Electronic Supplementary Material (ESI) for Organic & Biomolecular Chemistry.

Supporting Information

Design and Synthesis of A Hybrid Framework of Indanone and Chromane: Total Synthesis of a Homoisoflavanoid, Brazilane

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Table of Contents

Copies of ^{1}H and ^{13}C NMR spectra of **4** **S2-S4**

Copies of ^{1}H and ^{13}C NMR spectra of **6** **S5-S23**

Copies of ^{1}H and ^{13}C NMR spectra of **7** **S24**

Copies of ^{1}H and ^{13}C NMR spectra of **8** **S25**

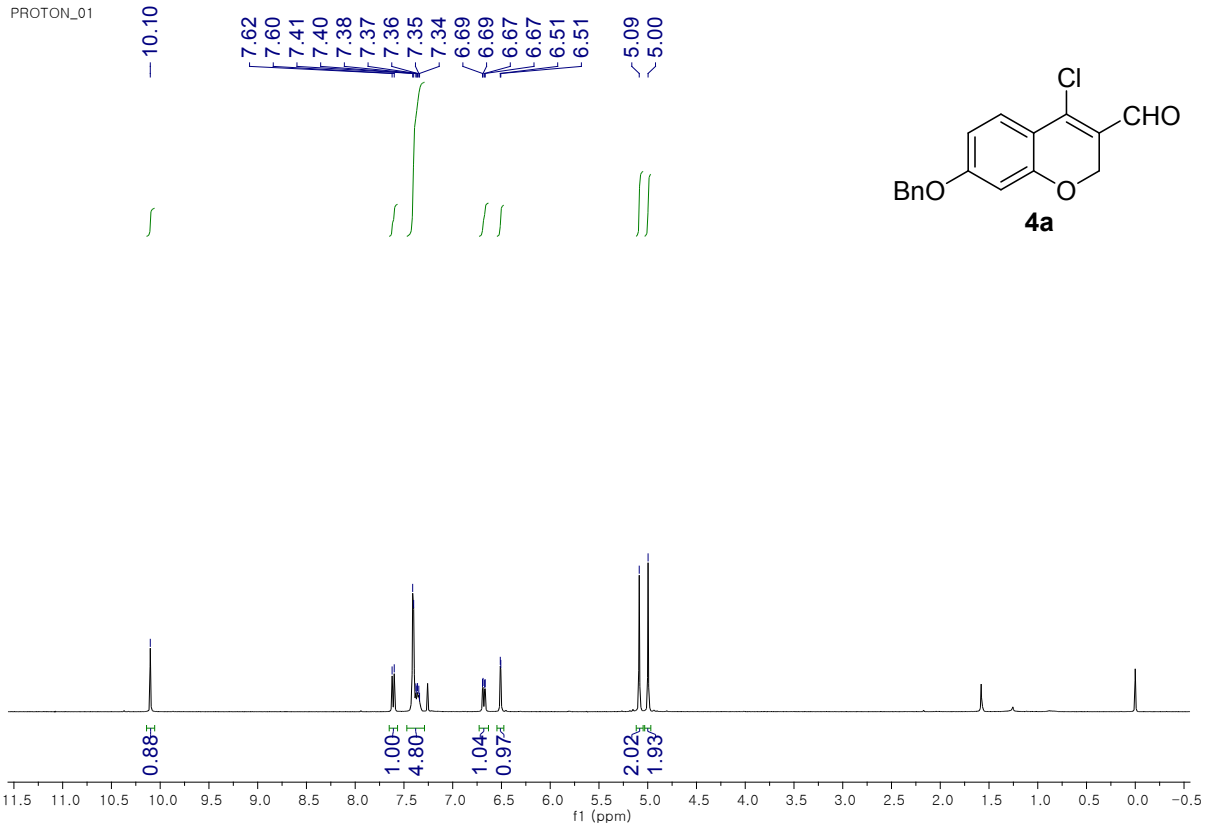
Copies of ^{1}H and ^{13}C NMR spectra of **2h** **S26**

Copies of ^{1}H and ^{13}C NMR spectra of **9** **S27**

Copies of ^{1}H and ^{13}C NMR spectra of **10** **S28**

Copies of ^{1}H and ^{13}C NMR spectra of **11** **S29**

Copies of ^{1}H and ^{13}C NMR spectra of **brazilane** **S30**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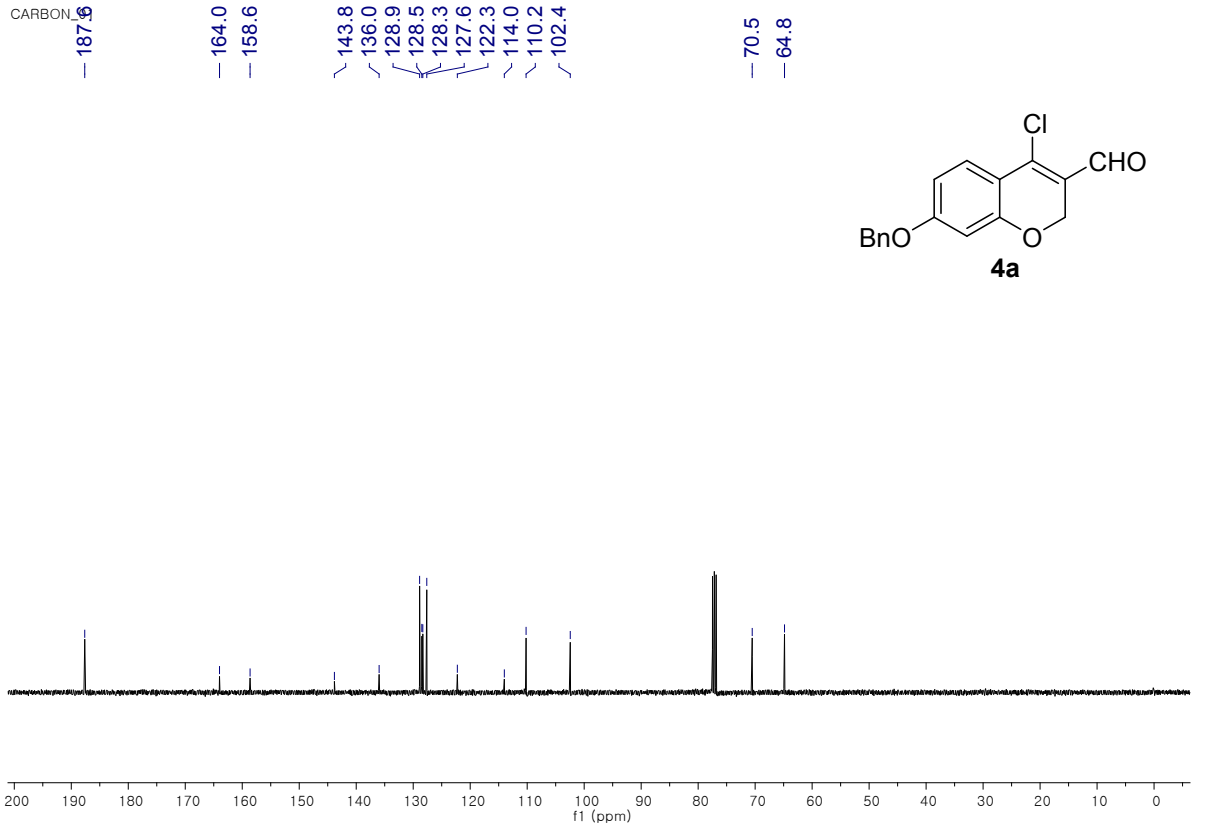
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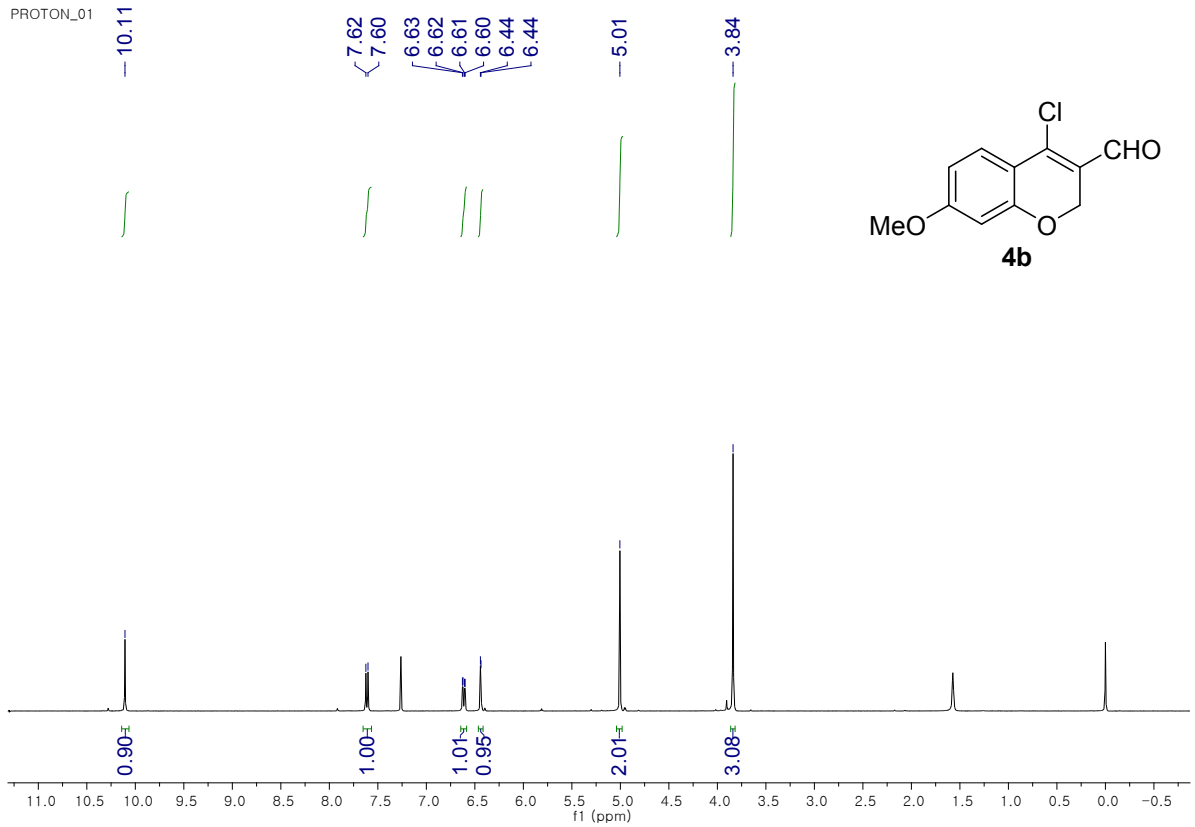
f1 (ppm)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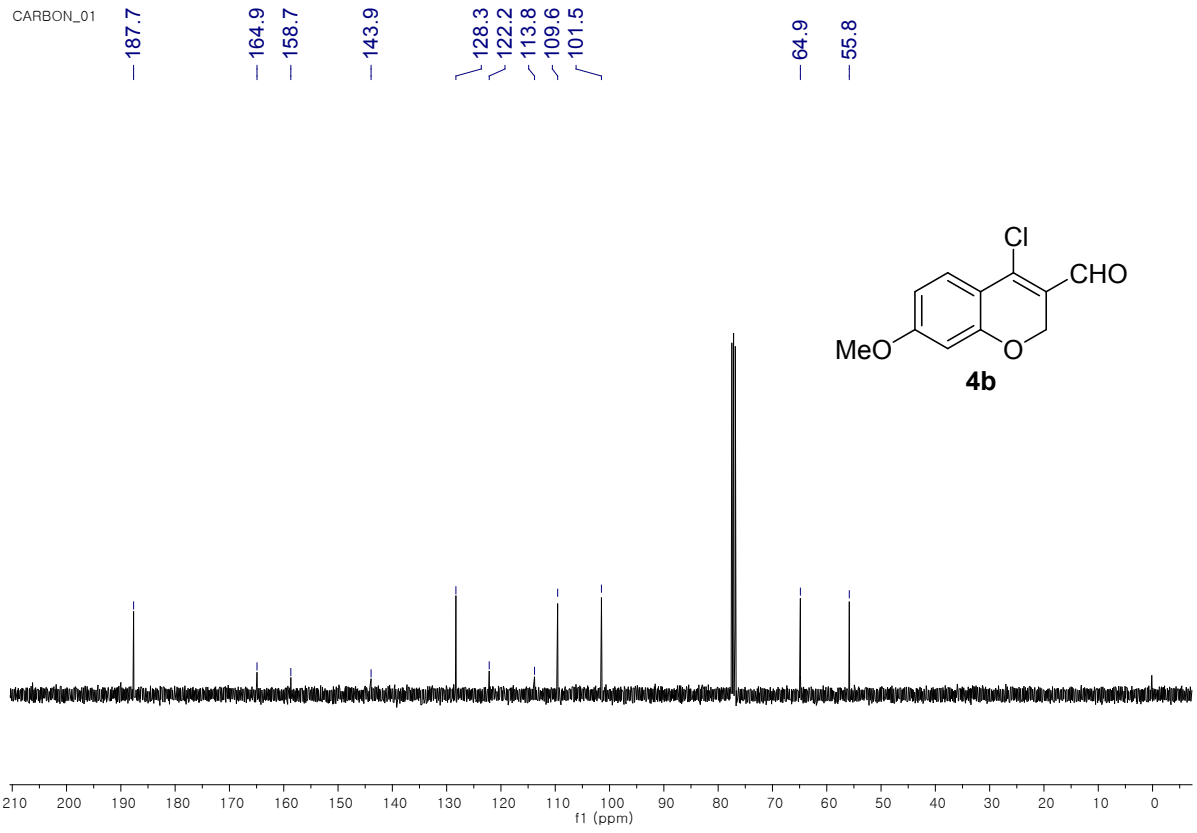
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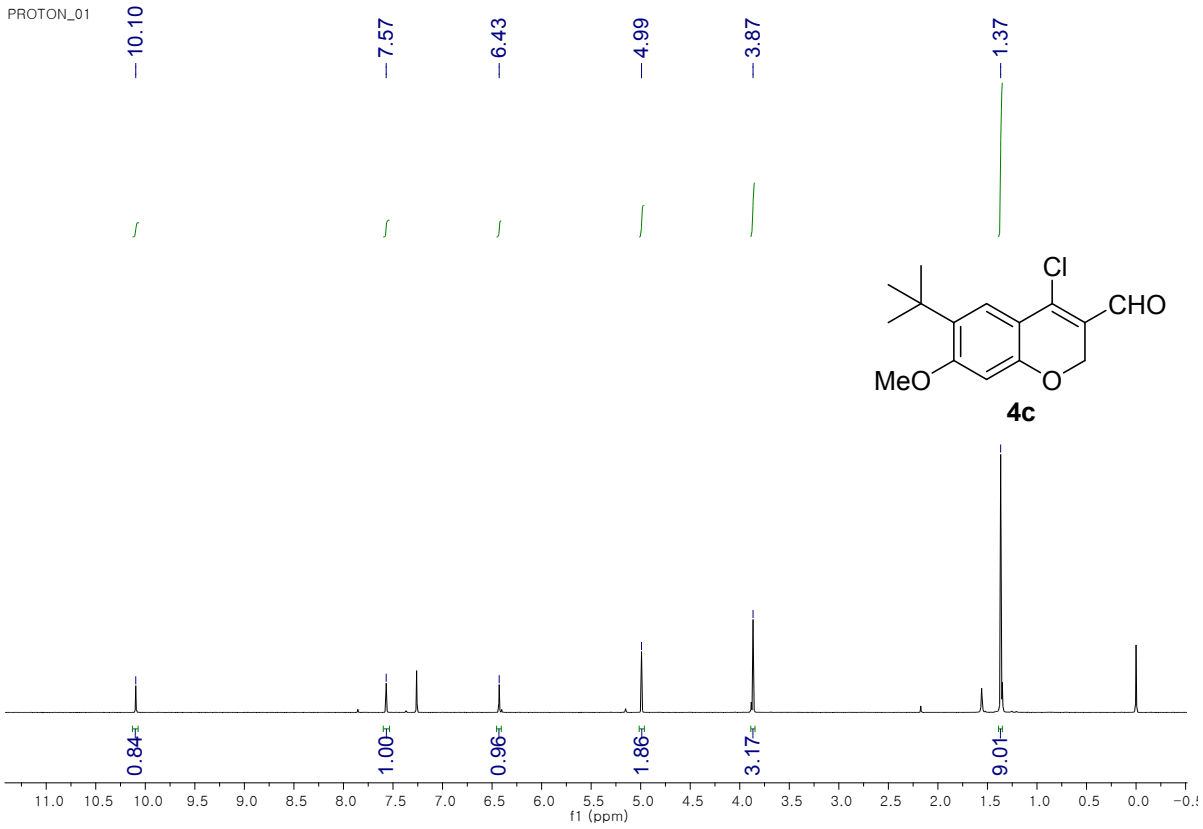
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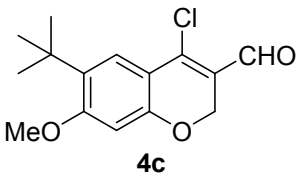
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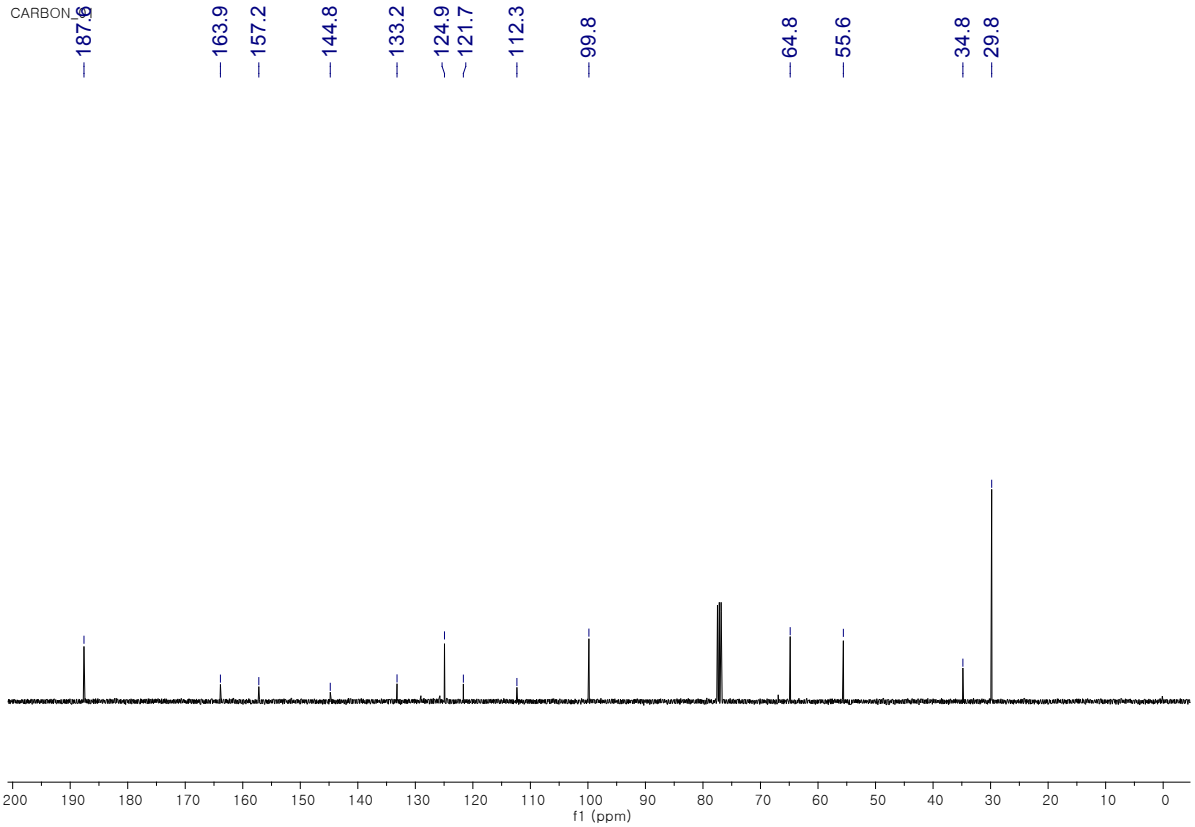
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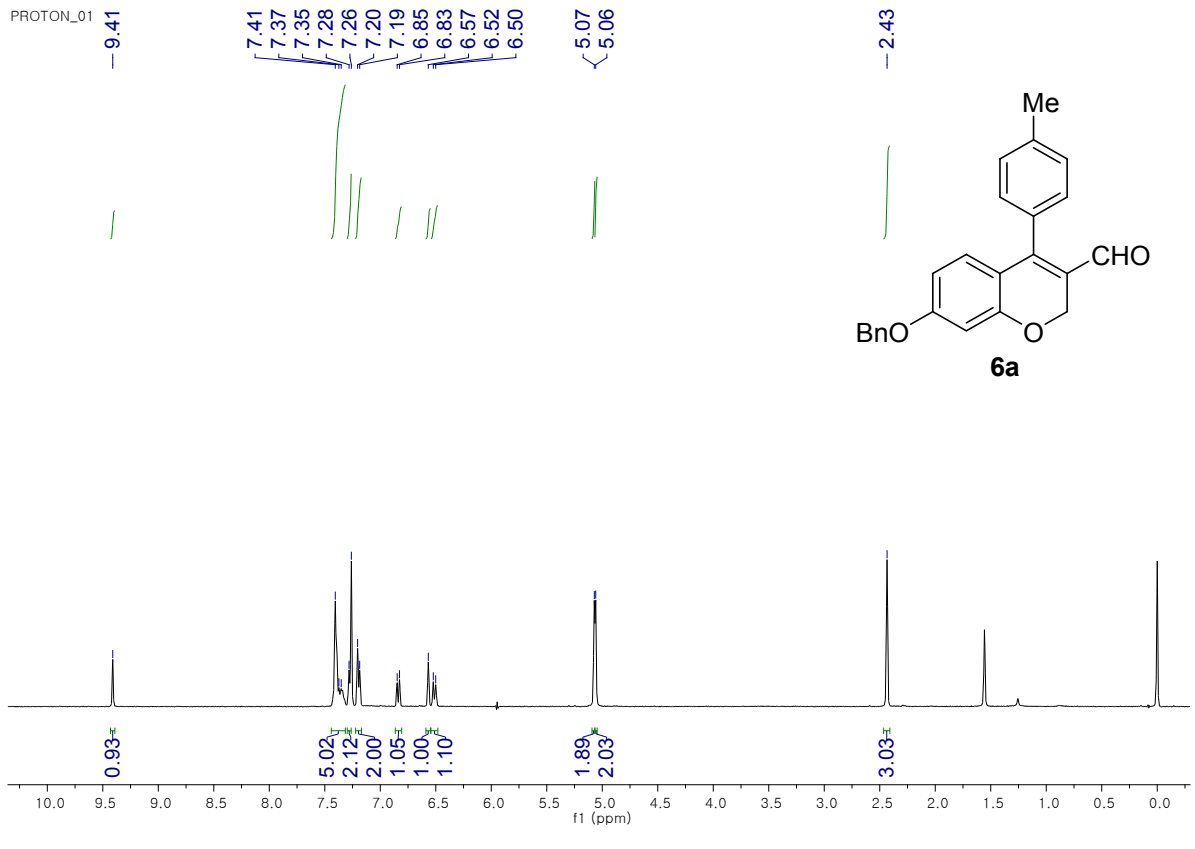
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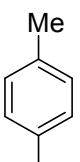
Me
CHO
BnO
O

6a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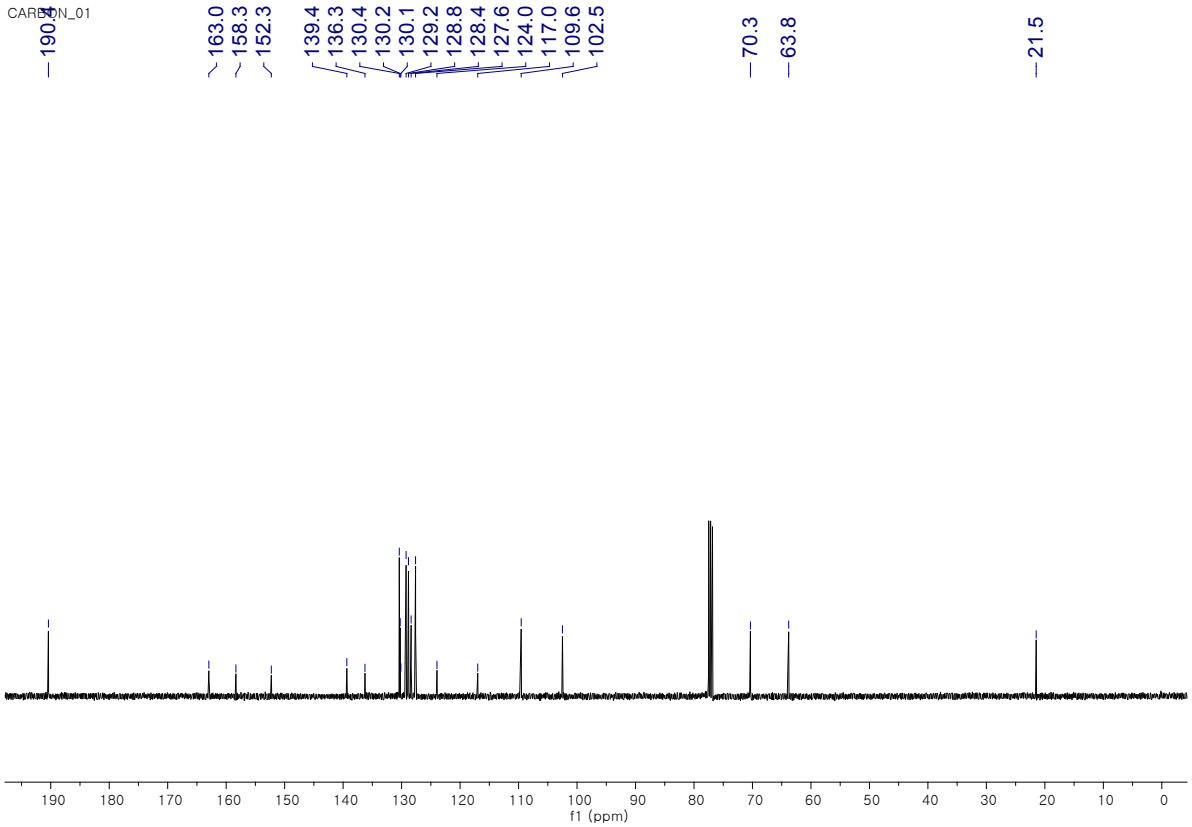
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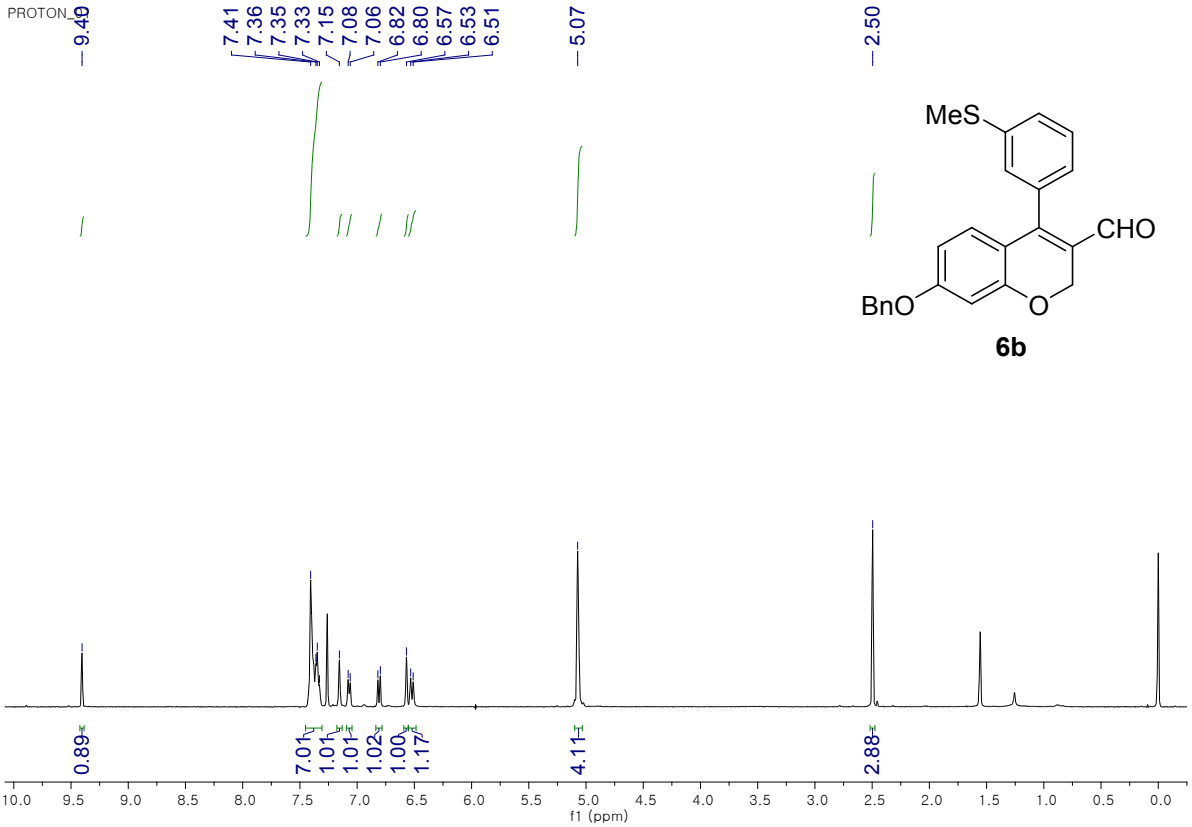
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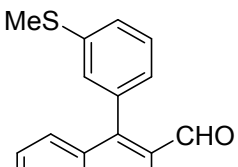
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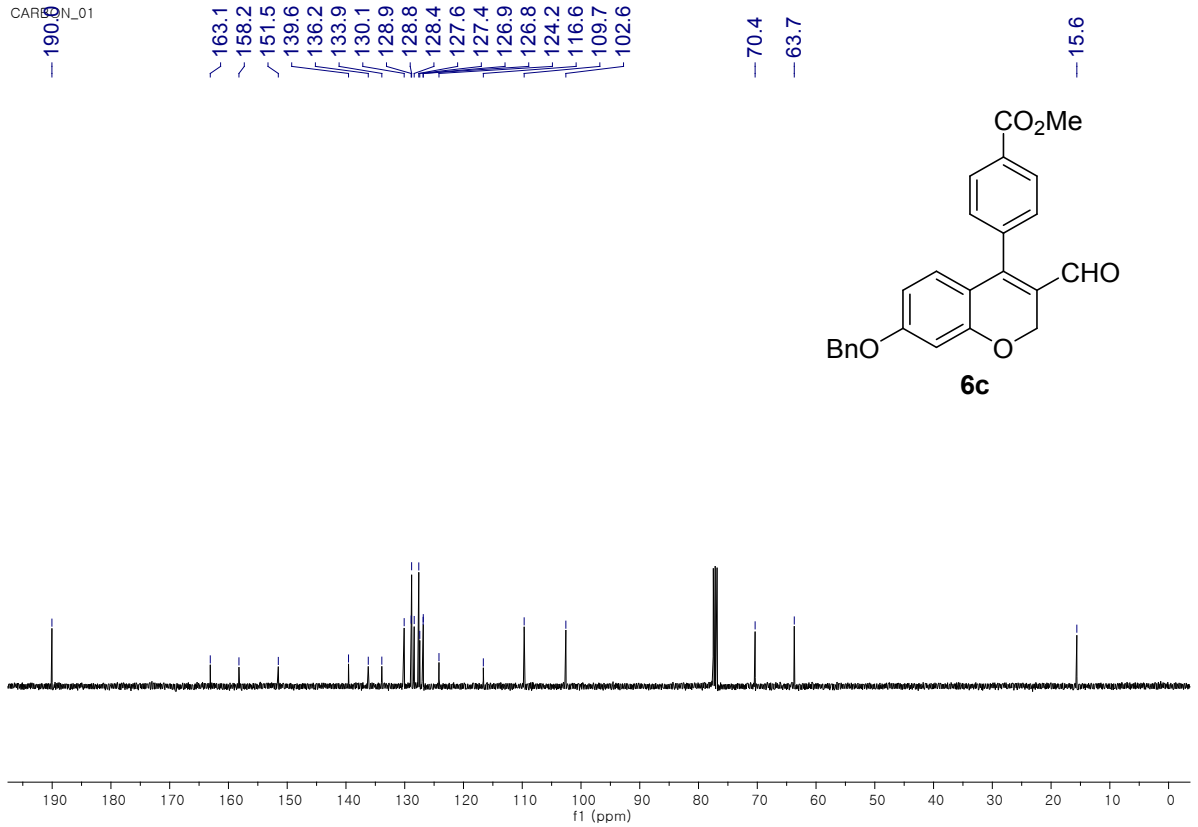
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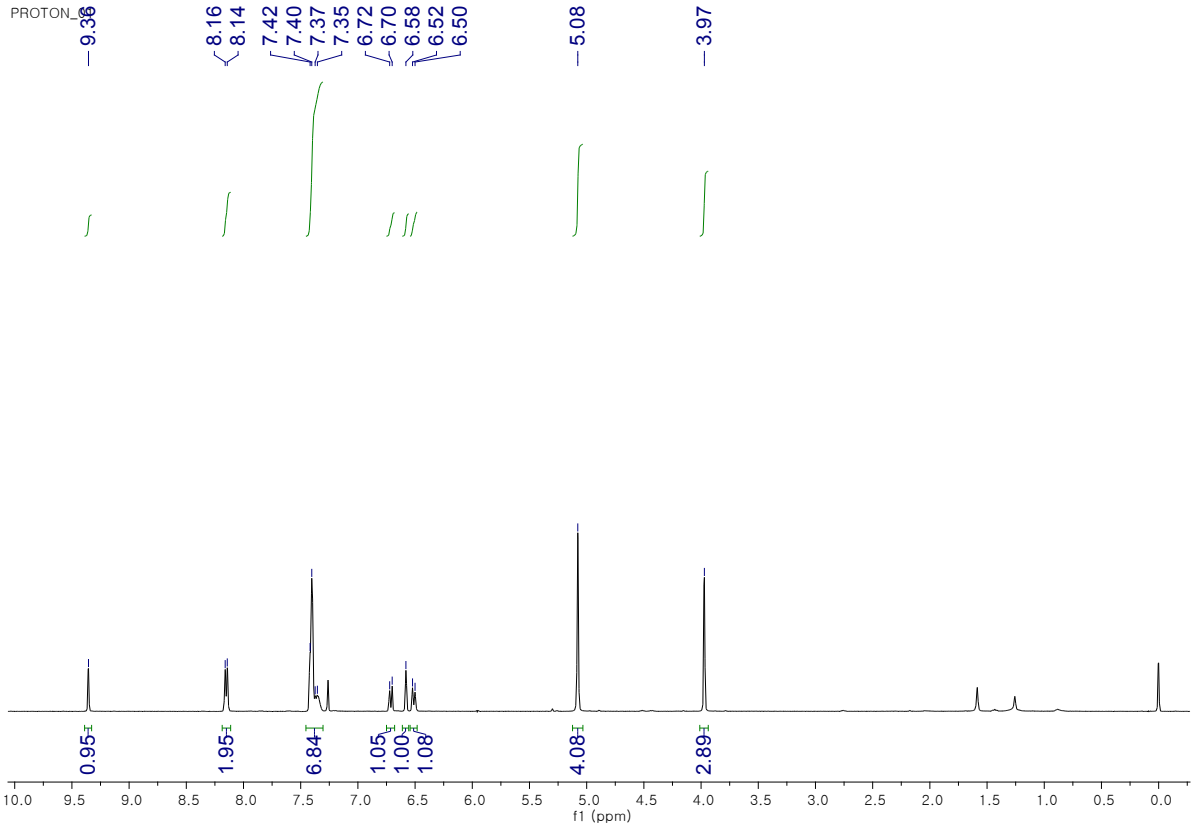
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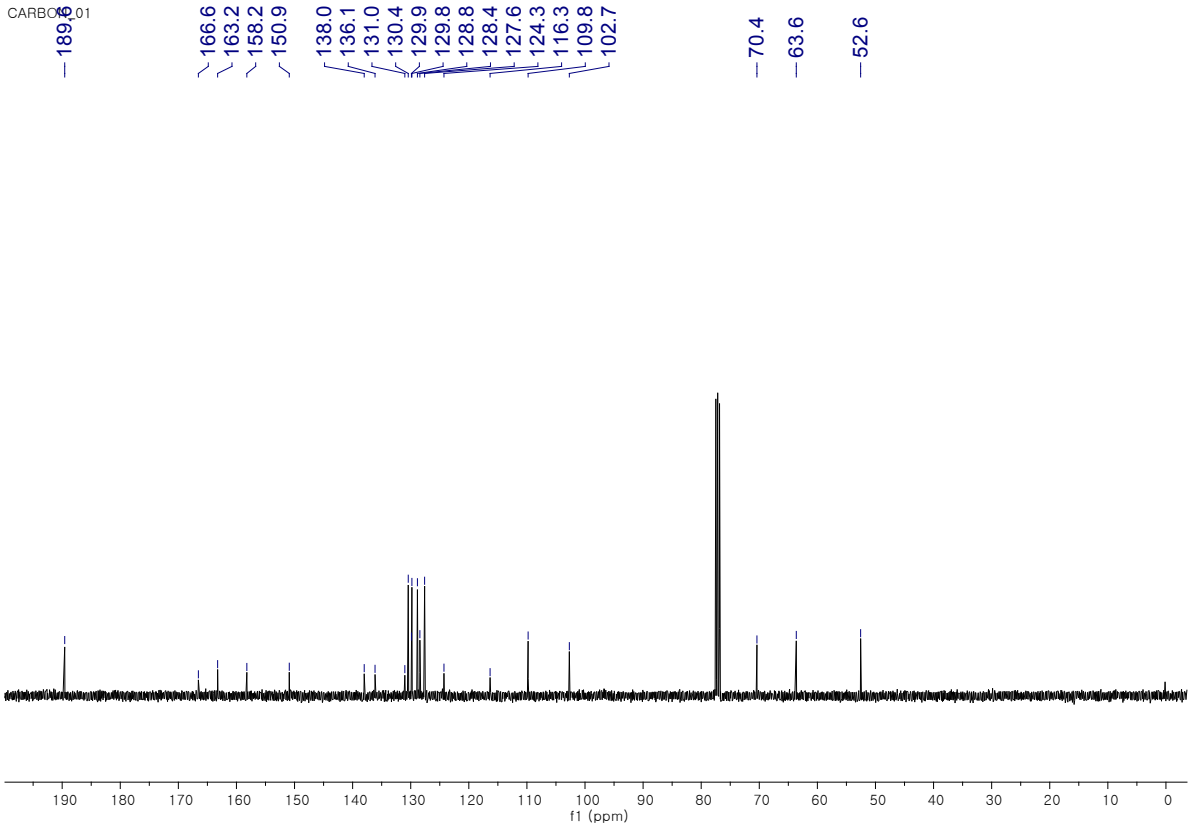
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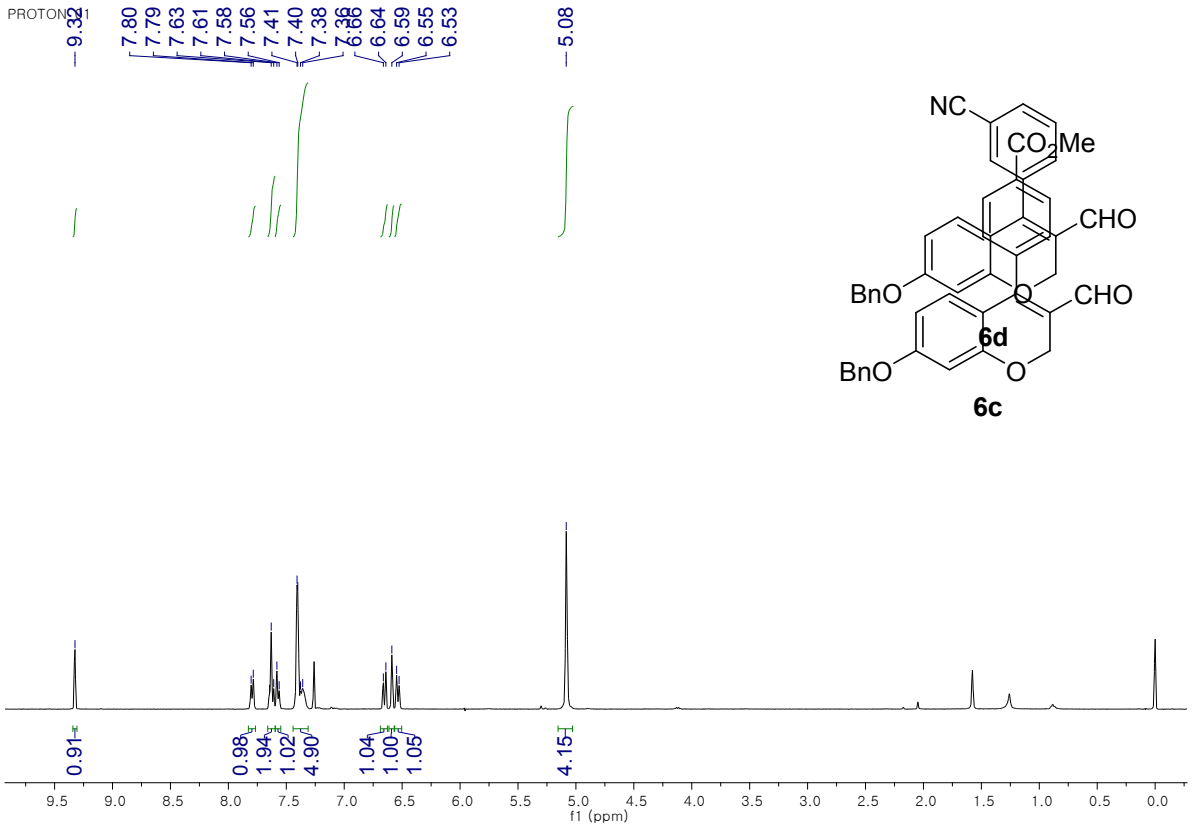
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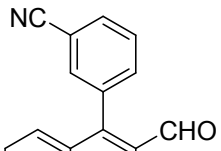
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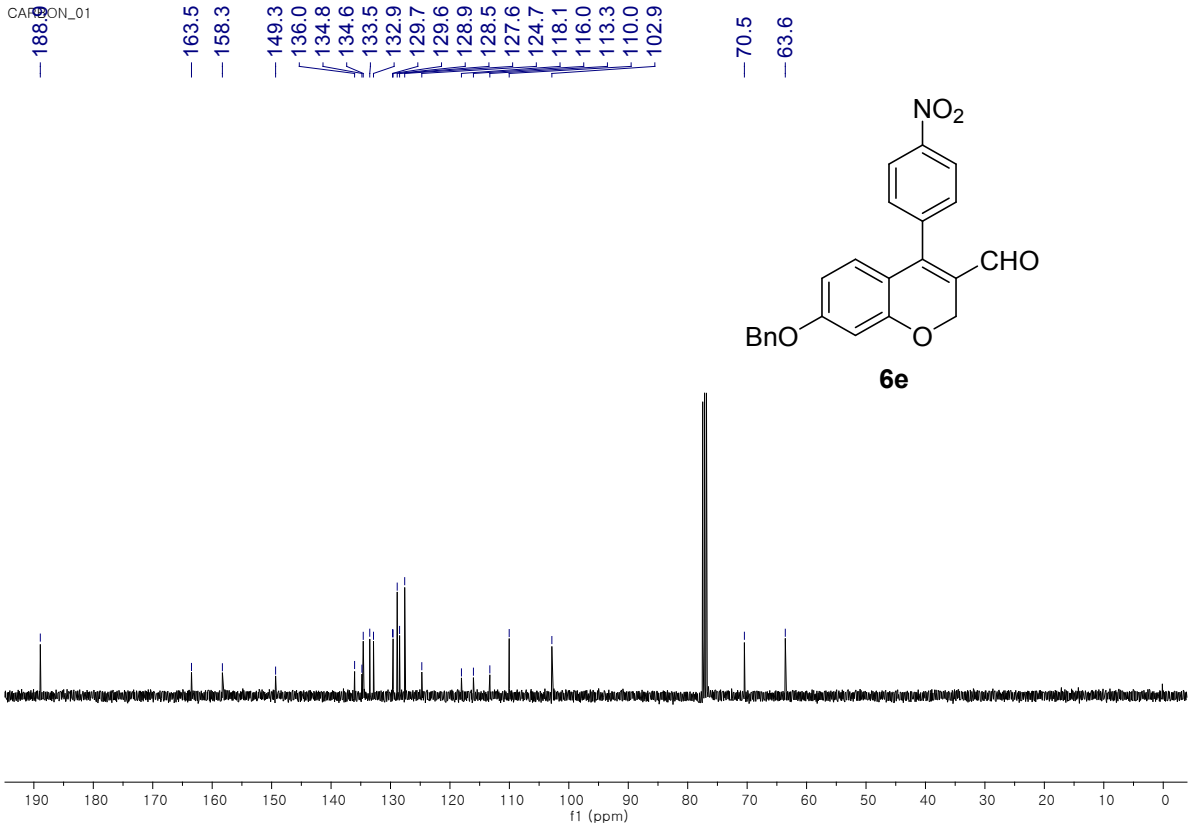
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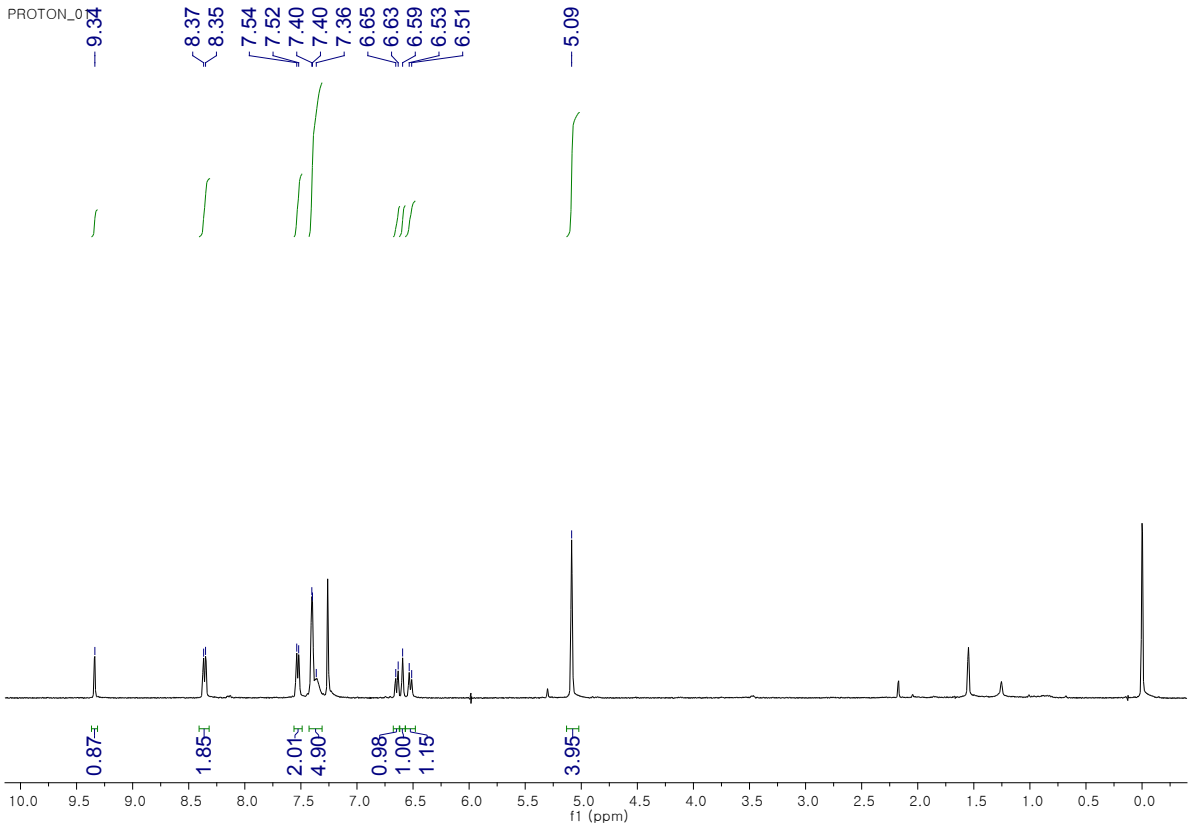
f1 (ppm)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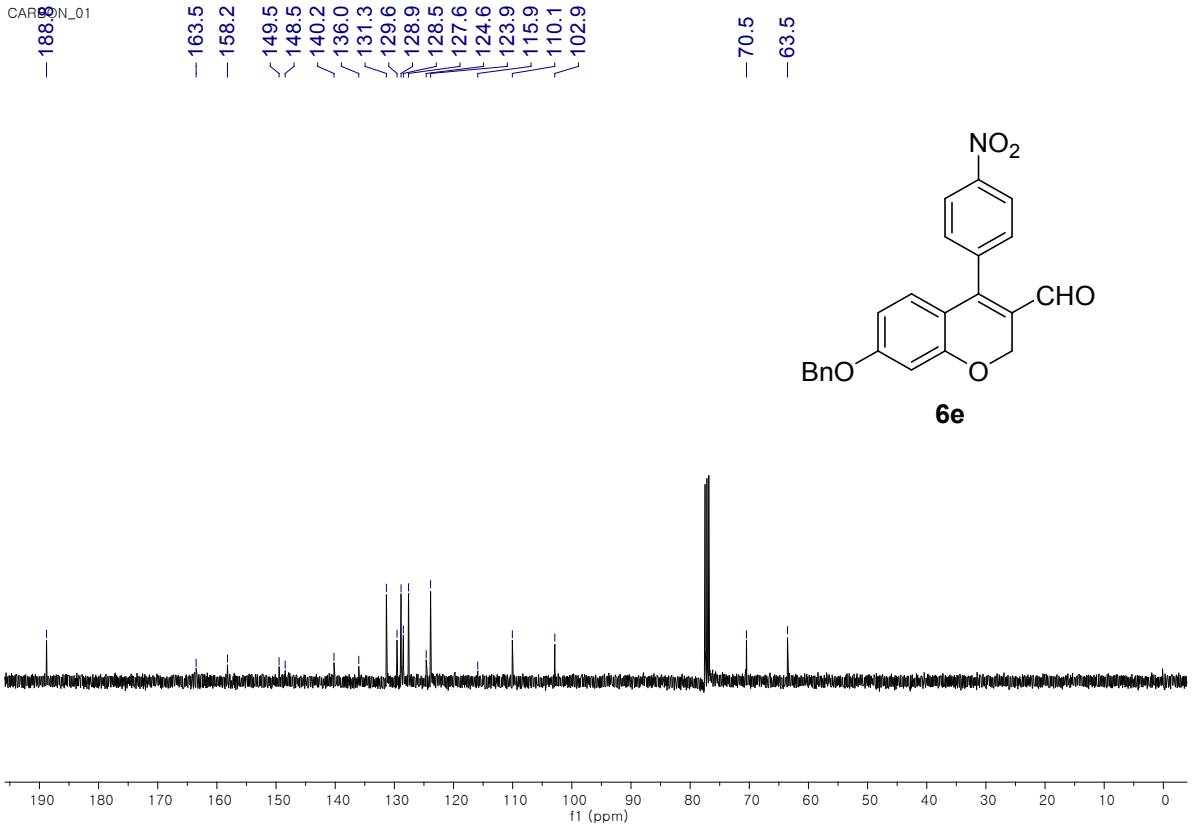
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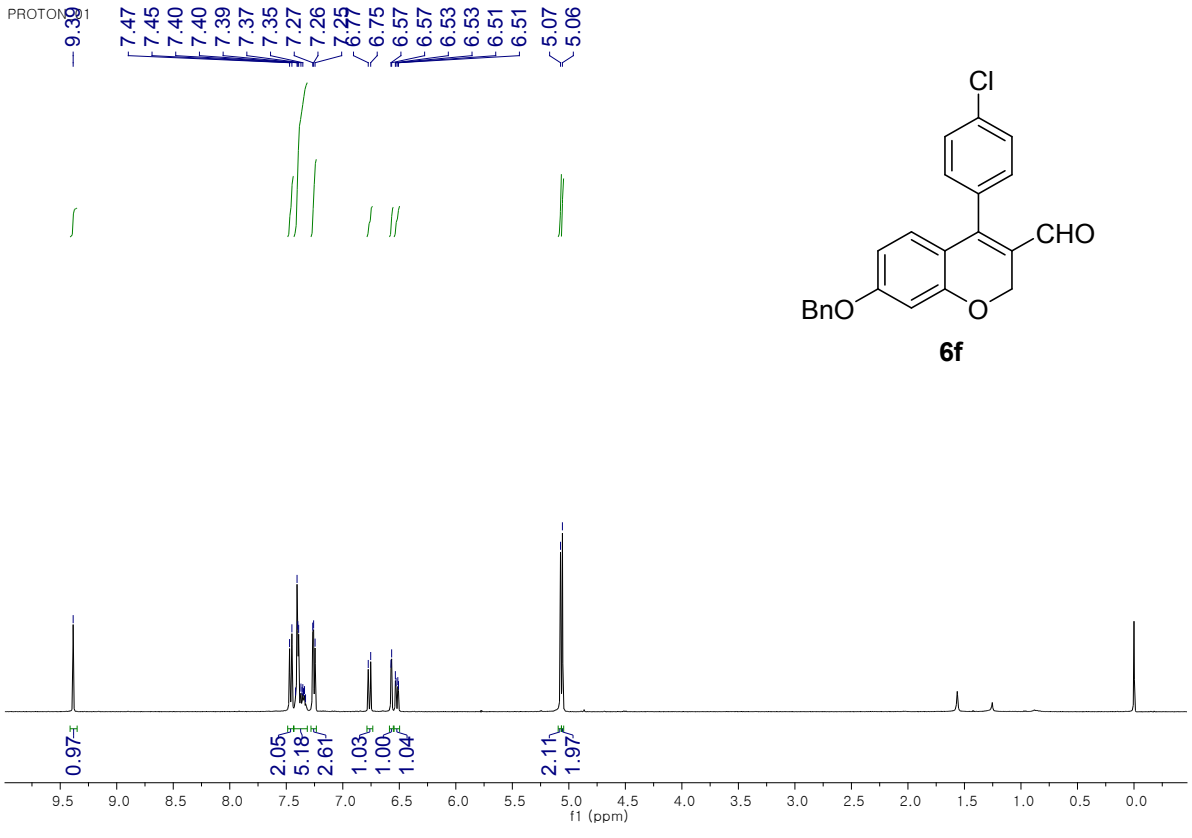
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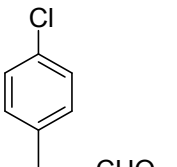
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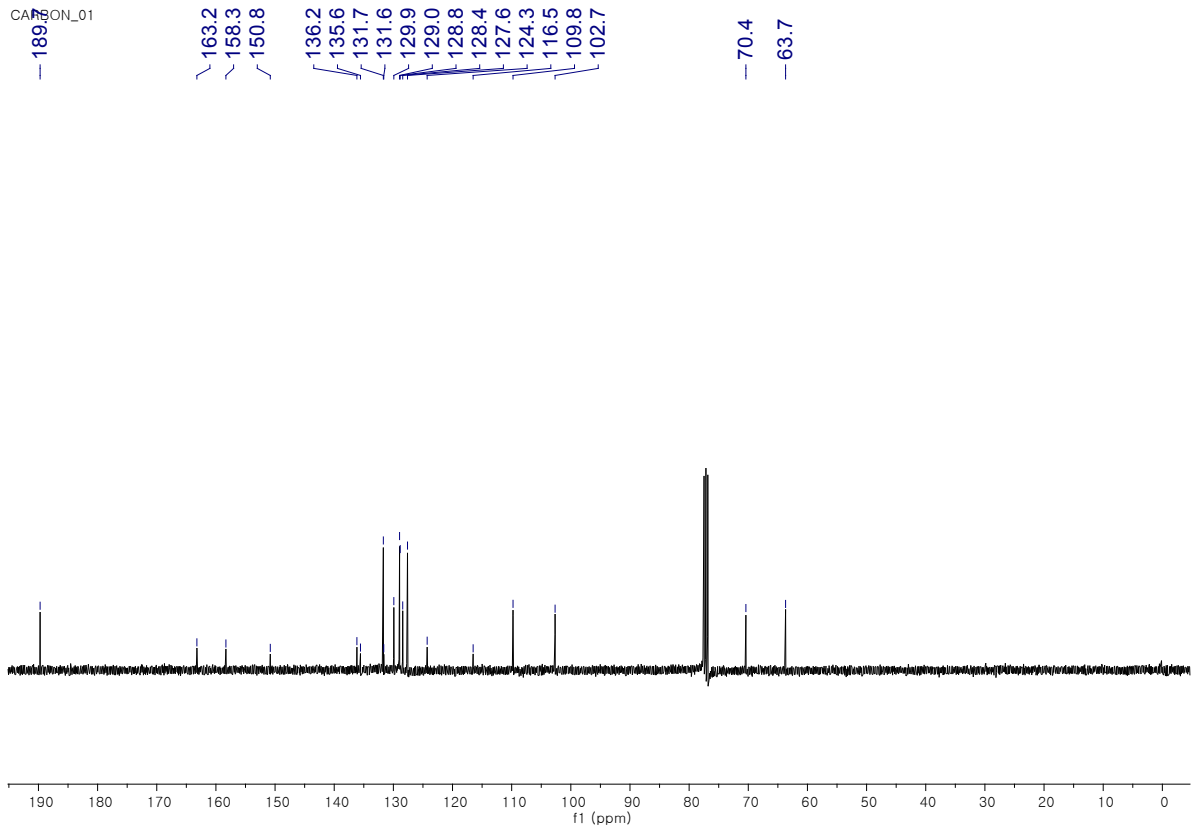
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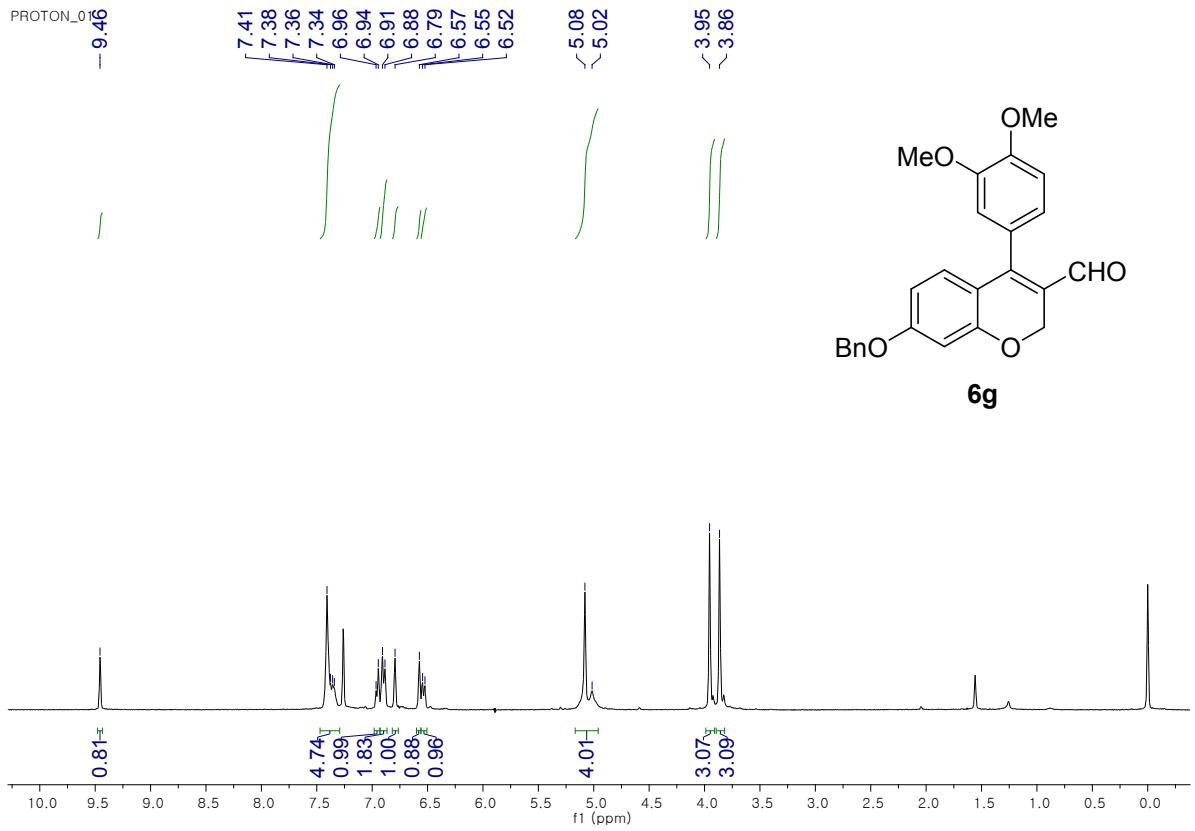
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OMe
MeO
CHO
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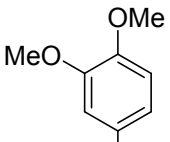
6g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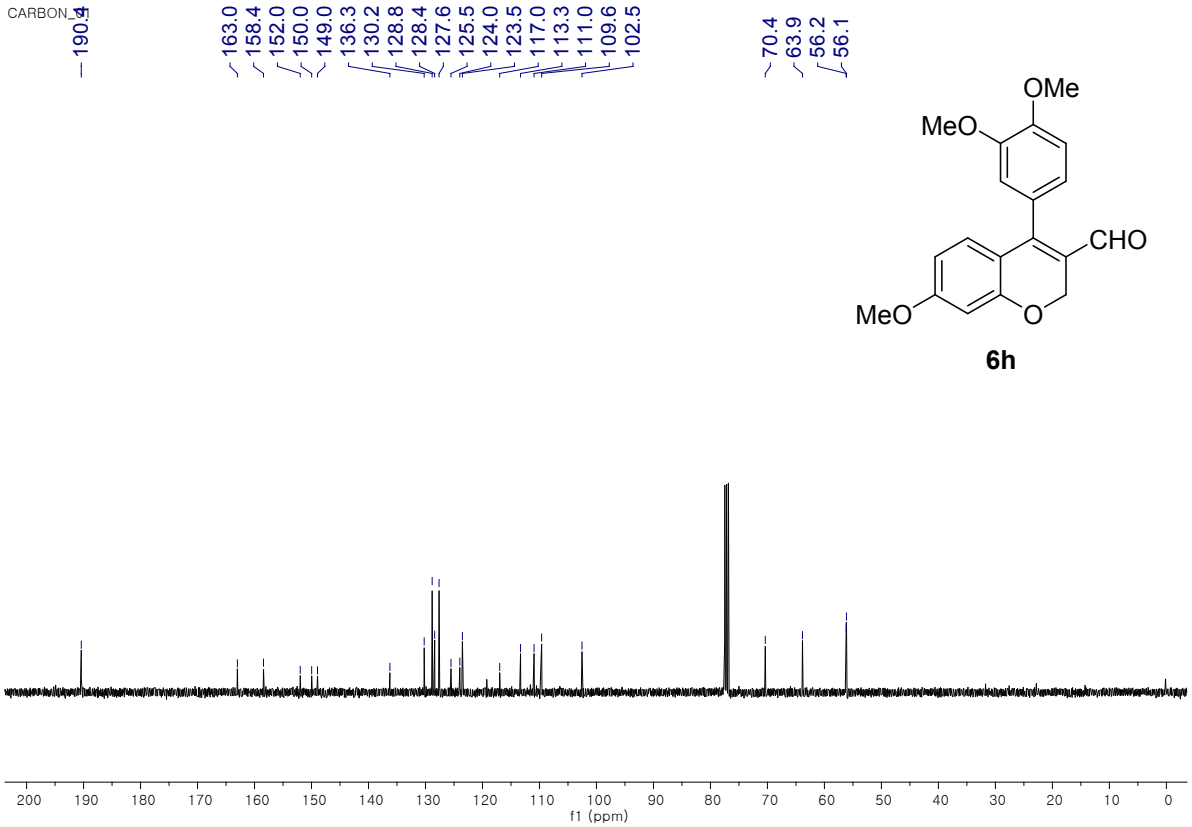
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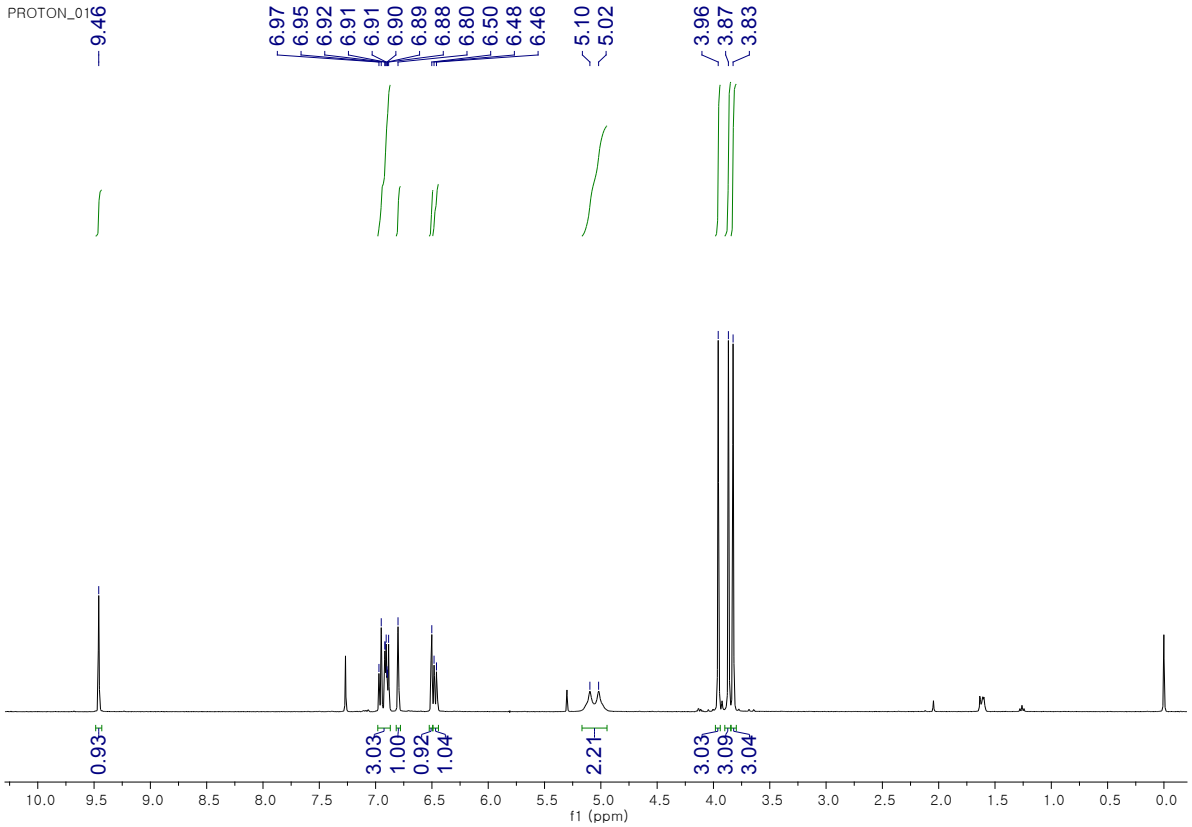
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3.04
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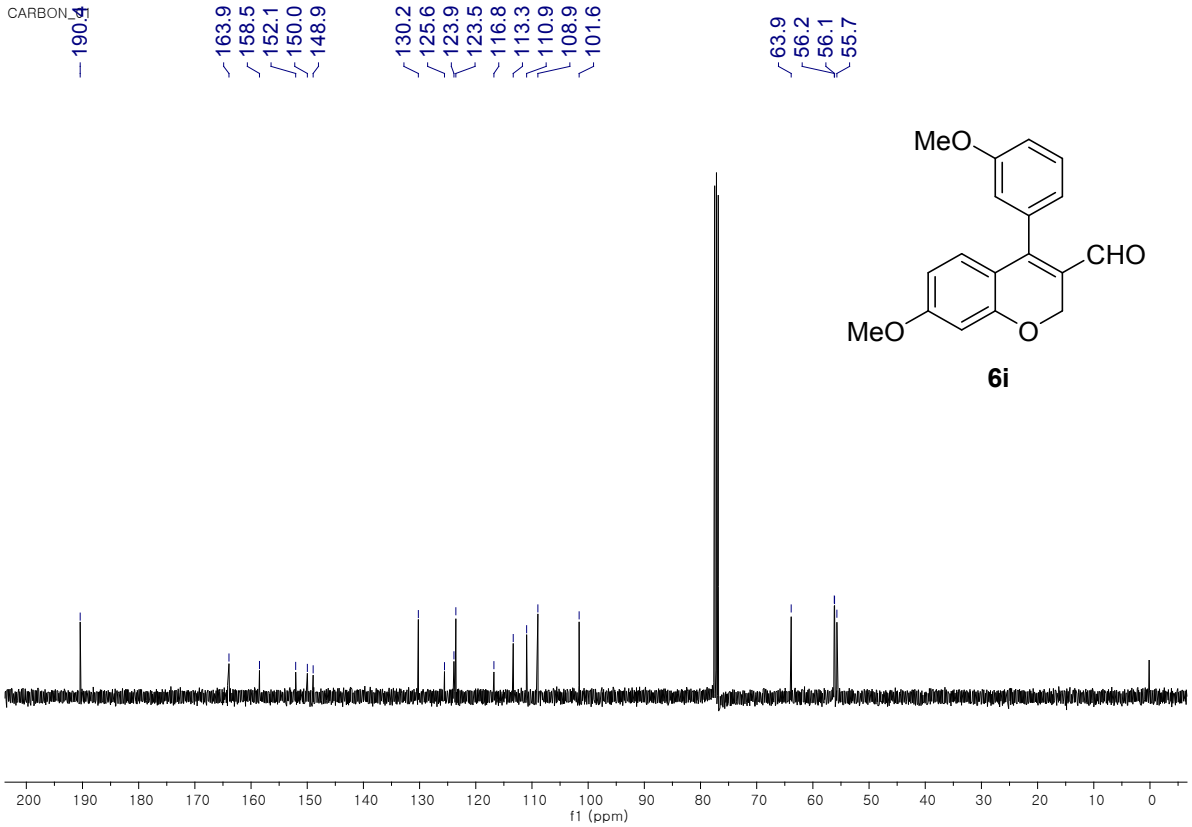
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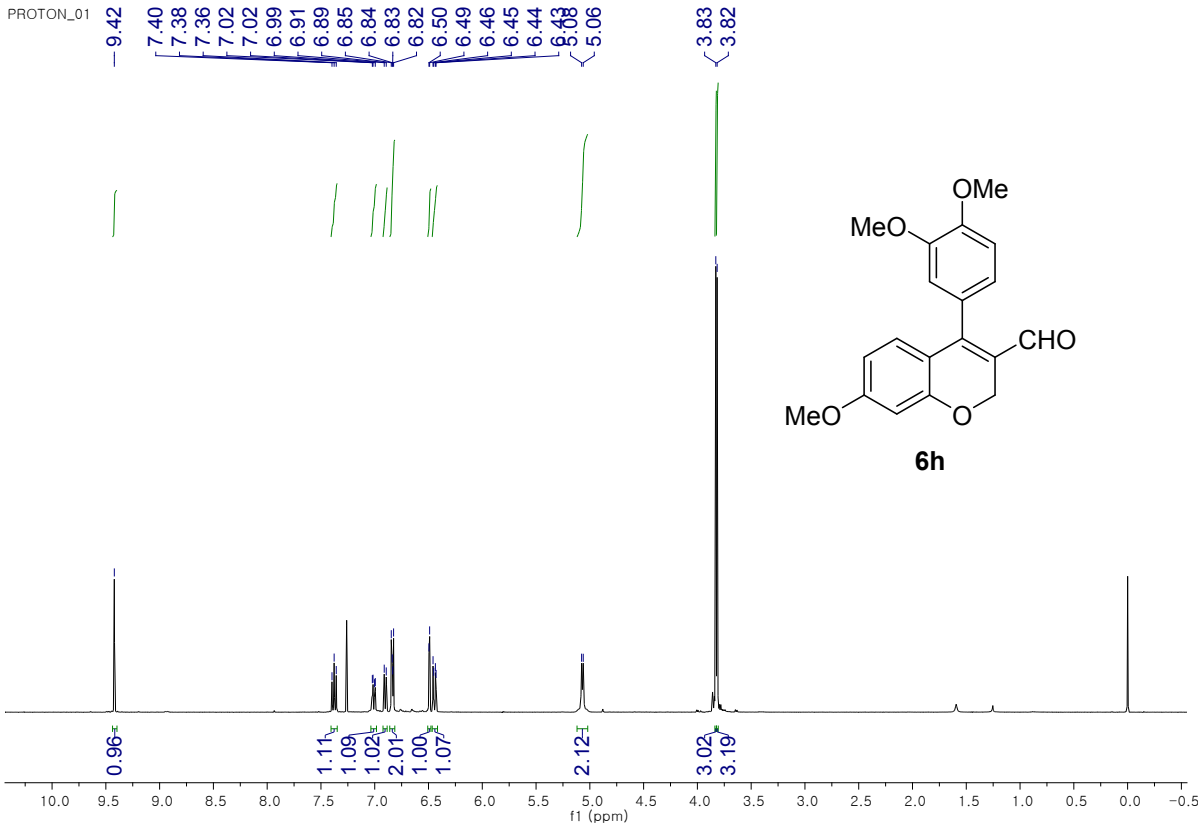
CHO
MeO
O
6i
f1 (ppm)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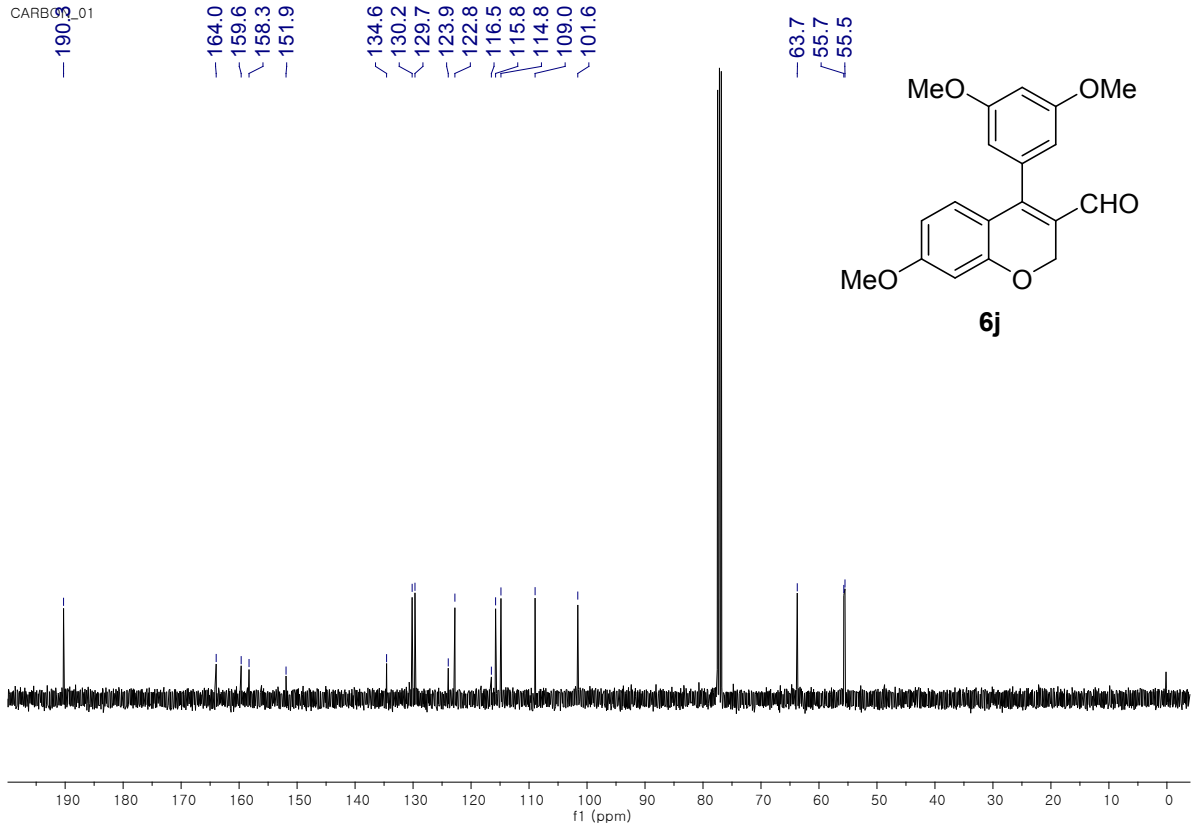
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OMe
CHO
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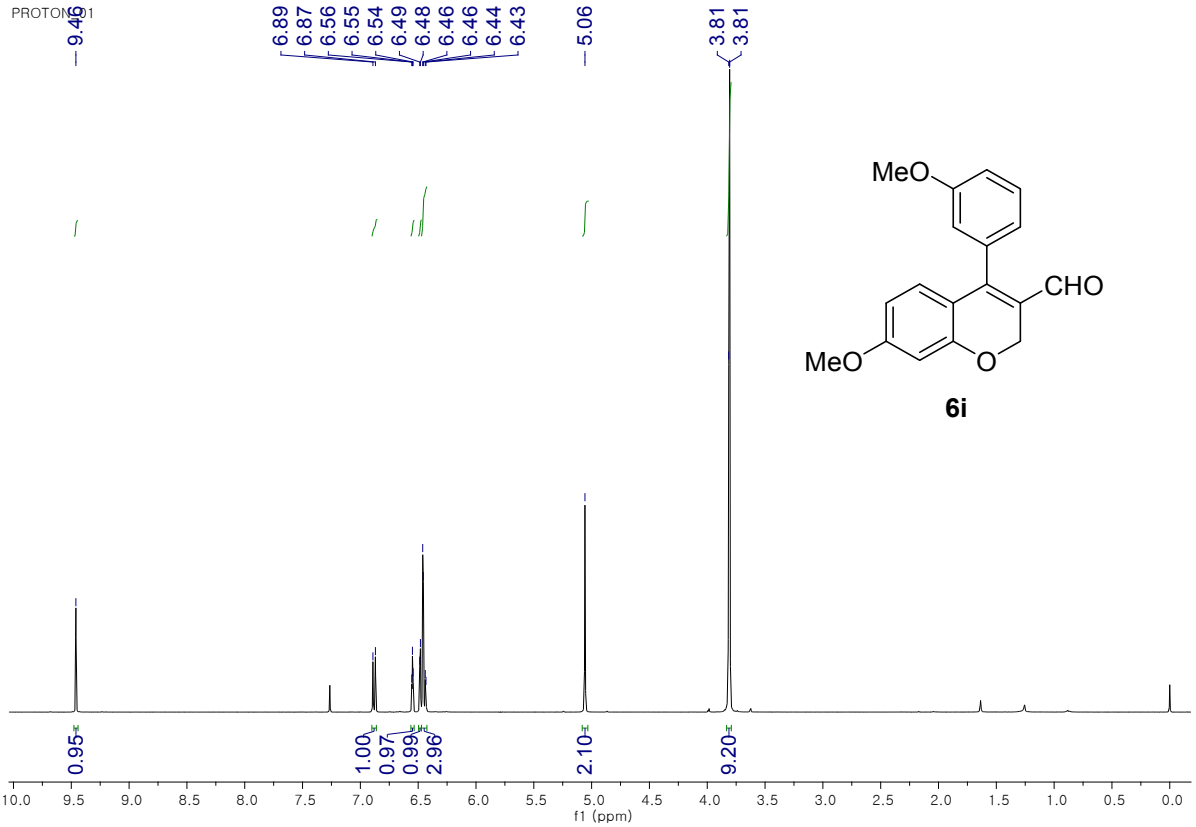
f1 (ppm)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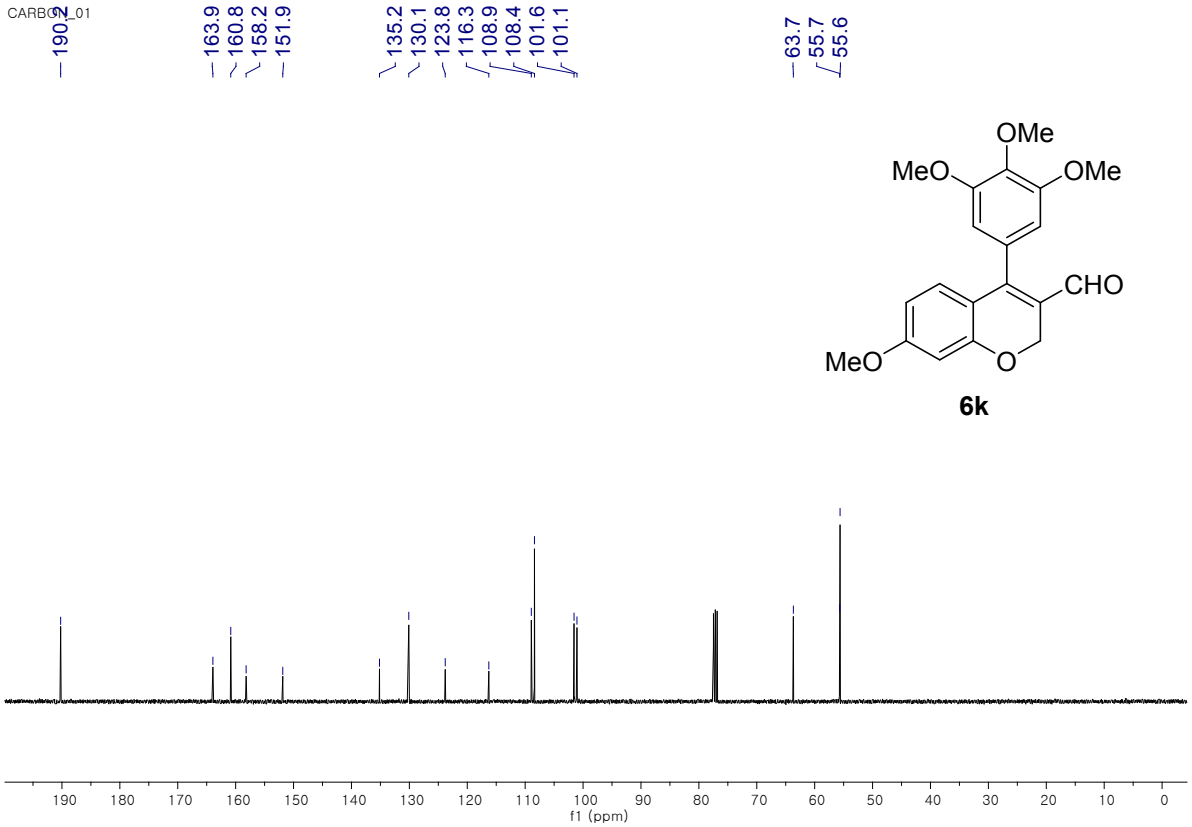
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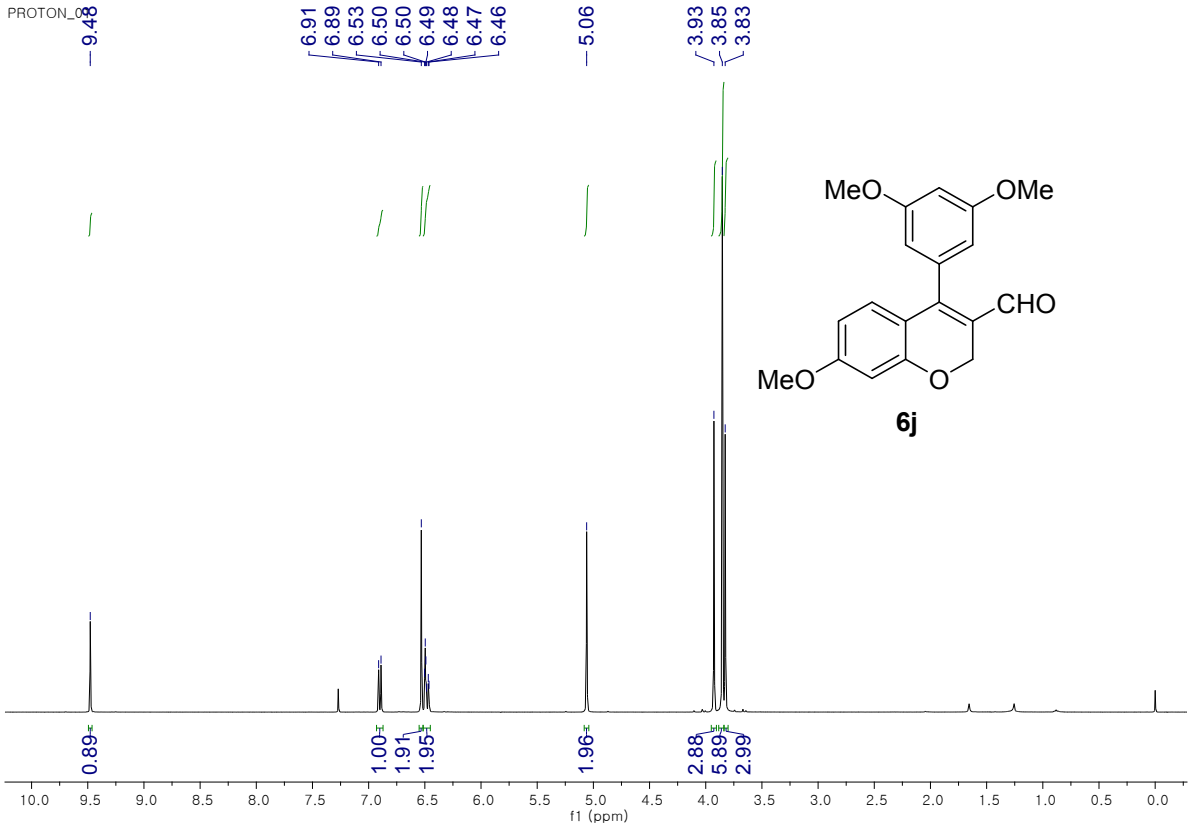
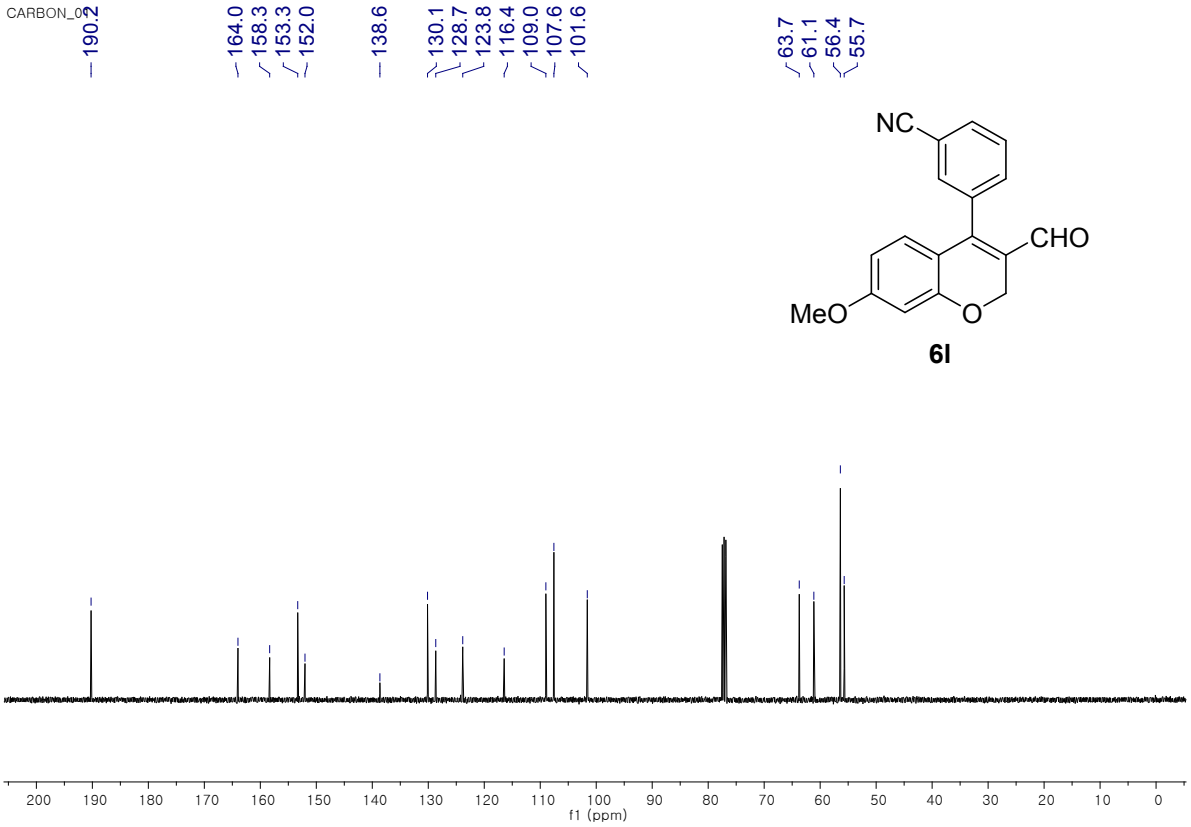
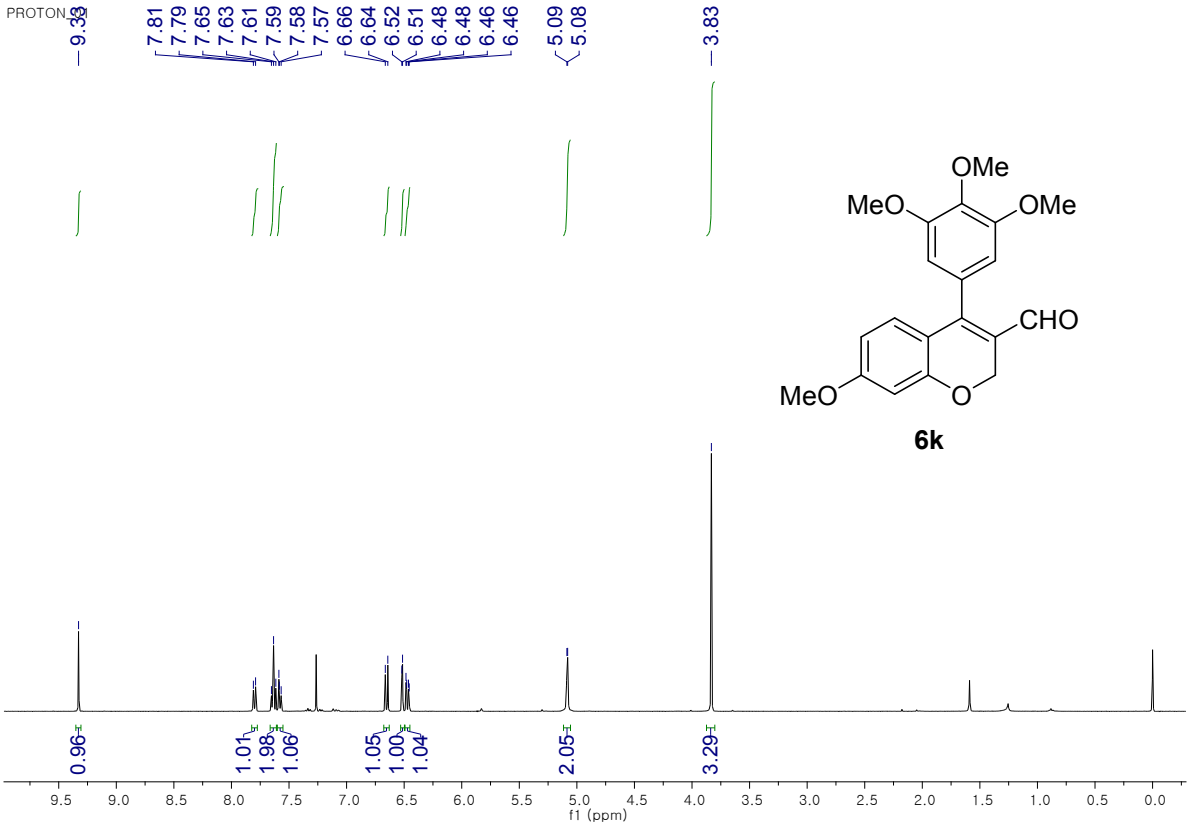
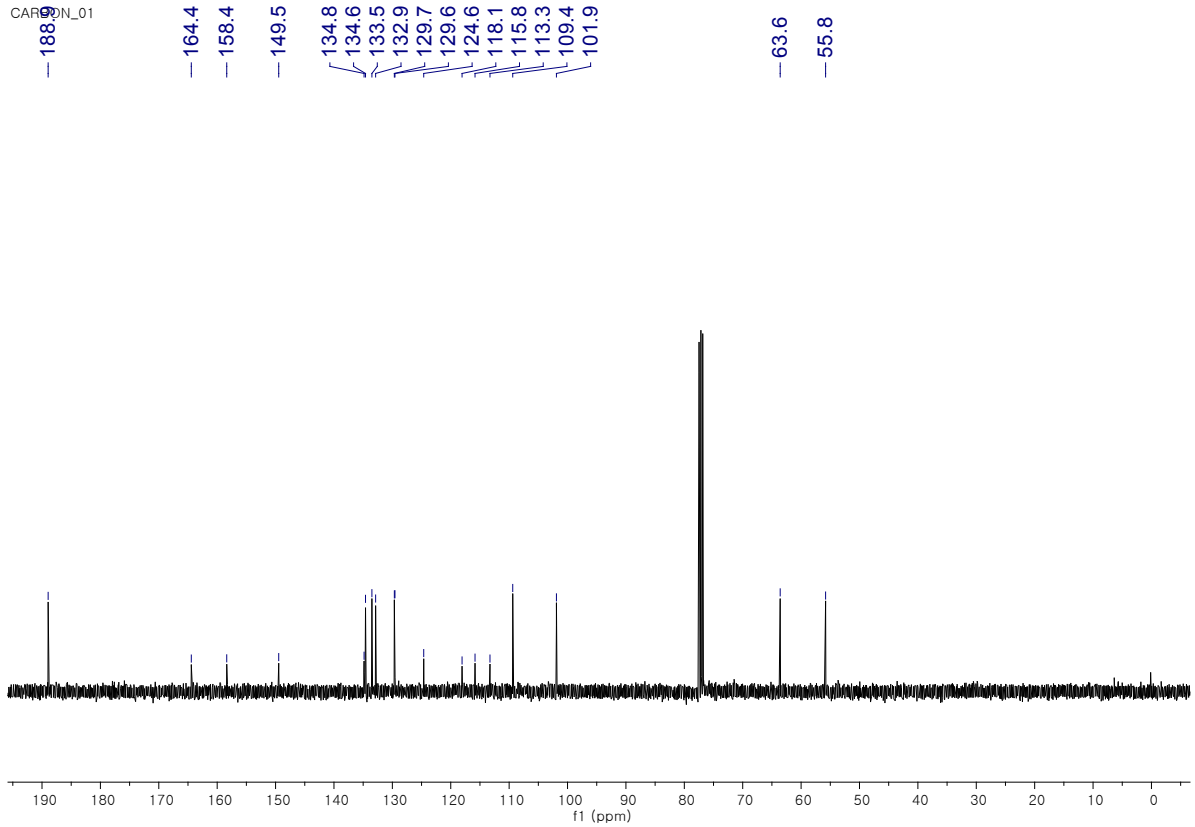
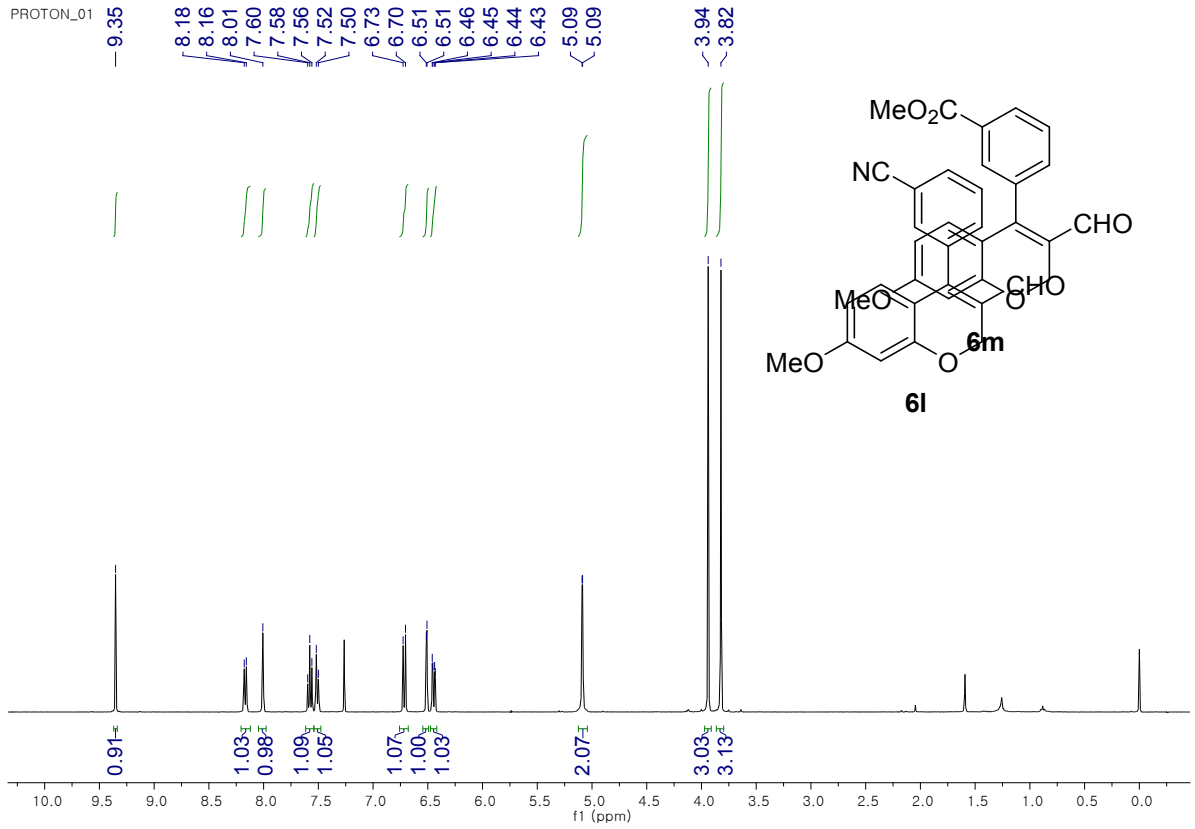
101.6
101.1
63.7
55.7
55.6
OMe
MeO
OMe
CHO
MeO
O
6k
f1 (ppm)


PROTON_01
9.48
6.91
6.89
6.53
6.50
6.50
6.49
6.48
6.47
6.46
5.06
3.93
3.85
3.83
MeO
OMe
CHO
MeO
O
6j
0.89
1.00
1.91
1.95
1.96
2.88
5.89
2.99
f1 (ppm)


CARBON_02
190.2
164.0
158.3
153.3
152.0
138.6
130.1
128.7
123.8
116.4
109.0
107.6
101.6
63.7
61.1
56.4
55.7
NC
CHO
MeO
O
6l
f1 (ppm)

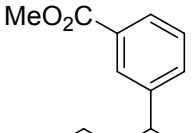

PROTON_02
9.33
7.81
7.79
7.65
7.63
7.61
7.59
7.58
7.57
6.66
6.64
6.52
6.51
6.48
6.48
6.46
6.46
5.09
5.08
3.83
OMe
MeO
OMe
CHO
MeO
O
6k
0.96
1.01
1.98
1.06
1.05
1.00
1.04
2.05
3.29
f1 (ppm)

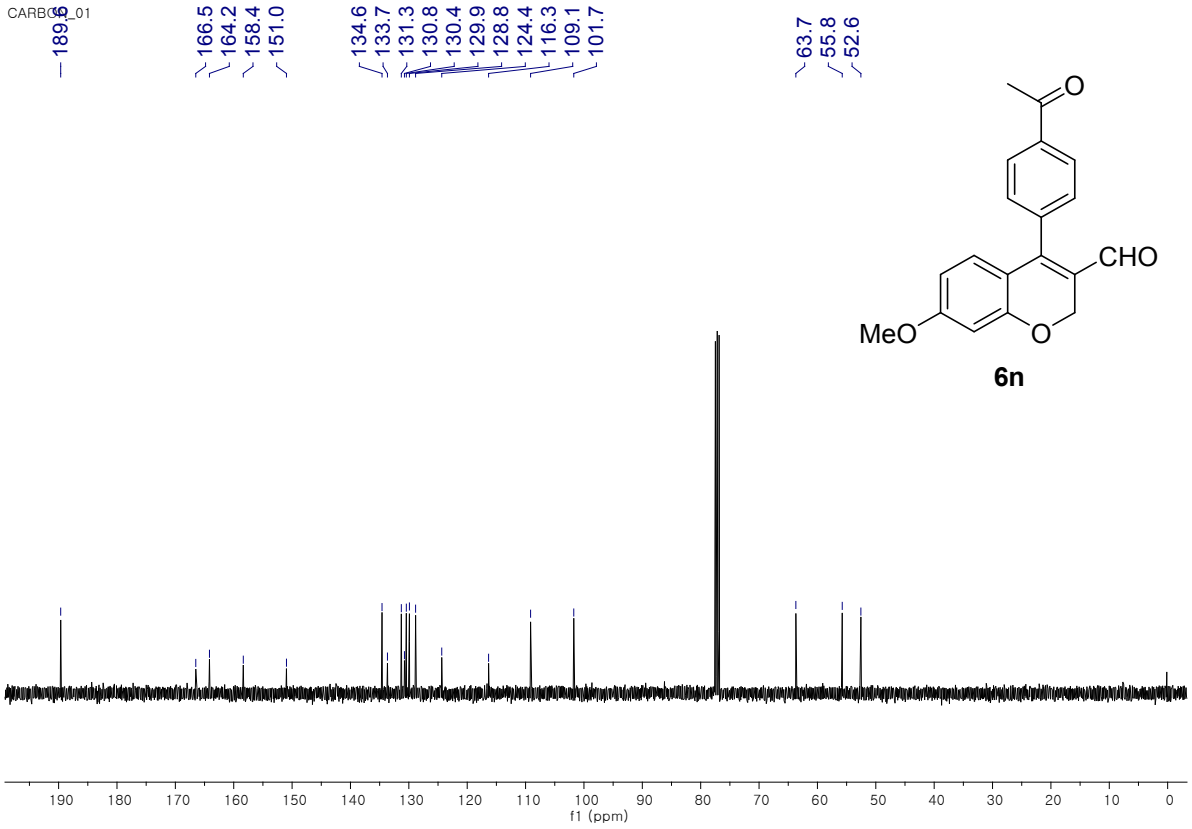

CARBON_01
188.9
164.4
158.4
149.5
134.8
134.6
133.5
132.9
129.7
129.6
124.6
118.1
115.8
113.3
109.4
101.9
63.6
55.8
f1 (ppm)

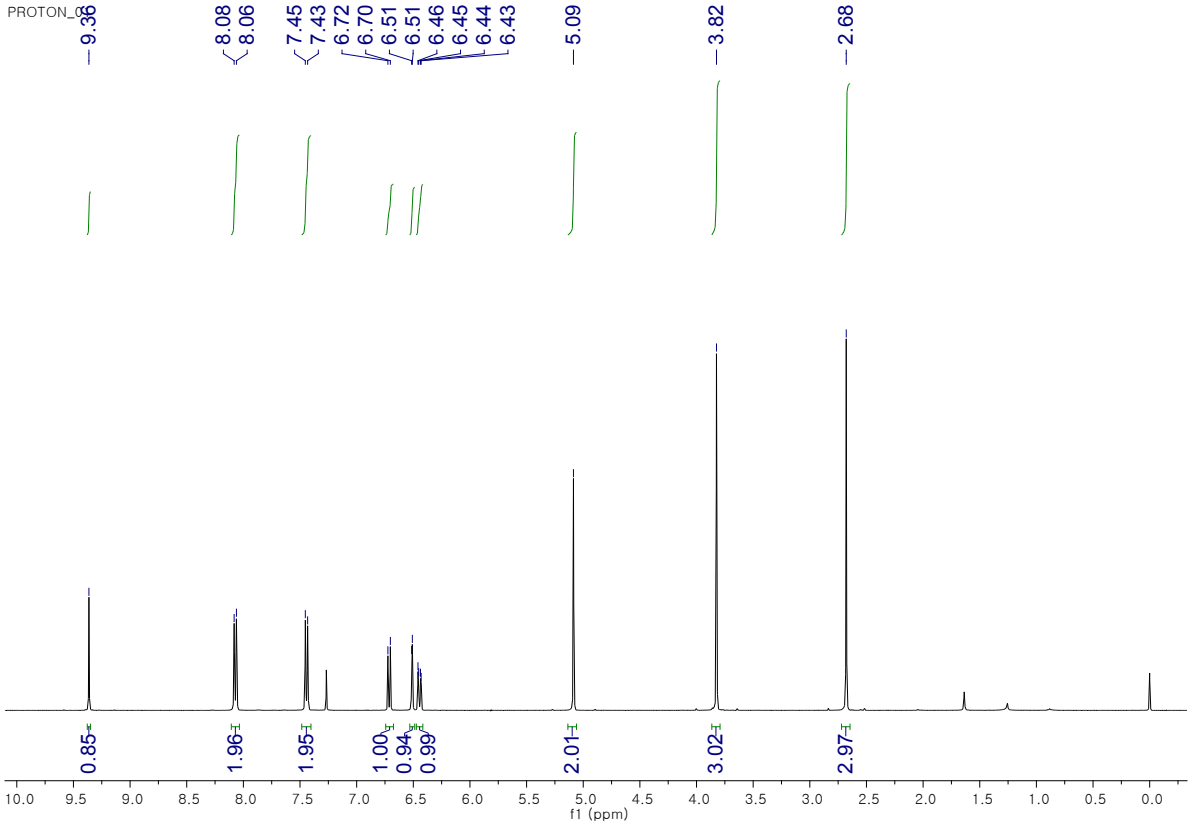

PROTON_01
9.35
8.18
8.16
8.01
7.60
7.58
7.56
7.52
7.50
6.73
6.70
6.51
6.51
6.46
6.45
6.44
6.43
5.09
5.09
3.94
3.82
0.91
1.03
0.98
1.09
1.05
1.07
1.00
1.03
2.07
3.03
3.13
f1 (ppm)

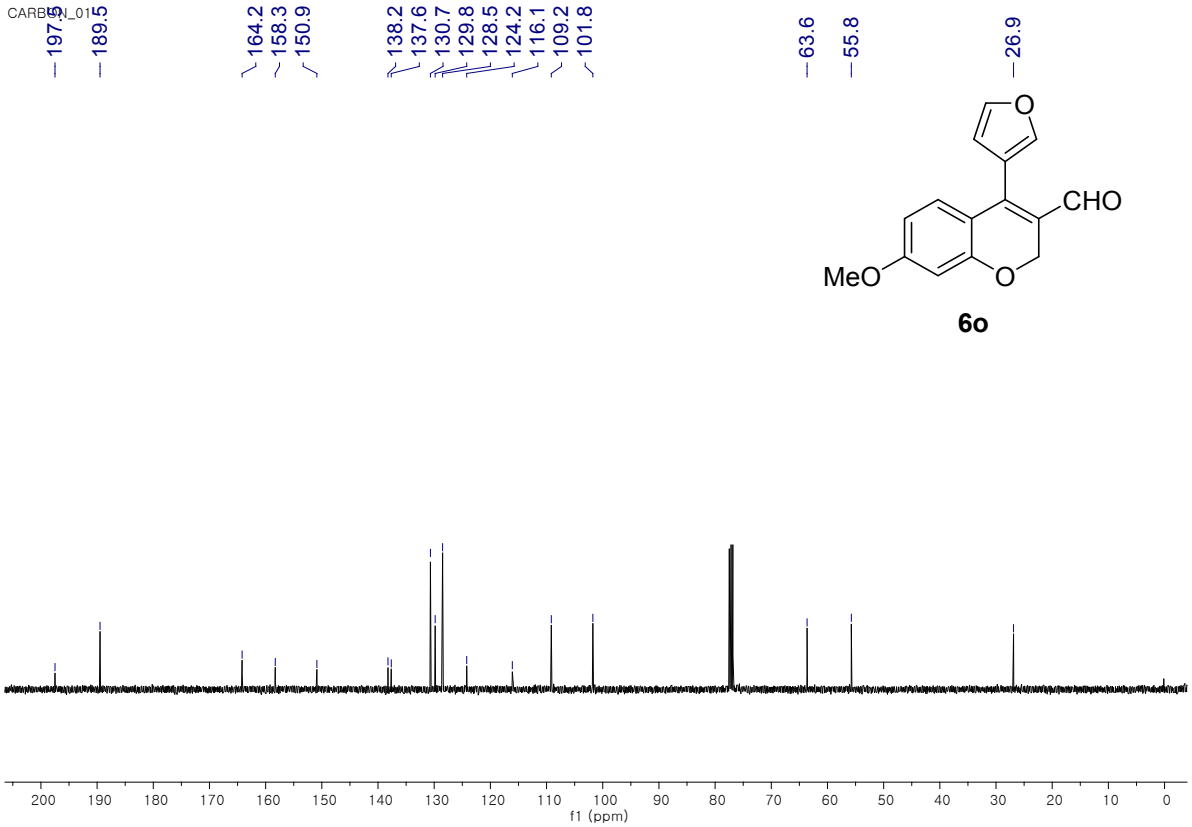
MeO2C
NC
CHO
CHO
MeO
O
MeO
O
6m

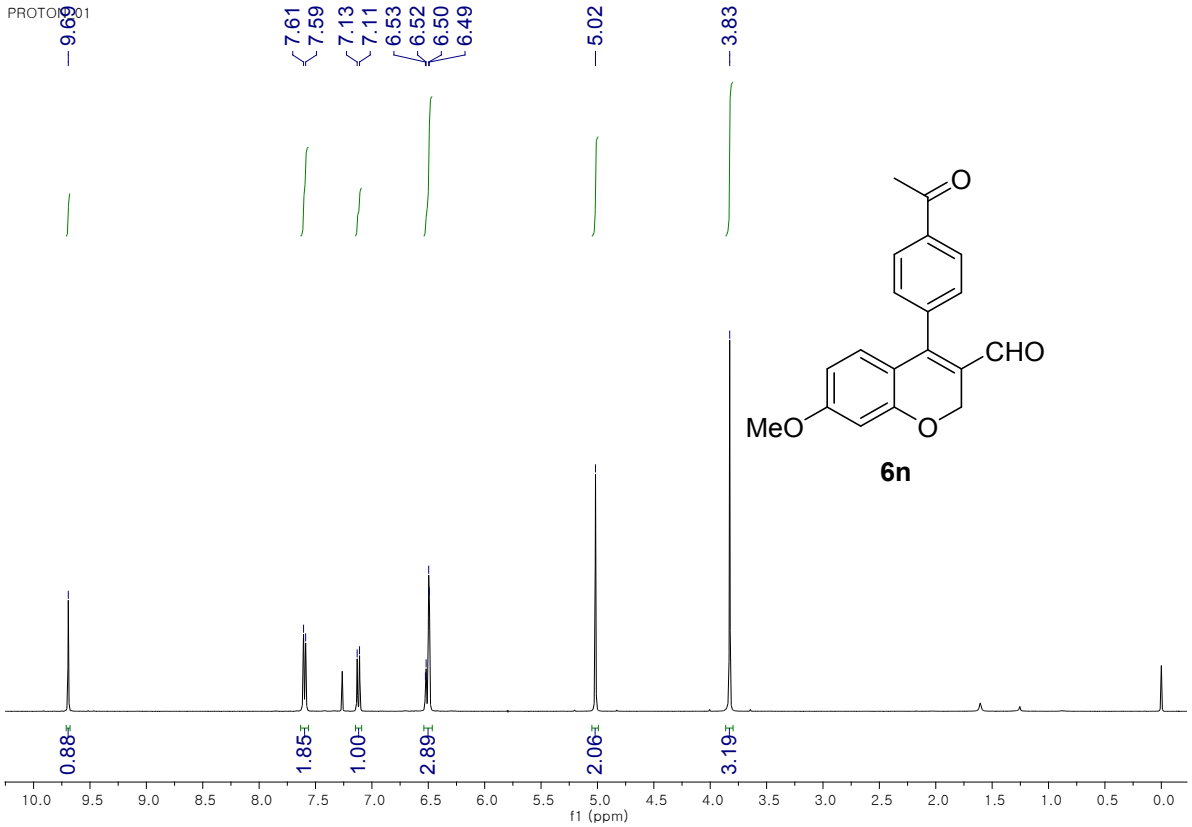
6l

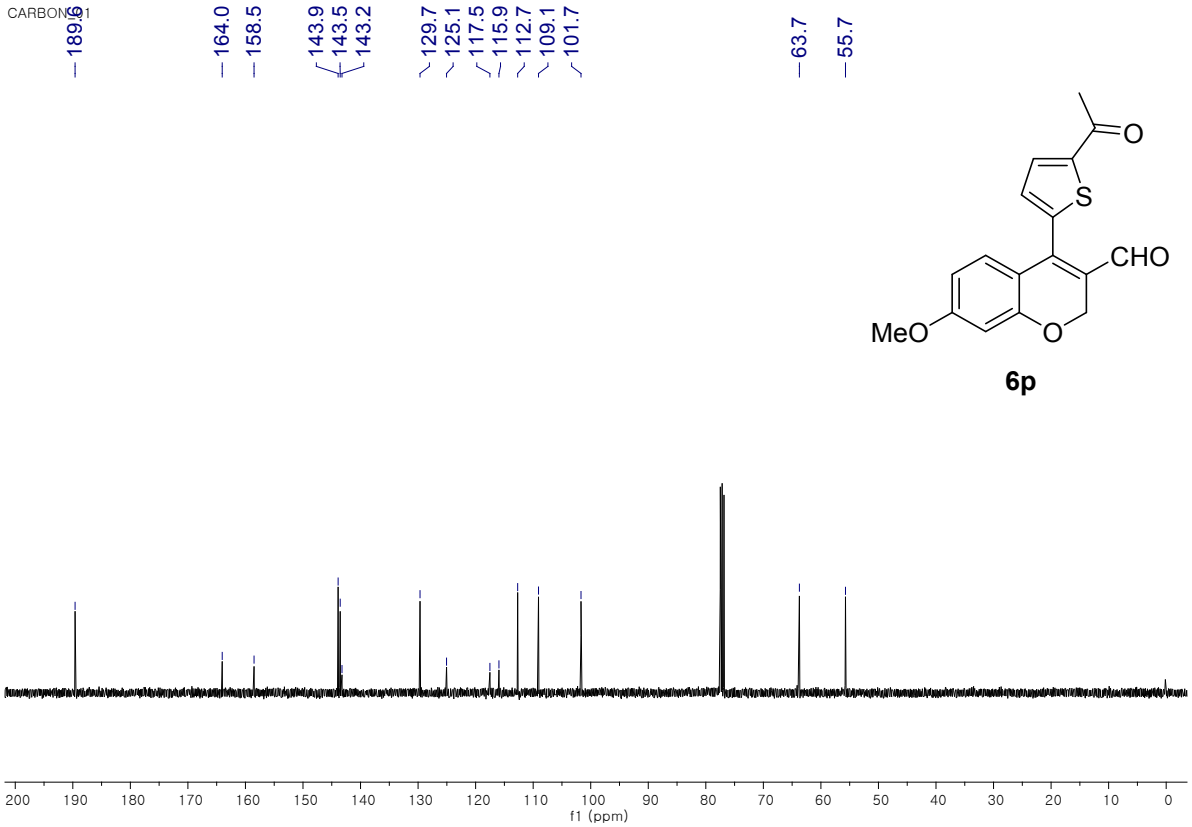

MeO2C
CHO


CARBON_01
189.6
166.5
164.2
158.4
151.0
134.6
133.7
131.3
130.8
130.4
129.9
128.8
124.4
116.3
109.1
101.7
63.7
55.8
52.6
O
CHO
MeO
O
6n
f1 (ppm)

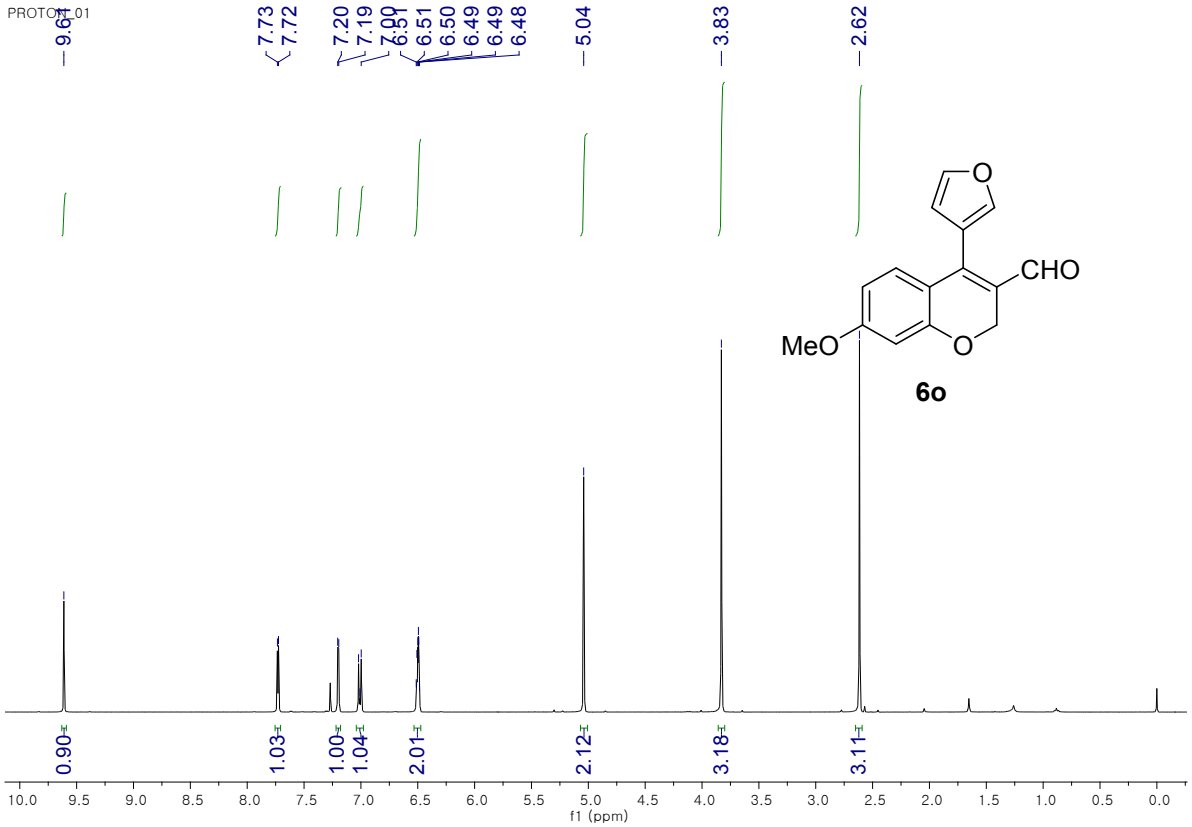

PROTON_01
9.36
8.08
8.06
7.45
7.43
6.72
6.70
6.51
6.51
6.46
6.45
6.44
6.43
5.09
3.82
2.68
0.85
1.96
1.95
1.00
0.94
0.99
2.01
3.02
2.97
f1 (ppm)


CARBON_01
197.5
189.5
164.2
158.3
150.9
138.2
137.6
130.7
129.8
128.5
124.2
116.1
109.2
101.8
63.6
55.8
26.9
O
CHO
MeO
O
6o
200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0
f1 (ppm)

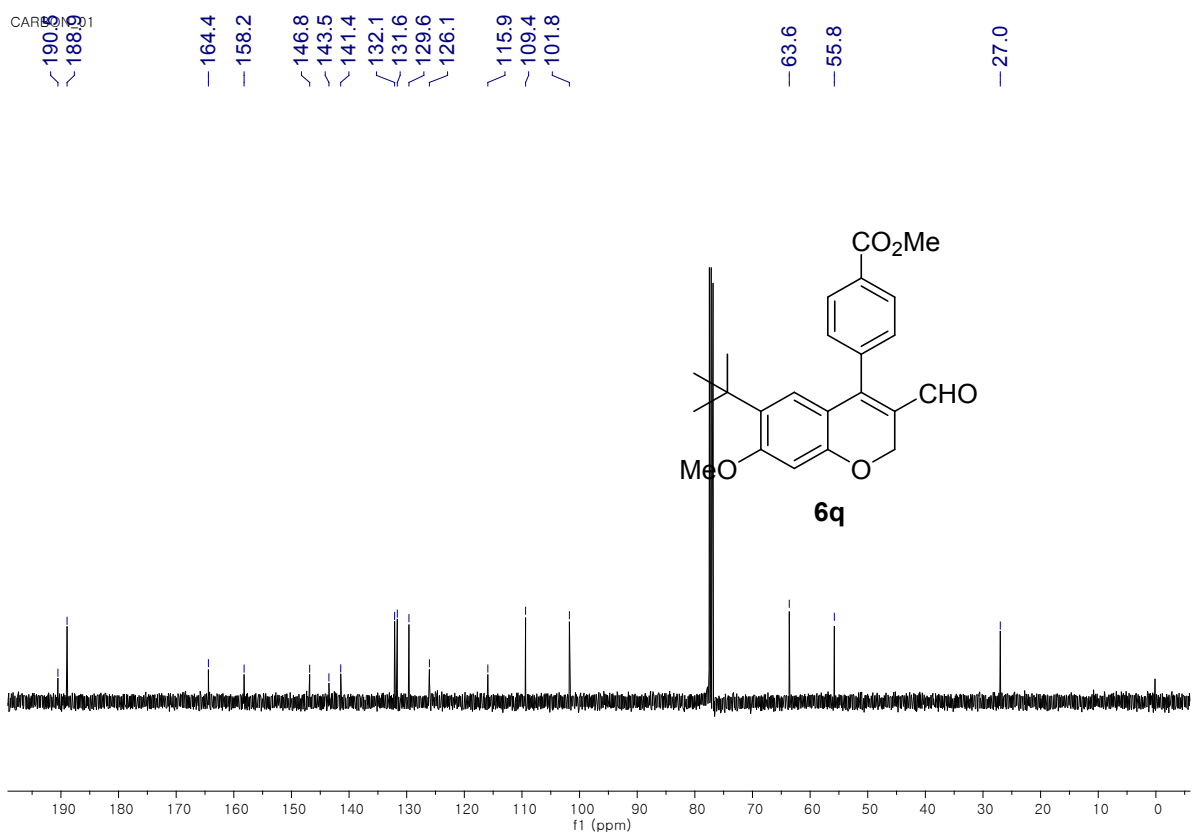

PROTON_01
9.69
7.61
7.59
7.13
7.11
6.53
6.52
6.50
6.49
5.02
3.83
O
CHO
MeO
O
6n
0.88
1.85
1.00
2.89
2.06
3.19
10.0 9.5 9.0 8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0
f1 (ppm)

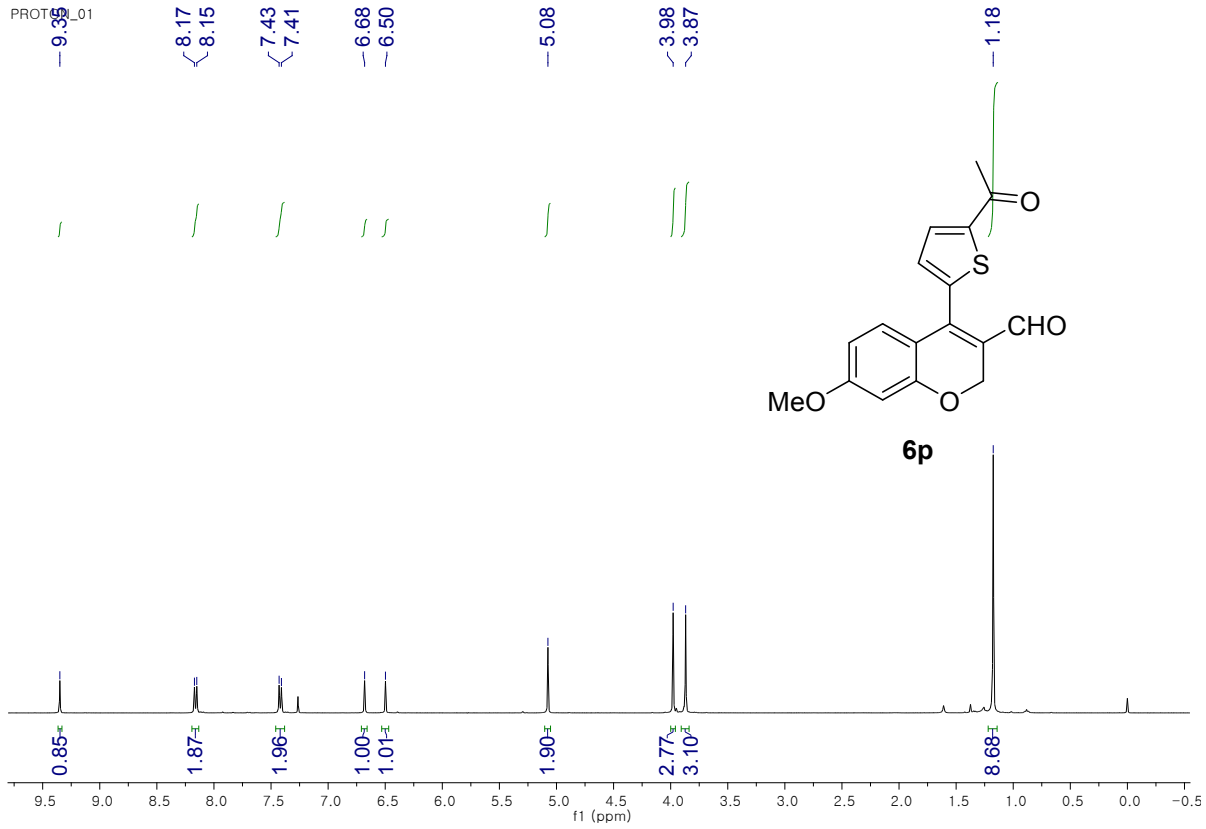

CARBON_01
189.6
164.0
158.5
143.9
143.5
143.2
129.7
125.1
117.5
115.9
112.7
109.1
101.7
63.7
55.7
O
S
CHO
MeO
O
f1 (ppm)

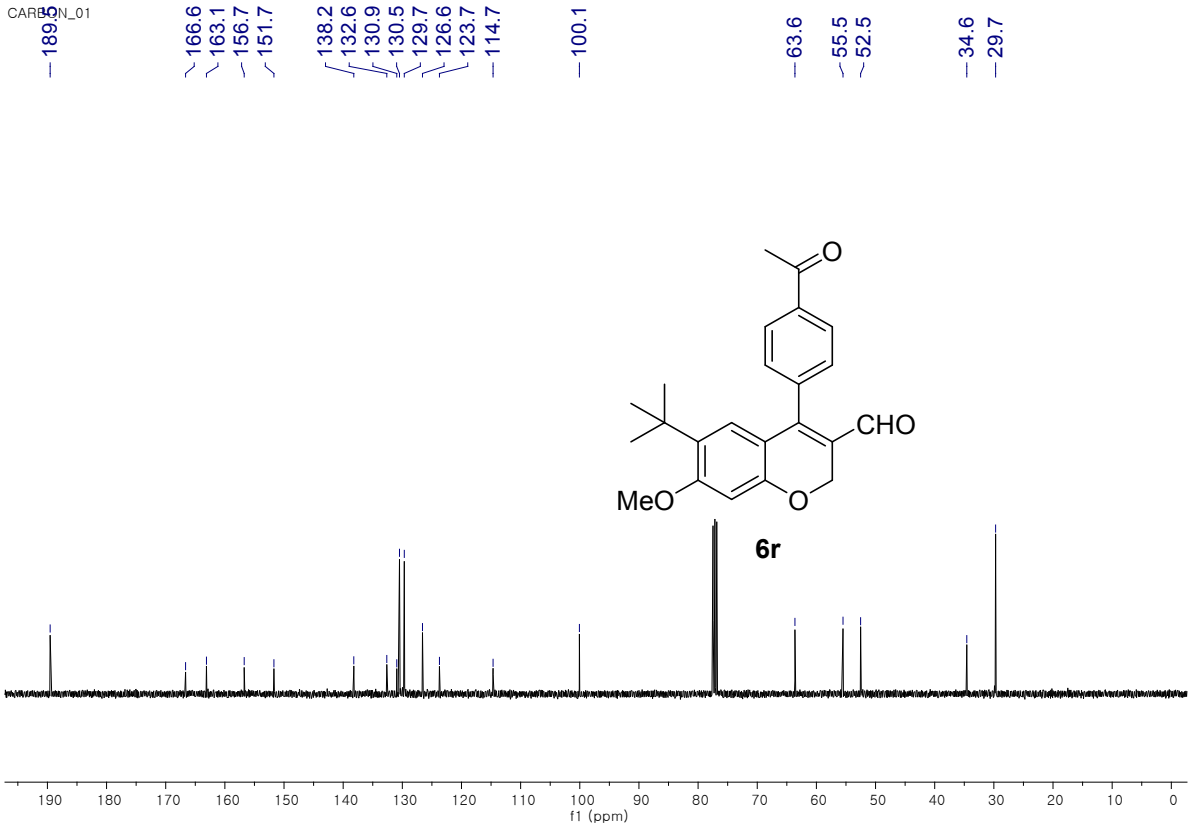
6p

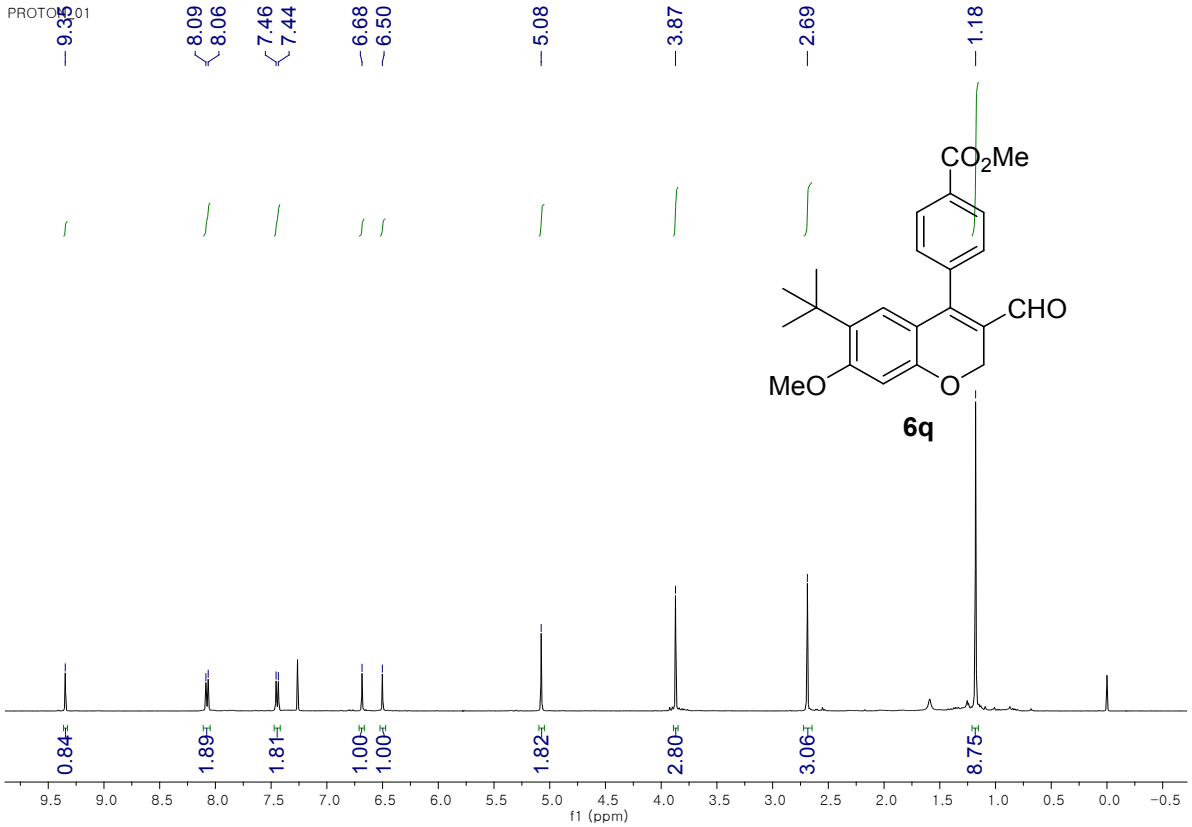

PROTON_01
9.67
7.73
7.72
7.20
7.19
7.00
6.51
6.50
6.49
6.49
6.48
5.04
3.83
2.62
O
CHO
MeO
O
0.90
1.03
1.00
1.04
2.01
2.12
3.18
3.11
f1 (ppm)

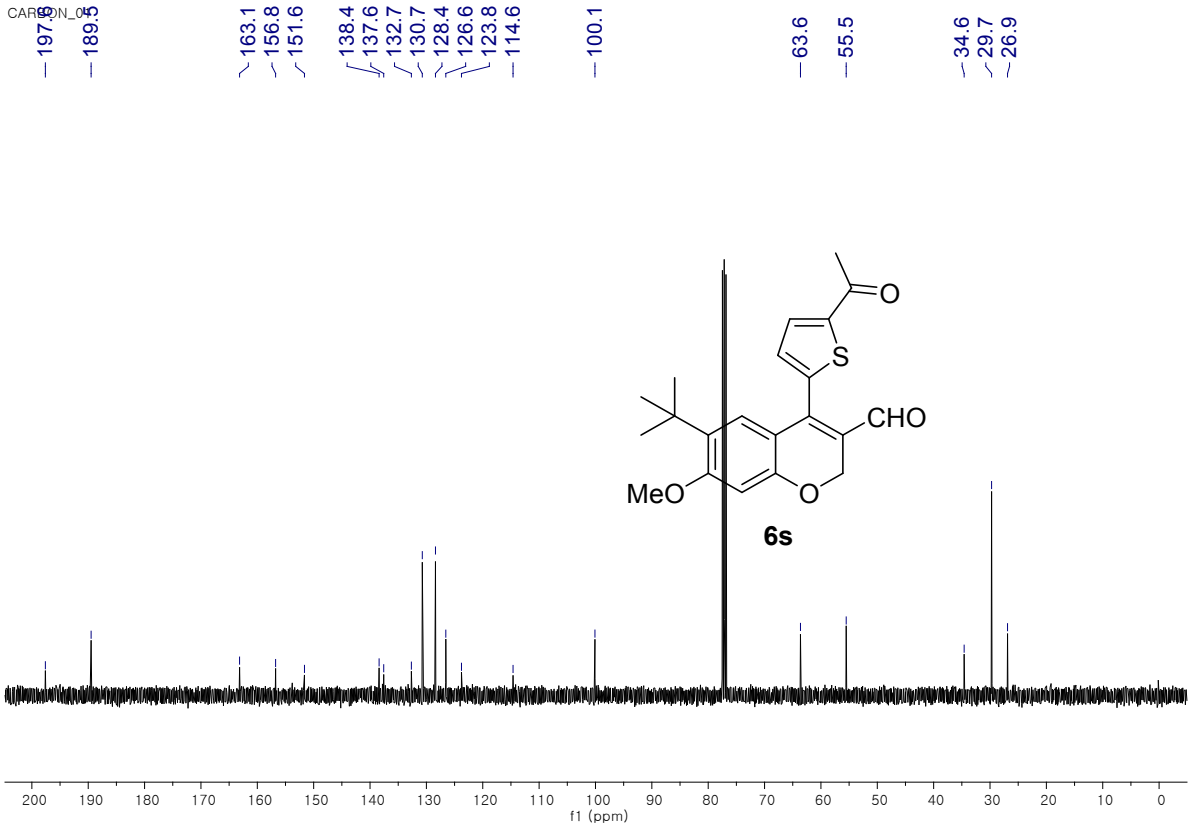
6o

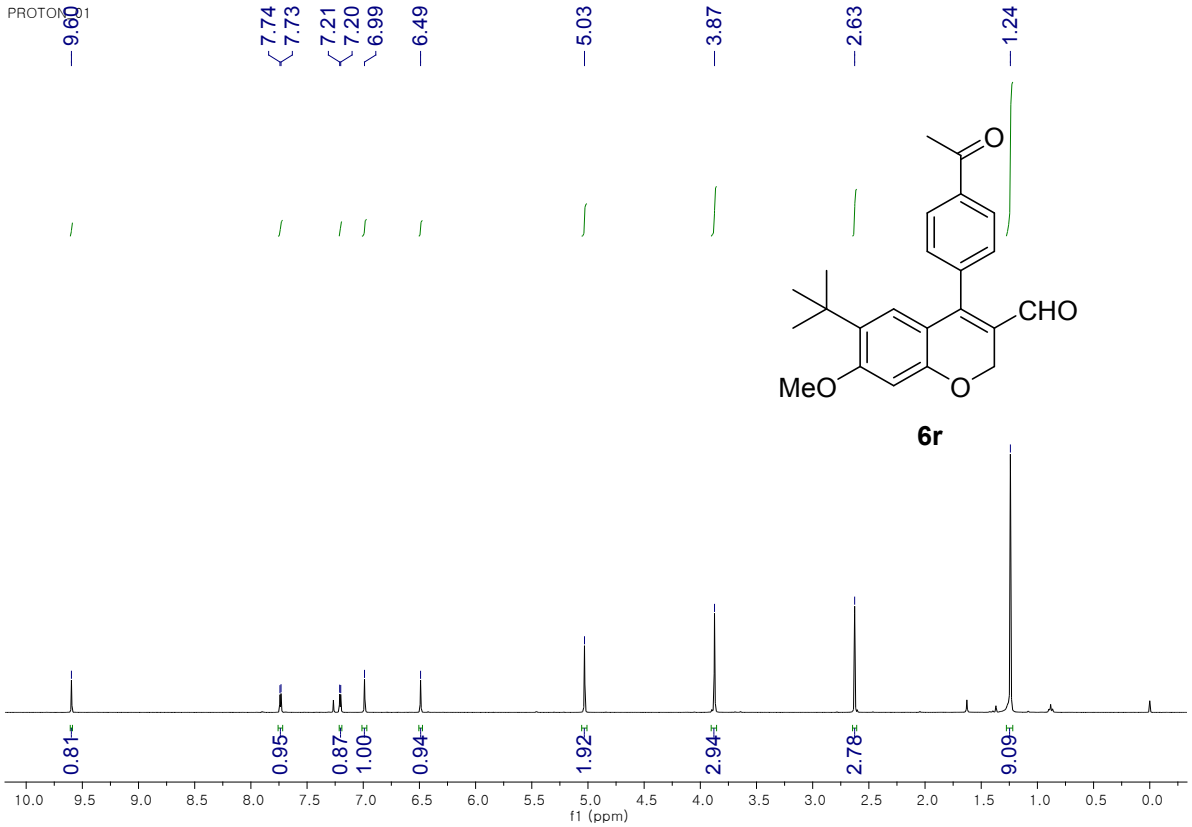

CARBON_01
190.5
188.9
164.4
158.2
146.8
143.5
141.4
132.1
131.6
129.6
126.1
115.9
109.4
101.8
63.6
55.8
27.0
CO2Me
CHO
MeO
O
6q
190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0
f1 (ppm)

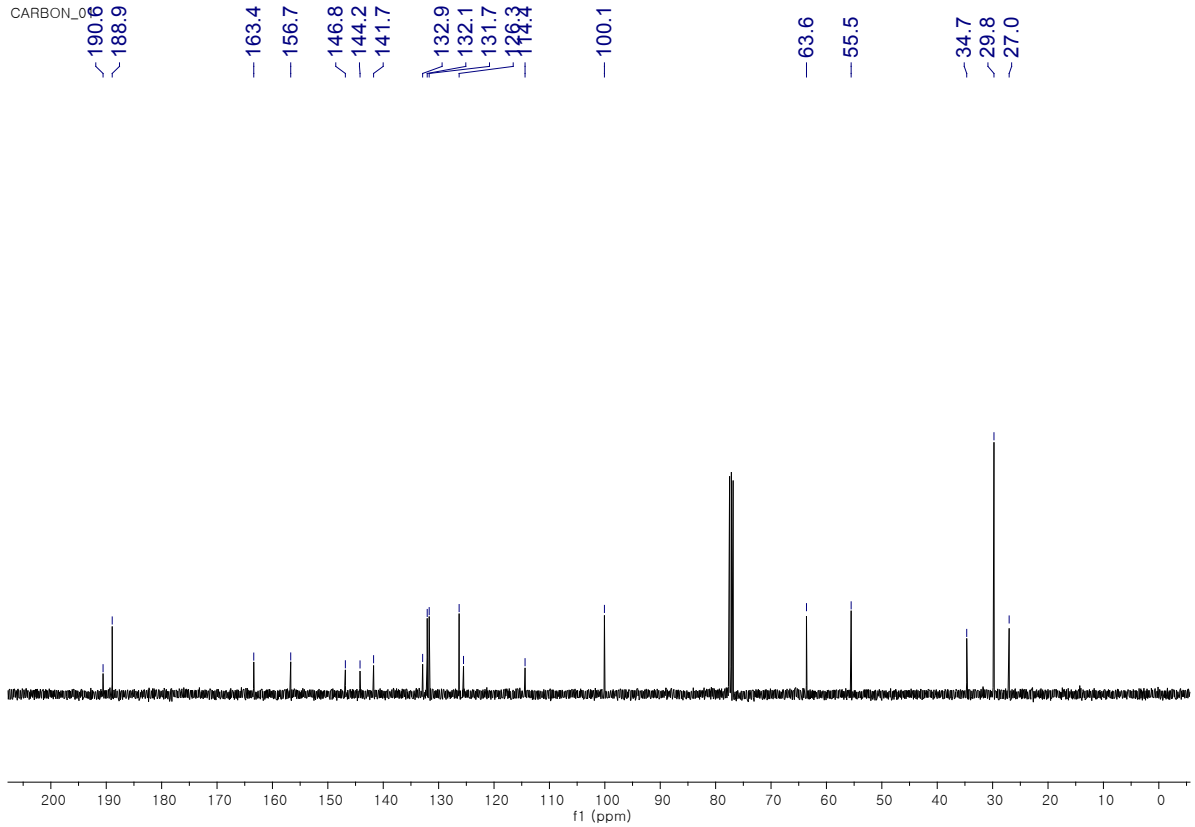

PROTON_01
9.39
8.17
8.15
7.43
7.41
6.68
6.50
5.08
3.98
3.87
1.18
O
S
CHO
MeO
O
6p
0.85
1.87
1.96
1.00
1.01
1.90
2.77
3.10
8.68
9.5 9.0 8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0 −0.5
f1 (ppm)

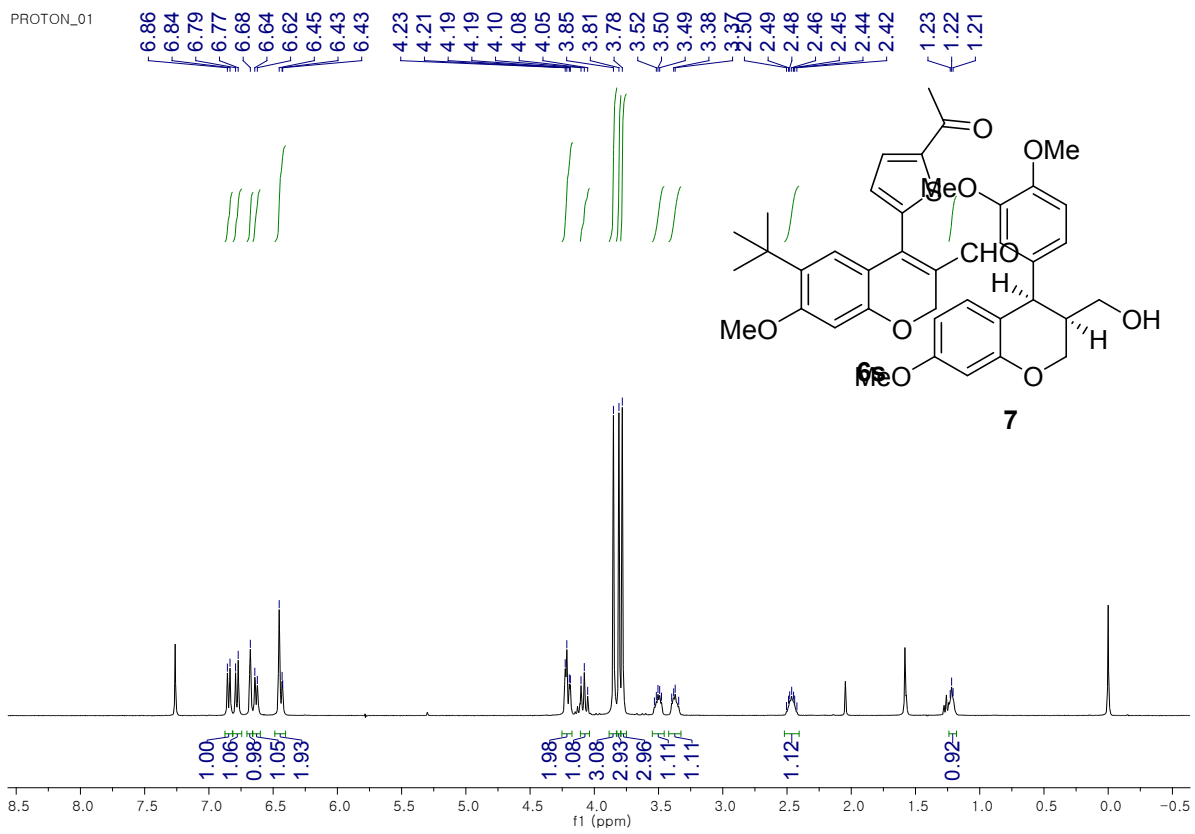

CARBON_01
189.0
166.6
163.1
156.7
151.7
138.2
132.6
130.9
130.5
129.7
126.6
123.7
114.7
100.1
63.6
55.5
52.5
34.6
29.7
O
CHO
MeO
O
6r
190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0
f1 (ppm)


PROTON_01
9.35
8.09
8.06
7.46
7.44
6.68
6.50
5.08
3.87
2.69
1.18
CO2Me
CHO
MeO
O
6q
0.84
1.89
1.81
1.00
1.00
1.82
2.80
3.06
8.75
9.5 9.0 8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0 −0.5
f1 (ppm)


CARBON_01
197.6
189.5
163.1
156.8
151.6
138.4
137.6
132.7
130.7
128.4
126.6
123.8
114.6
100.1
63.6
55.5
34.6
29.7
26.9
O
S
CHO
MeO
O
6s
200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0
f1 (ppm)

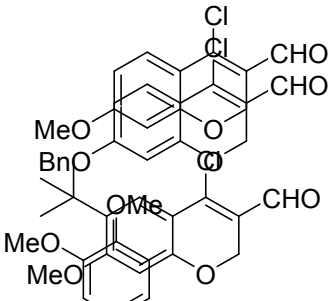

PROTON_01
9.60
7.74
7.73
7.21
7.20
6.99
6.49
5.03
3.87
2.63
1.24
O
CHO
MeO
O
6r
0.81
0.95
0.87
1.00
0.94
1.92
2.94
2.78
9.09
10.0 9.5 9.0 8.5 8.0 7.5 7.0 6.5 6.0 5.5 5.0 4.5 4.0 3.5 3.0 2.5 2.0 1.5 1.0 0.5 0.0
f1 (ppm)

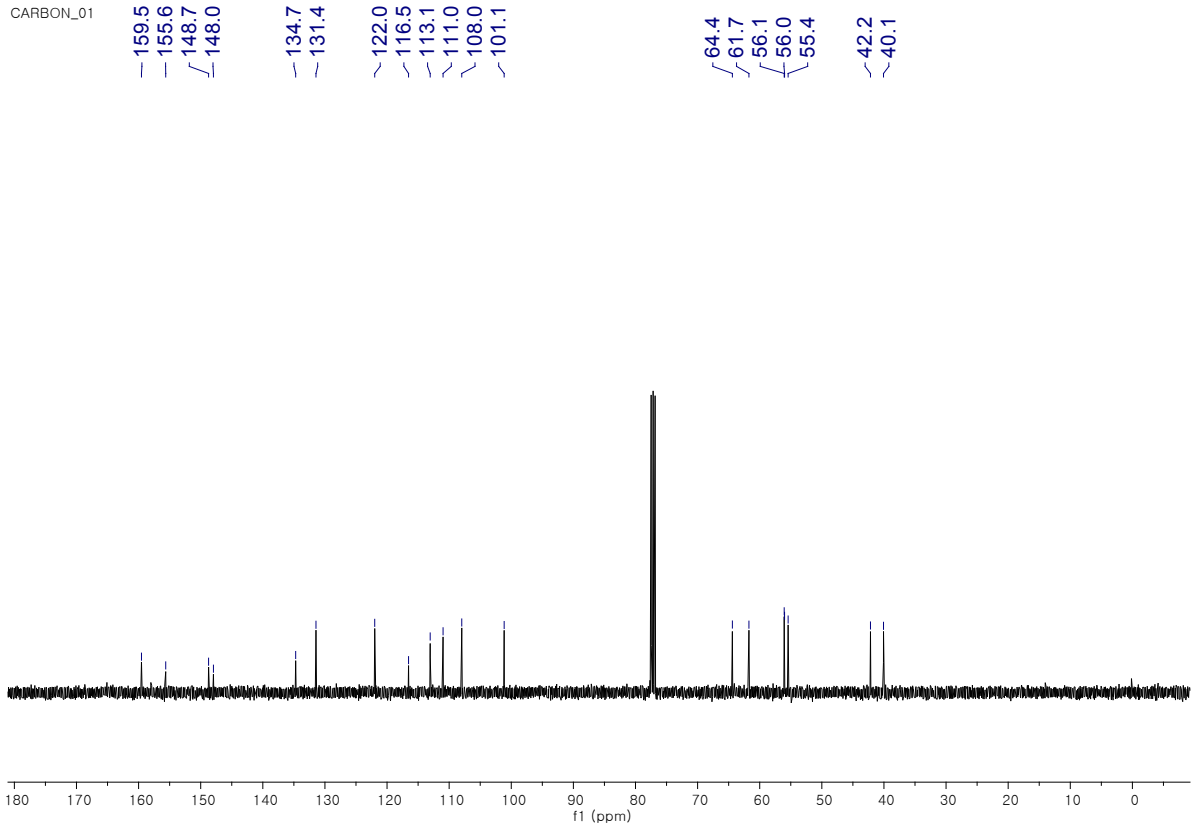

CARBON_06
190.6
188.9
163.4
156.7
146.8
144.2
141.7
132.9
132.1
131.7
100.1
63.6
55.5
34.7
29.8
27.0
f1 (ppm)

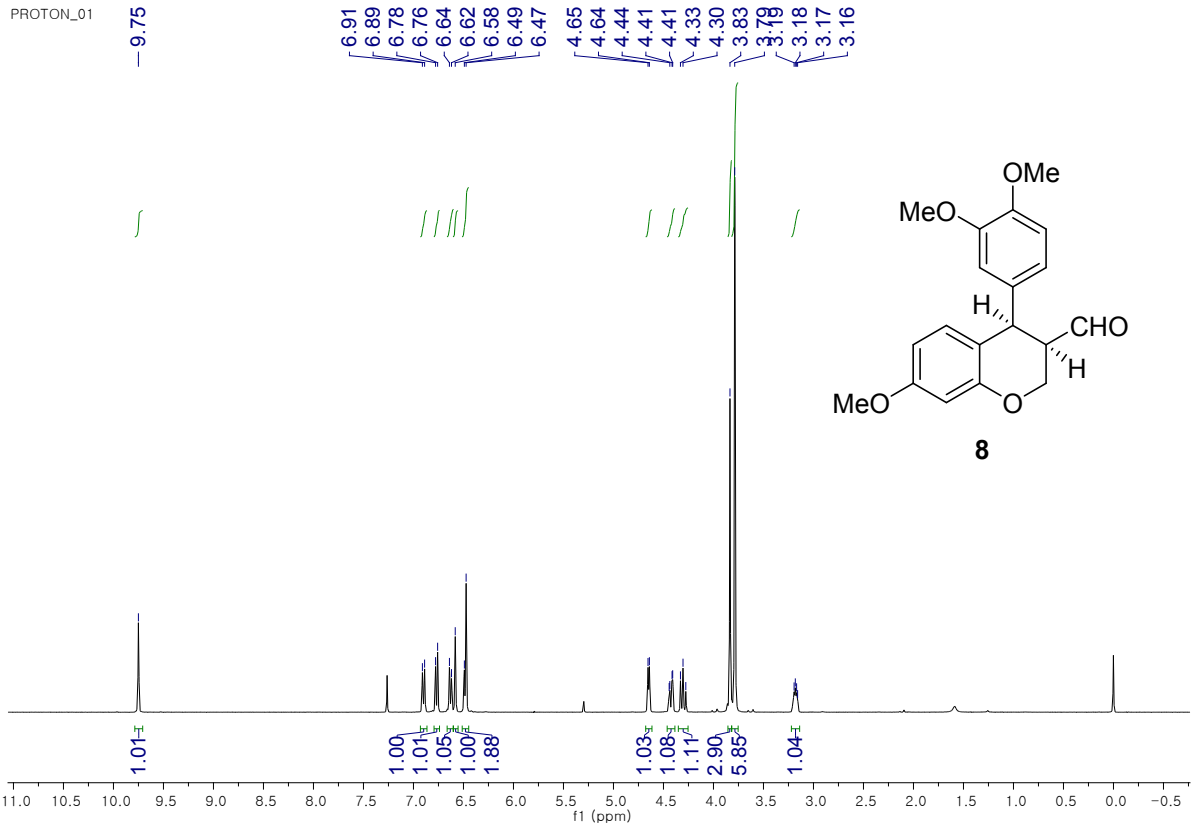

PROTON_01
6.86
6.84
6.79
6.77
6.68
6.64
6.62
6.45
6.43
6.43
4.23
4.21
4.19
4.19
4.10
4.08
4.05
3.85
3.81
3.78
3.52
3.50
3.49
3.38
2.50
2.49
2.48
2.46
2.45
2.44
2.42
1.23
1.22
1.21
1.00
1.06
0.98
1.05
1.93
1.98
1.08
3.08
2.93
2.96
1.11
1.11
1.12
0.92
f1 (ppm)

O
OMe
MeO
CHO
H
OH
MeO
O
H
MeO
O

7

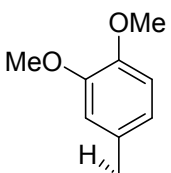

Cl
Cl
CHO
CHO
MeO
O
BnO
Cl
OMe
CHO
MeO
MeO
O

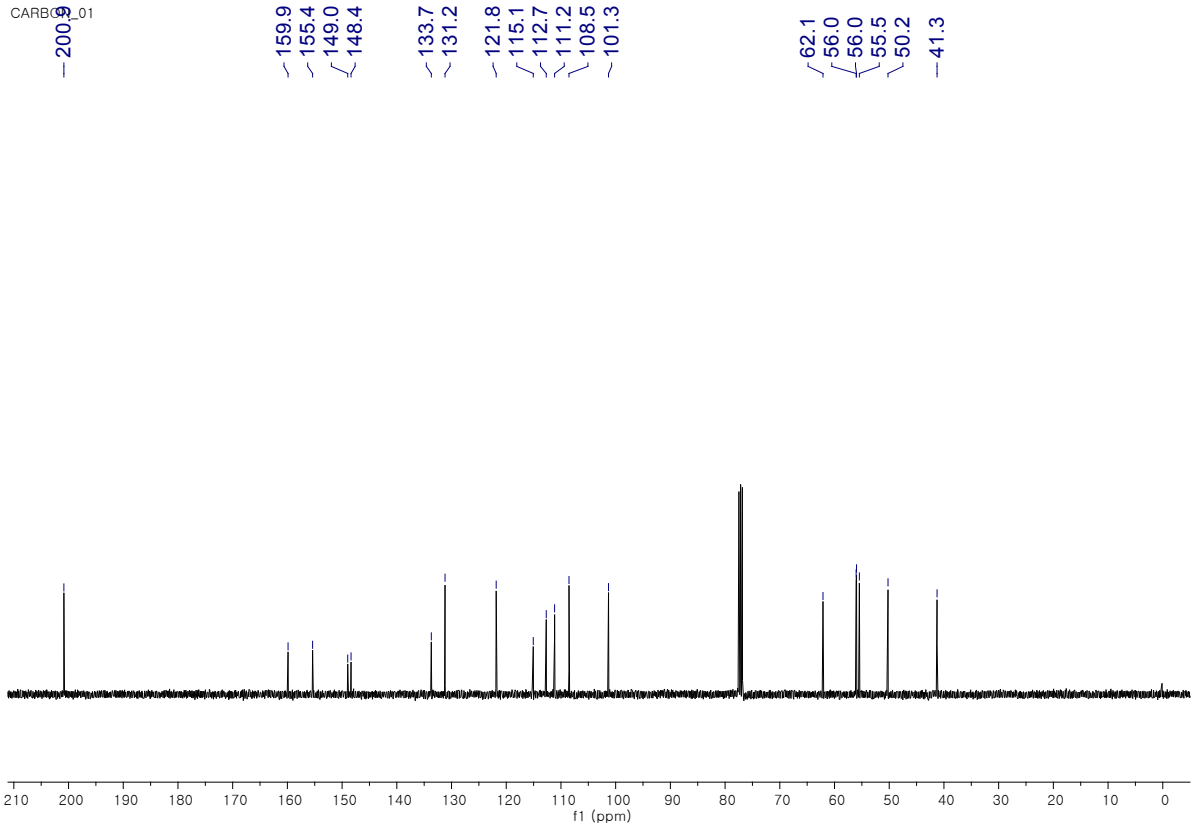

CARBON_01
159.5
155.6
148.7
148.0
134.7
131.4
122.0
116.5
113.1
111.0
108.0
101.1
64.4
61.7
56.1
56.0
55.4
42.2
40.1
f1 (ppm)

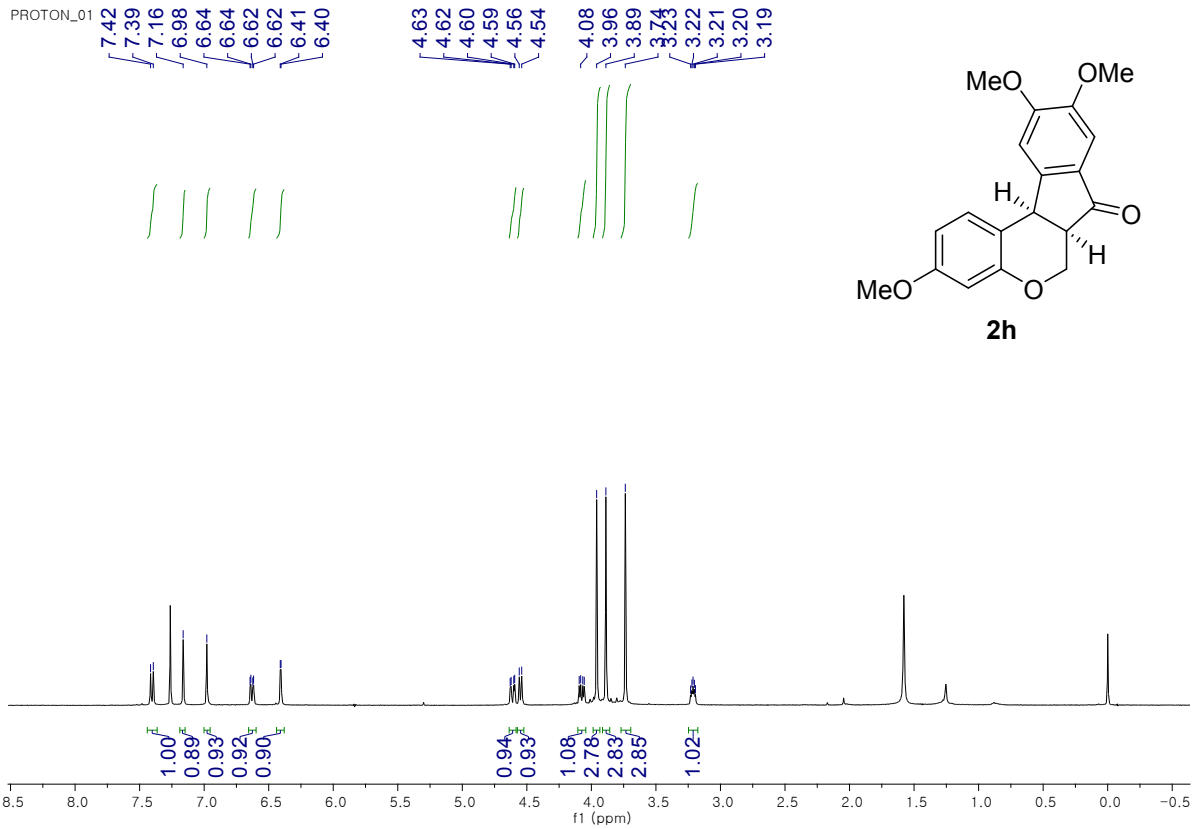

PROTON_01
9.75
6.91
6.89
6.78
6.76
6.64
6.62
6.58
6.49
6.47
4.65
4.64
4.44
4.41
4.41
4.33
4.30
3.83
3.79
3.19
3.18
3.17
3.16
1.01
1.00
1.01
1.05
1.00
1.88
1.03
1.08
1.11
2.90
5.85
1.04
f1 (ppm)

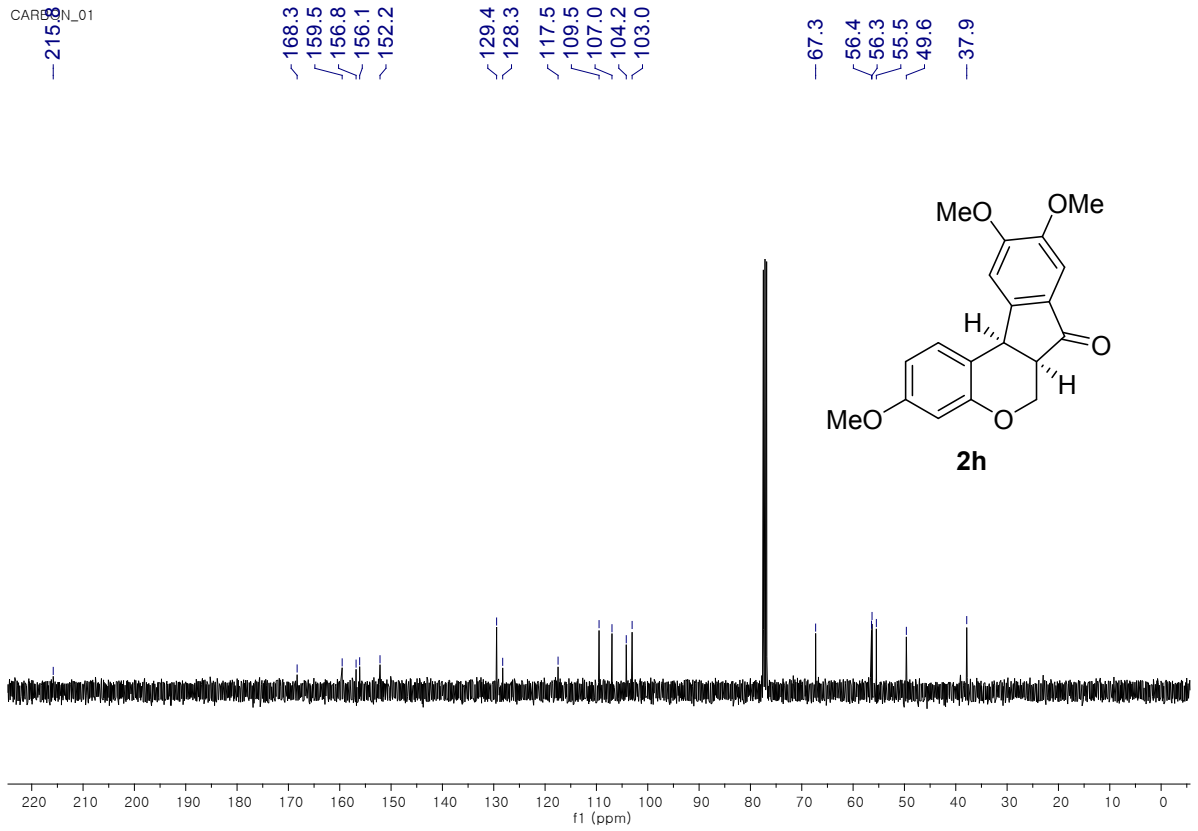
OMe
MeO
H
CHO
H
MeO
O

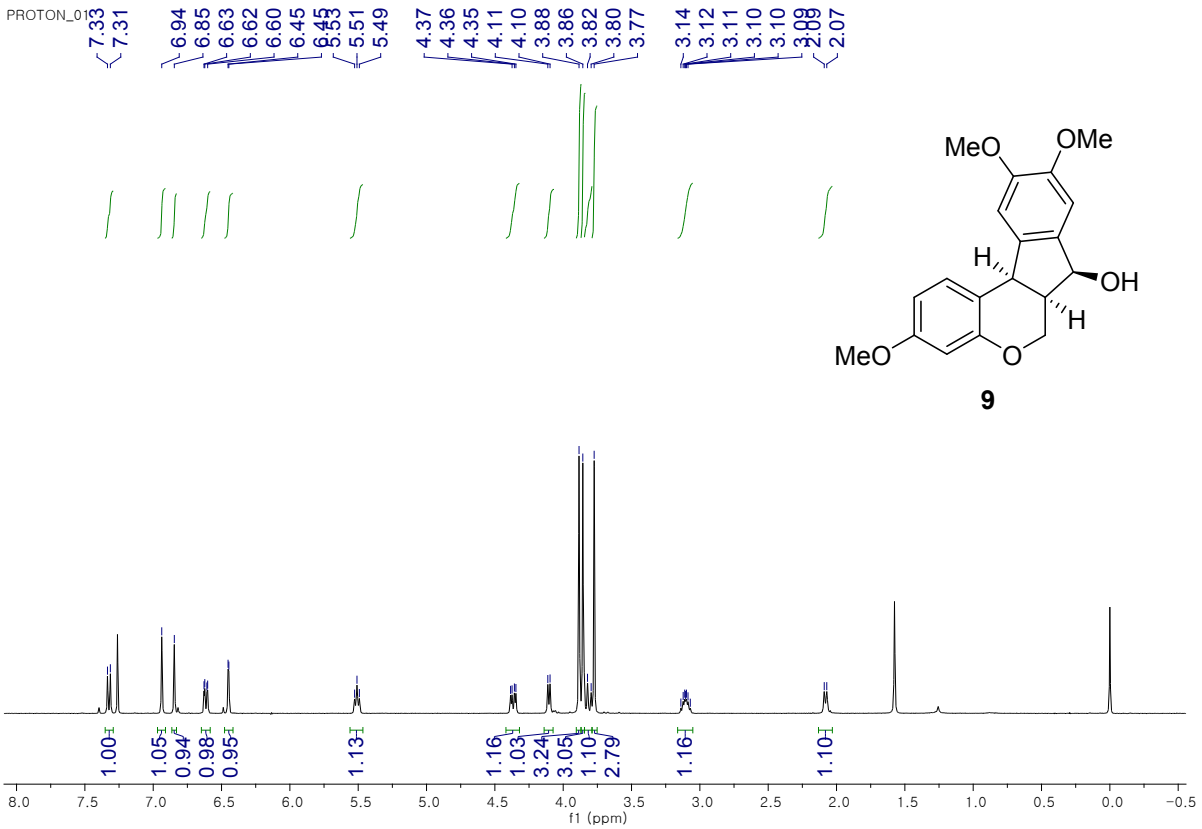
8


OMe
MeO
H


CARBON_01
200.3
159.9
155.4
149.0
148.4
133.7
131.2
121.8
115.1
112.7
111.2
108.5
101.3
62.1
56.0
56.0
55.5
50.2
41.3
210 200 190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20 10 0
f1 (ppm)

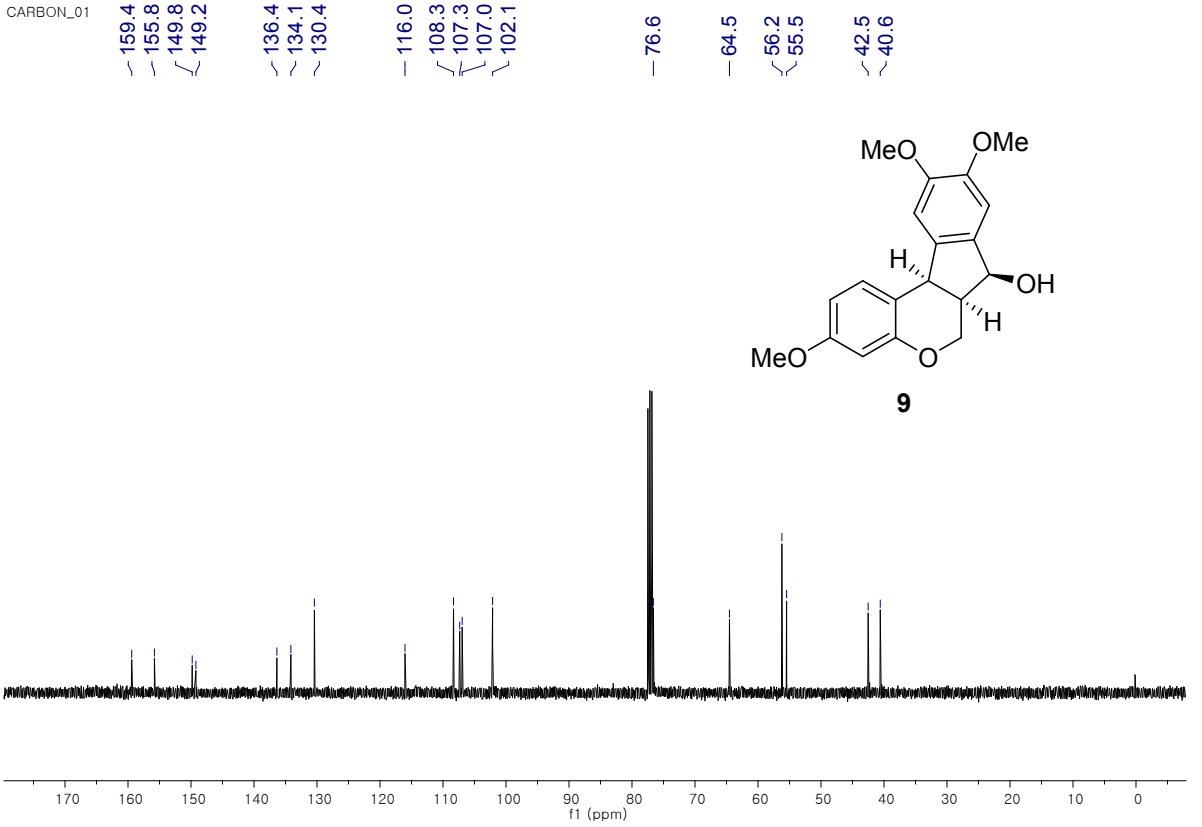

PROTON_01
7.42
7.39
7.16
6.98
6.64
6.64
6.62
6.62
6.41
6.40
4.63
4.62
4.60
4.59
4.56
4.54
4.08
3.96
3.89
3.74
3.23
3.22
3.21
3.20
3.19
MeO
OMe
H
O
H
MeO
O
2h
1.00
0.89
0.93
0.92
0.90
0.94
0.93
1.08
2.78
2.83
2.85
1.02
f1 (ppm)


CARBON_01
215.9
168.3
159.5
156.8
156.1
152.2
129.4
128.3
117.5
109.5
107.0
104.2
103.0
67.3
56.4
56.3
55.5
49.6
37.9
MeO
OMe
H
O
H
MeO
O
2h
f1 (ppm)


PROTON_01
7.33
7.31
6.94
6.85
6.63
6.62
6.60
6.45
5.51
5.49
4.37
4.36
4.35
4.11
4.10
3.88
3.86
3.82
3.80
3.77
3.14
3.12
3.11
3.10
3.10
2.07
1.00
1.05
0.94
0.98
0.95
1.13
1.16
1.03
3.24
3.05
1.10
2.79
1.16
1.10
f1 (ppm)

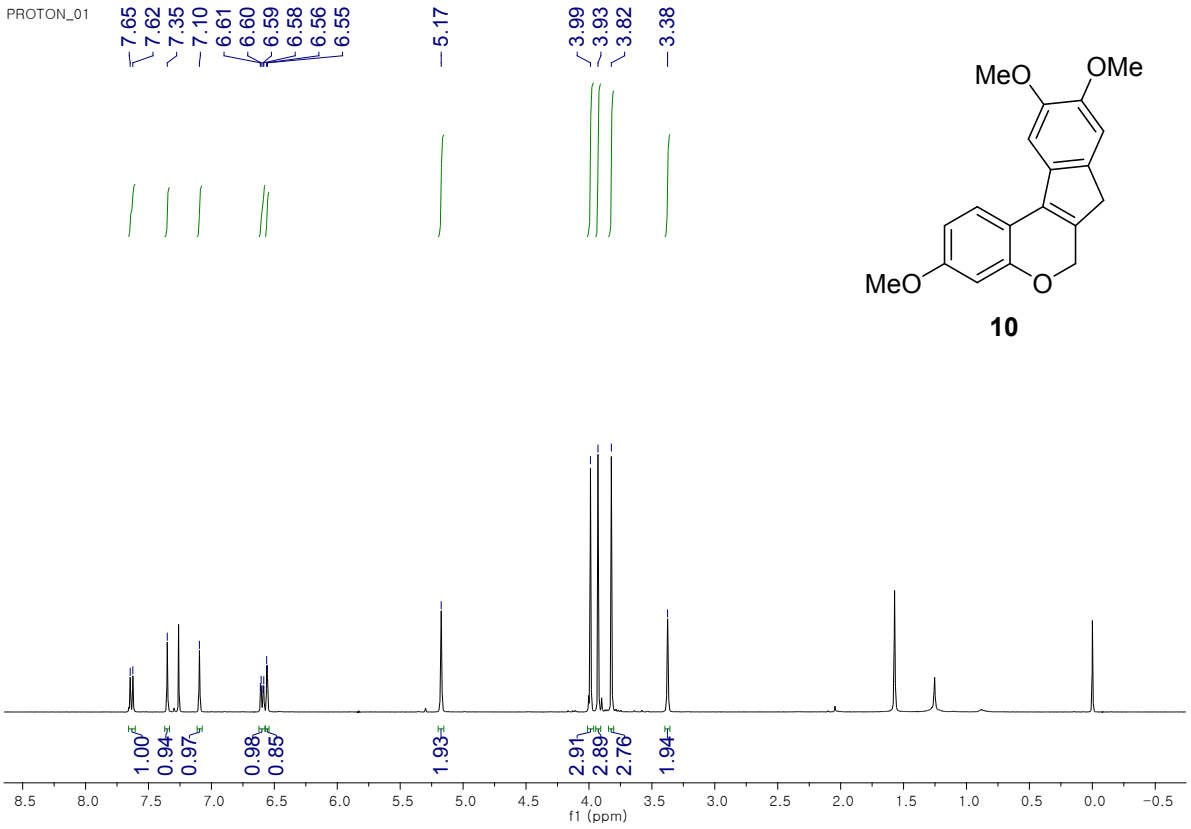
MeO
OMe
H
OH
H
MeO
O

9


CARBON_01
159.4
155.8
149.8
149.2
136.4
134.1
130.4
116.0
108.3
107.3
107.0
102.1
76.6
64.5
56.2
55.5
42.5
40.6
f1 (ppm)

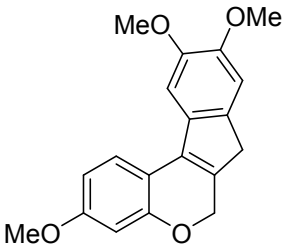
MeO
OMe
H
OH
H
MeO
O

9

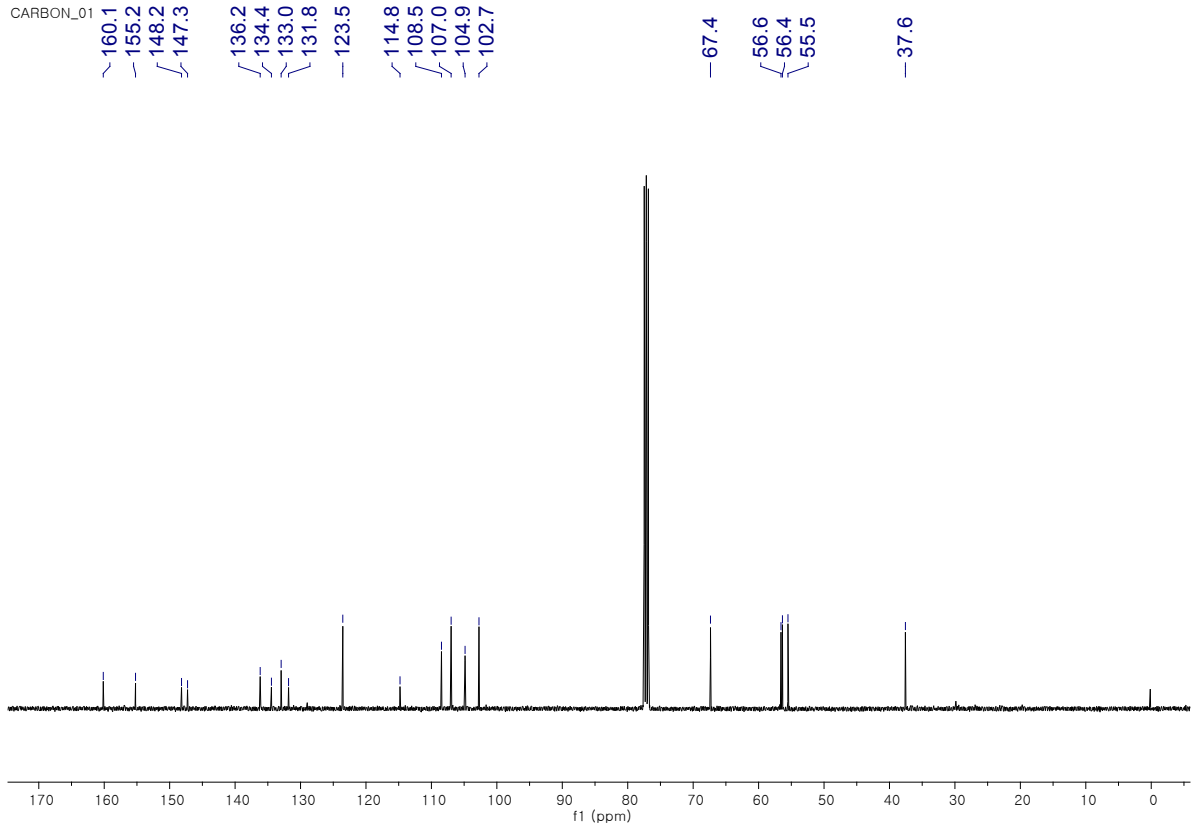

PROTON_01
7.65
7.62
7.35
7.10
6.61
6.60
6.59
6.58
6.56
6.55
5.17
3.99
3.93
3.82
3.38
1.00
0.94
0.97
0.98
0.85
1.93
2.91
2.89
2.76
1.94
f1 (ppm)

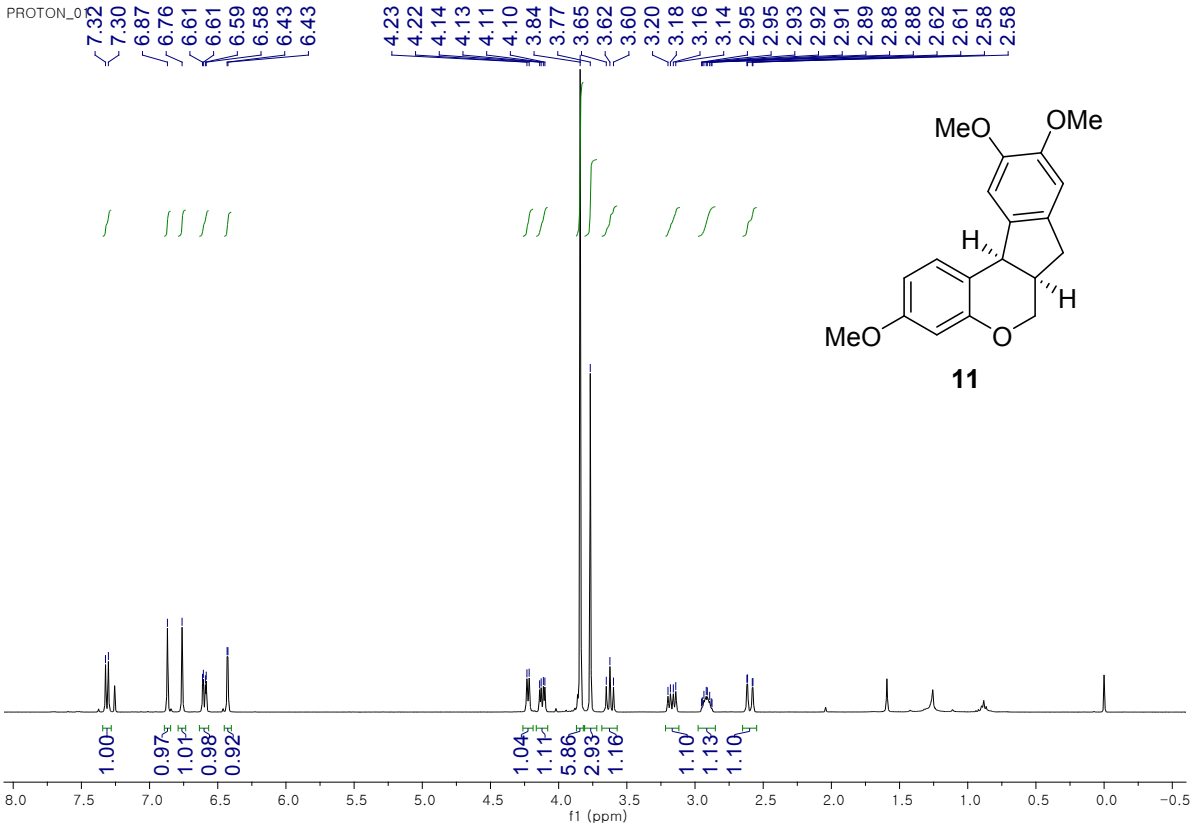
MeO
OMe
MeO
O

10


MeO
OMe
MeO
O

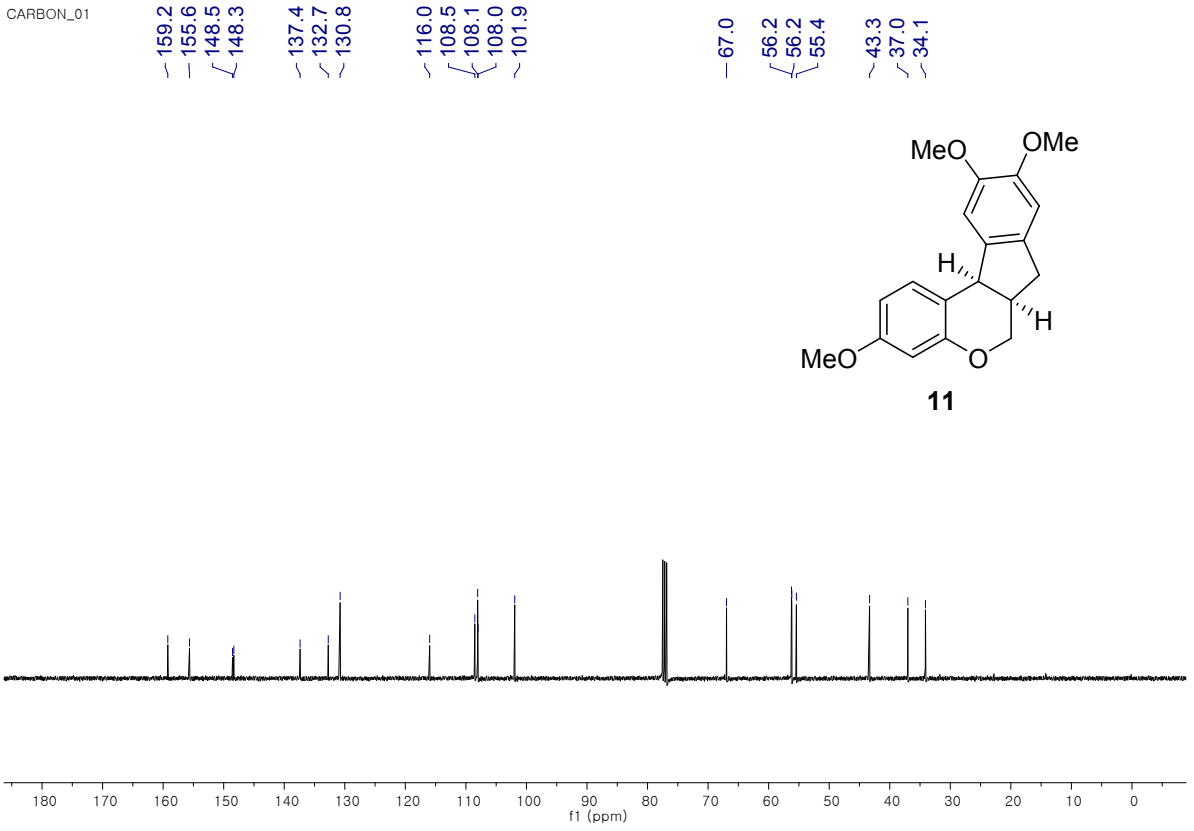
10


CARBON_01
160.1
155.2
148.2
147.3
136.2
134.4
133.0
131.8
123.5
114.8
108.5
107.0
104.9
102.7
67.4
56.6
56.4
55.5
37.6
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
f1 (ppm)


PROTON_02
7.32
7.30
6.87
6.76
6.61
6.61
6.59
6.58
6.43
6.43
4.23
4.22
4.14
4.13
4.11
4.10
3.84
3.77
3.65
3.62
3.60
3.20
3.18
3.16
3.14
2.95
2.95
2.93
2.92
2.91
2.89
2.88
2.88
2.62
2.61
2.58
2.58
1.00
0.97
1.01
0.98
0.92
1.04
1.11
5.86
2.93
1.16
1.10
1.13
1.10
f1 (ppm)

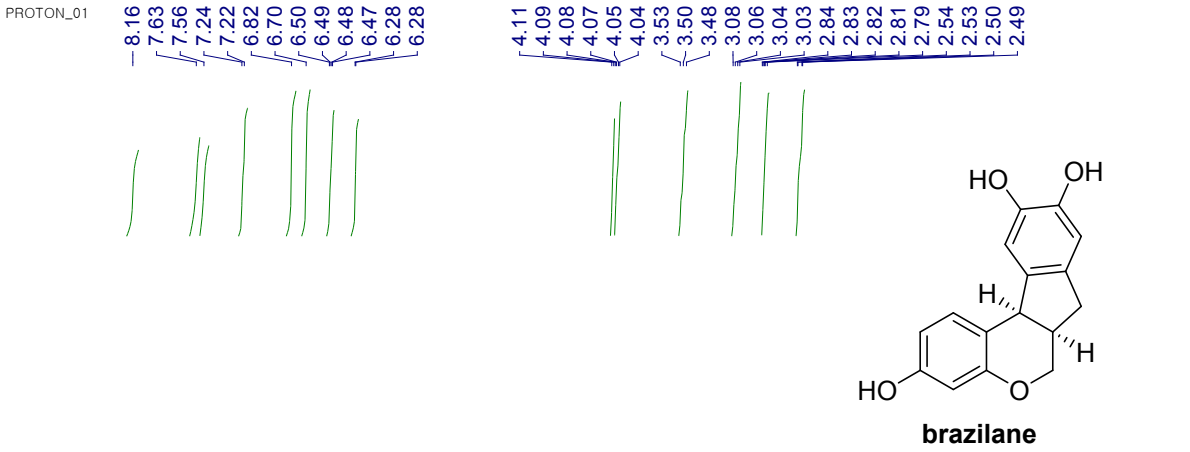
MeO
OMe
H
H
MeO
O

11


CARBON_01
159.2
155.6
148.5
148.3
137.4
132.7
130.8
116.0
108.5
108.1
108.0
101.9
67.0
56.2
56.2
55.4
43.3
37.0
34.1
f1 (ppm)

MeO
OMe
H
H
MeO
O

11



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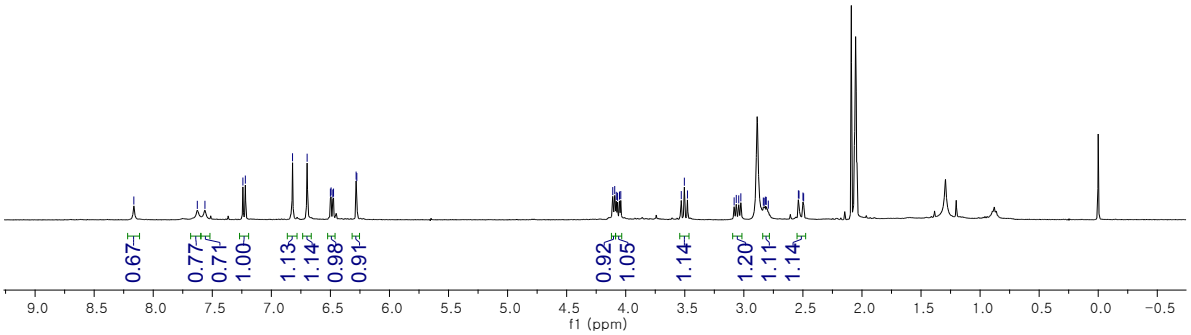

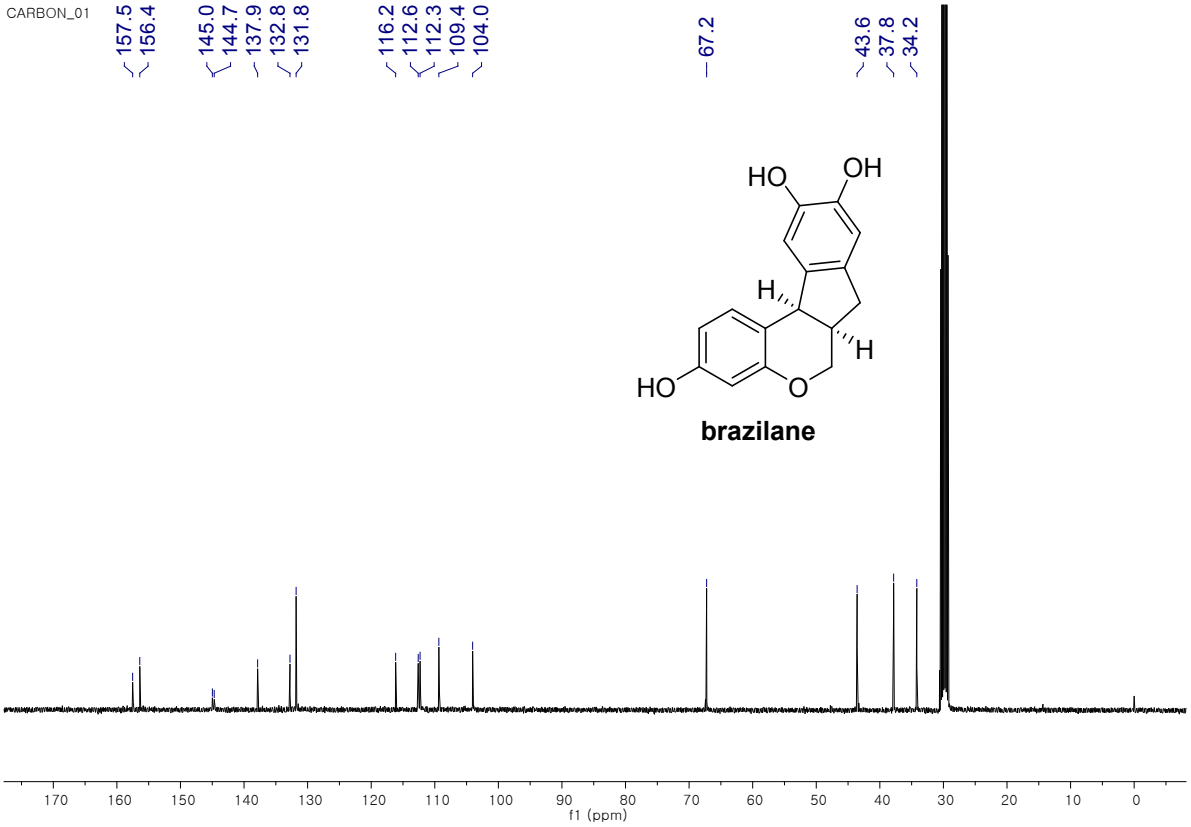

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