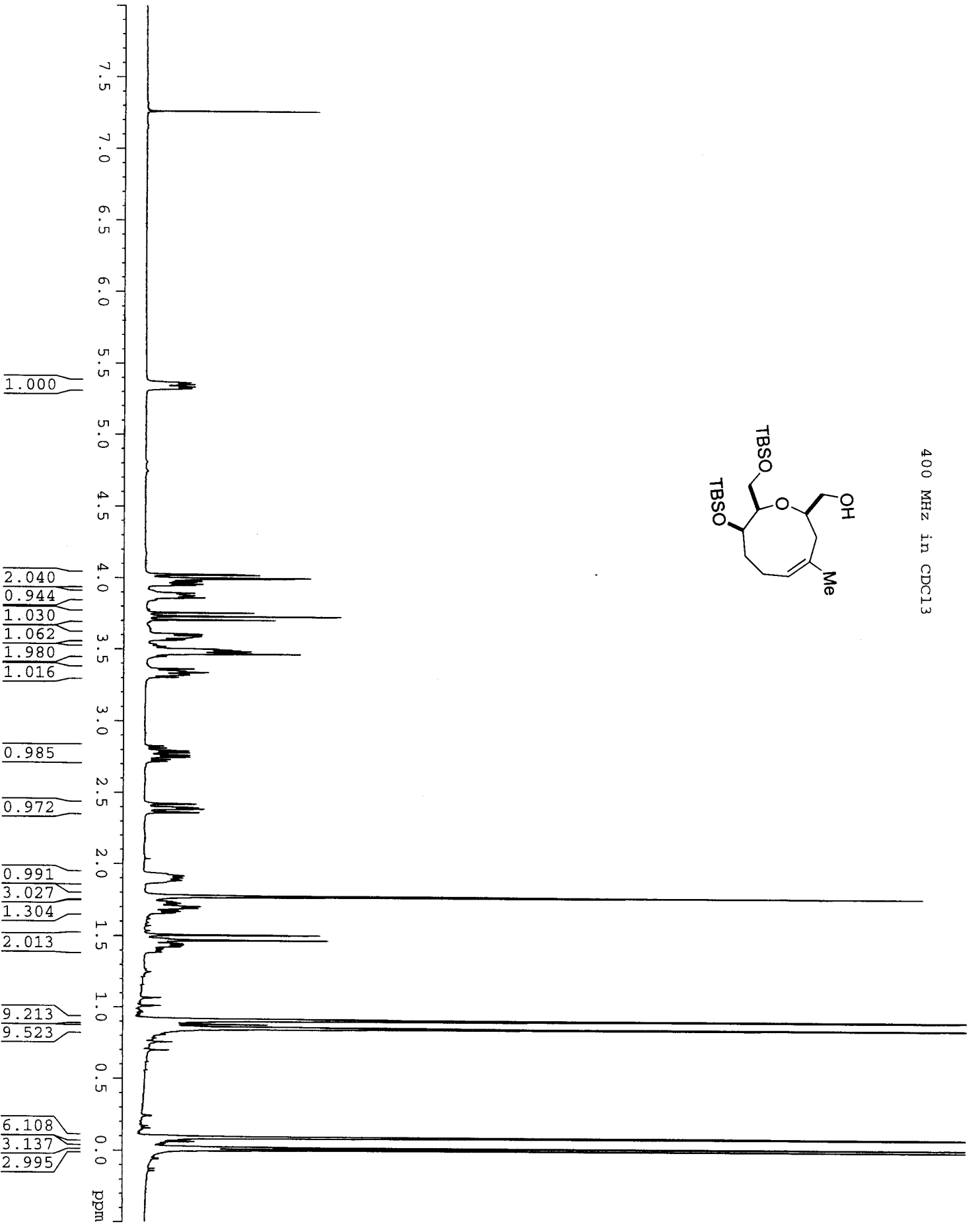
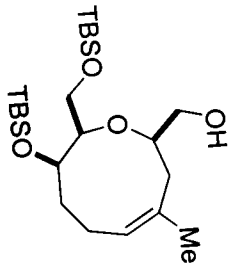
S12

100 MHz in CDCl₃

S13

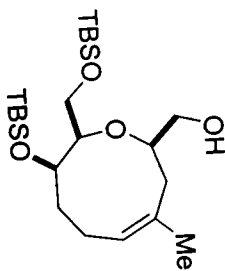


400 MHz in CDCl3

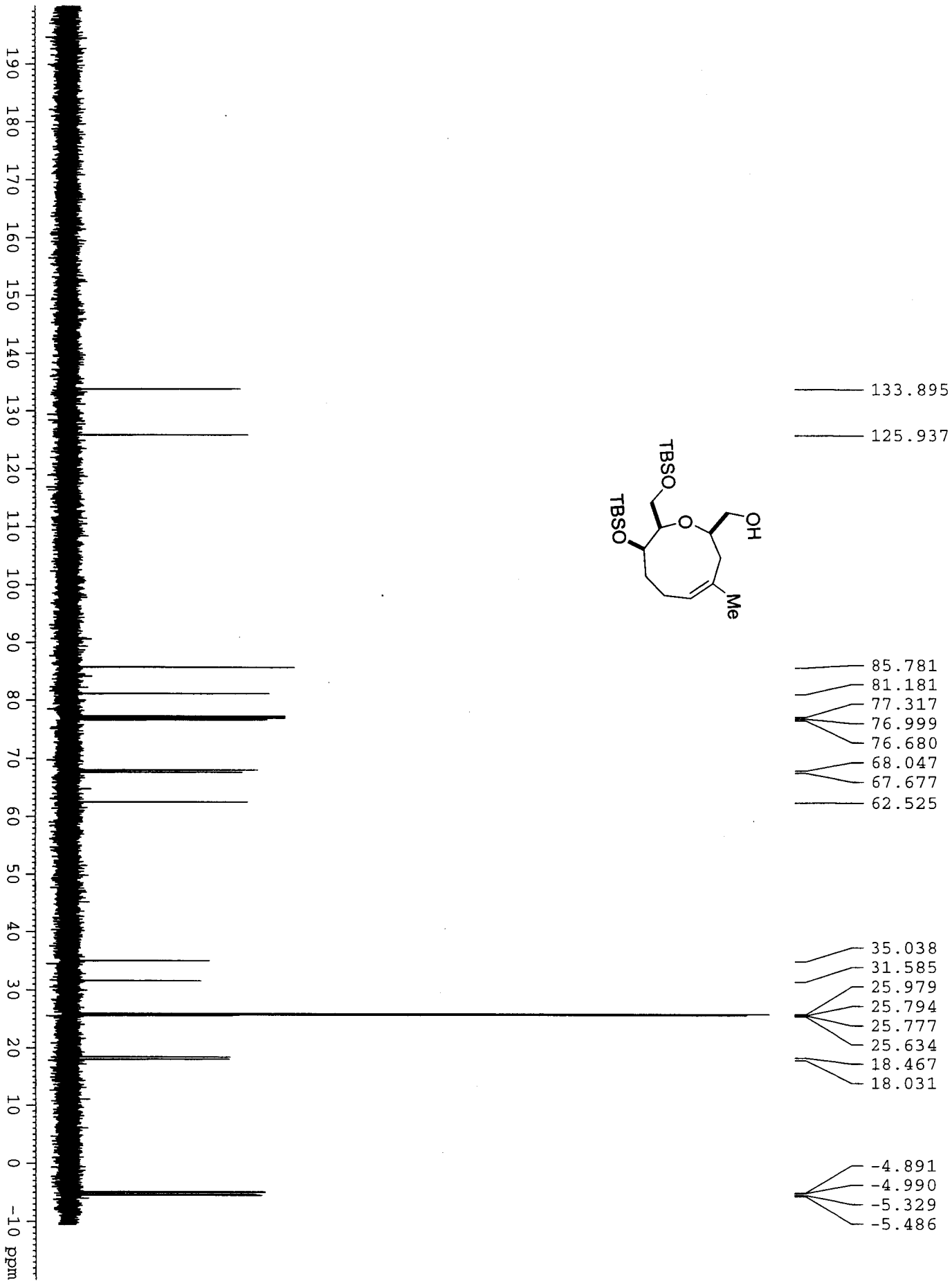


S14

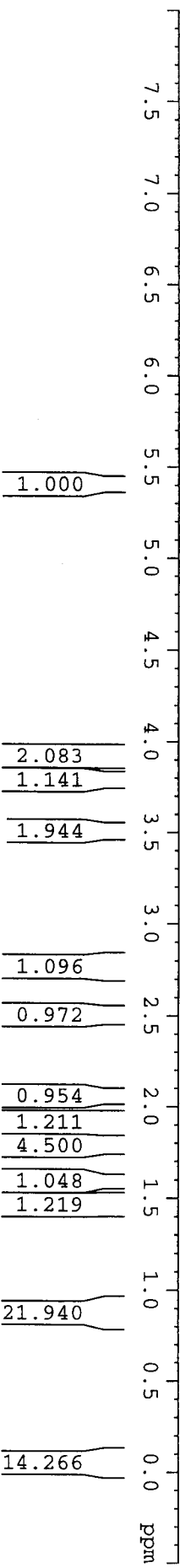
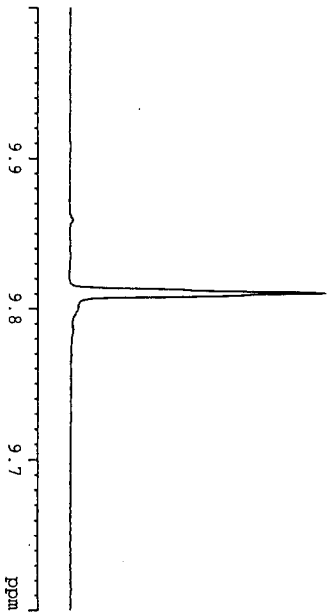
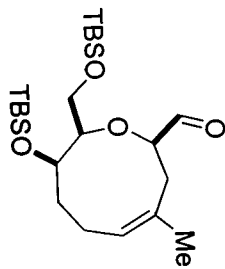
100 MHz in CDCl₃



S15

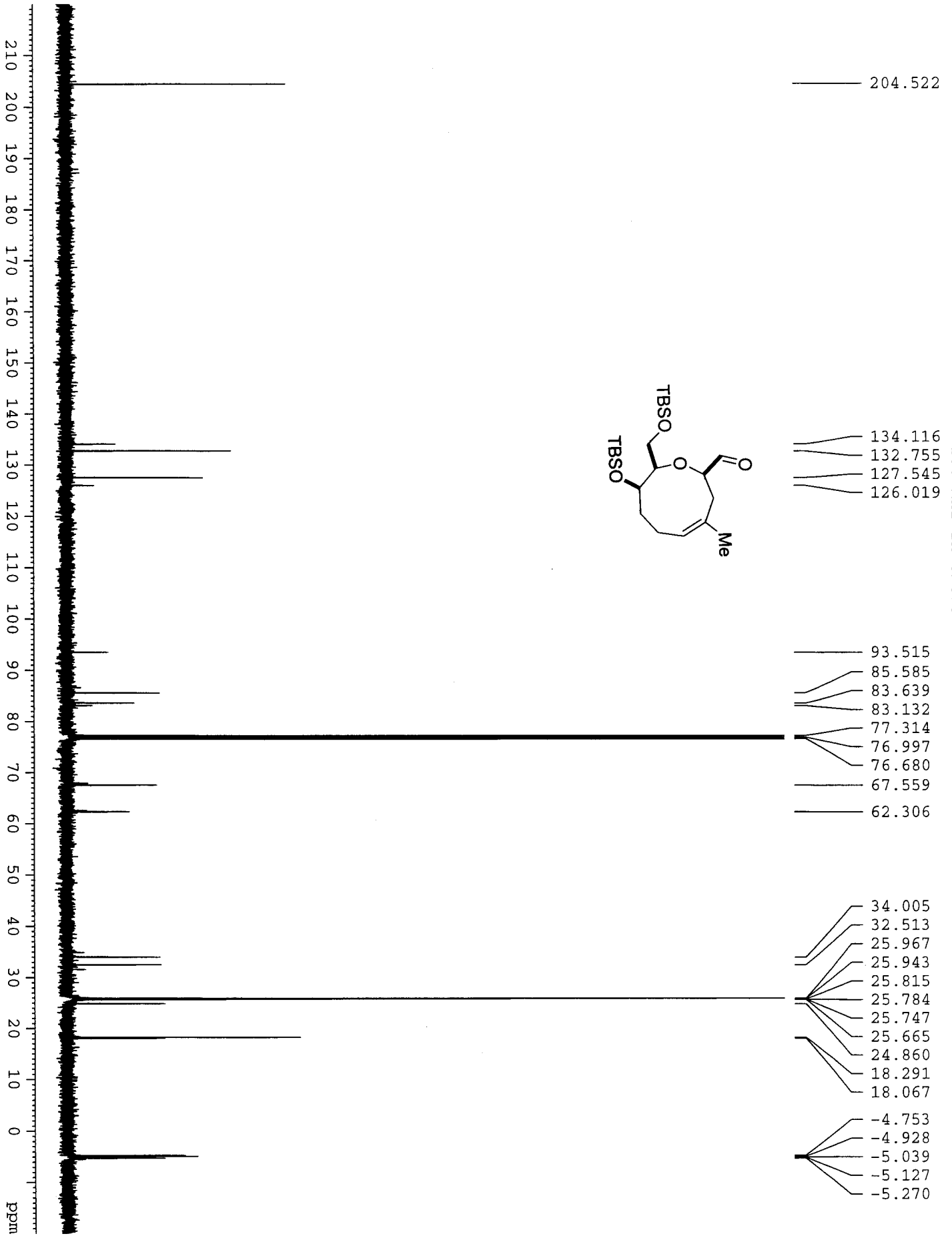


400 MHz in CDCl3

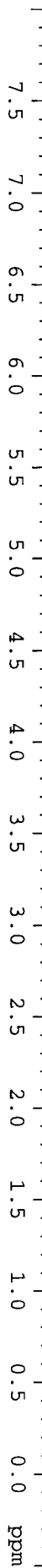
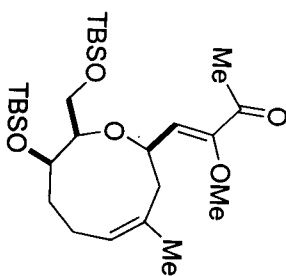


S16

S17

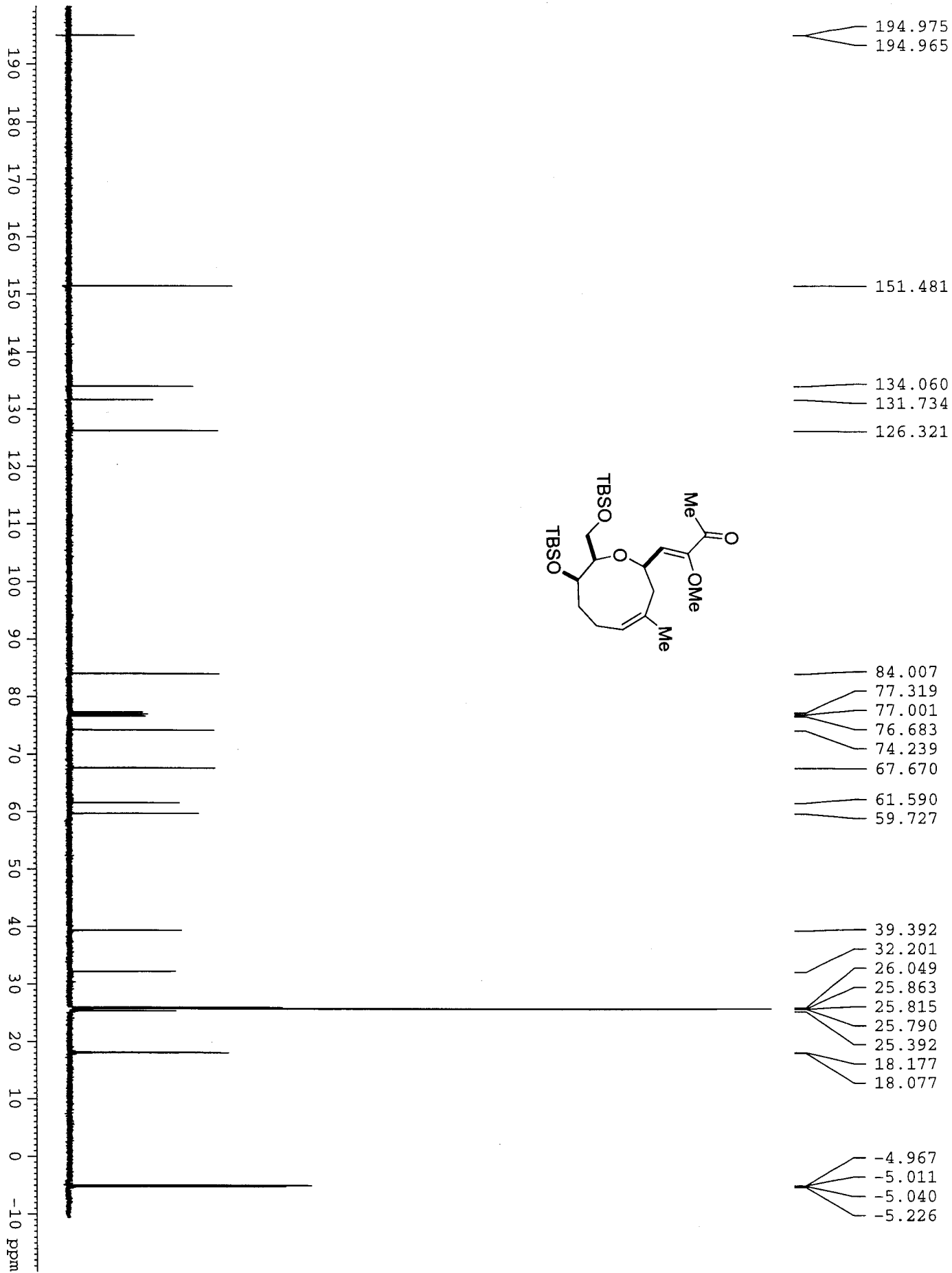
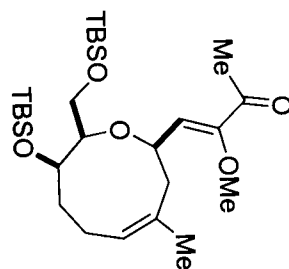


400 MHz in CDCl₃



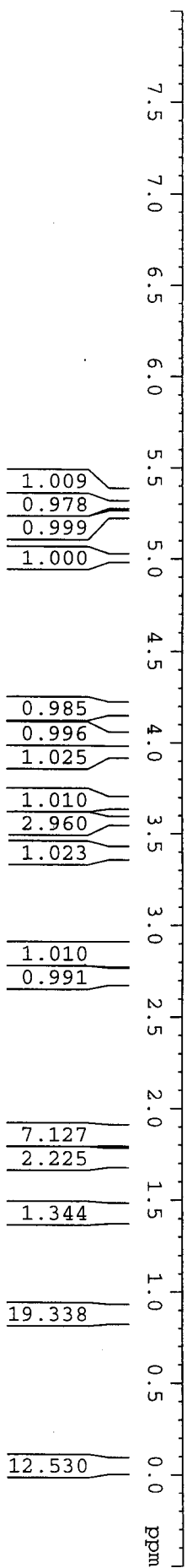
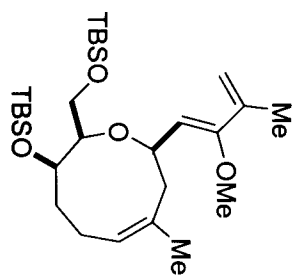
S18

100 MHz in CDCl₃



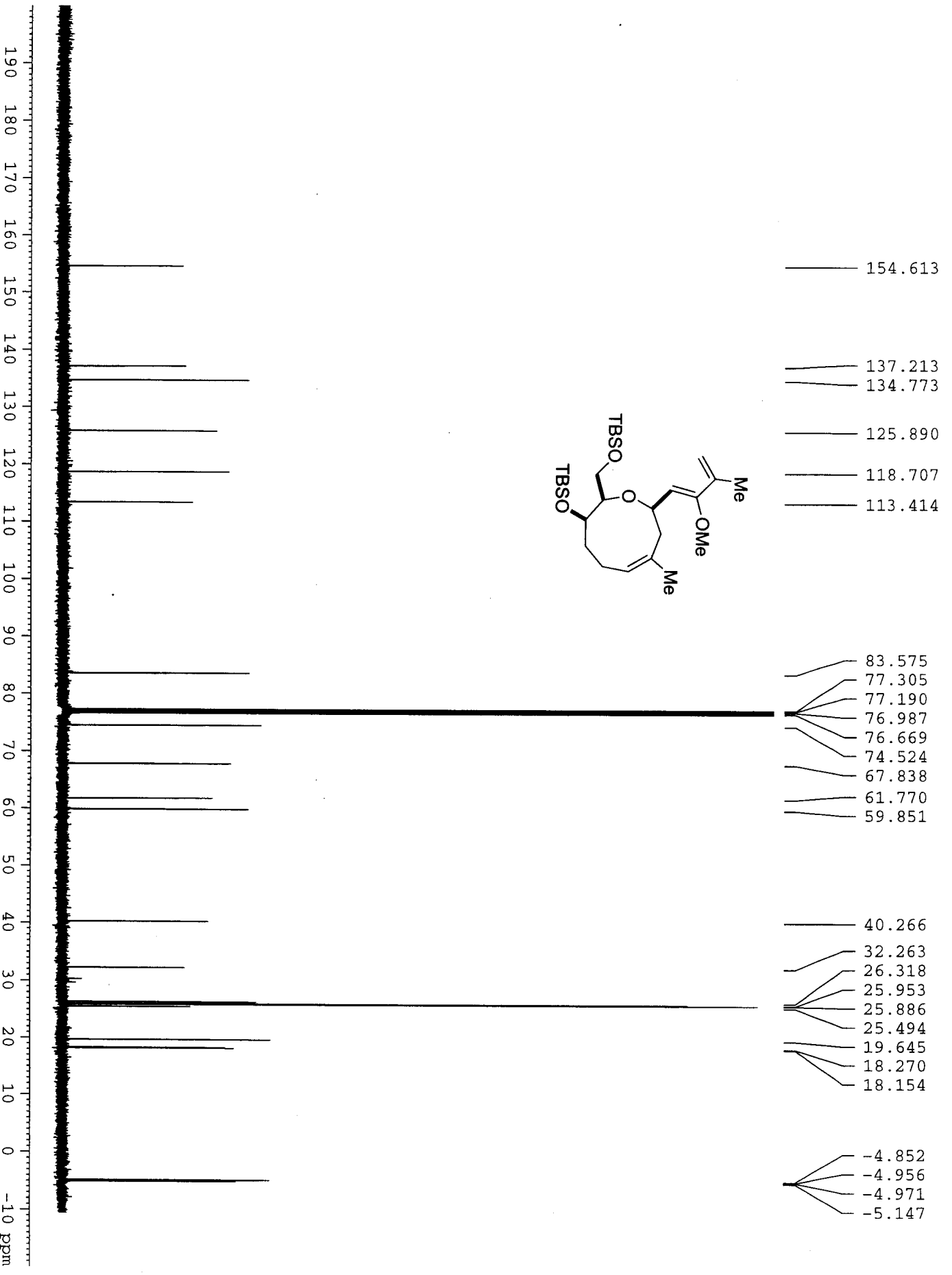
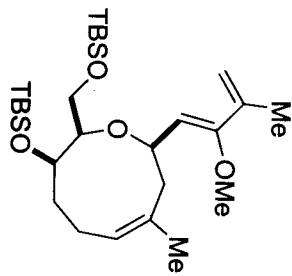
S19

400 MHz in CDCl₃



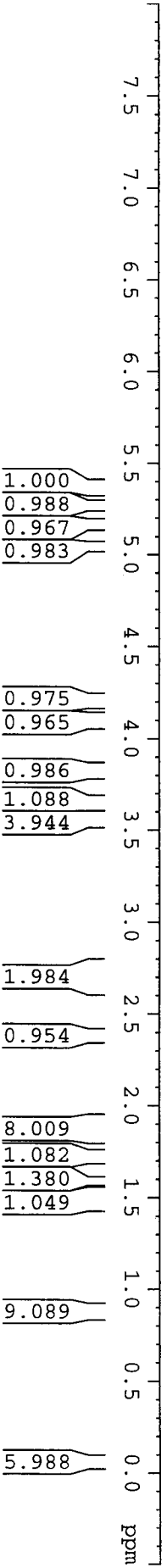
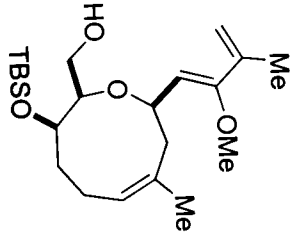
S20

100 MHz in CDCl₃



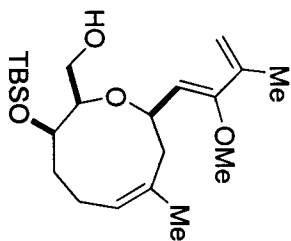
S21

400 MHz in CDCl₃

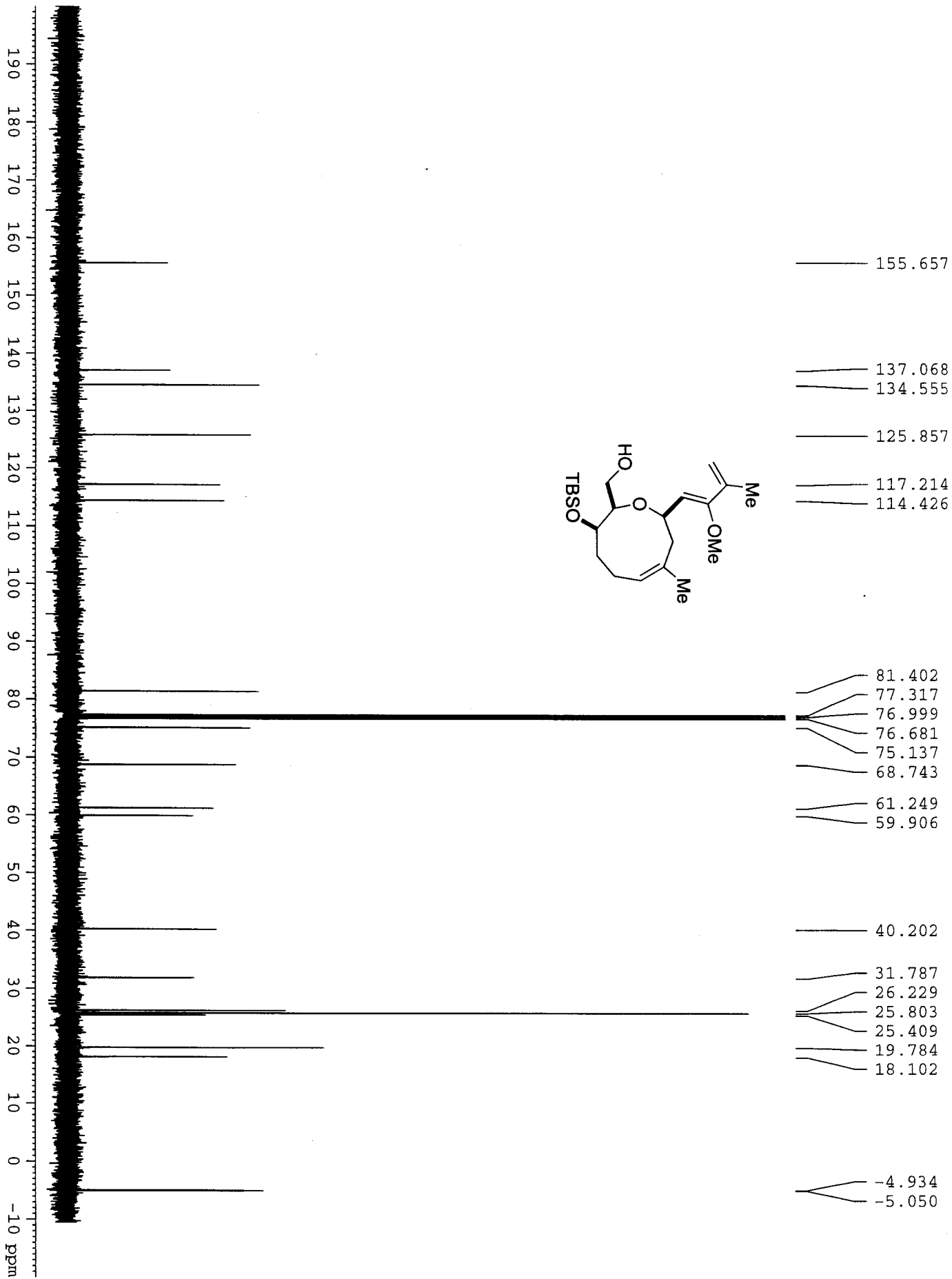


S22

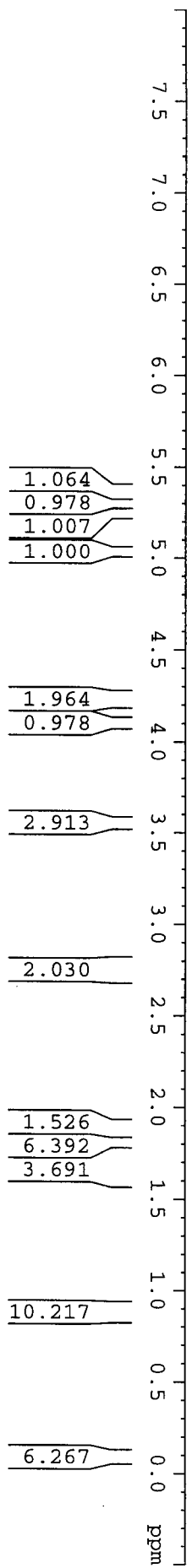
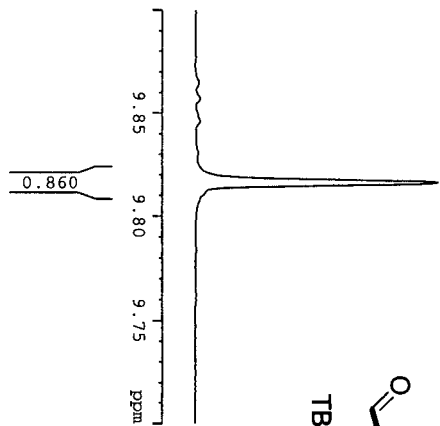
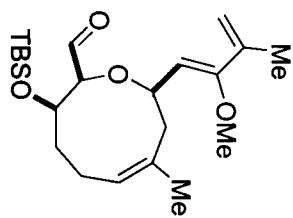
100 MHz in CDCl₃



S23

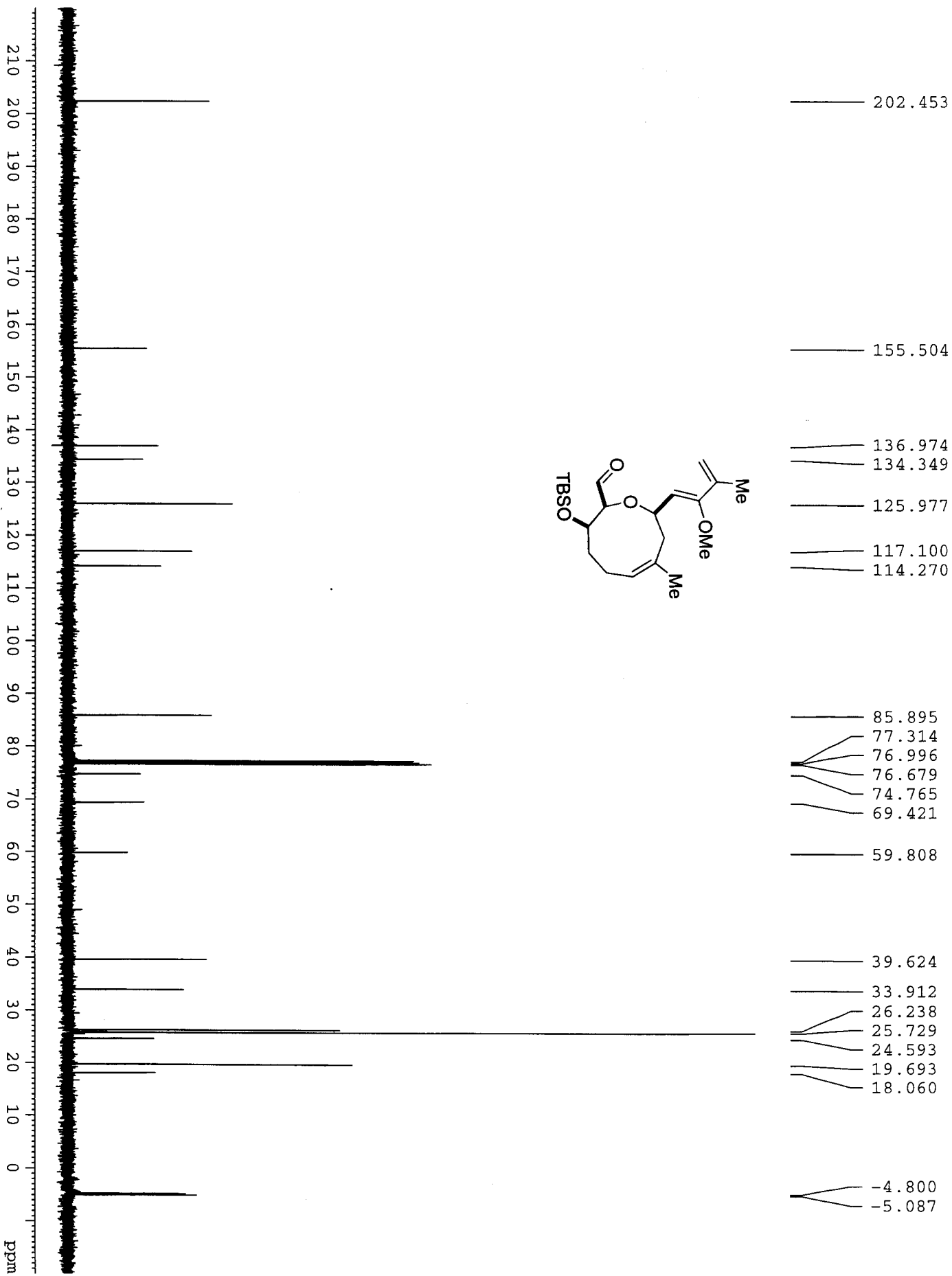
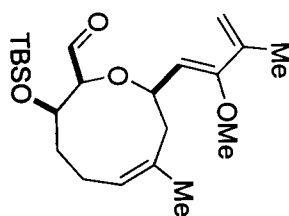


400 MHz in CDCl₃



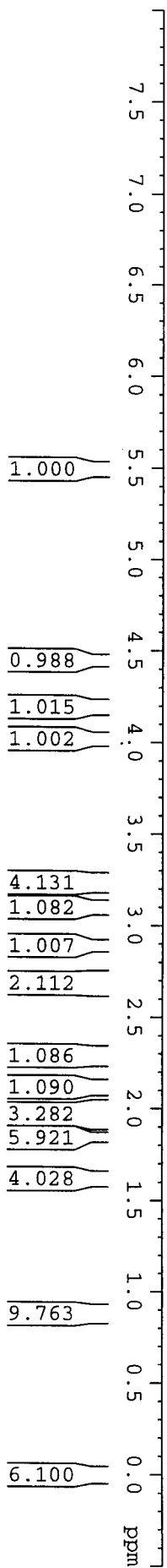
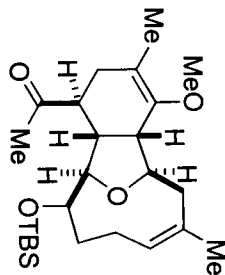
S24

100 MHz in CDCl₃



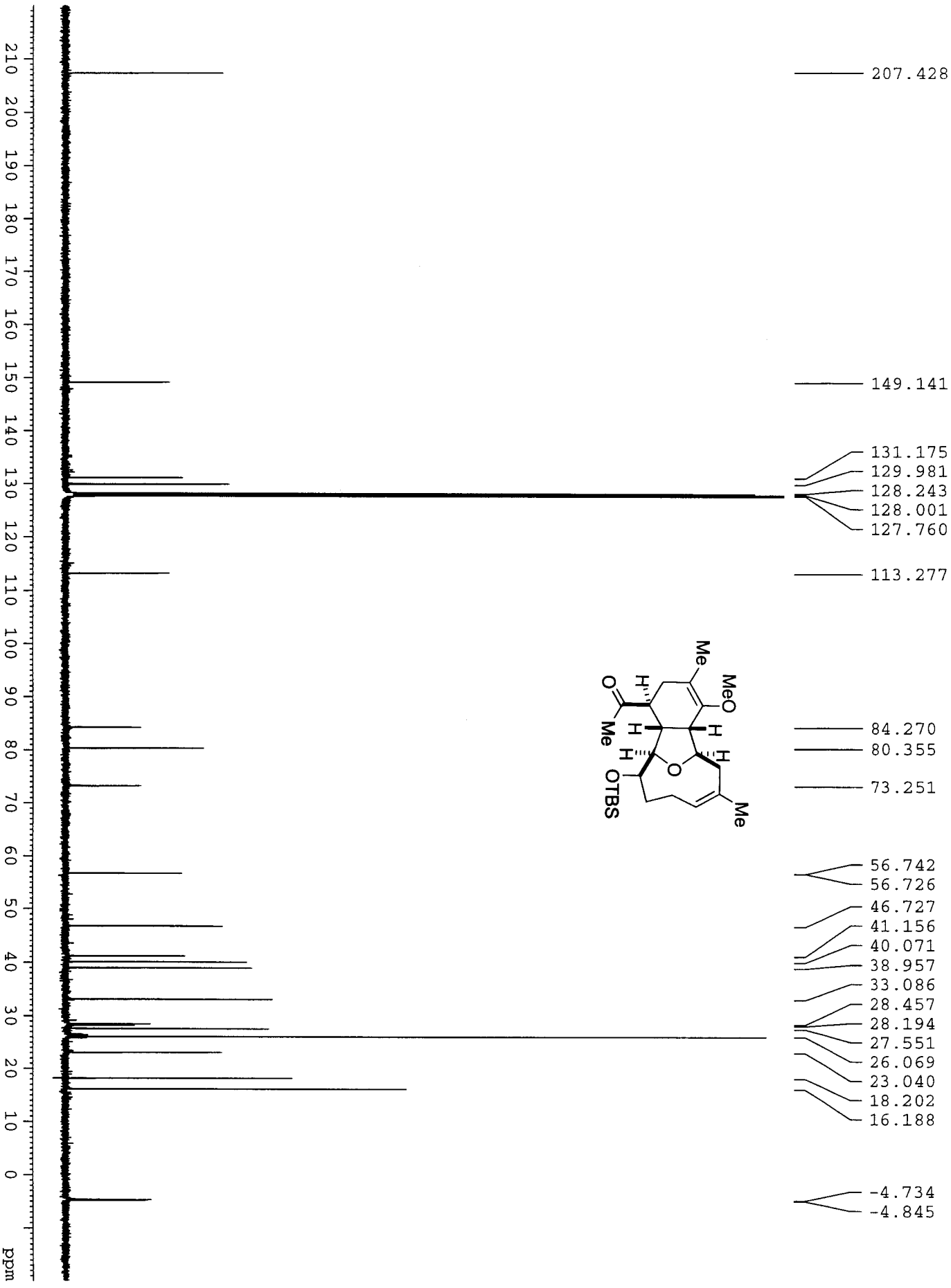
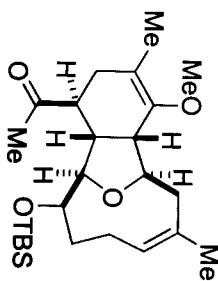
S25

400 MHz in C6D6 at 333K



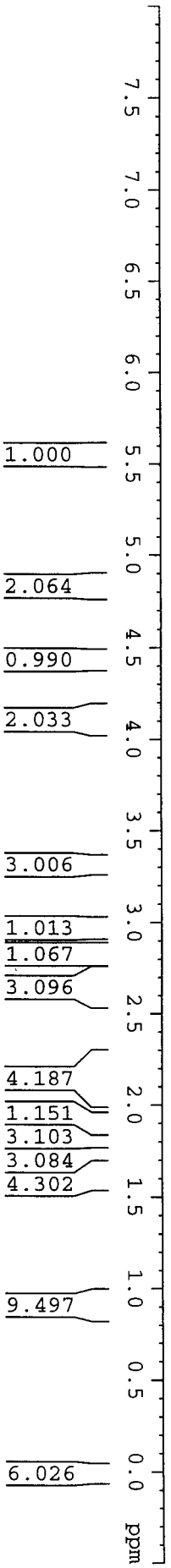
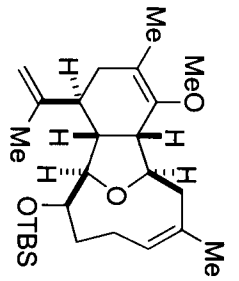
S26

100 MHz in C6D6 at 333K



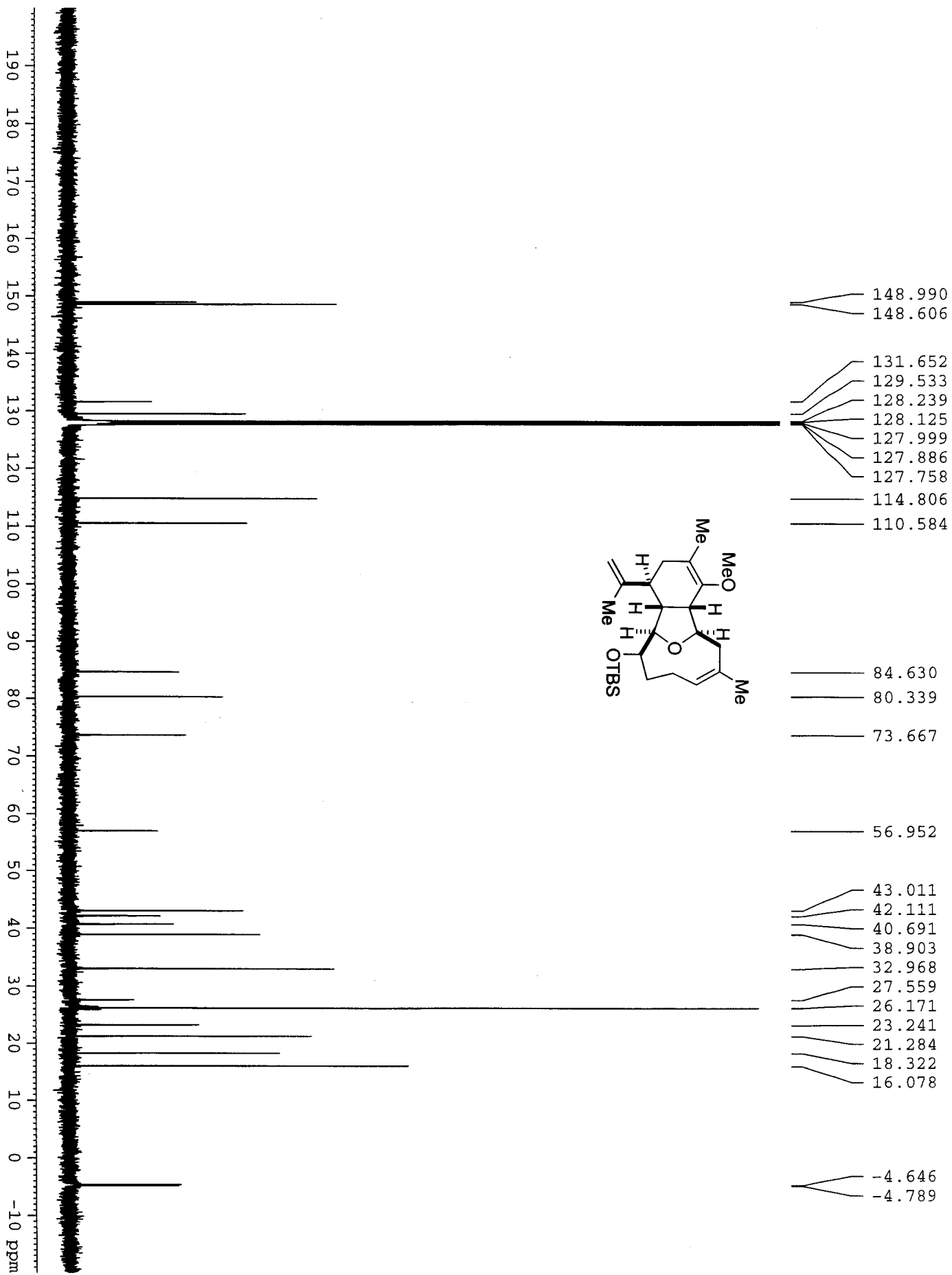
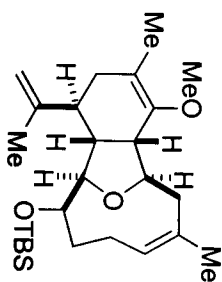
S27

400 MHz in CDCl₃ at 333K



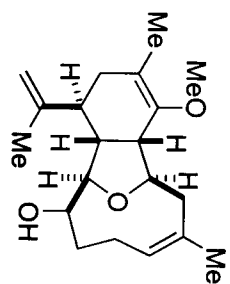
S28

100 MHz in C6D6 at 333K



S29

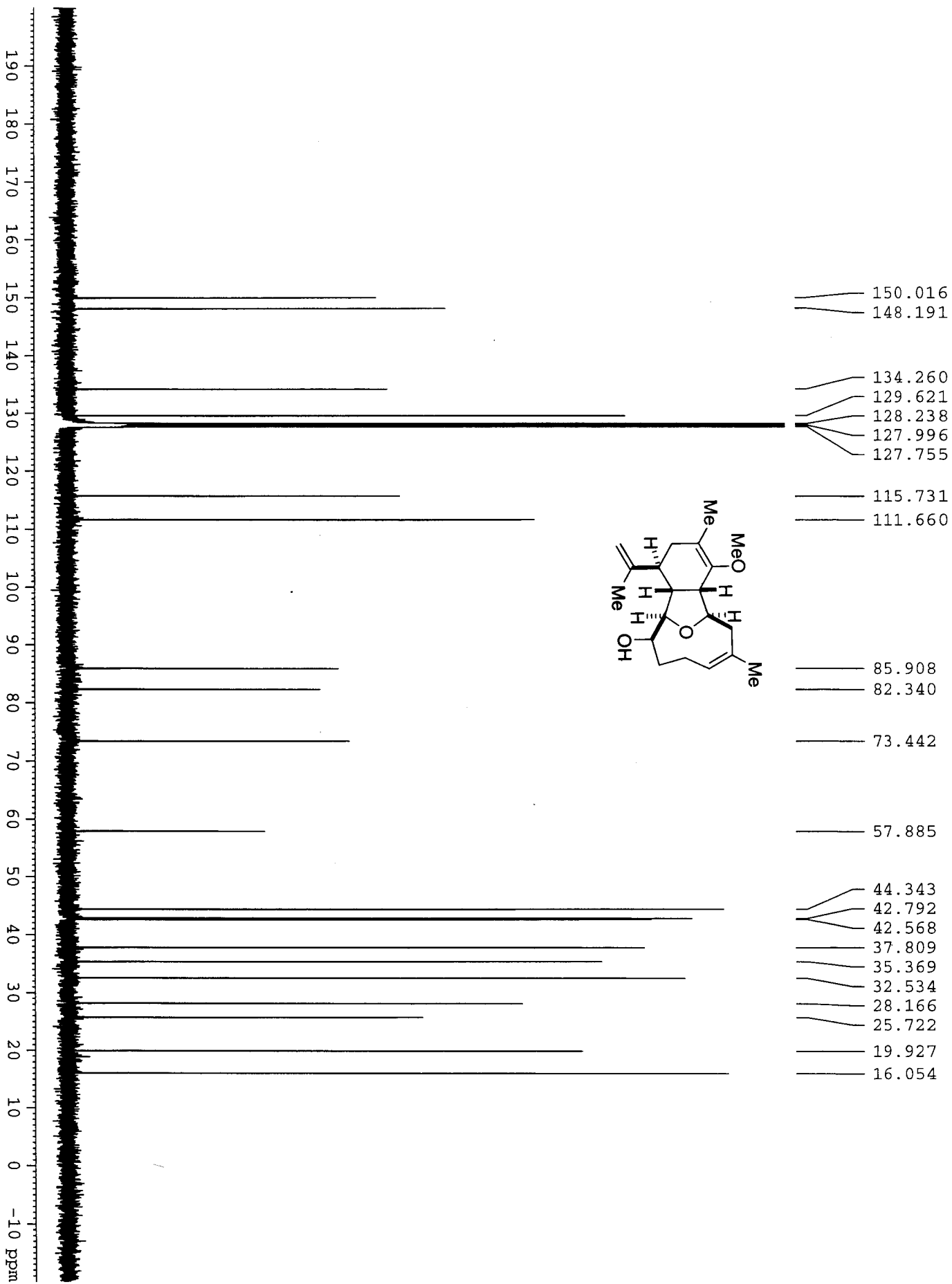
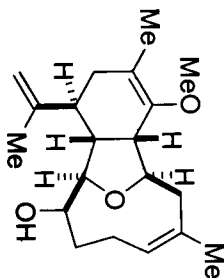
400 MHz in CDCl₃ at 333K



- 1.000
- 2.077
- 1.011
- 1.018
- 1.028
- 3.025
- 1.083
- 2.086
- 1.042
- 1.021
- 2.223
- 3.134
- 5.451
- 6.232

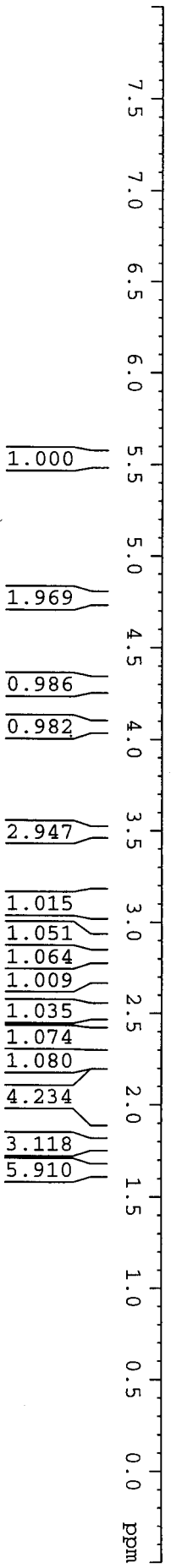
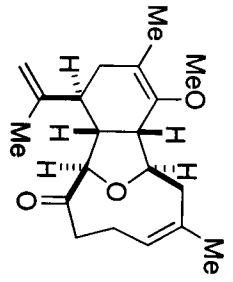
S30

100 MHz in C6D6 at 333K



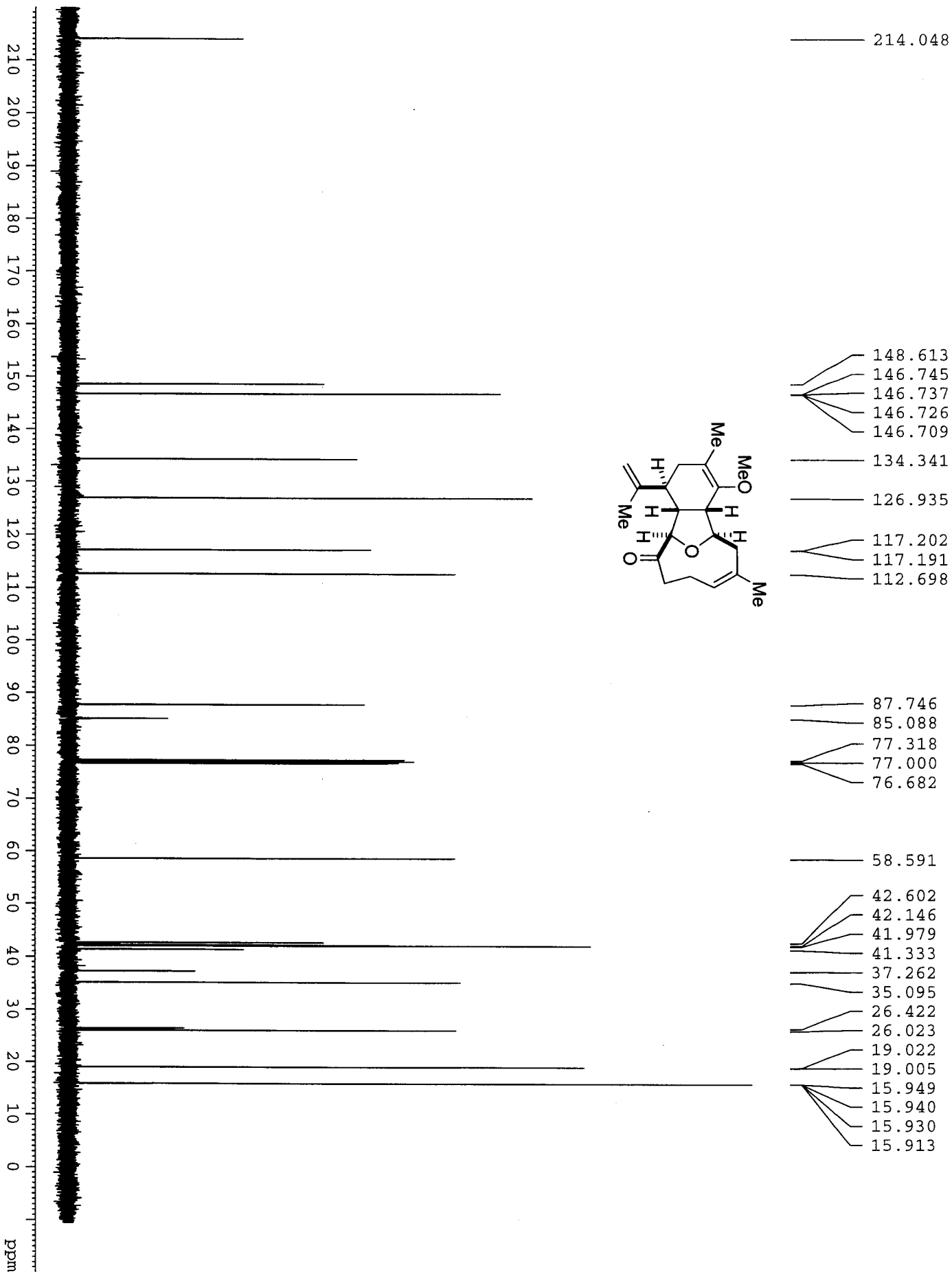
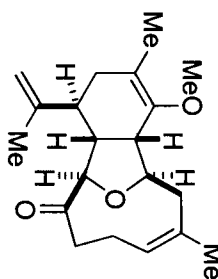
S31

400 MHz in CDCl₃

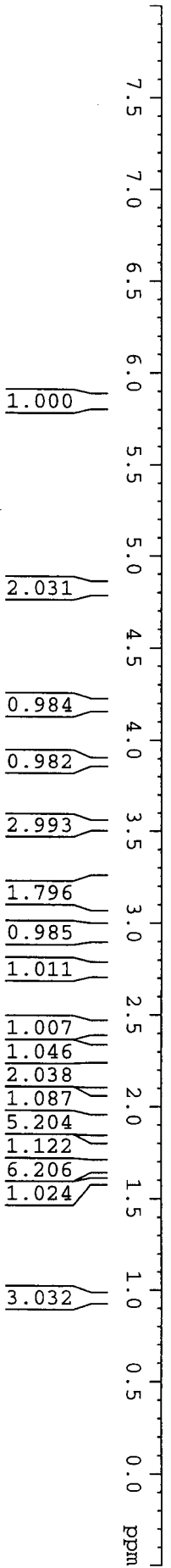
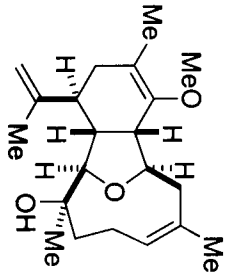


S32

100 MHz in CDCl₃

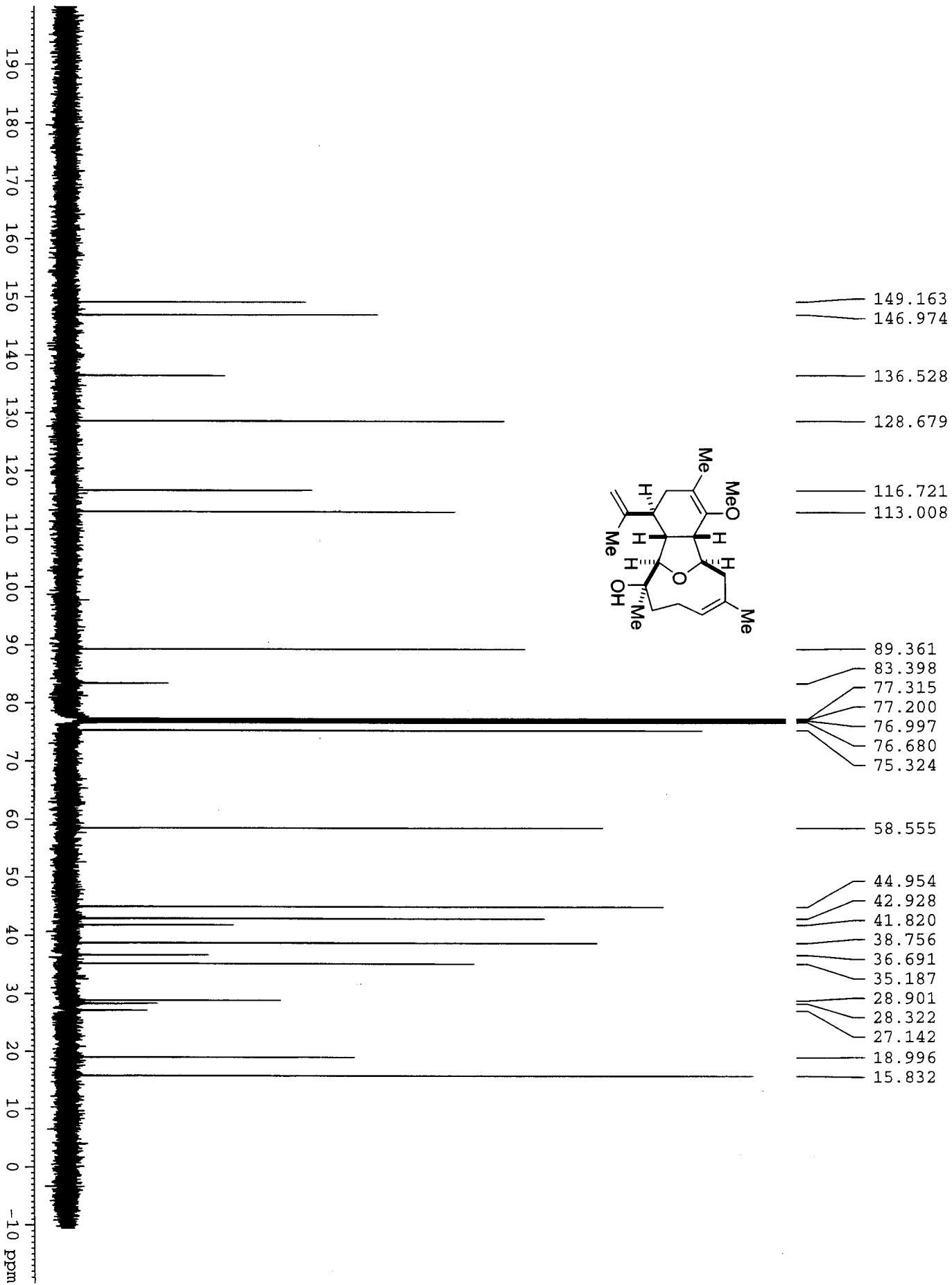
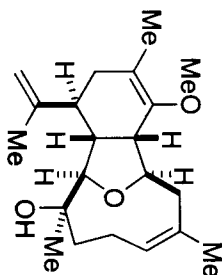


400 MHz in CDCl₃



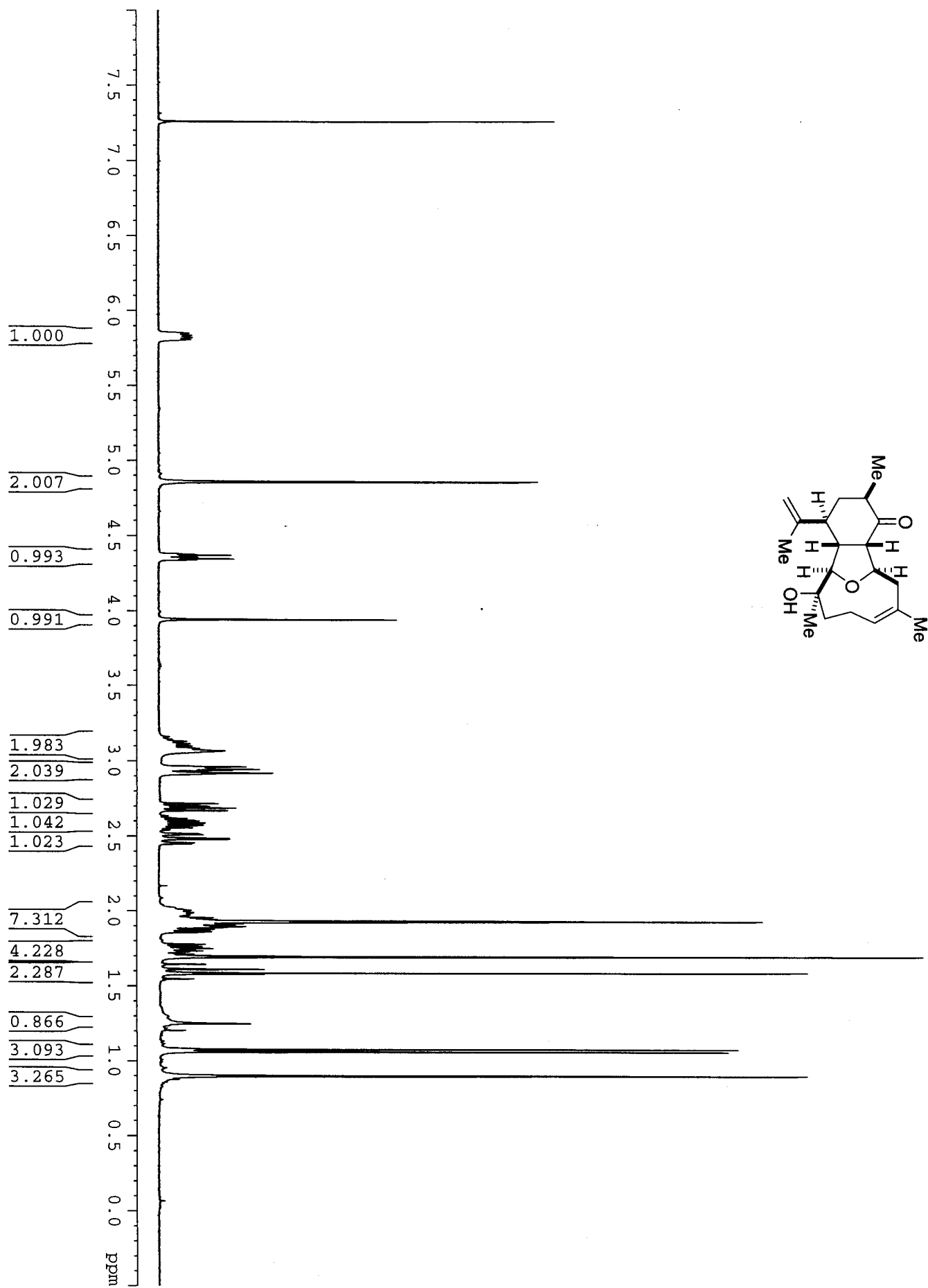
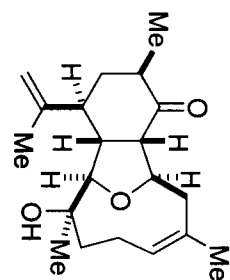
S34

100 MHz in CDCl₃



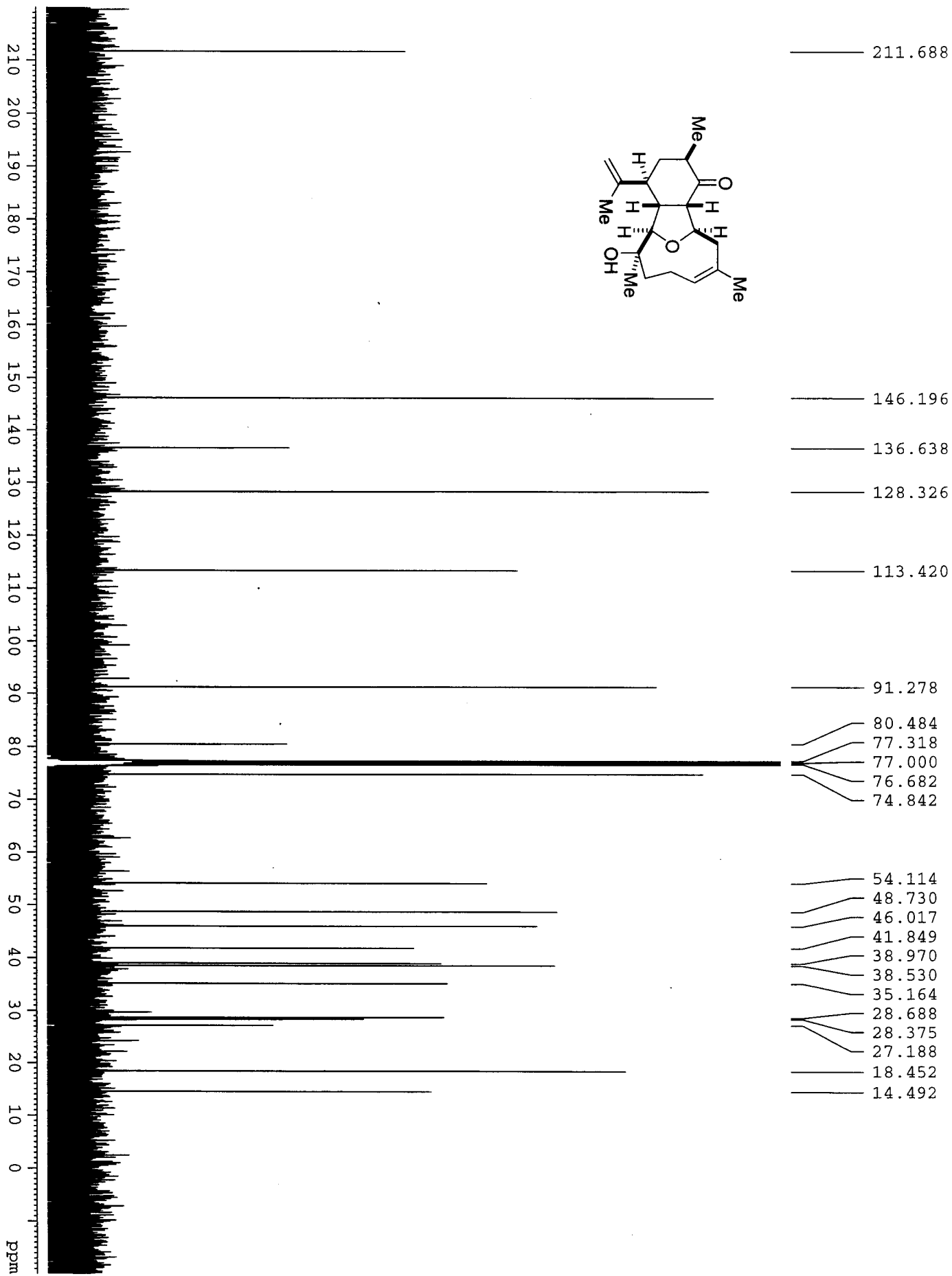
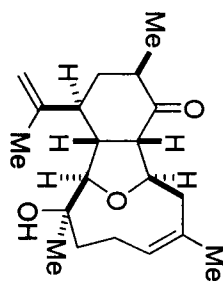
S35

400 MHz in CDCl₃



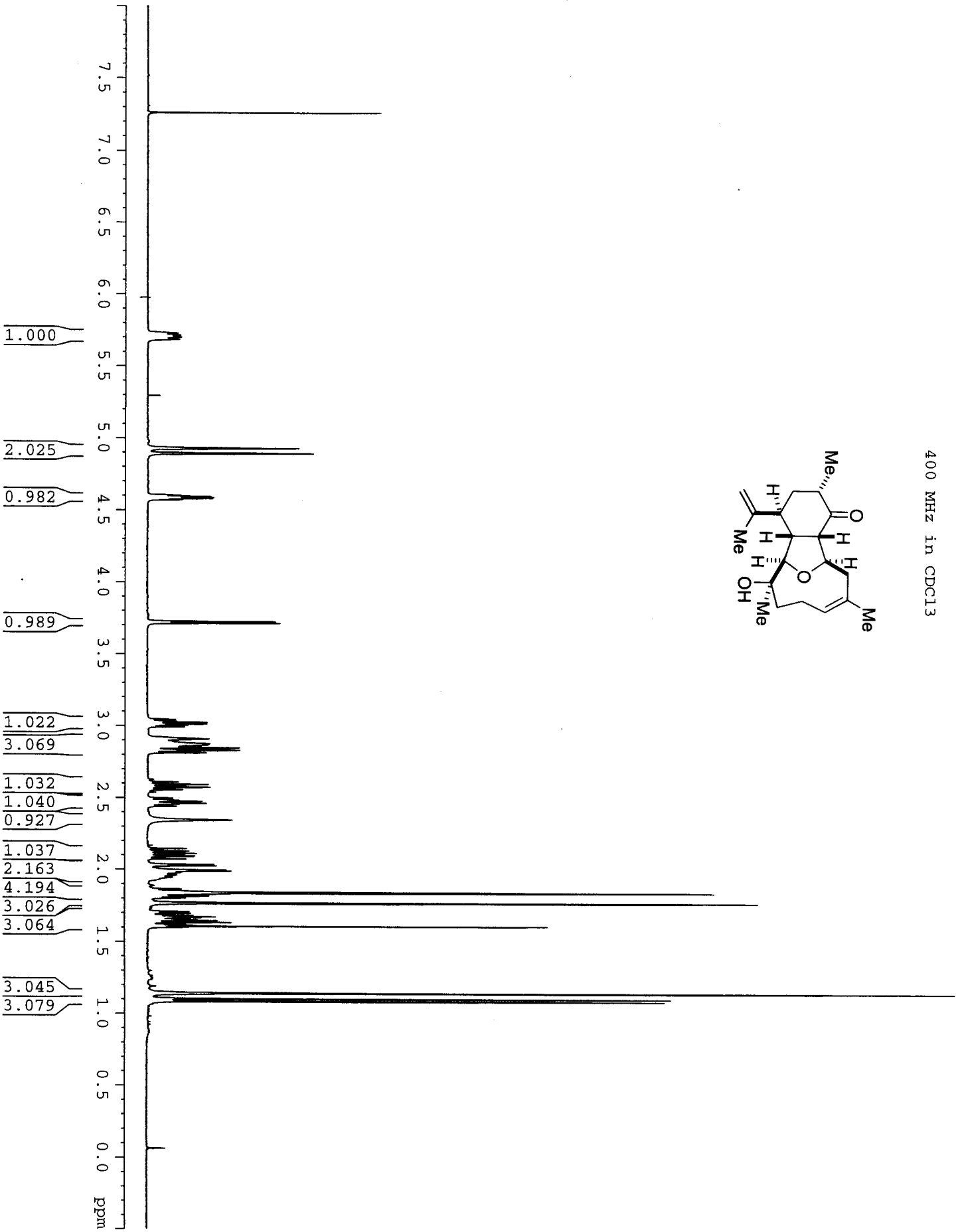
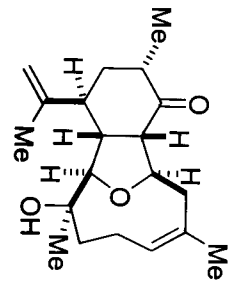
S36

100MHz in CDCl3



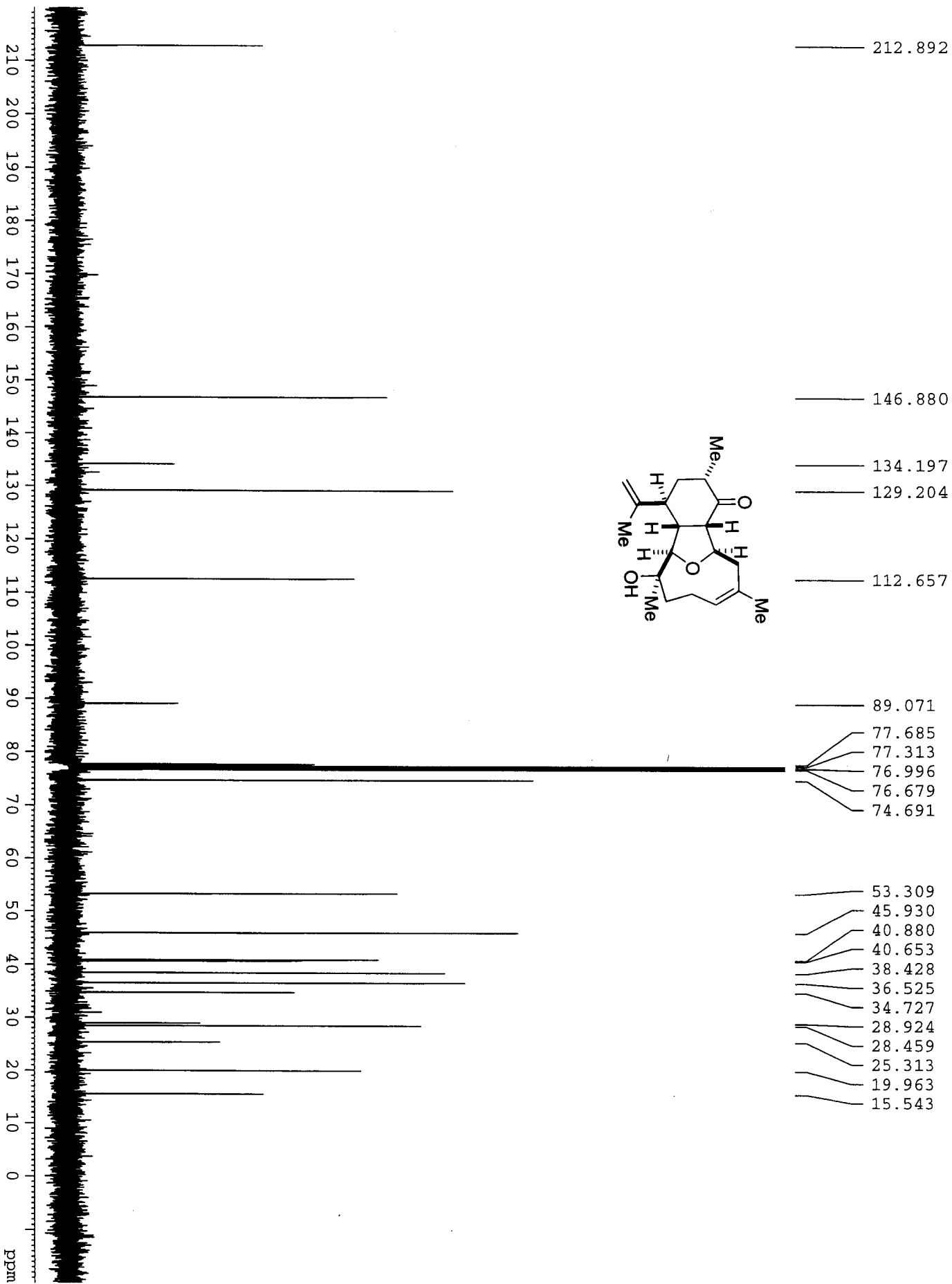
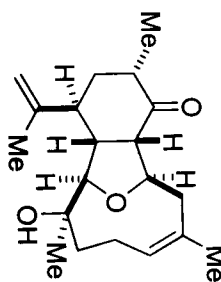
S37

400 MHz in CDCl₃



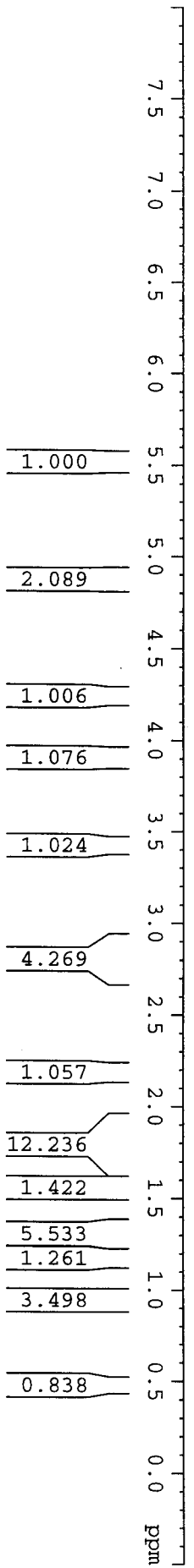
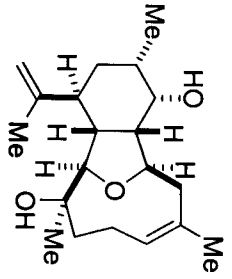
S38

100 MHz in CDCl₃



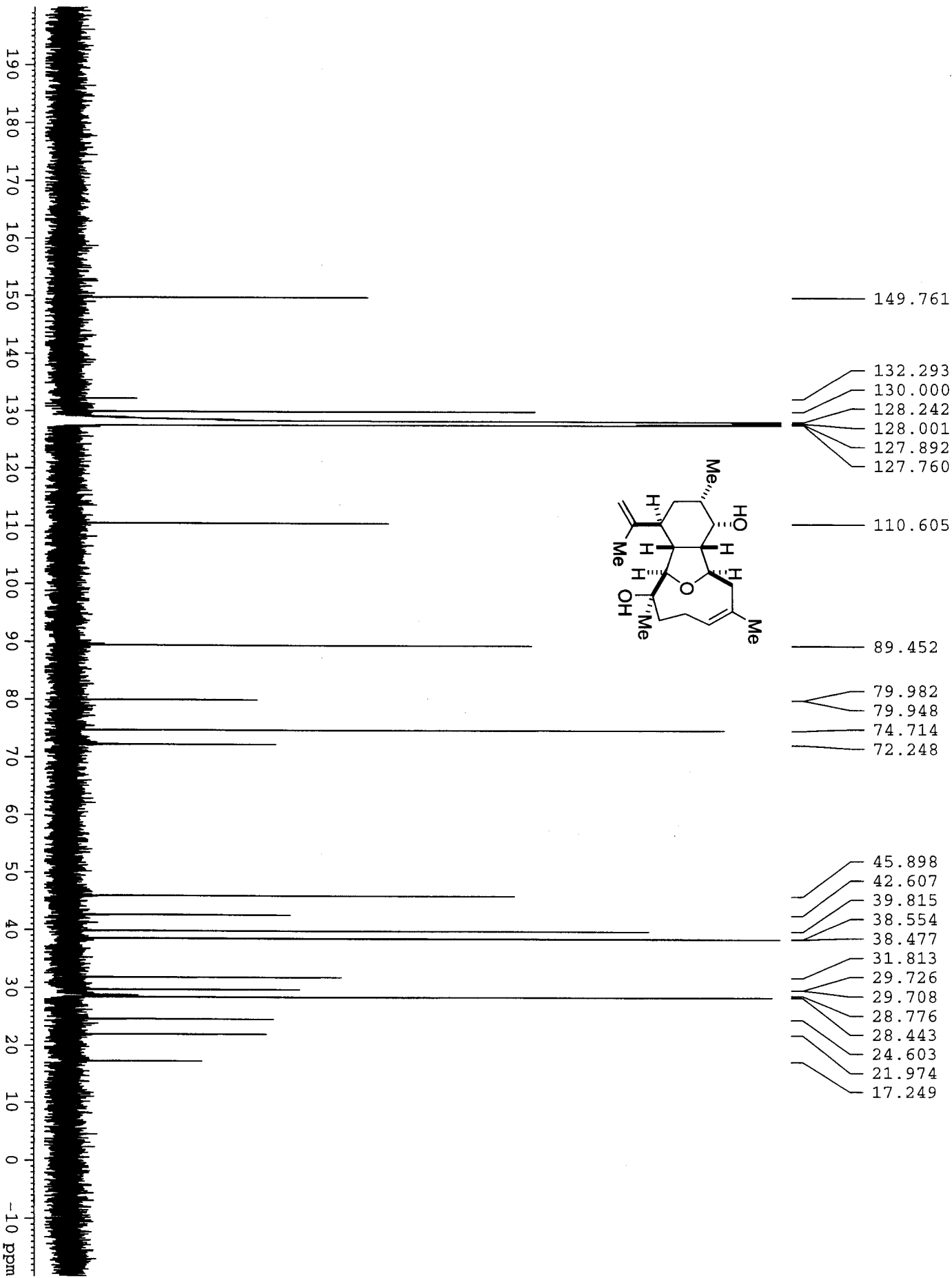
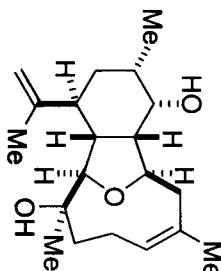
S39

400 MHz in C6D6 at 333K



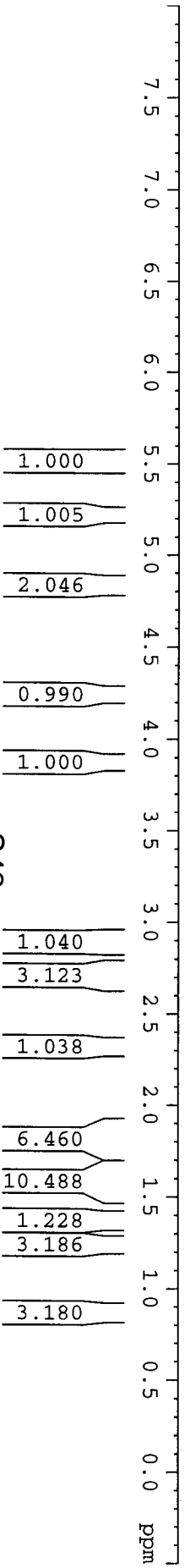
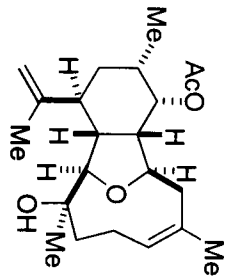
S40

100 MHz in C6D6 at 333K



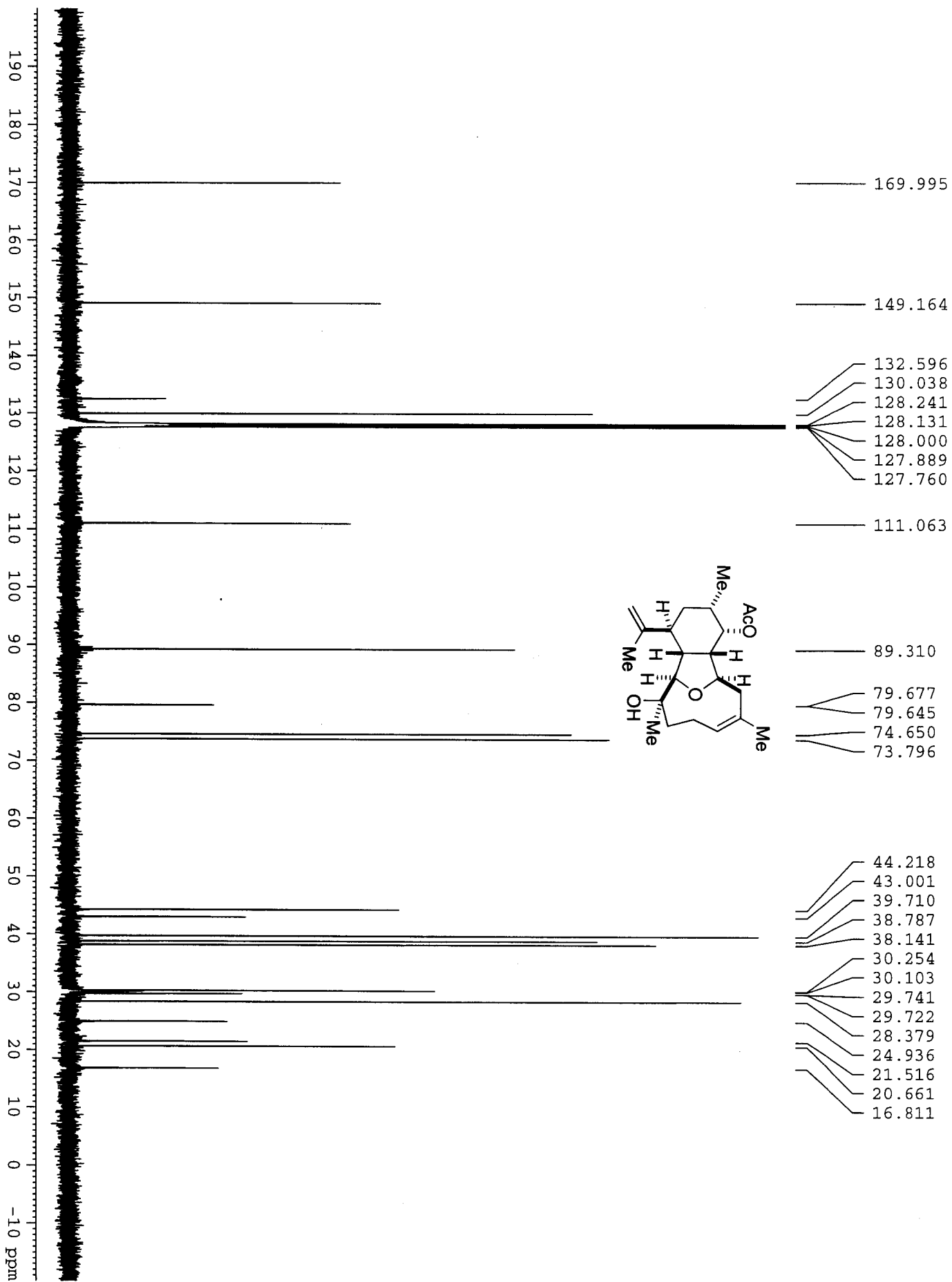
S41

400 MHz in C6D6 at 333K



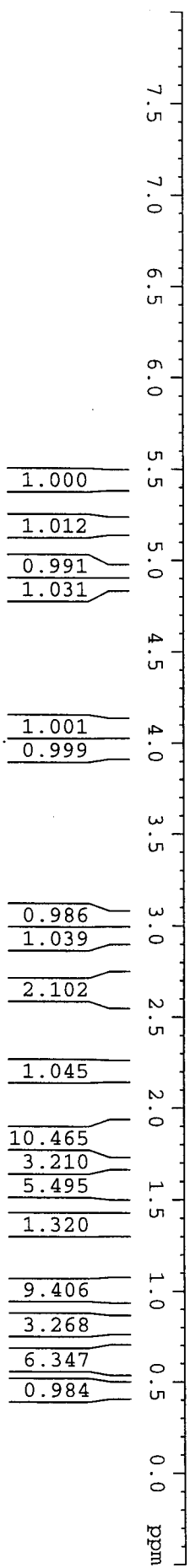
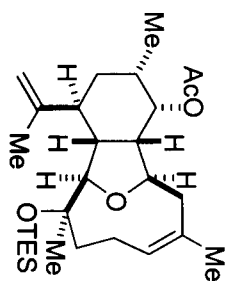
S42

100 MHz in C6D6 at 333K



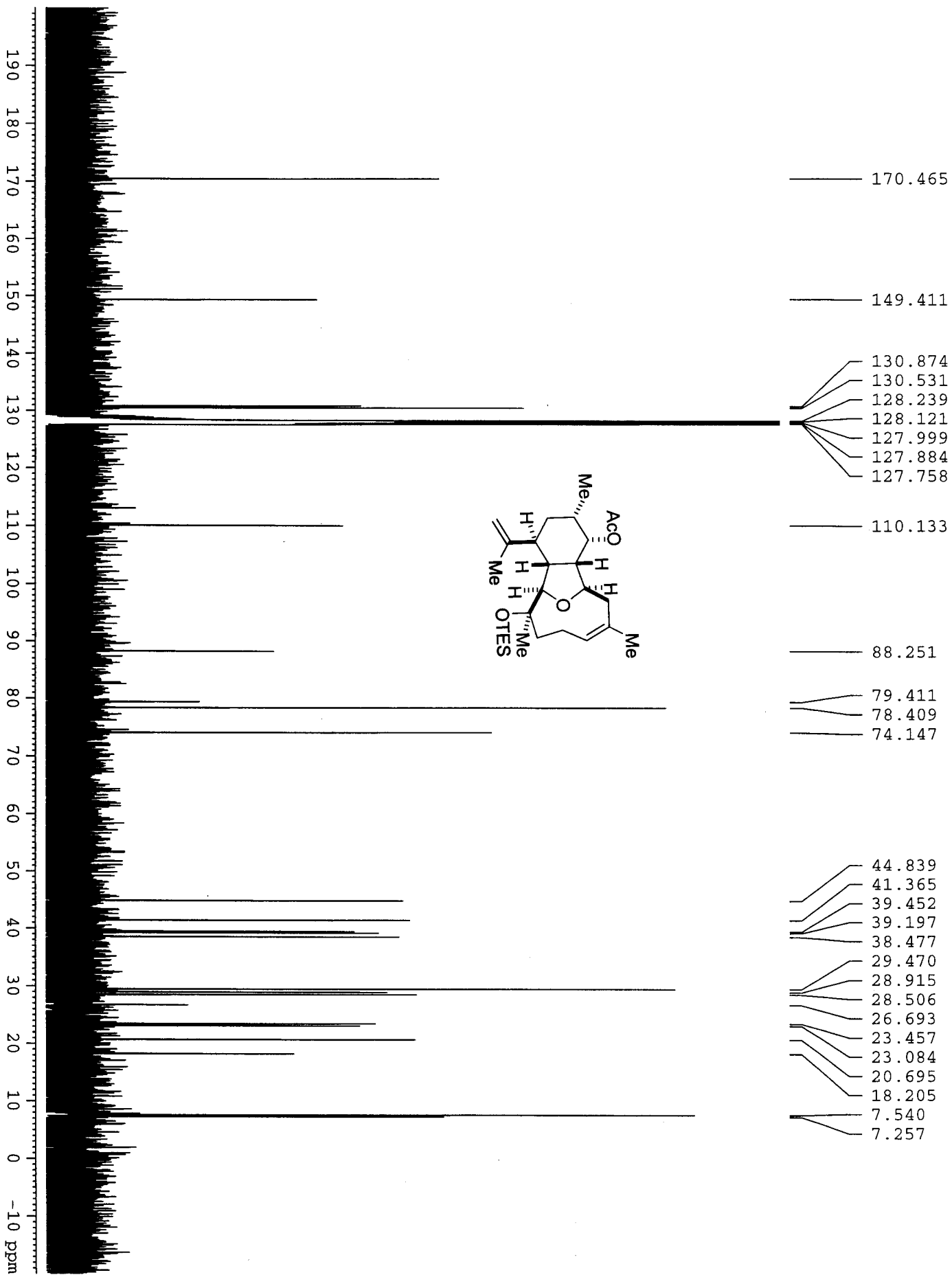
S43

400 MHz in C6D6 at 333K



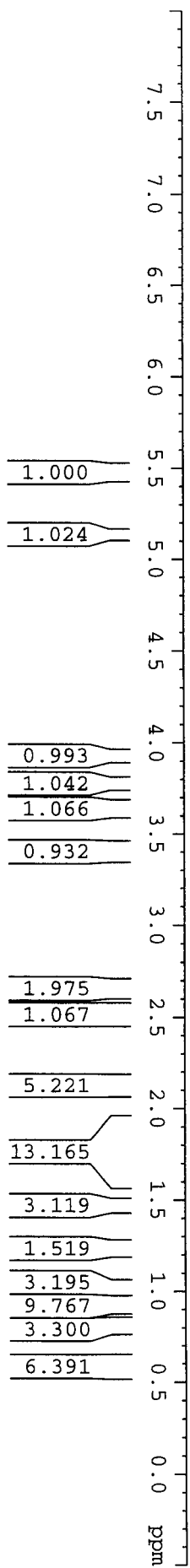
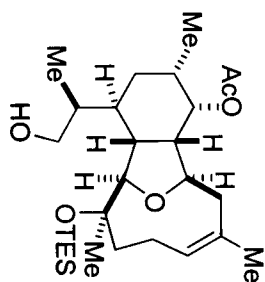
S44

100 MHz in C6D6 at 333K



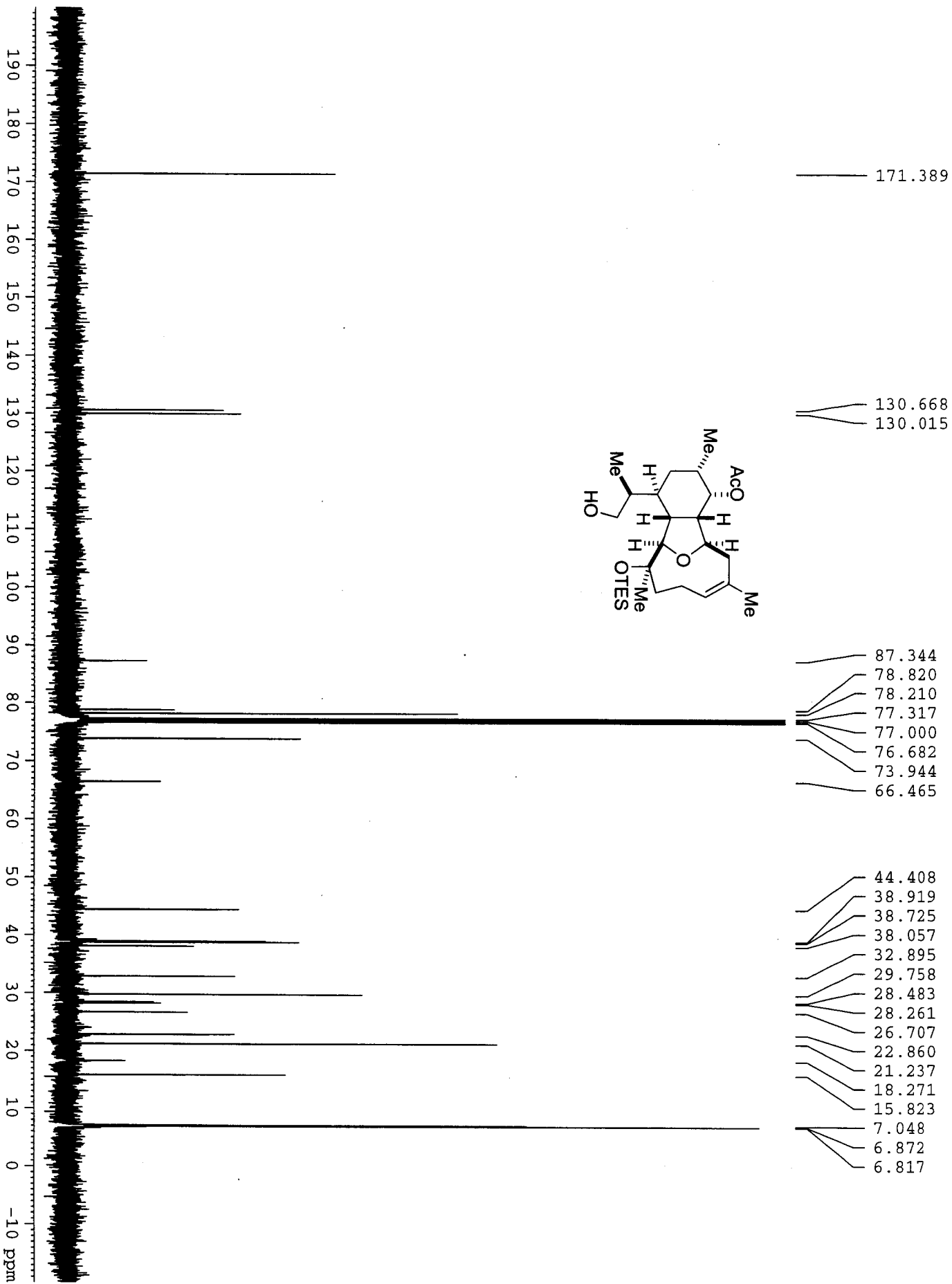
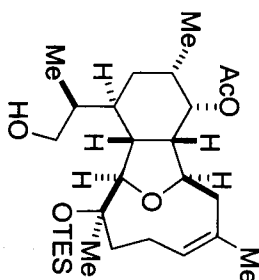
S45

400 MHz in CDCl3



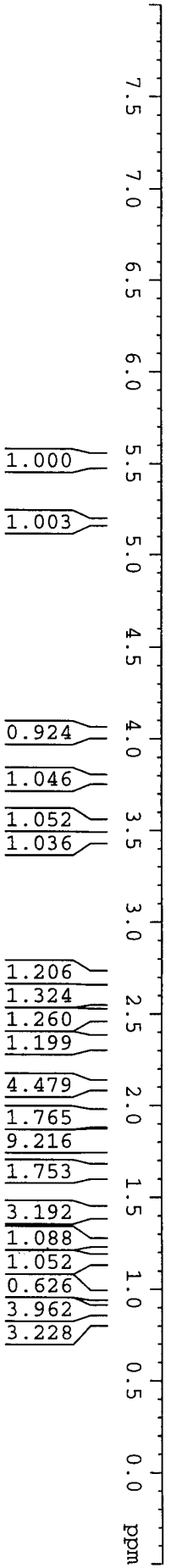
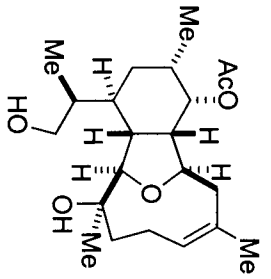
S46

100 MHz in CDCl3



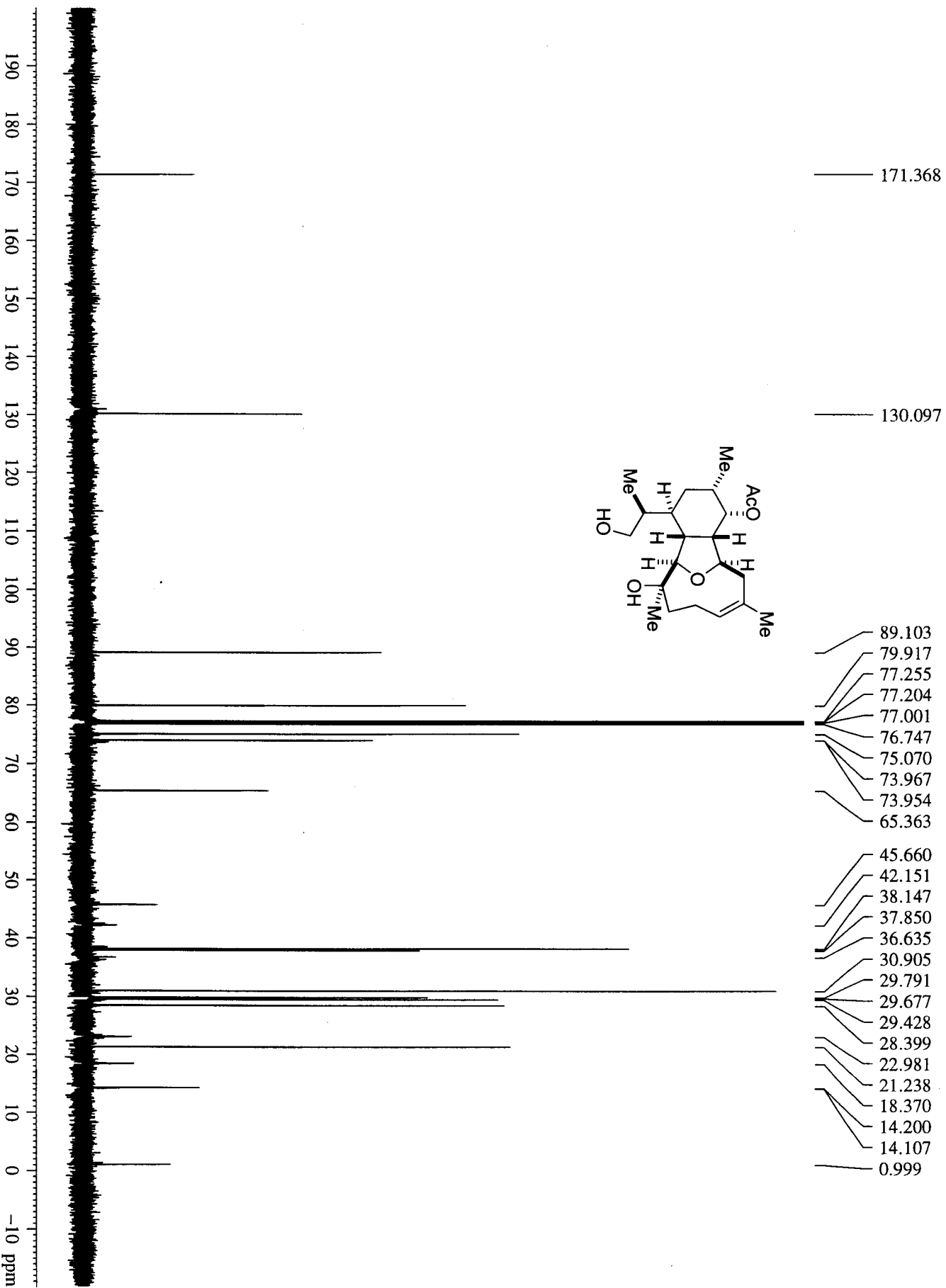
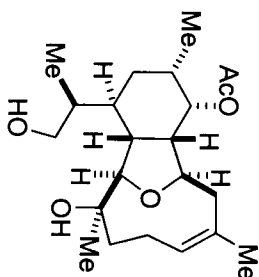
S47

500 MHz in CDCl₃

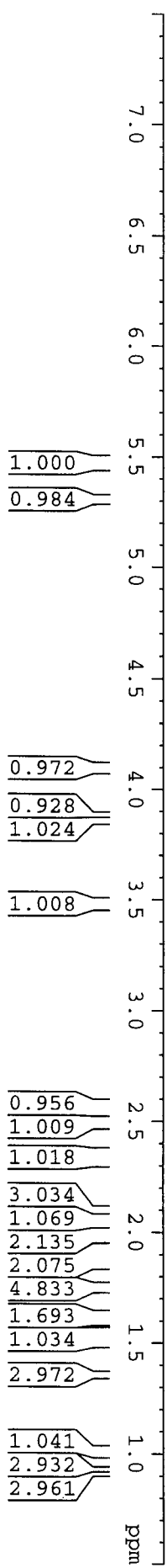
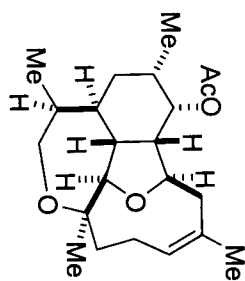


S48

125 MHz in CDCl₃

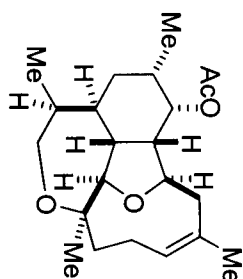


11-acetoxy-4-deoxyasbestinin D
Synthetic sample, 500 MHz in CDCl₃

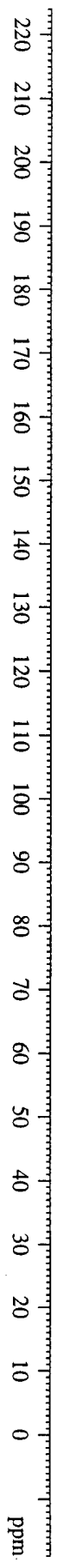


S50

11-acetoxy-4-deoxyasbestinin D
125 MHz in CDCl₃

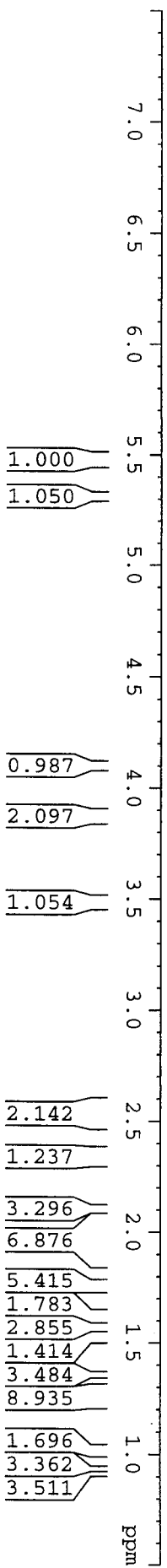
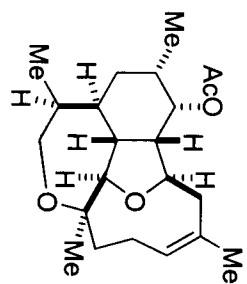


- 171.317
- 130.770
- 128.698
- 92.215
- 81.001
- 77.254
- 77.201
- 76.999
- 76.746
- 76.399
- 73.519
- 67.926
- 45.757
- 40.549
- 38.530
- 37.985
- 37.489
- 37.335
- 31.542
- 31.349
- 28.918
- 26.062
- 23.375
- 21.347
- 17.919
- 10.974



S51

500 MHz in CDCl₃
11-acetoxy-4-deoxyasbestinin D
Authentic sample



S52