Supplementary Information for

Alternative formation of amides and β-enaminones from aroyl chlorides using the $TiCl_4$-trialkylamine reagent system

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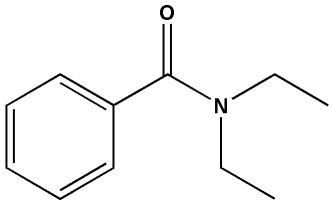
Dipartimento di Farmacia e Scienze della Salute e della Nutrizione, Università della Calabria, Edificio Polifunzionale, I-87036 Arcavacata di Rende - Italy

Content:

N,N-DIETHYLBENZAMIDE (2a)



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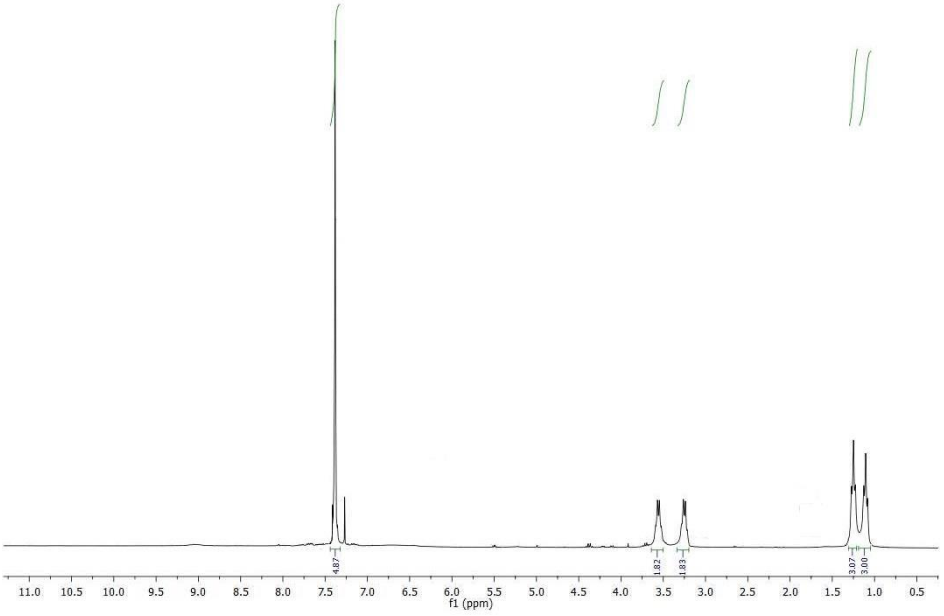

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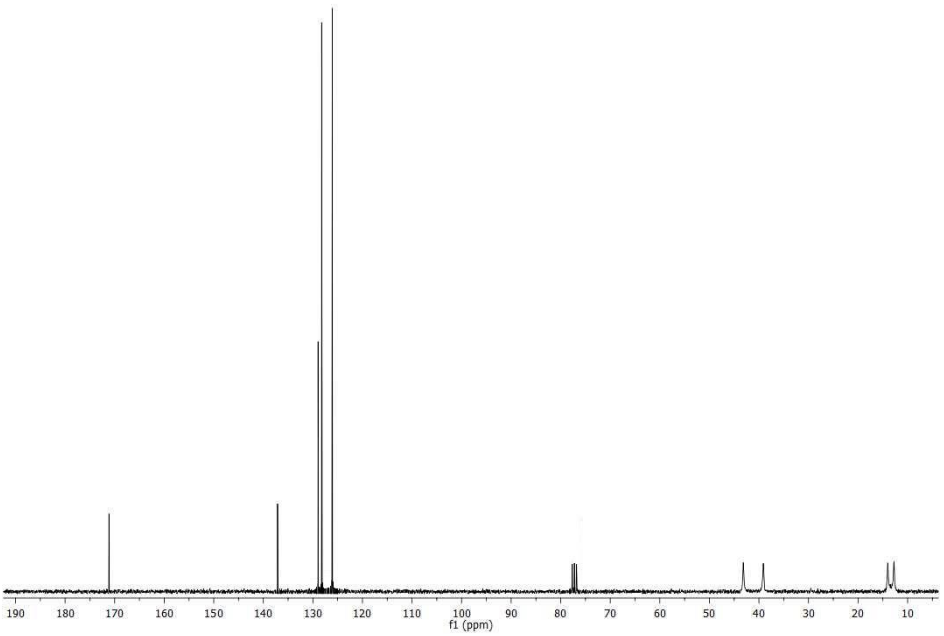

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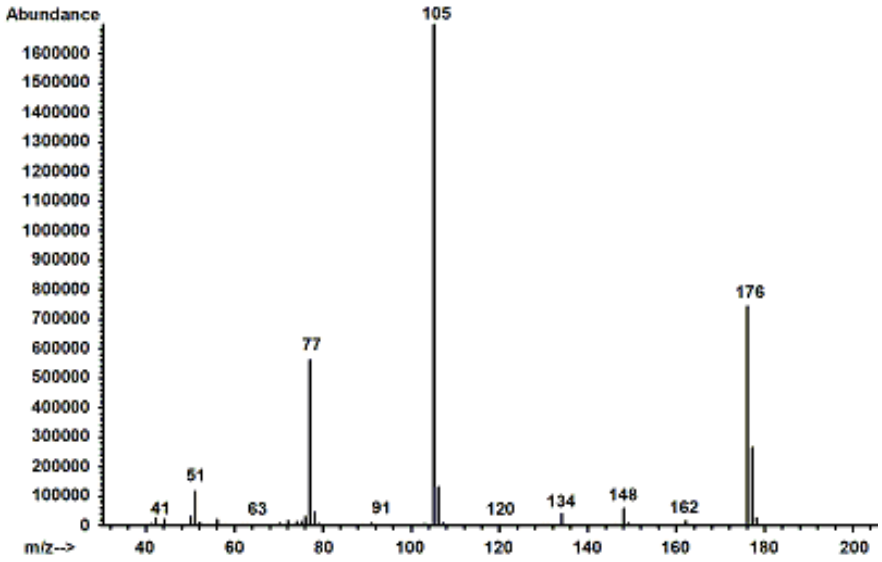
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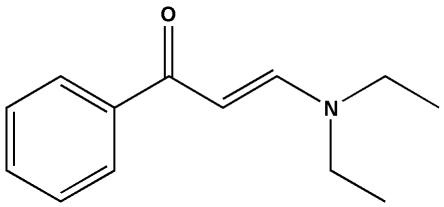
(*E*)-3-(DIETHYLAMINO)-1-PHENYLPROP-2-EN-1-ONE (3a)



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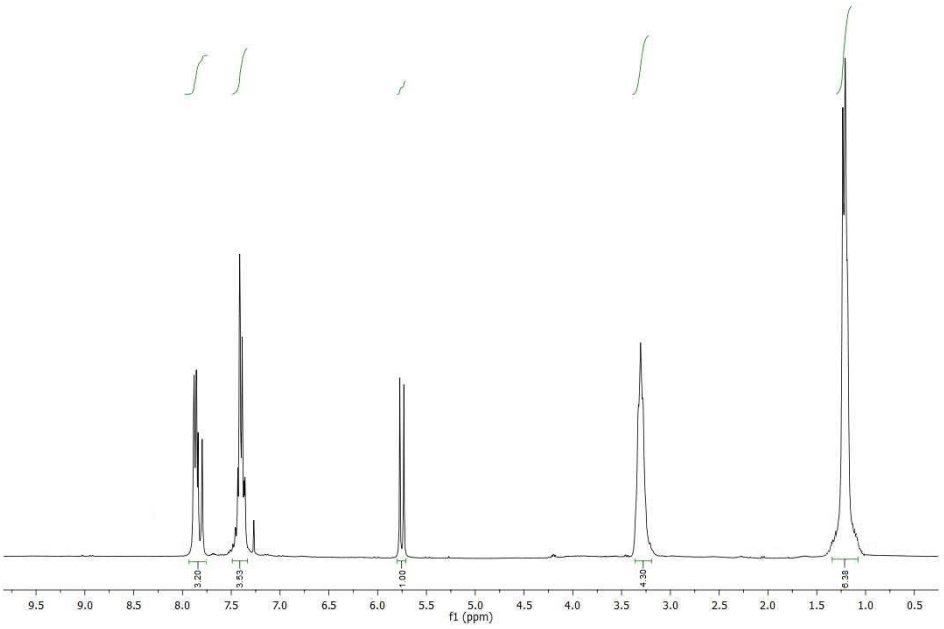

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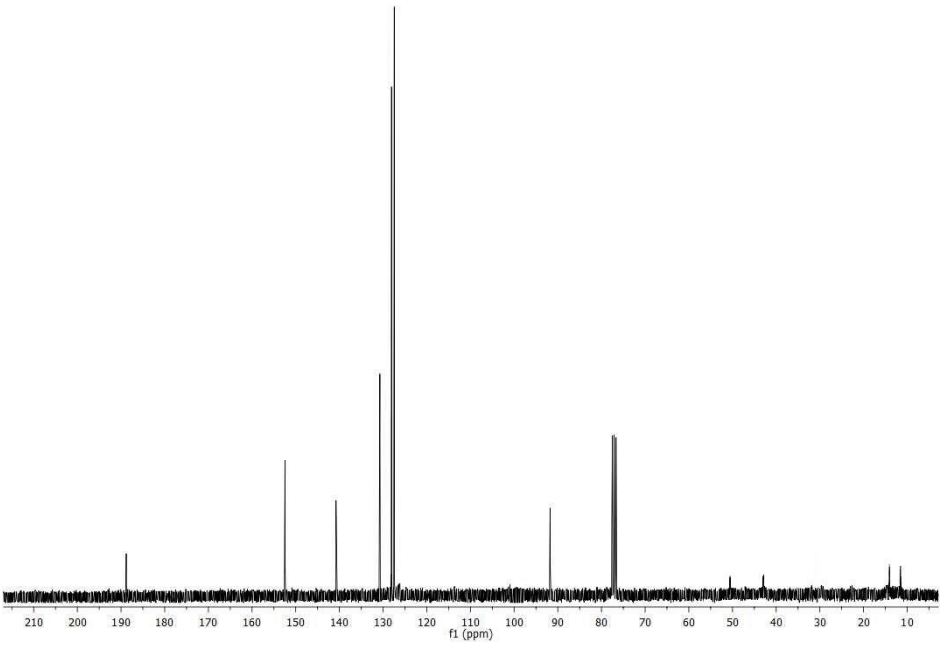

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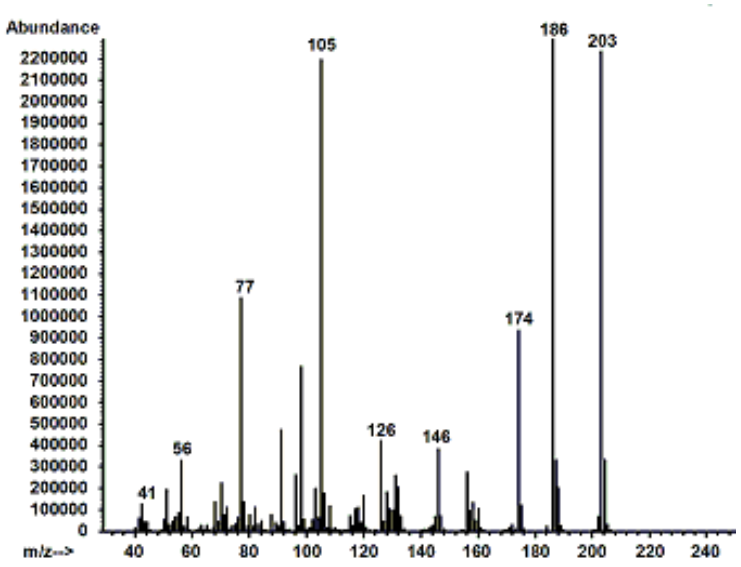
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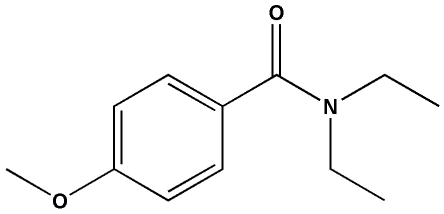
N,*N*-DIETHYL-4-METHOXYBENZAMIDE (2b)



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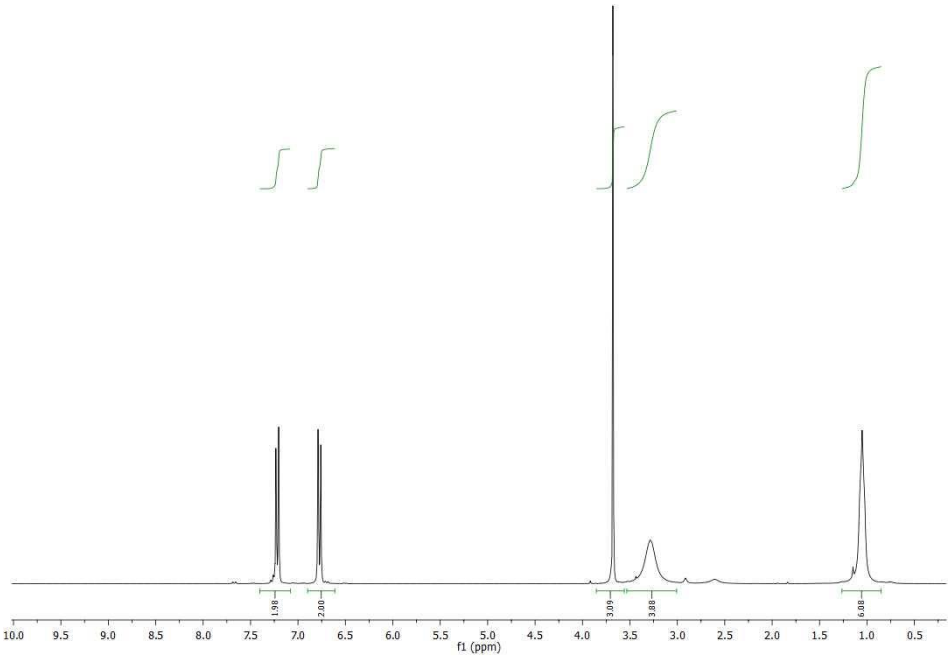

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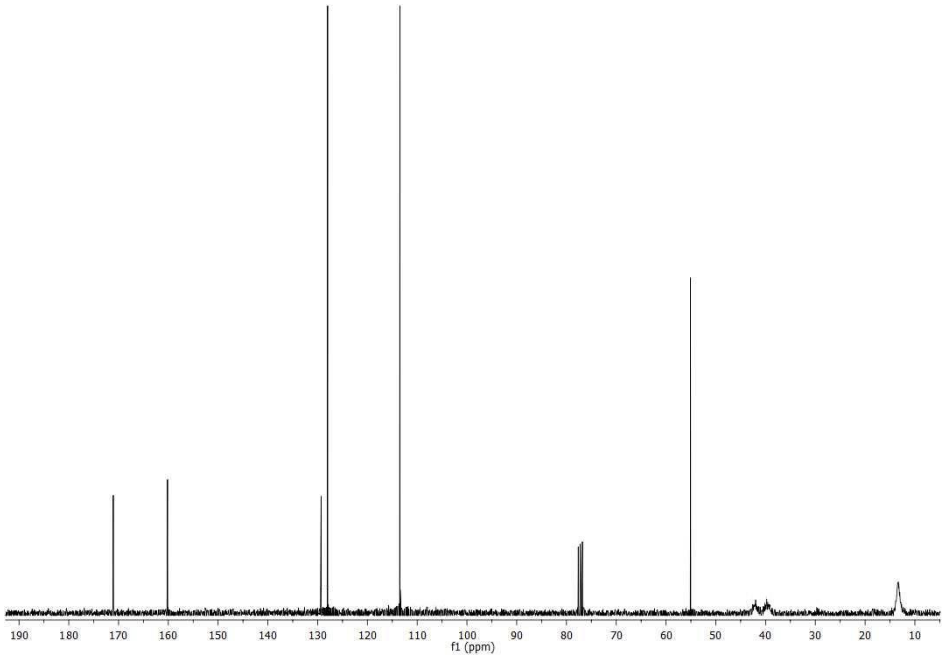

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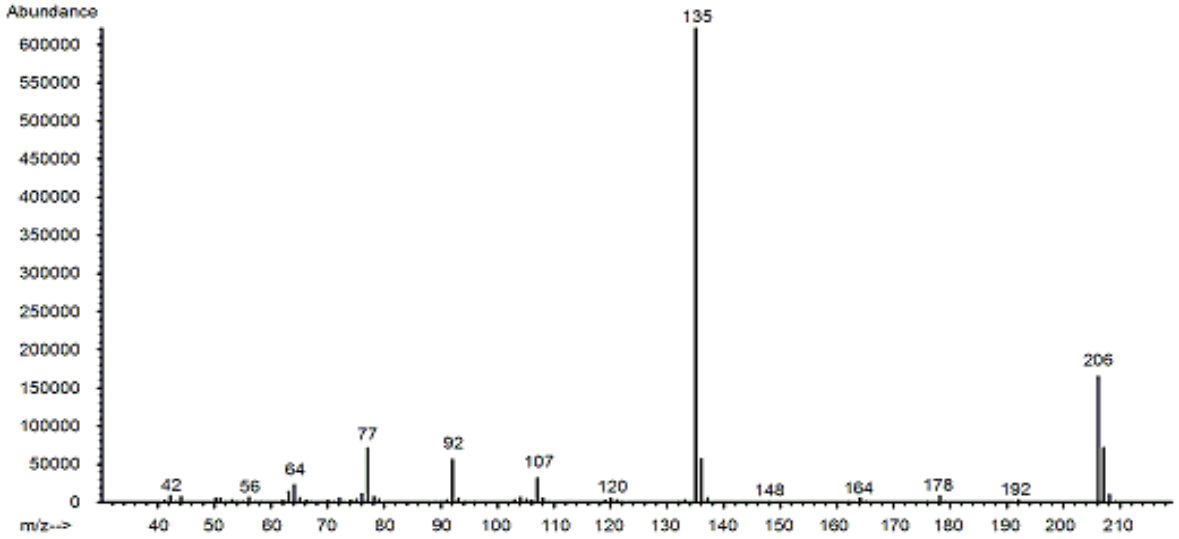
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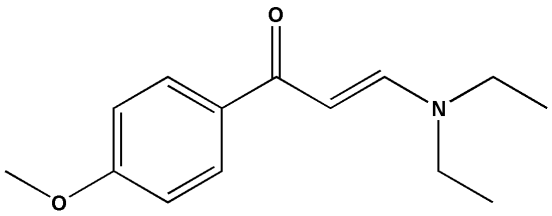
(*E*)-3-(DIETHYLAMINO)-1-(4-METHOXYPHENYL)PROP-2-EN-1-ONE (3b)



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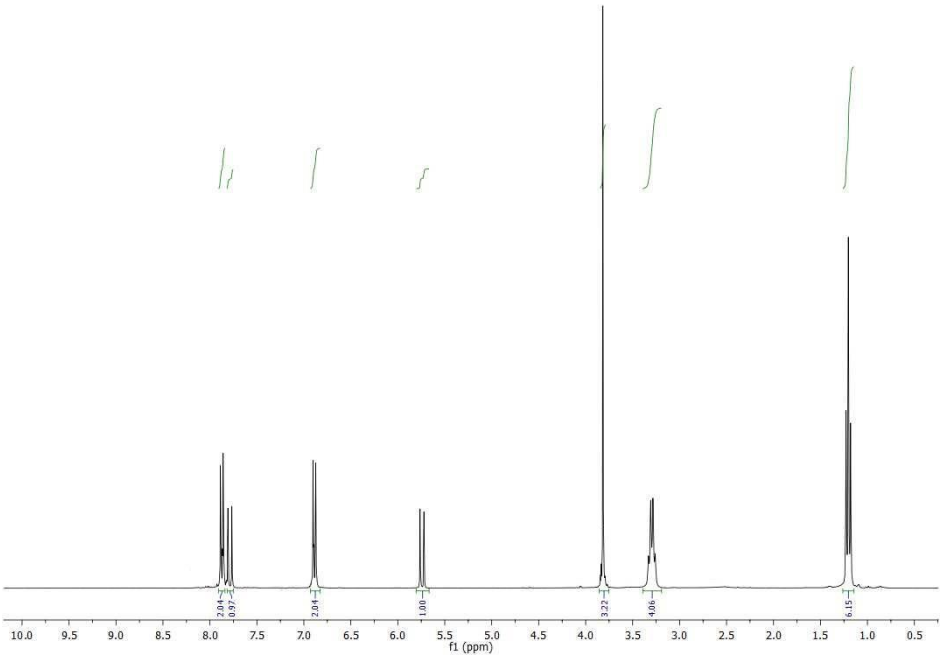

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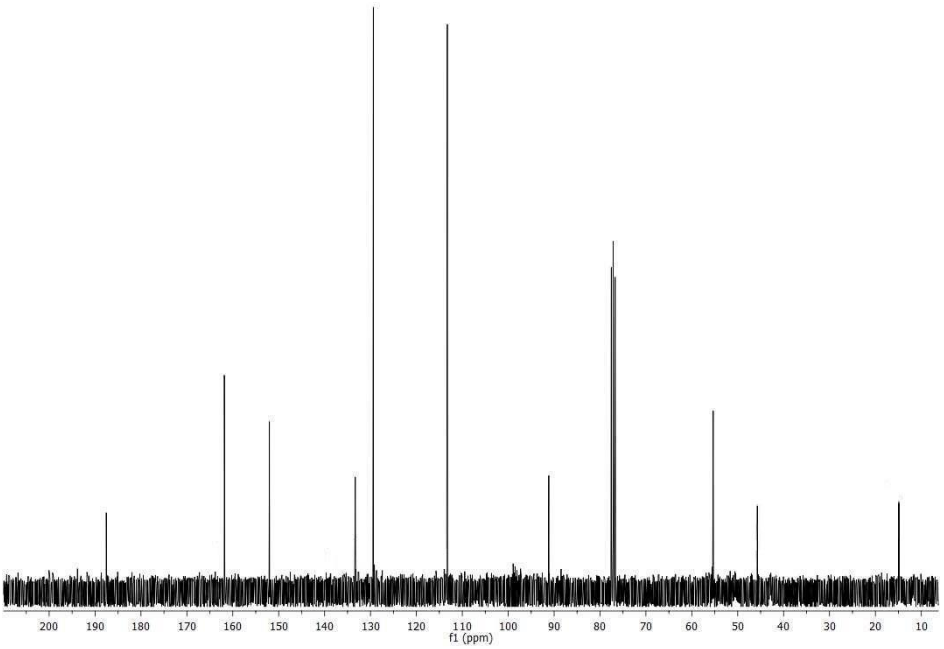

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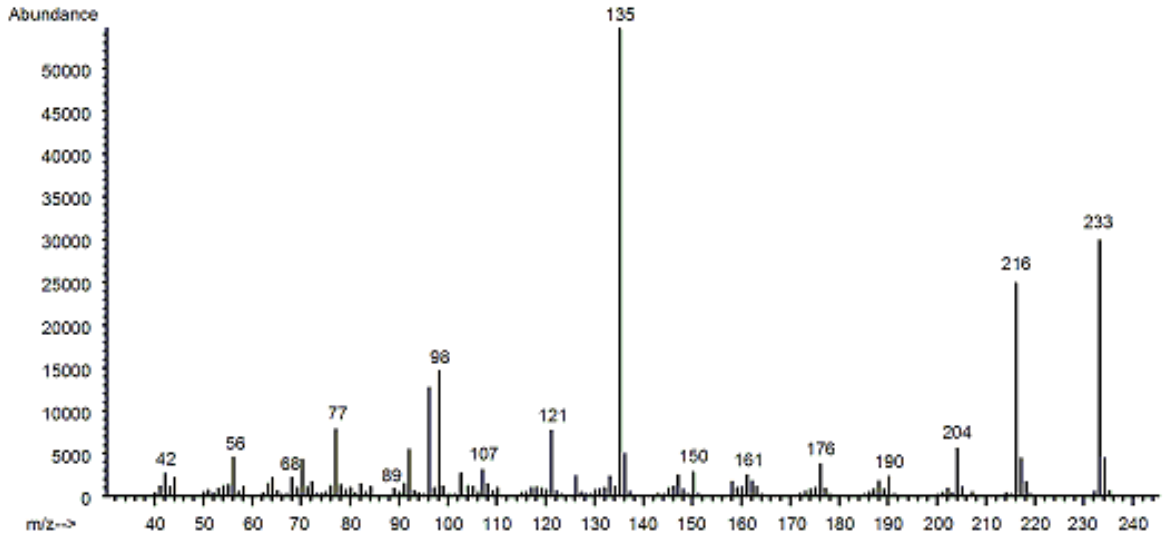
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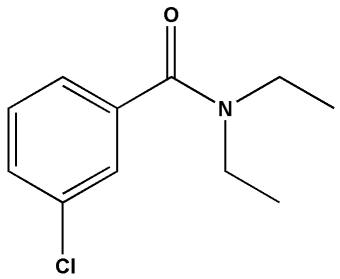
3-CHLORO-*N*,*N*-DIETHYLBENZAMIDE (2c)



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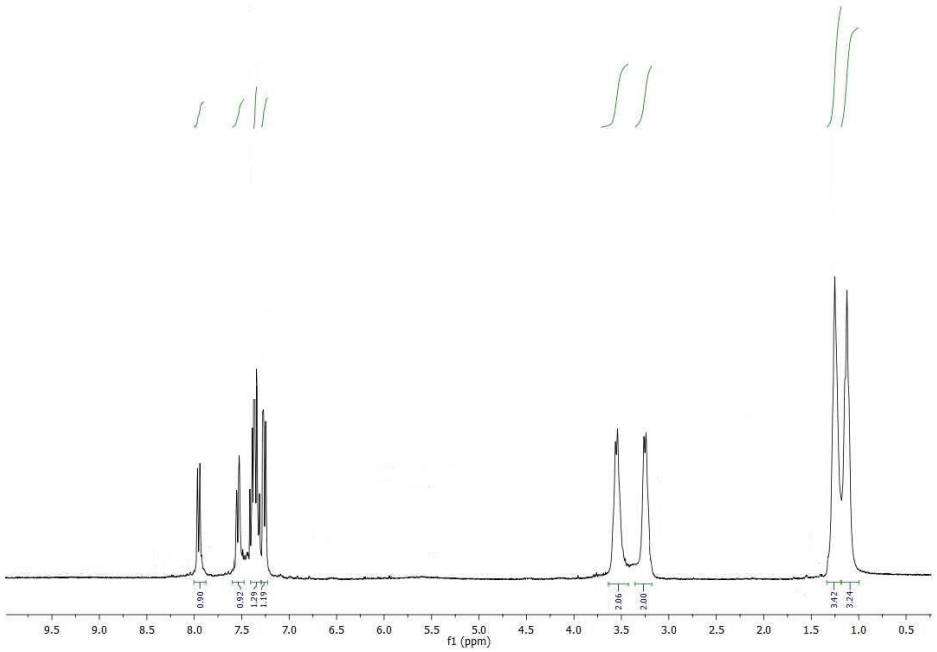

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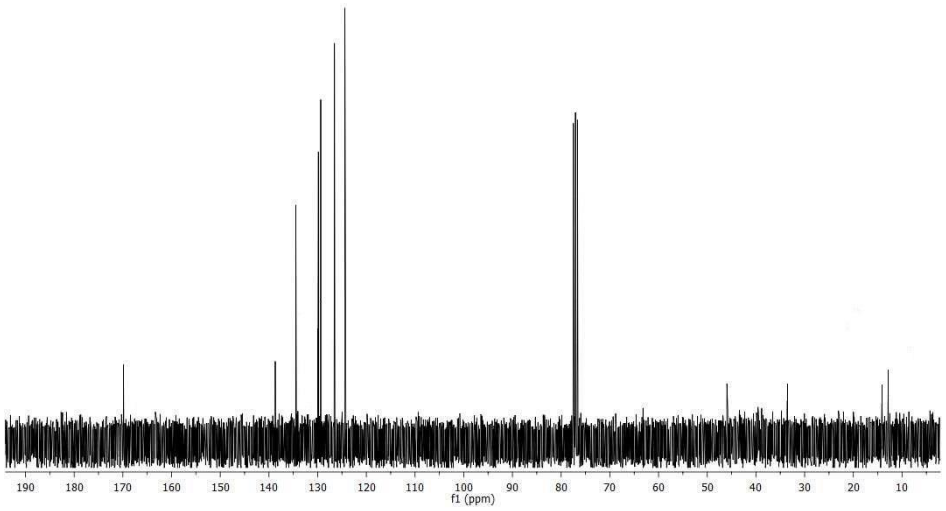

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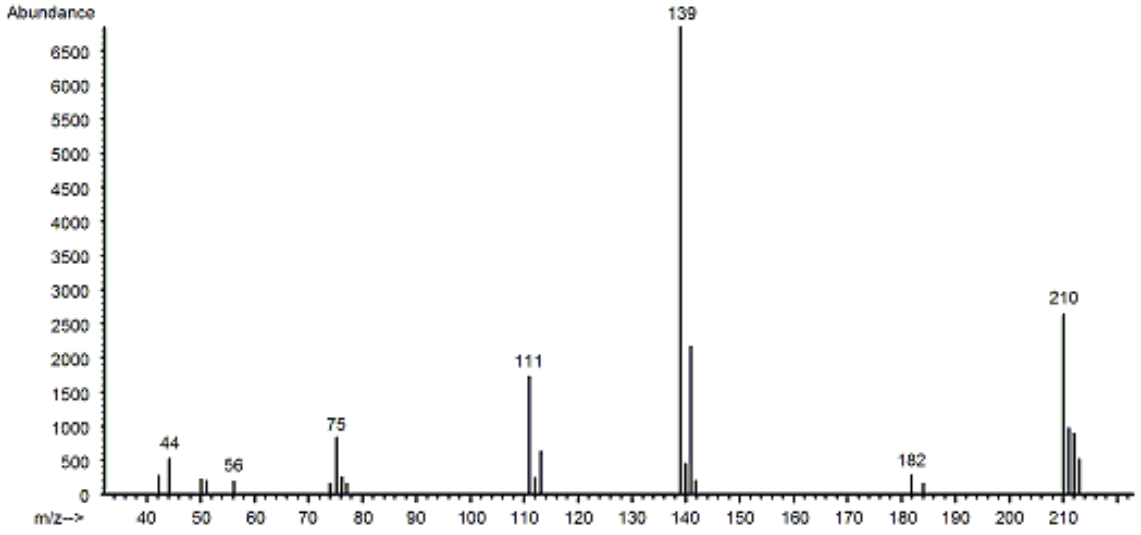
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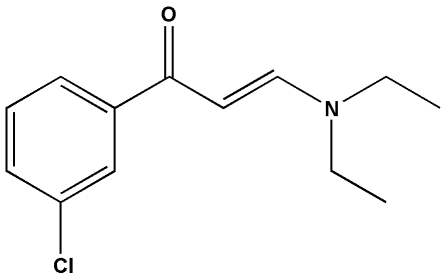
(E)-1-(3-CHLOROPHENYL)-3-(DIETHYLAMINO)PROP-2-EN-1-ONE (3c)



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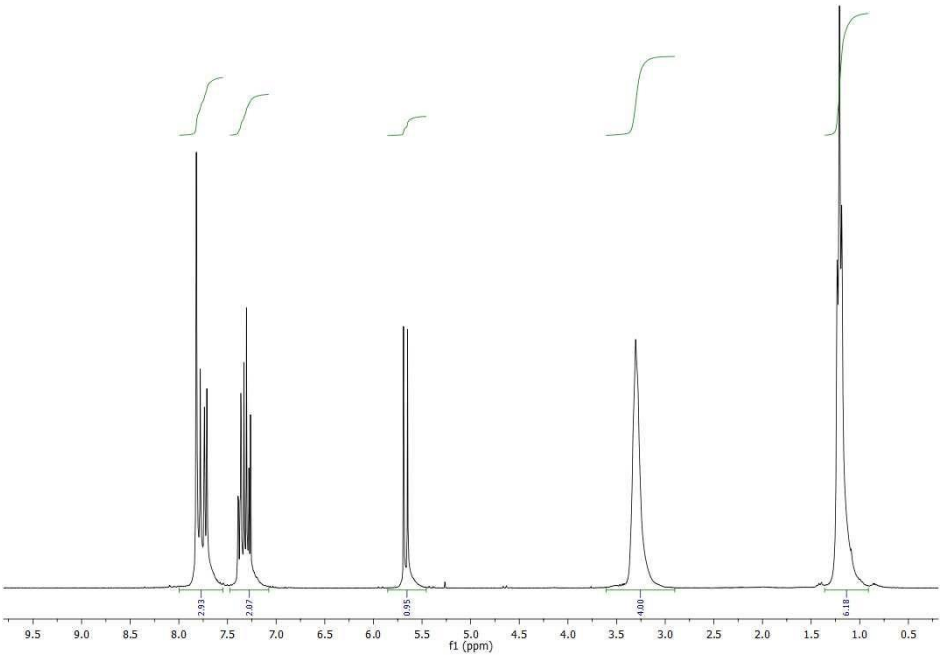

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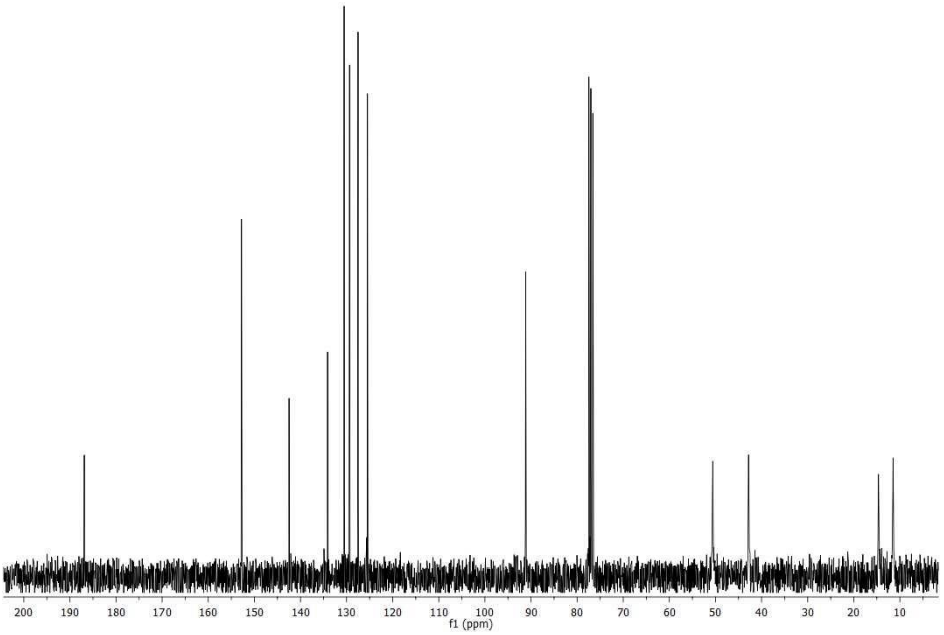

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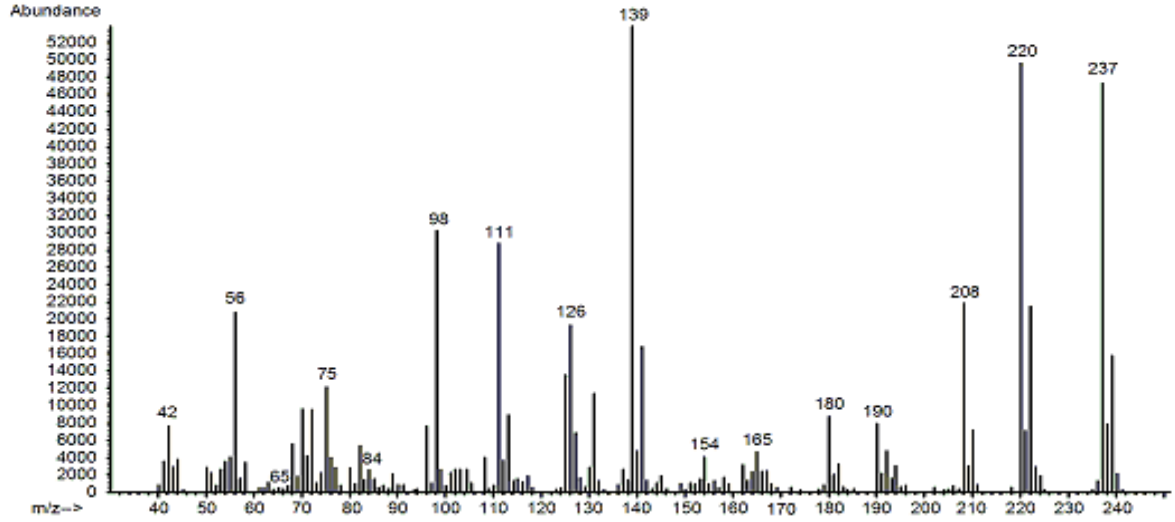
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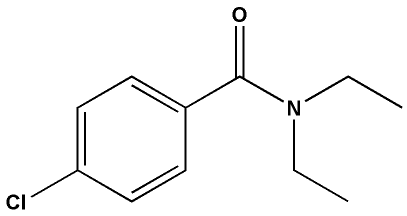
4-CHLORO-*N*,*N*-DIETHYLBENZAMIDE (2d)



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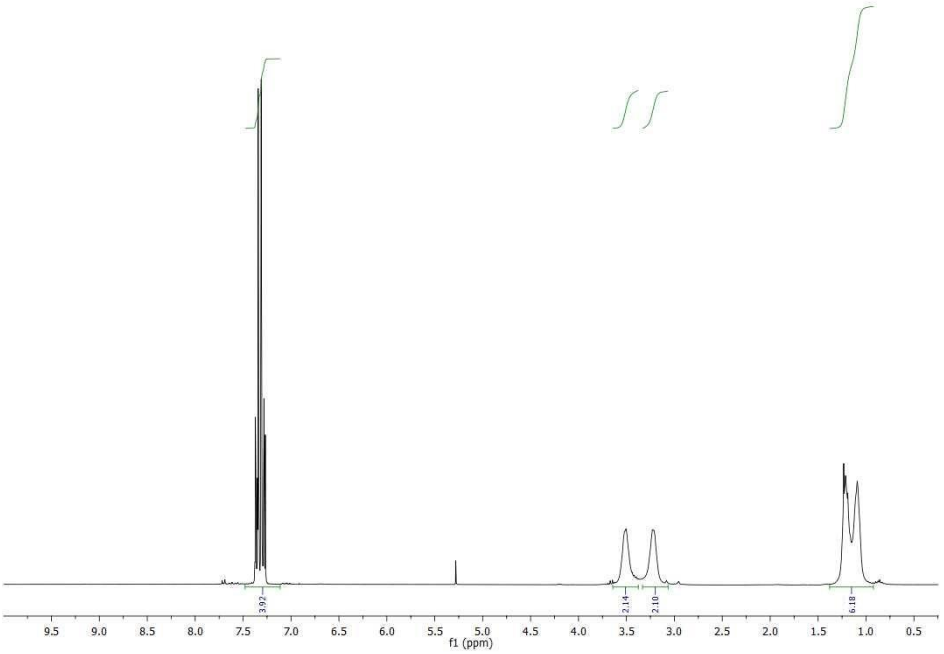

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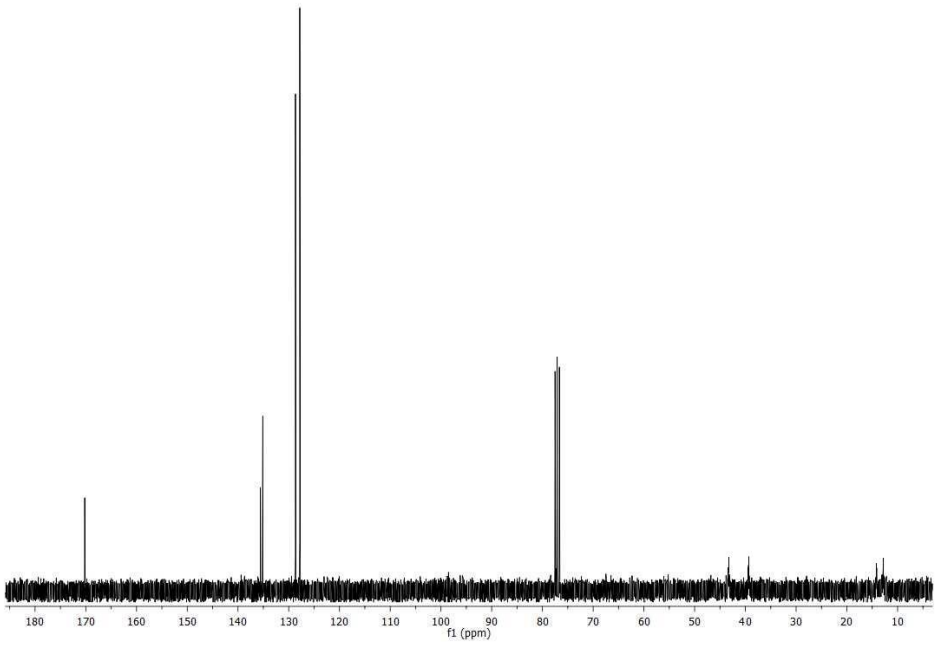

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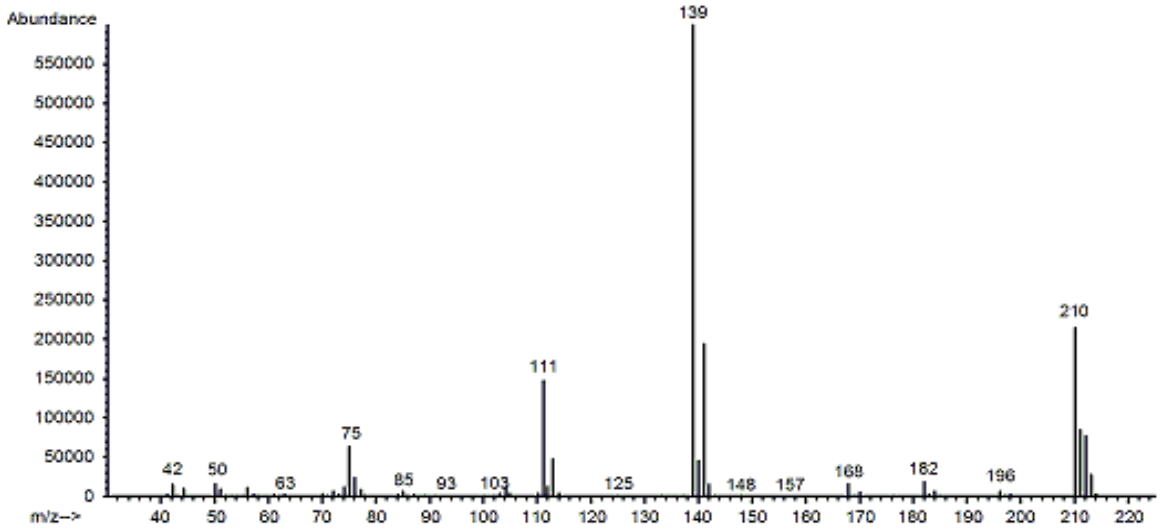
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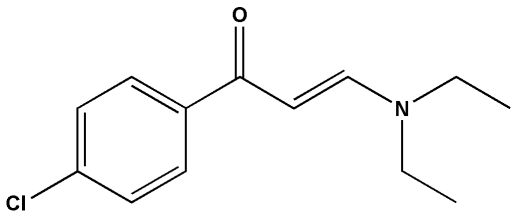
1-(4-CHLOROPHENYL)-3-(DIETHYLAMINO)PROP-2-EN-1-ONE (3d)



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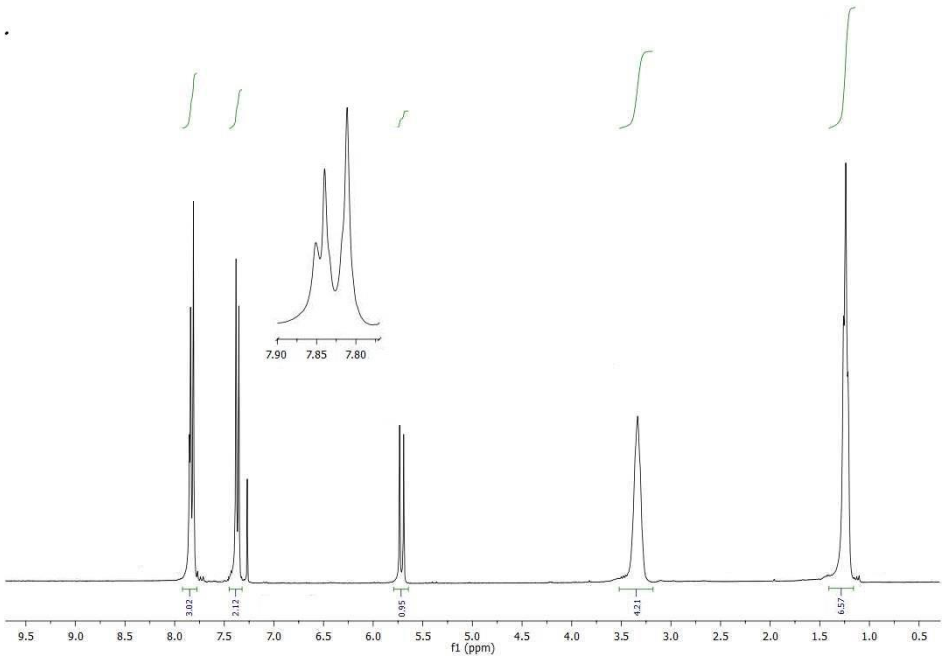

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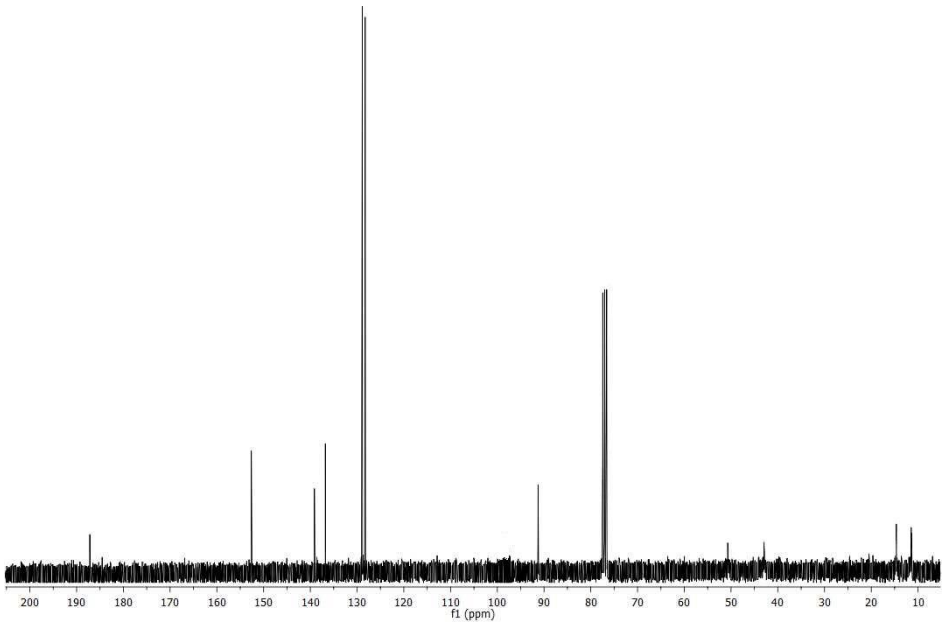

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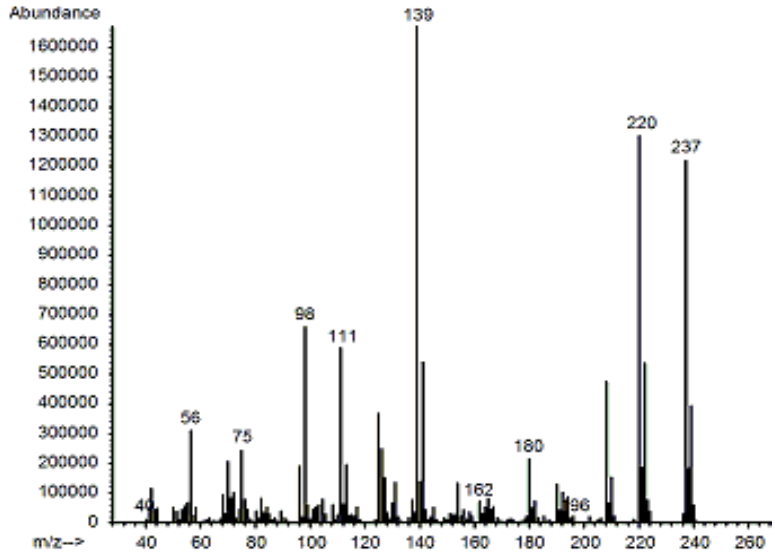
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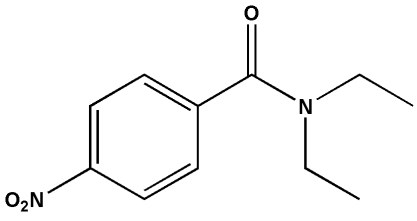
N,*N*-DIETHYL-4-NITROBENZAMIDE (2e)



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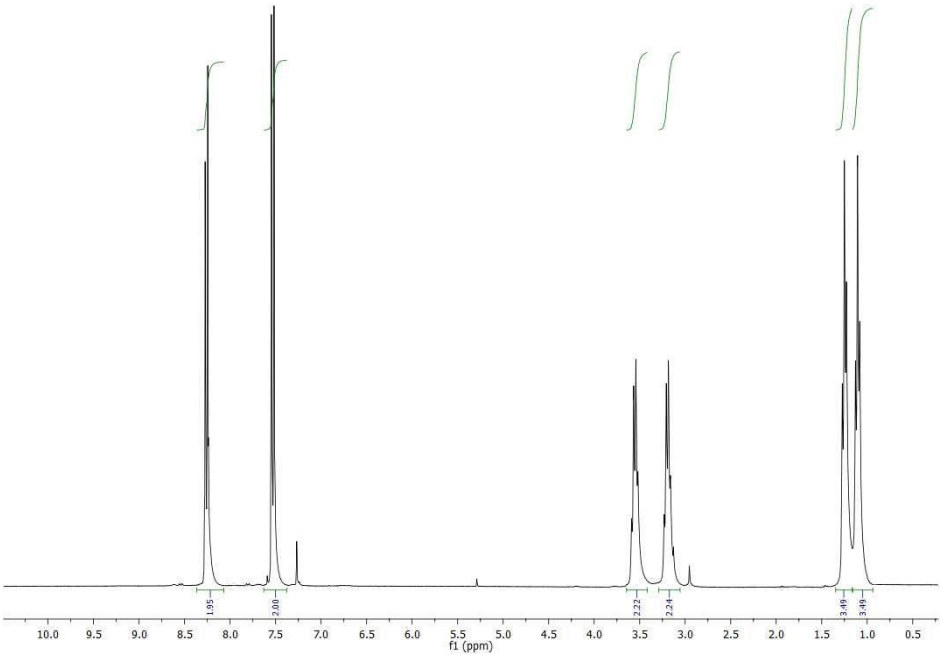

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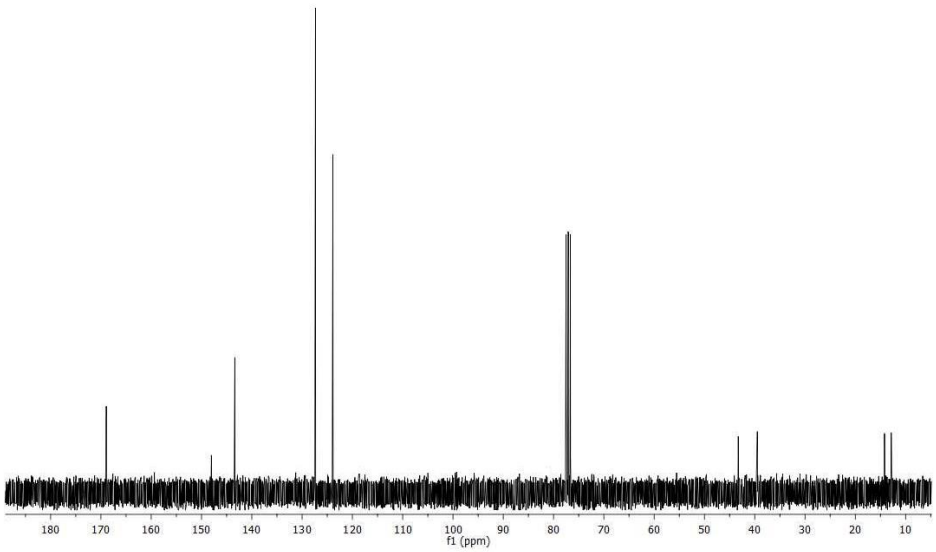

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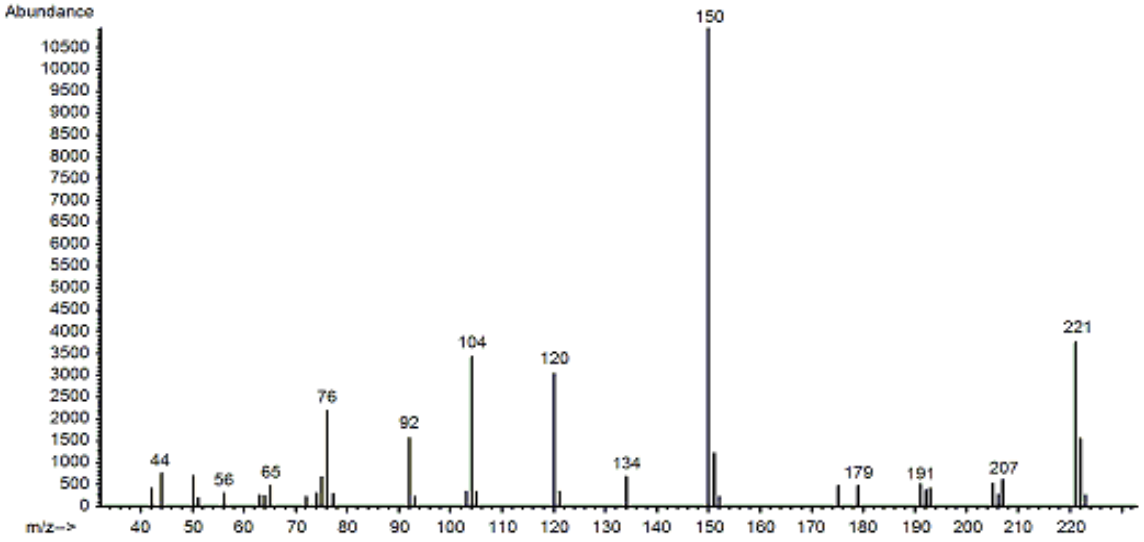
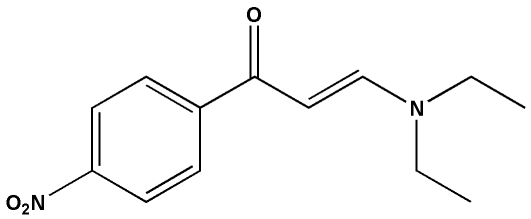


3-(DIETHYLAMINO)-1-(4-NITROPHENYL)PROP-2-EN-1-ONE (3e)



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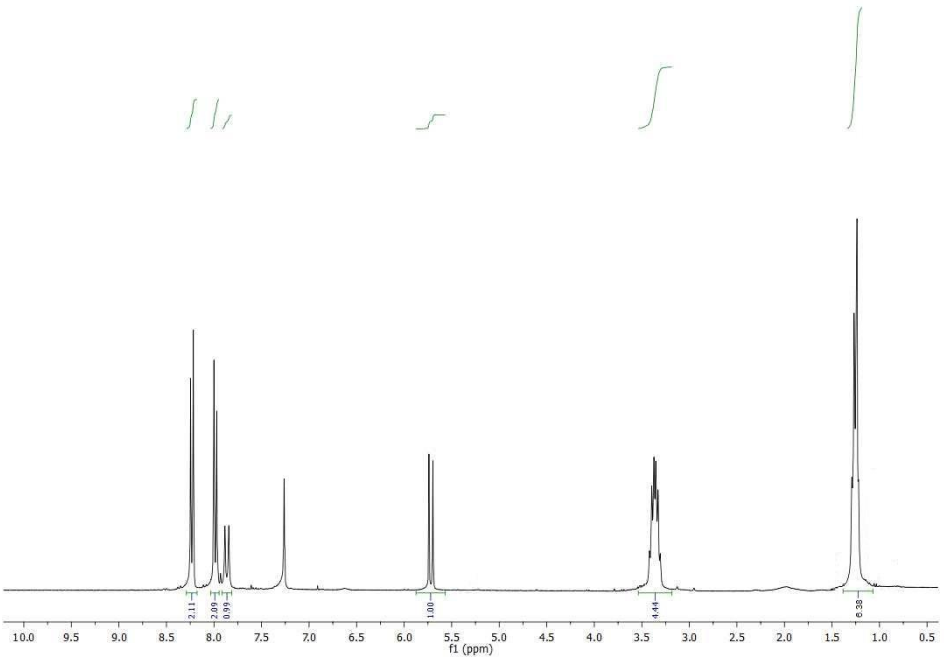

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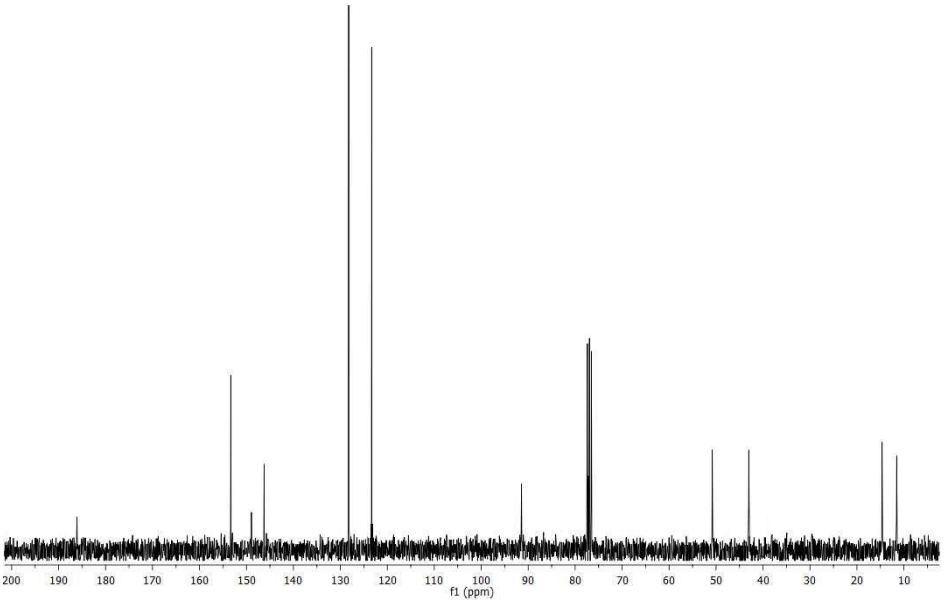

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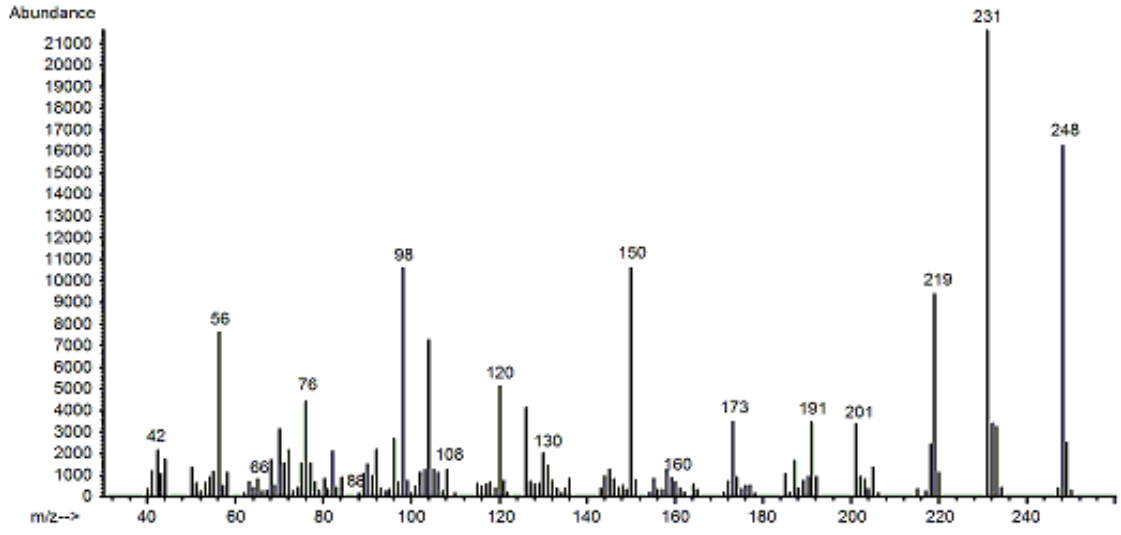
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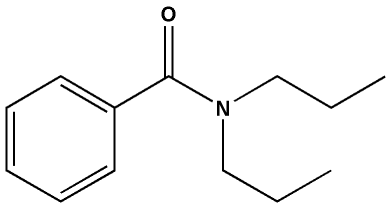
N,*N*-DIPROPYLBENZAMIDE (4a)



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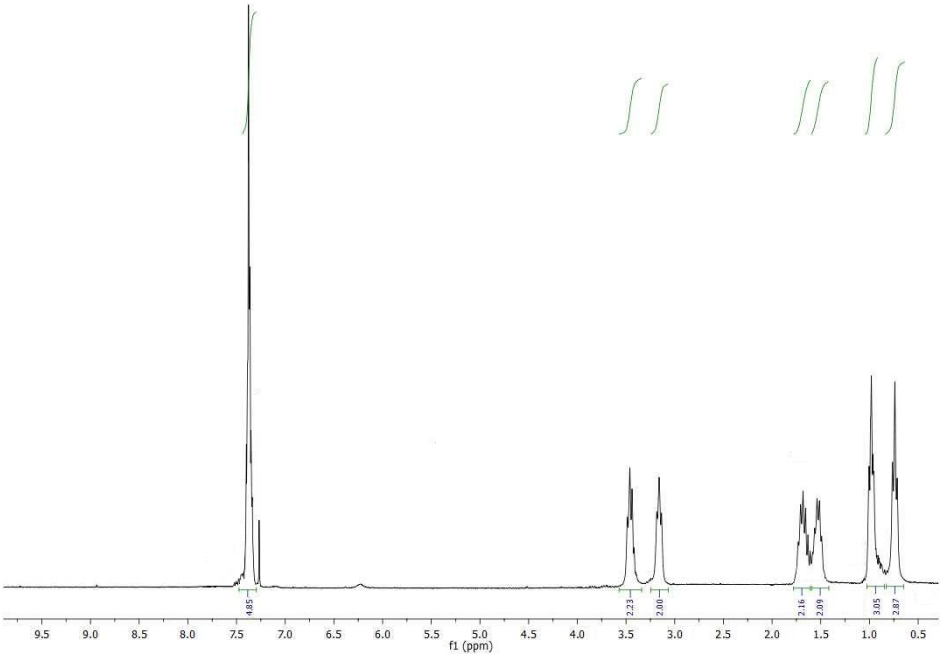

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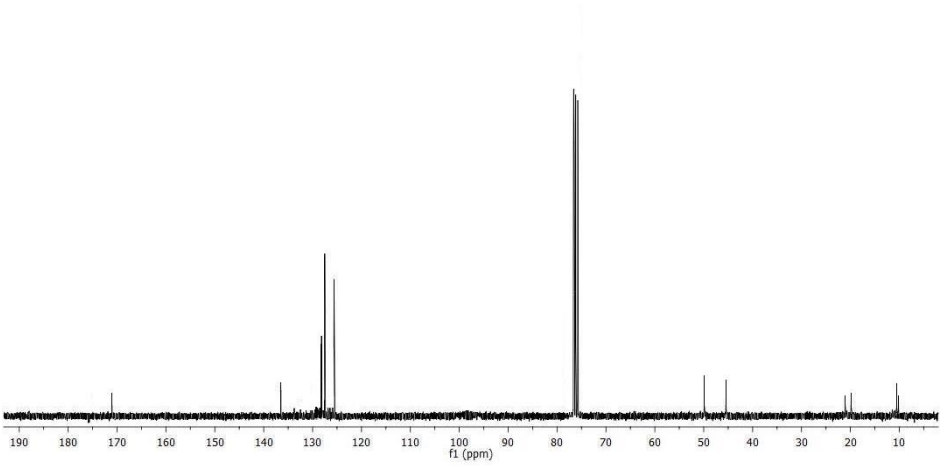

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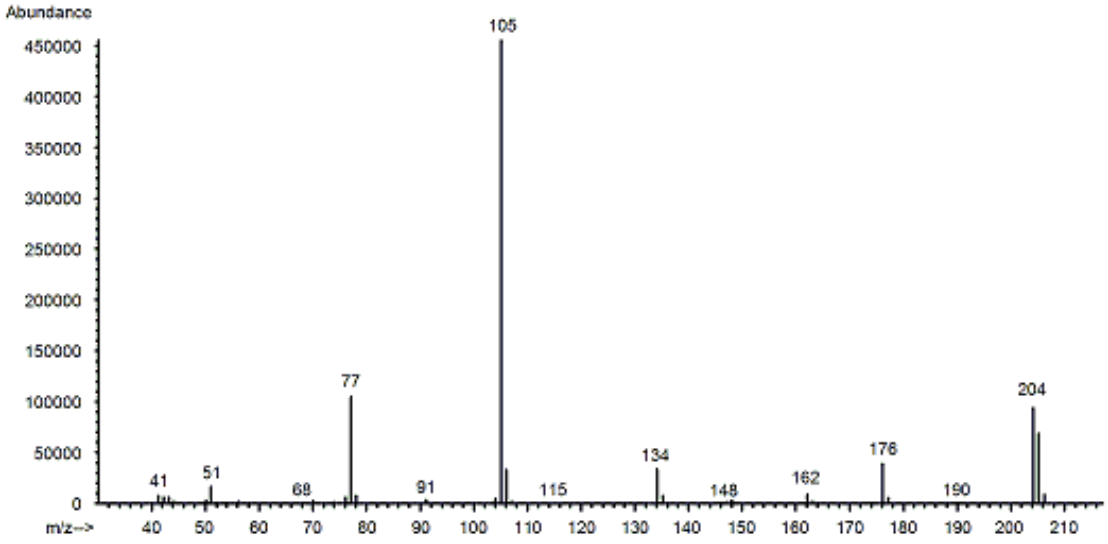
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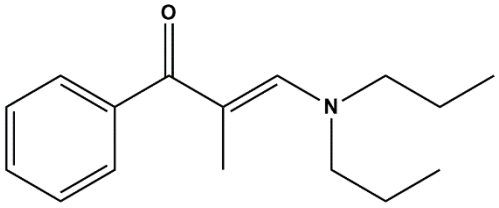
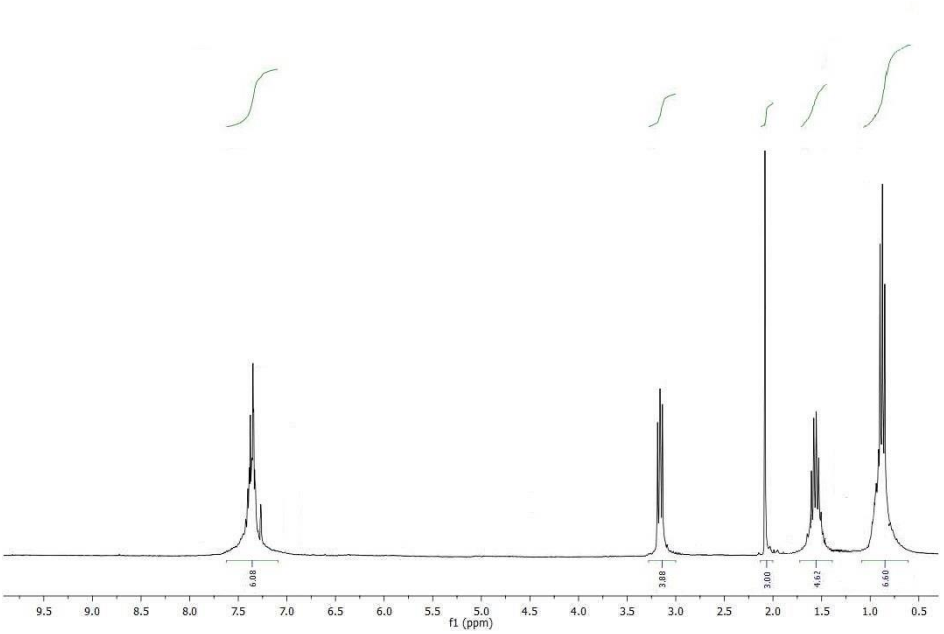
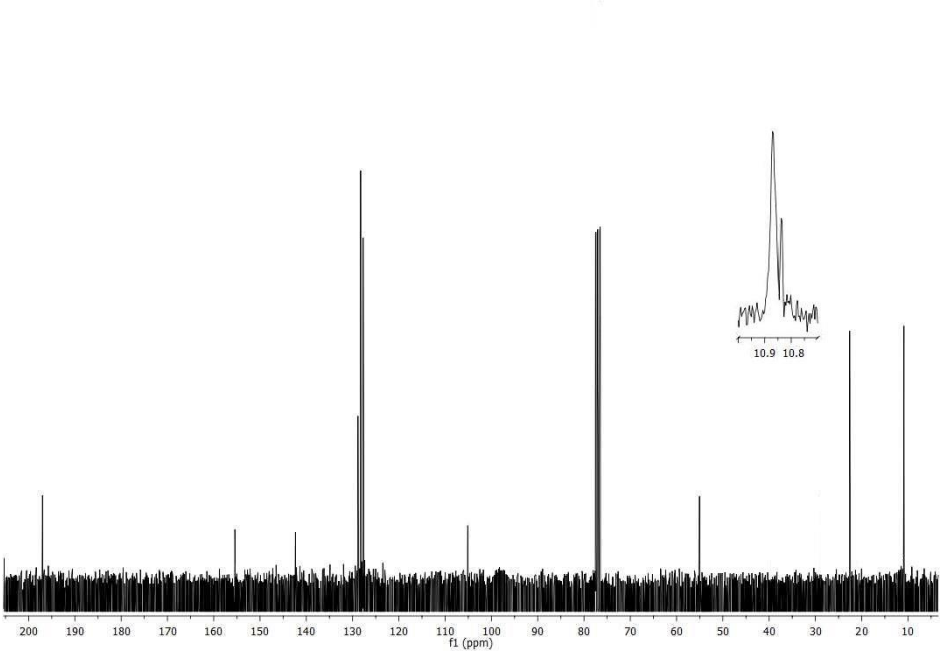
3-(DIPROPYLAMINO)-2-METHYL-1-PHENYLPROP-2-EN-1-ONE (5a)



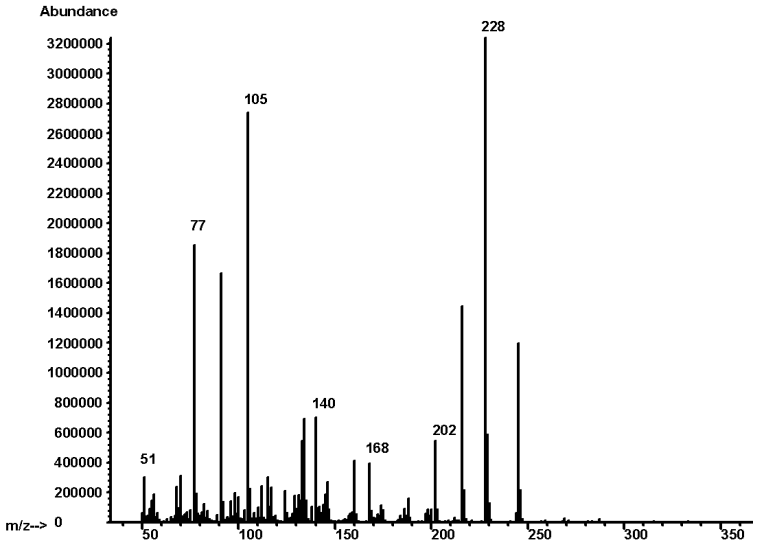
^{1}H NMR



^{13}C NMR



MS (EI)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2000000
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1600000
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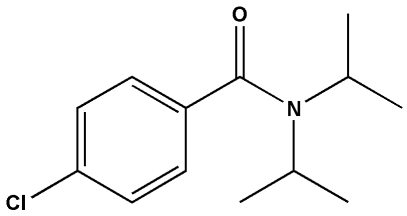
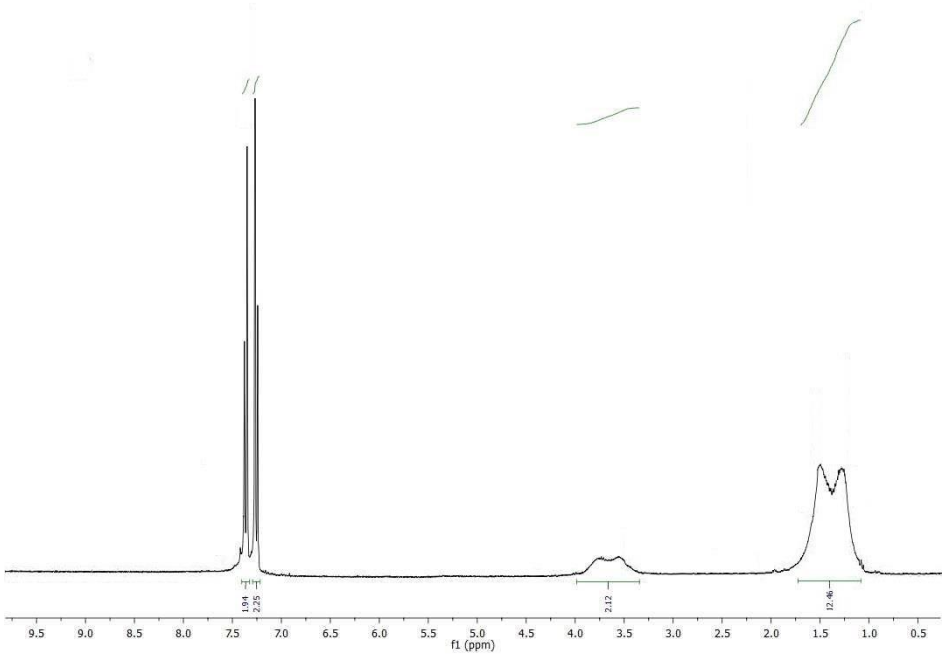
1200000
1000000
800000
600000
400000
200000
0
m/z-->
228
105
77
140
202
168
51
50
100
150
200
250
300
350

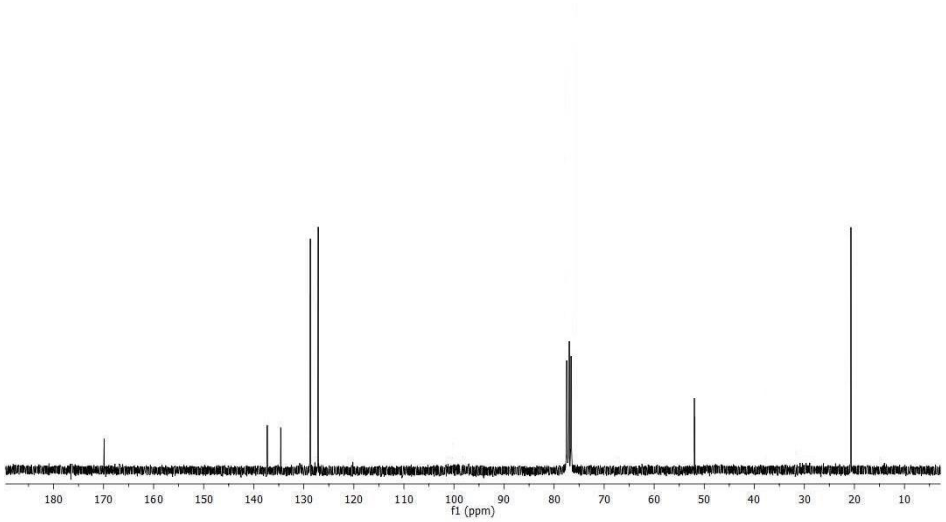
4-CHLORO-*N*,*N*-DIISOPROPYLBENZAMIDE (6d)



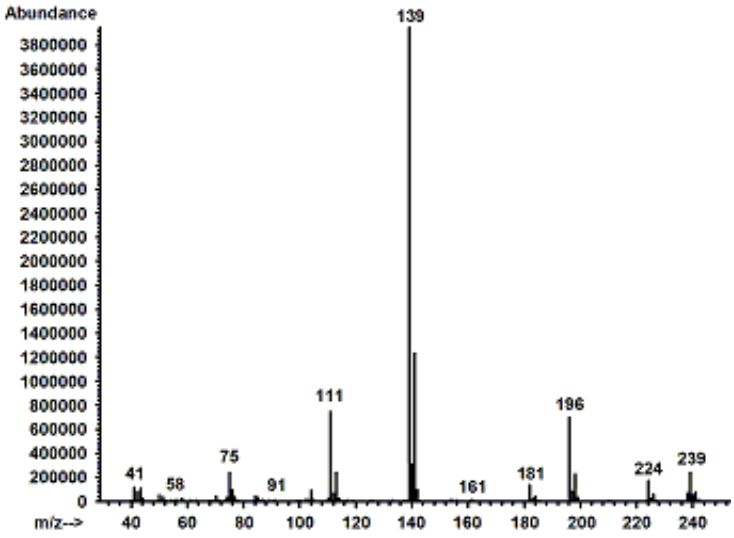
^{1}H NMR



^{13}C NMR



MS (EI)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1600000
1400000
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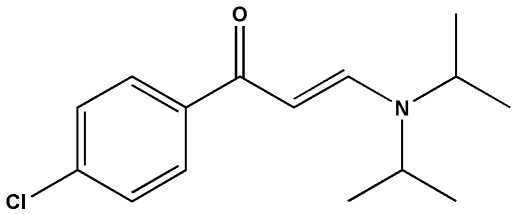
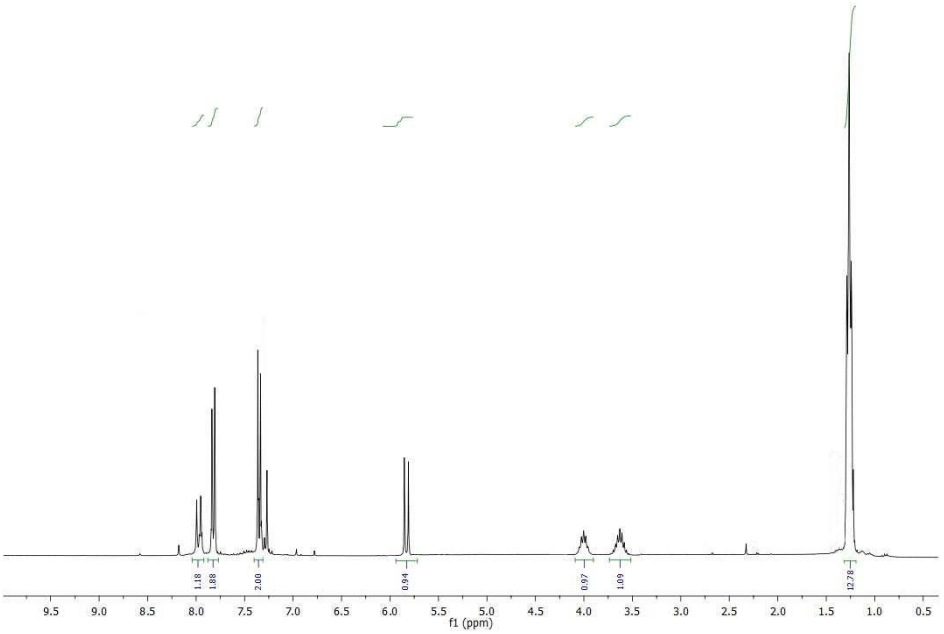
1000000
800000
600000
400000
200000
0
m/z-->
40
60
80
100
120
140
160
180
200
220
240
41
58
75
91
111
139
161
181
196
224
239

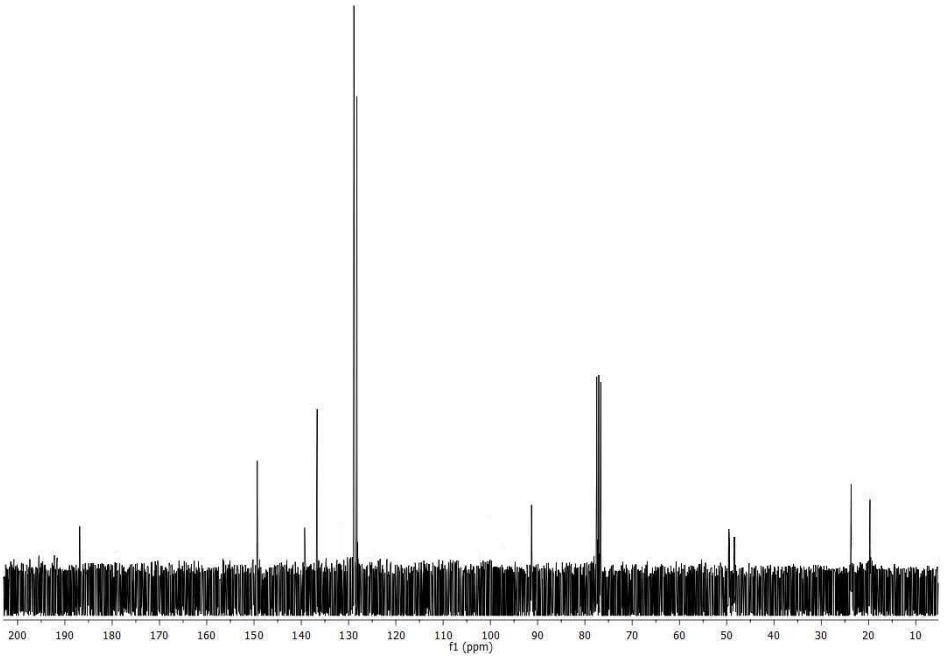
1-(4-CHLOROPHENYL)-3-(DIISOPROPYLAMINO)PROP-2-EN-1-ONE (7d)



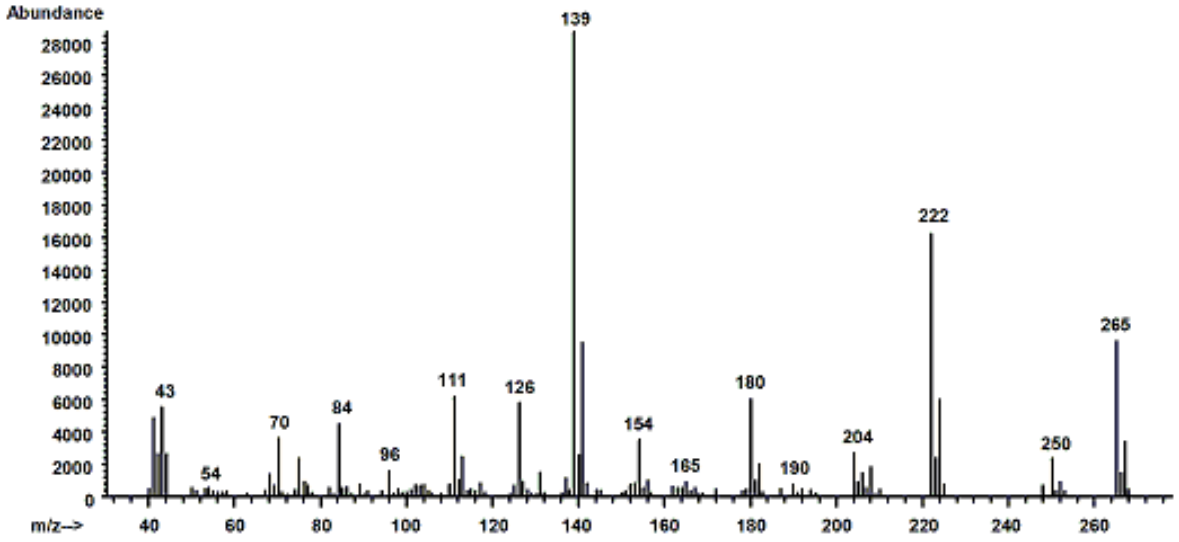
^{1}H NMR



^{13}C NMR



MS (EI)


Abundance
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2000
0
m/z-->
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80
100
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180
200
220
240
260
43
54
70
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154
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180
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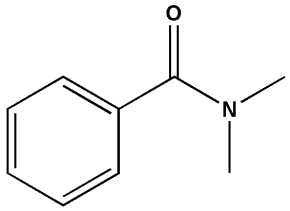
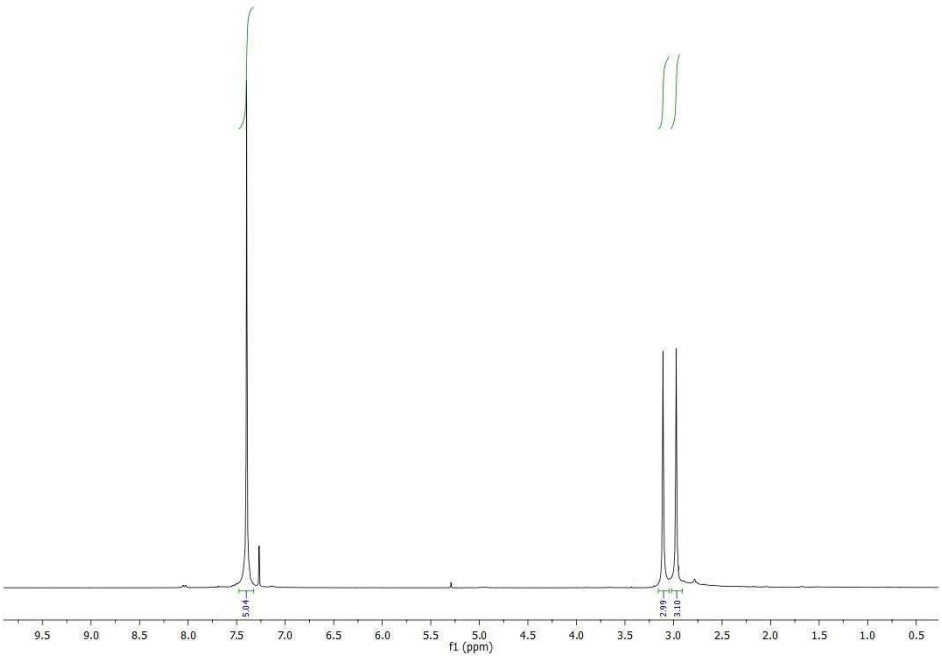
204
222
250
265

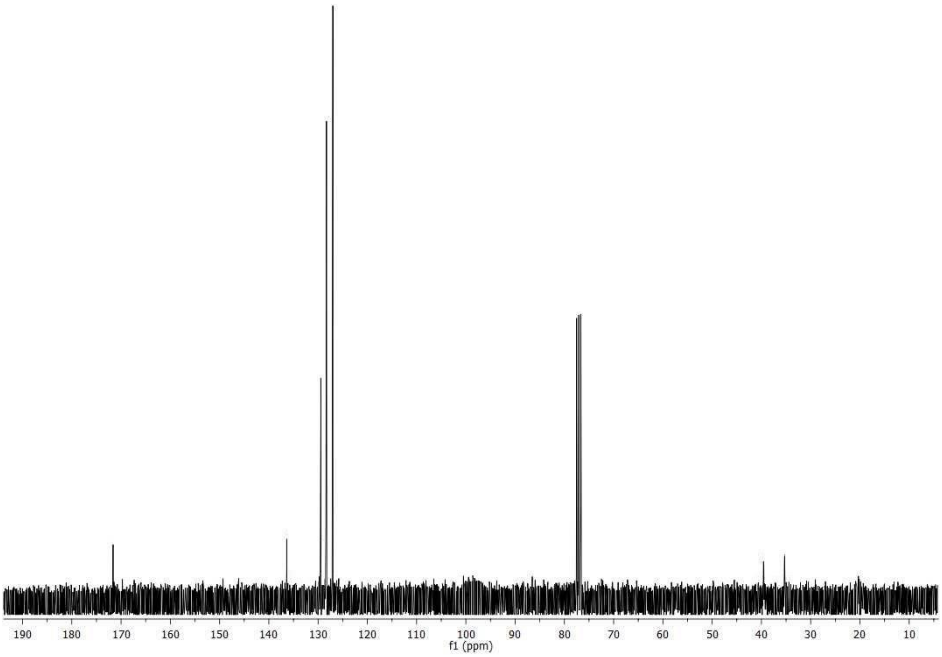
N,N-DIMETHYLBENZAMIDE (8a)



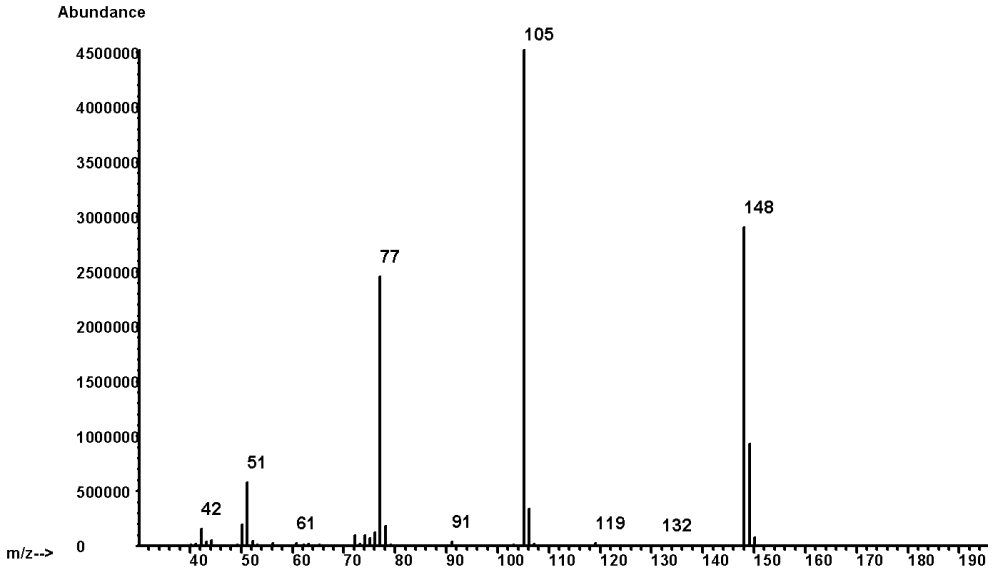
^{1}H NMR



^{13}C NMR



MS (EI)


Abundance
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1500000
1000000
500000
0
m/z-->
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77
51
42
61
91
119
132
40
50
60
70
80
90
100
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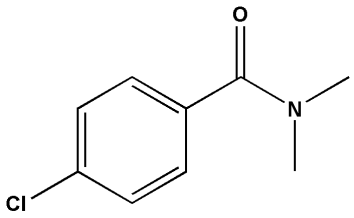
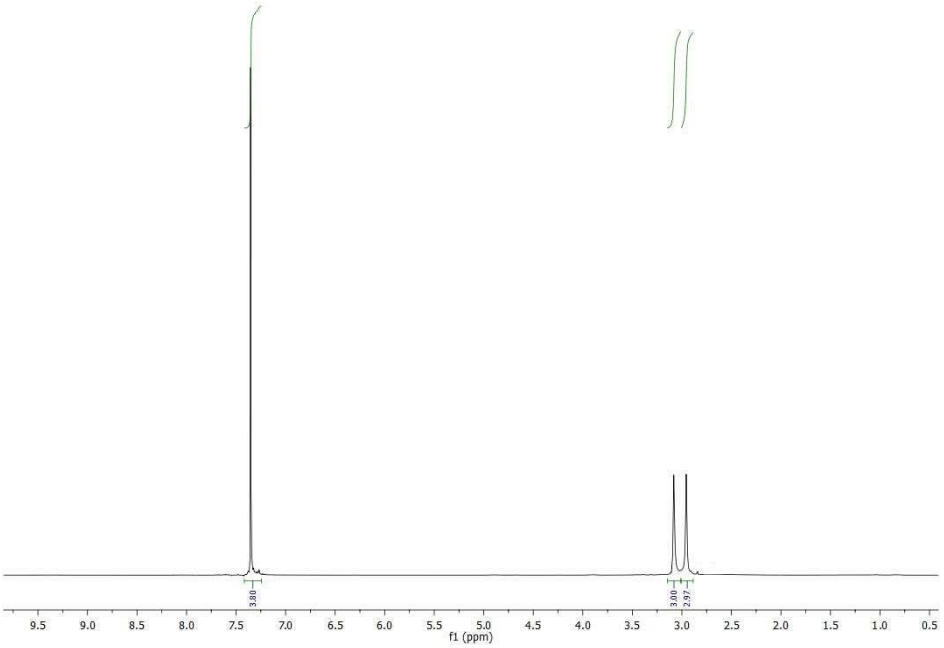
120
130
140
150
160
170
180
190

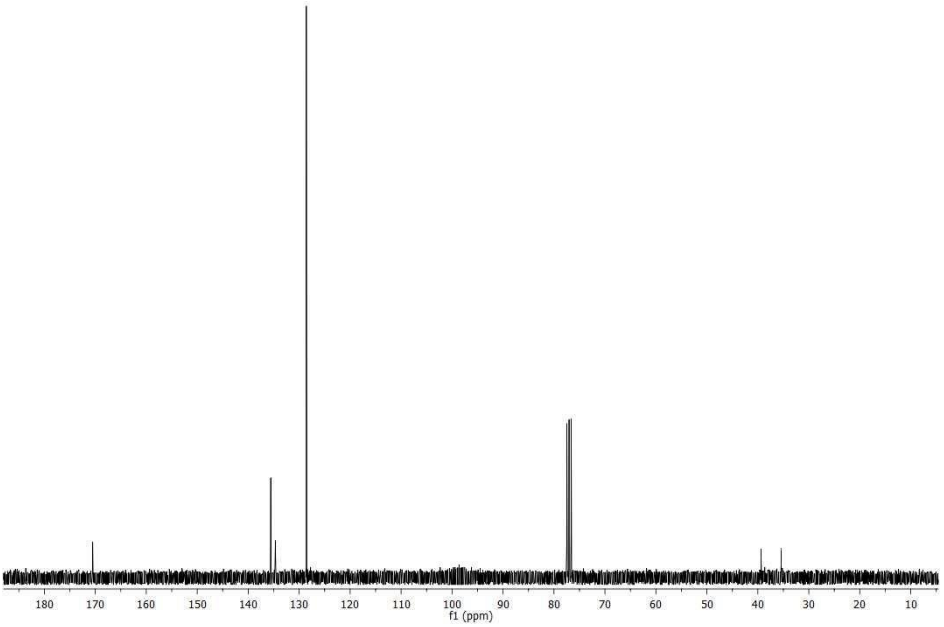
4-CHLORO-*N*,*N*-DIMETHYLBENZAMIDE (8d)



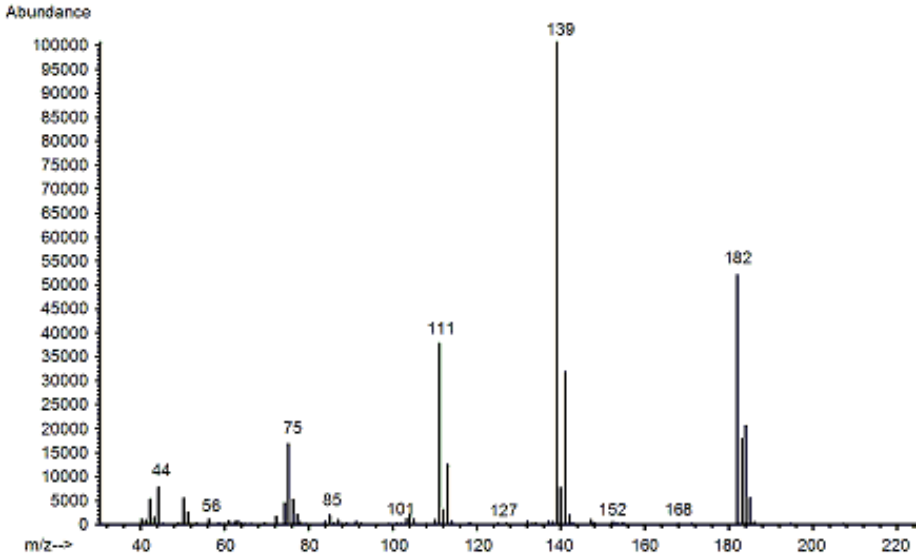
^{1}H NMR



^{13}C NMR



MS (EI)


Abundance
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45000
40000
35000
30000
25000
20000
15000
10000
5000
0
m/z-->
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60
80
100
120
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200
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182
111
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44
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85
101
127
152
168