SPECTRAL DATA FOR:

Olefinic-Amide and Olefinic-Lactam Cyclizations

Jie Zhou and Jon D. Rainier*

Department of Chemistry, University of Utah, 315 South 1400 East, Salt Lake City, UT, 84112

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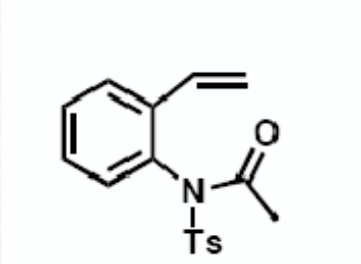

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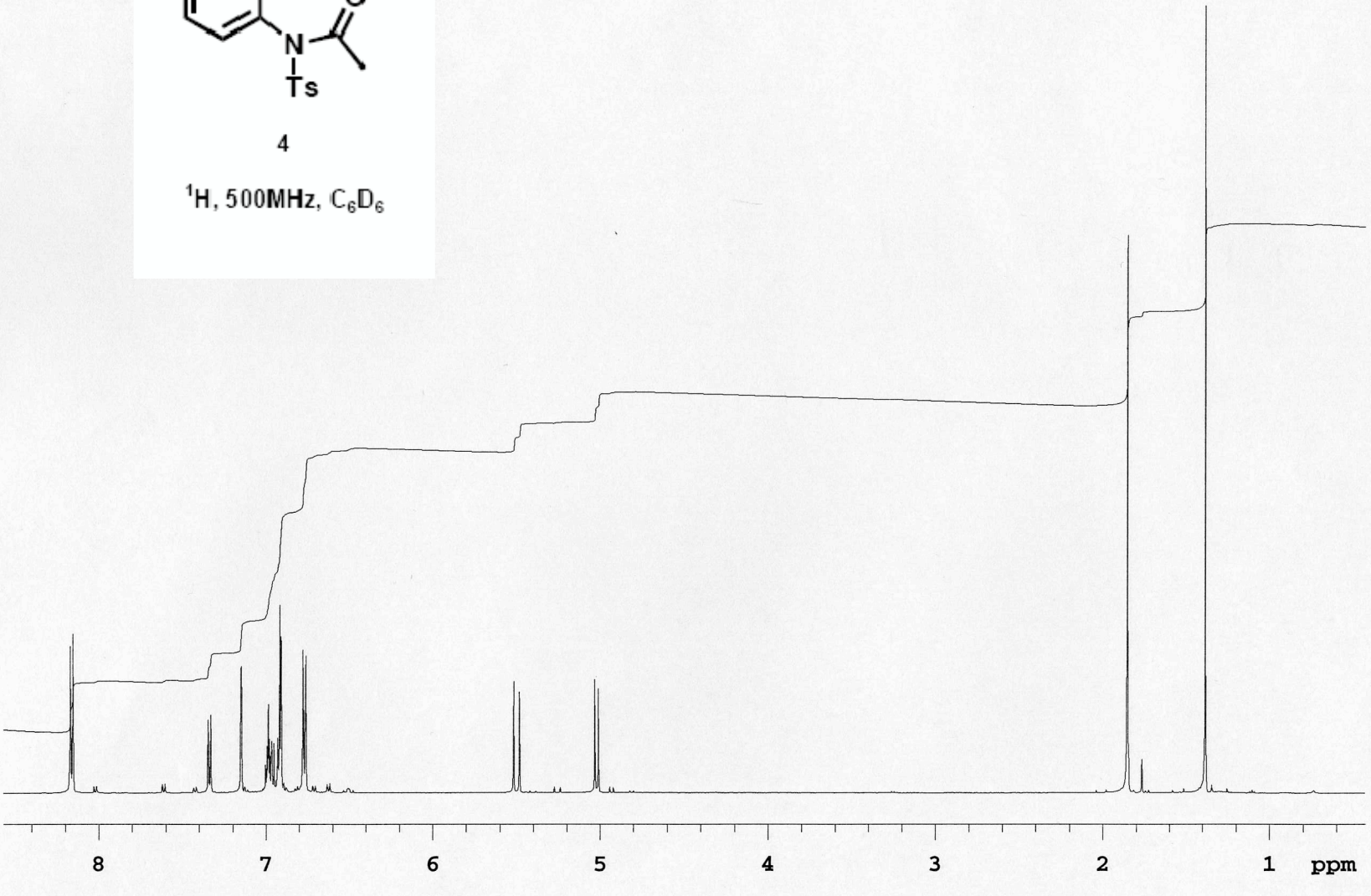

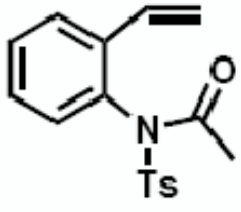

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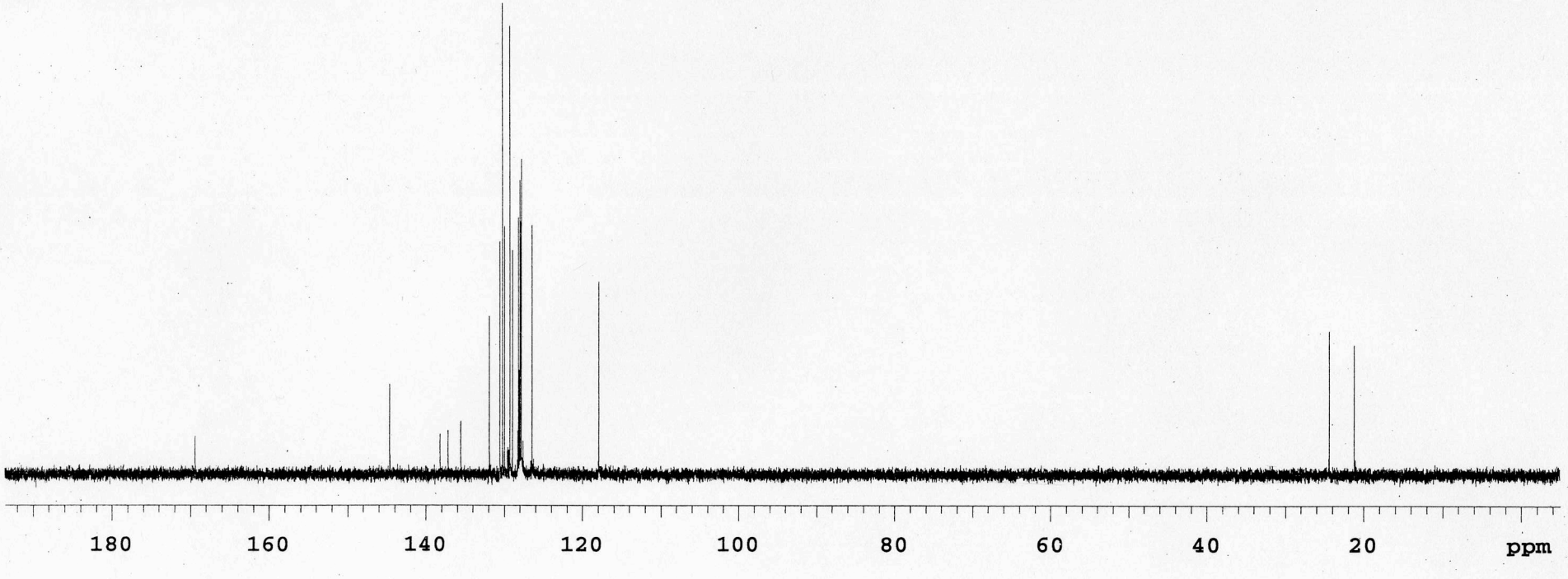

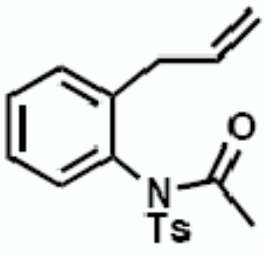

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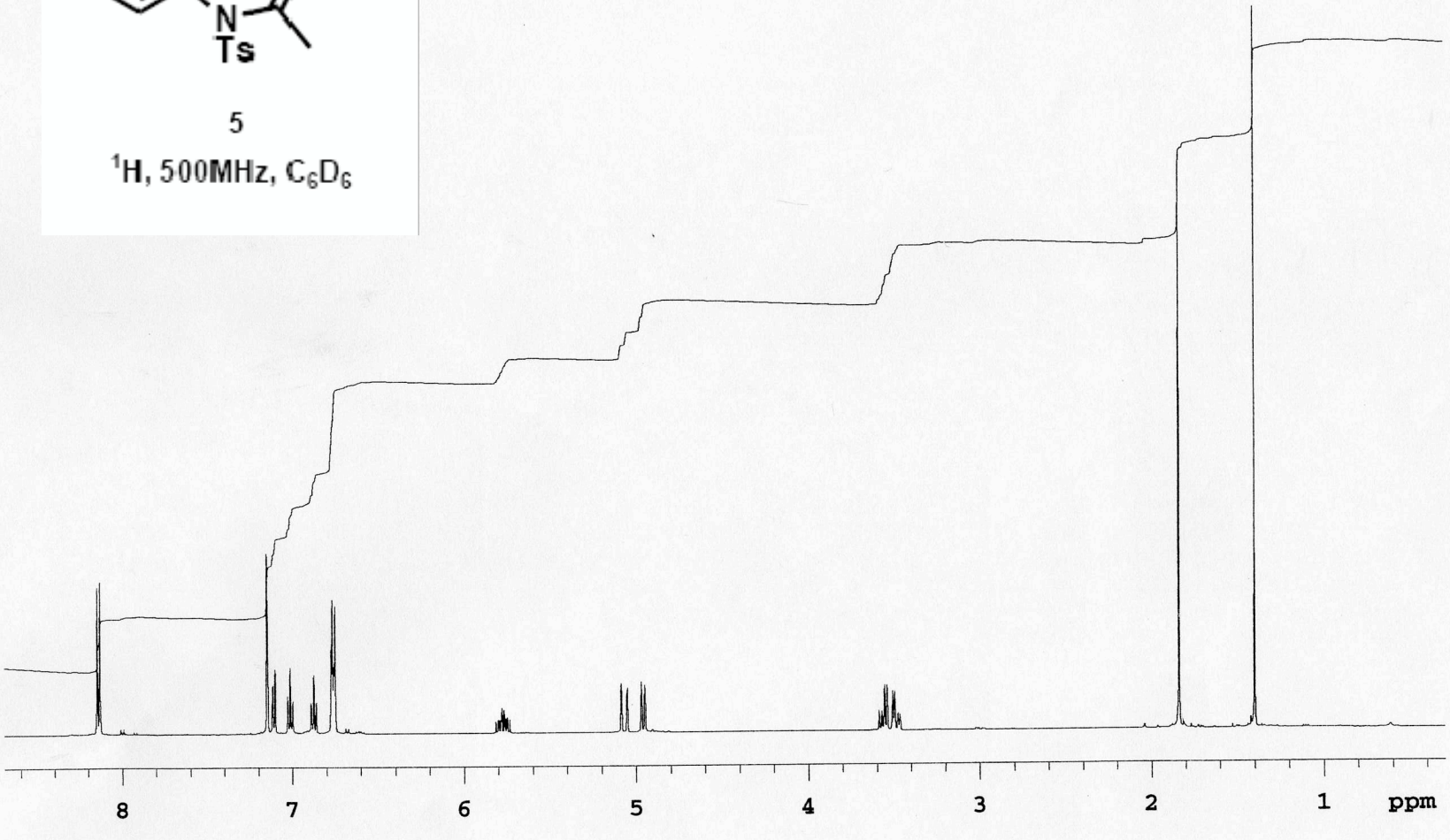

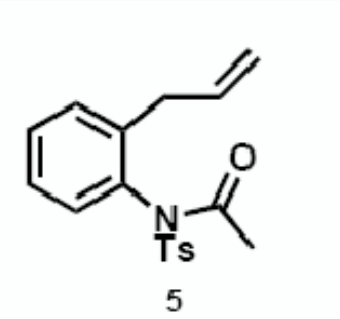

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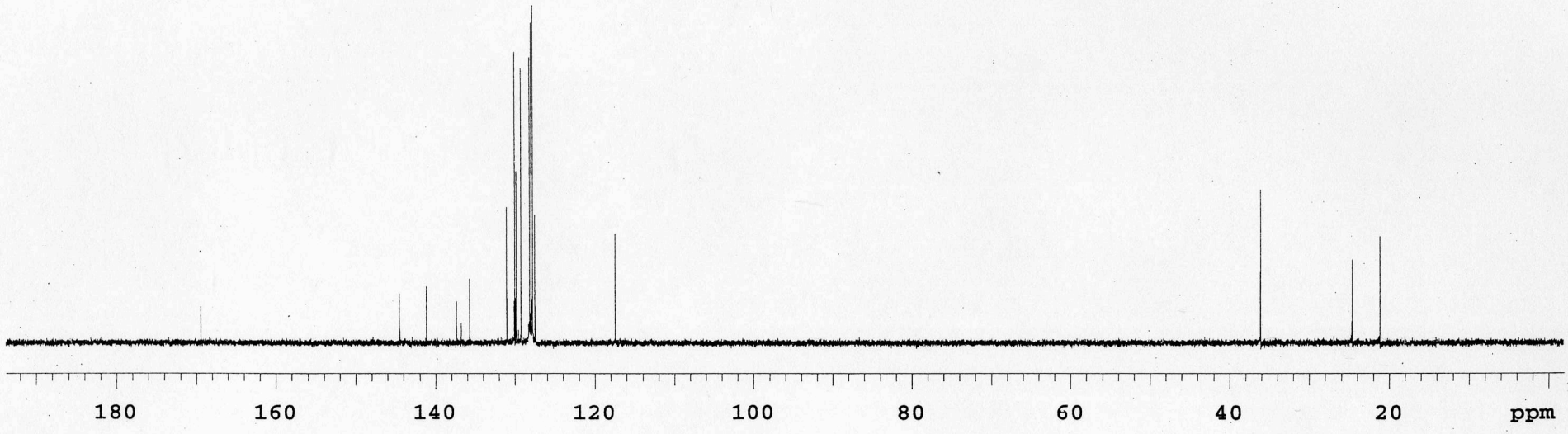

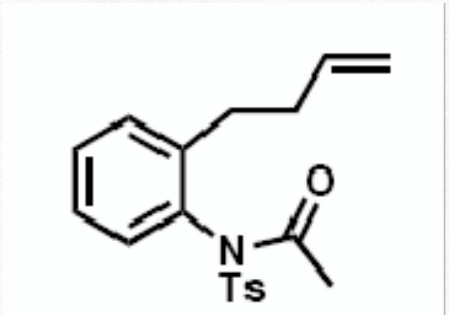

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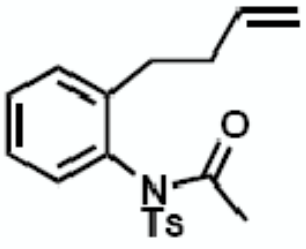

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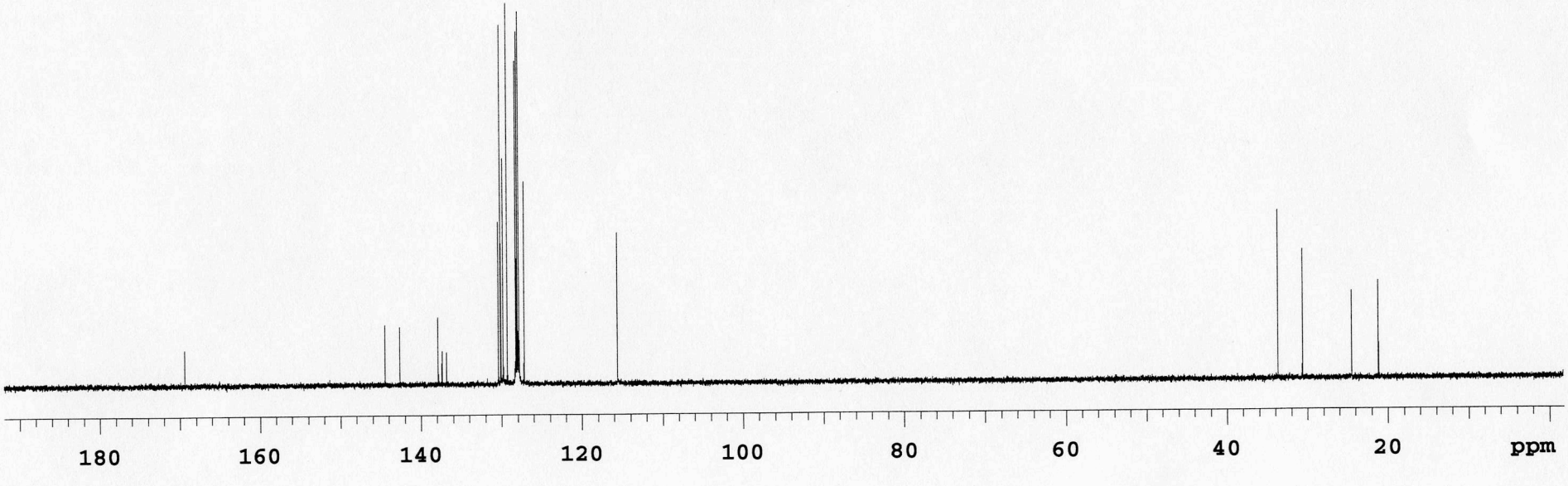

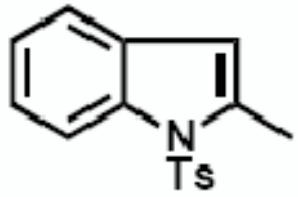

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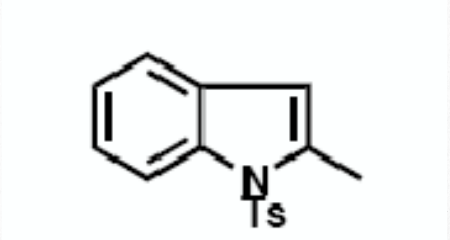

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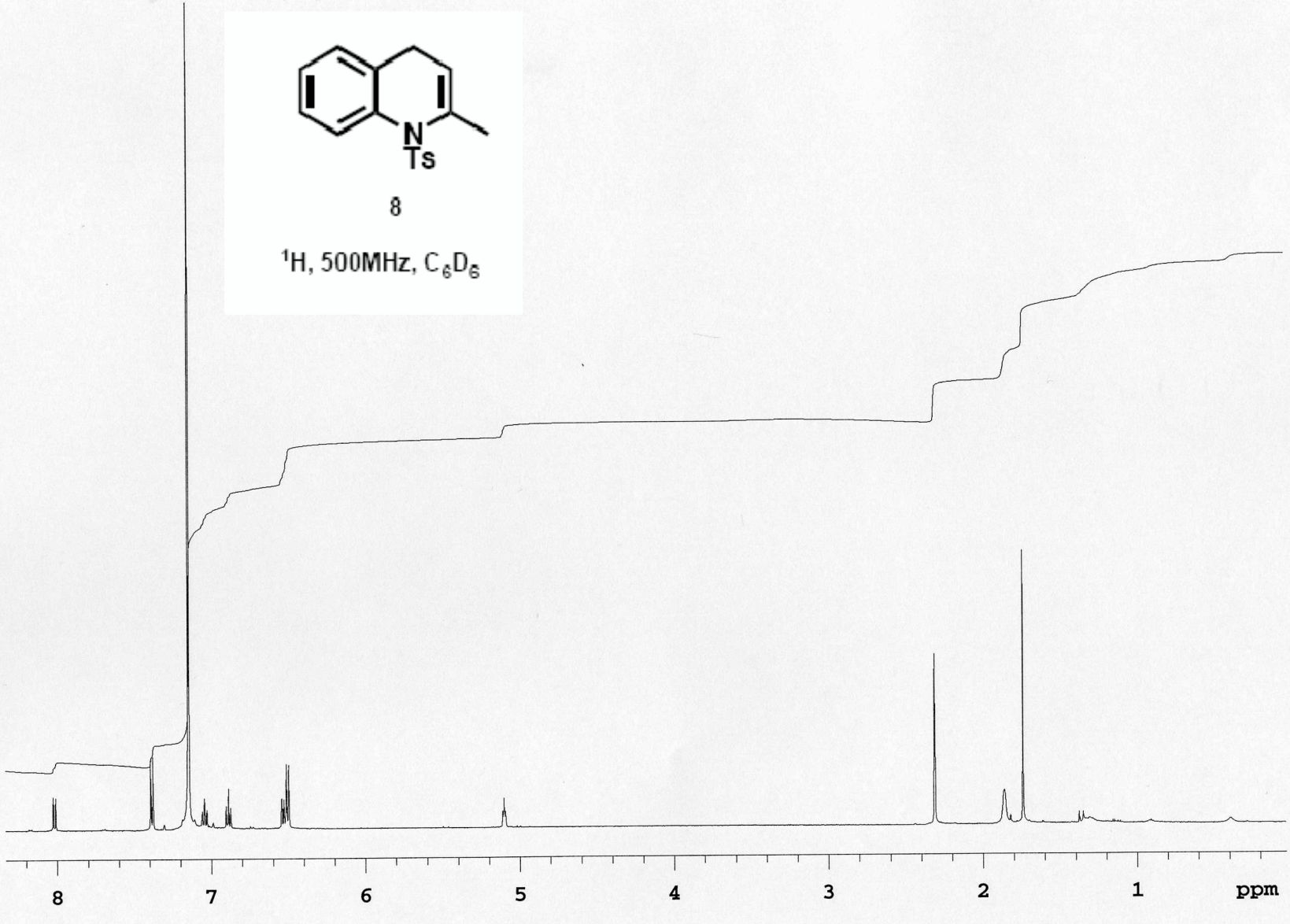
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8
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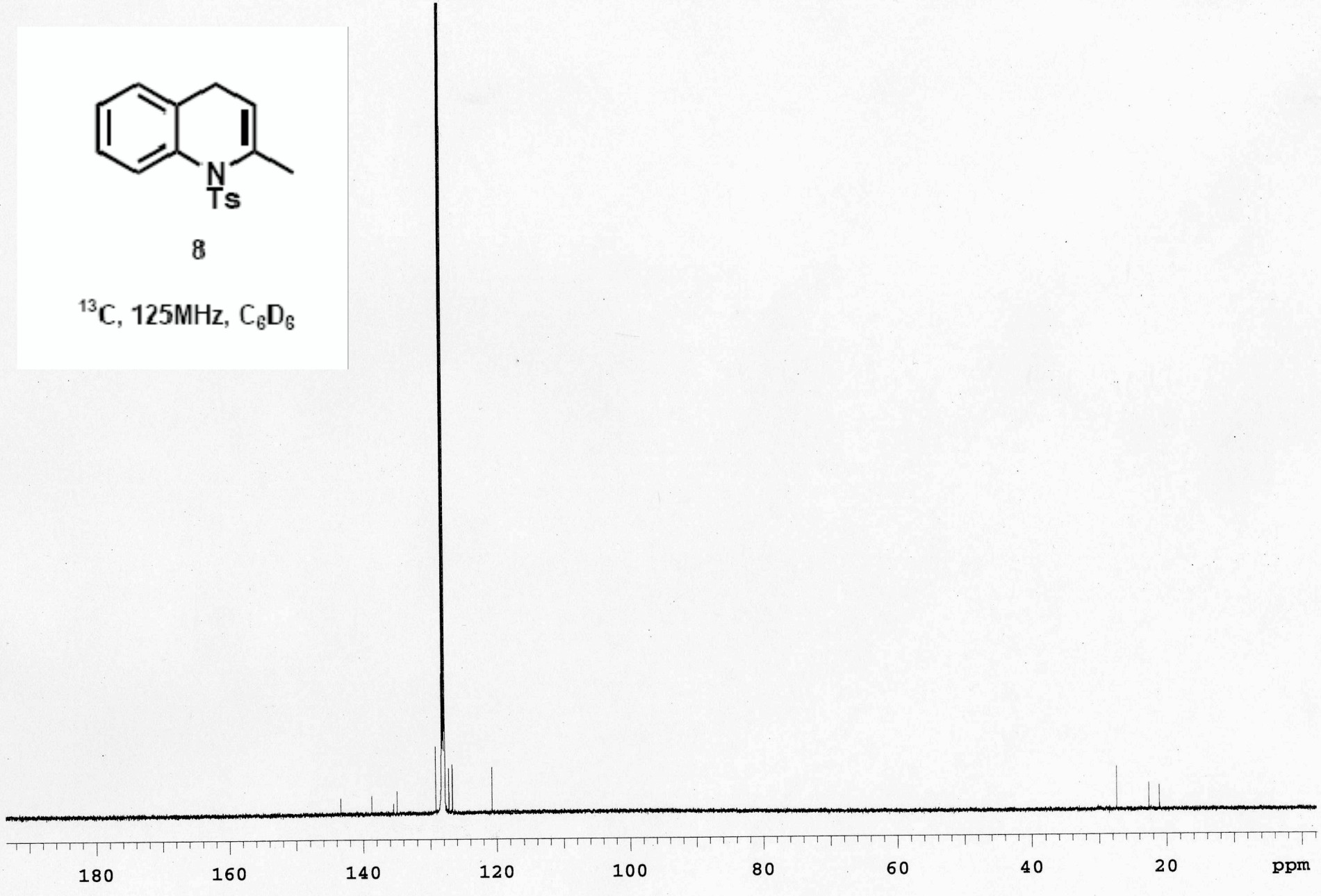
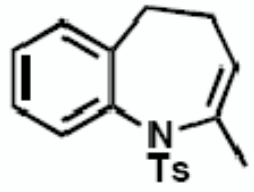
8
7
6
5
4
3
2
1
ppm


N
Ts
8
^{13}C, 125MHz, C_6D_6
180
160
140
120
100
80
60
40
20
ppm



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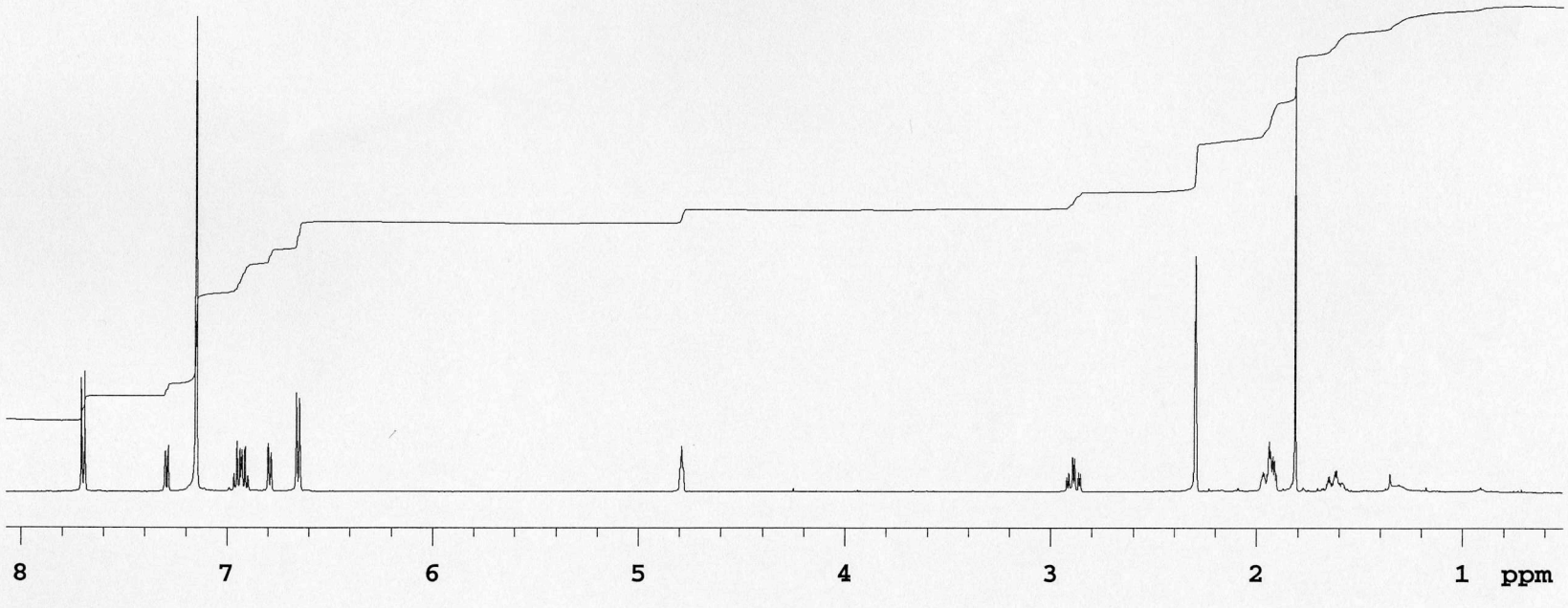

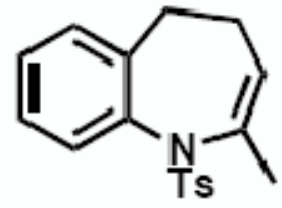

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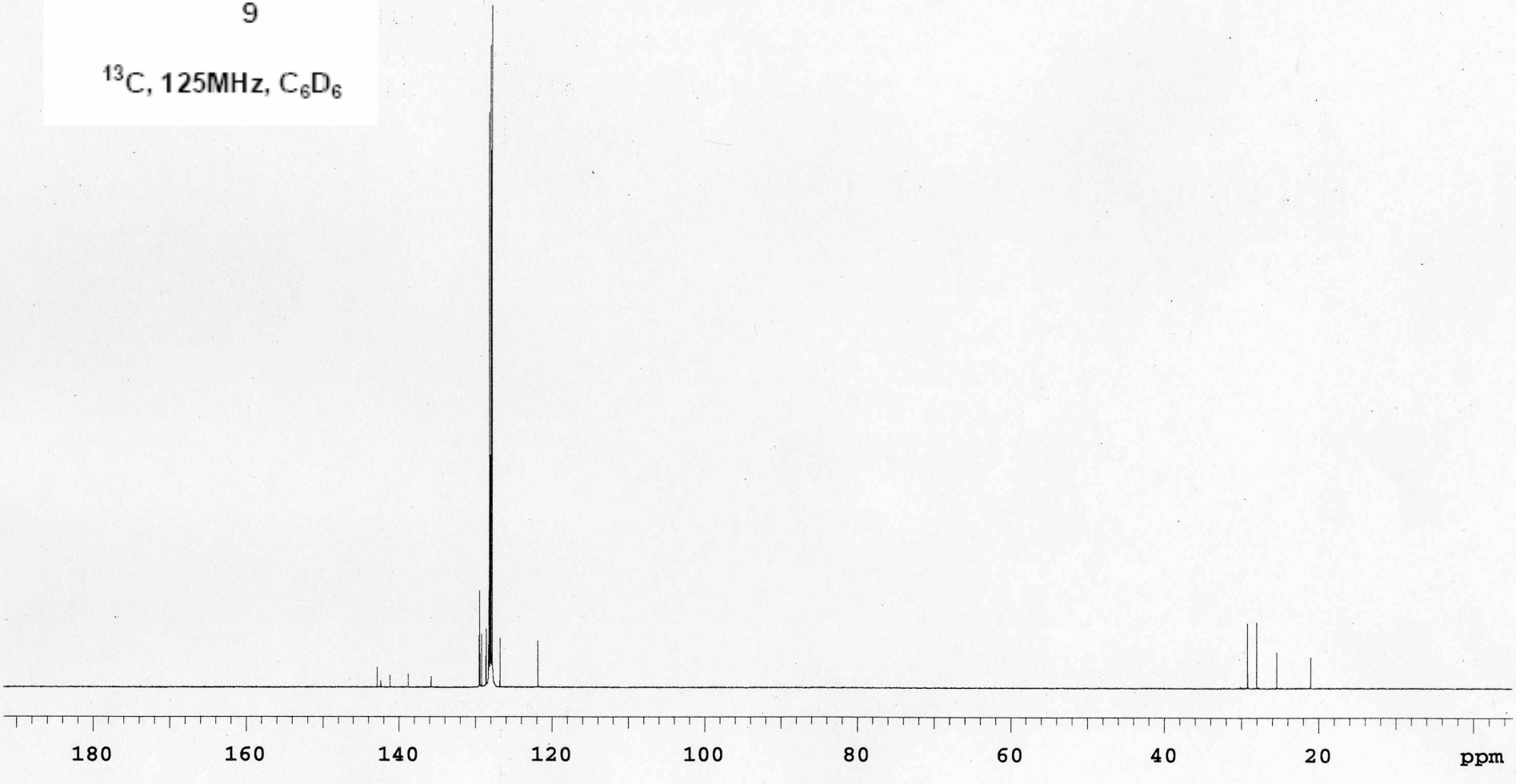
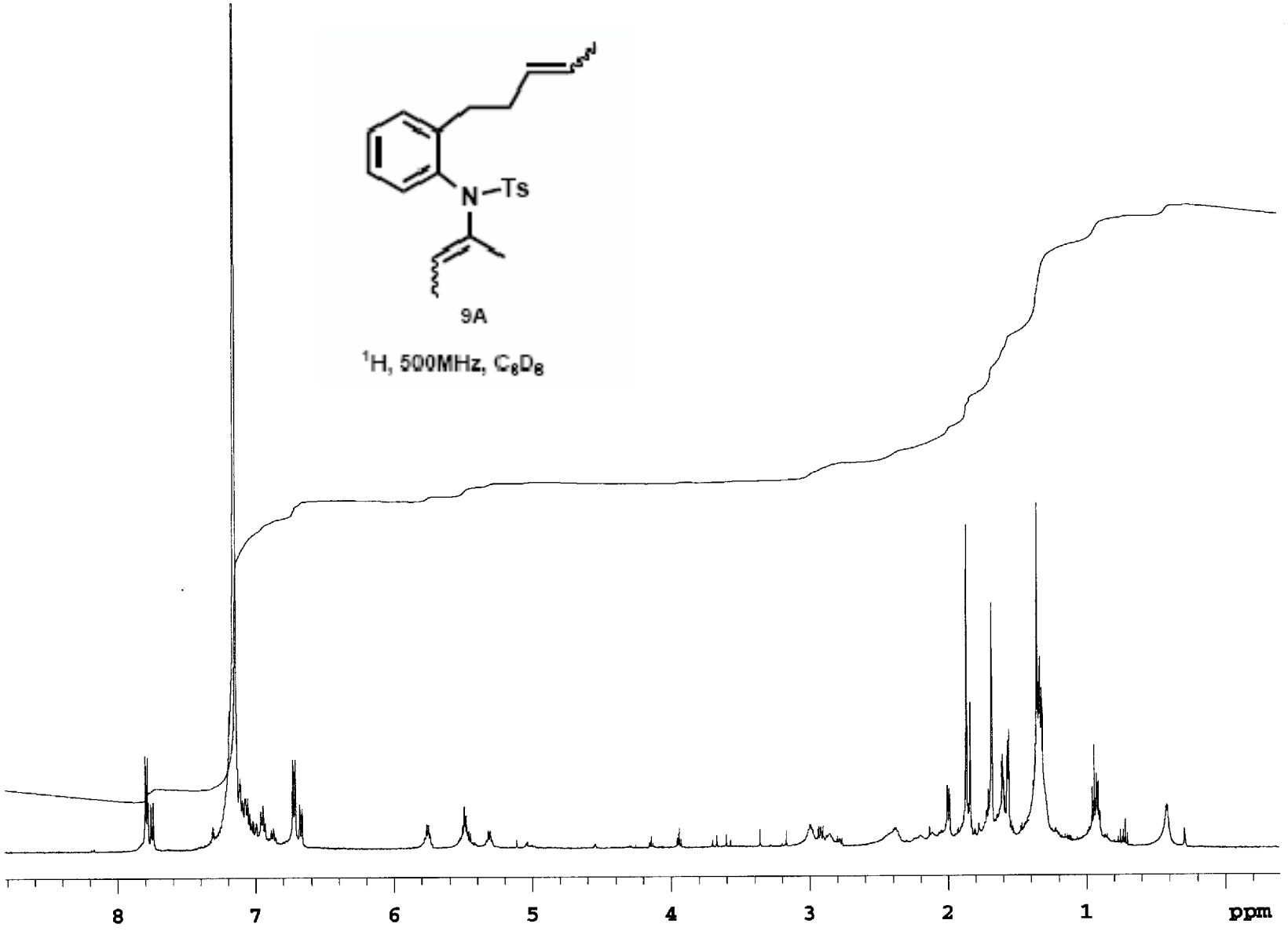
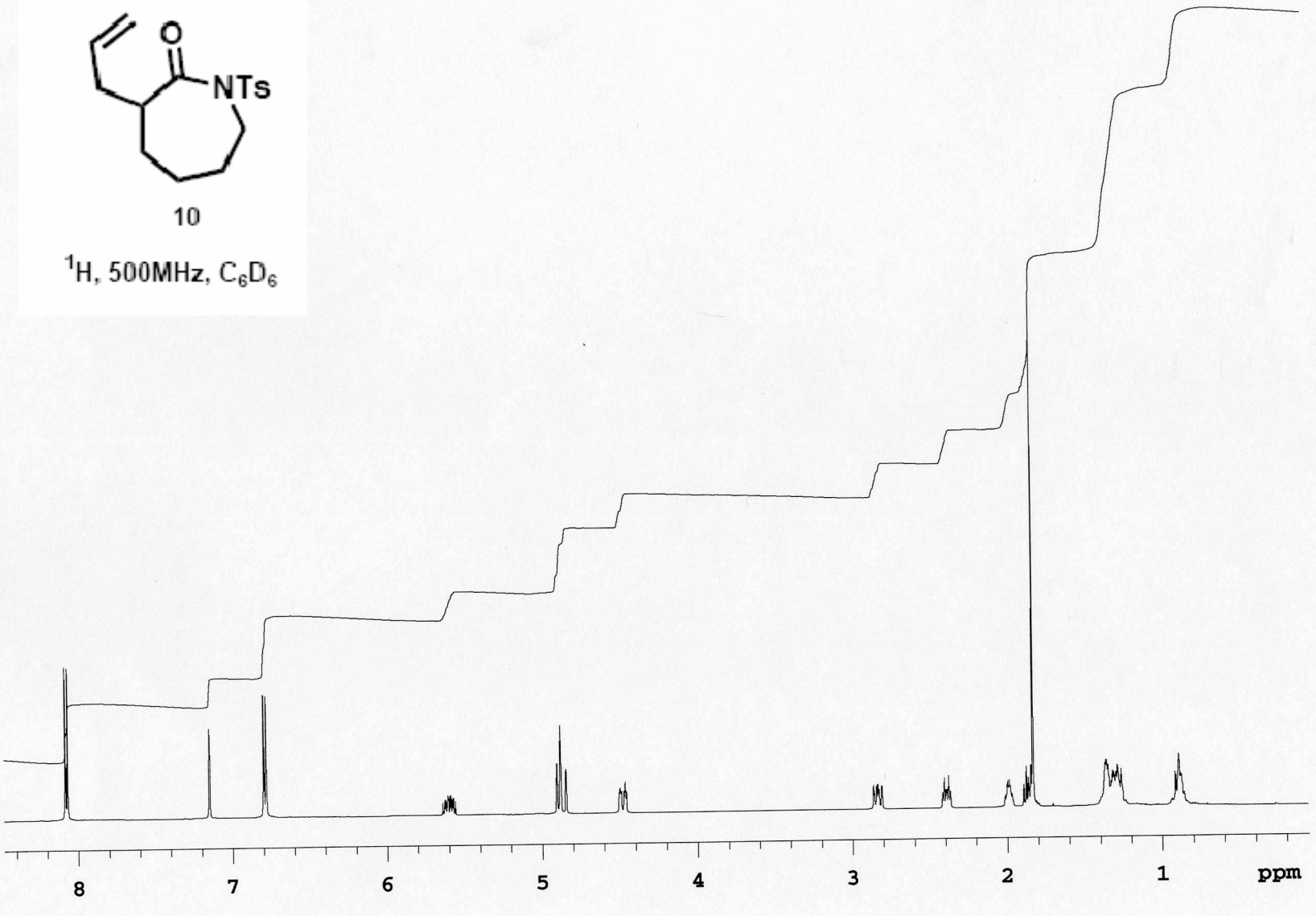



N–Ts
9A
^{1}H, 500MHz, C_6D_6
8
7
6
5
4
3
2
1
ppm



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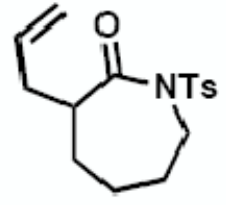

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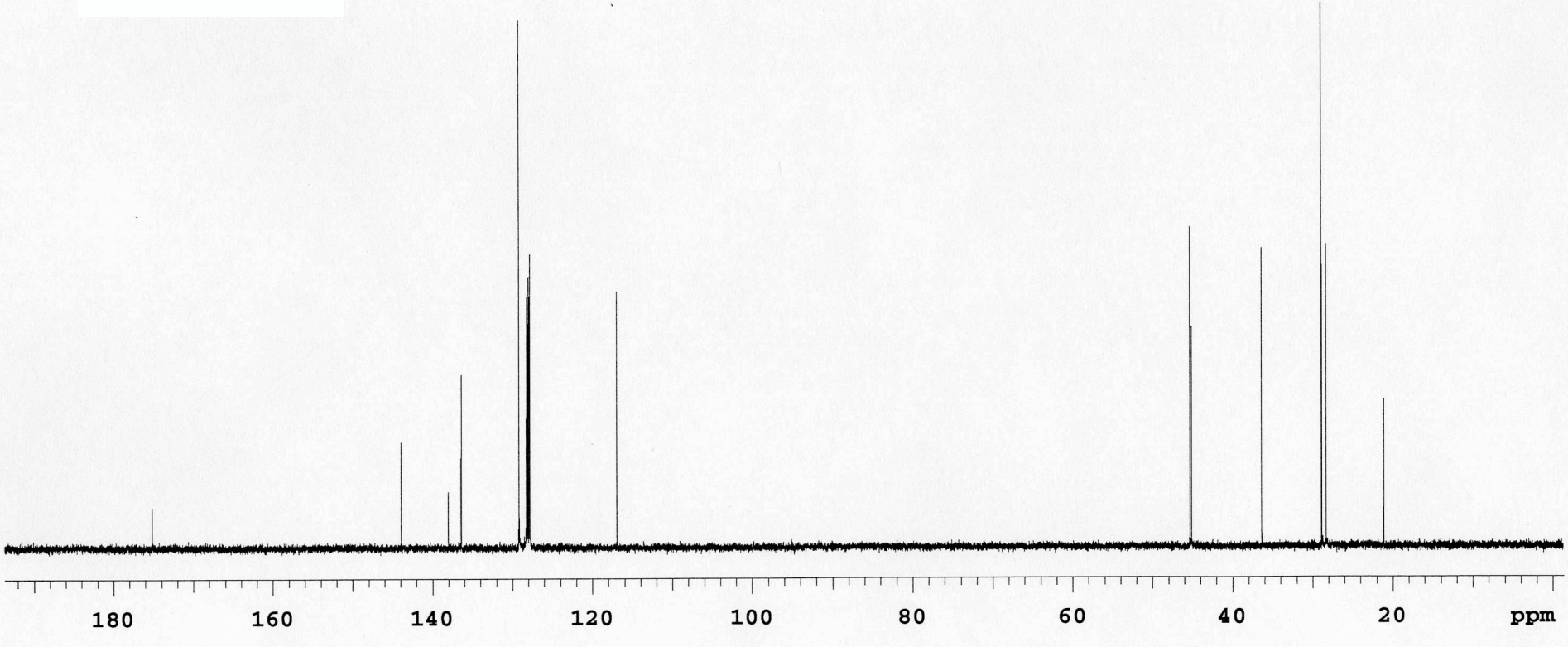

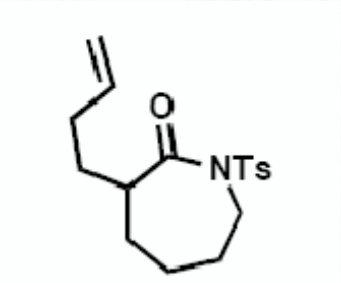

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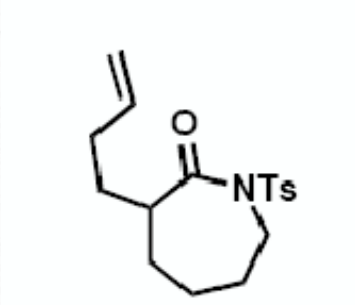

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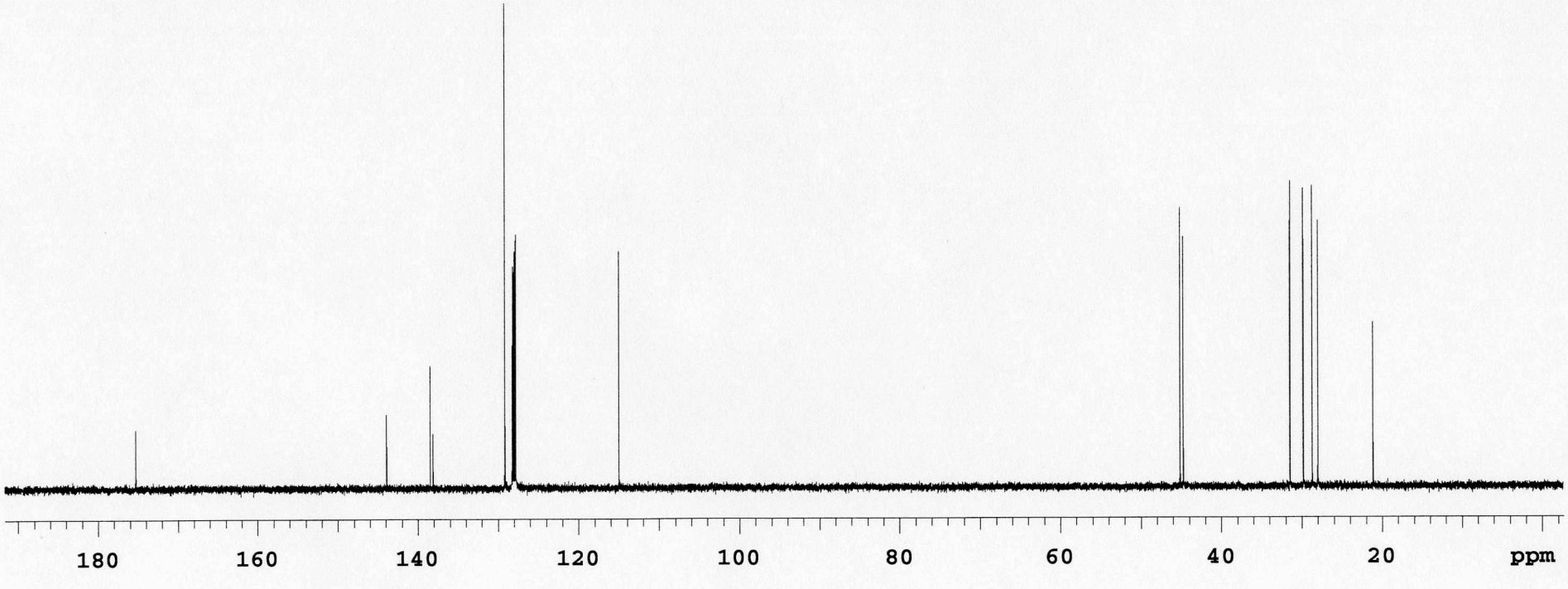

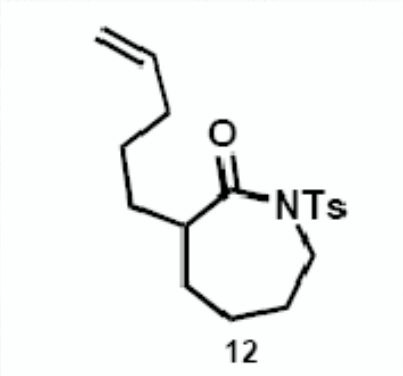

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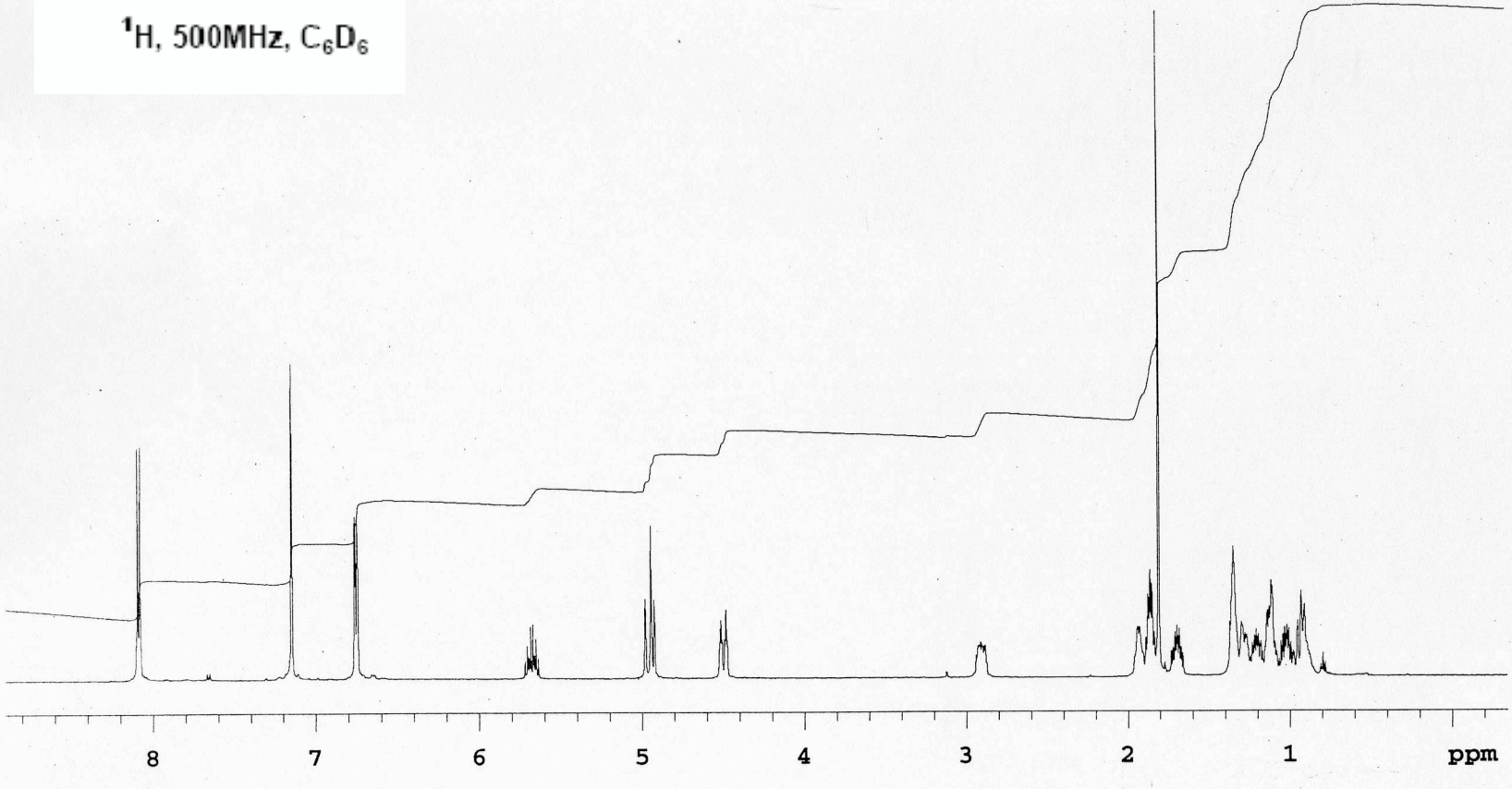

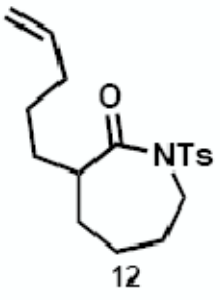

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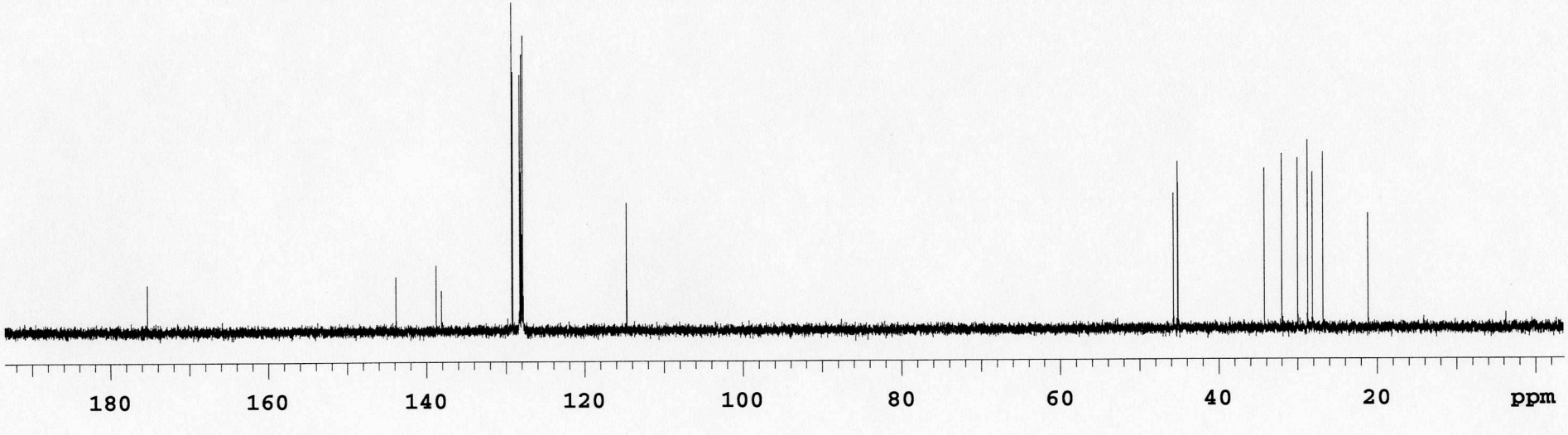

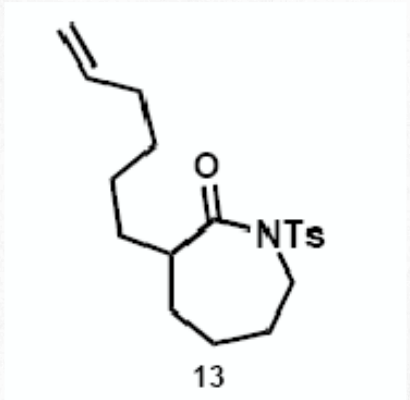

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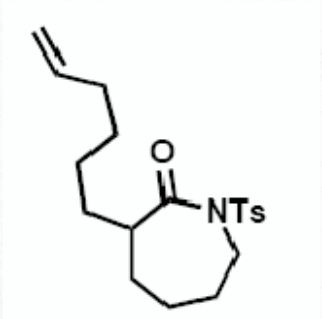

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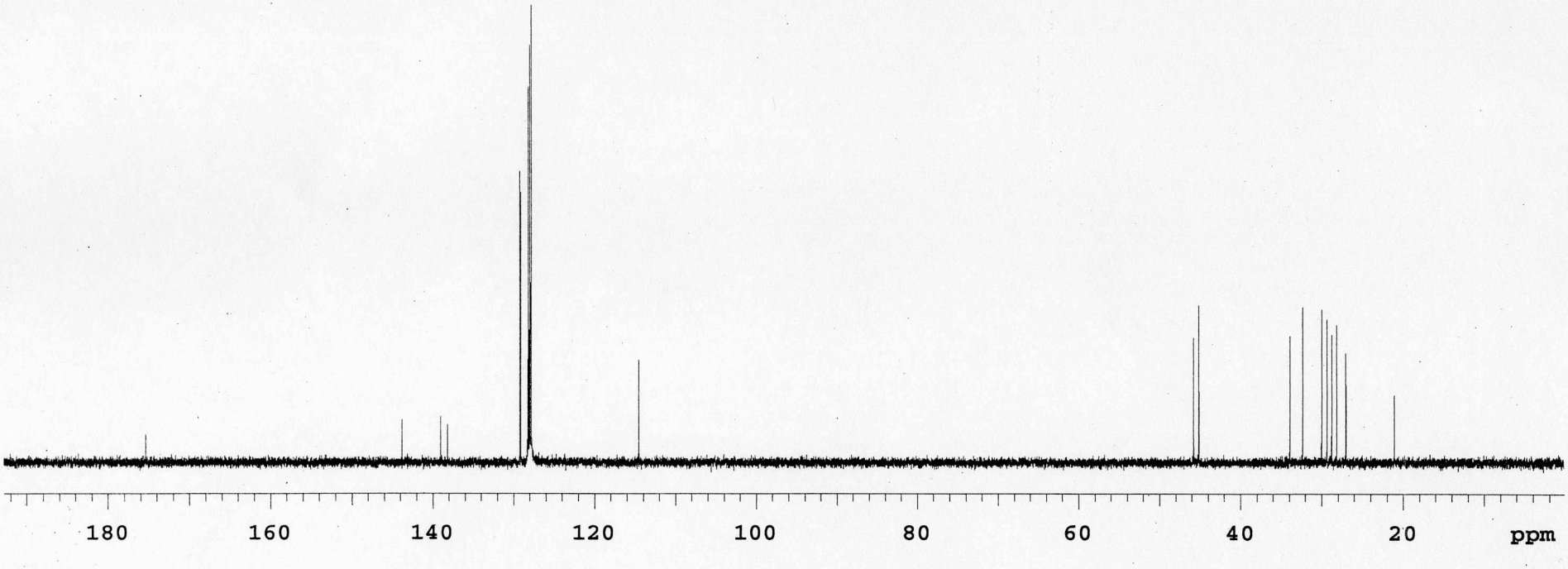

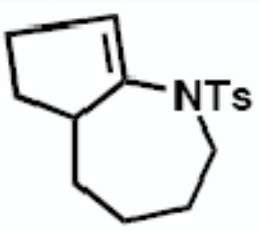

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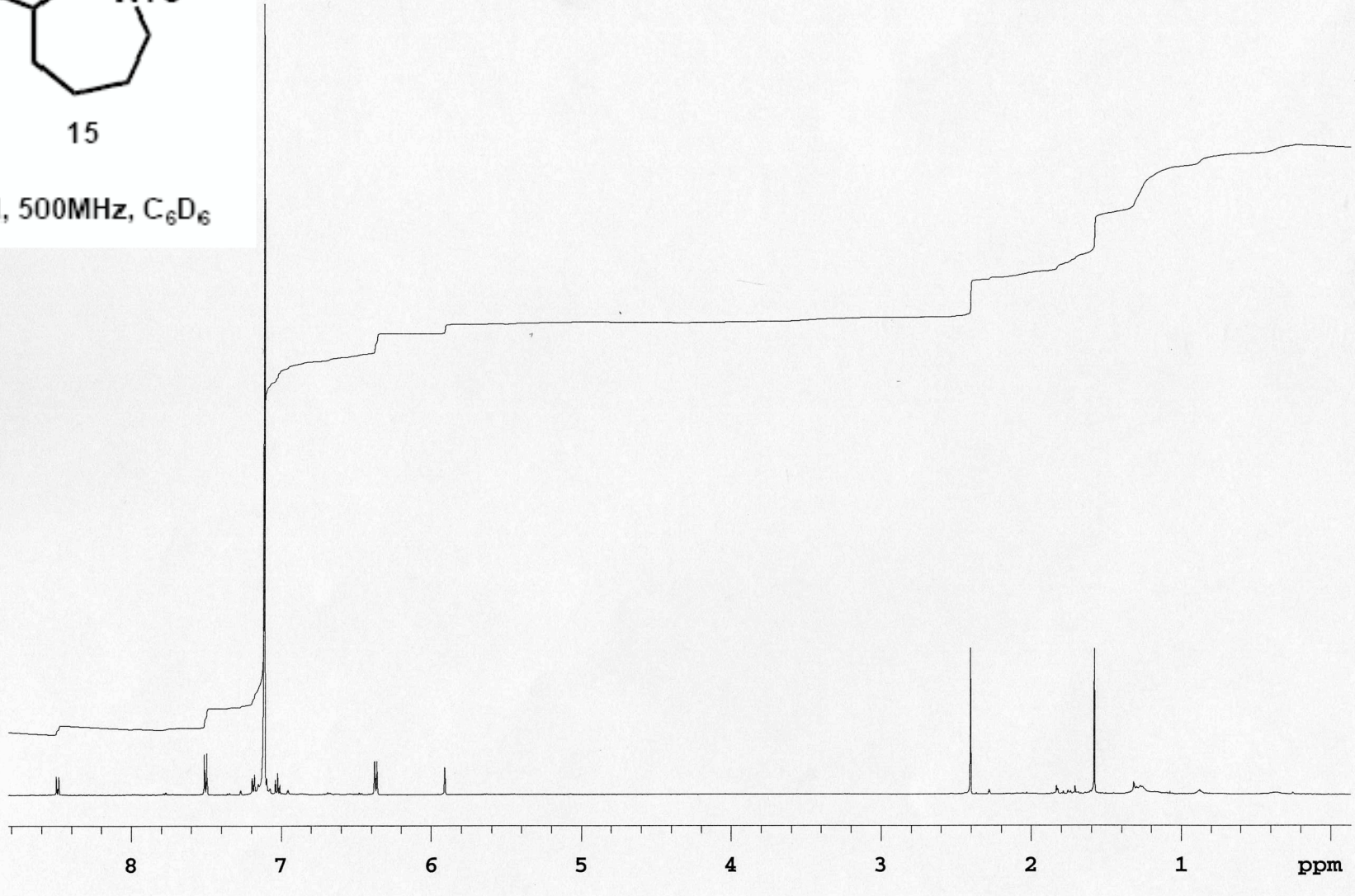
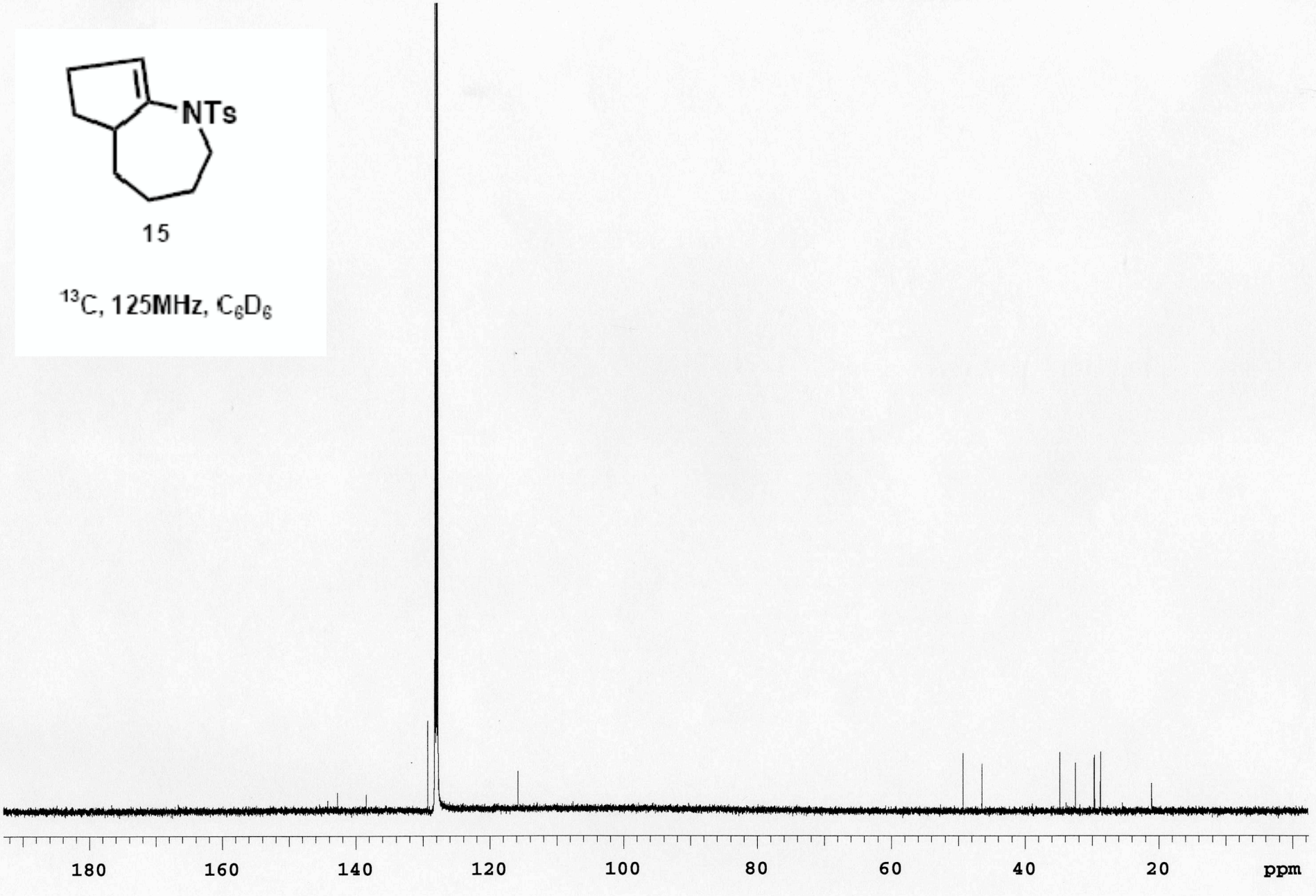
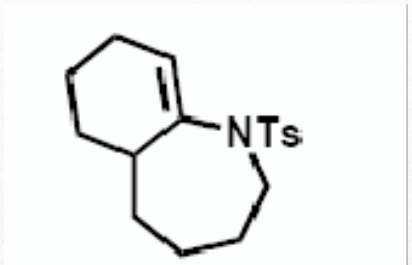
^{1}H, 500MHz, C_6D_6




NTs
15
^{13}C, 125MHz, C_6D_6
180
160
140
120
100
80
60
40
20
ppm



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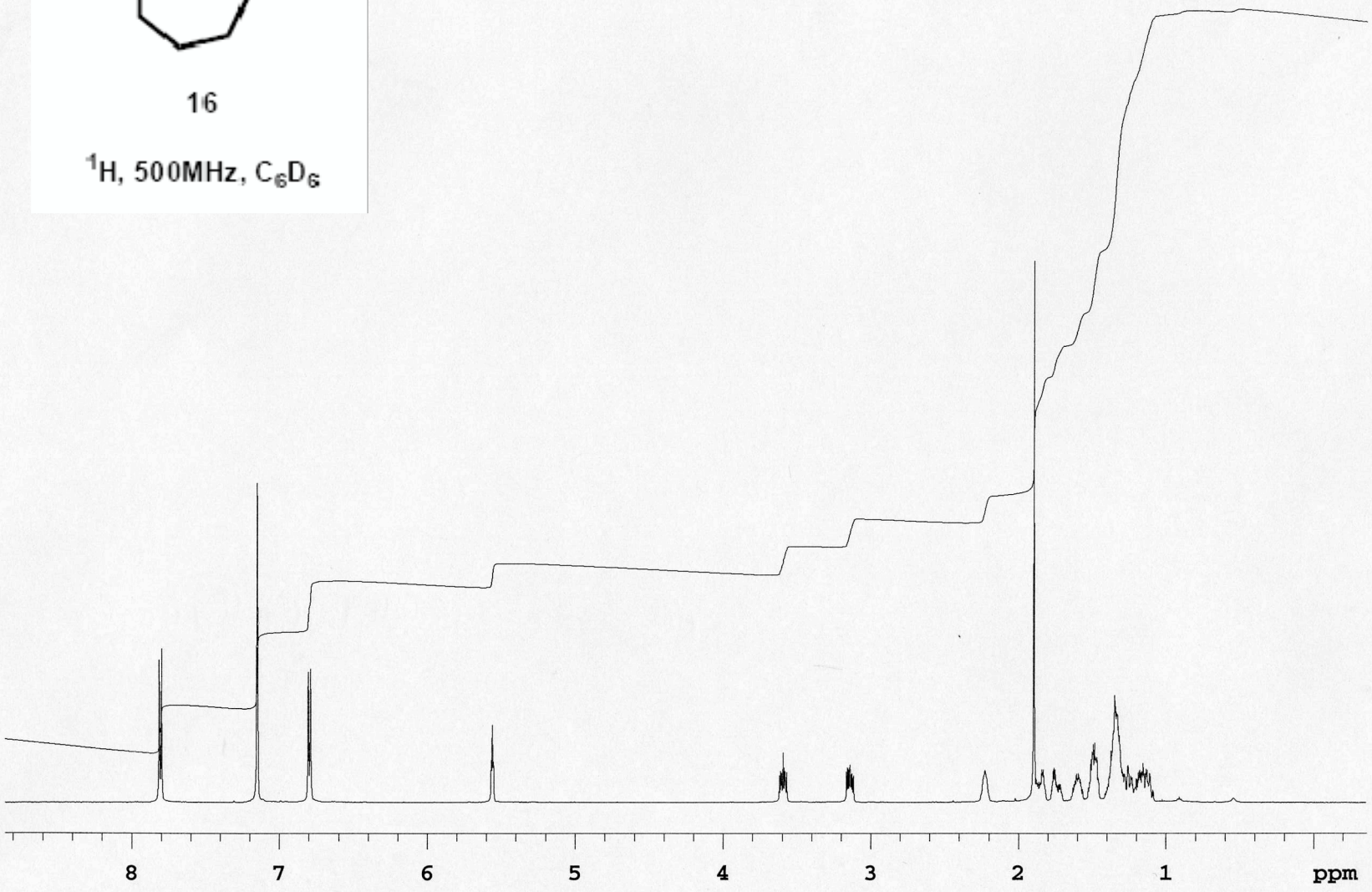

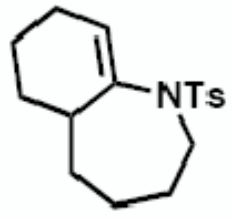

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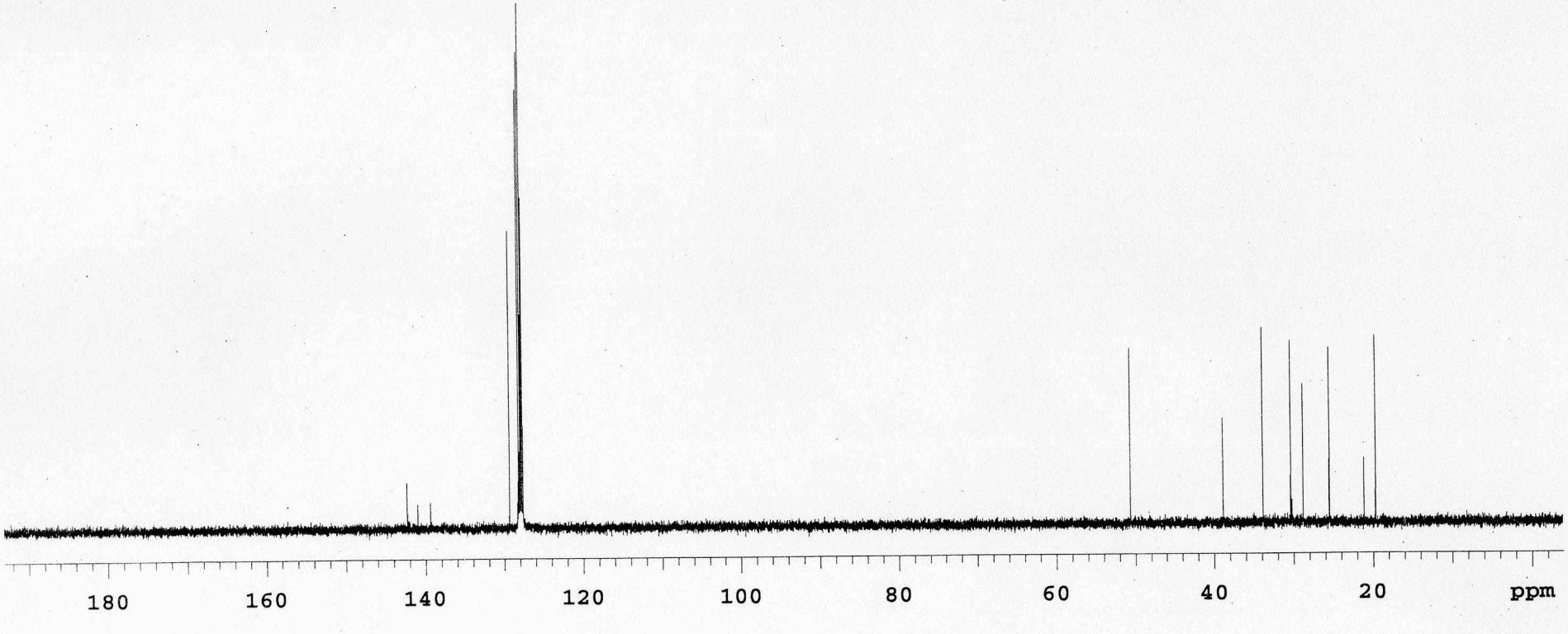

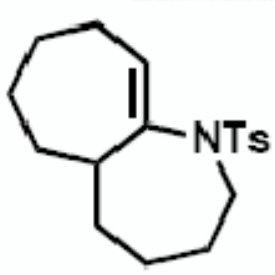

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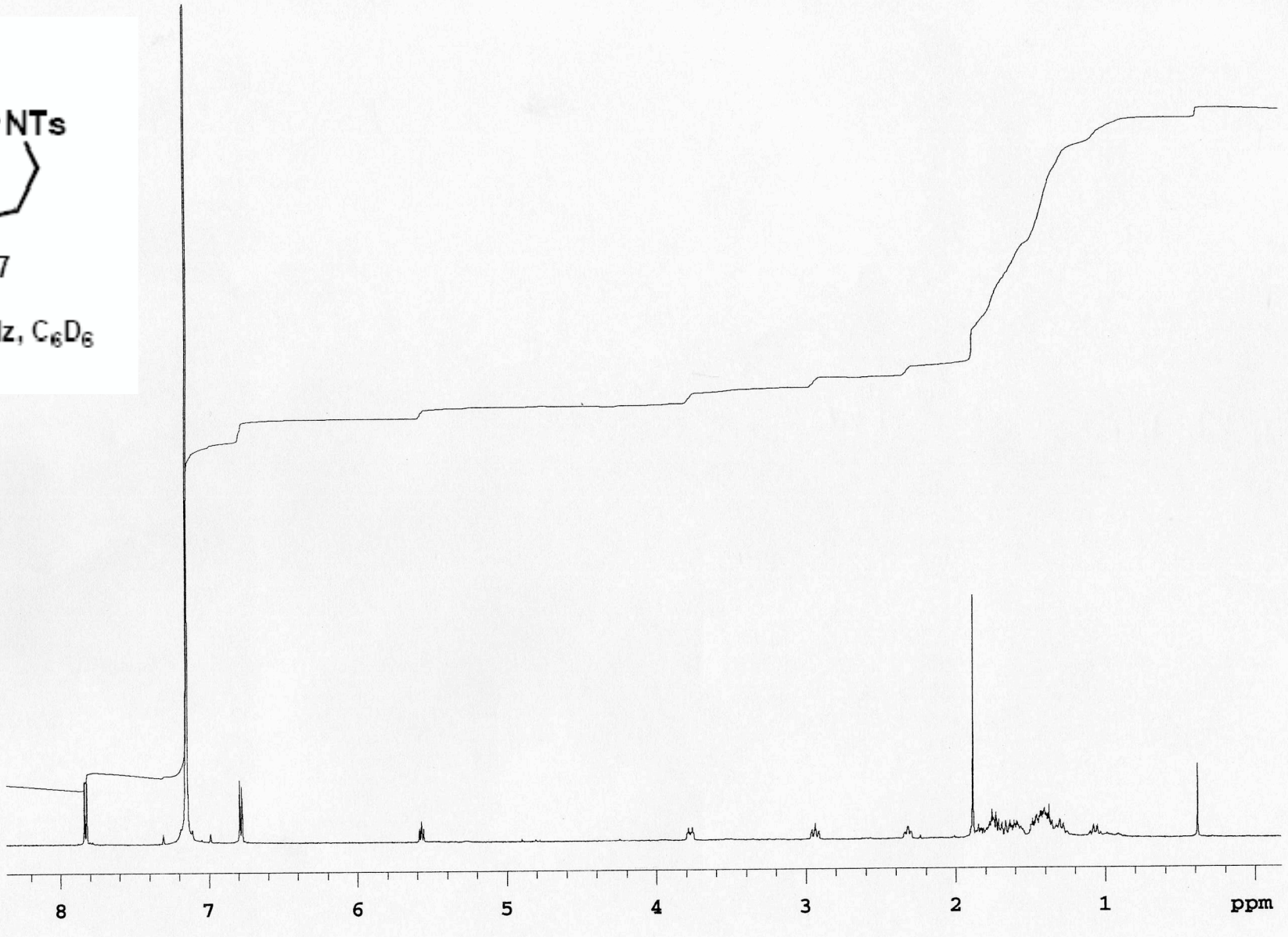
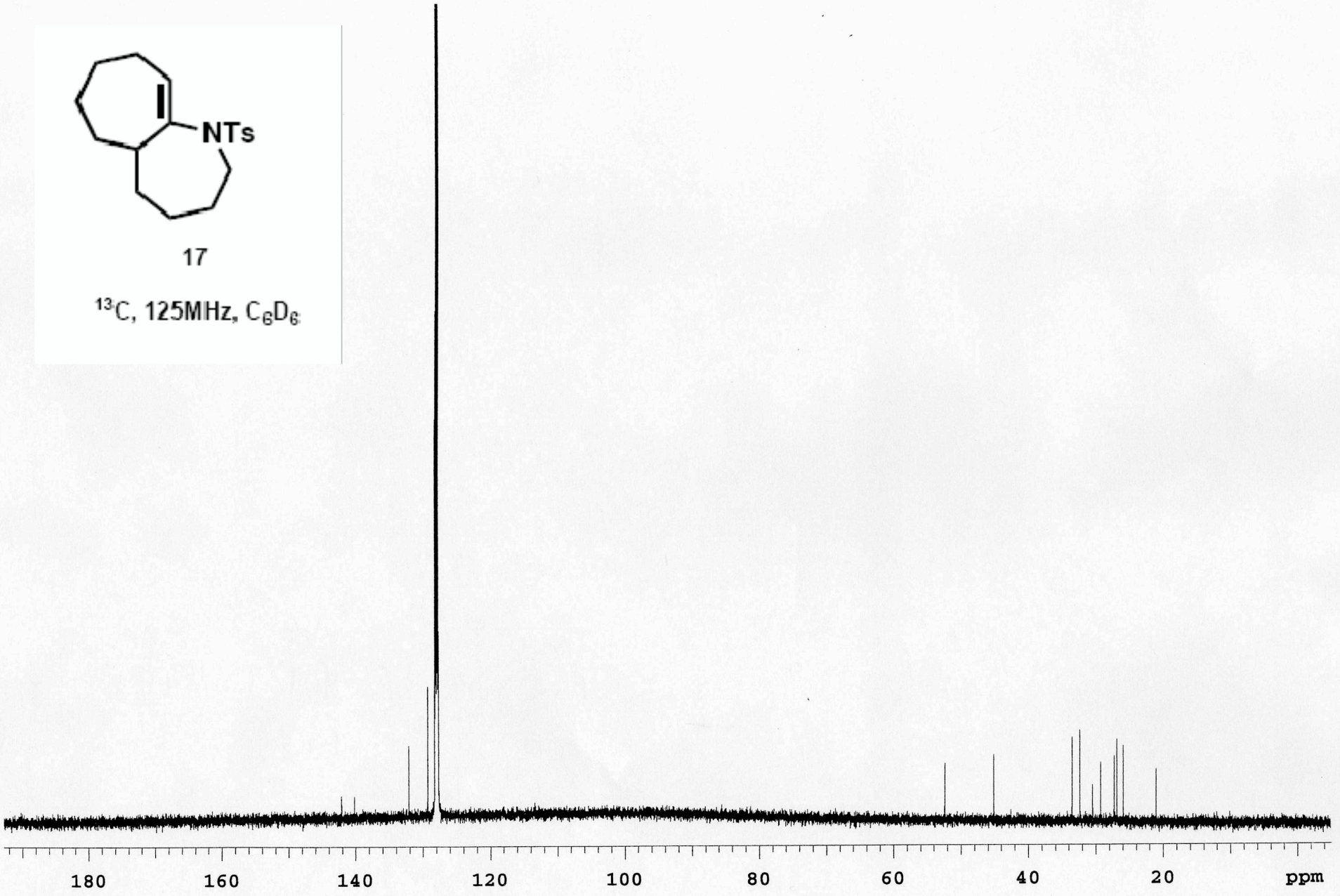
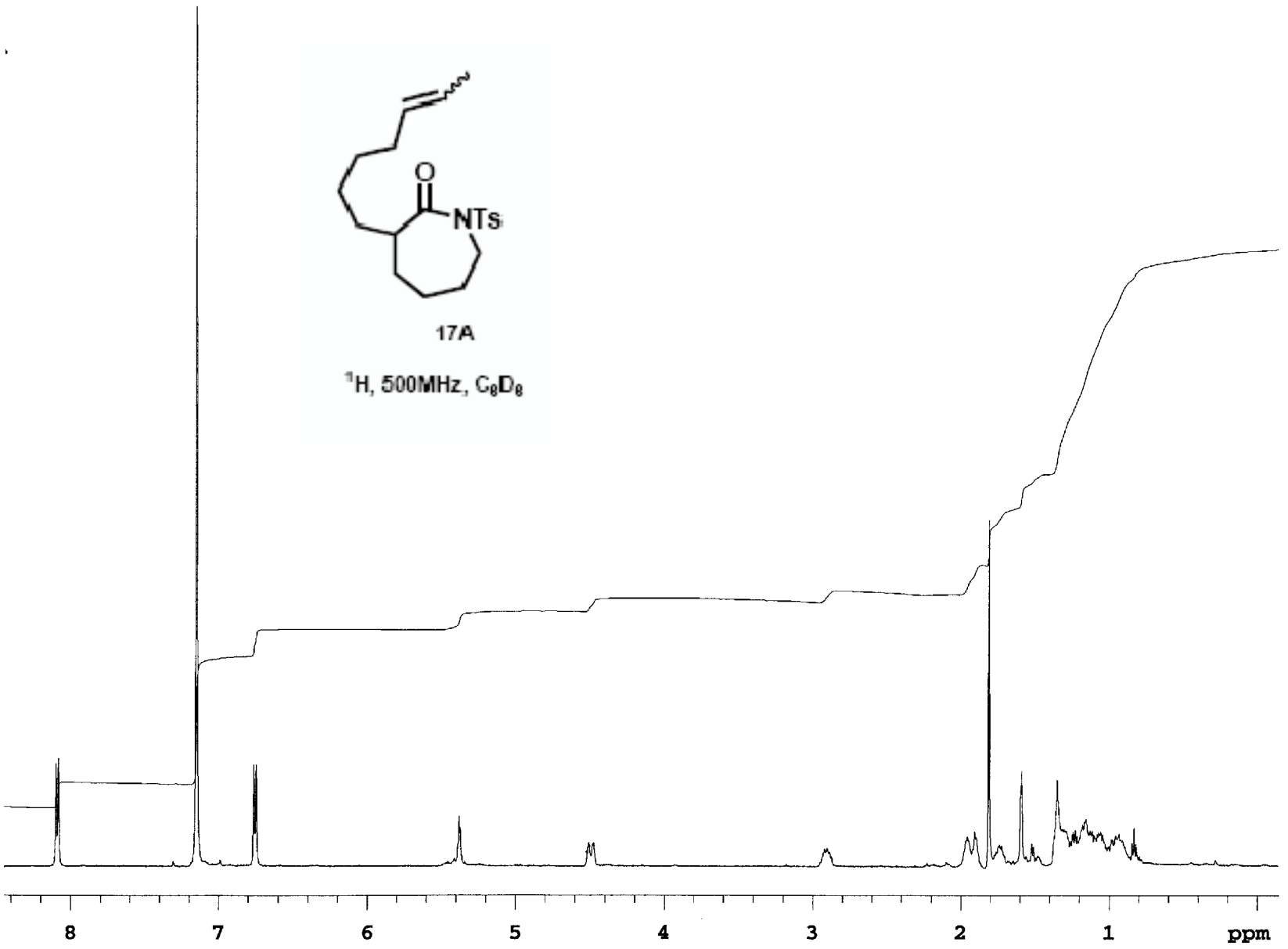
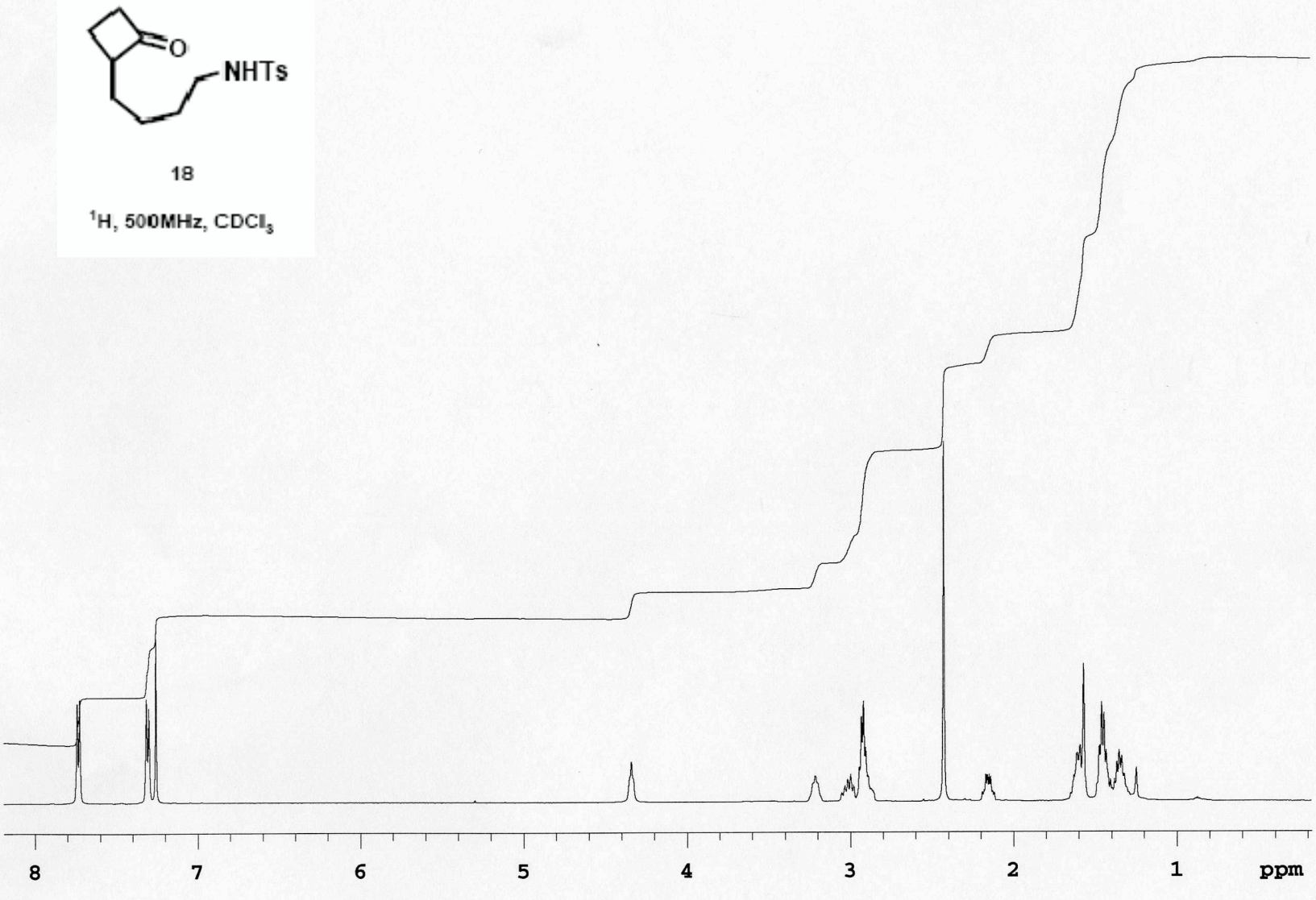



NTs
17
^{13}C, 125MHz, C_6D_6
180
160
140
120
100
80
60
40
20
ppm


O
NTs
17A
^{1}H, 500MHz, C_6D_6
8
7
6
5
4
3
2
1
ppm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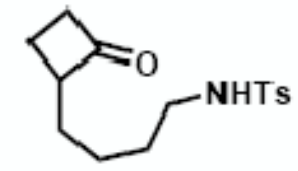
4
3
2
1
ppm



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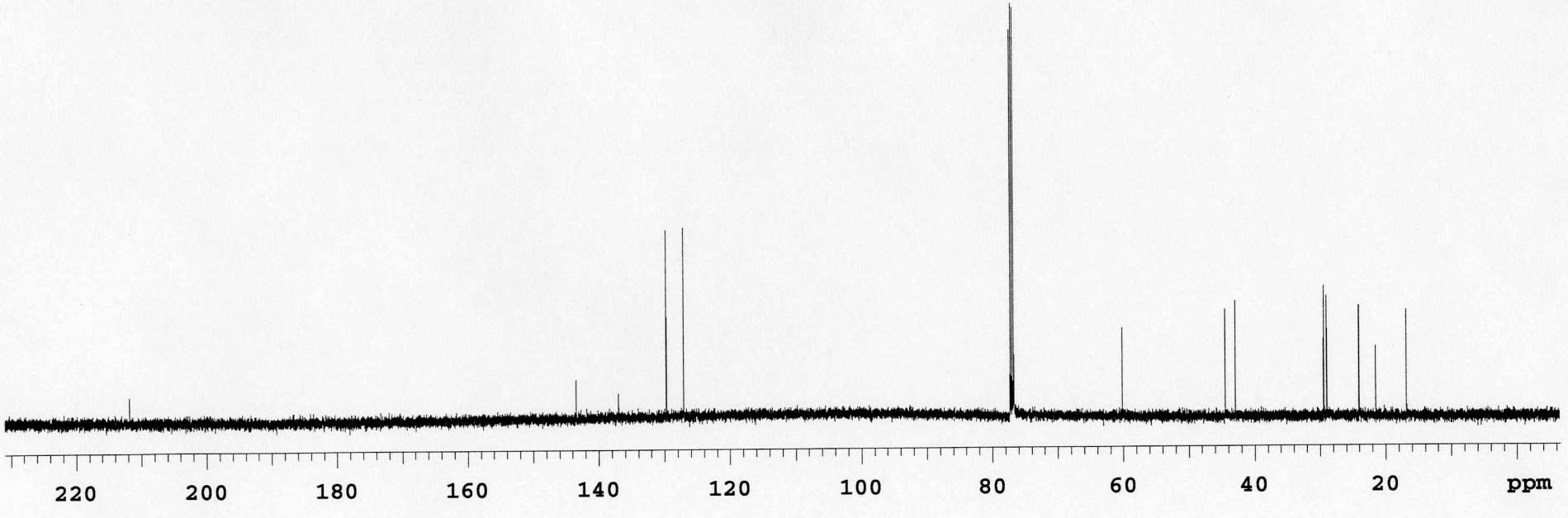
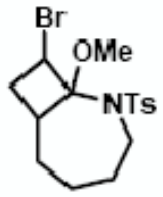
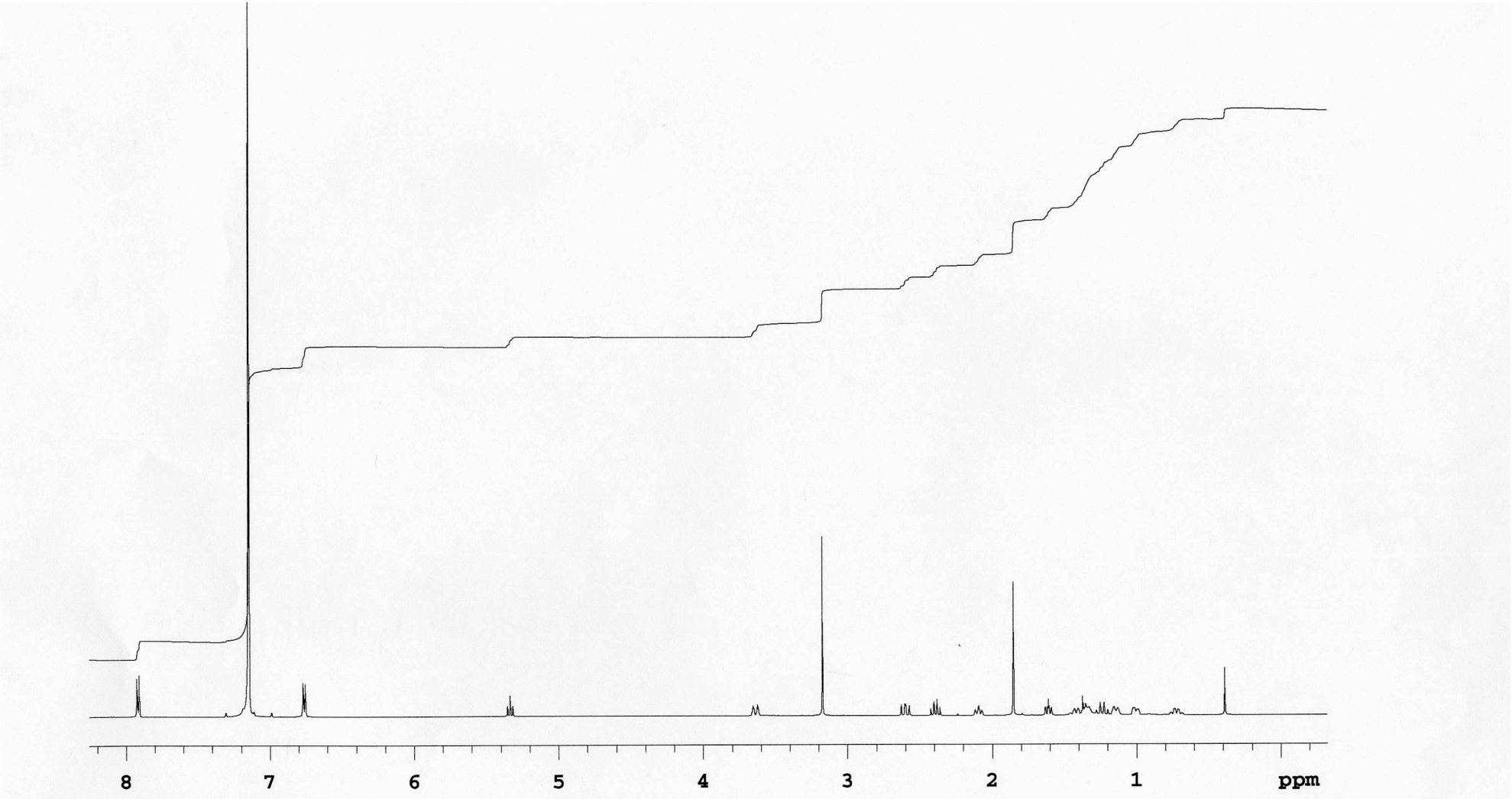
^{13}C, 125MHz, $CDCl_3$

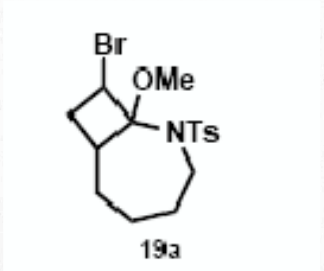




19a

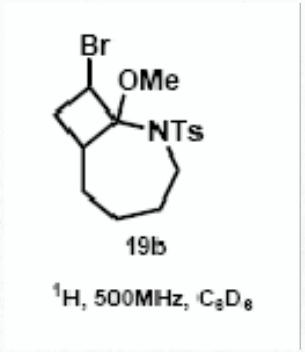
^{1}H, 500MHz, C_6D_6





19a

^{13}C, 125MHz, C_6D_6



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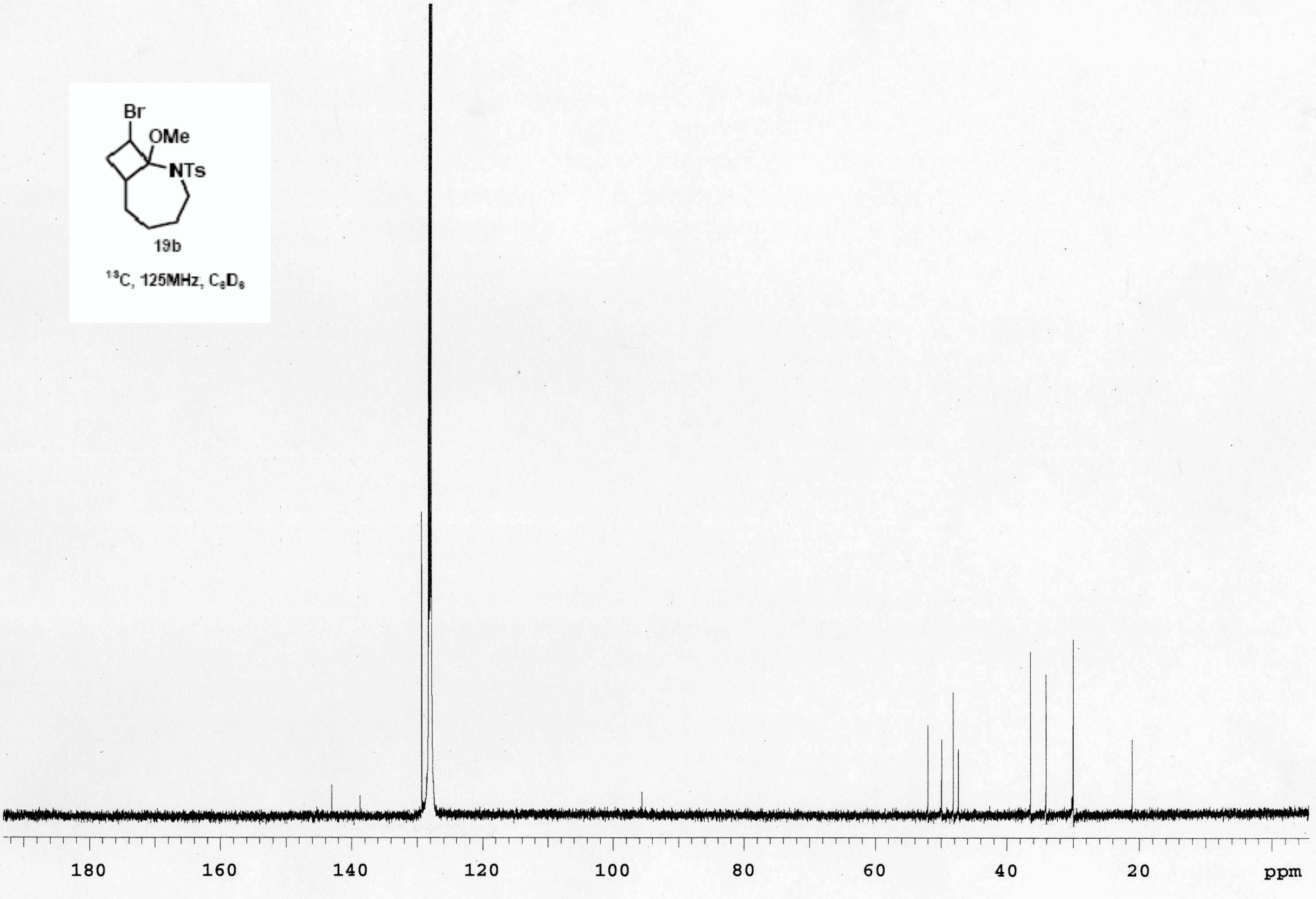
Br
OMe
NTs
19b
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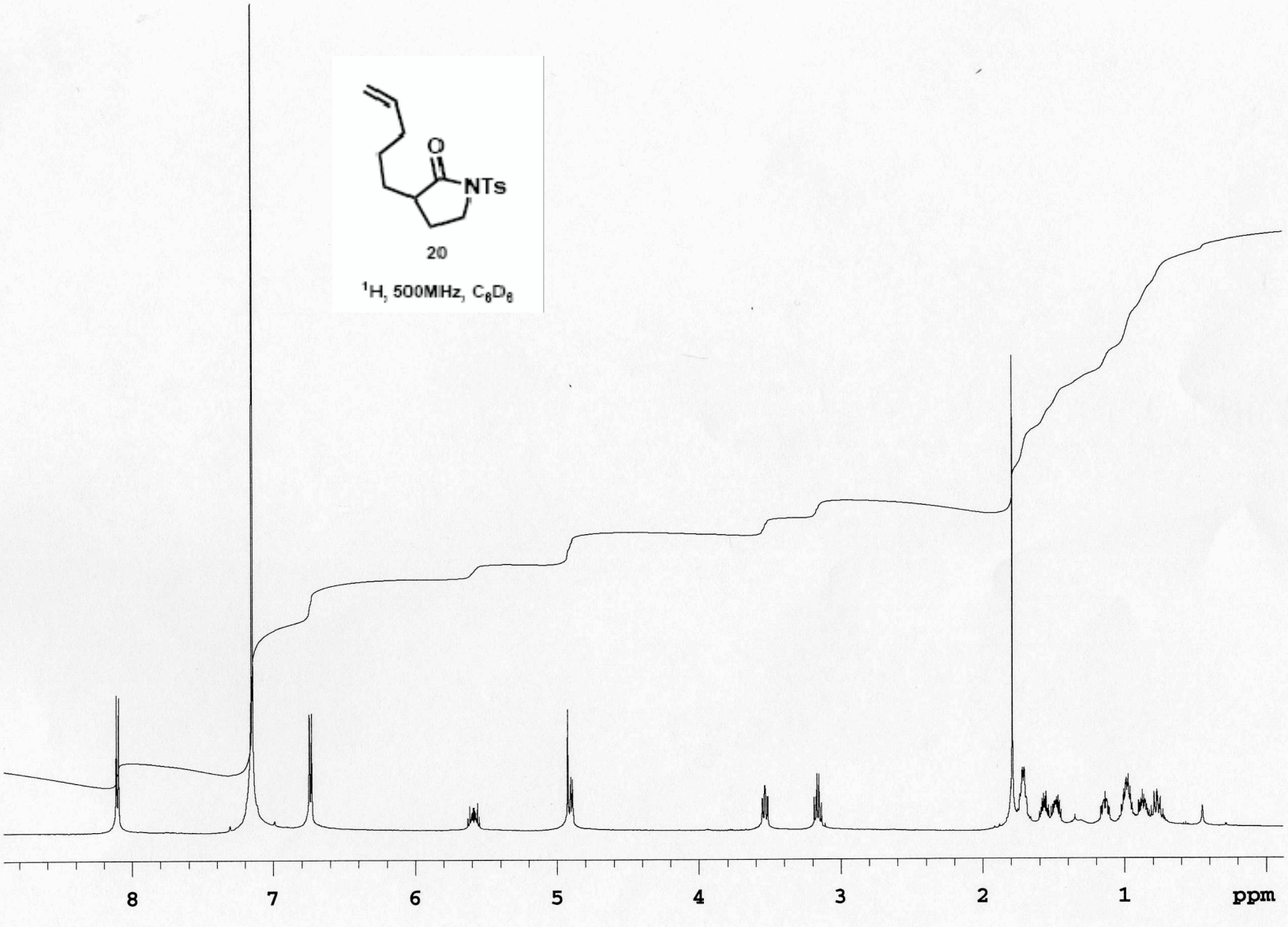
120
100
80
60
40
20
ppm


O
NTs
20
^{1}H, 500MHz, C_6D_6
8
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5
4
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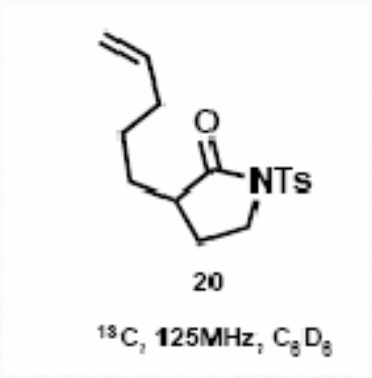

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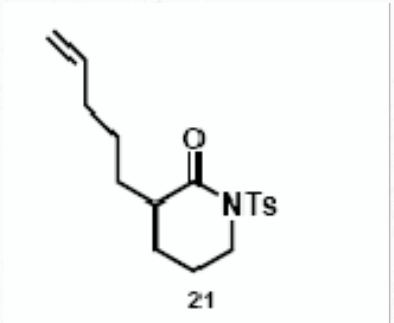
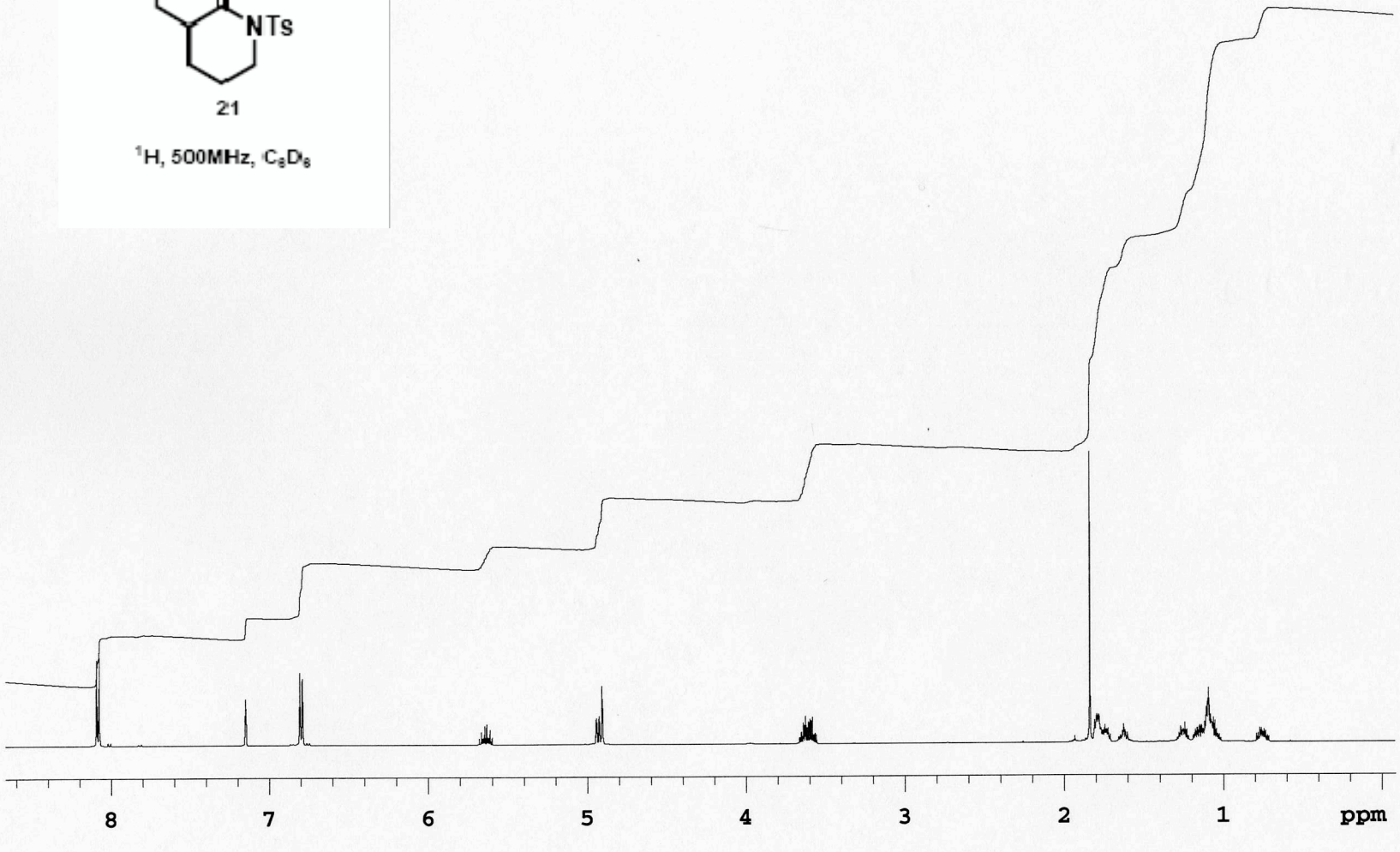
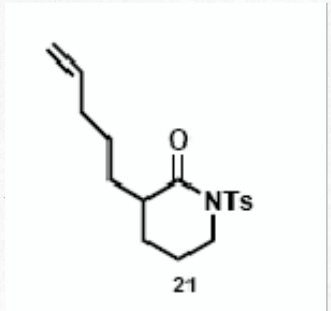


21

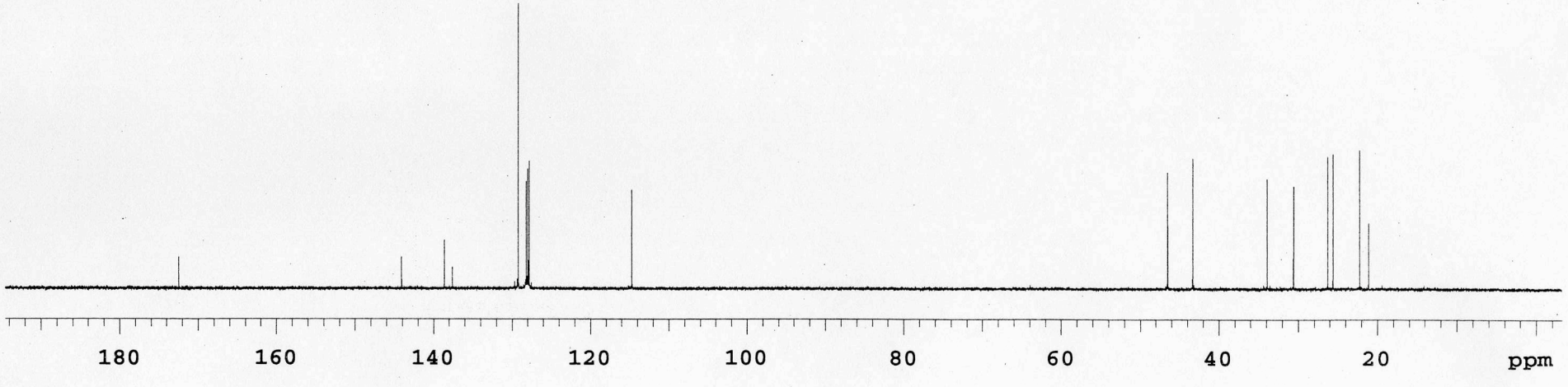
^{1}H, 500MHz, C_6D_6

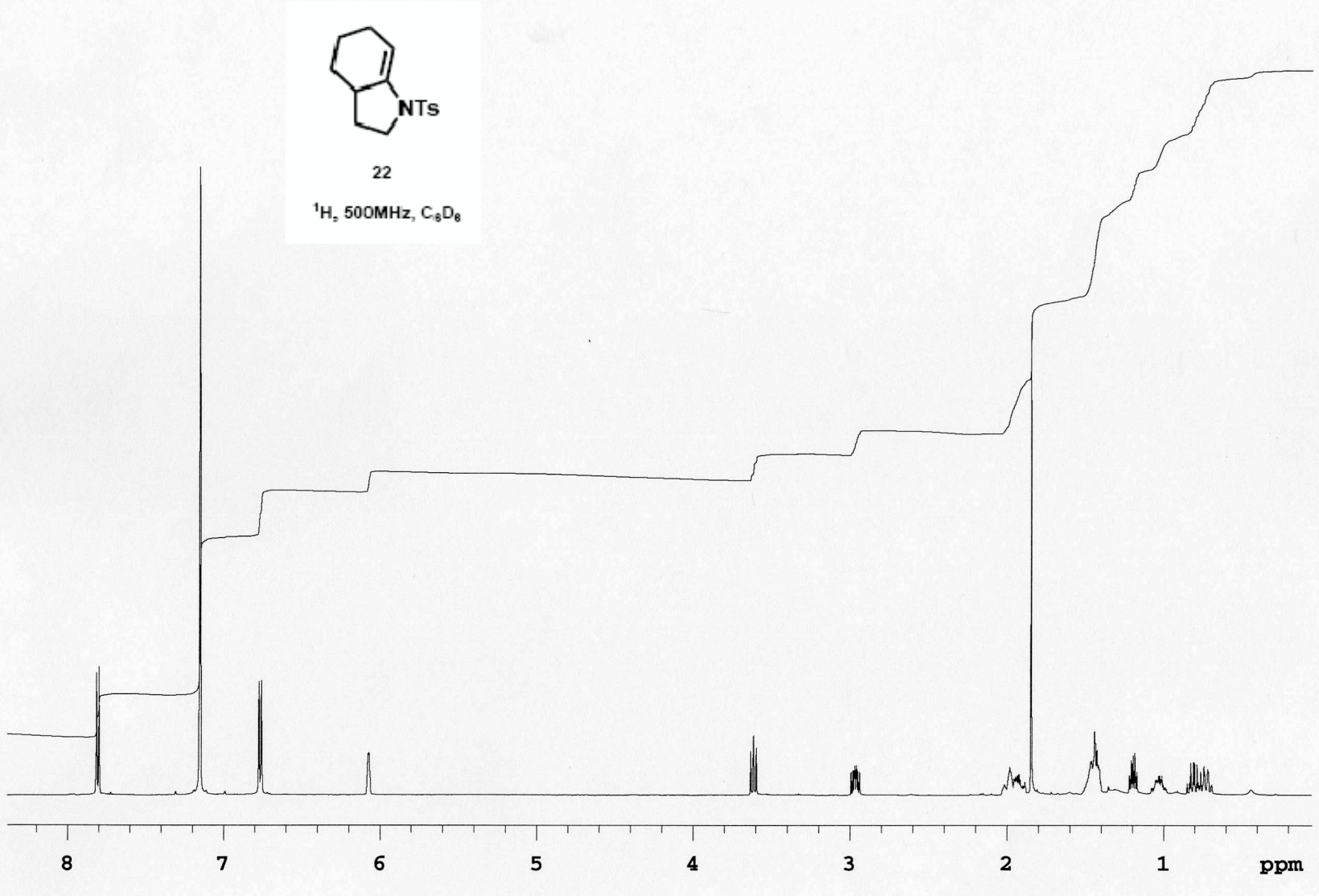


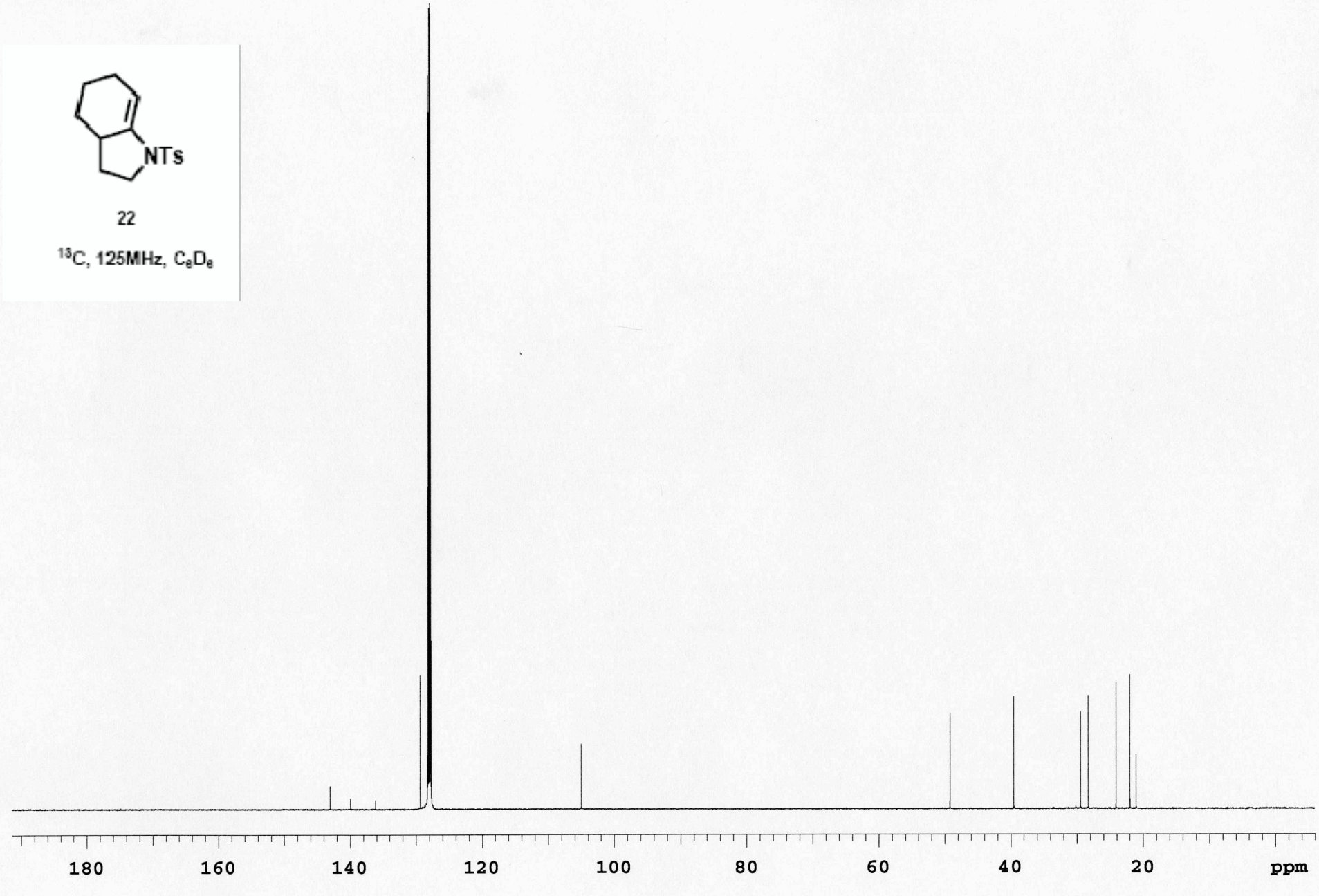


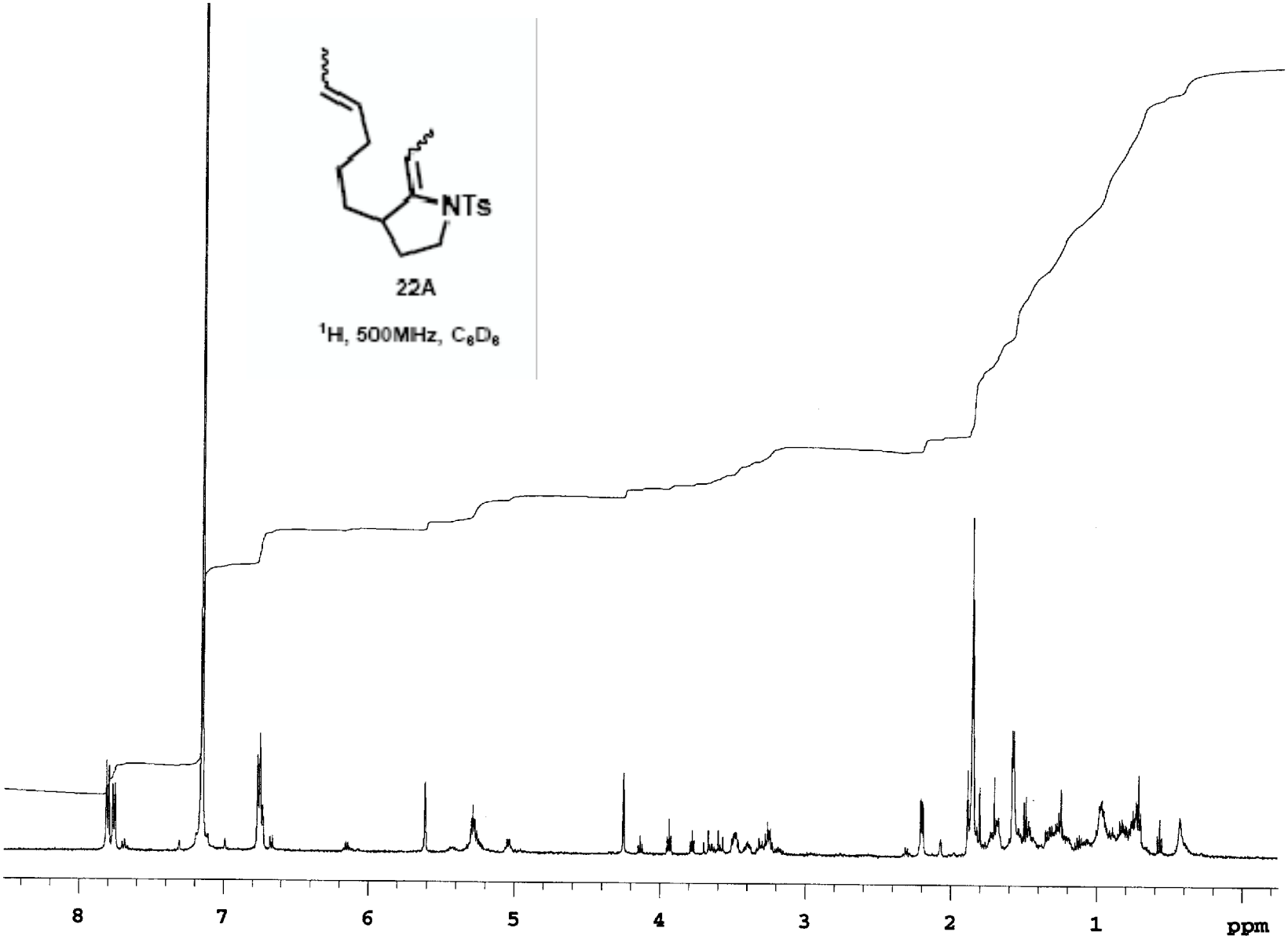
21

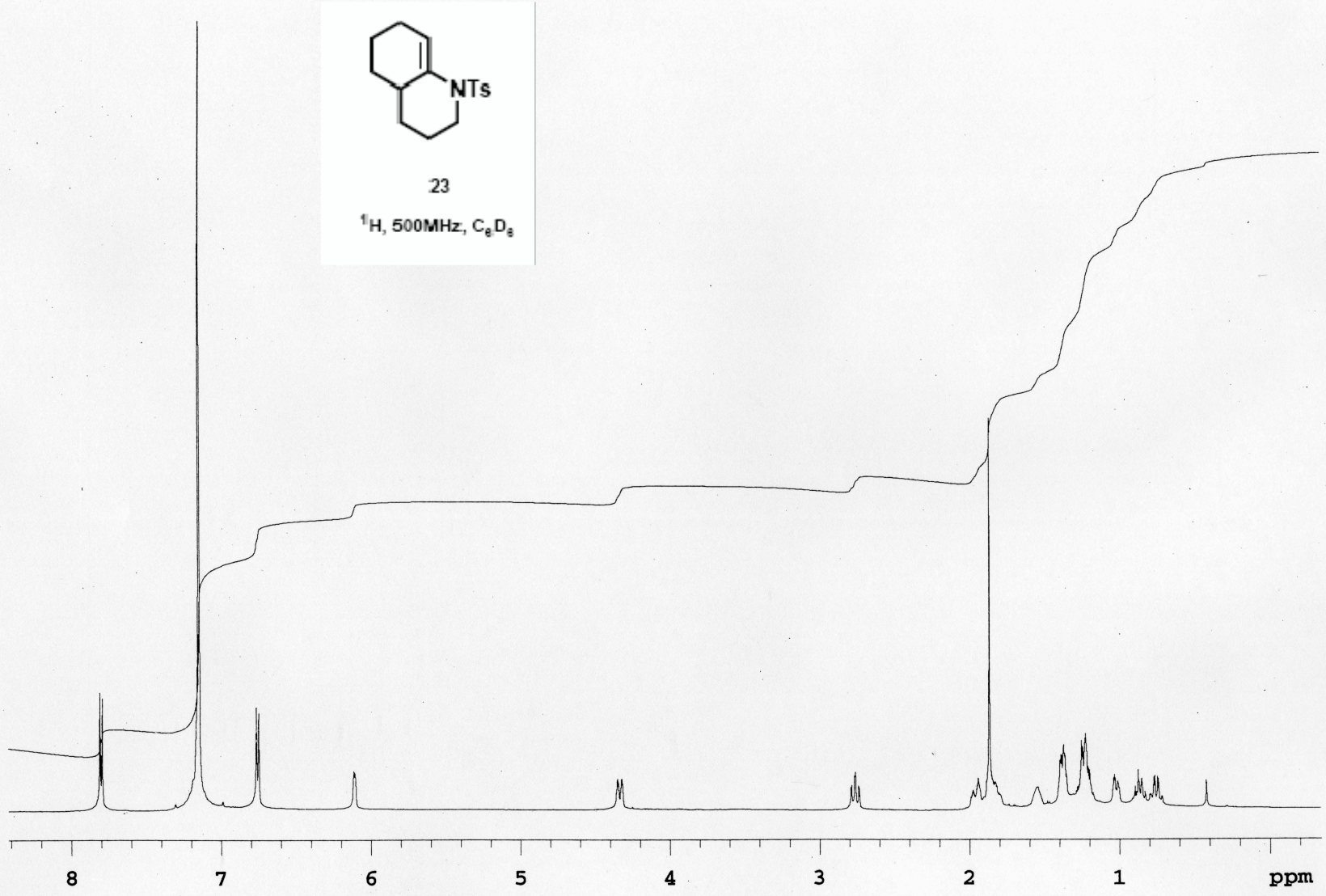
^{13}C, 125MHz, C_6D_6

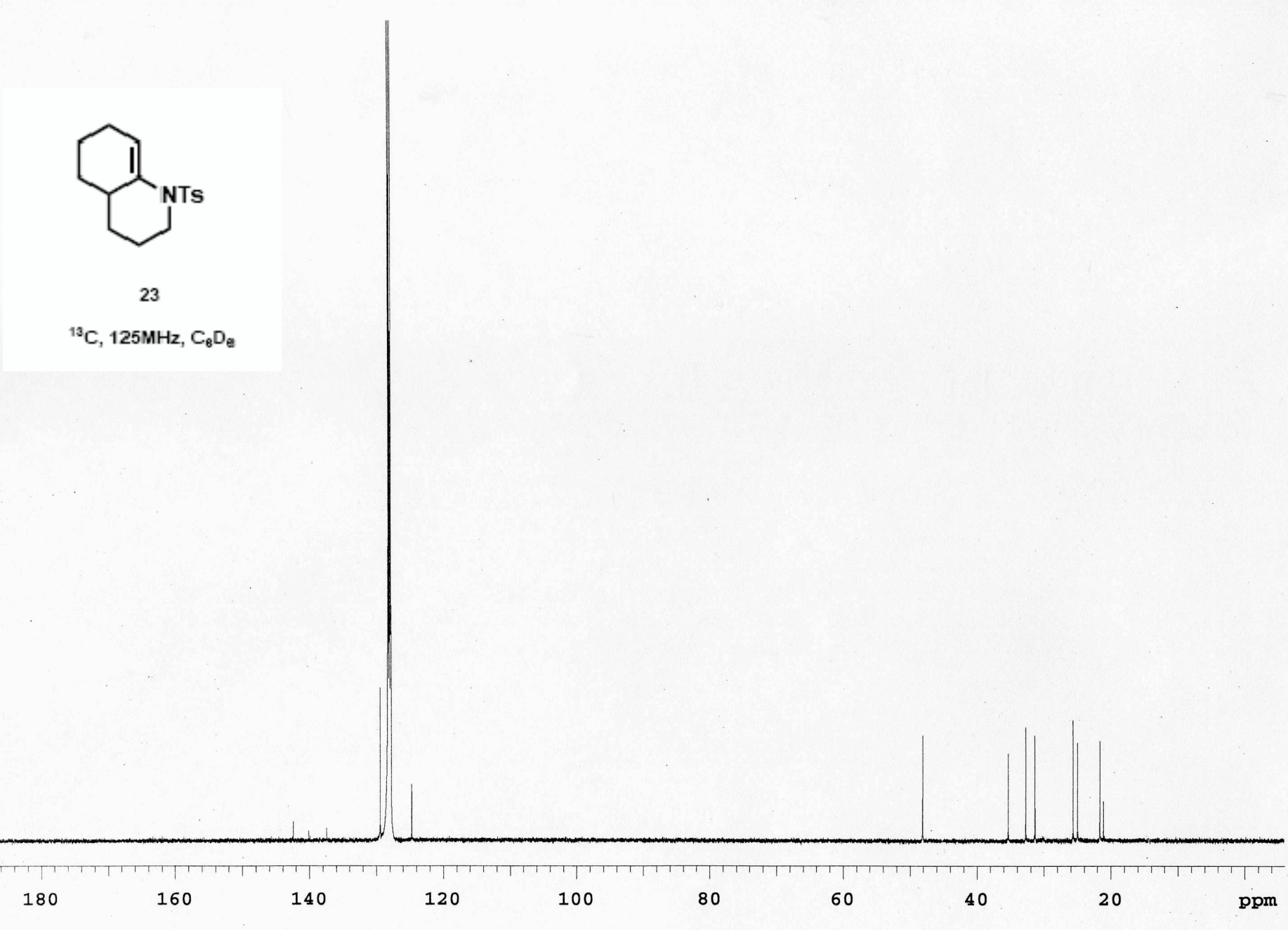


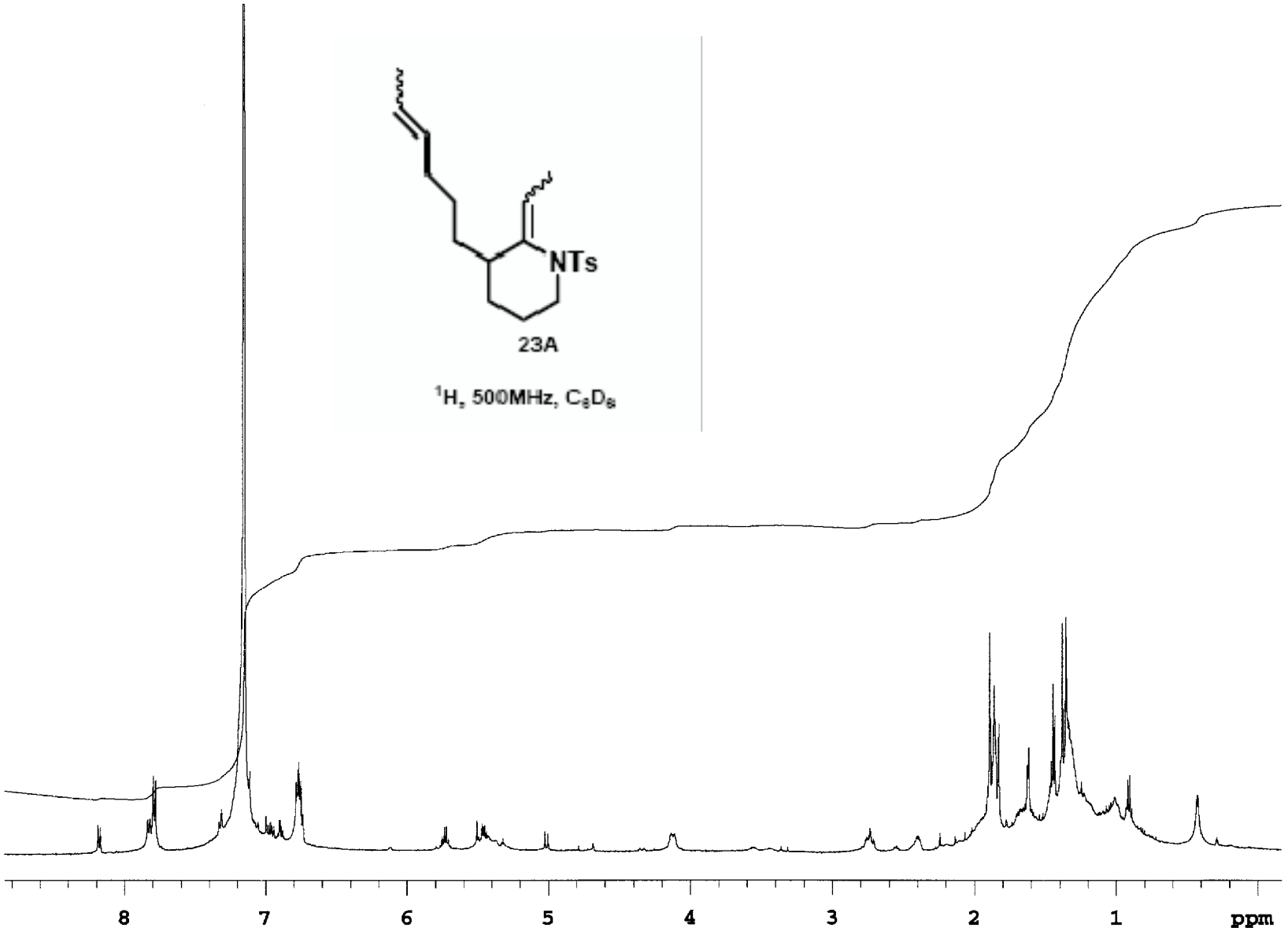

NTs
22
^1H, 500MHz, C_6D_6
8
7
6
5
4
3
2
1
ppm

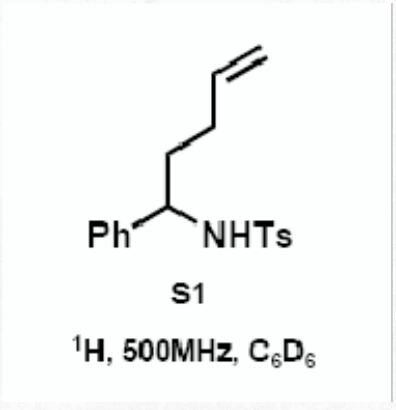

NTs
22
^{13}C, 125MHz, C_6D_6
180
160
140
120
100
80
60
40
20
ppm


NTs
22A
^{1}H, 500MHz, C_6D_6
8
7
6
5
4
3
2
1
ppm


NTs
23
^{1}H, 500MHz, C_6D_6
8
7
6
5
4
3
2
1
ppm

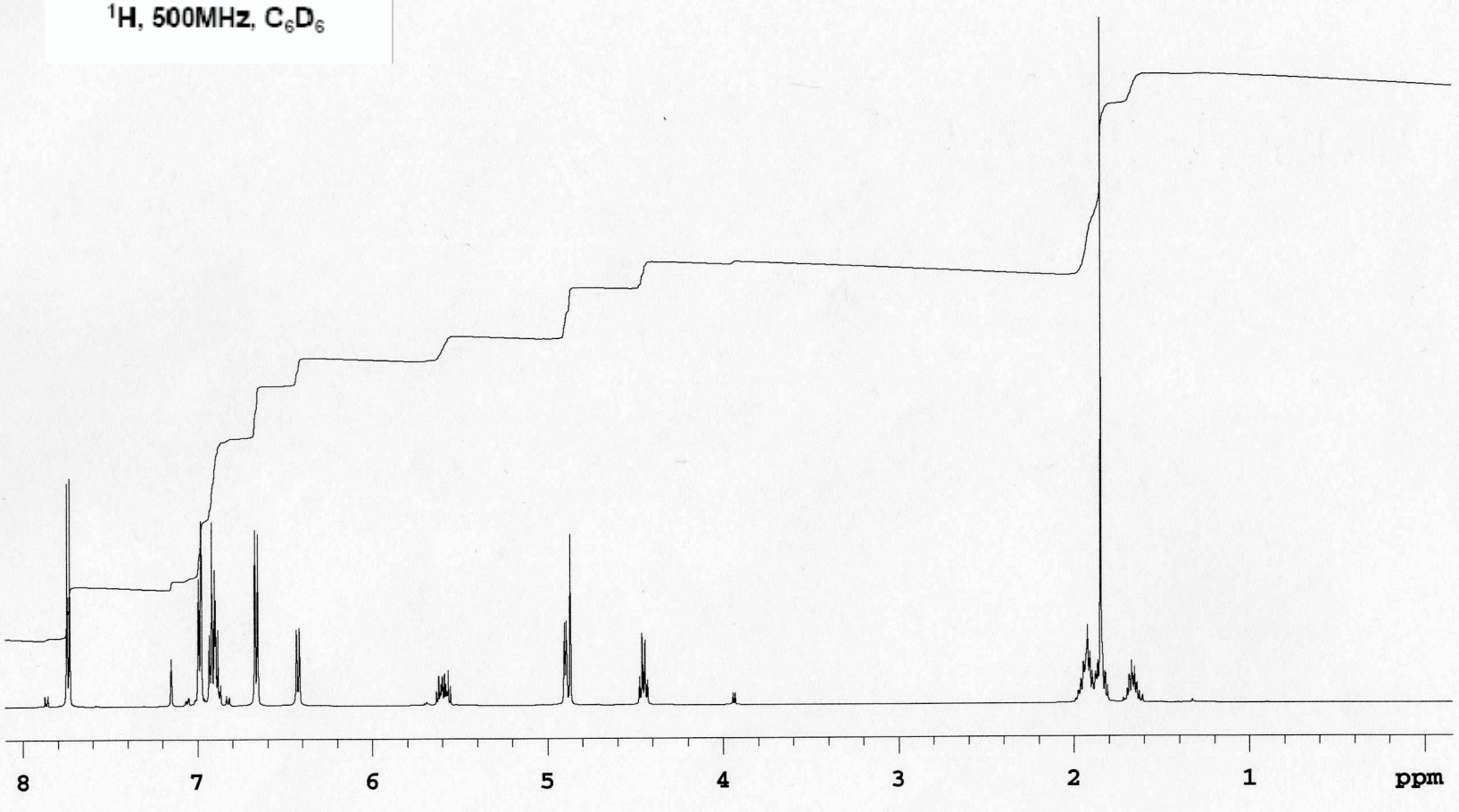

NTs
23
^{13}C, 125MHz, C_6D_6
180
160
140
120
100
80
60
40
20
ppm

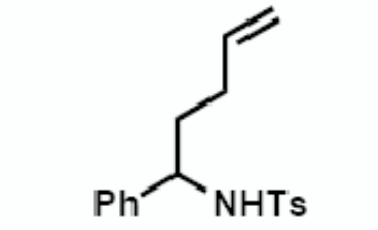

NTs
23A
^{1}H, 500MHz, C_6D_6
8
7
6
5
4
3
2
1
ppm



S1

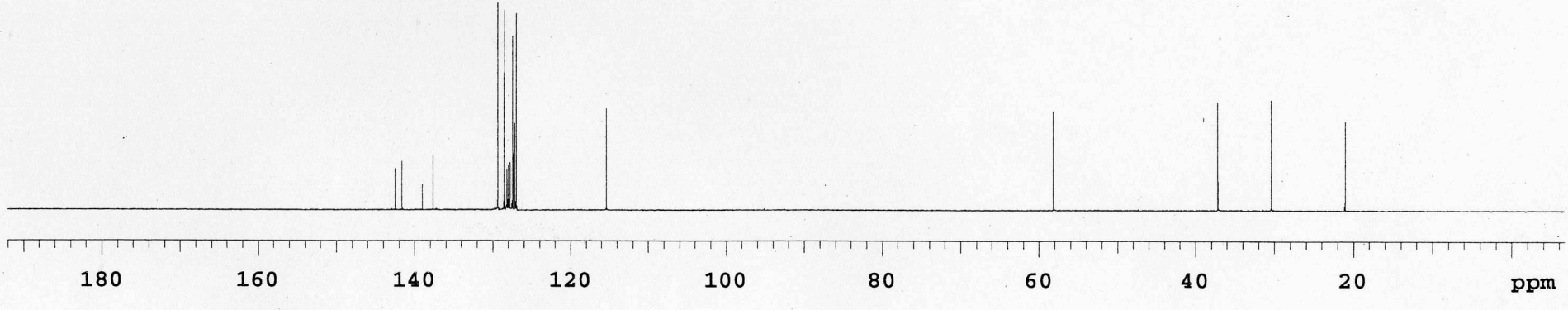
^{1}H, 500MHz, C_6D_6

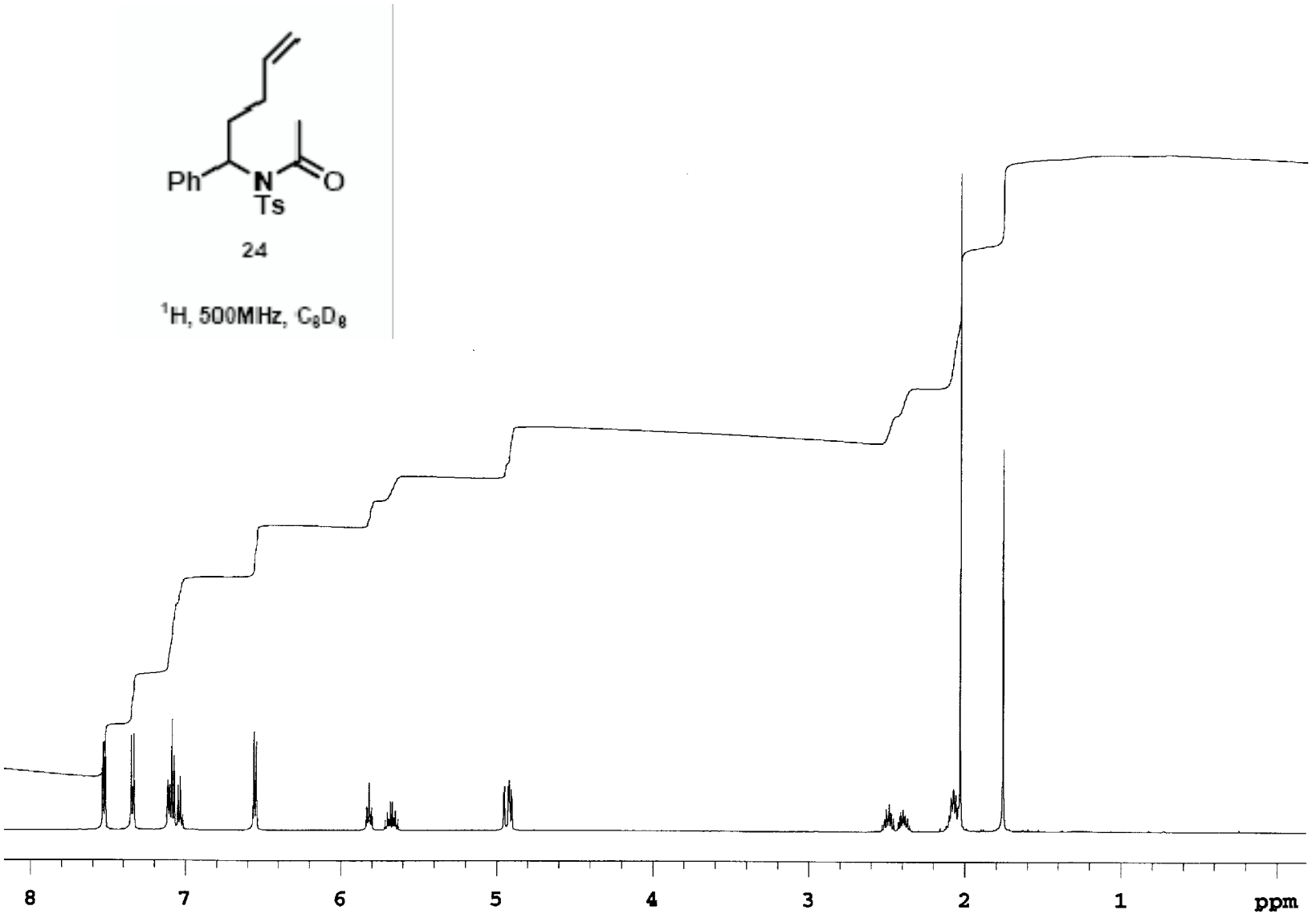


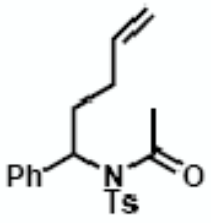


S1

^{13}C, 500MHz, C_6D_6

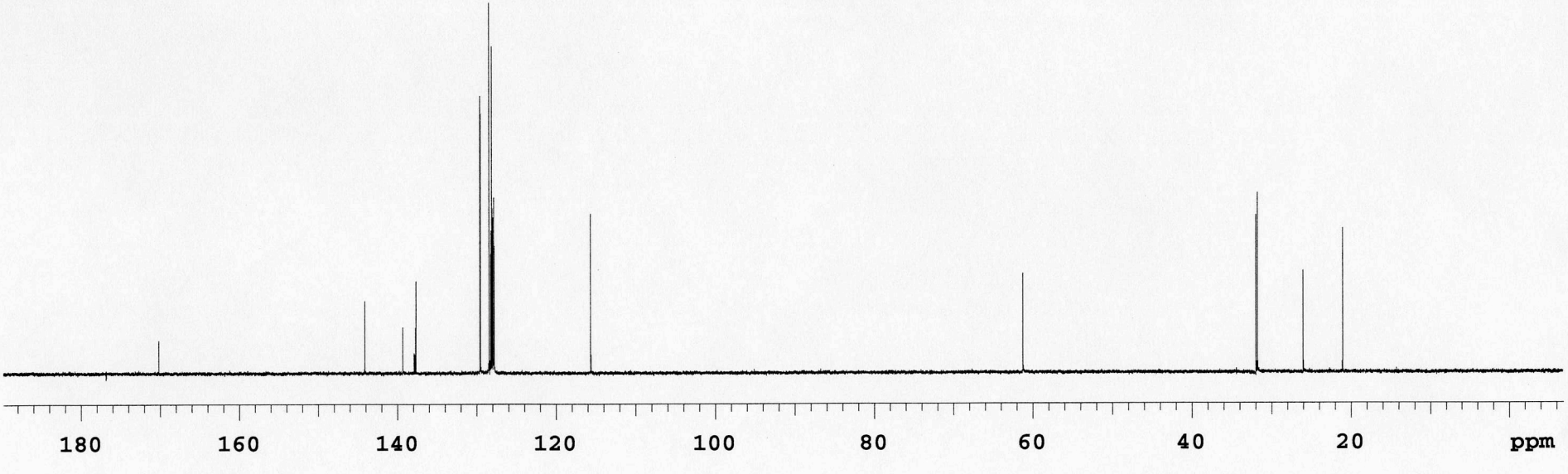


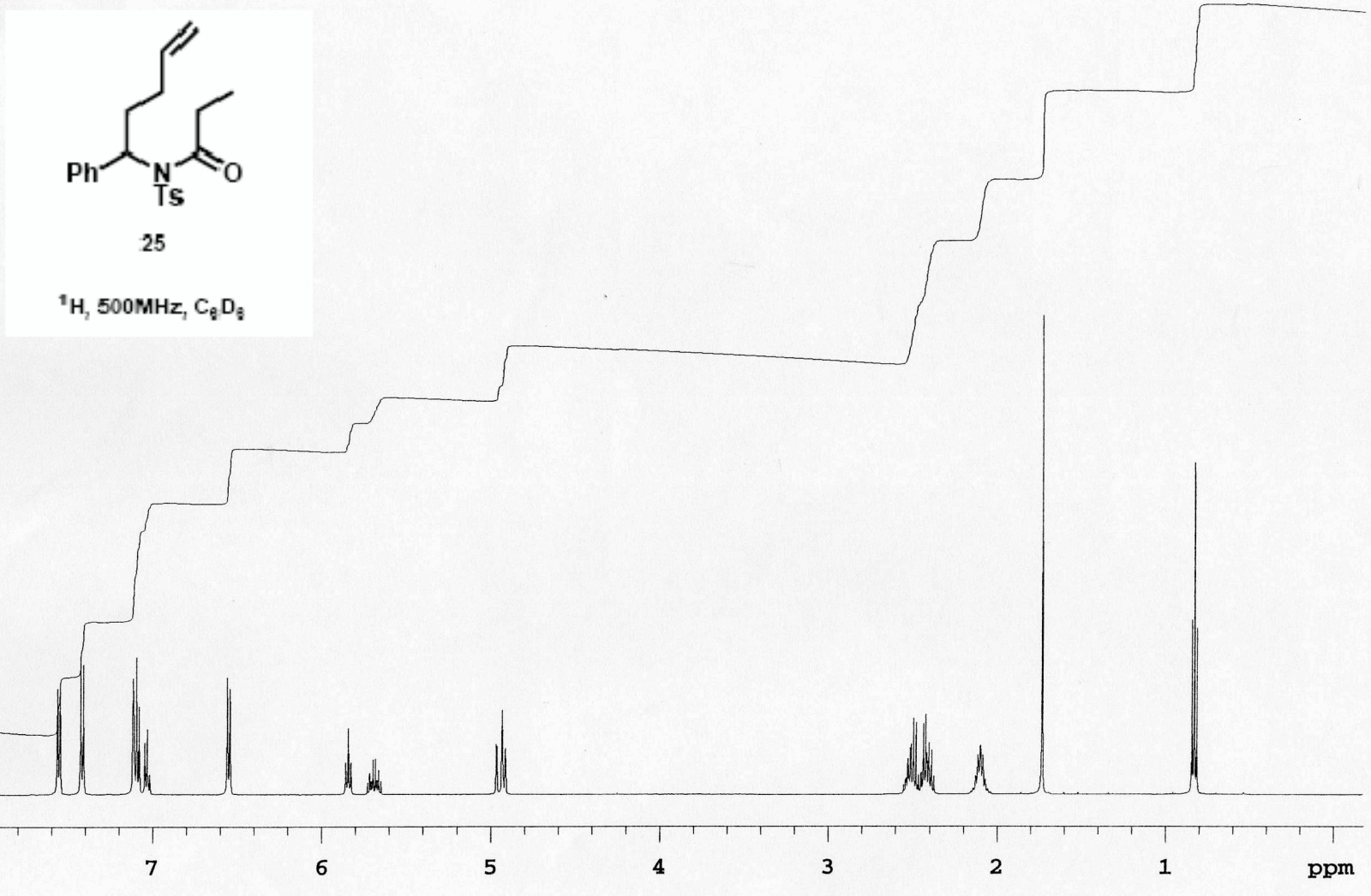

Ph
N
Ts
O
24
^{1}H, 500MHz, C_8D_8
8
7
6
5
4
3
2
1
ppm

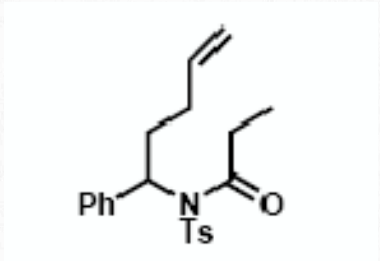


24

^{13}C, 125MHz, C_6D_6

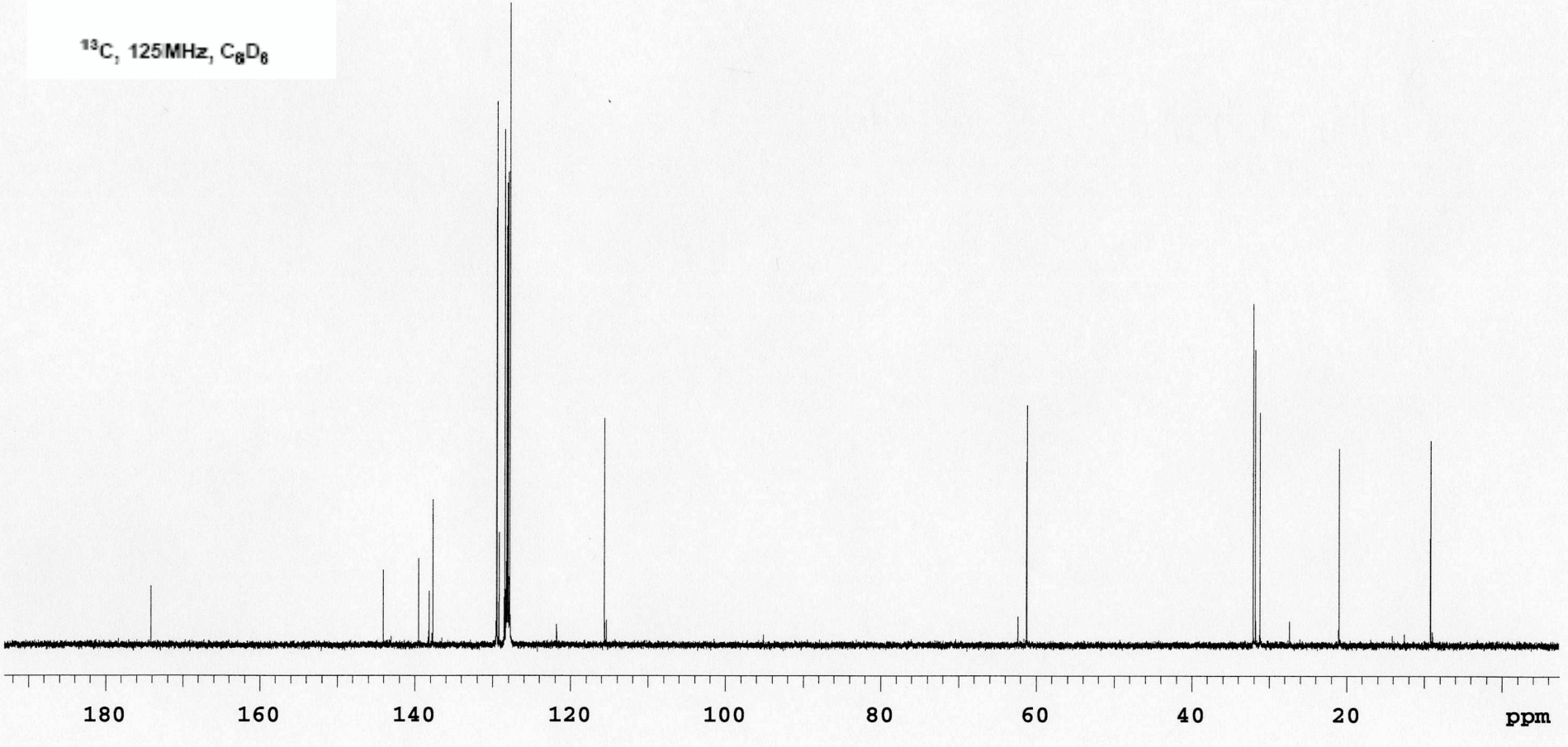


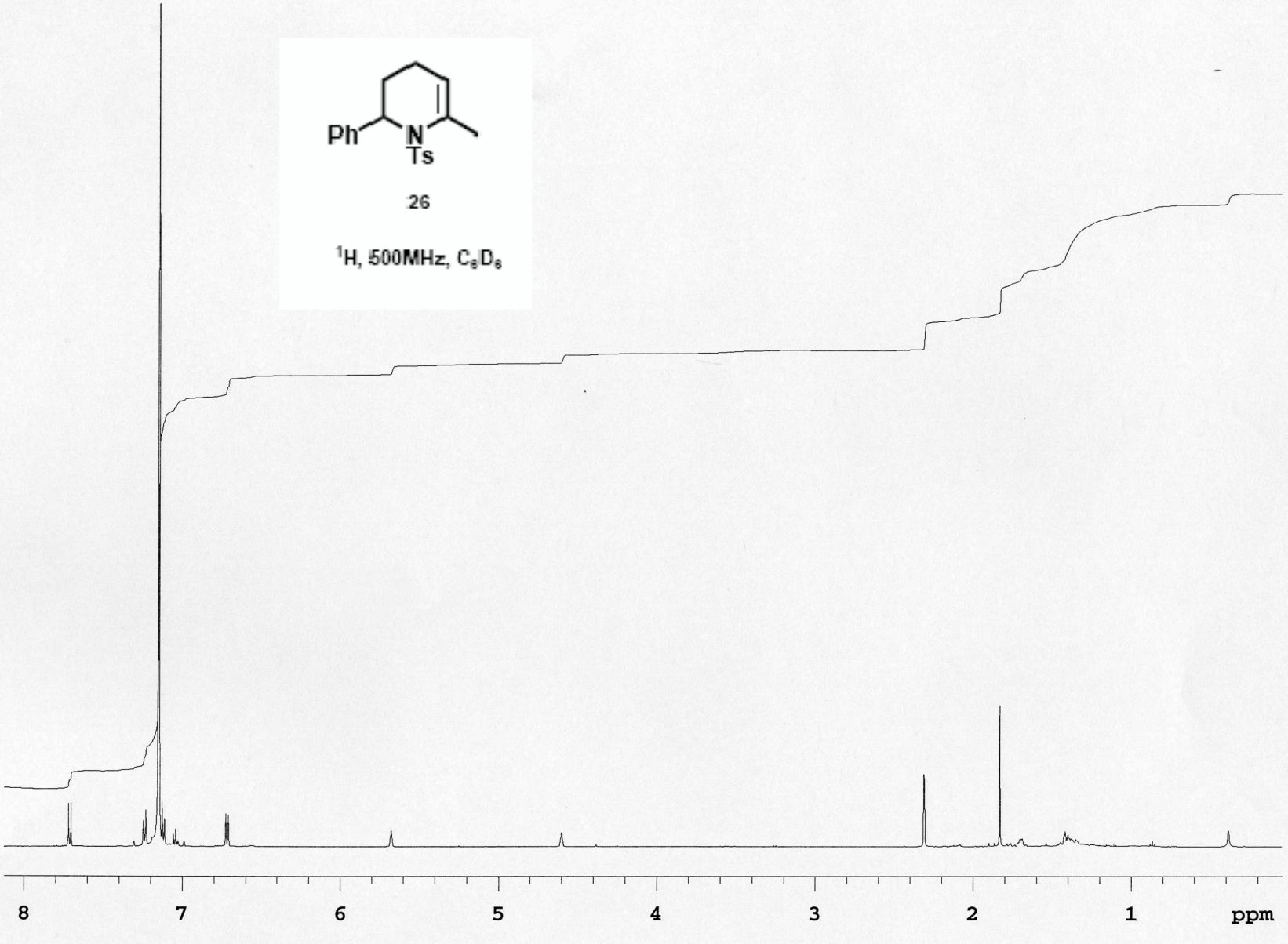

Ph
N
Ts
O
25
^{1}H, 500MHz, C_6D_6
8
7
6
5
4
3
2
1
ppm

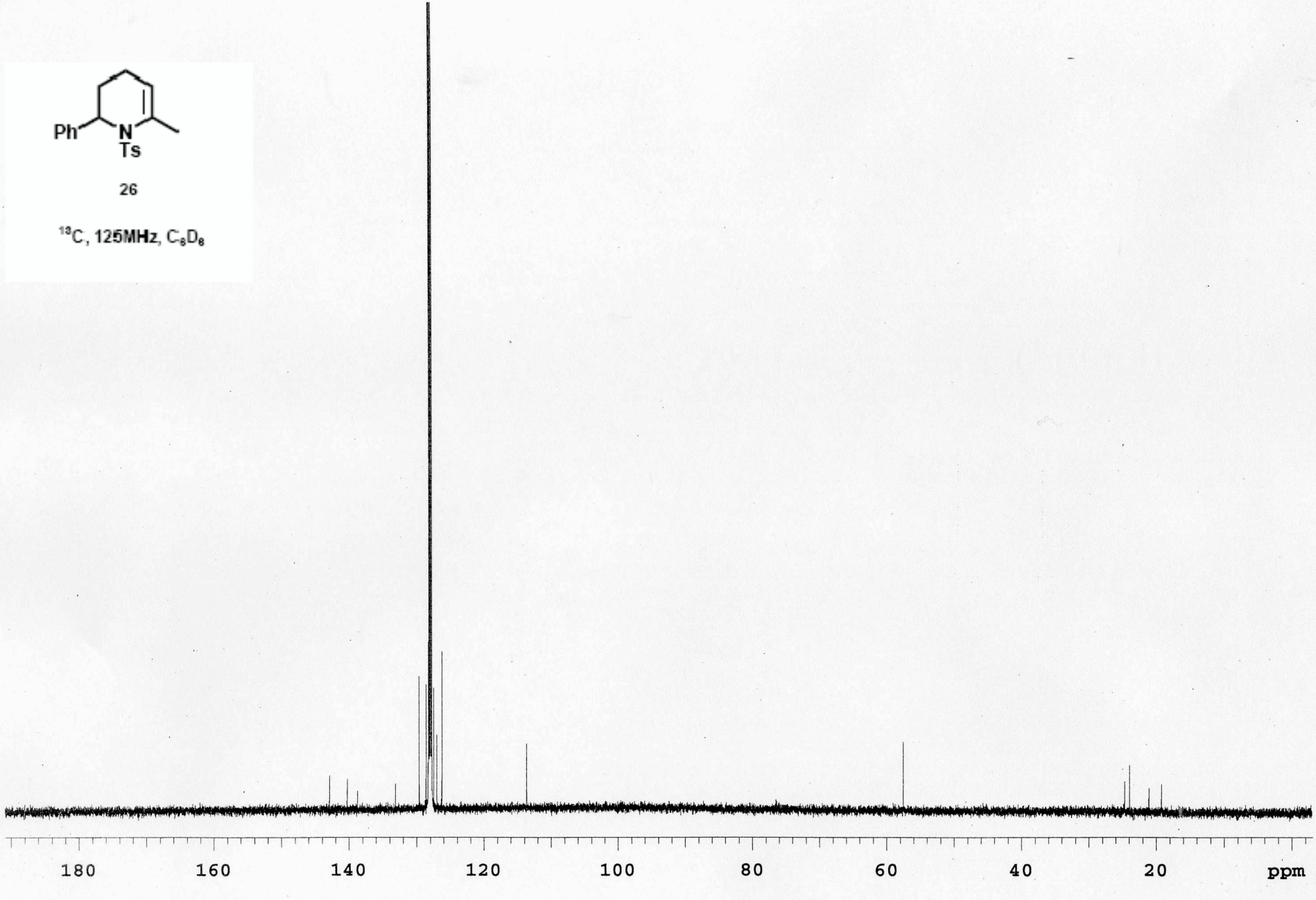


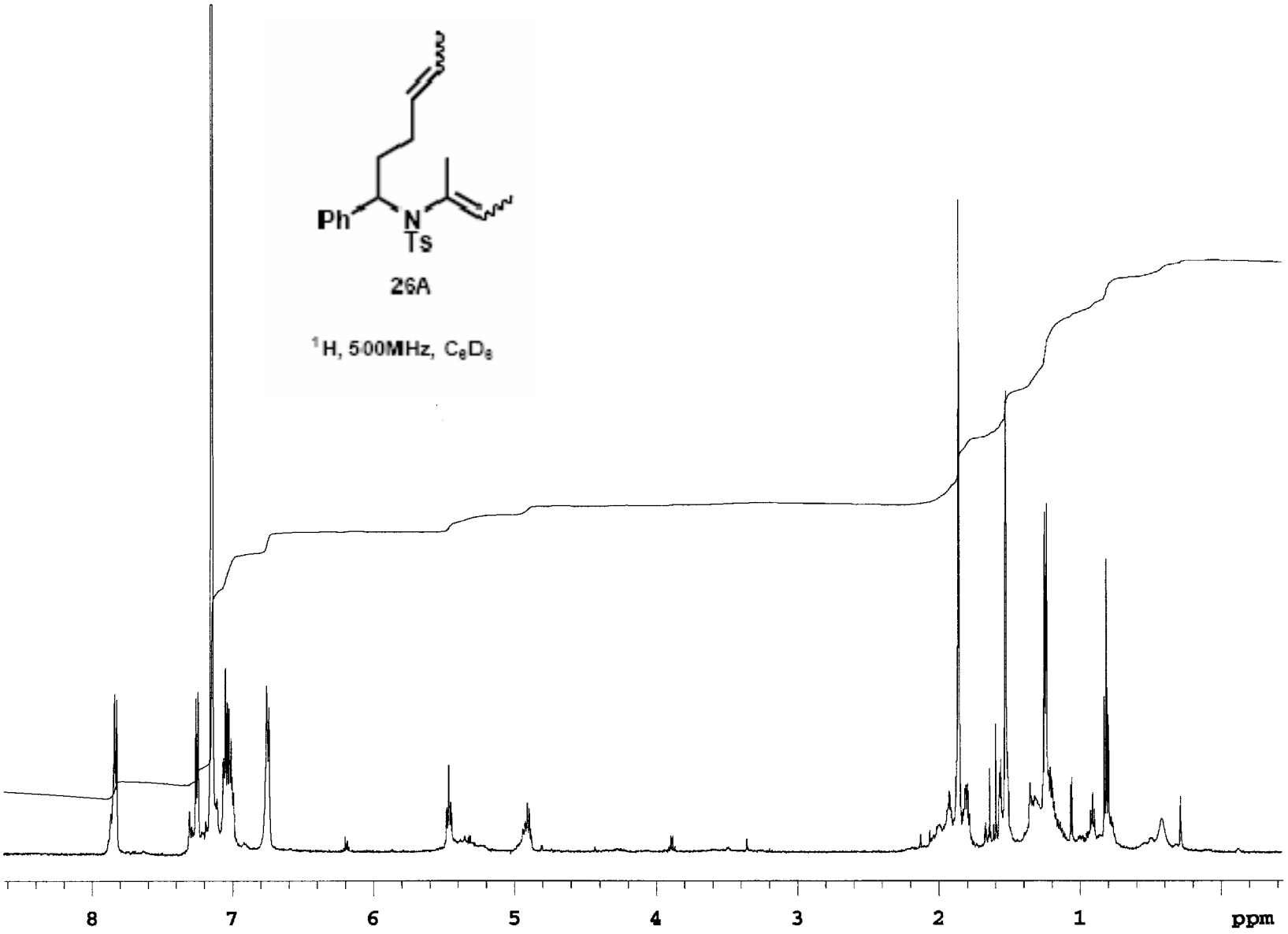
25

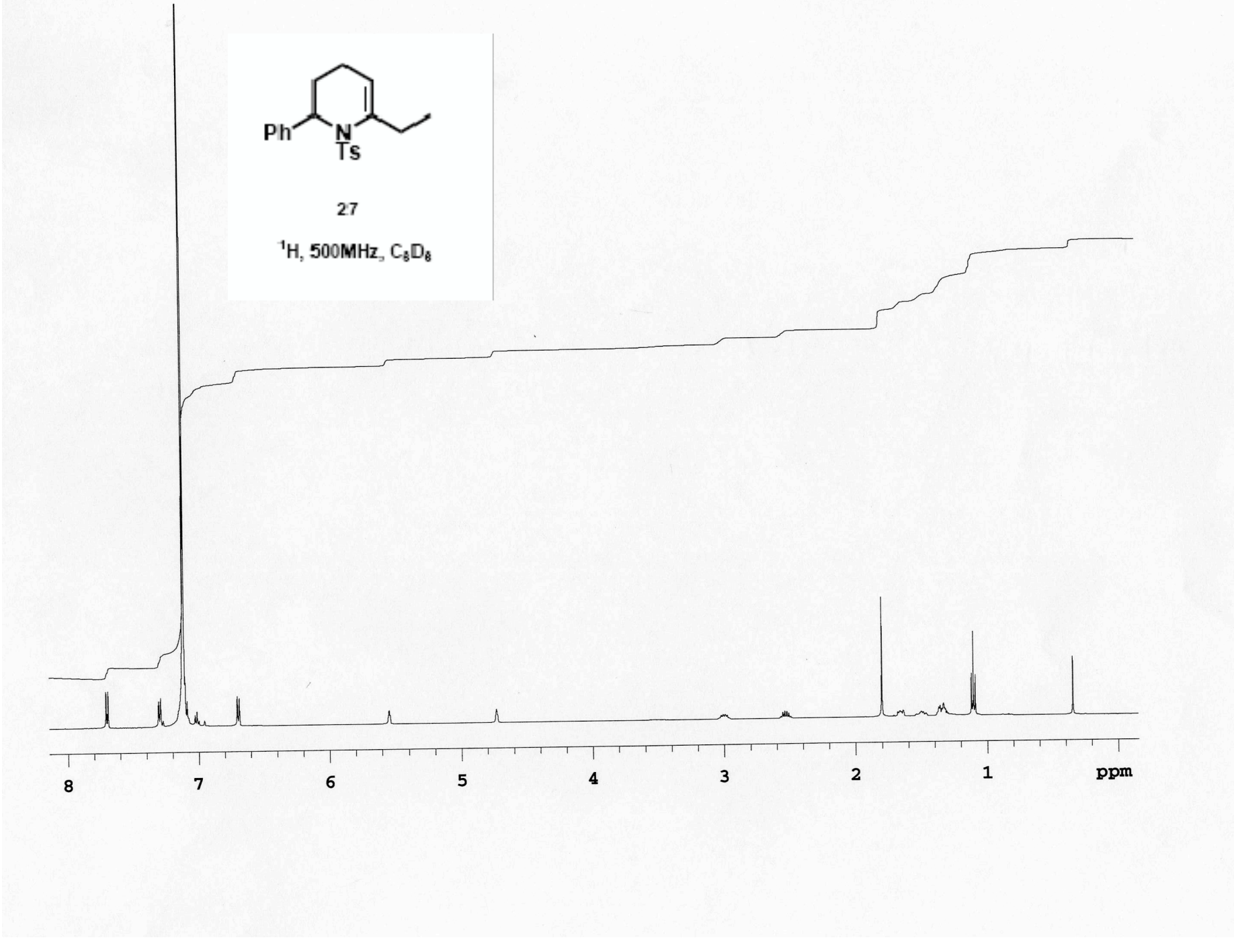
^{13}C, 125MHz, C_6D_6

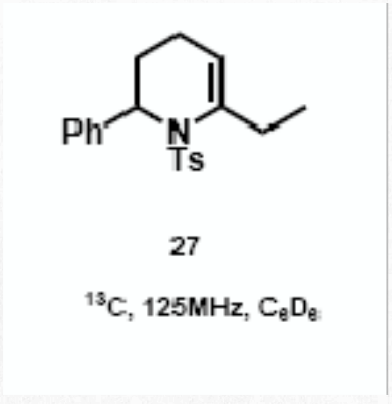



Ph
N
Ts
26
1H, 500MHz, C6D6
8
7
6
5
4
3
2
1
ppm


Ph
N
Ts
26
^{13}C, 125MHz, C_6D_6
180
160
140
120
100
80
60
40
20
ppm

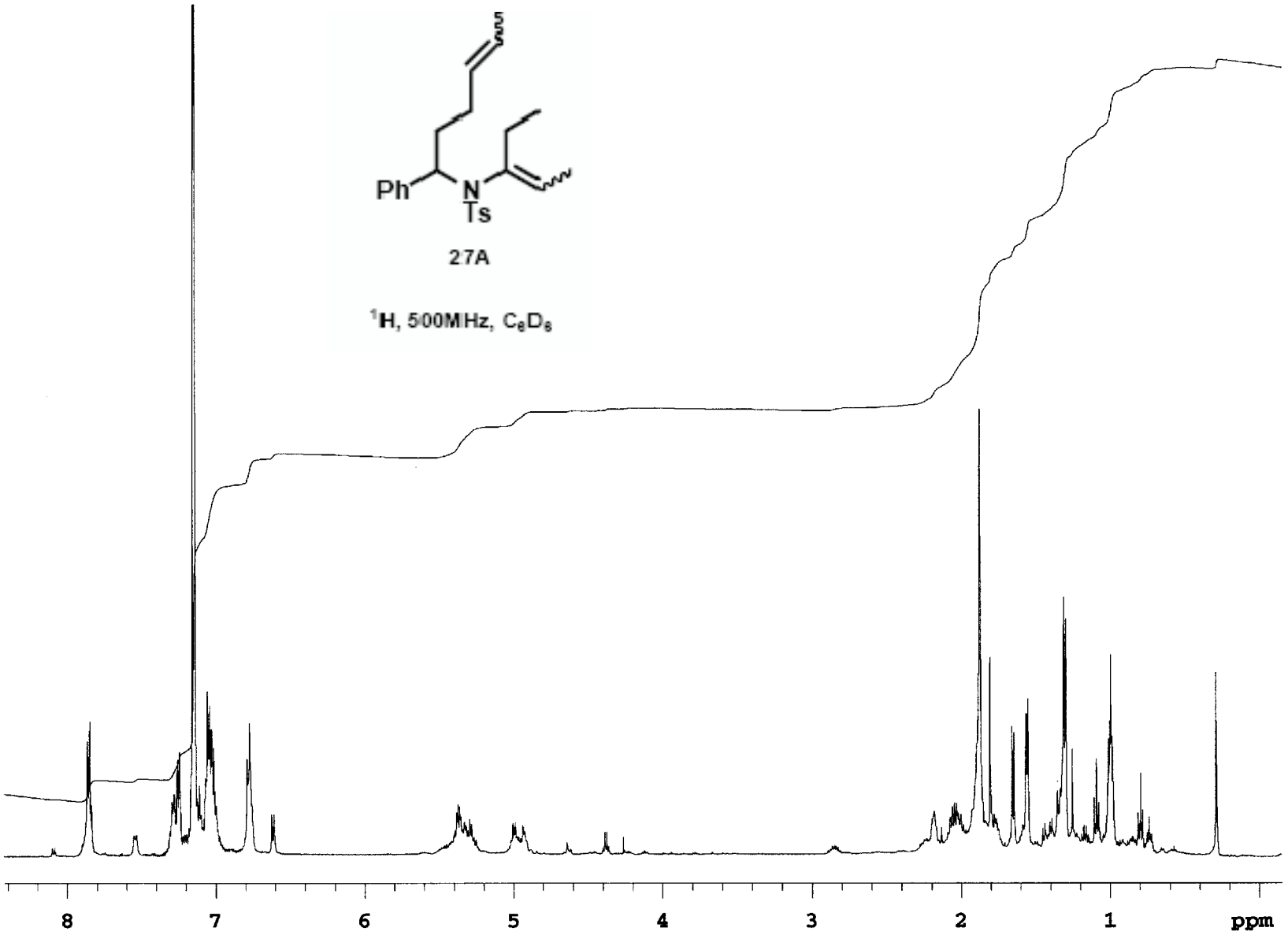

Ph
N
Ts
26A
^{1}H, 500MHz, C_6D_6
8
7
6
5
4
3
2
1
ppm


Ph
N
Ts
27
^{1}H, 500MHz, C_8D_8
8
7
6
5
4
3
2
1
ppm



27

^{13}C, 125MHz, C_6D_6


Ph
N
Ts
27A
^{1}H, 500MHz, C_6D_6
8
7
6
5
4
3
2
1
ppm