

Supporting Information-2
Enantioselective Total Synthesis of Largazole, a Potent Inhibitor of
Histone Deacetylase

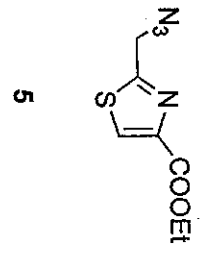
Arun K. Ghosh,* and Sarang Kulkarni

*Departments of Chemistry and Medicinal Chemistry, Purdue University,
West Lafayette, IN 47907*

Contents

¹H and ¹³C NMR spectra of key synthetic compounds:

| | |
|--|-----|
| ¹ H NMR for 5 | S12 |
| ¹³ C NMR for 5 | S13 |
| ¹ H NMR for 10 | S14 |
| ¹³ C NMR for 10 | S15 |
| ¹ H NMR for 11 | S16 |
| ¹³ C NMR for 11 | S17 |
| ¹ H NMR for 3 | S18 |
| ¹³ C NMR for 3 | S19 |
| ¹ H NMR for 8 | S20 |
| ¹³ C NMR for 8 | S21 |
| ¹ H NMR for 15 | S22 |
| ¹³ C NMR for 15 | S23 |
| ¹ H NMR for 4 | S24 |
| ¹³ C NMR for 4 | S25 |
| ¹ H NMR for 2 | S26 |
| ¹³ C NMR for 2 | S27 |
| ¹ H NMR for 1 | S28 |
| ¹³ C NMR for 1 | S29 |
| Comparison of ¹ H NMR for 1 | S30 |
| Comparison of ¹³ C NMR for 1 | S31 |

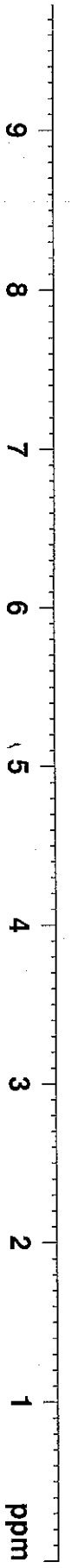


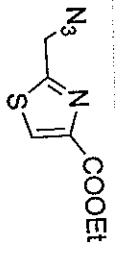
0.913

2.000

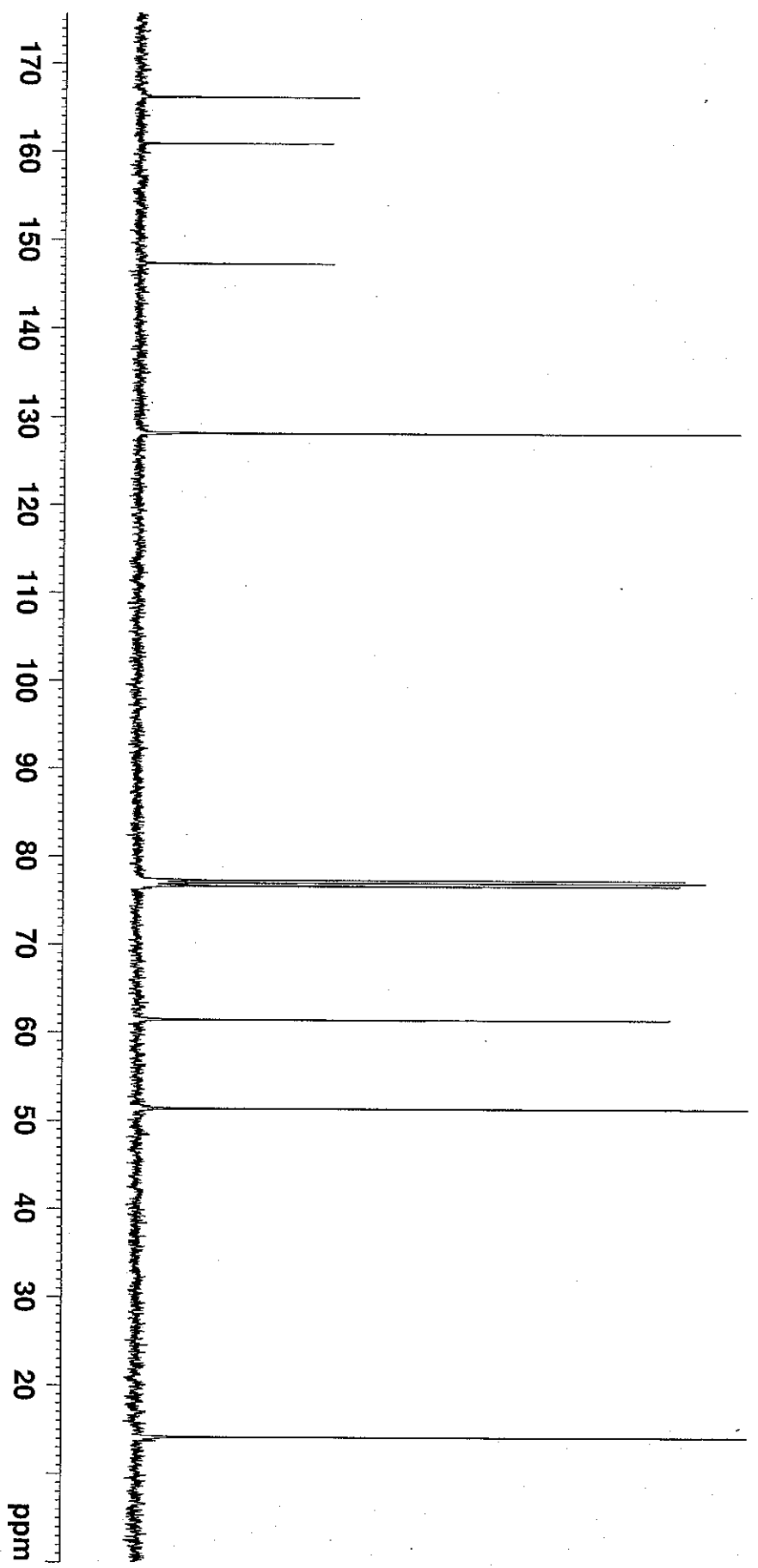
2.152

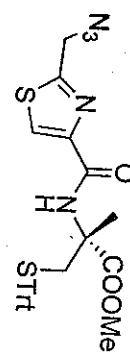
3.157



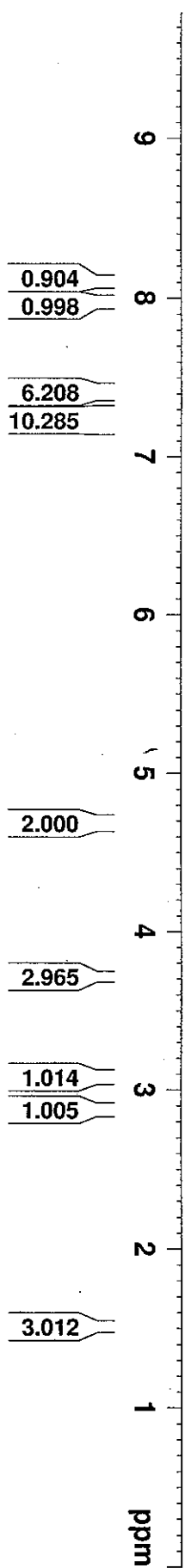


5

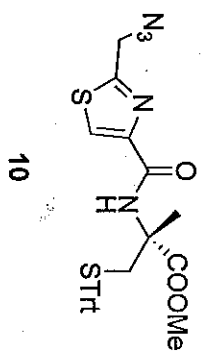
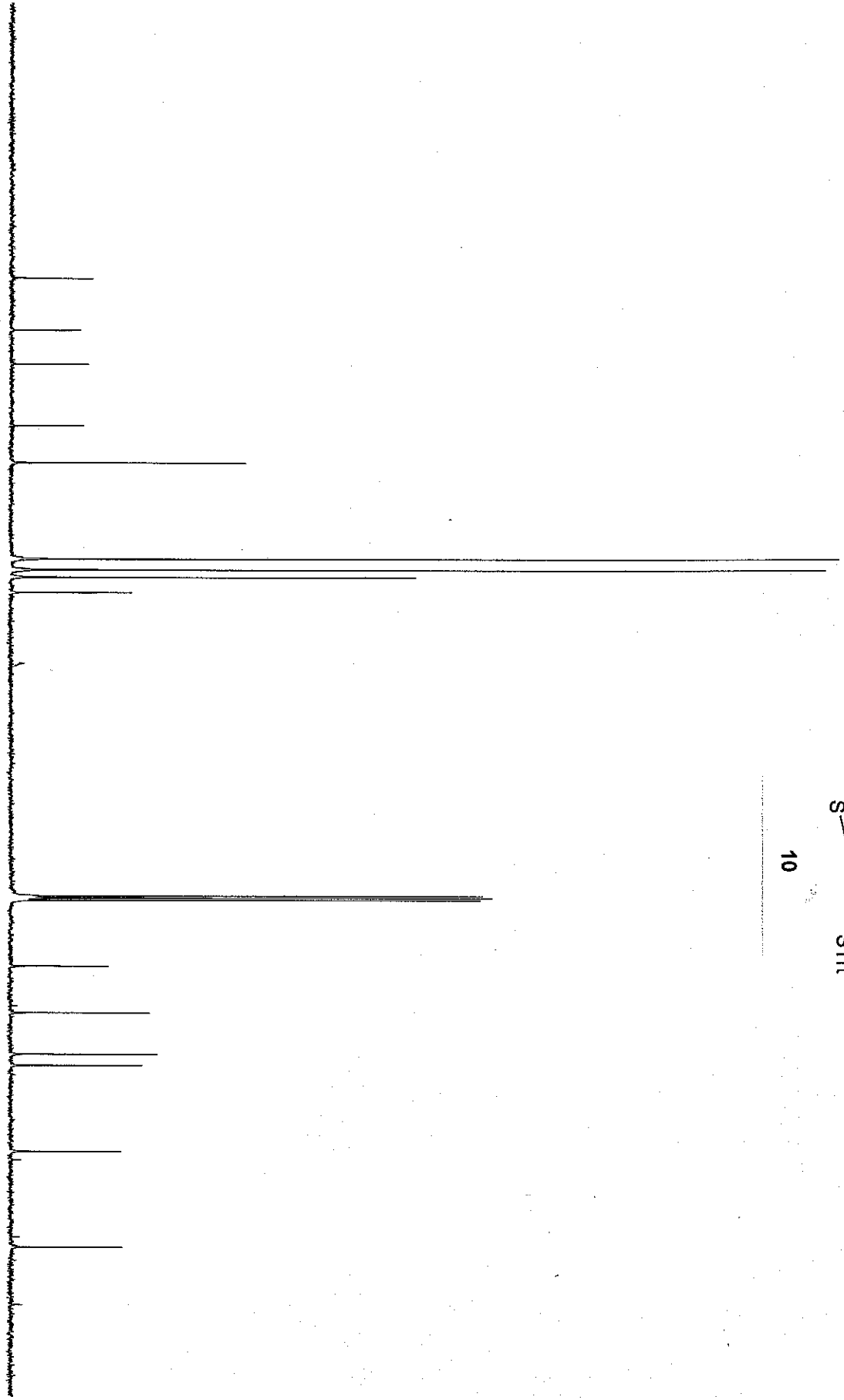




10



210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 ppm



1.000

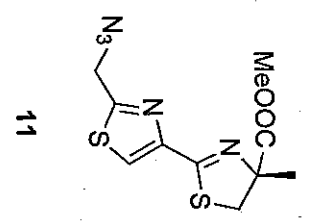
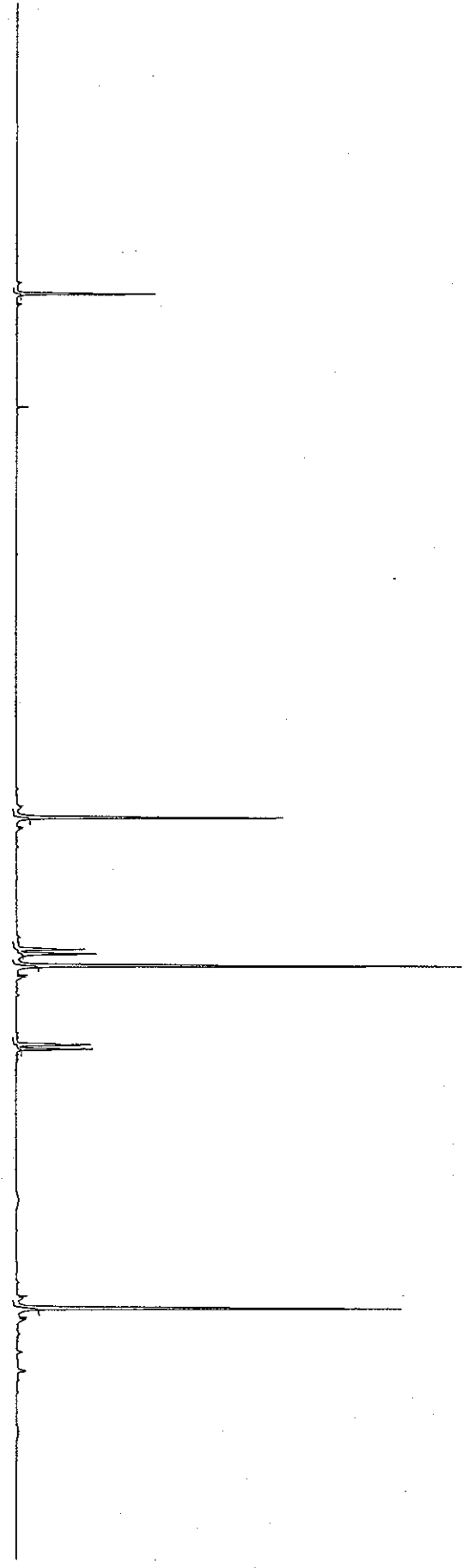
2.317

1.372
3.474

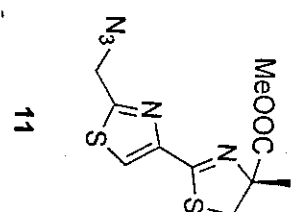
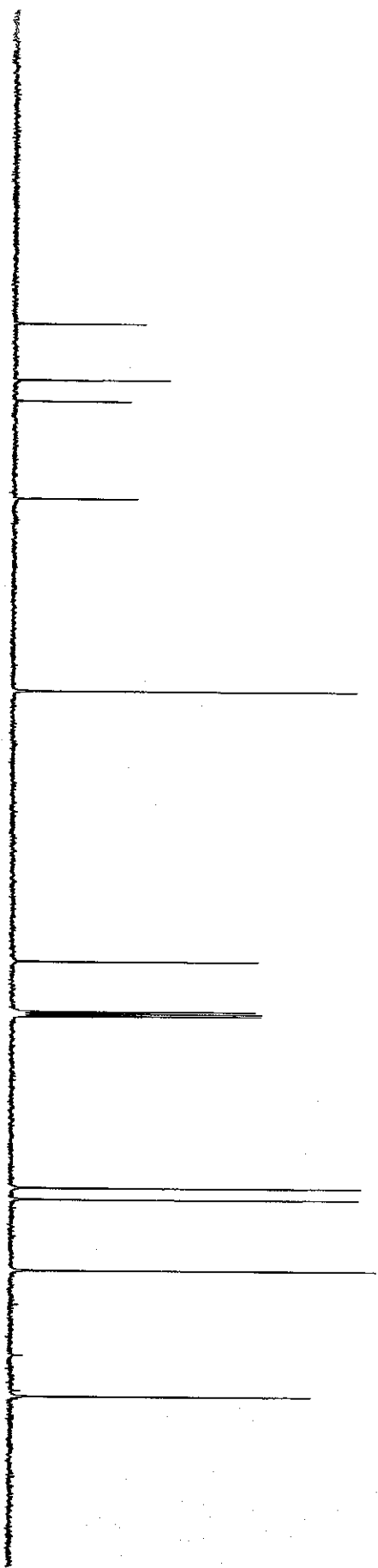
1.206

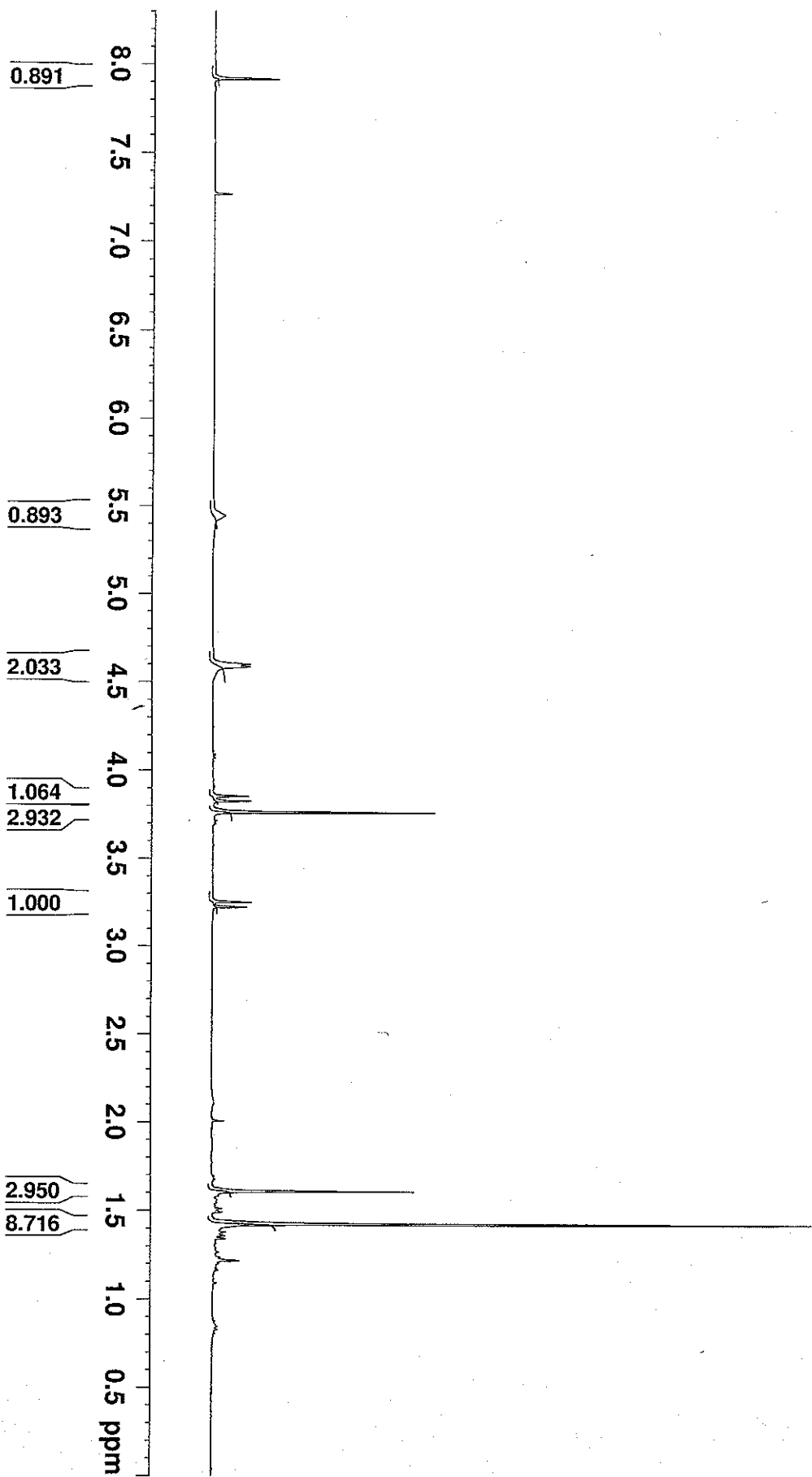
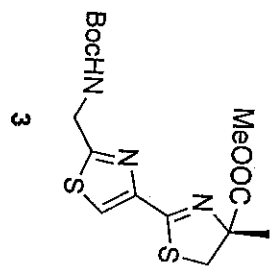
3.549

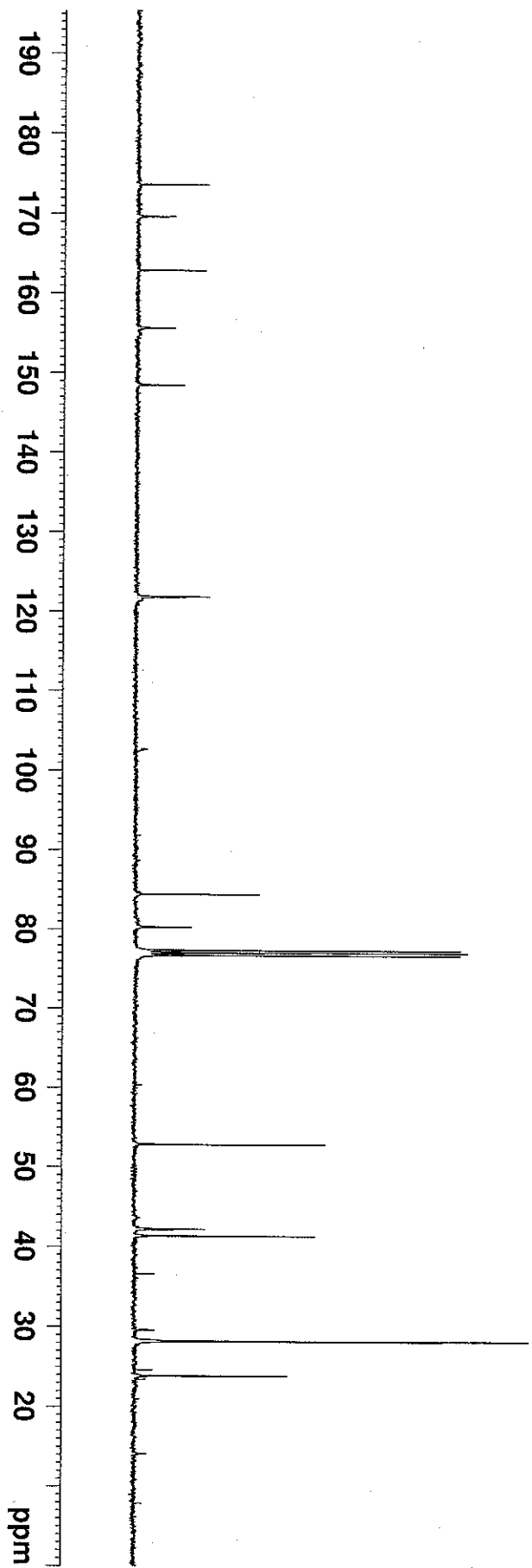
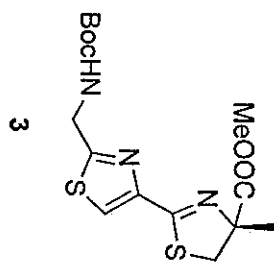
9
8
7
6
5
4
3
2
1
ppm



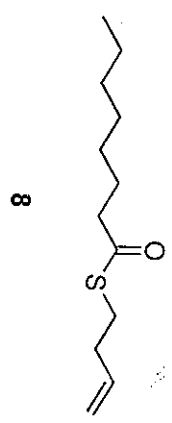
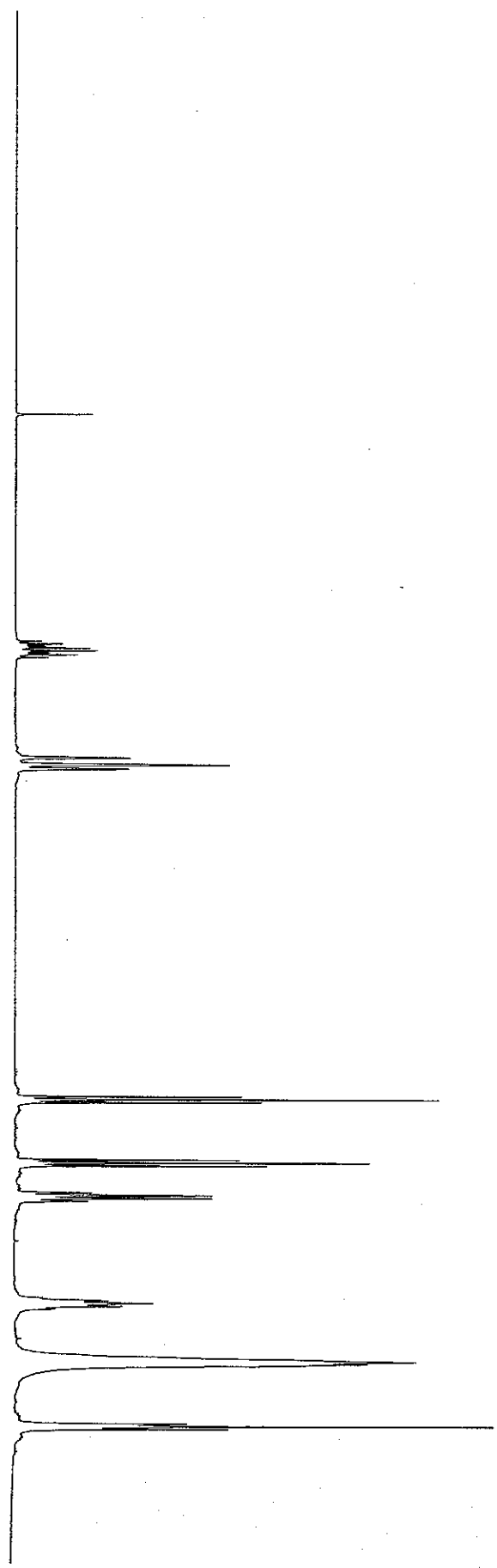
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 ppm

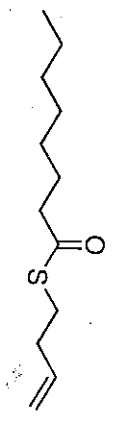




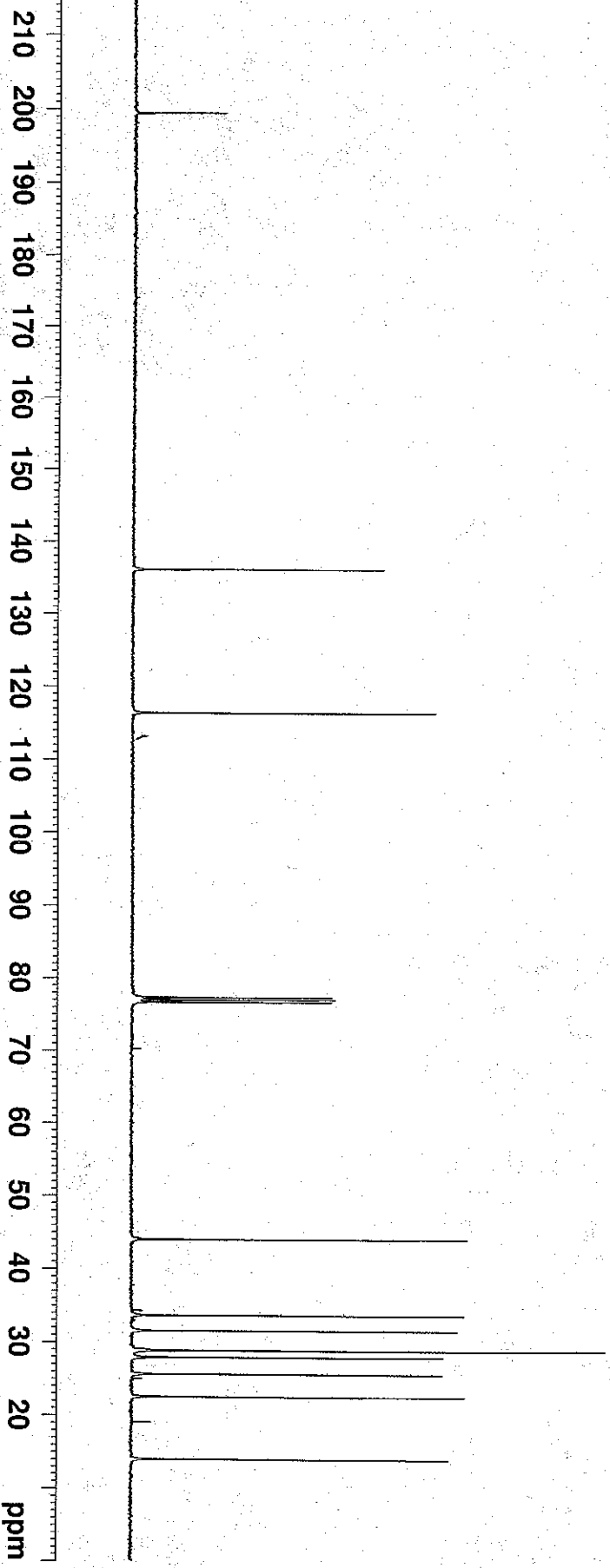


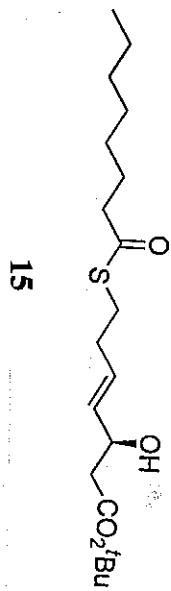
9
8
7
6
5
4
3
2
1
ppm





8





0.933
1.088

0.906

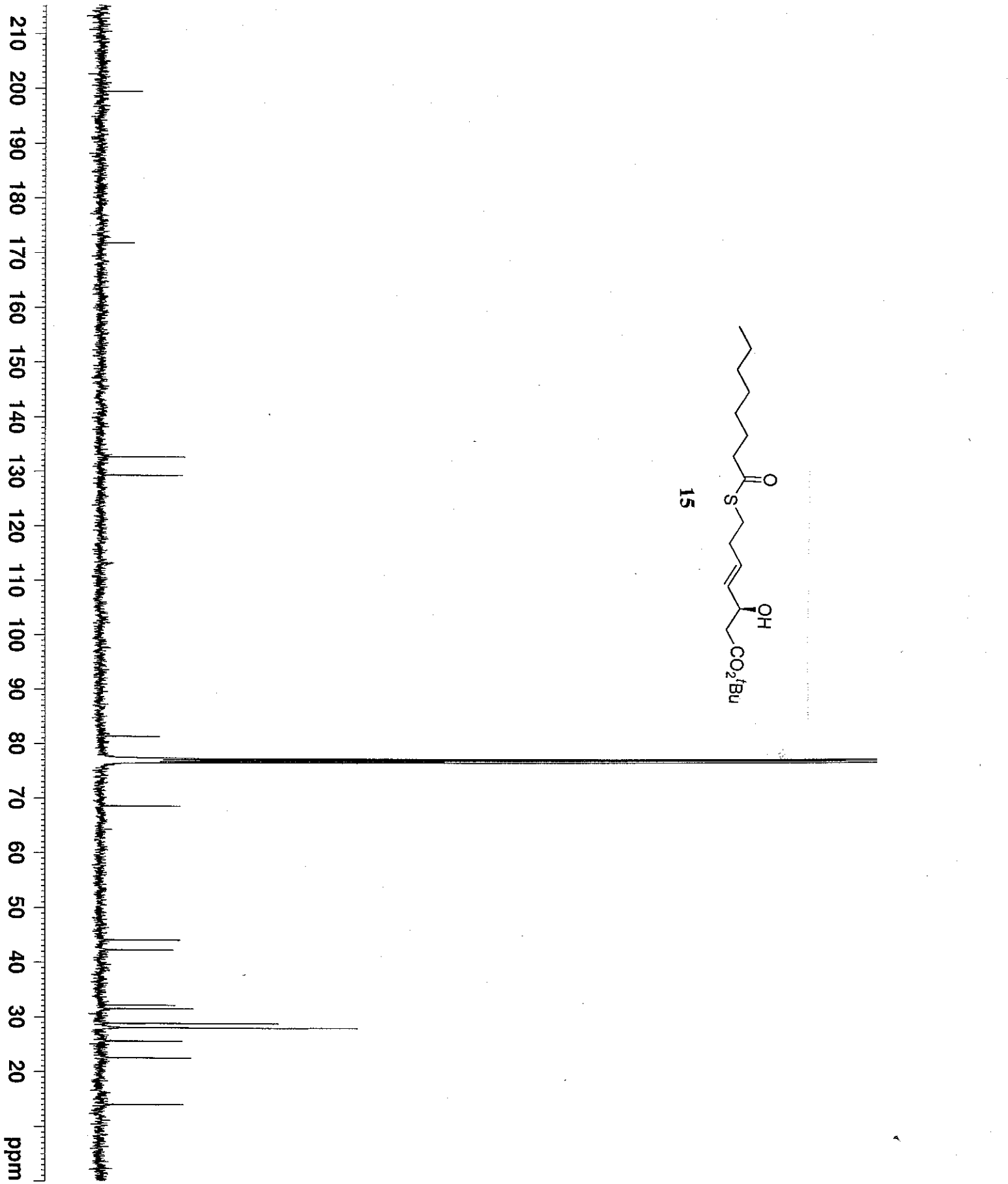
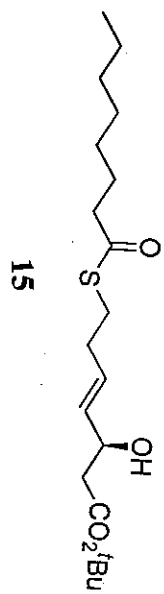
0.846
1.973

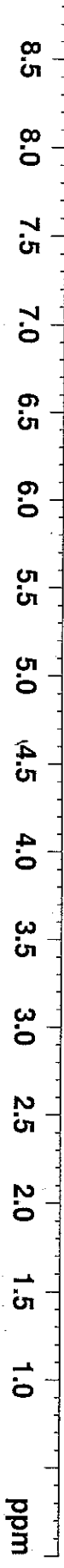
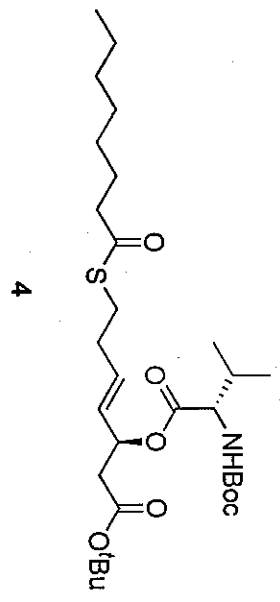
2.056
1.793
1.911

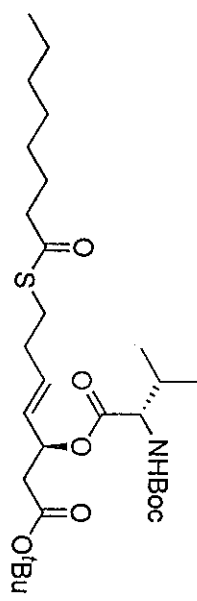
1.908
9.187
9.173

2.957

ppm

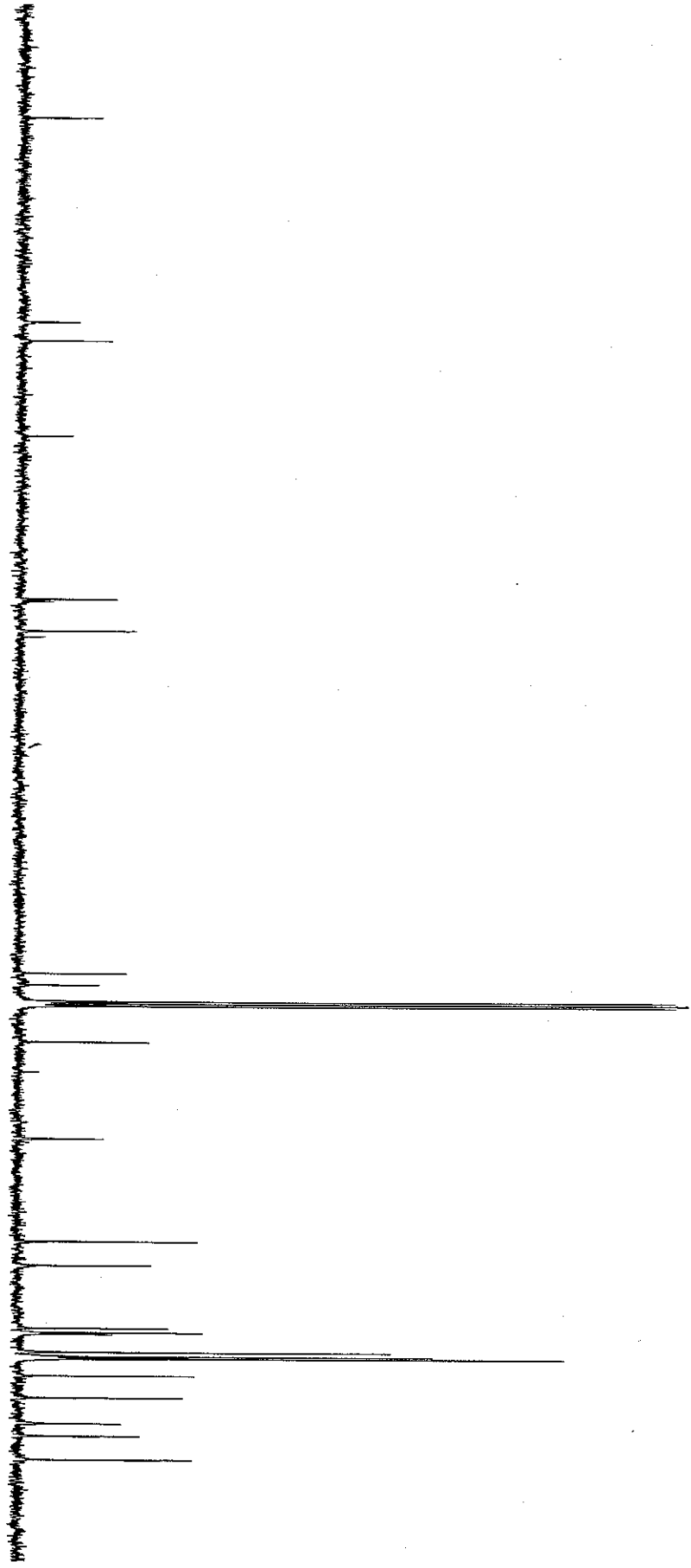


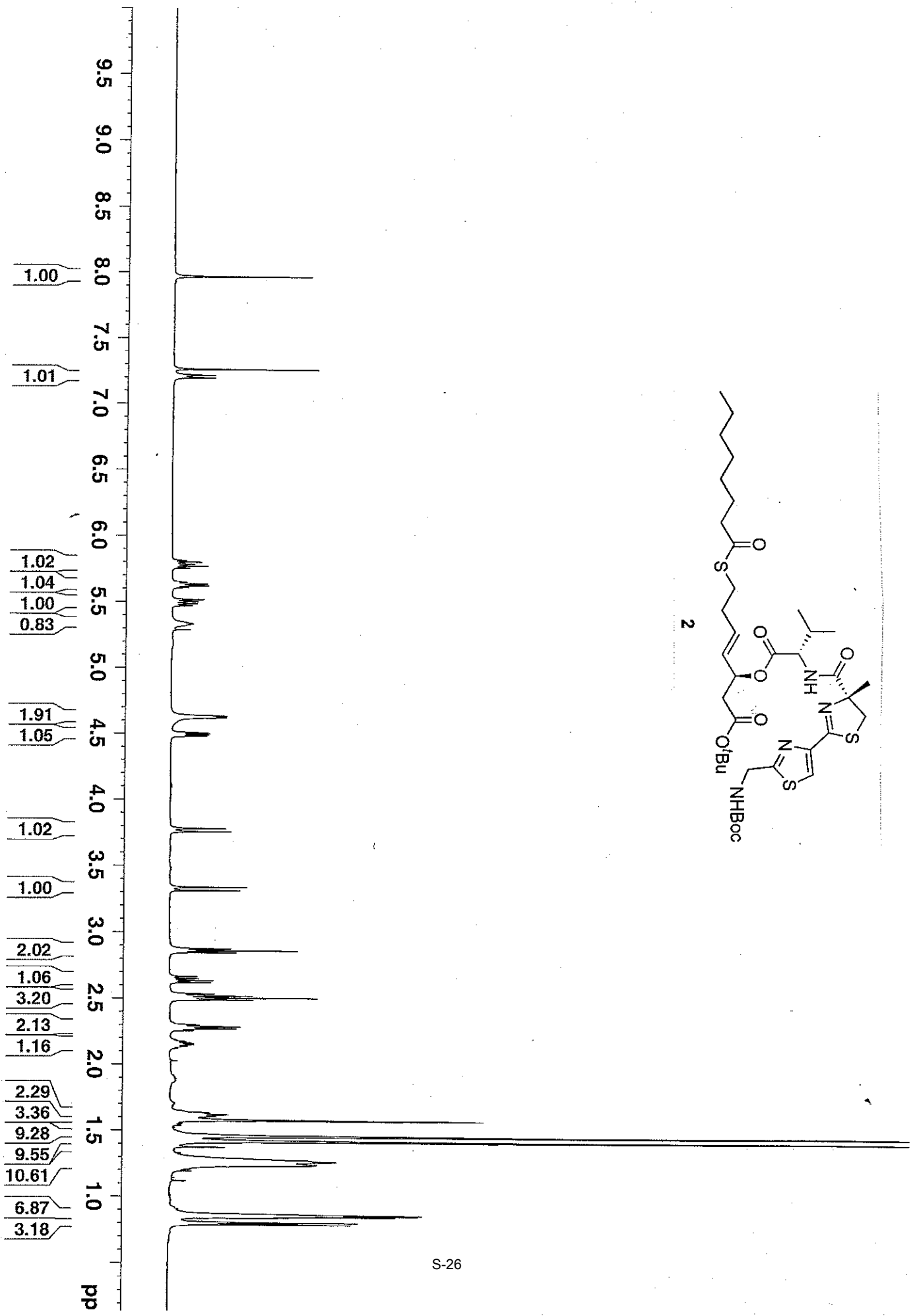
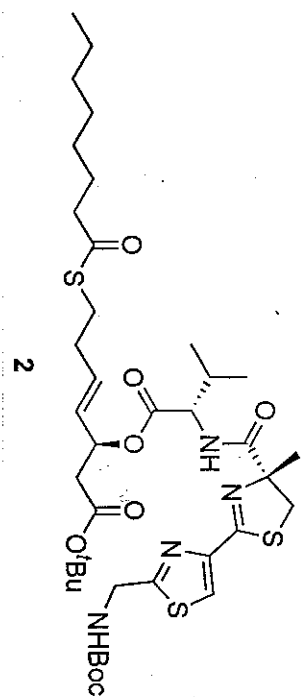


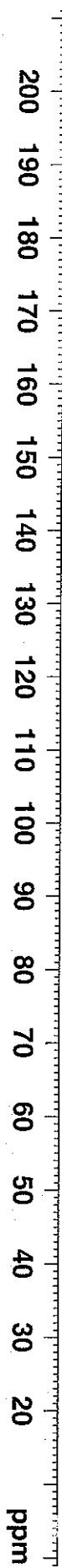
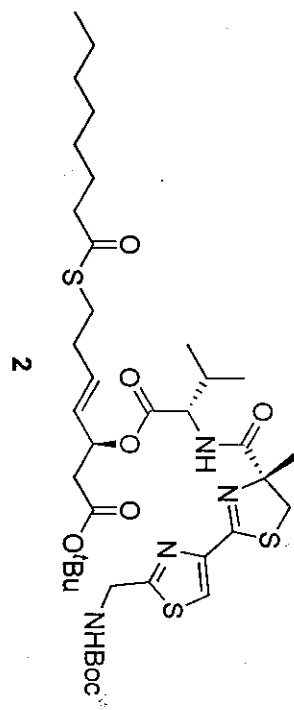


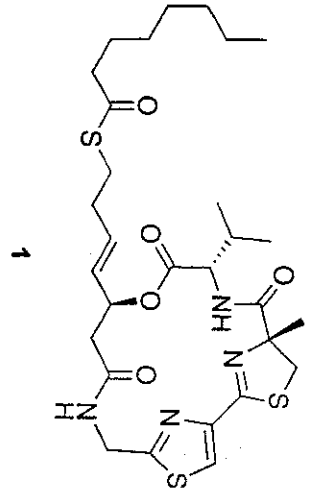
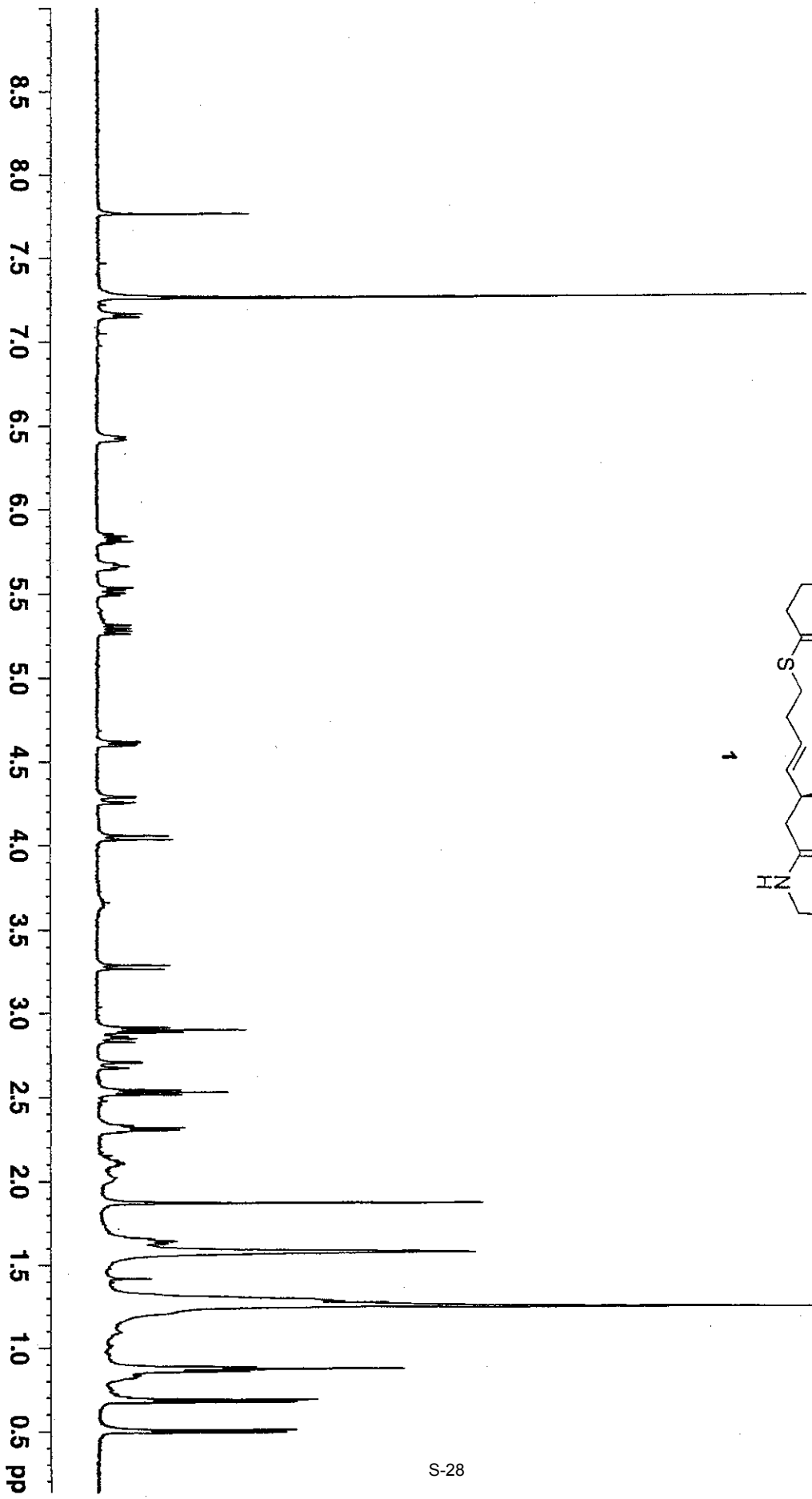
4

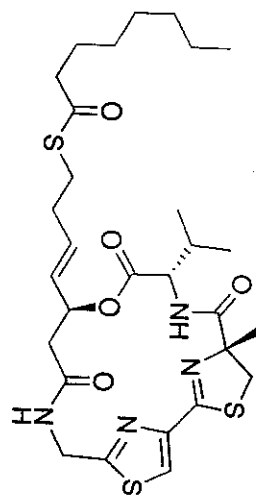
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 ppm



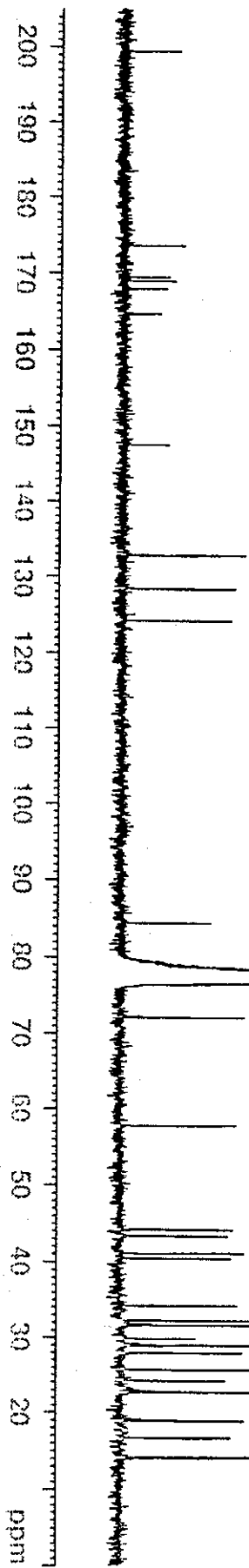






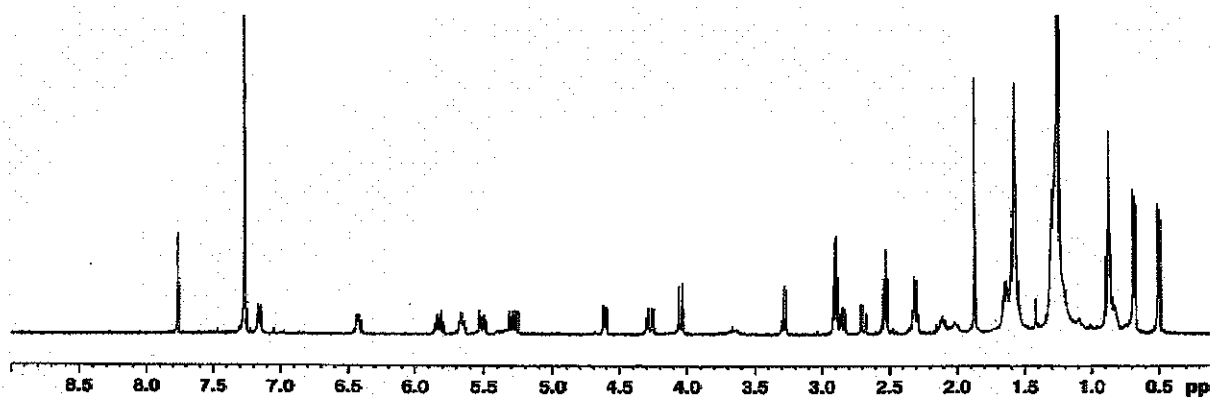


1



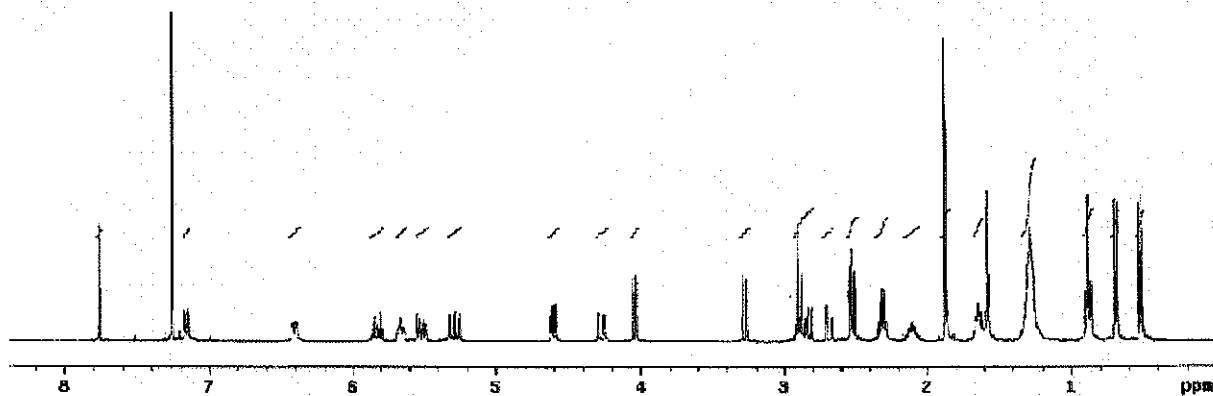
Synthetic Largazole, Ghosh, et.al

^1H NMR (500 MHz, CDCl_3)



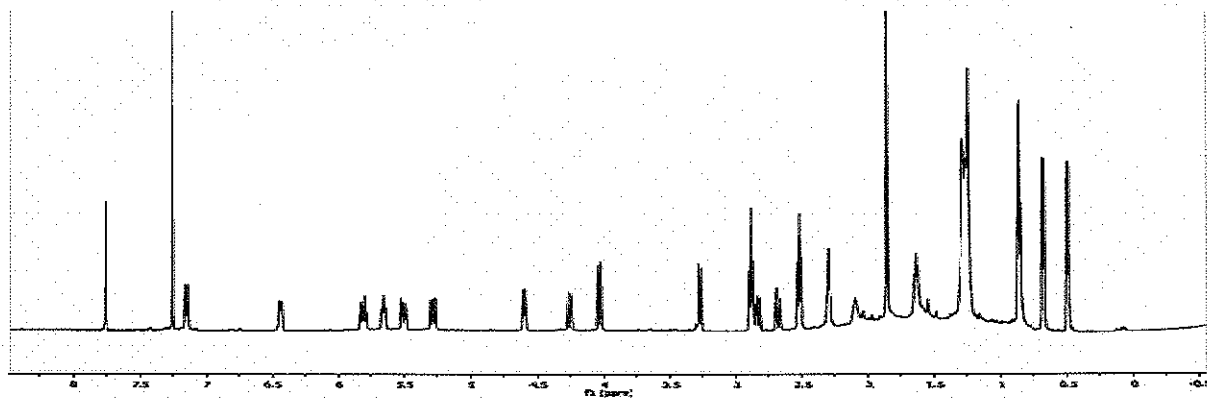
Synthetic Largazole, Leusch, Hong, et.al. (*J. Am. Chem. Soc.*, 2008, 130, 8455-8459)

^1H NMR (400 MHz, CDCl_3)



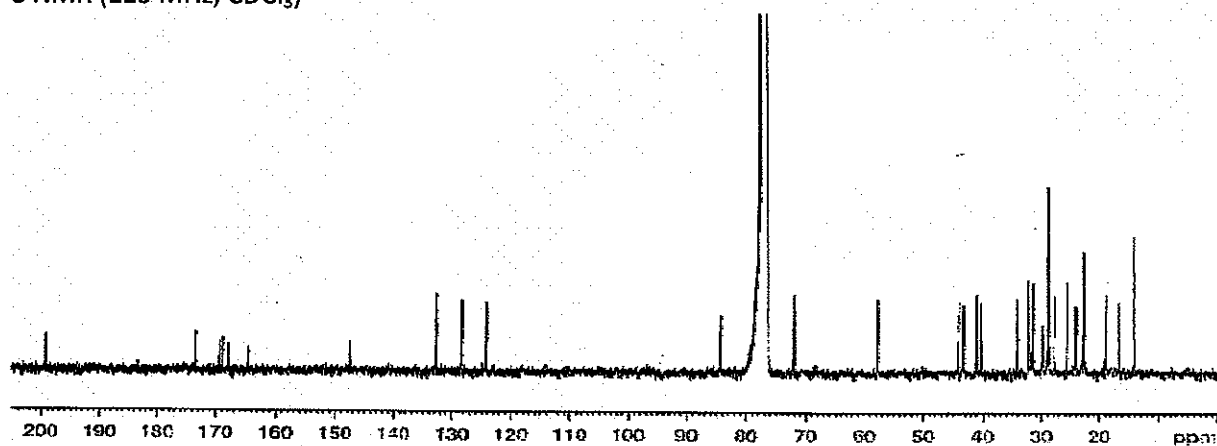
Natural Largazole, Leusch, et. al. (*J. Am. Chem. Soc.*, 2008, 130, 1806-1807)

^1H NMR (600 MHz, CDCl_3)



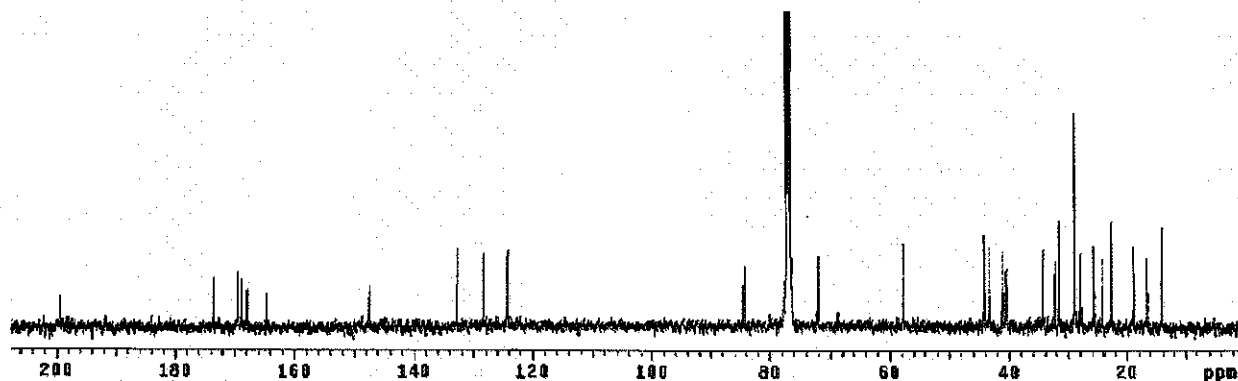
Synthetic Largazole, Ghosh, et.al

^{13}C NMR (125 MHz, CDCl_3)



Synthetic Largazole, Leusch, Hong, et.al. (*J. Am. Chem. Soc.*, 2008, 130, 8455-8459)

^{13}C NMR (100 MHz, CDCl_3)



Natural Largazole, Leusch, et. al. (*J. Am. Chem. Soc.*, 2008, 130, 1806-1807)

^{13}C NMR (150 MHz, CDCl_3)

