

SUPPORTING INFORMATION

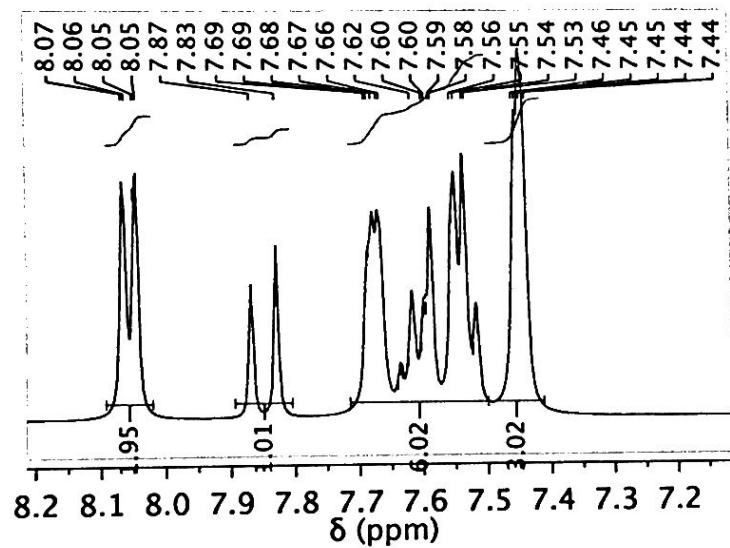
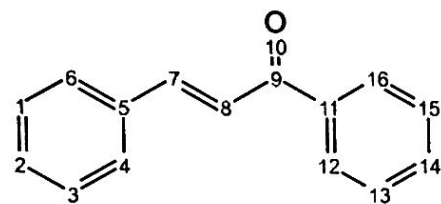
CARBON-CARBON BOND FORMATION IN ACID DEEP EUTECTIC SOLVENT: CHALCONES SYNTHESIS VIA CLAISEN-SCHMIDT REACTION

Matteo Tiecco, Raimondo Germani, Fabio Cardellini

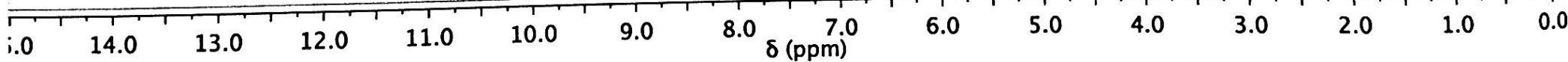
^1H -NMR and ^{13}C -NMR spectra of all the compounds synthesized:

- (1) (2E)-1,3-diphenylprop-2-en-1-one**
- (2) (2E)-3-(4-hydroxyphenyl)-1-phenylprop-2-en-1-one**
- (3) (2E)-3-(4-nitrophenyl)-1-phenylprop-2-en-1-one**
- (4) (2E)-3-(2-nitrophenyl)-1-phenylprop-2-en-1-one**
- (5) (2E)-3-(4-hydroxy-3-methoxyphenyl)-1-phenylprop-2-en-1-one**
- (6) (2E)-3-(2,4-dichlorophenyl)-1-phenylprop-2-en-1-one**
- (7) (2E)-3-(2-chloro-5-nitrophenyl)-1-phenylprop-2-en-1-one**
- (8) (2E)-3-(4-methoxyphenyl)-1-phenylprop-2-en-1-one**
- (9) (2E)-1-(2-hydroxyphenyl)-3-phenylprop-2-en-1-one**
- (10) (2E)-1-(3-hydroxyphenyl)-3-phenylprop-2-en-1-one**
- (11) (2E)-1-(4-methoxyphenyl)-3-phenylprop-2-en-1-one**
- (12) (2E)-1-[4-(dimethylamino)phenyl]-3-phenylprop-2-en-1-one**
- (13) (2E)-1,3-bis(3,4-dimethoxyphenyl)prop-2-en-1-one**
- (14) (2E,4E)-1,5-diphenylpenta-2,4-dien-1-one**

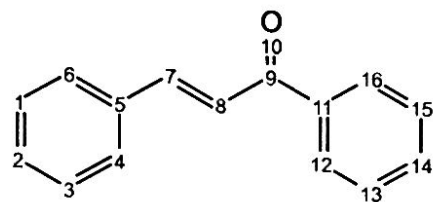
(1)



1.95
1.01
6.02
3.02



(1)



—190.55

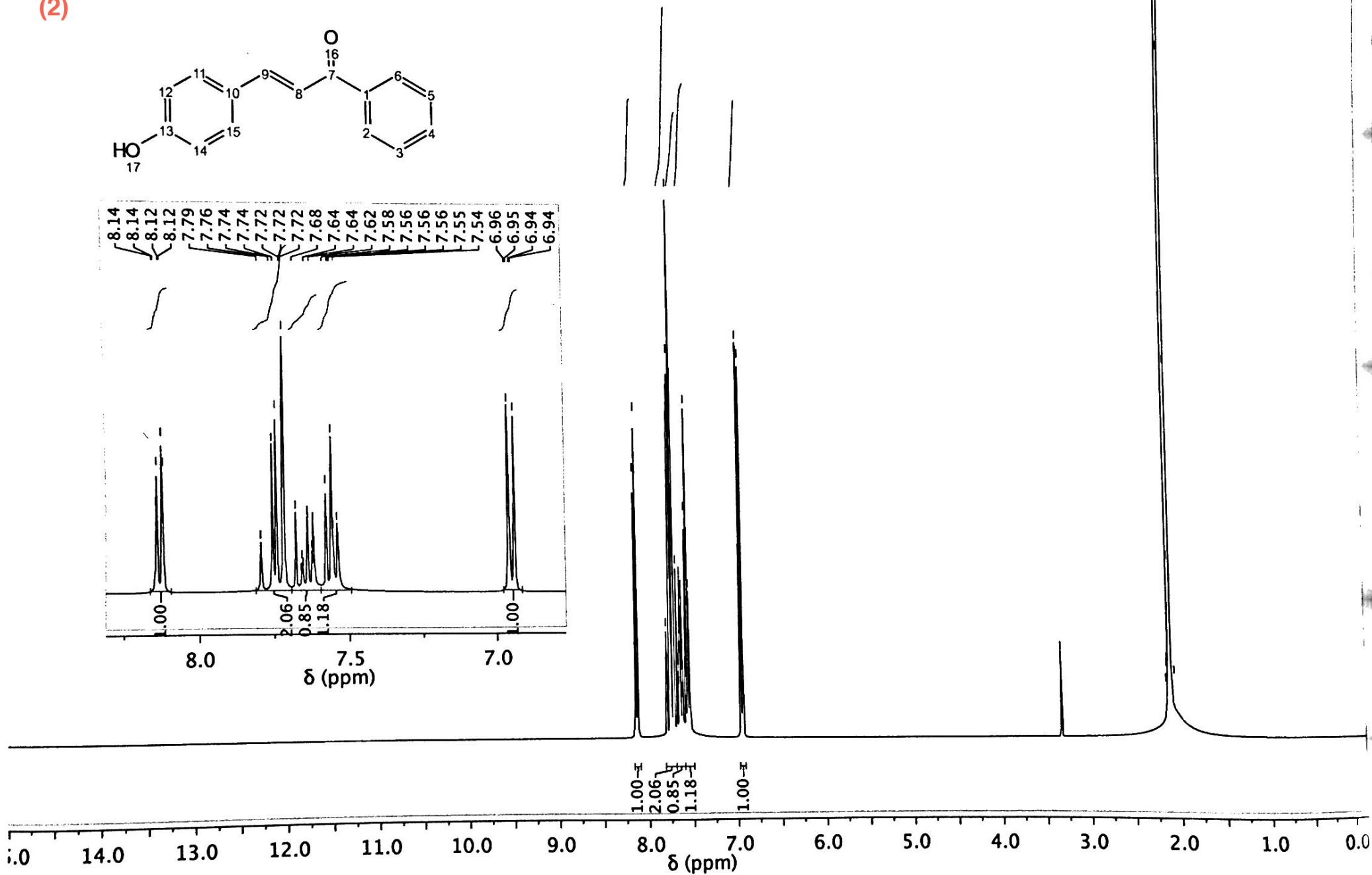
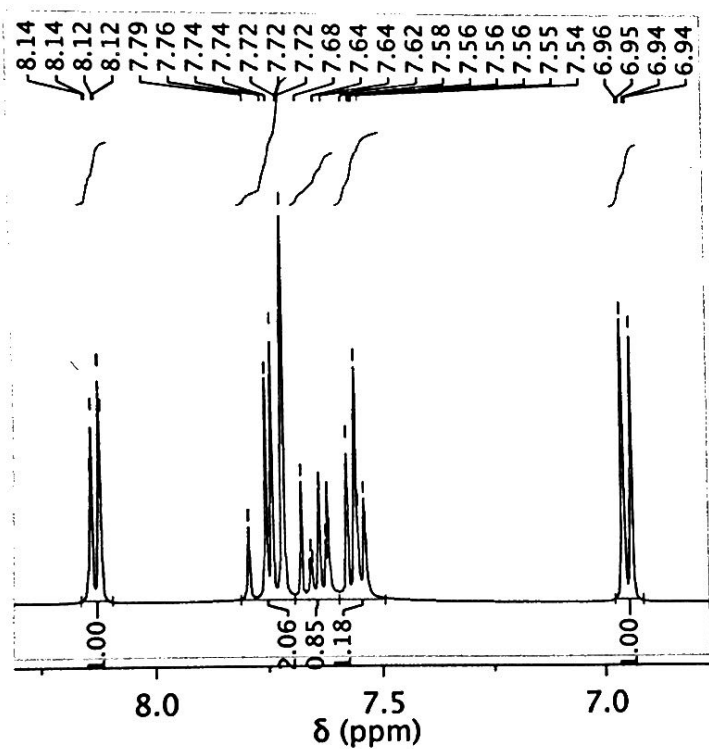
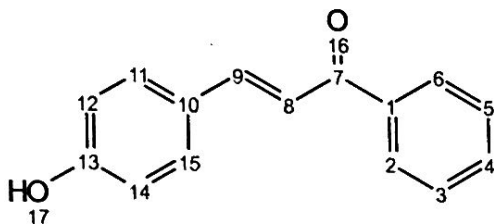
144.85
138.22
134.90
132.81
130.57
128.98
128.65
128.53
128.47
—122.10

77.39
77.07
76.75

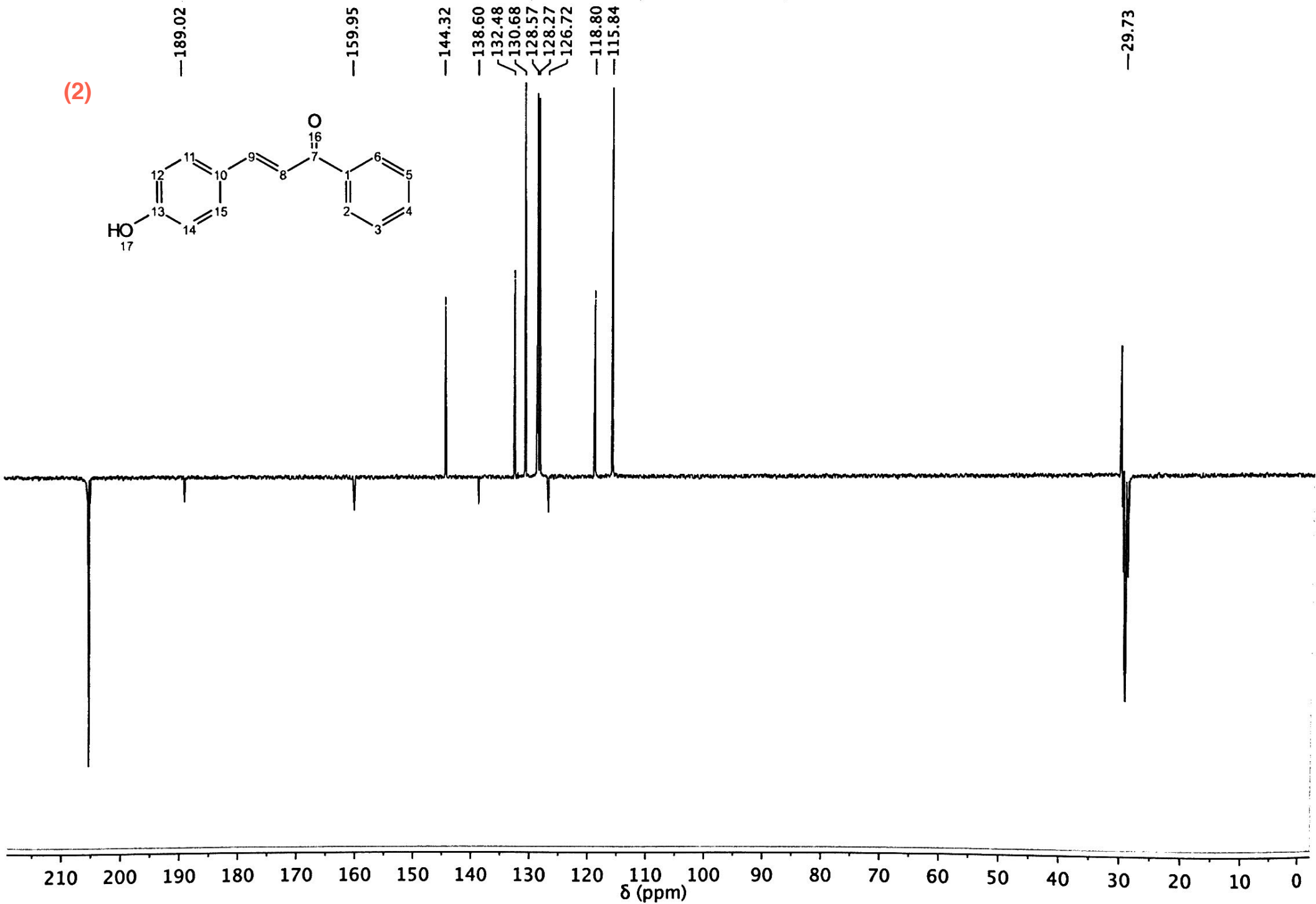
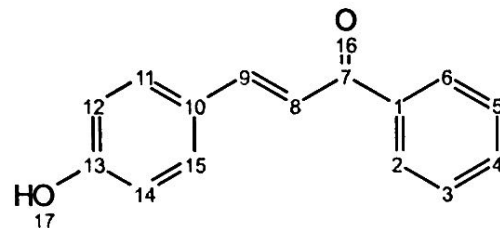
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δ (ppm)

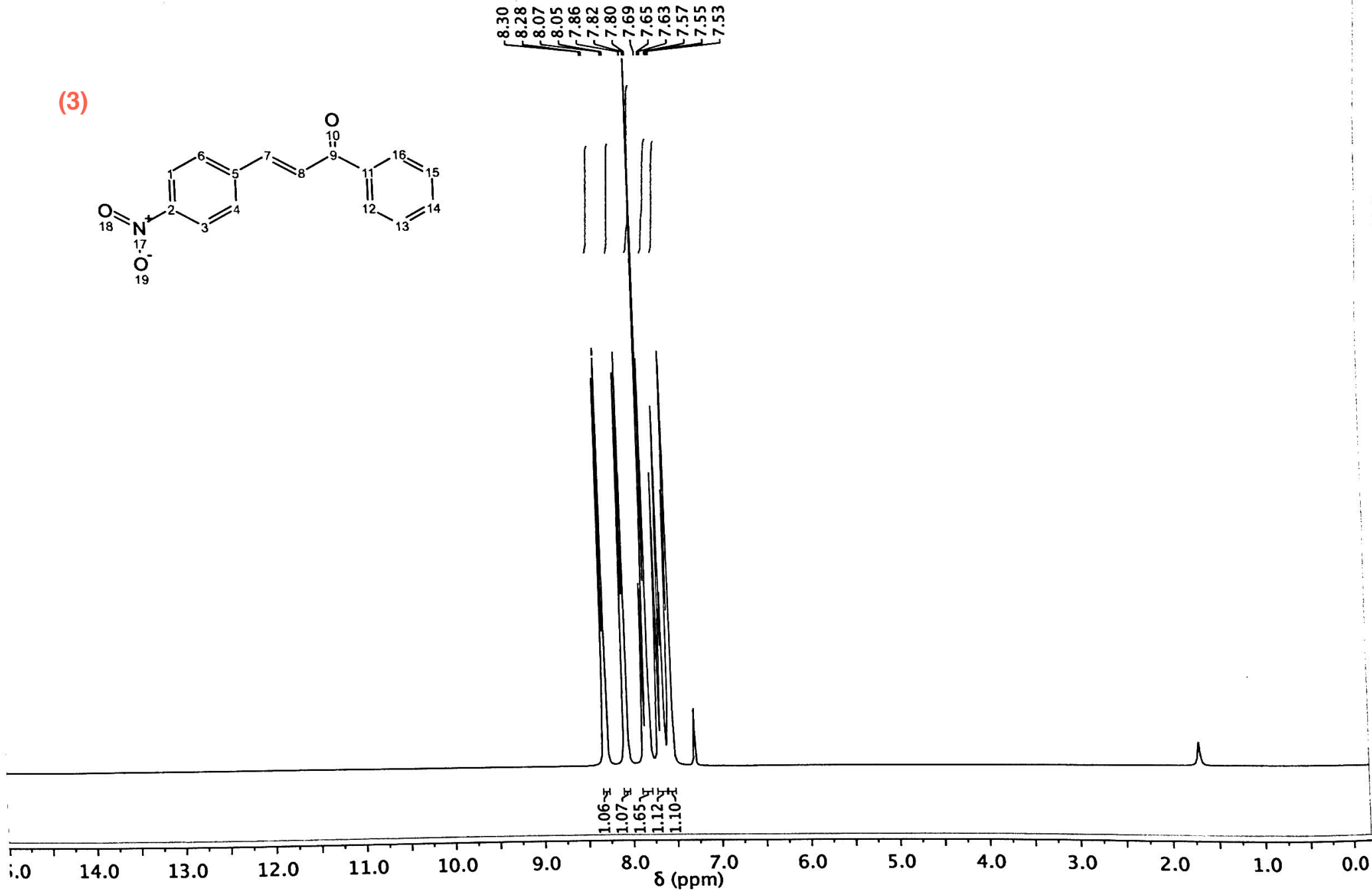
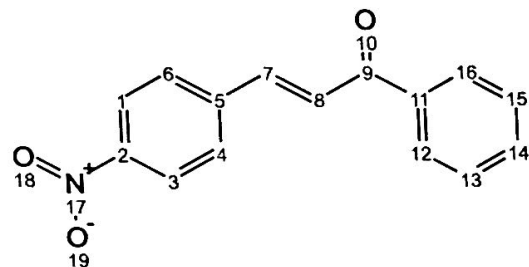
8.14
8.14
8.12
8.12
7.79
7.76
7.74
7.74
7.72
7.72
7.72
7.68
7.66
7.66
7.65
7.64
7.64
7.62
7.62
7.62
7.62
7.58
7.56
7.56
7.56
7.55
7.54
7.54
7.53
6.96
6.95
6.94
6.94



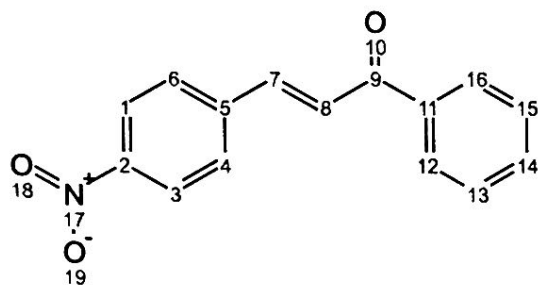
(2)



(3)



(3)



—189.62

—148.55

141.50

141.05

137.53

133.38

128.95

128.83

128.60

125.71

124.22

77.38

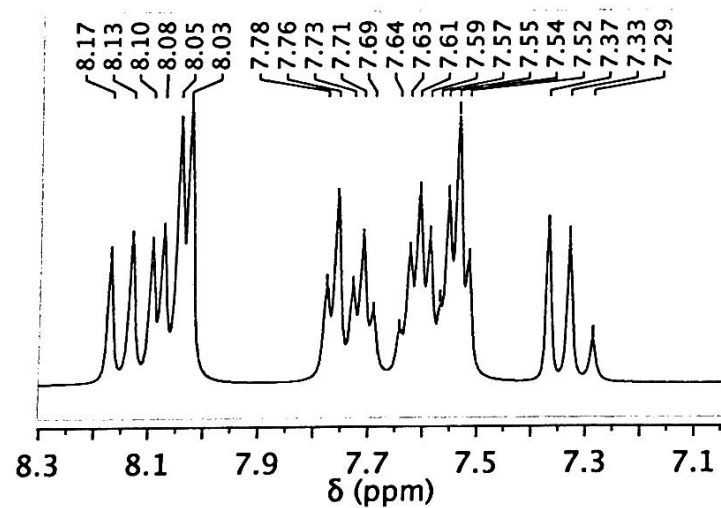
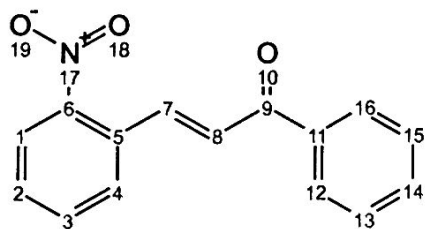
77.06

76.74

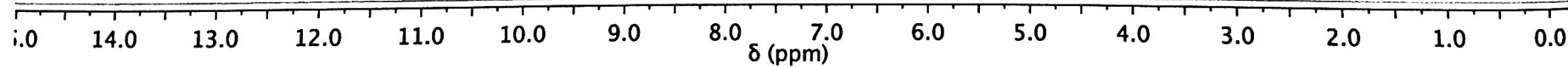
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δ (ppm)

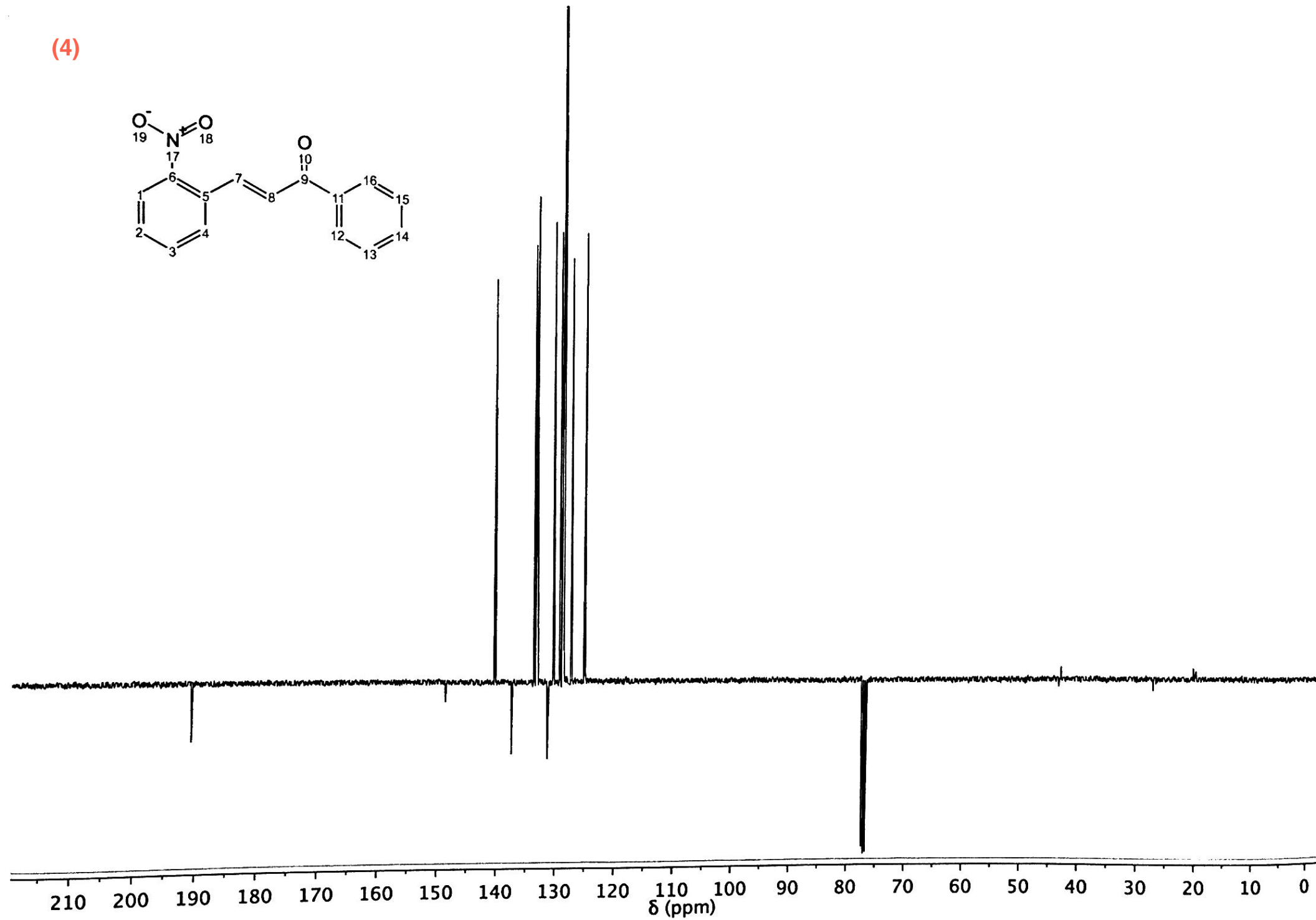
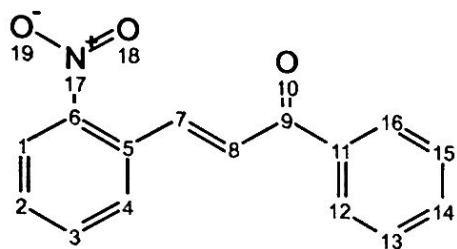
(4)



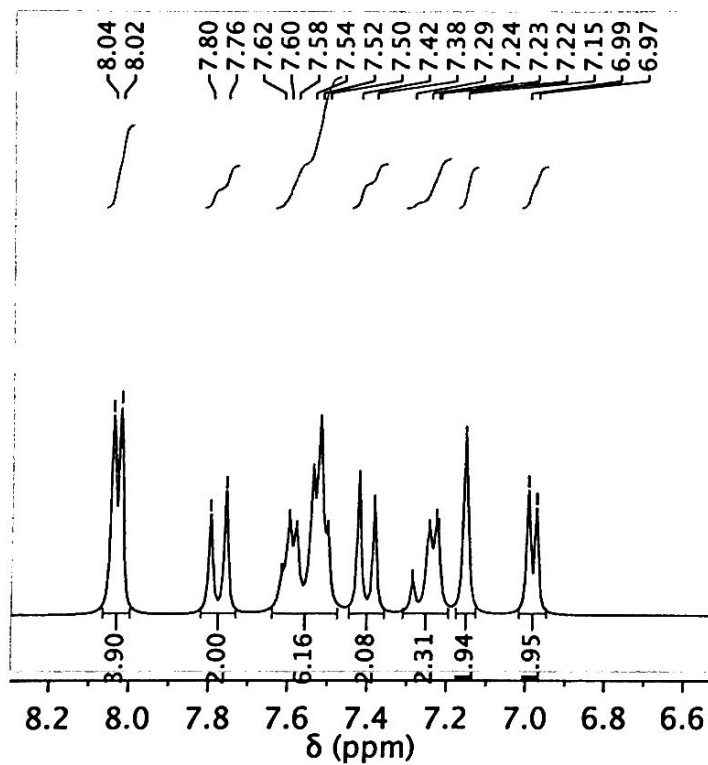
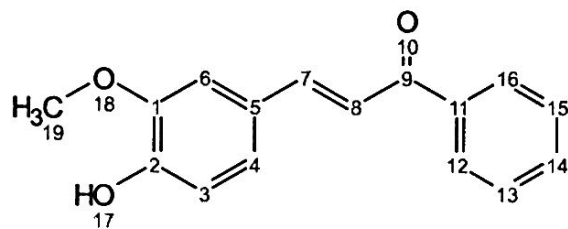
~1.46
~1.06
~0.92



(4)

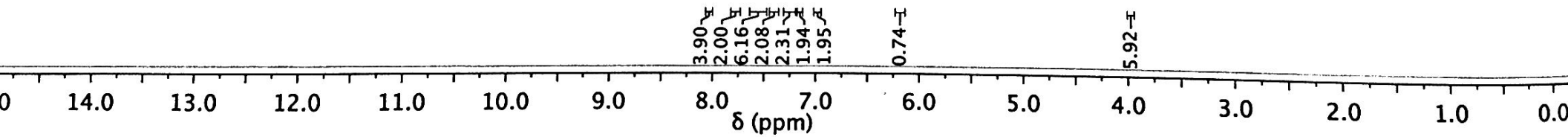


(5)

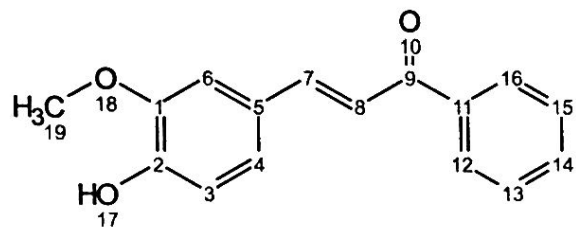


8.04
8.02
7.80
7.76
7.62
7.60
7.58
7.54
7.52
7.50
7.42
7.38
7.29
7.24
7.23
7.22
7.15
6.99
6.97
6.19
6.16

3.98
3.97
3.96



(5)



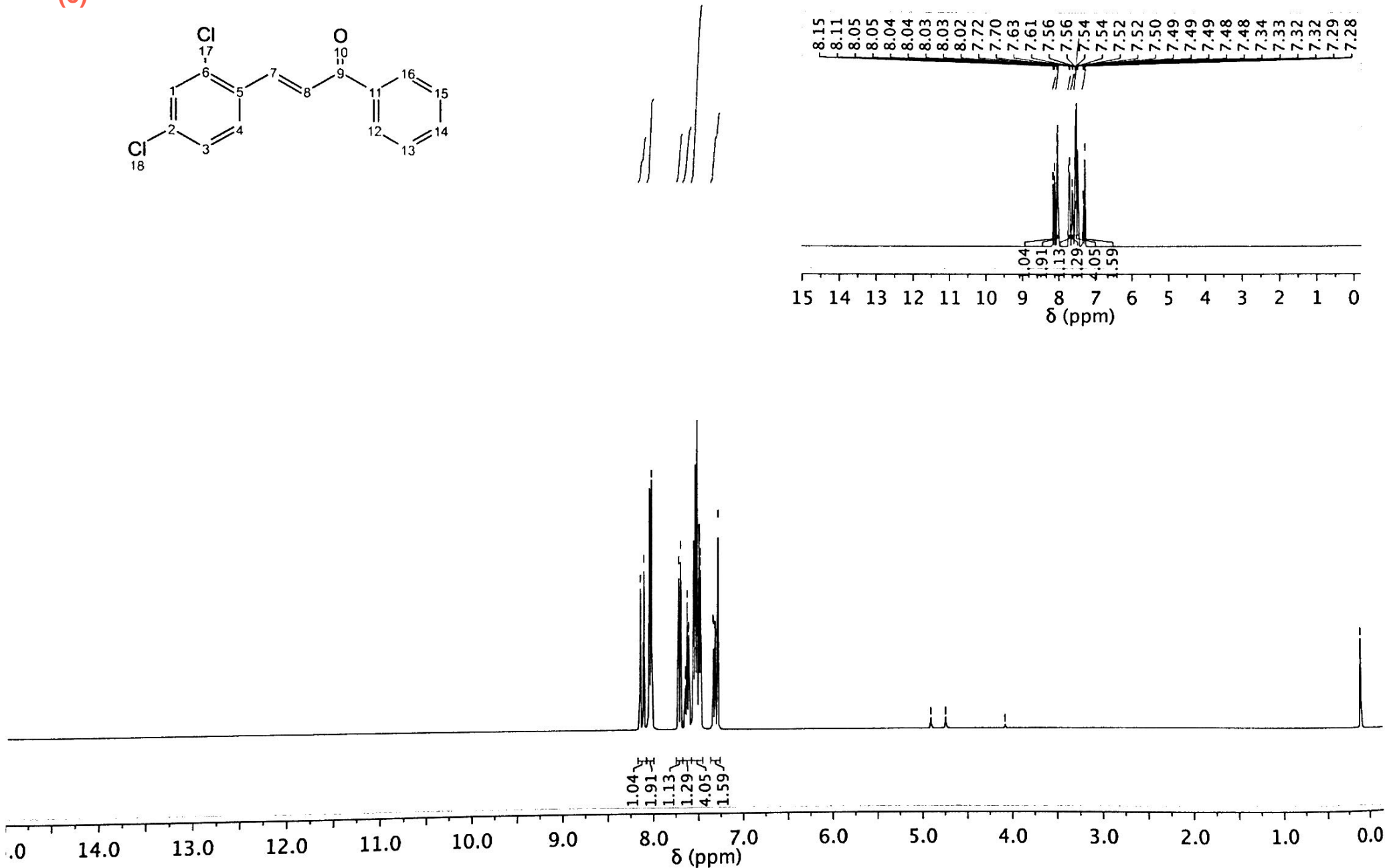
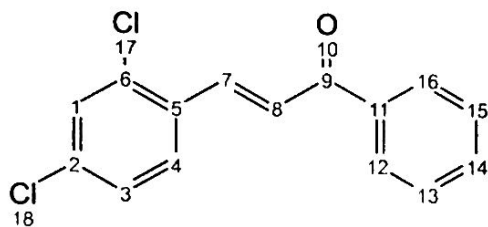
—190.71

148.34
146.88
145.35
145.32
145.28
138.49
132.59
128.58
128.44
127.45
123.43
119.80
119.76
114.94
114.91
110.08
110.03

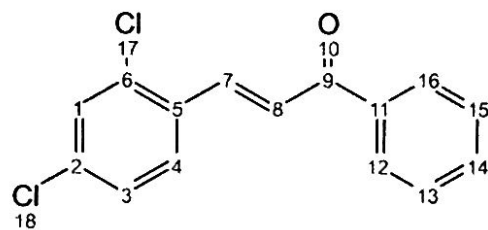
—56.02

210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0 -10
δ (ppm)

(6)



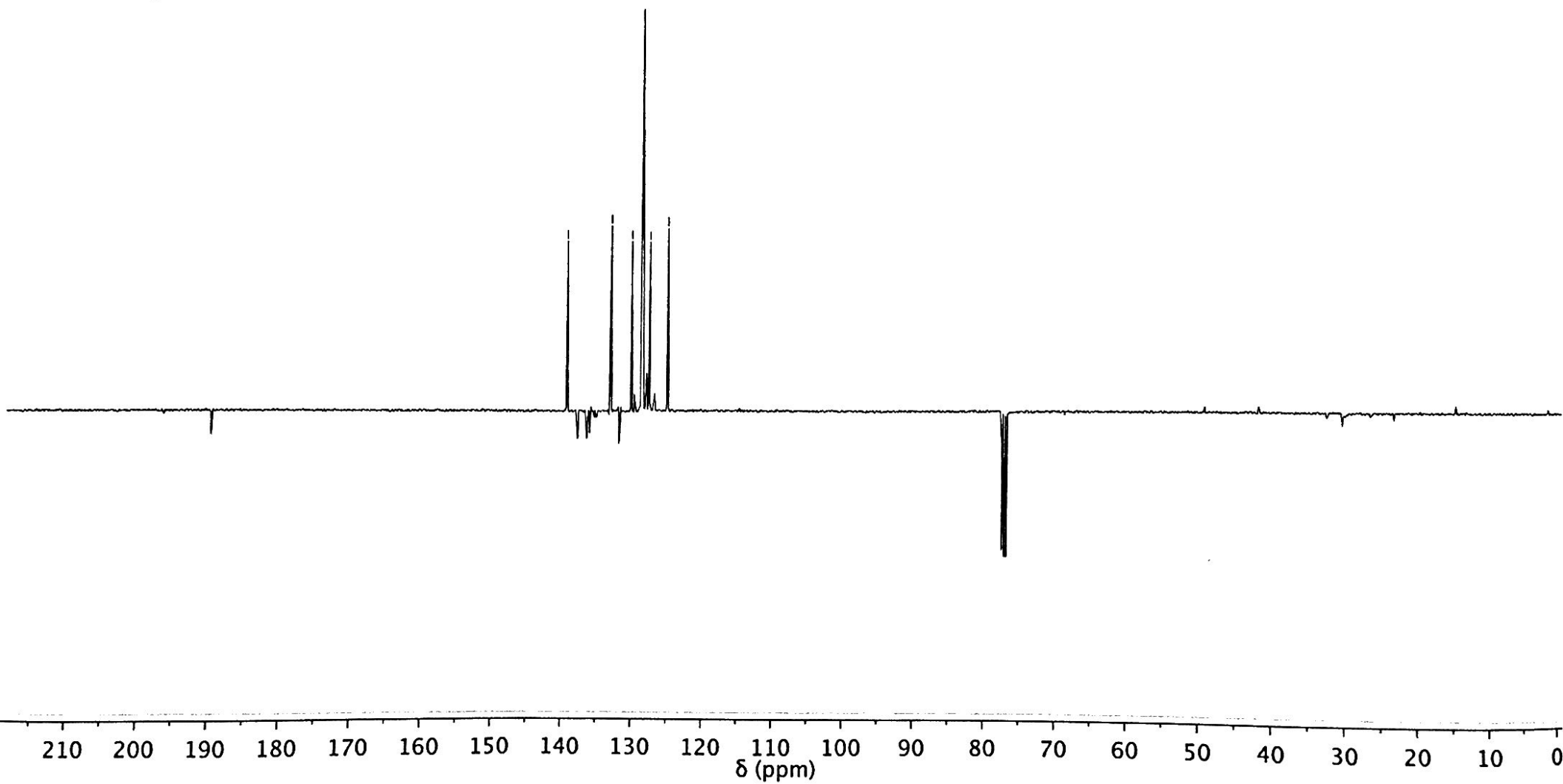
(6)



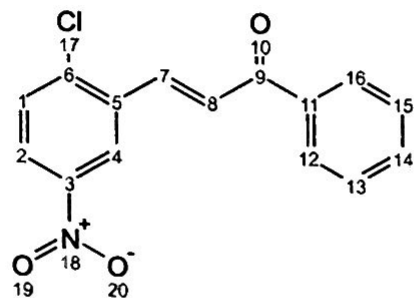
190.12

139.34
137.77
136.48
133.08
131.86
130.15
128.72
128.50
127.57
125.03

77.35
77.03
76.72



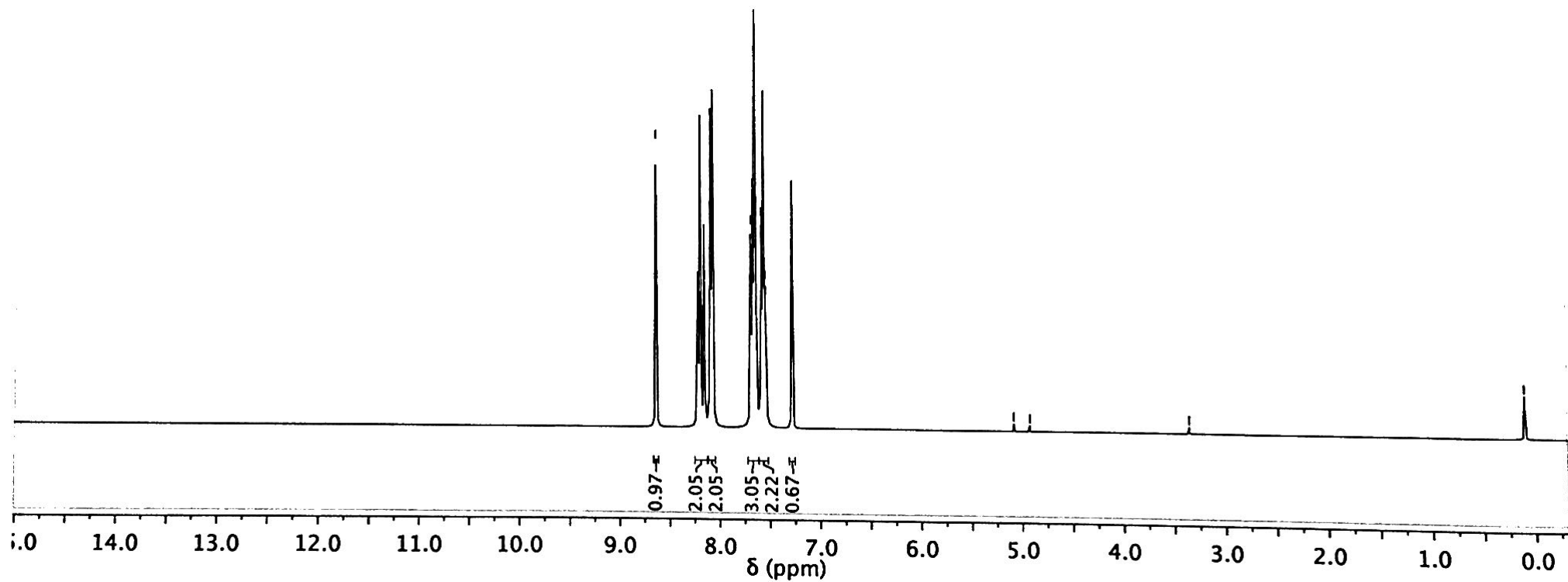
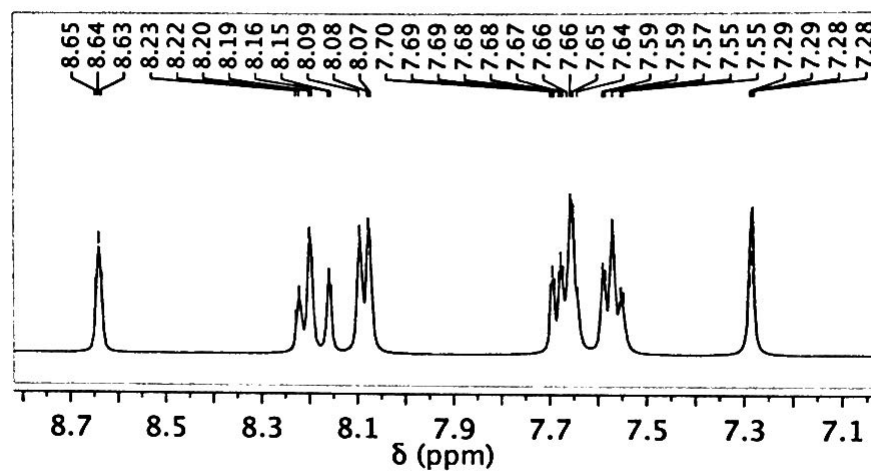
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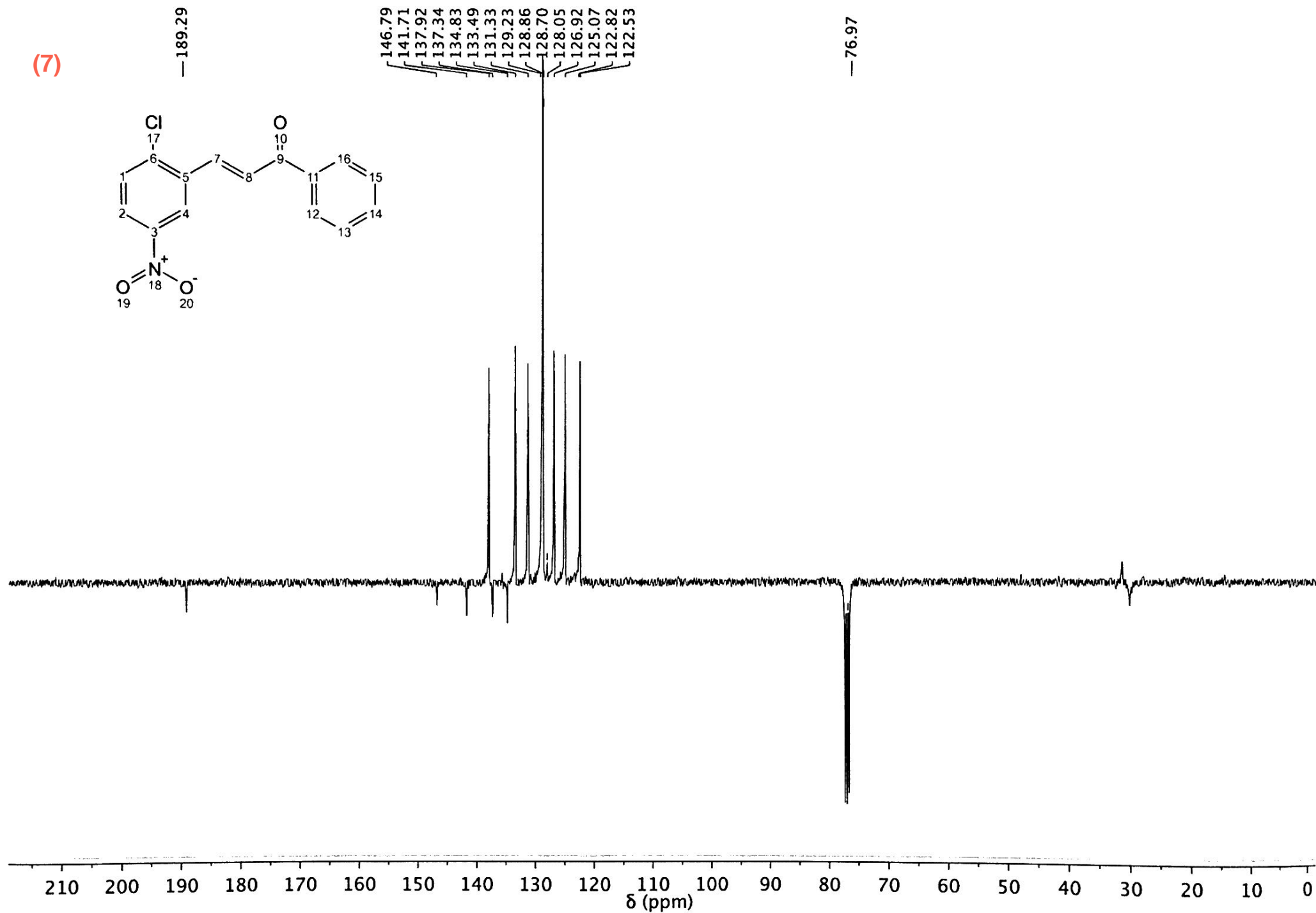
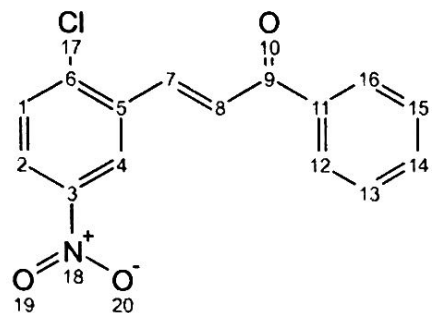
8.64
8.23
8.22
8.20
8.19
8.16
8.15
8.09
8.08
8.07
7.70
7.69
7.69
7.68
7.68
7.67
7.66
7.66
7.65
7.64
7.59
7.59
7.57
7.55
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7.29
7.29
7.28
7.28
5.09
4.93

3.36

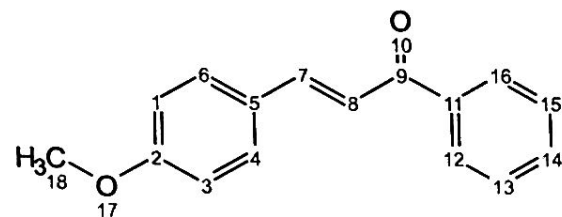
0.10



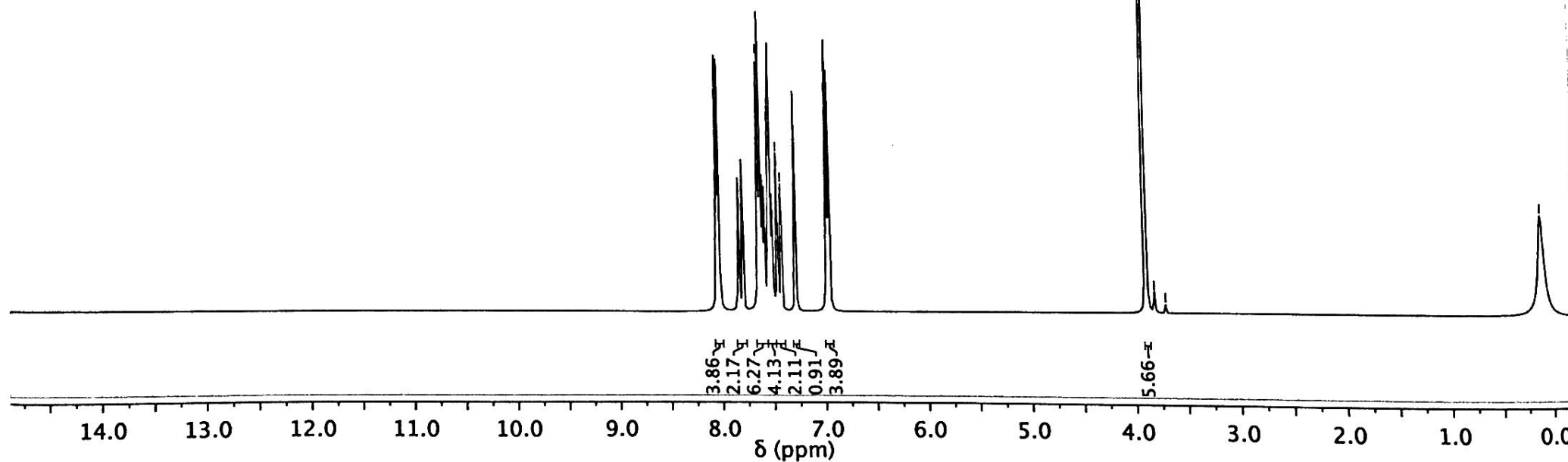
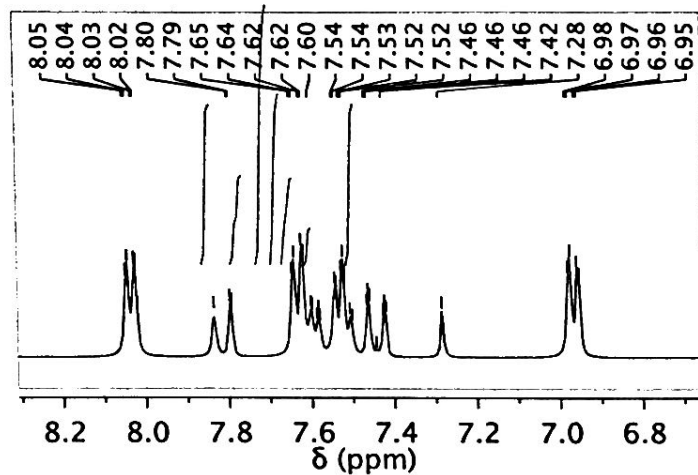
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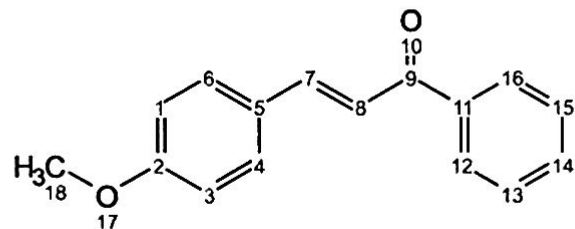
(8)



8.05
8.04
8.03
8.02
8.02
7.83
7.83
7.80
7.79
7.65
7.64
7.62
7.62
7.60
7.60
7.59
7.58
7.58
7.54
7.53
7.52
7.52
7.51
7.50
7.46
7.46
7.46
7.44
7.43
7.42
7.42
7.29
7.29
7.28
7.28
6.98
6.97
6.96
6.95
3.89
3.88
3.88
3.80
3.70



(8)



—190.61

—161.69

—144.72

—138.52

—132.56

—130.24

—128.57

—128.42

—127.63

—119.80

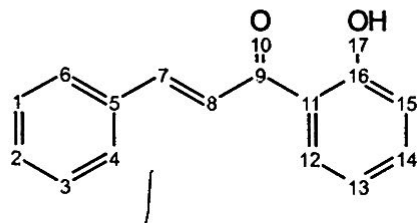
—114.43

—55.43

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δ (ppm)

(9)



-12.86

0.84

2.02

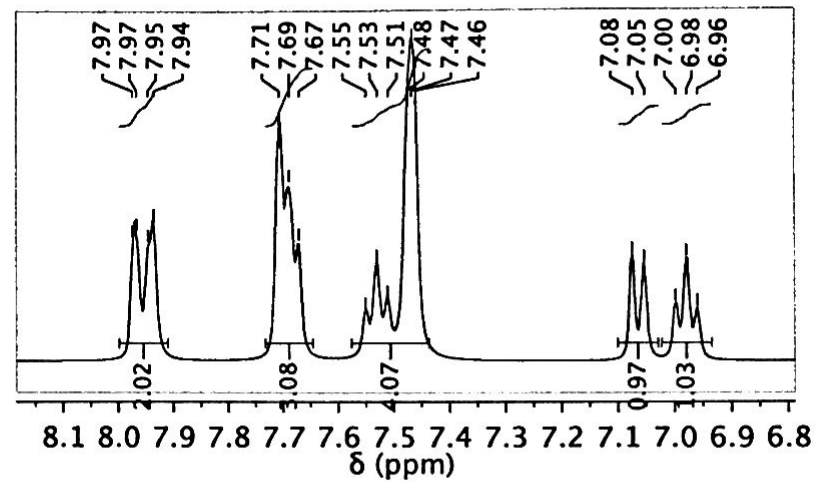
3.08

4.07

0.97

1.03

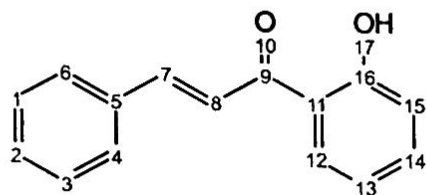
7.97
7.97
7.95
7.94
7.71
7.69
7.67
7.55
7.53
7.51
7.48
7.47
7.46
7.08
7.05
7.00
6.98
6.96



1.0 14.0 13.0 12.0 11.0 10.0 9.0 8.0 7.0 6.0 5.0 4.0 3.0 2.0 1.0 0.0

δ (ppm)

(9)



— 193.74

— 163.61

— 145.48

136.43

134.60

130.95

129.68

129.06

128.69

120.12

120.03

118.88

118.65

77.38

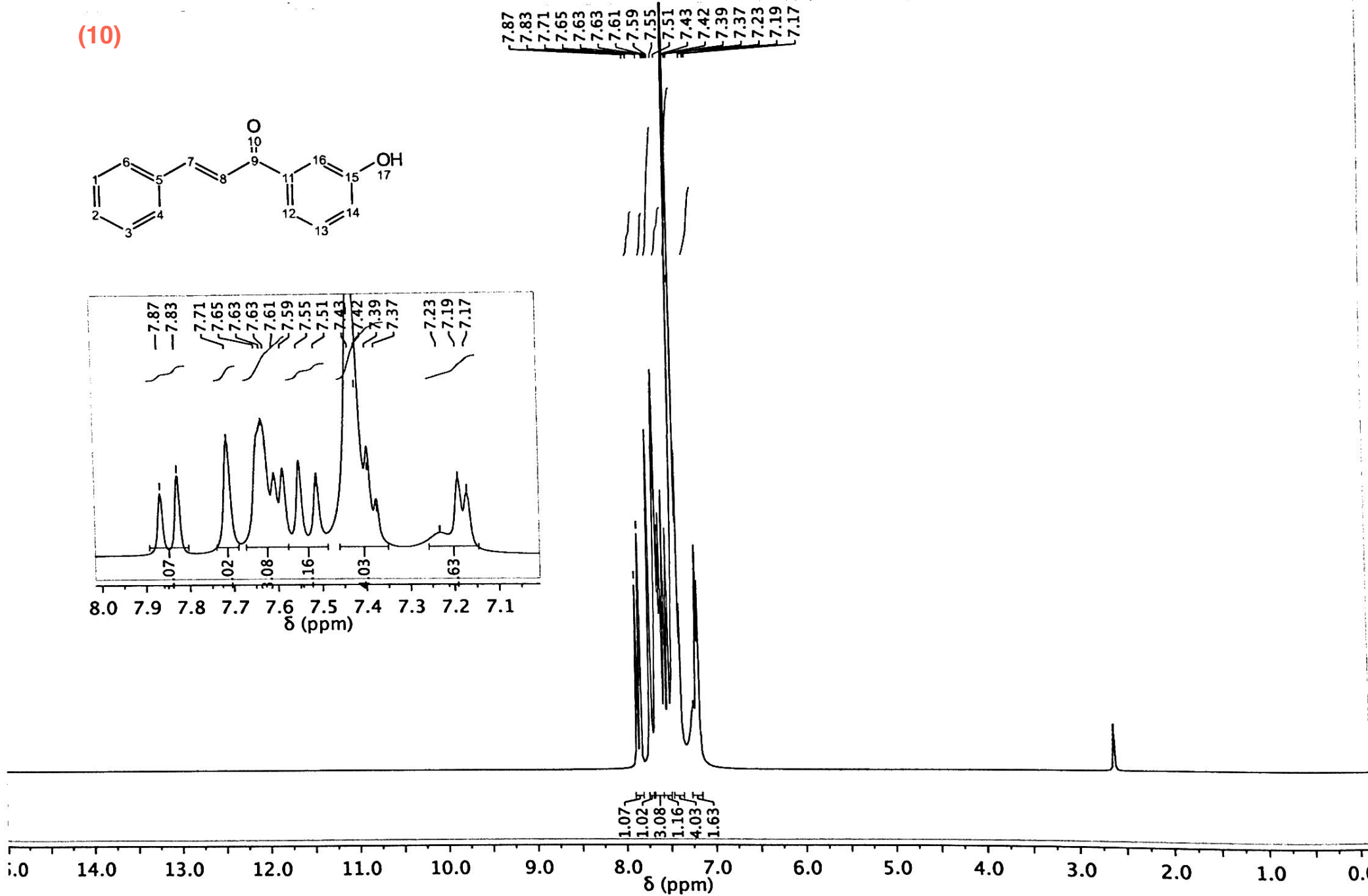
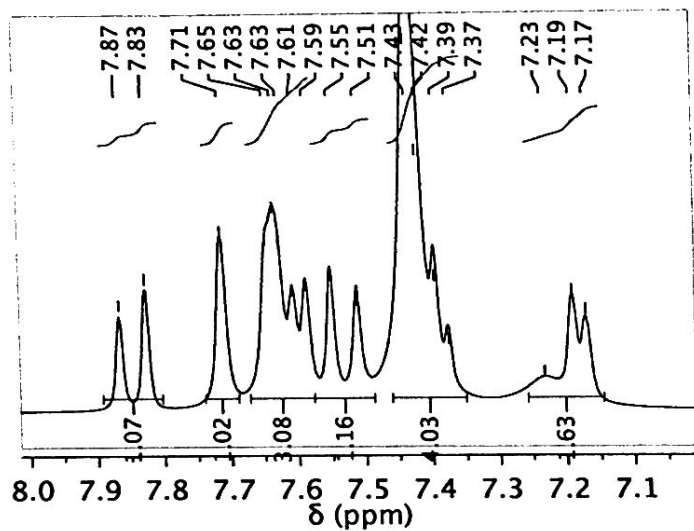
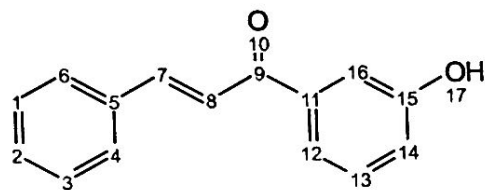
76.74

75.97

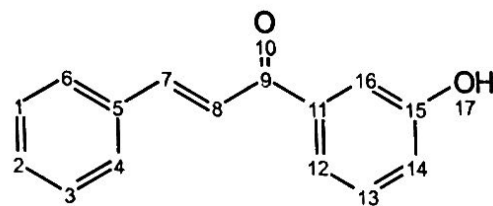
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δ (ppm)

(10)



(10)



—191.25

—156.67

—145.71

139.36

134.67

130.80

129.95

128.99

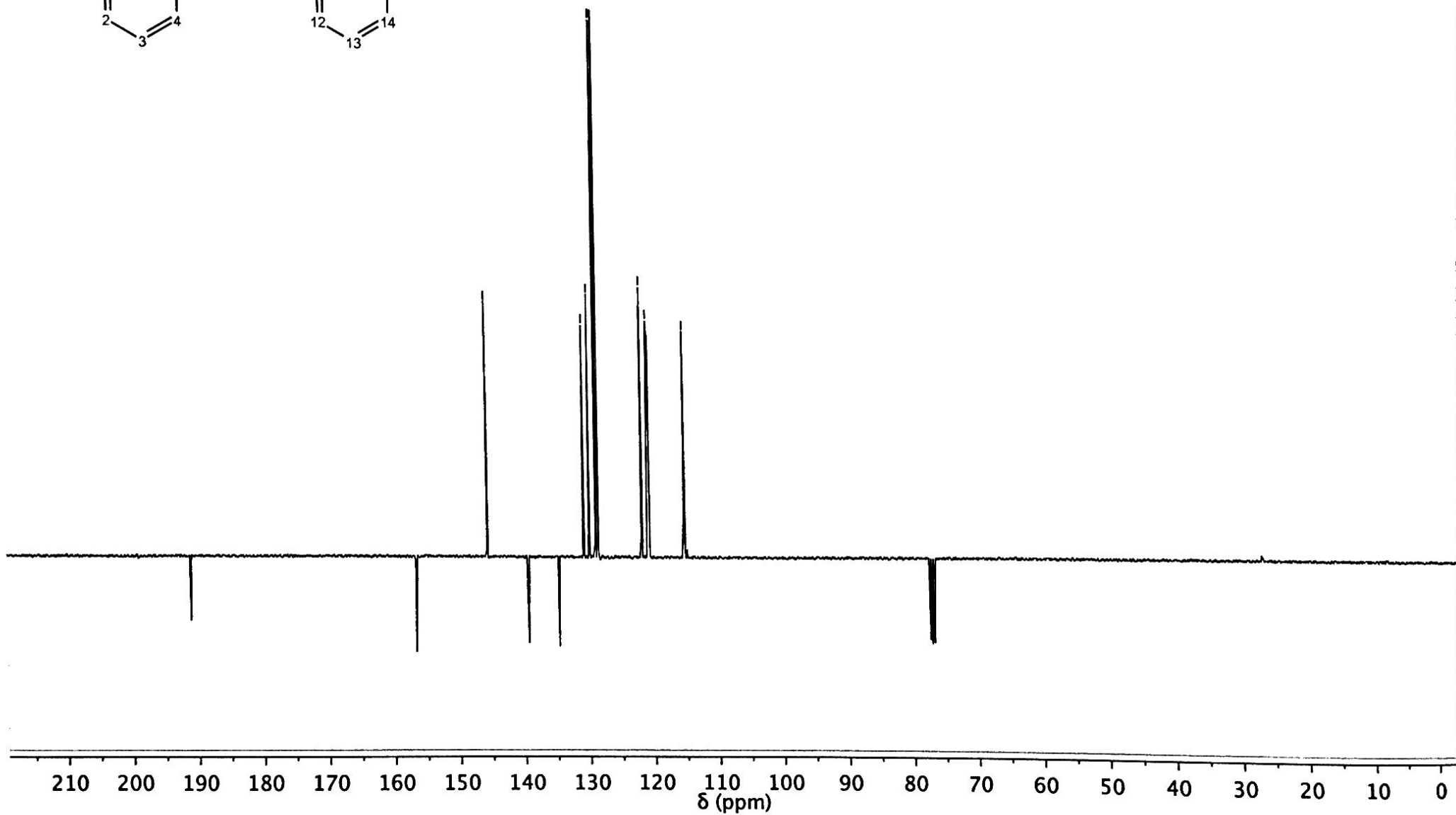
128.62

121.91

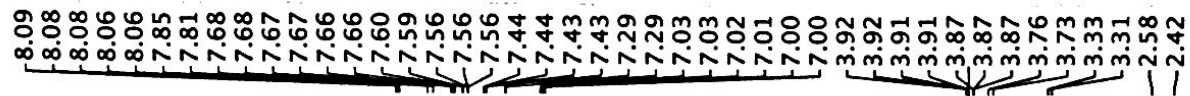
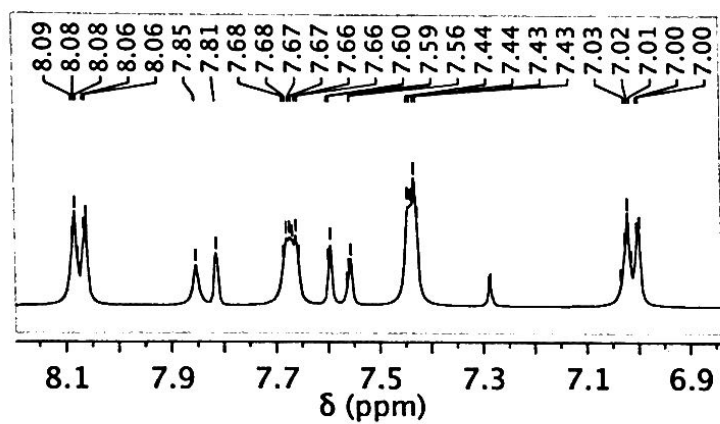
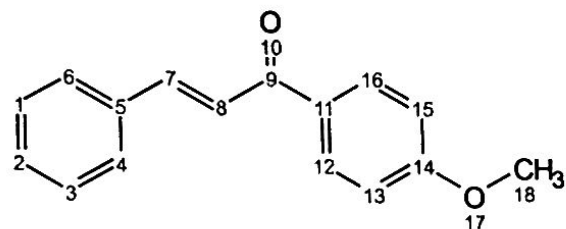
120.95

120.72

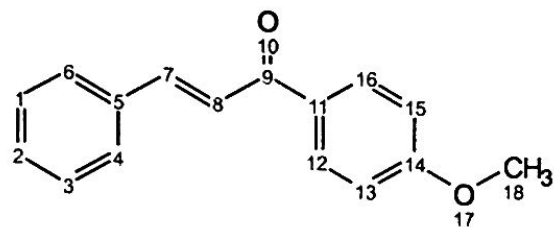
115.34



(11)



(11)



—188.72

—163.45

143.98

135.09

131.10

130.84

130.46

130.34

128.94

128.57

128.38

127.47

121.89

113.87

113.71

77.39

77.07

76.75

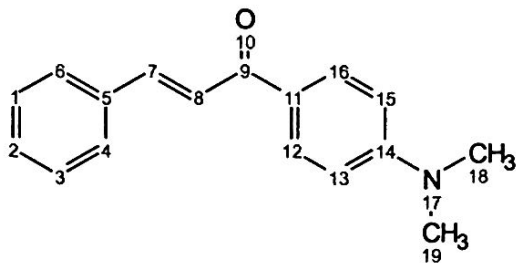
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55.46

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δ (ppm)

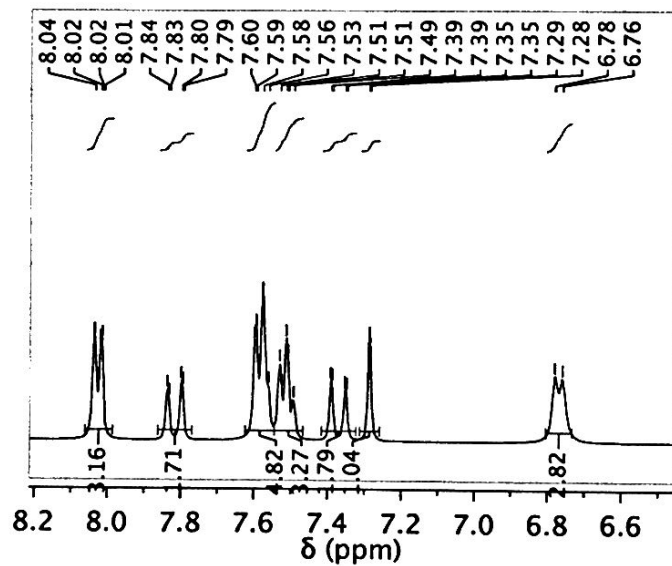
(12)



8.04
8.02
8.02
8.01
7.84
7.83
7.80
7.79
7.60
7.59
7.58
7.56
7.53
7.51
7.49
7.39
7.39
7.35
7.35
7.29
7.28
6.78
6.76

3.11
3.08
3.07

-1.73



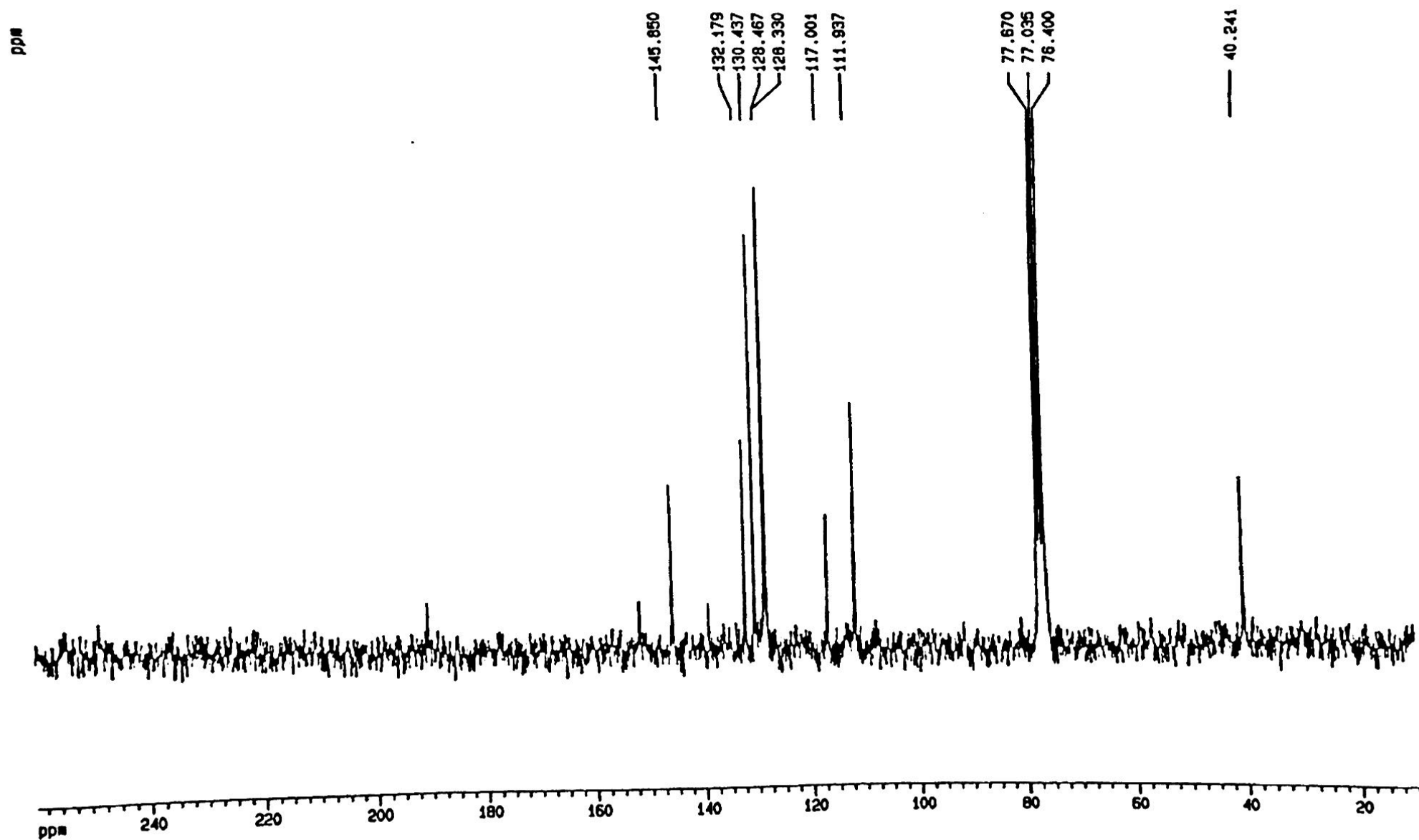
14.0 13.0 12.0 11.0 10.0 9.0 8.0 7.0 6.0 5.0 4.0 3.0 2.0 1.0 0.0

δ (ppm)

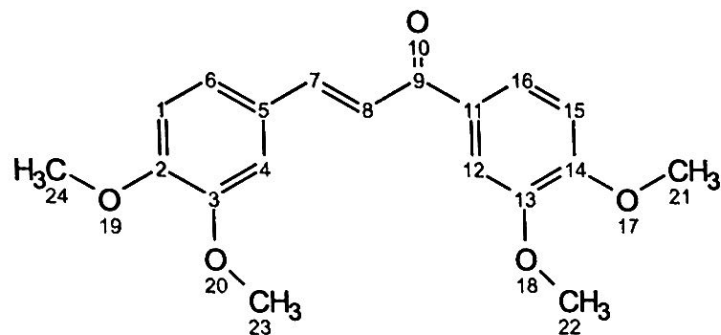
3.16
1.71
4.82
3.27
1.79
1.04
2.82

9.39

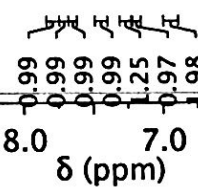
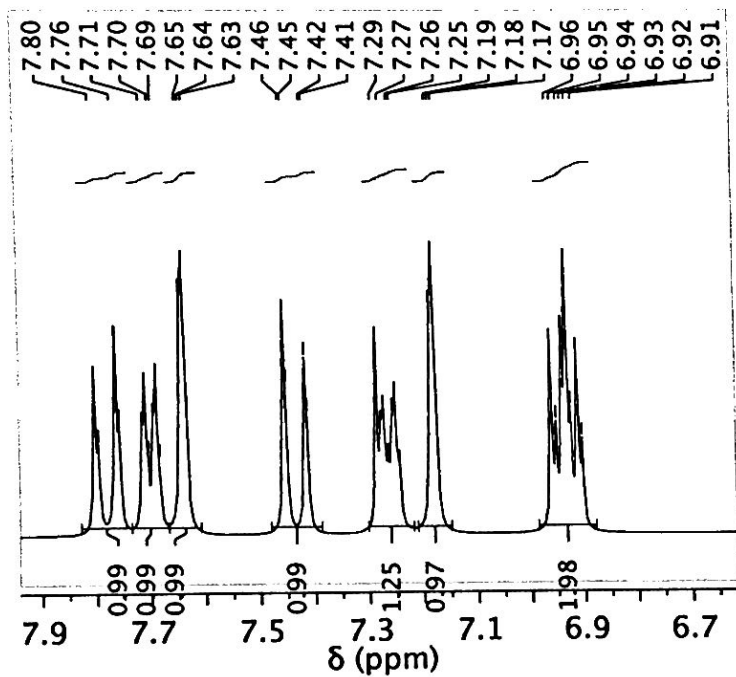
(12)



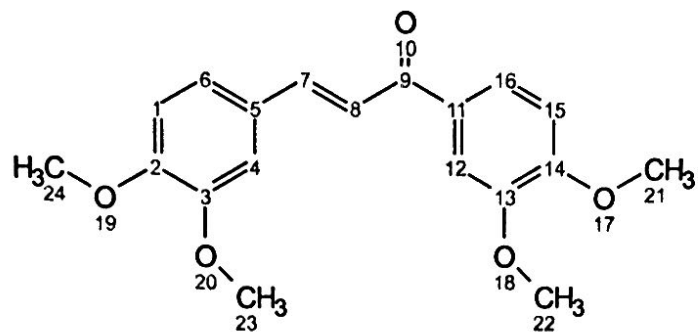
(13)



/// / / /



(13)



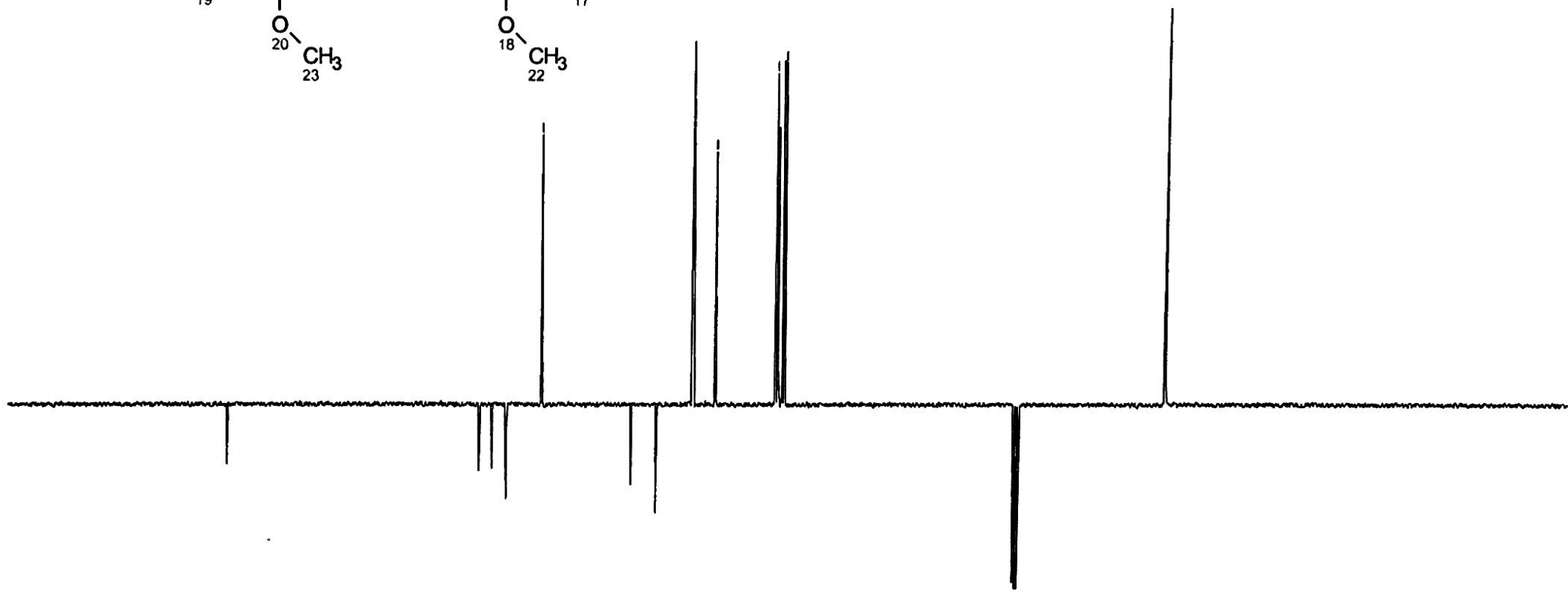
—188.67

153.12
151.27
149.24
149.22
144.15

131.56
128.06
122.90
122.87
119.66
119.64
111.13
110.83
110.21
109.92

77.36
77.04
76.72

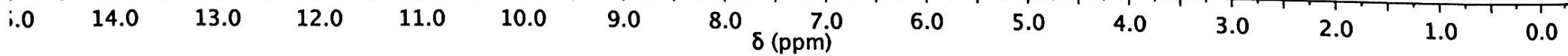
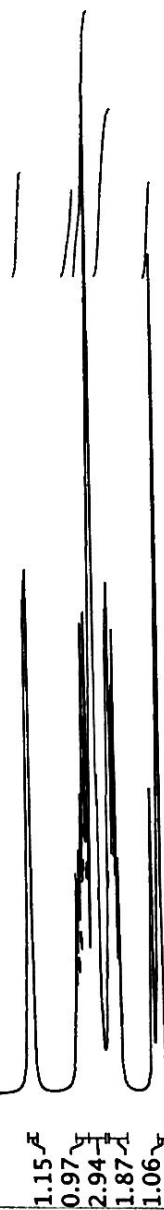
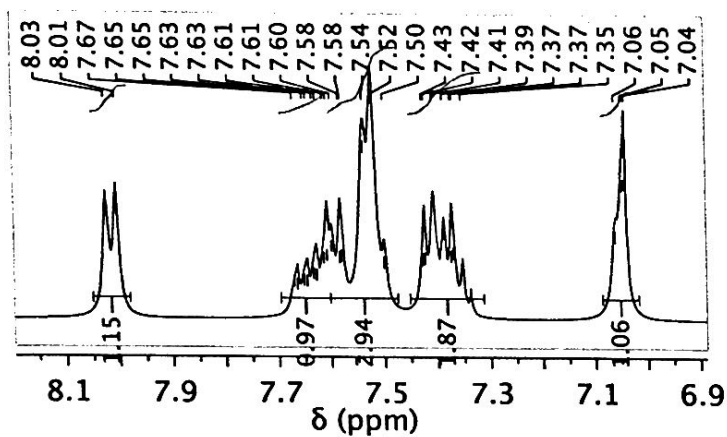
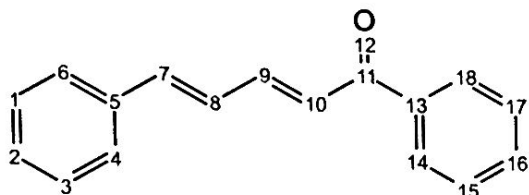
56.09
56.08
56.01
55.99



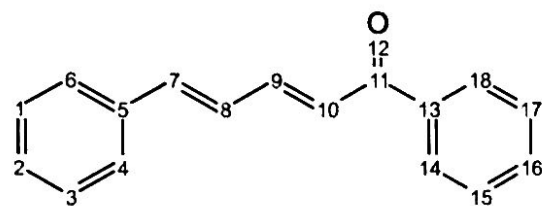
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0

δ (ppm)

8.03
8.01
7.67
7.66
7.65
7.65
7.63
7.63
7.61
7.61
7.60
7.58
7.58
7.54
7.52
7.50
7.43
7.42
7.41
7.39
7.37
7.37
7.35
7.34
7.06
7.05
7.04



(14)



— 190.49

144.86
141.94
138.24
136.12
132.68
129.25
128.88
128.76
128.61
128.41
127.33
126.97
125.44

