

Supplementary Information

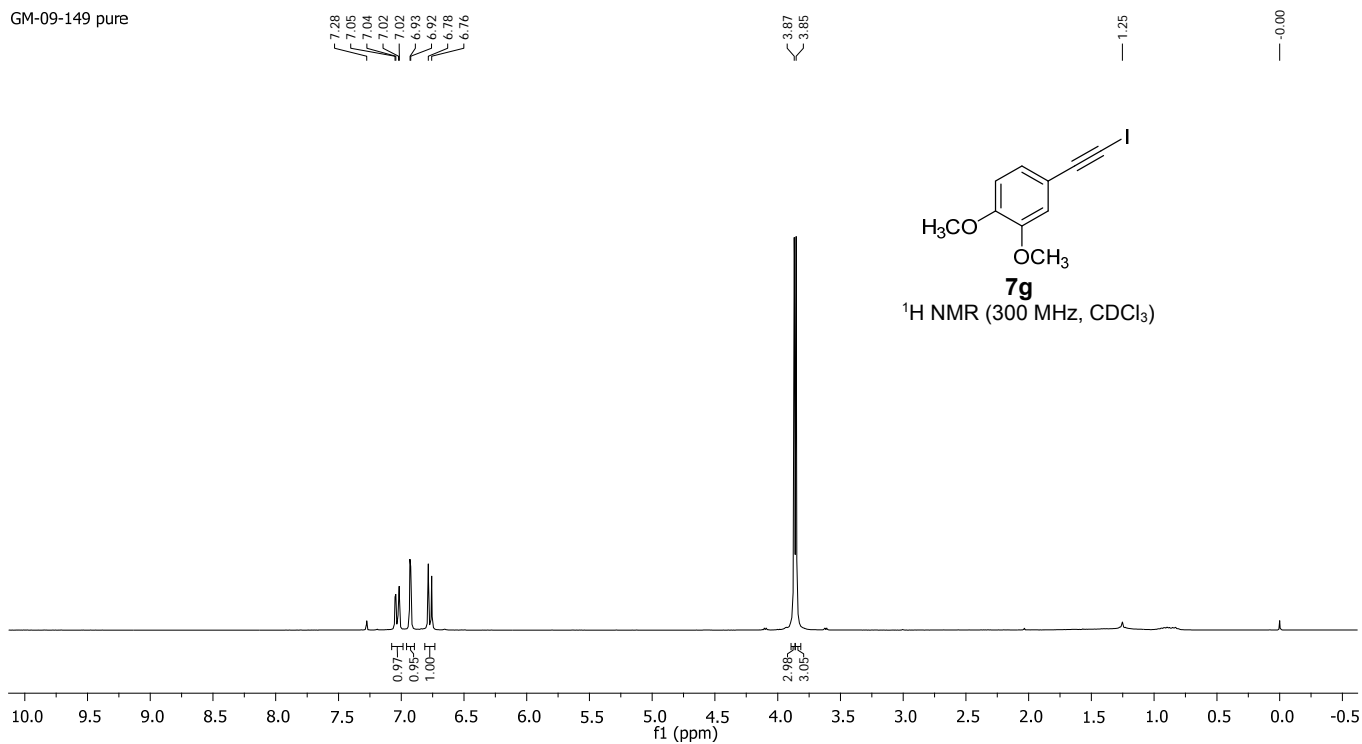
Stereoselective Synthesis of *E*-3-(Arylmethylidene)-5-(Alkyl/Aryl)-2(3H)-Furanones by Sequential Hydroacyloxylation, Mizoroki-Heck Reactions of Iodoalkynes

Gopinathan Muthusamy and Sunil V. Pansare*

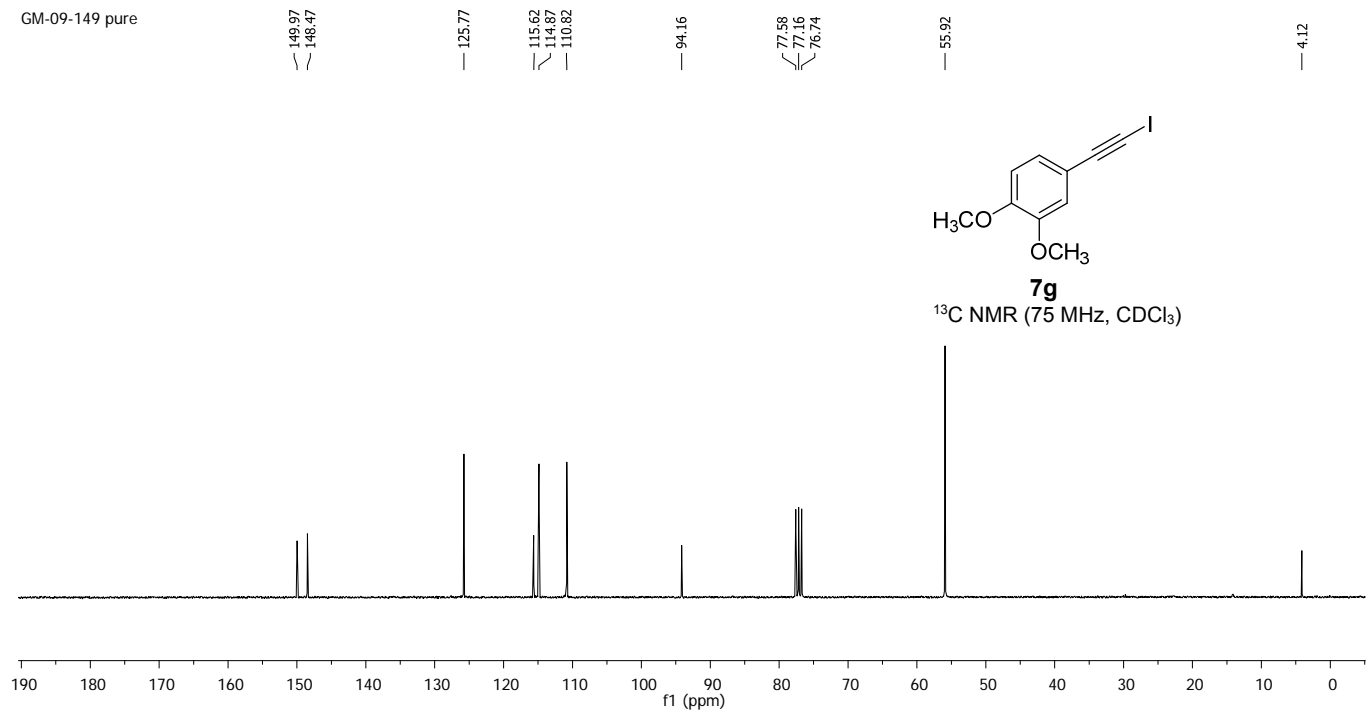
Department of Chemistry
Memorial University
St. John's, Newfoundland, Canada A1B 3X7

¹H and ¹³C Spectra.....2-39

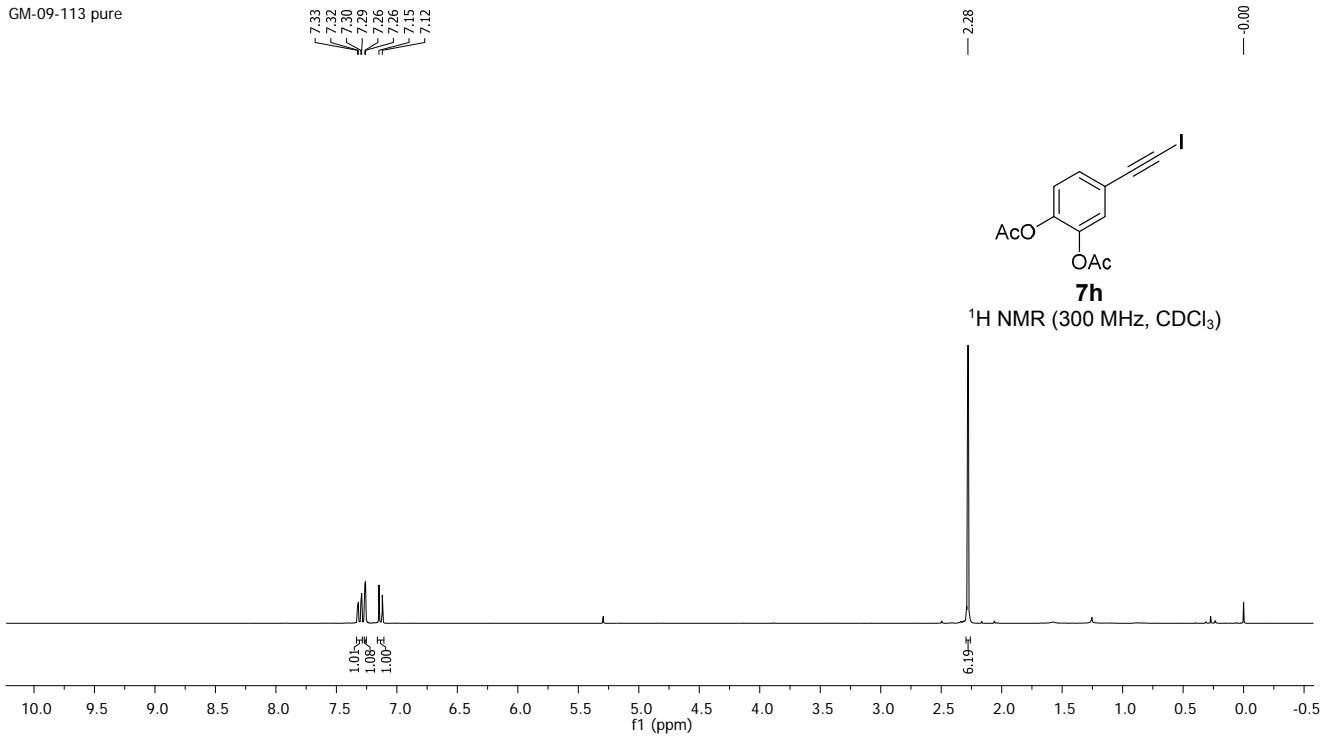
GM-09-149 pure



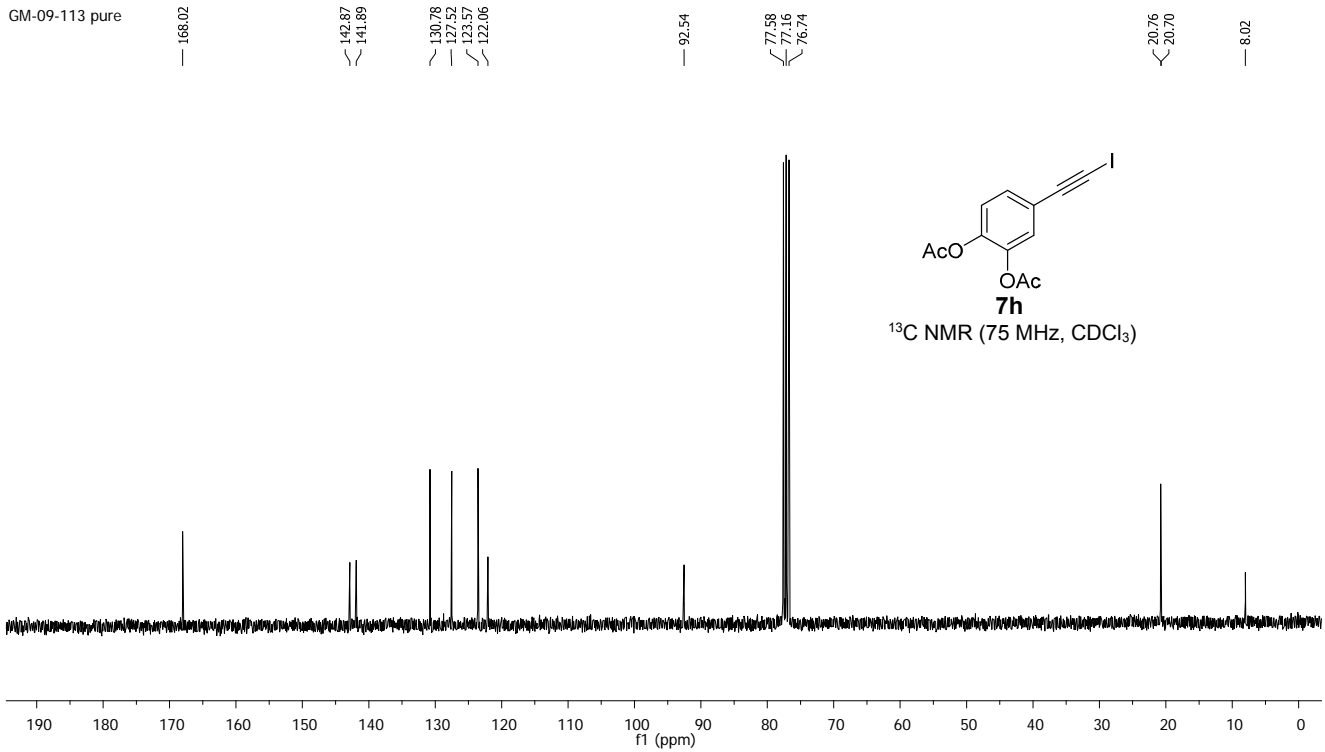
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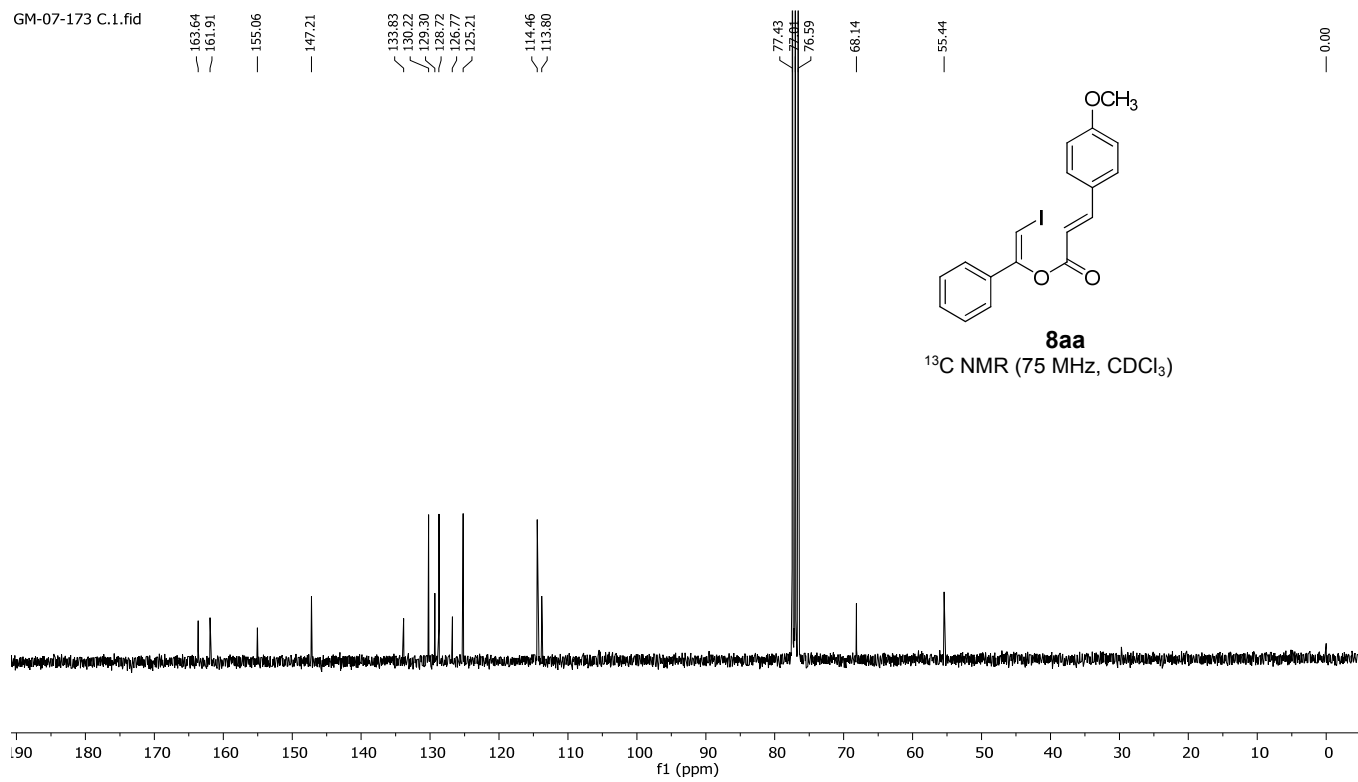
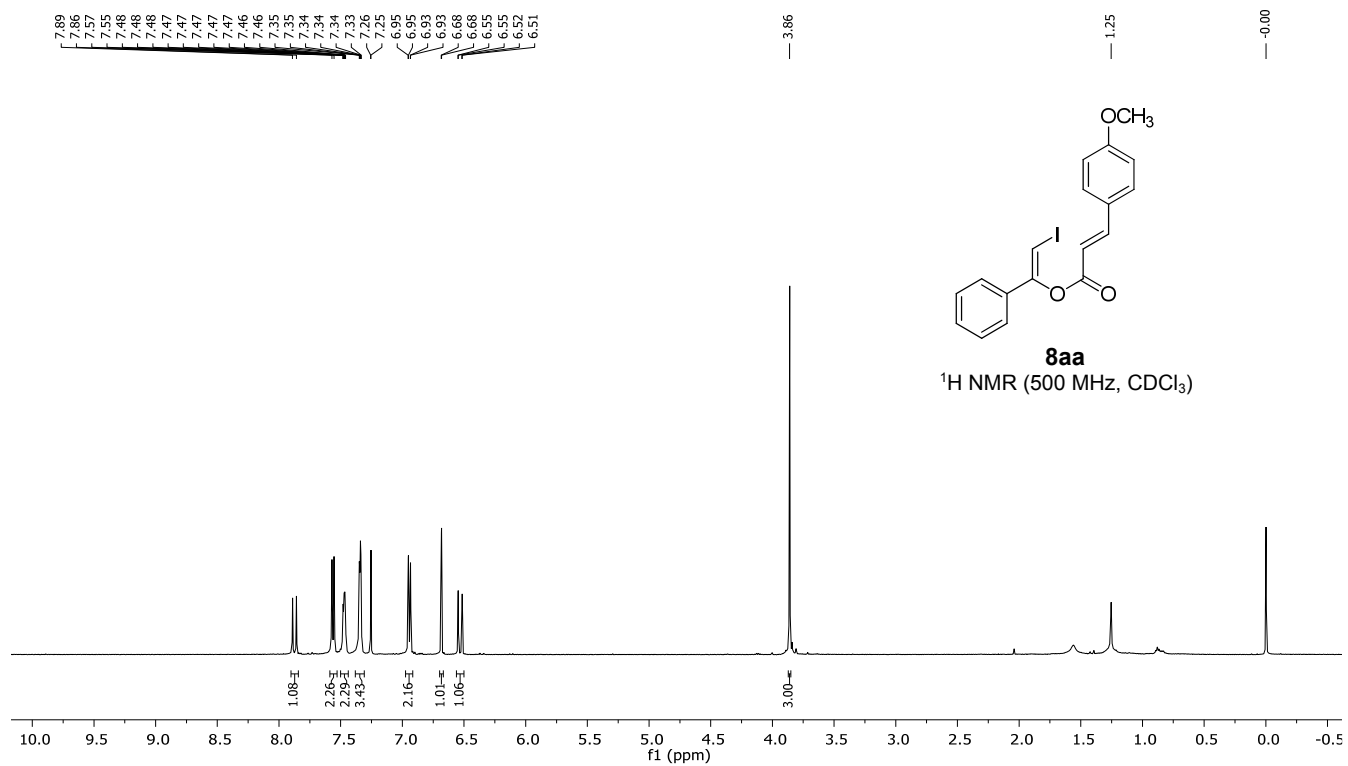


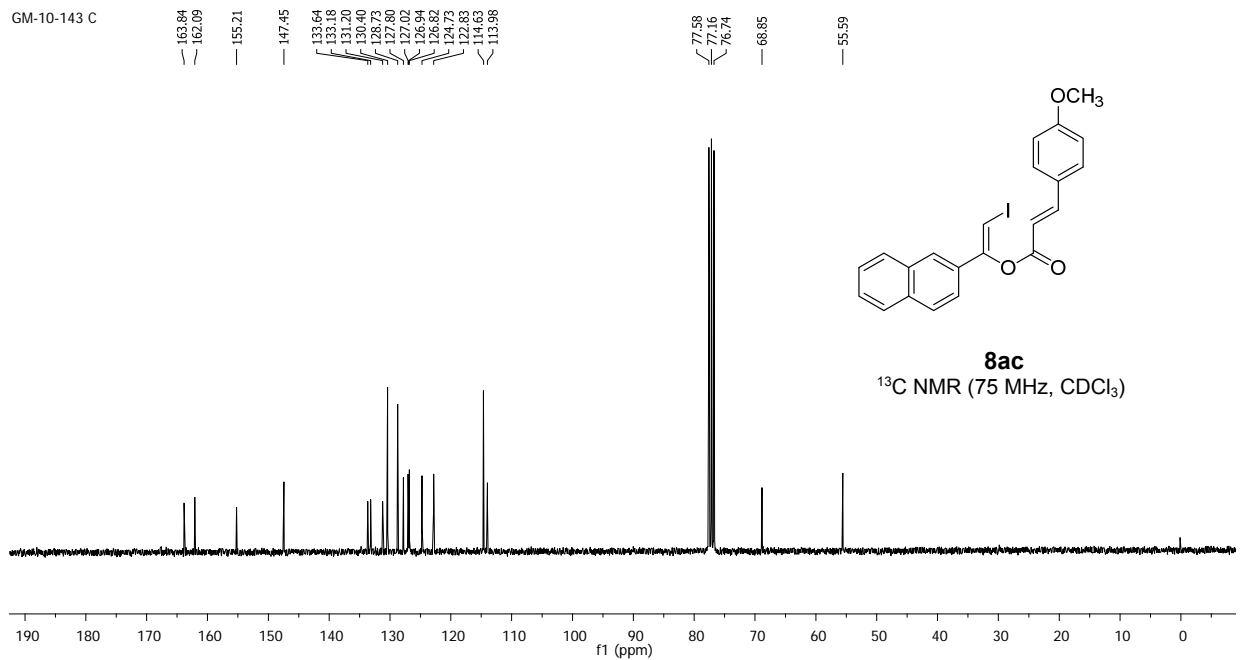
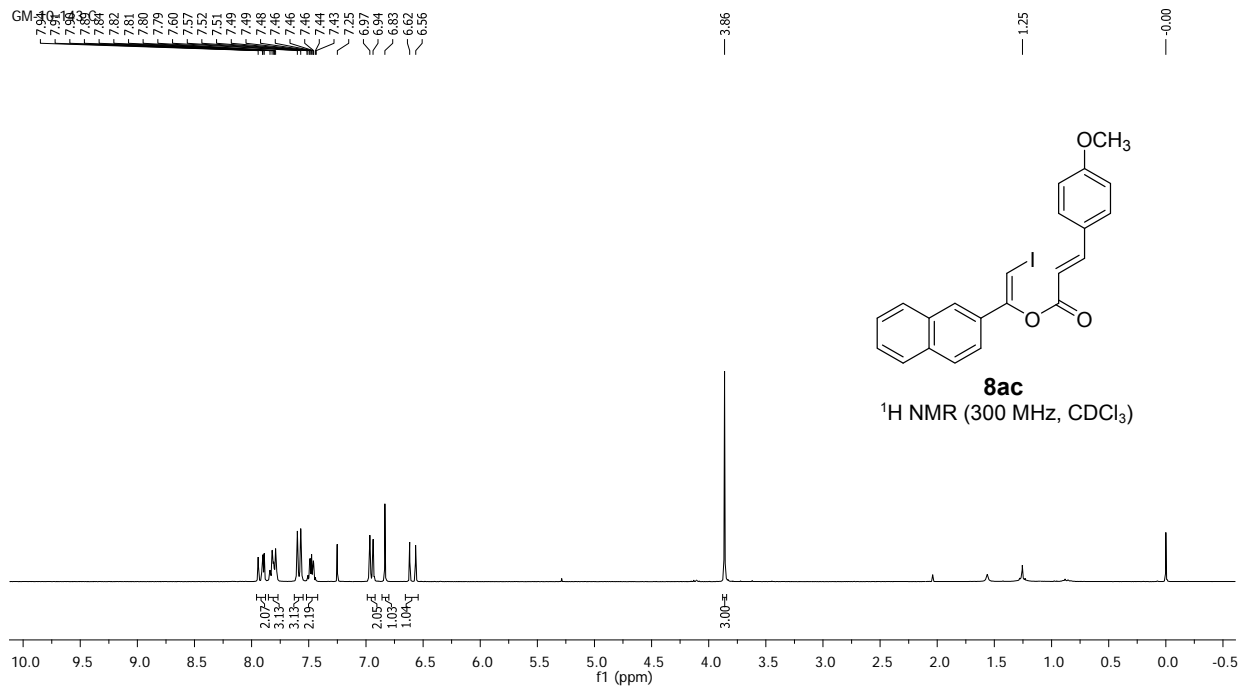
GM-09-113 pure



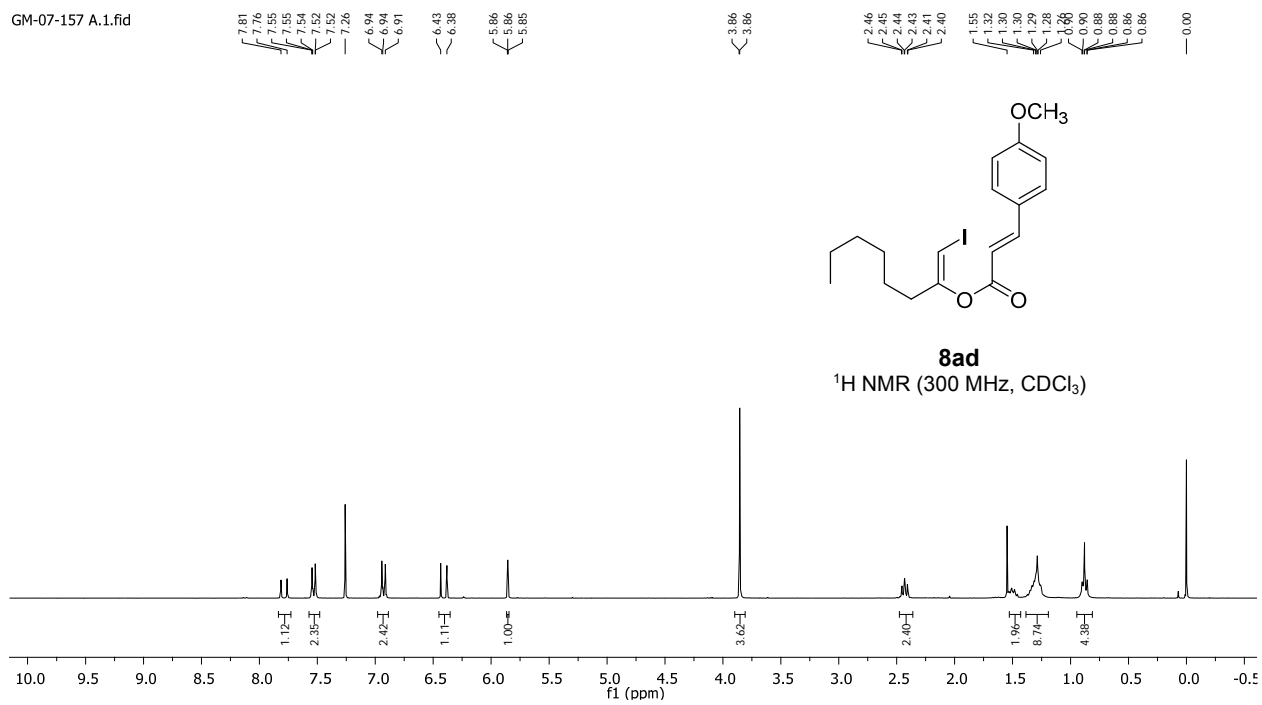
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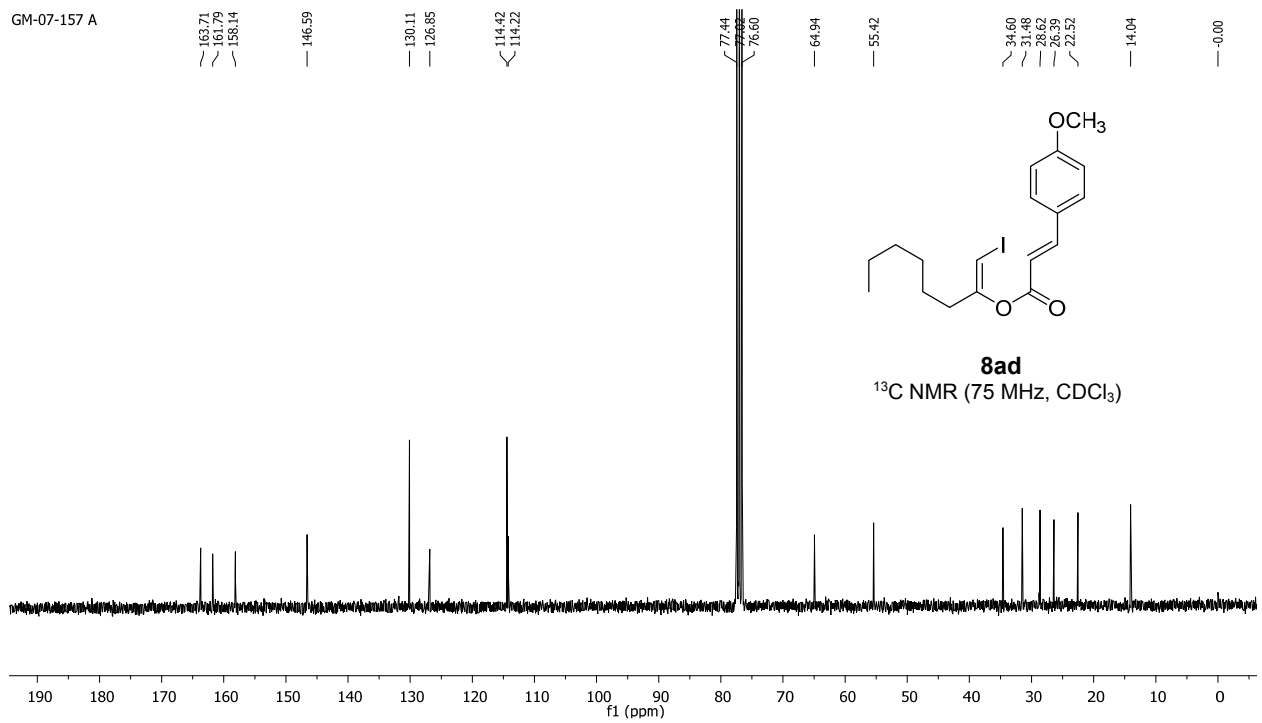




GM-07-157 A.1.fid



GM-07-157 A

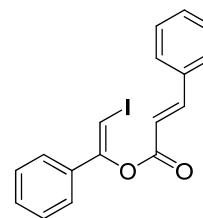


GM-07-159 B.1.fid

7.95
7.90
7.62
7.61
7.61
7.60
7.59
7.57
7.49
7.48
7.48
7.46
7.47
7.46
7.46
7.45
7.45
7.44
7.43
7.42
7.42
7.41
7.37
7.36
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7.33
7.33
7.32
7.24
6.69
6.69
6.64

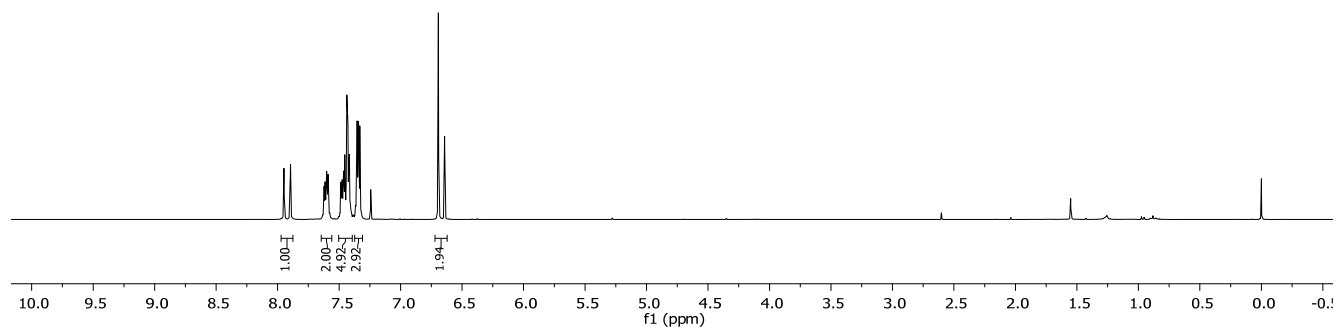
1.55

0.00



8ba

¹H NMR (300 MHz, CDCl₃)



GM-07-159 B

163.35

155.05

147.57

134.04

133.77

130.98

129.42

129.08

128.80

128.49

125.26

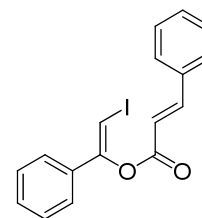
116.53

77.51

77.08

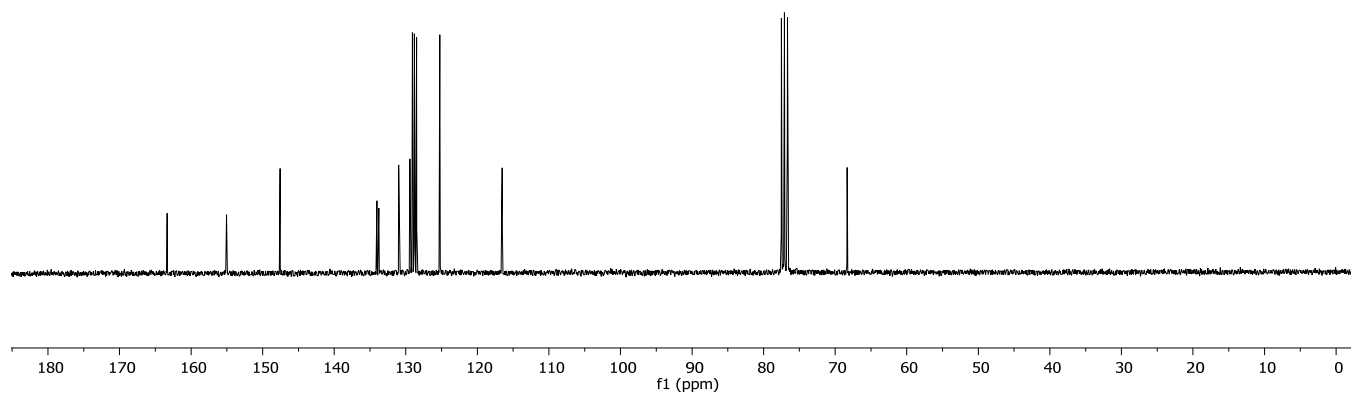
76.66

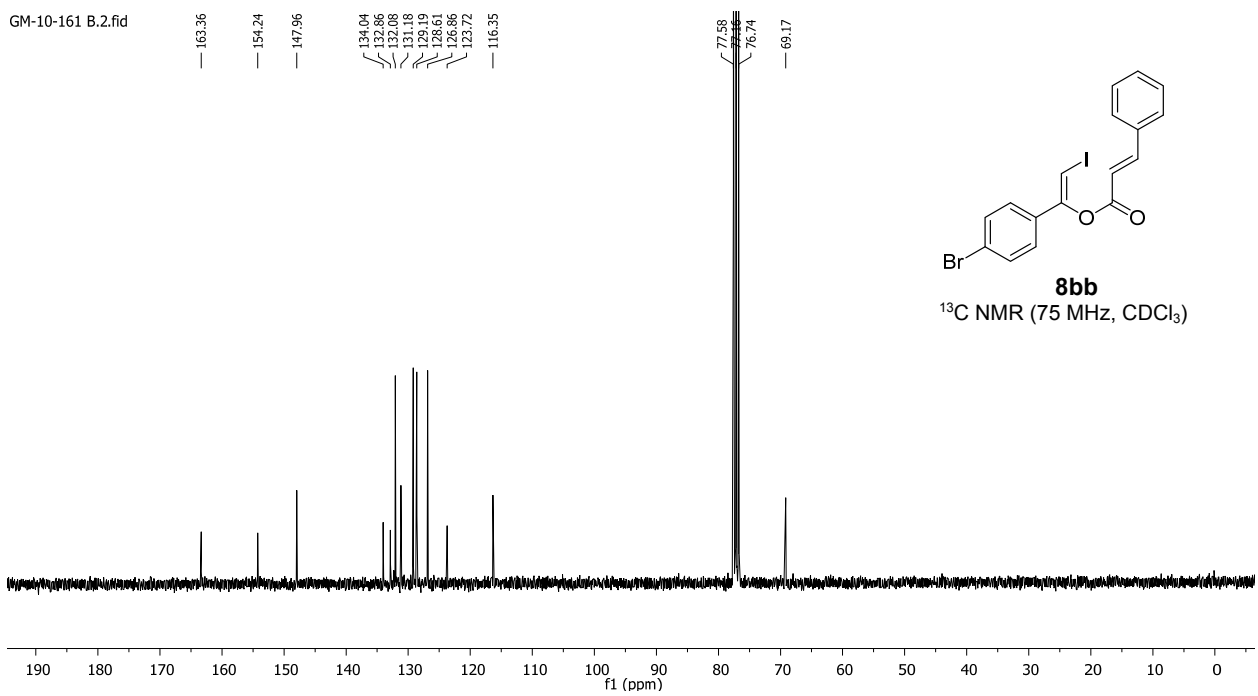
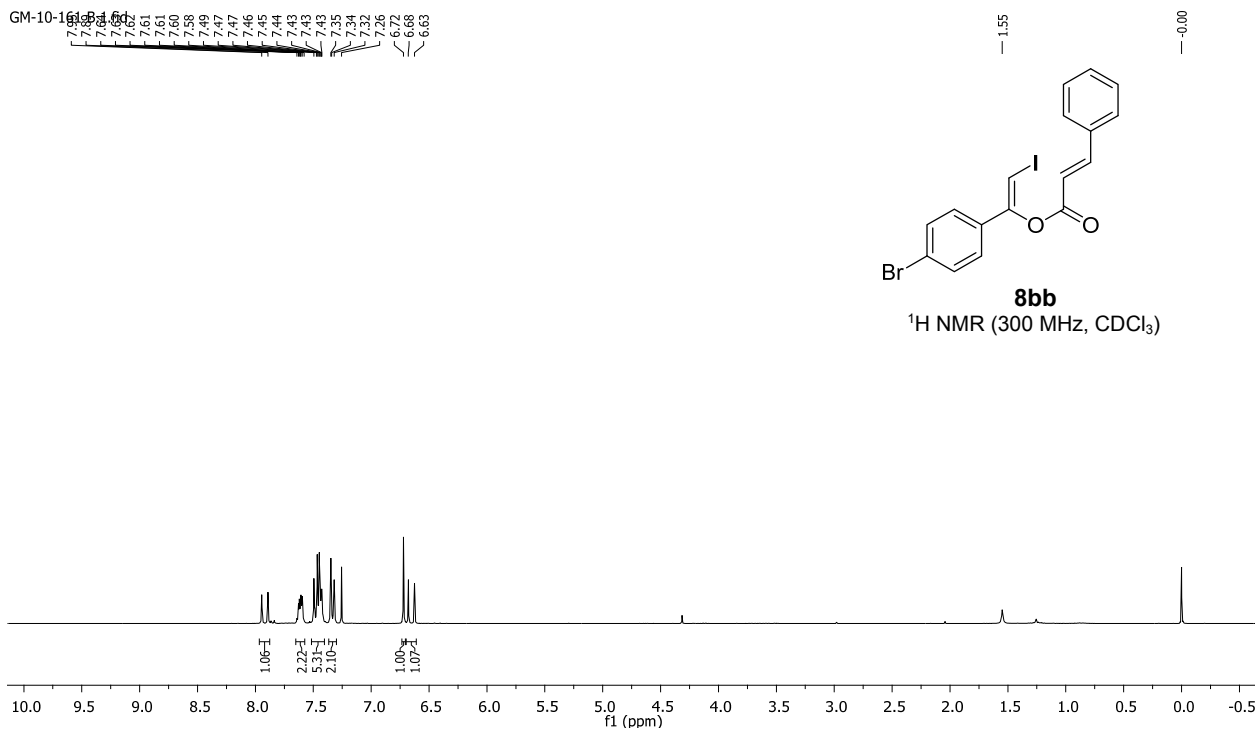
68.32

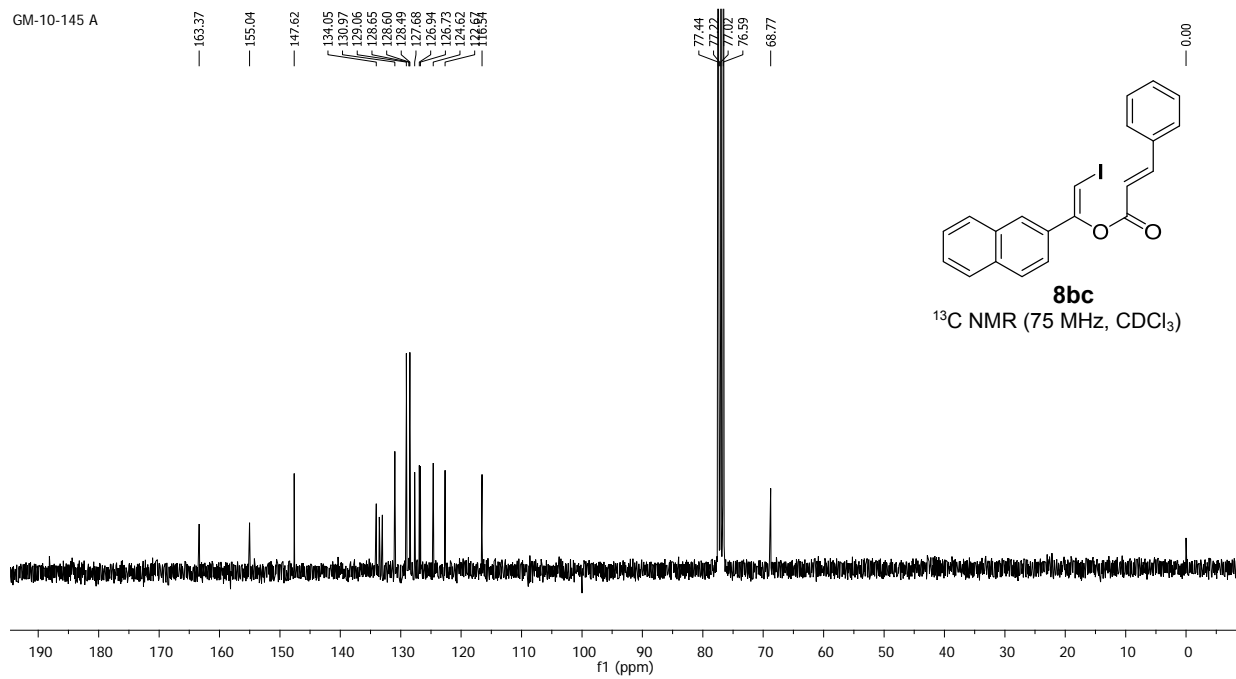
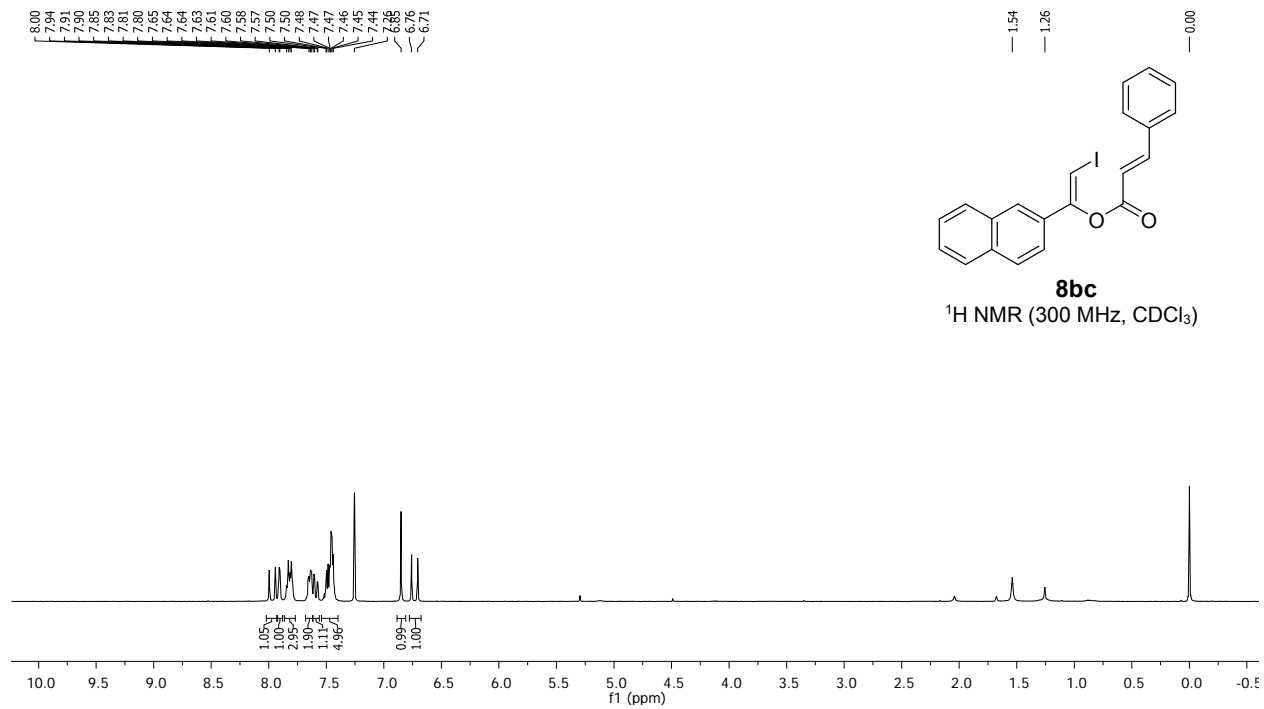


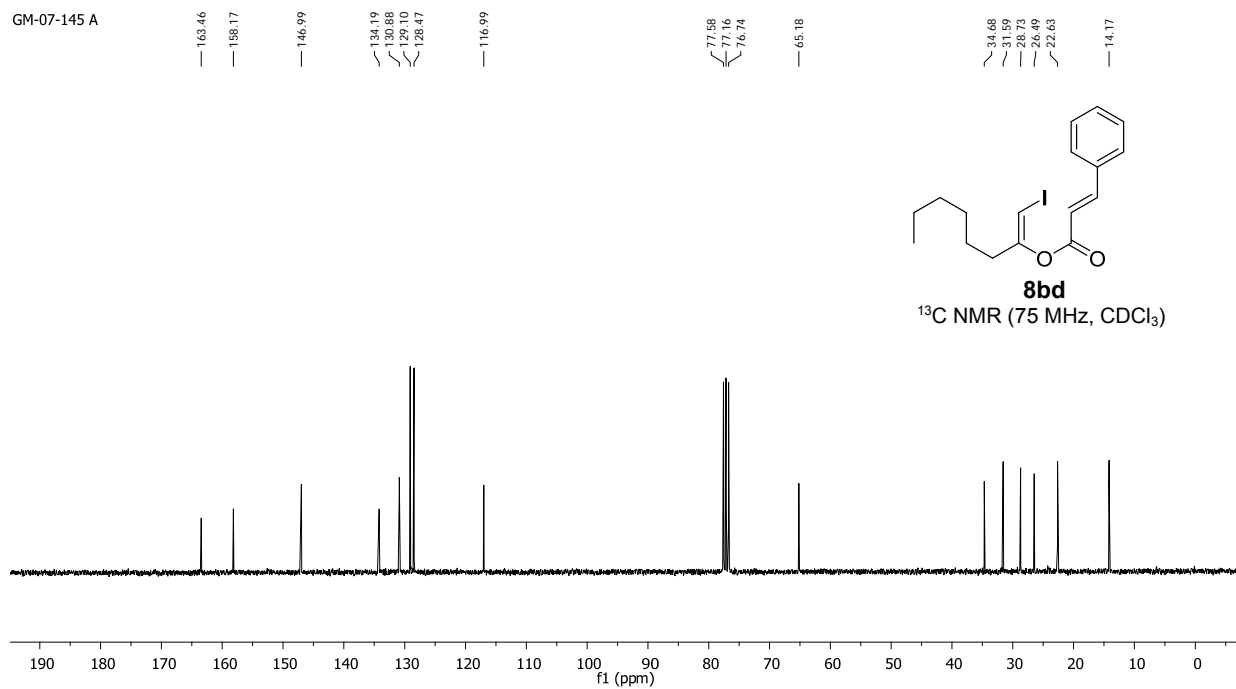
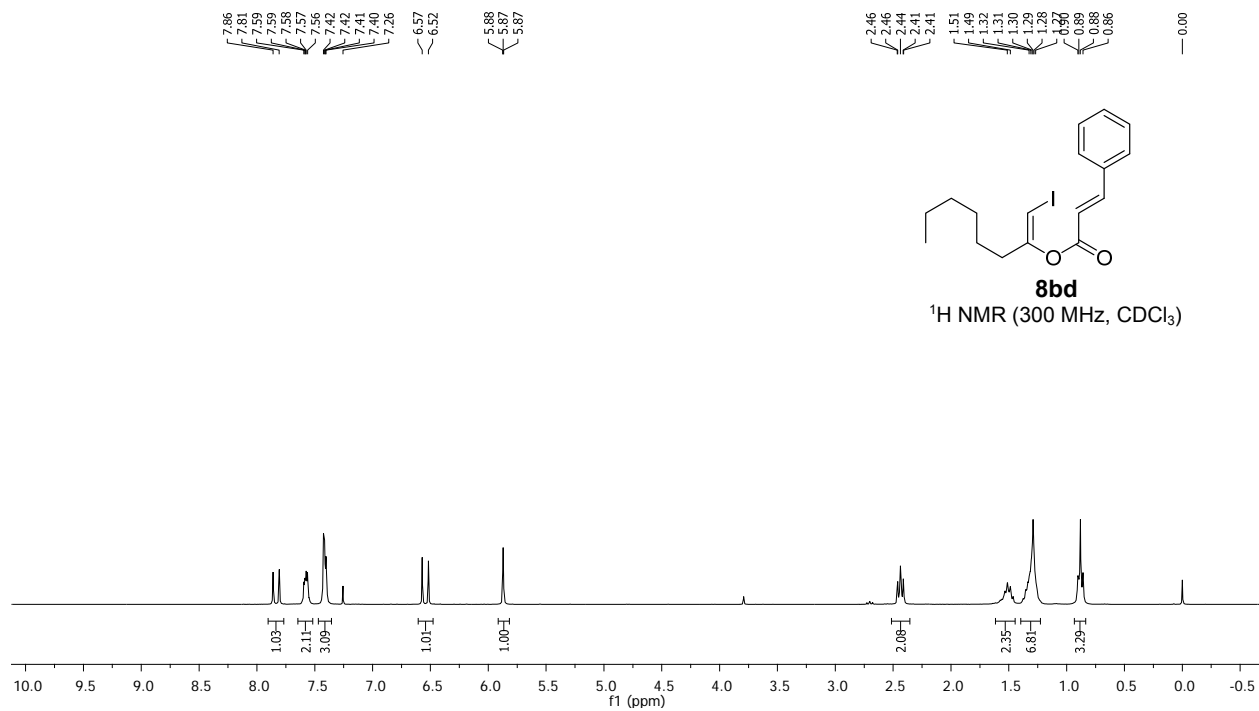
8ba

¹³C NMR (75 MHz, CDCl₃)



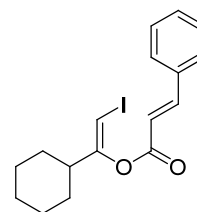






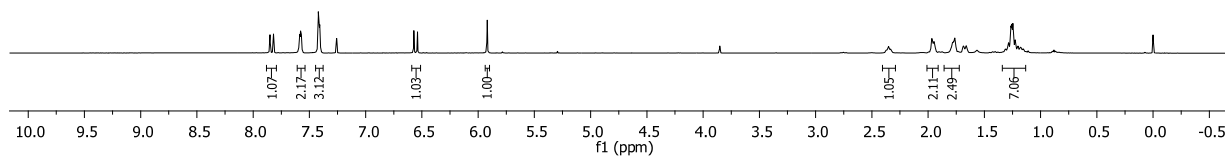
GM-10-165 D
EXP: 1H

7.85
7.82
7.59
7.58
7.57
7.42
7.41
7.26
6.57
6.54
5.92
3.85
2.37
2.35
2.34
1.97
1.76
1.76
1.26
1.25
1.25
-0.00



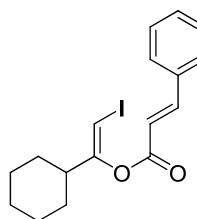
8be

¹H NMR (500 MHz, CDCl₃)



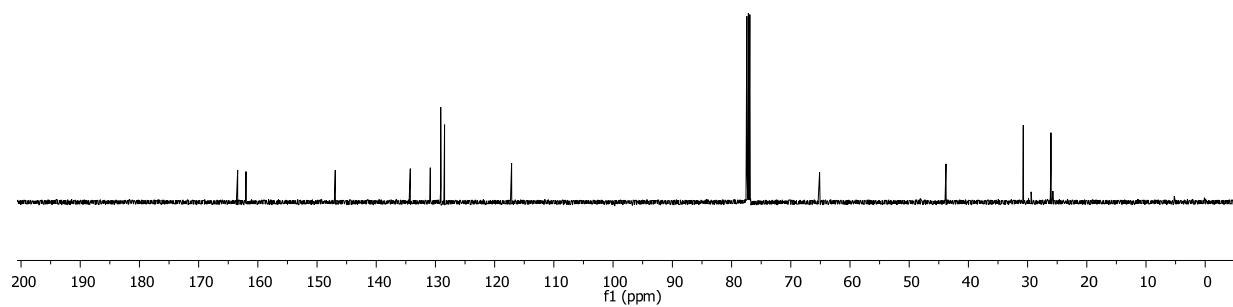
GM-10-165 D
EXP: 1H

163.41
162.01
146.93
134.26
130.66
129.11
128.47
117.14
77.41
77.16
76.91
65.14
43.78
30.72
26.07
26.04



8be

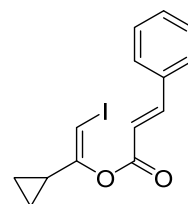
¹³C NMR (100 MHz, CDCl₃)



GM-10-155 purified
pentane wash

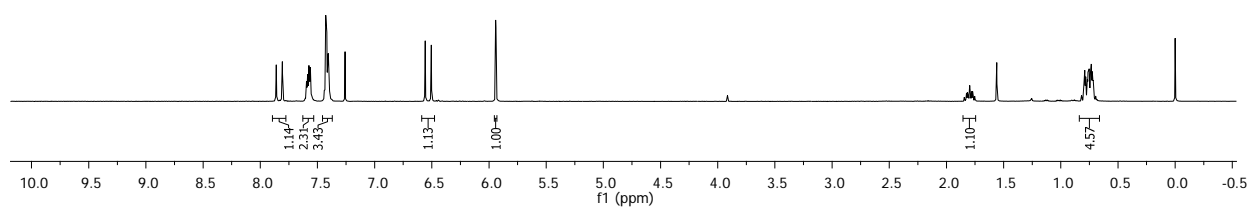
7.86
7.81
7.59
7.59
7.58
7.57
7.56
7.44
7.43
7.42
7.41
7.41
7.40
7.26
6.56
6.50
5.94
5.94

1.83
1.82
1.81
1.80
1.80
1.56
0.79
0.76
0.75
0.74
0.74
0.73
0.73
0.66



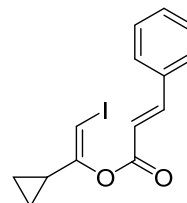
8bf

¹H NMR (300 MHz, CDCl₃)



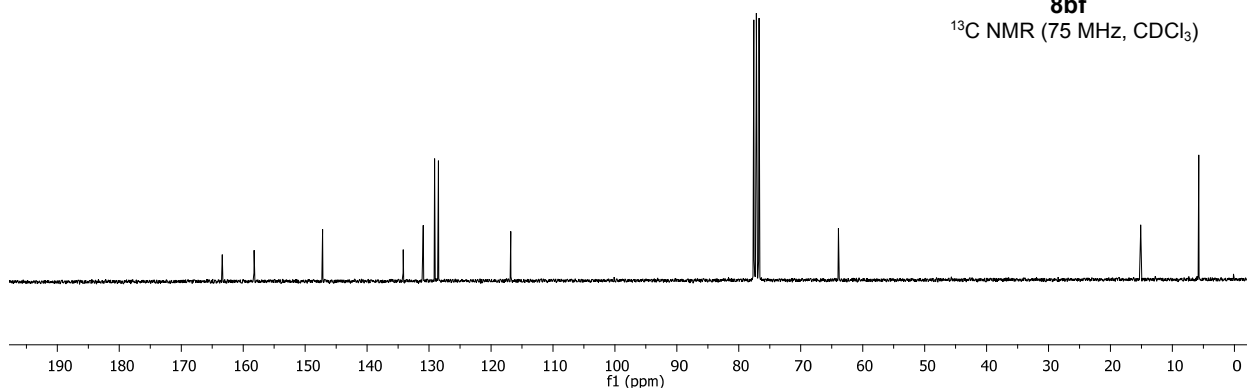
GM-10-155 purified.2.fid

163.39
158.24
147.18
134.17
130.94
129.12
128.50
116.81
77.58
77.16
76.74
63.91
15.14
5.76

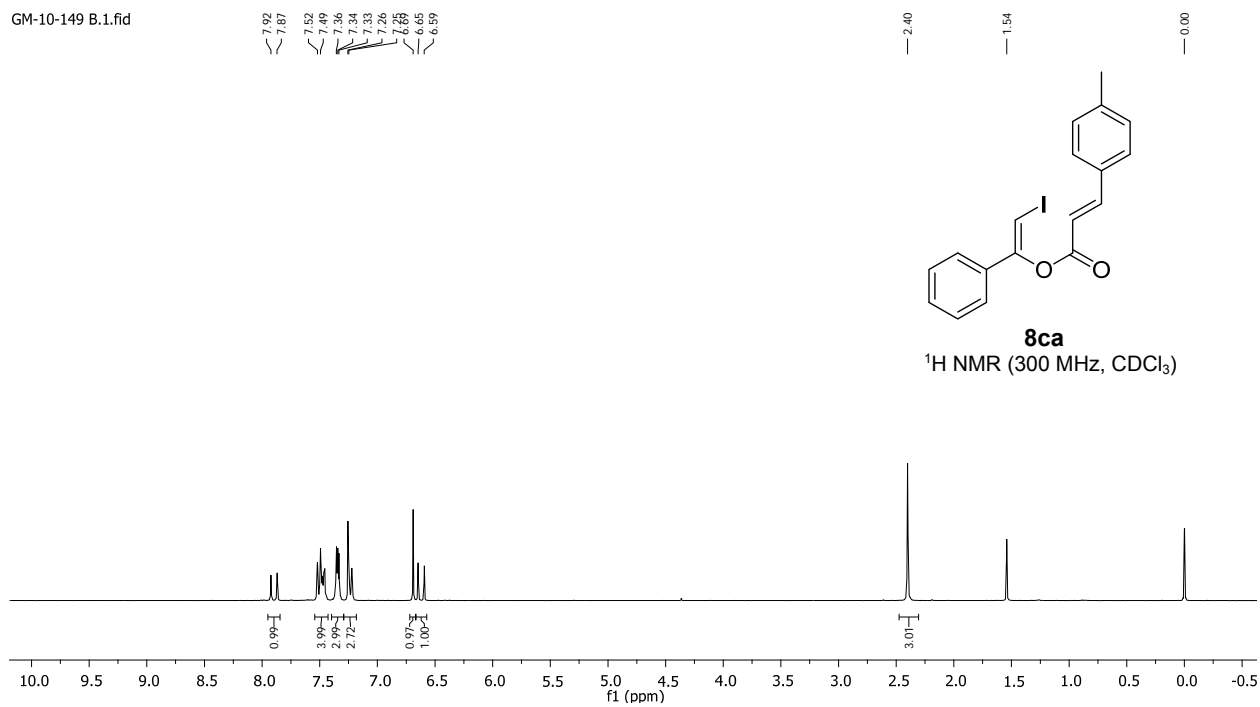


8bf

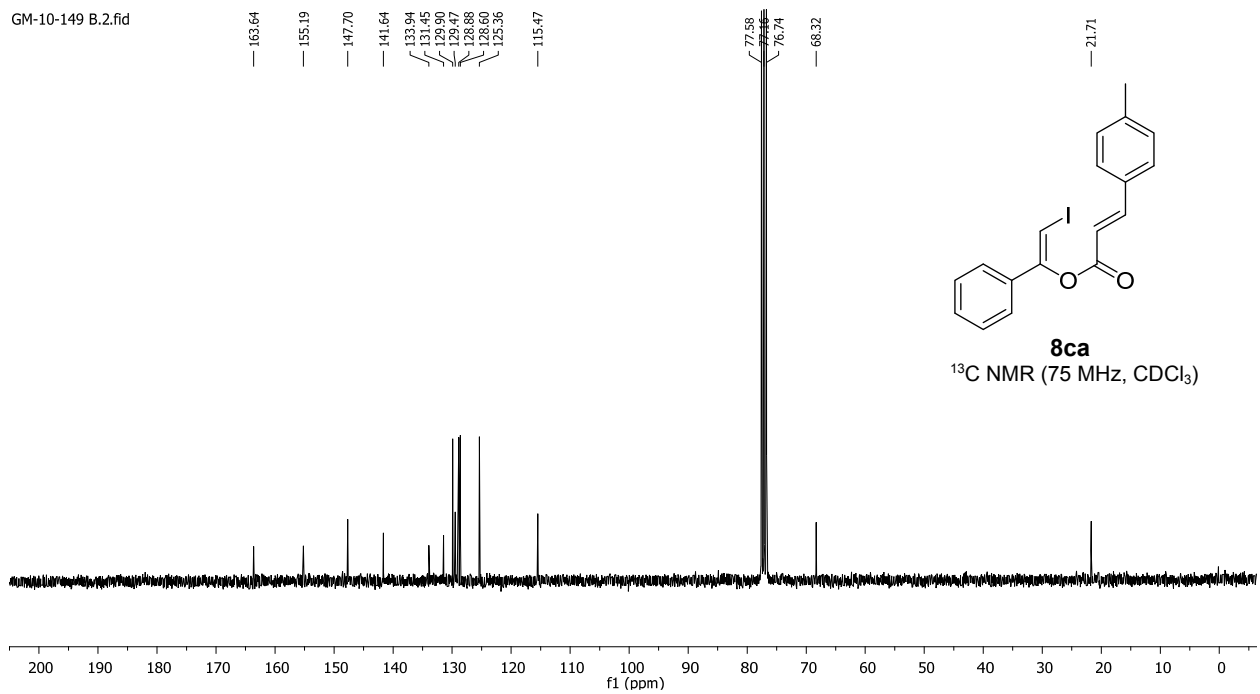
¹³C NMR (75 MHz, CDCl₃)



GM-10-149 B.1.fid



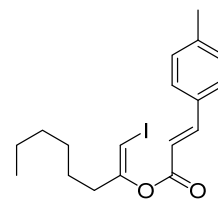
GM-10-149 B.2.fid



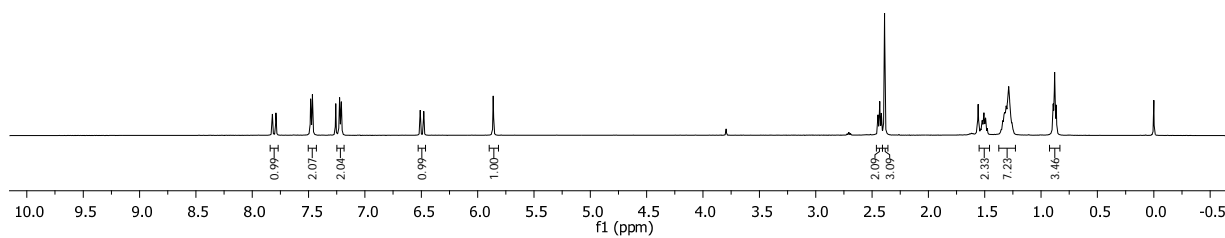
GM-10-151 purified
EXP: 1H

7.82
7.79
7.48
7.47
7.26
7.23
7.21
6.51
6.48
5.86

2.45
2.43
2.42
2.39
1.56
1.52
1.51
1.49
1.34
1.32
1.31
1.29
0.89
0.86
0.87
0.00



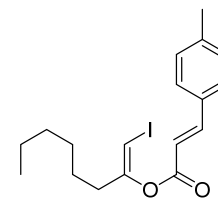
8cd
¹H NMR (300 MHz, CDCl₃)



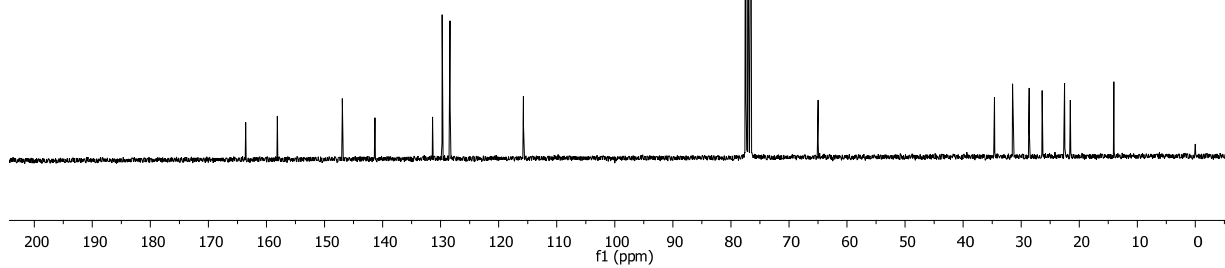
GM-10-151 purified

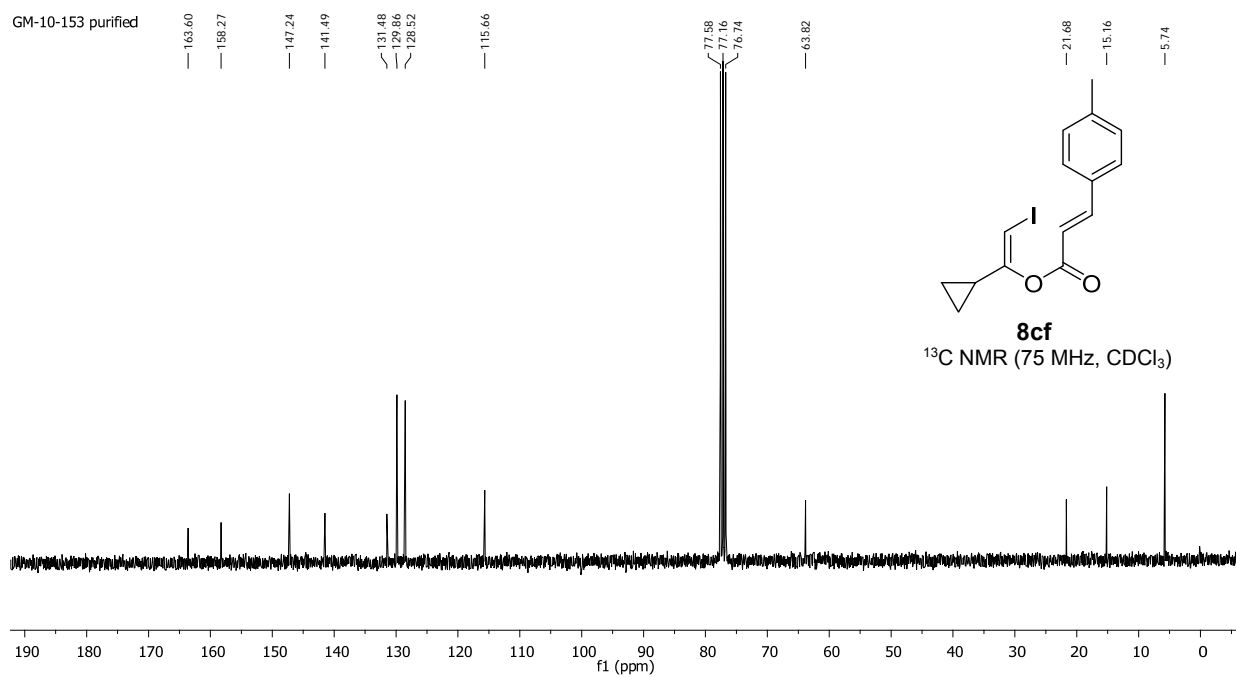
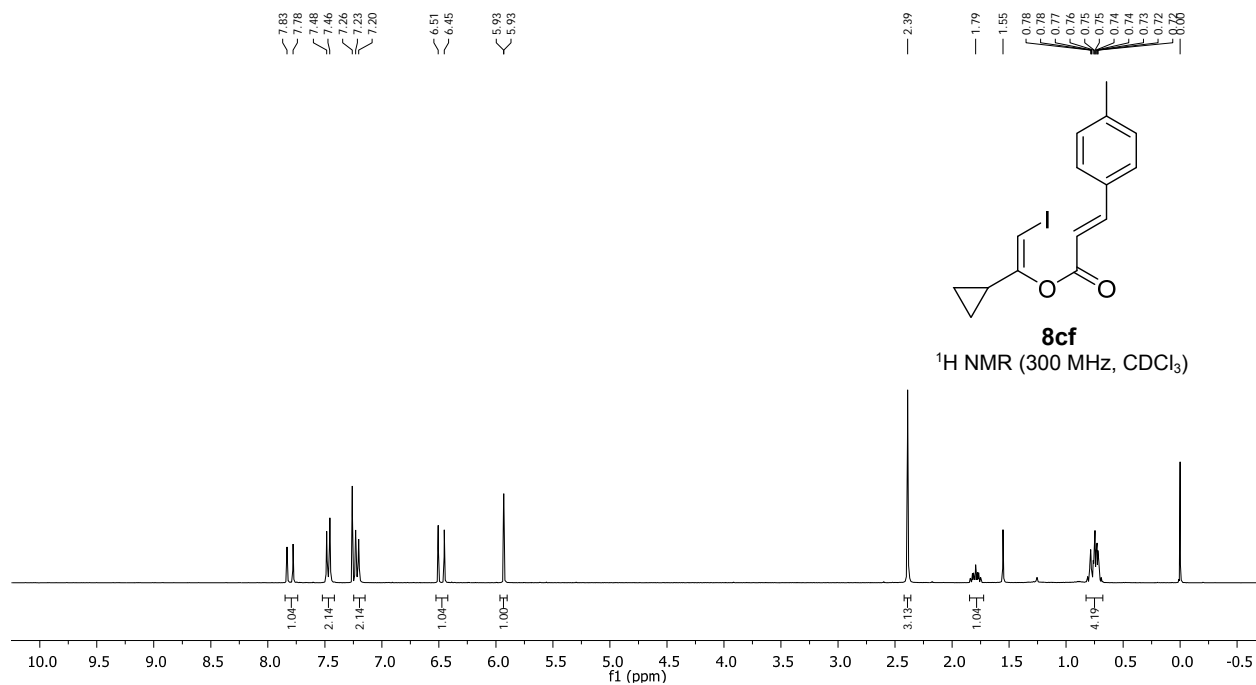
168.57
158.12
146.93
141.31
131.39
129.72
128.38
115.74

77.45
77.03
76.60
64.98
34.59
31.49
28.62
26.39
24.22
21.54
14.05
0.00



8cd
¹³C NMR (75 MHz, CDCl₃)

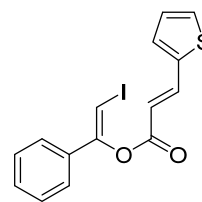




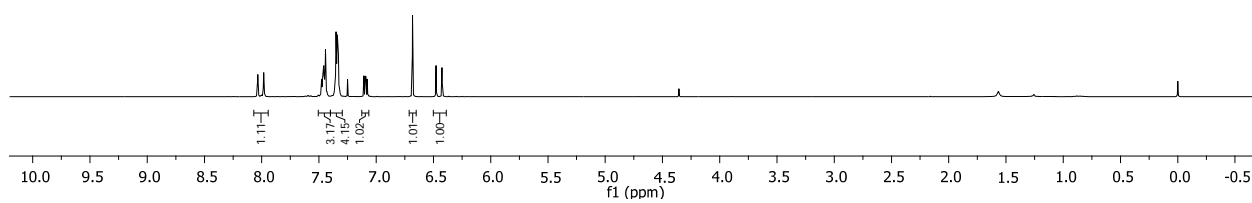
GM-10-147 C.2.fid

8.03
8.03
7.99
7.98
7.46
7.44
7.35
7.34
7.33
7.33
6.68
6.48
6.43

-0.00



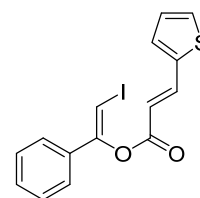
8da
¹H NMR (300 MHz, CDCl₃)



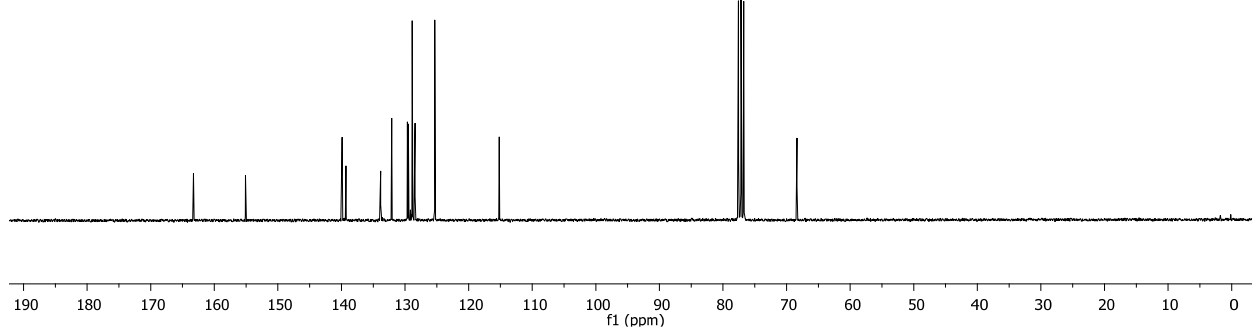
GM-10-147 C.3.fid

163.28
155.10
139.91
139.30
133.84
132.09
128.63
128.58
128.44
125.32
115.17

77.58
77.16
76.74
68.37



8da
¹³C NMR (75 MHz, CDCl₃)

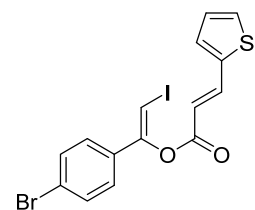


GM-10-163 purified.2.fid

8.03
7.98
7.49
7.47
7.46
7.36
7.34
7.31
7.26
6.47
6.46
6.41

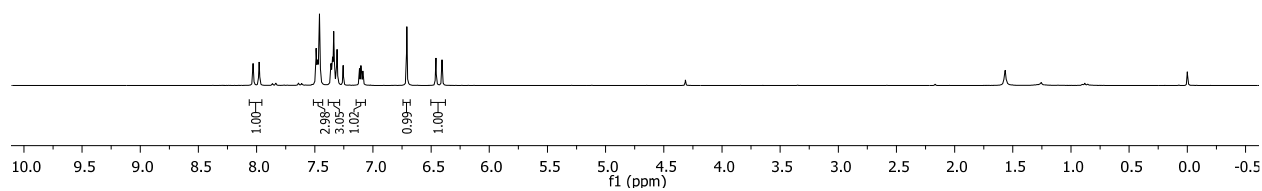
1.57

0.00



8db

¹H NMR (300 MHz, CDCl₃)



GM-10-163 purified.3.fid

163.22

154.20

140.19
139.21
132.85
132.65
129.81
128.49
126.84
123.70

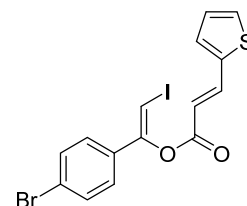
114.87

77.58

77.16

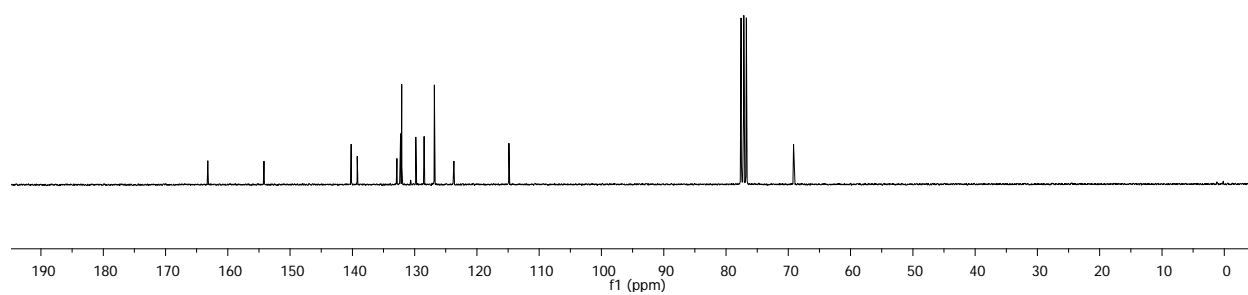
76.74

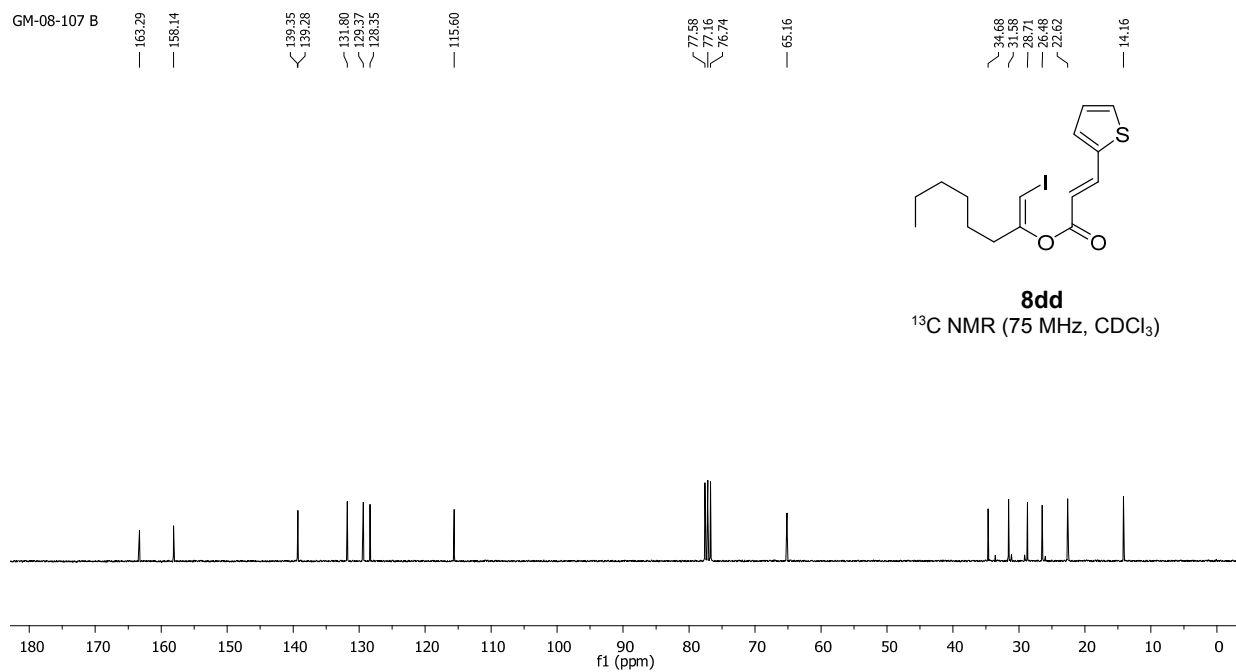
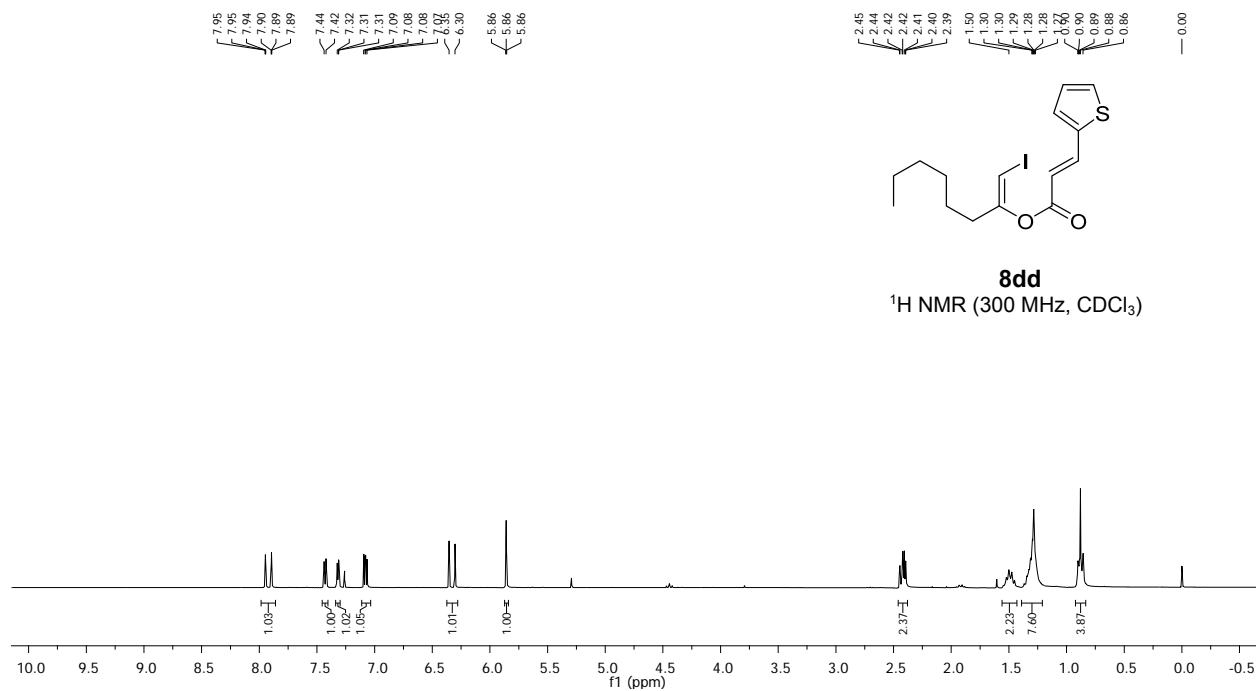
69.16



8db

¹³C NMR (75 MHz, CDCl₃)





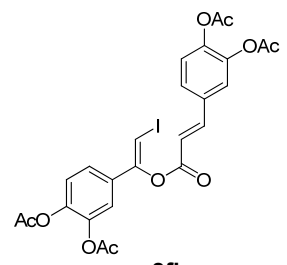
GM-09-145 D.2.fid

7.87
7.86
7.80
7.78
7.47
7.46
7.45
7.36
7.33
7.33
7.29
7.28
7.27
7.26
7.20
7.18
6.72
6.61
6.56

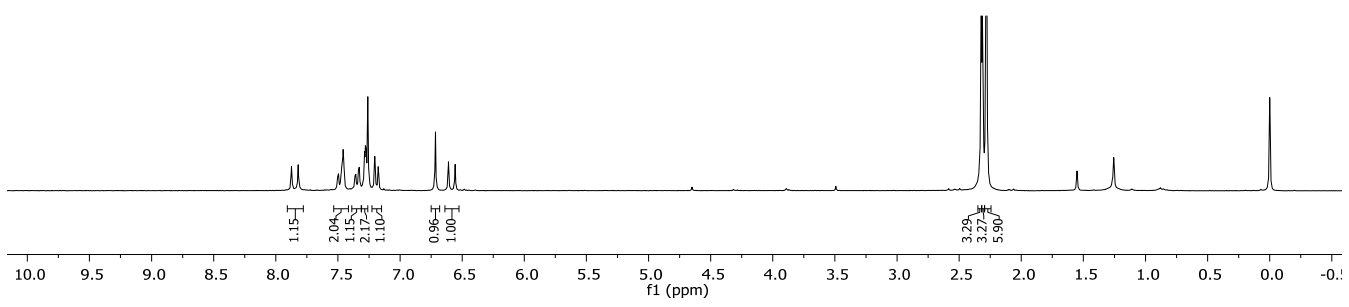
2.32
2.31
2.28

1.55
1.26

0.00



¹H NMR (300 MHz, CDCl₃)



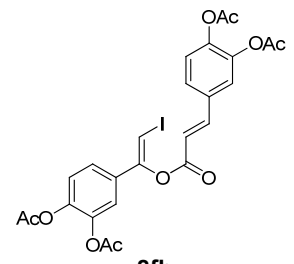
GM-09-161C.2.fid

168.04
167.91
167.87
167.86
162.63
153.37
145.74
144.07
142.89
142.58
142.24
132.74
132.38
126.86
124.11
123.82
123.41
123.08
120.45
117.45

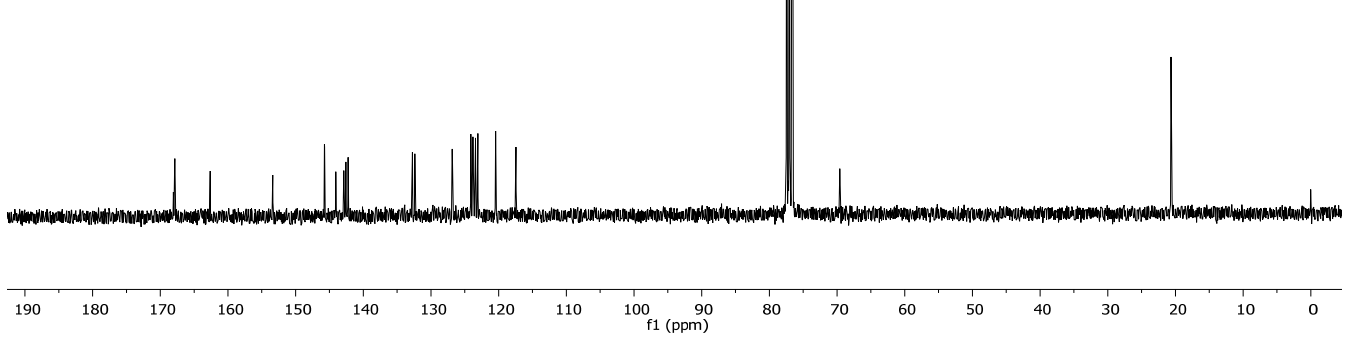
77.45
77.03
76.60
69.61

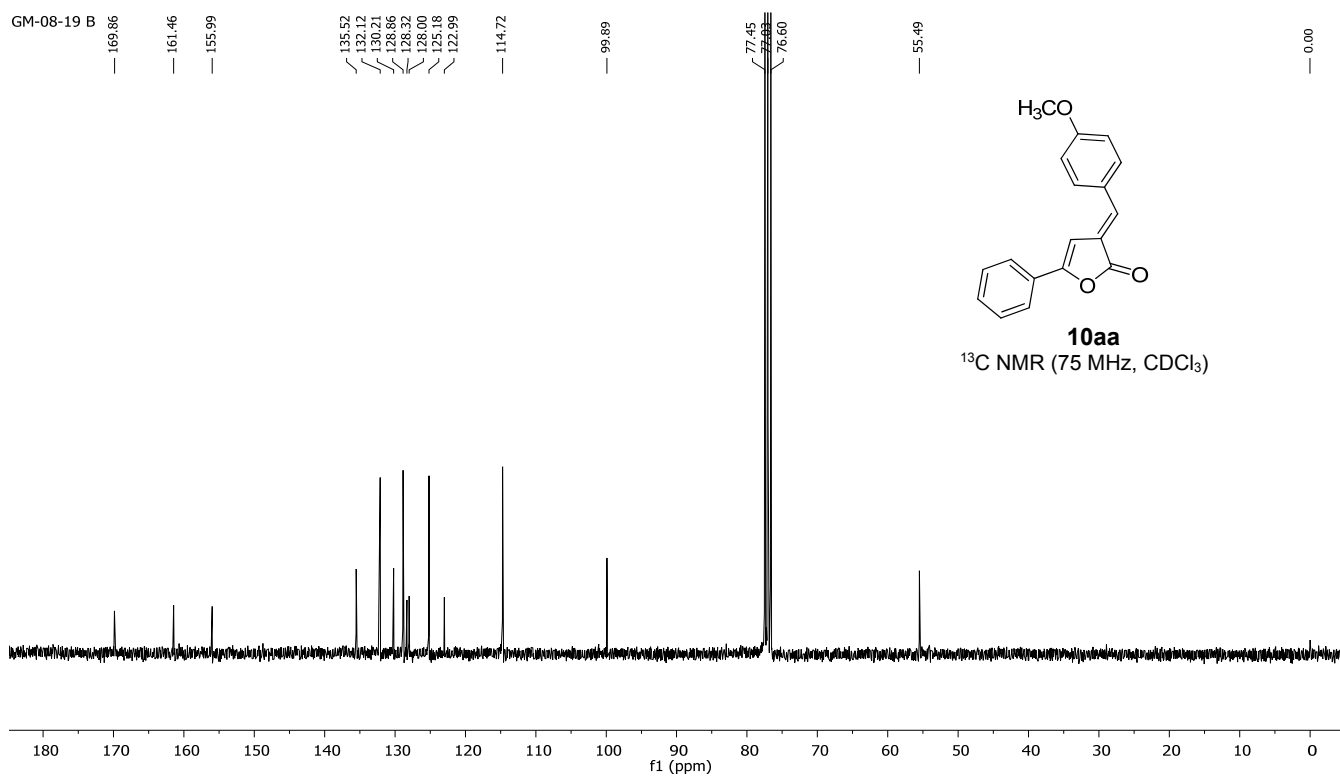
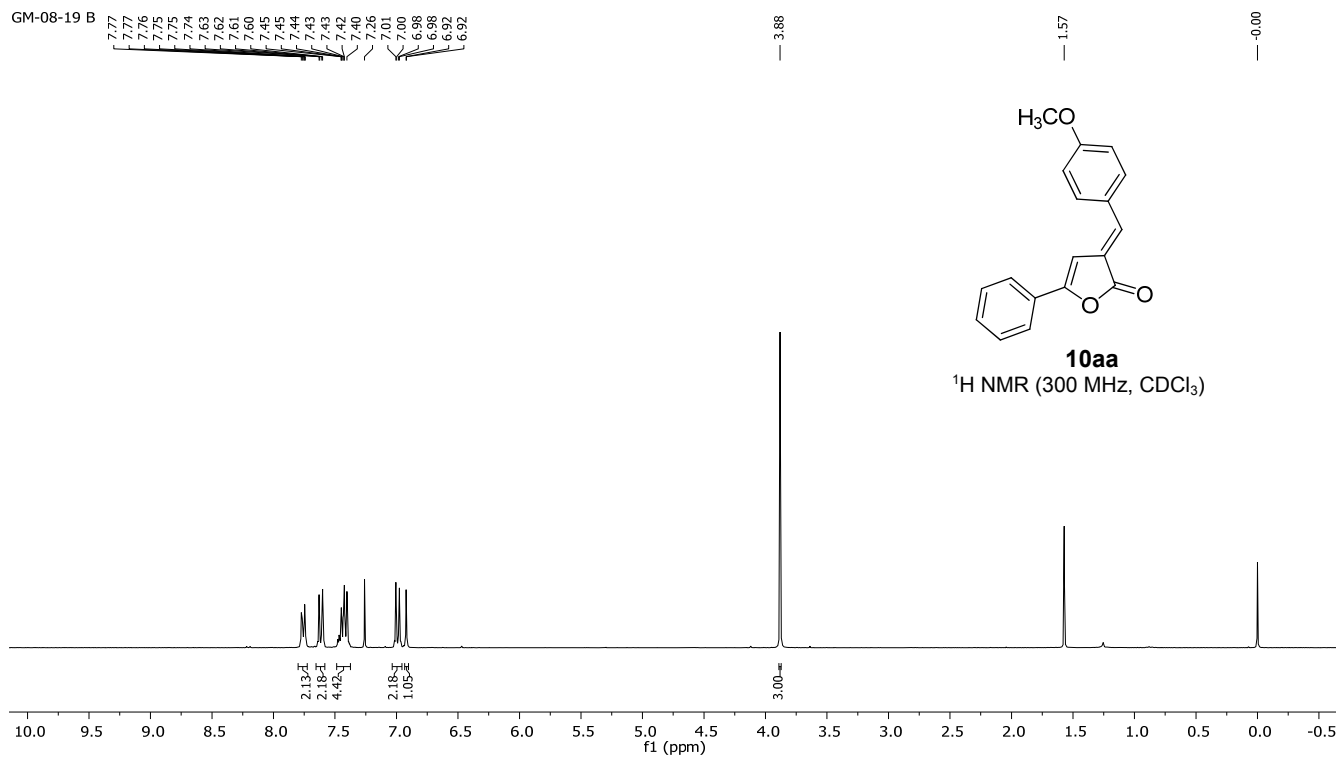
20.66
20.61

0.00

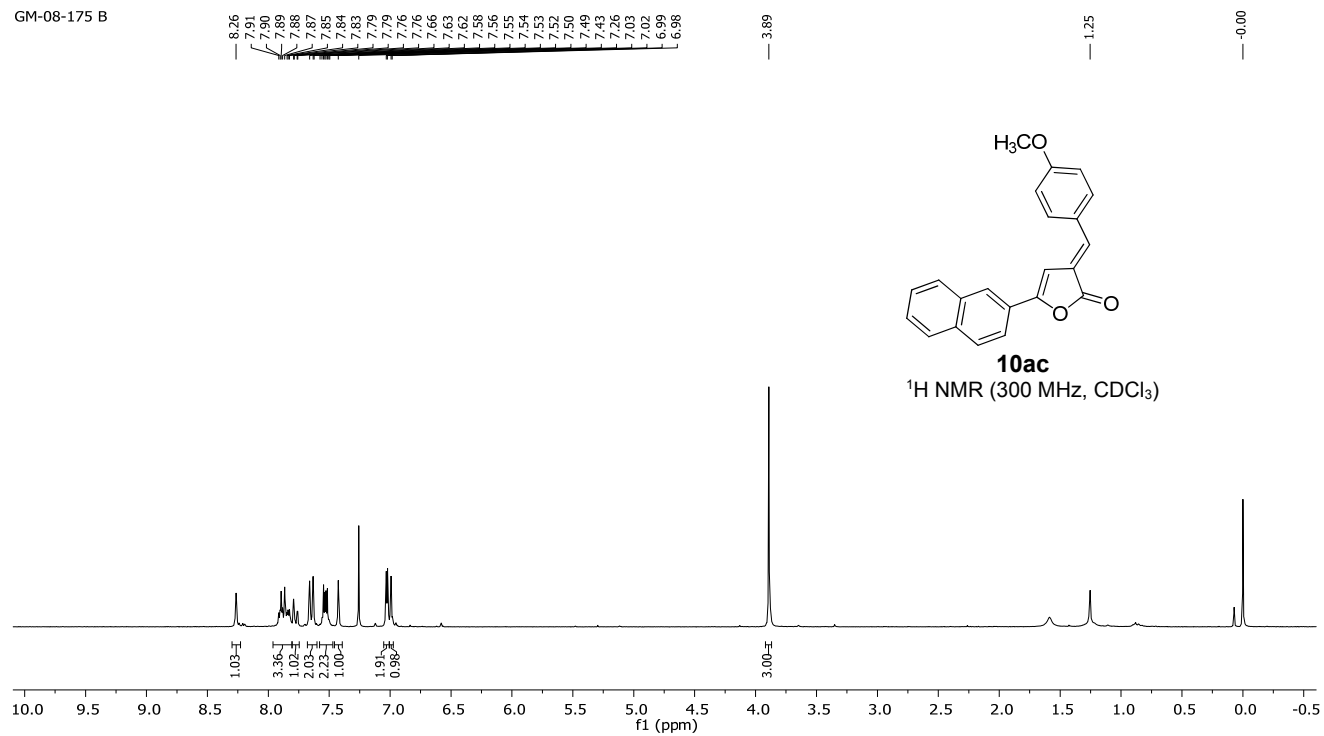


¹³C NMR (75 MHz, CDCl₃)

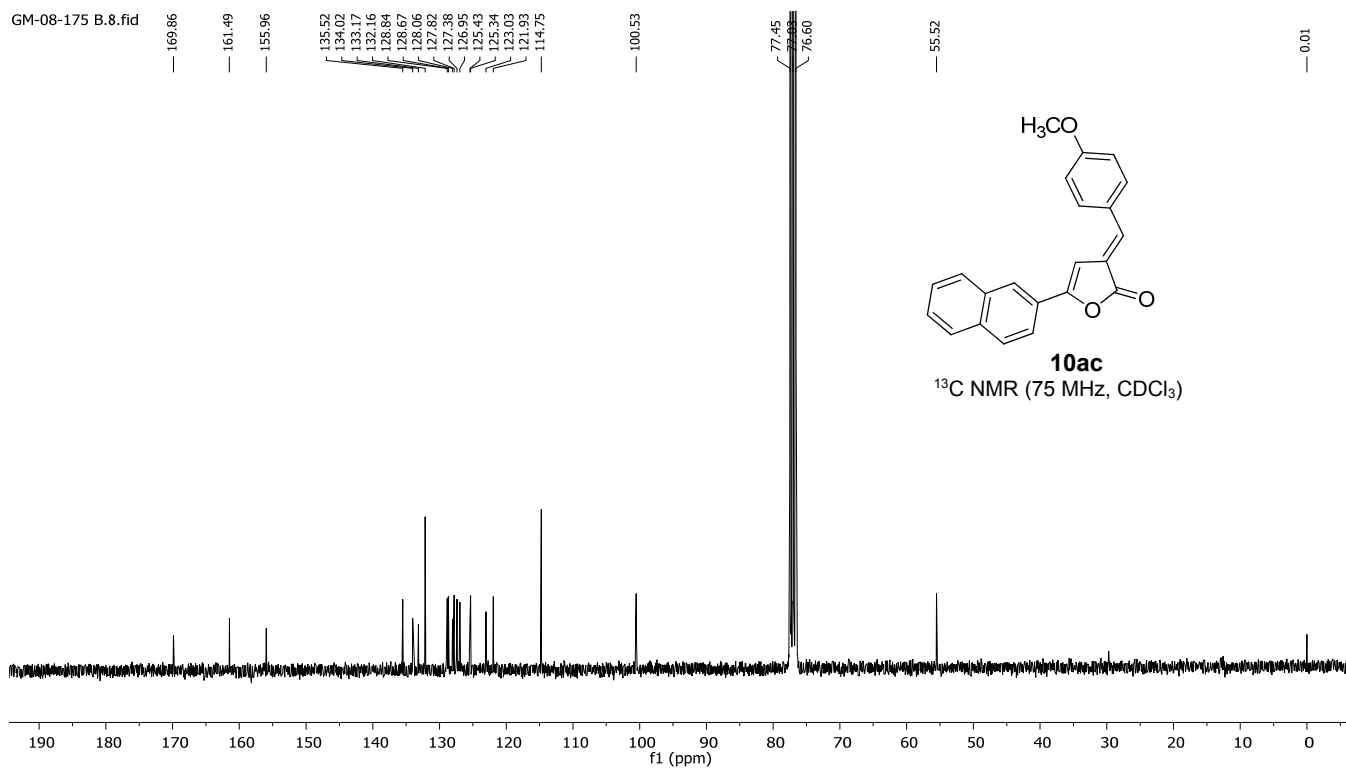


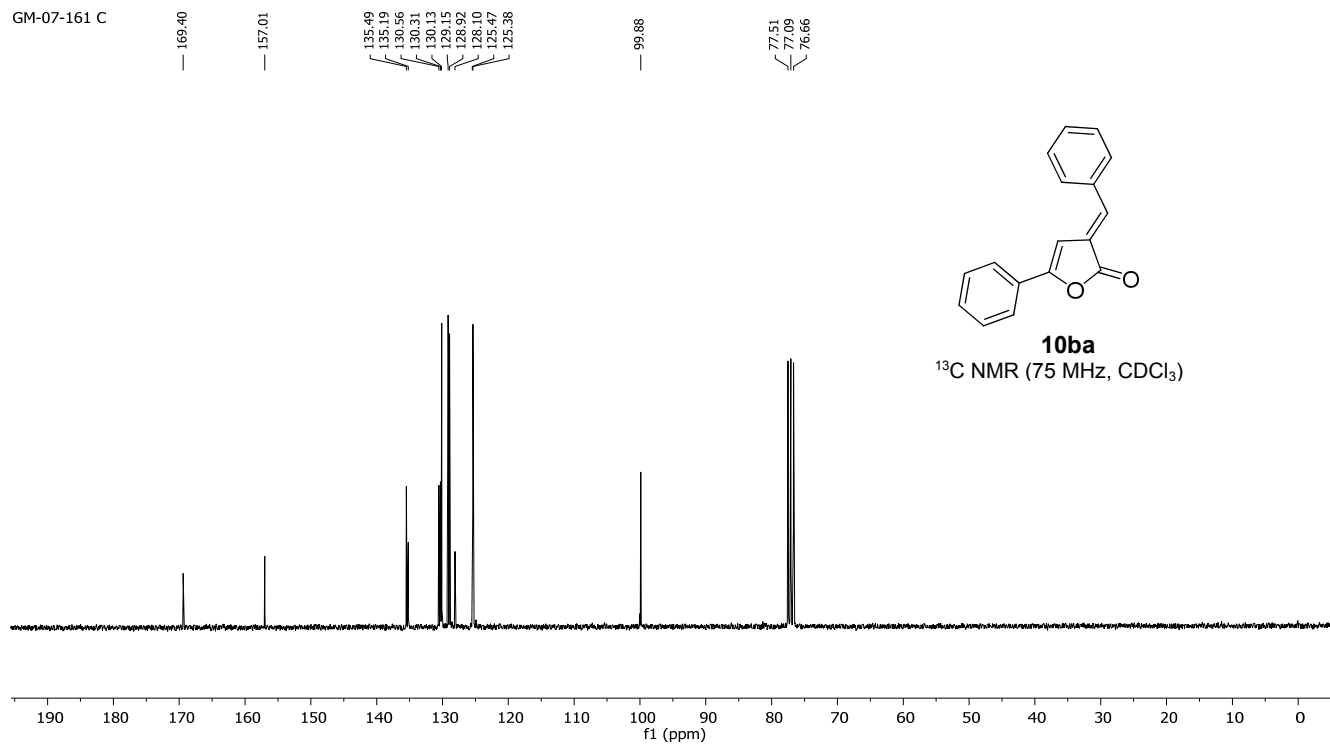
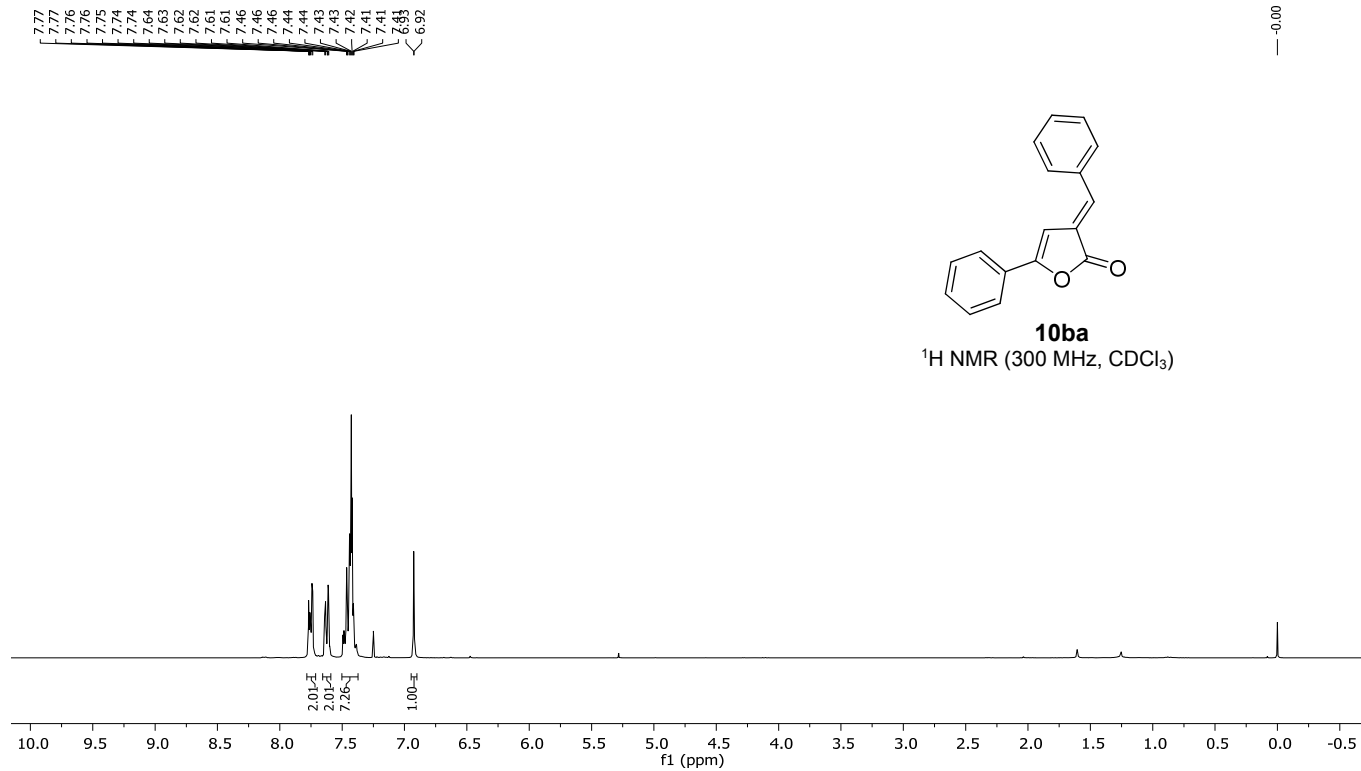


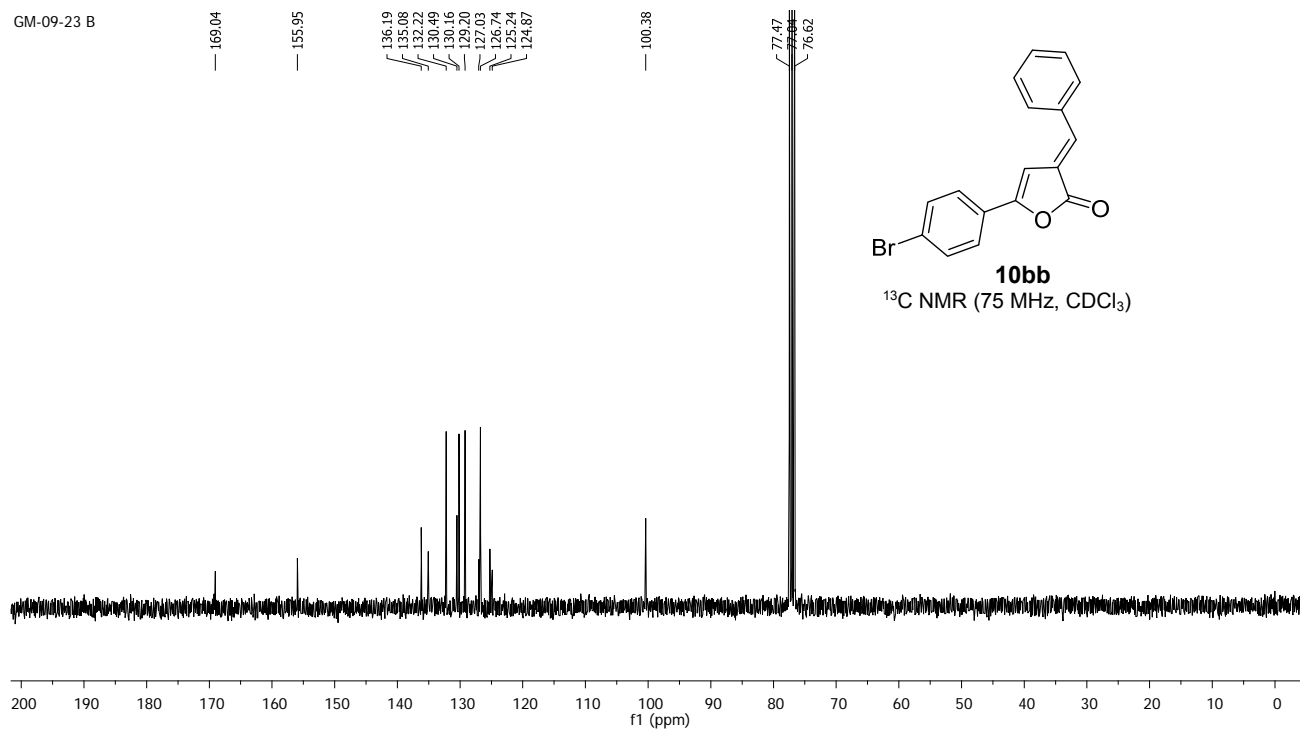
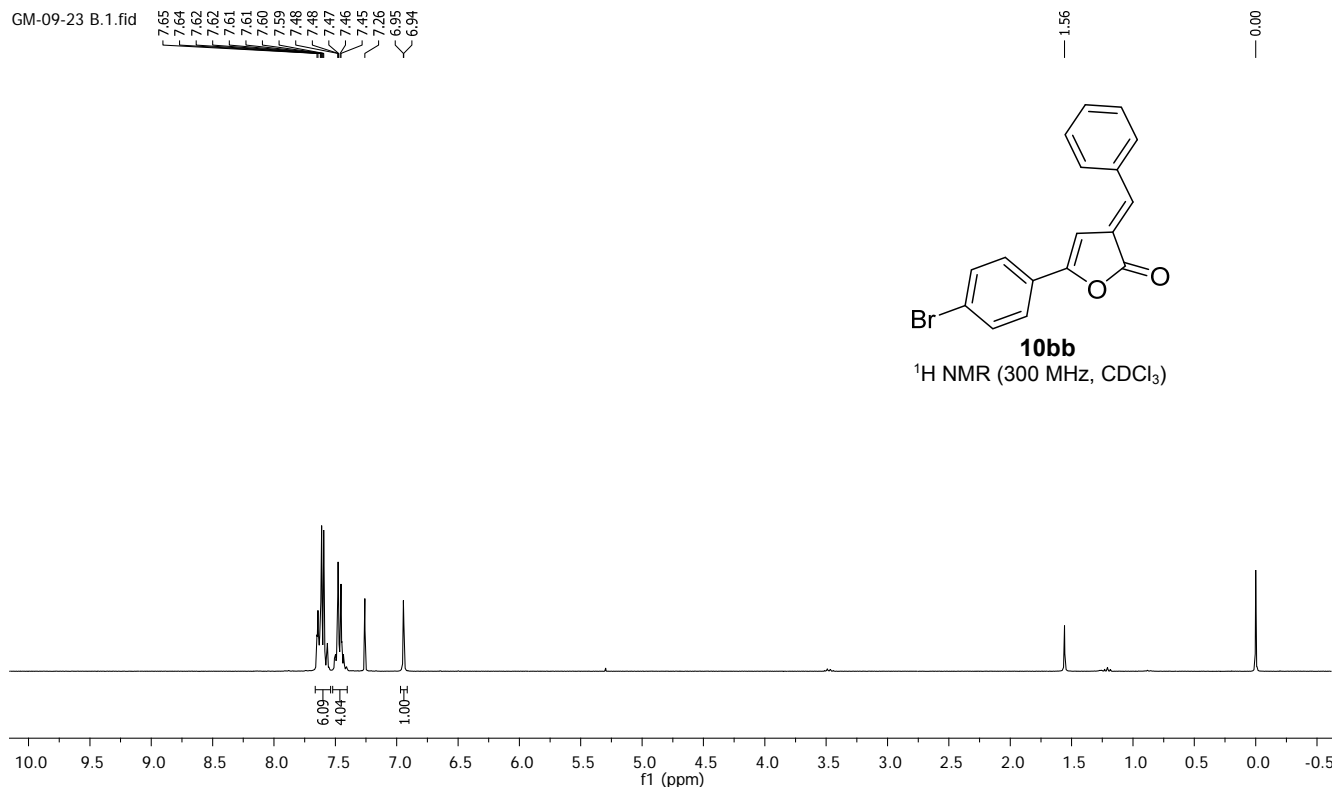
GM-08-175 B



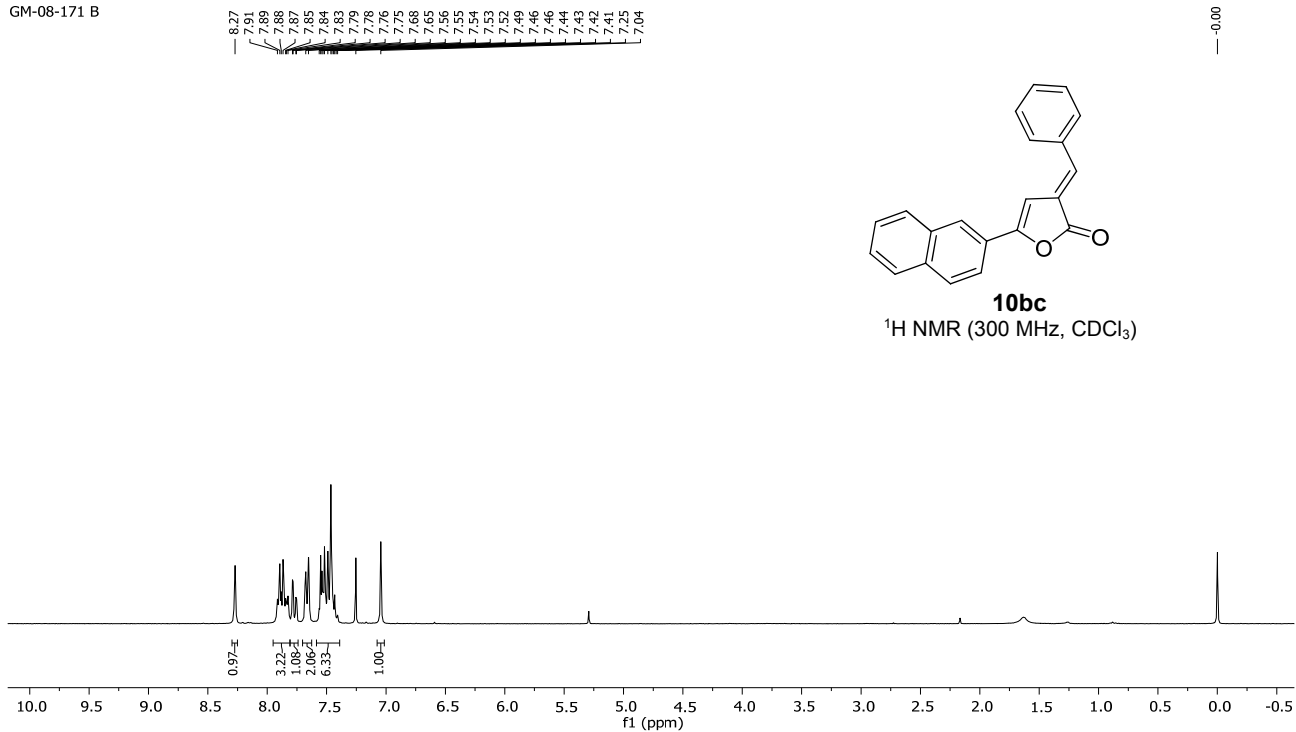
GM-08-175 B.8.fid



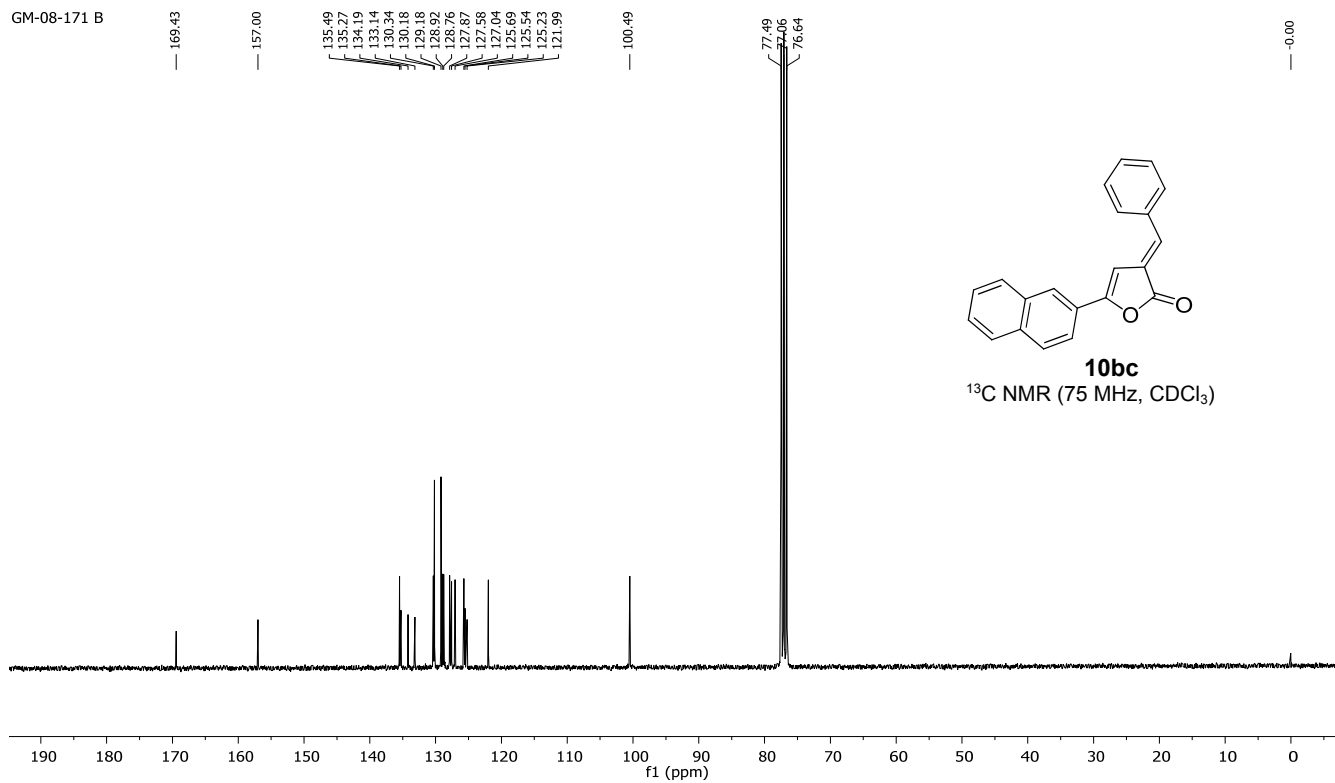




GM-08-171 B



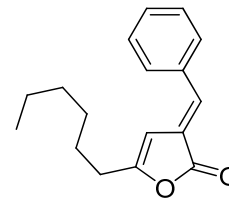
GM-08-171 B



GM-07-149 B.1.f

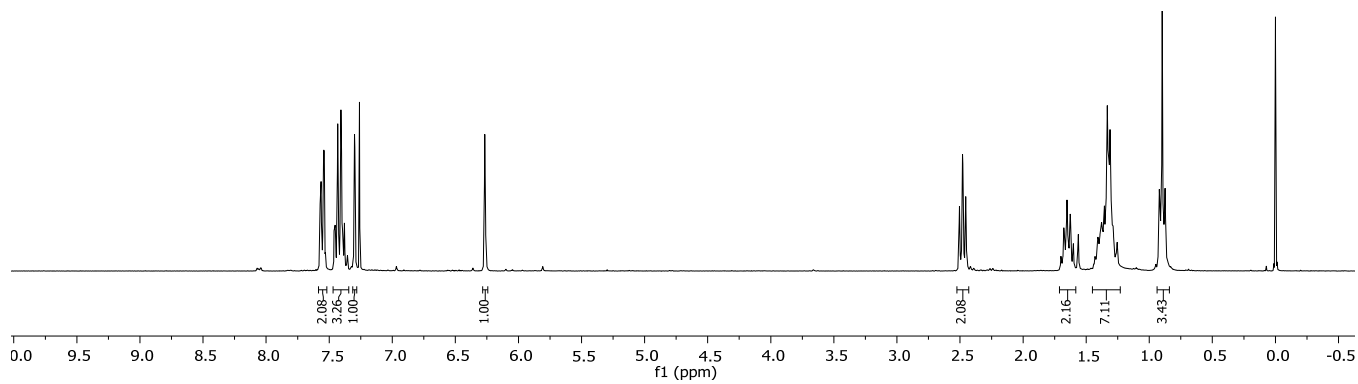
7.57
7.56
7.55
7.54
7.46
7.45
7.43
7.43
7.41
7.40
7.38
7.35
7.30
7.30
7.26
6.77
6.56
6.26

2.51
2.50
2.48
2.48
2.48
2.46
2.45
1.70
1.68
1.65
1.63
1.60
1.56
1.44
1.43
1.42
1.41
1.40
1.39
1.38
1.37
1.36
1.33
1.33
1.32
1.31
1.29
1.25
1.25
0.92
0.90
0.90
0.89
0.89
0.88
0.88
0.87
0.00



10bd

¹H NMR (300 MHz, CDCl₃)



GM-07-149 B

169.93
162.32

135.16
132.04
129.00
128.99
125.38

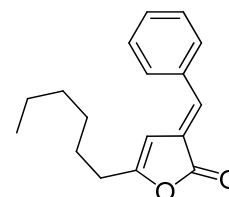
101.06

77.45
77.02
76.60

31.46
28.93
28.78
25.89
22.49

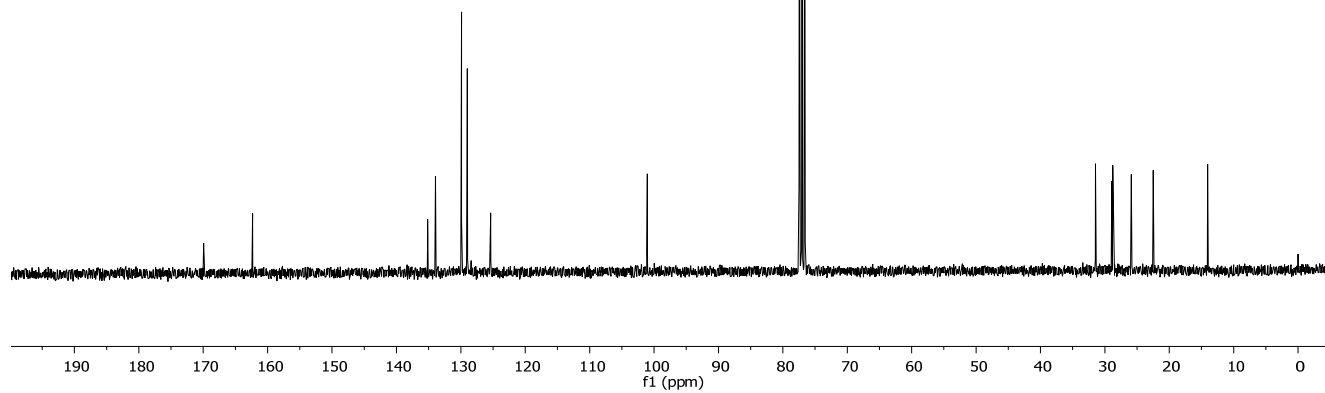
14.04

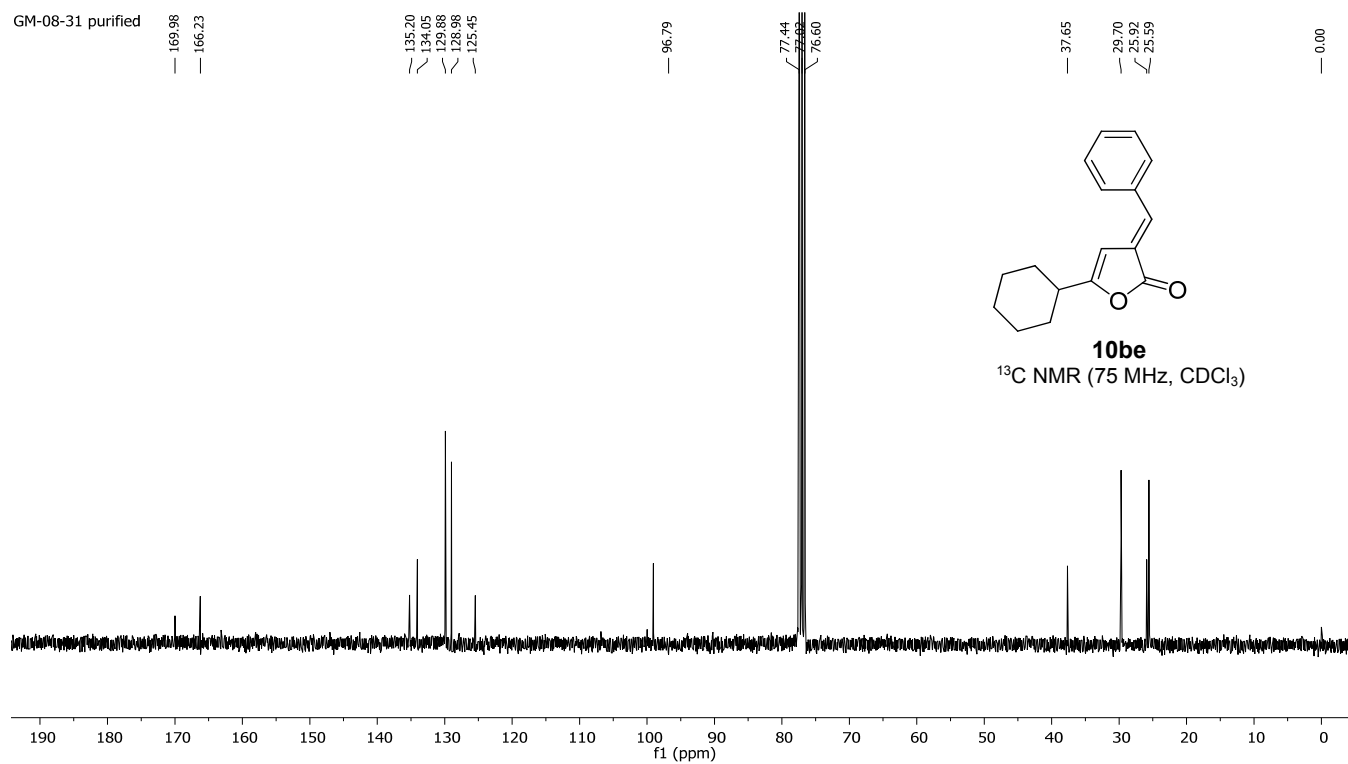
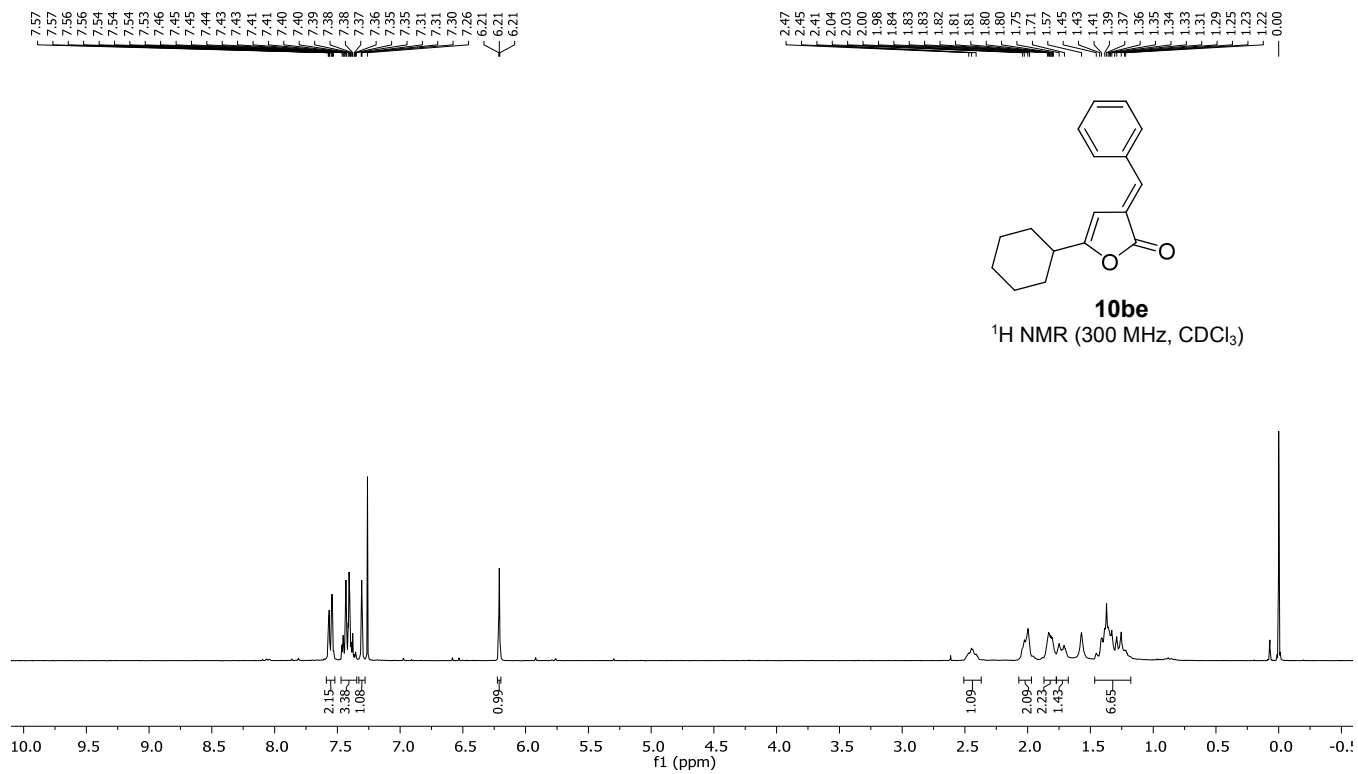
0.00

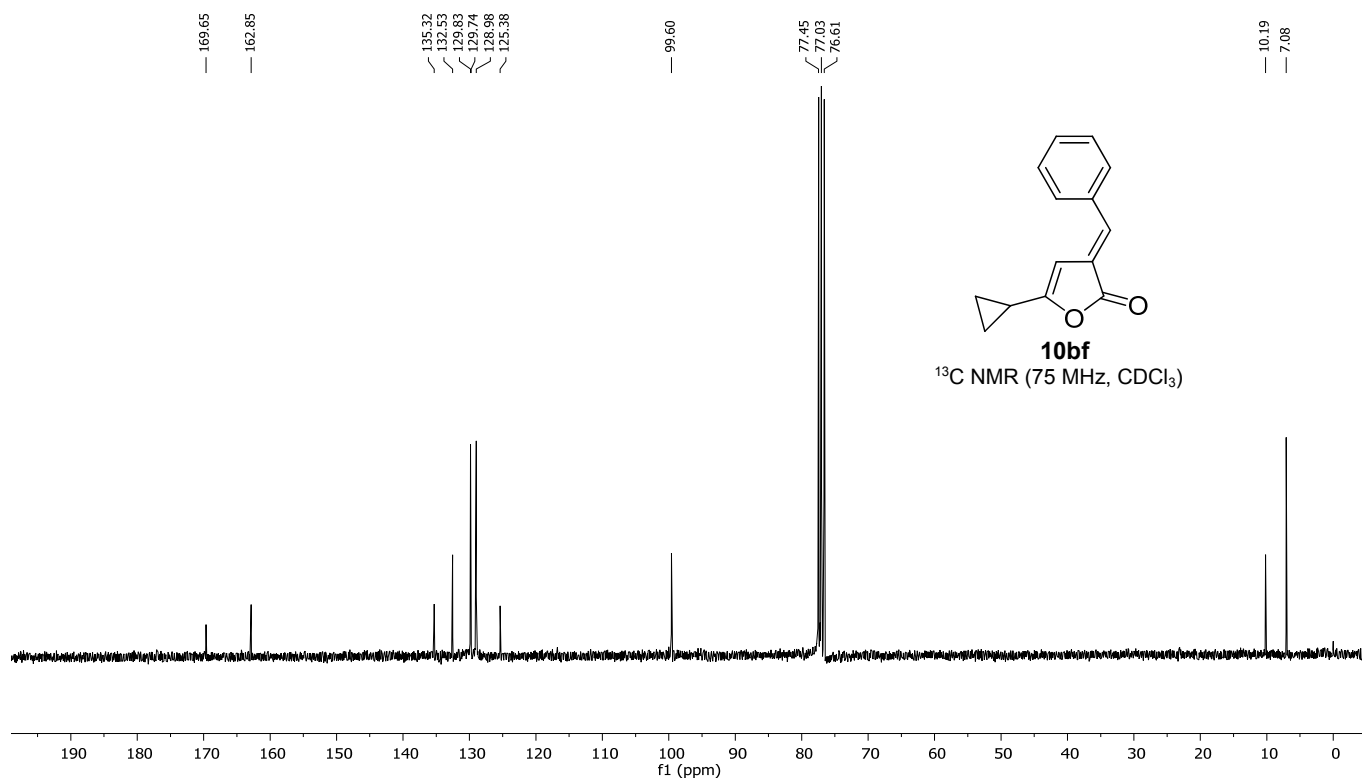
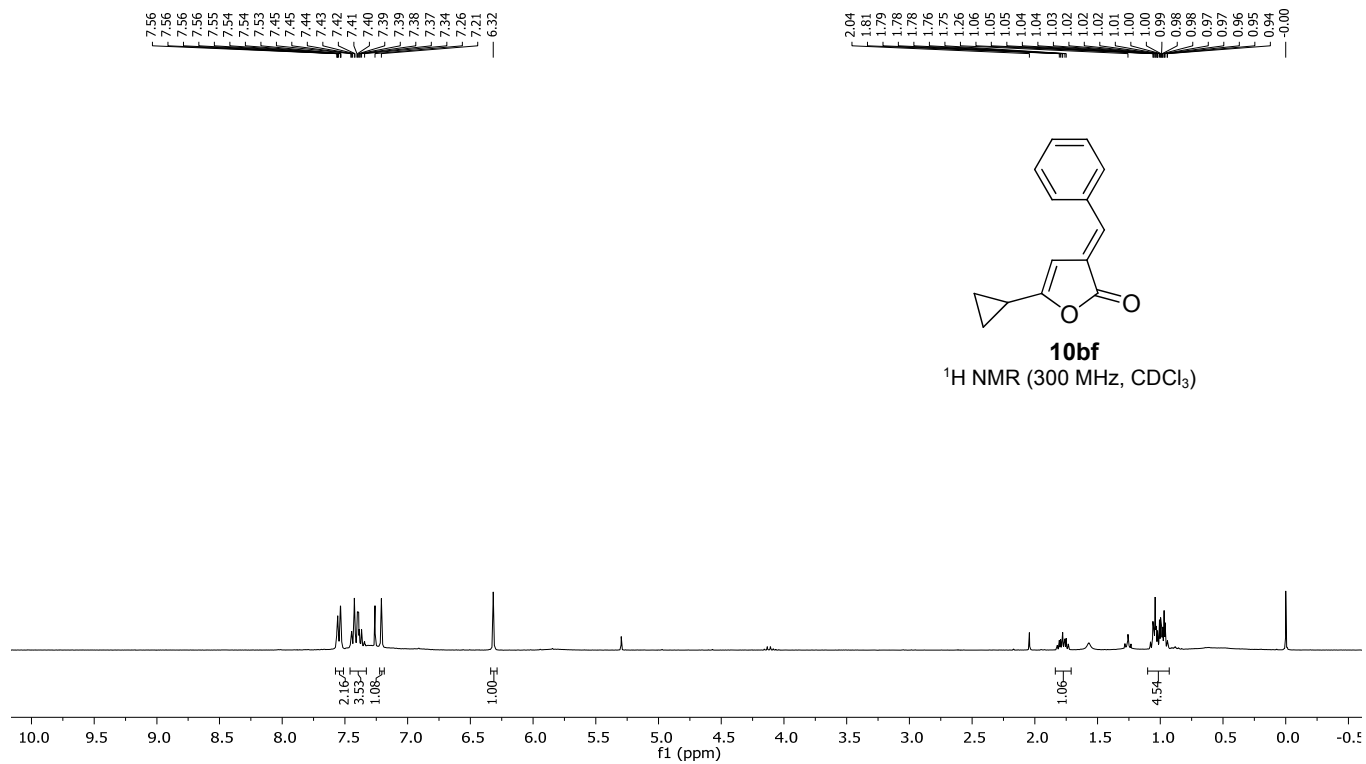


10bd

¹³C NMR (75 MHz, CDCl₃)







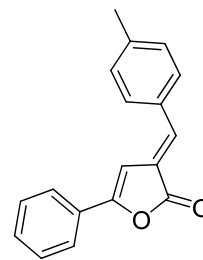
GM-08-63 B

7.78
7.77
7.75
7.75
7.56
7.53
7.46
7.45
7.44
7.44
7.43
7.43
7.42
7.42
7.29
7.26
6.93
6.93

2.42

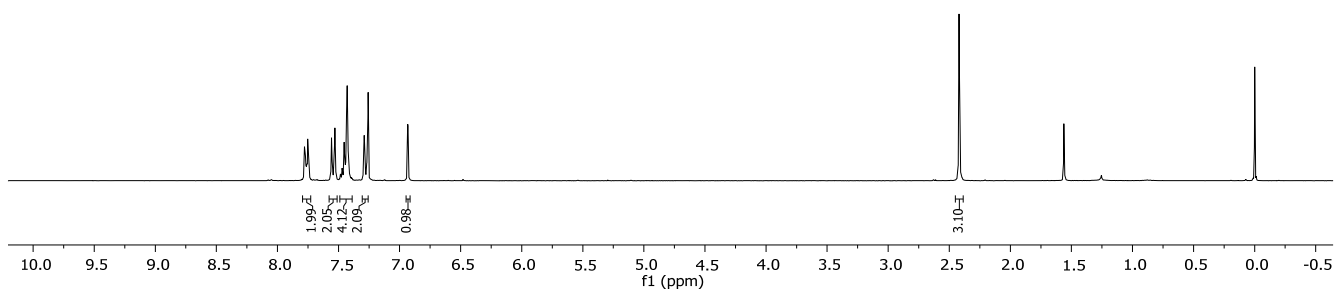
1.56

0.00



10ca

¹H NMR (300 MHz, CDCl₃)



GM-08-63 B

169.62

156.48

141.04

135.71

132.47

130.37

130.20

128.68

128.91

125.28

124.47

99.97

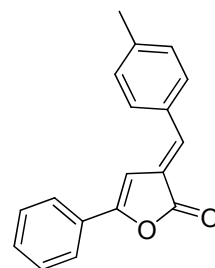
77.45

77.00

76.60

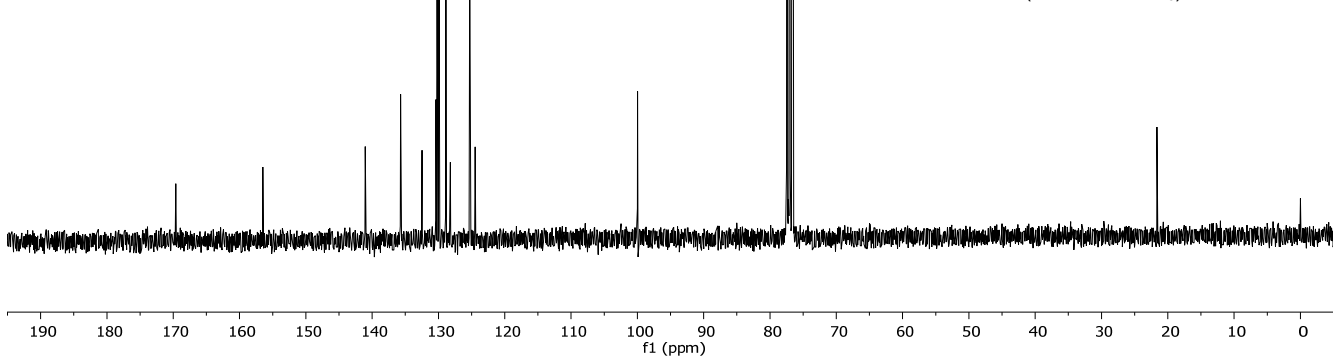
21.63

0.00

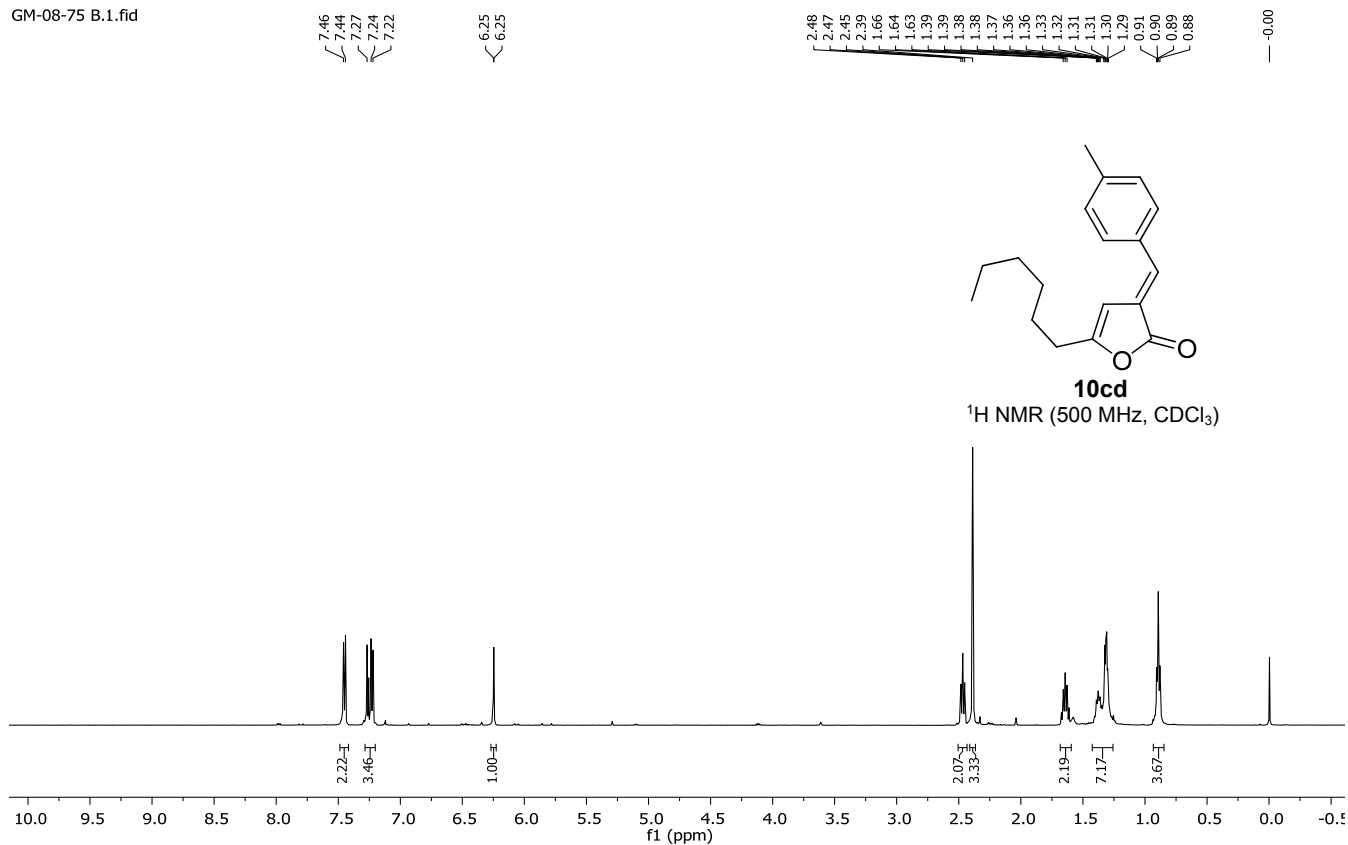


10ca

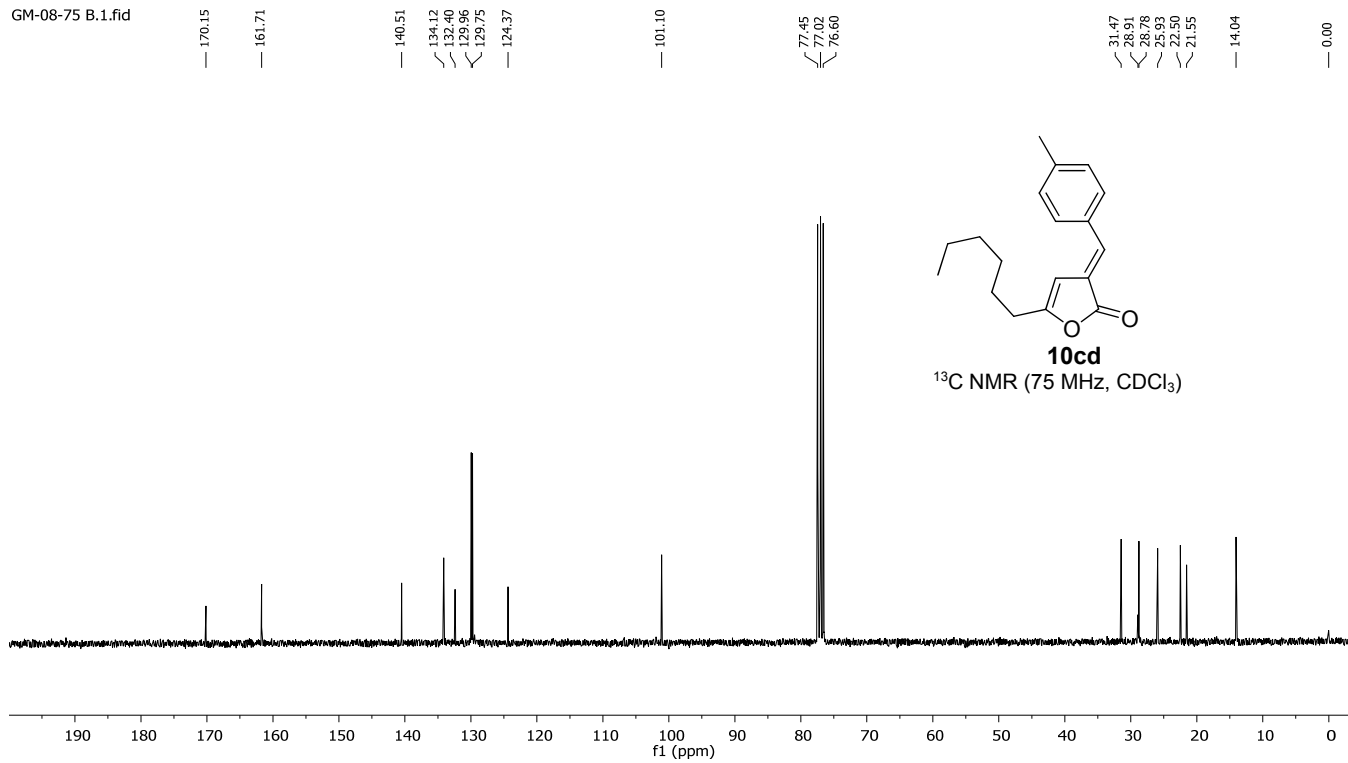
¹³C NMR (75 MHz, CDCl₃)



GM-08-75 B.1.fid



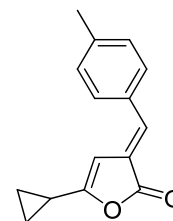
GM-08-75 B.1.fid



GM-08-193 purified

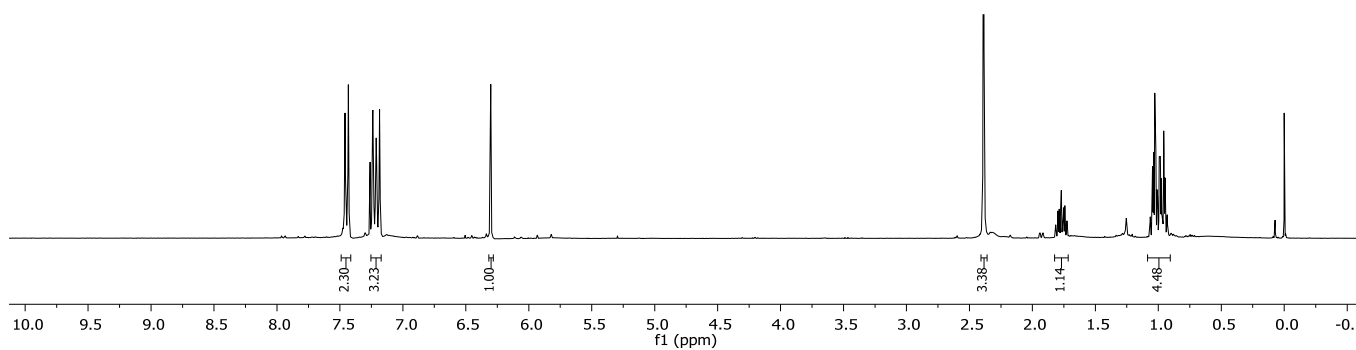
7.46
7.43
7.38
7.21
7.19
6.30

2.39
1.81
1.80
1.79
1.78
1.77
1.76
1.75
1.74
1.73
1.05
1.04
1.03
1.02
1.02
1.01
0.99
0.98
0.98
0.98
0.97
0.96
0.95
0.95
-0.00



10cf

¹H NMR (300 MHz, CDCl₃)



GM-08-193 purified

169.86

162.23

140.32

132.75

132.55

129.89

129.74

124.38

99.66

77.45

77.03

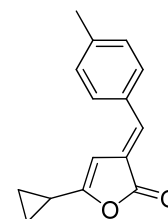
76.60

21.54

10.14

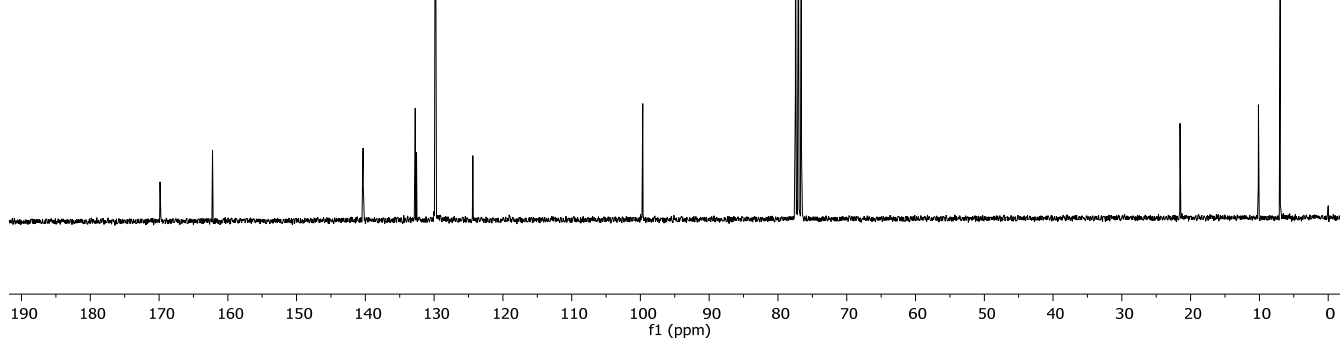
6.98

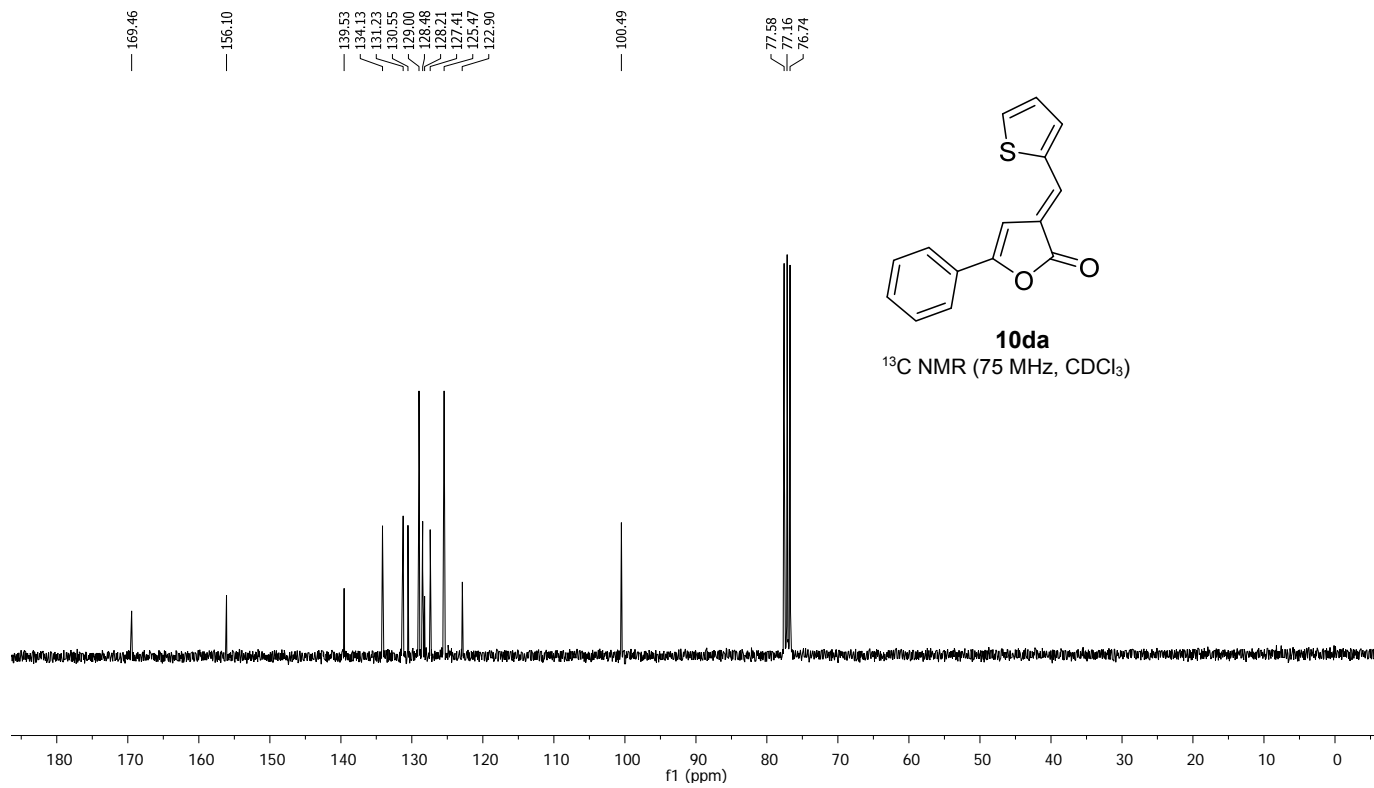
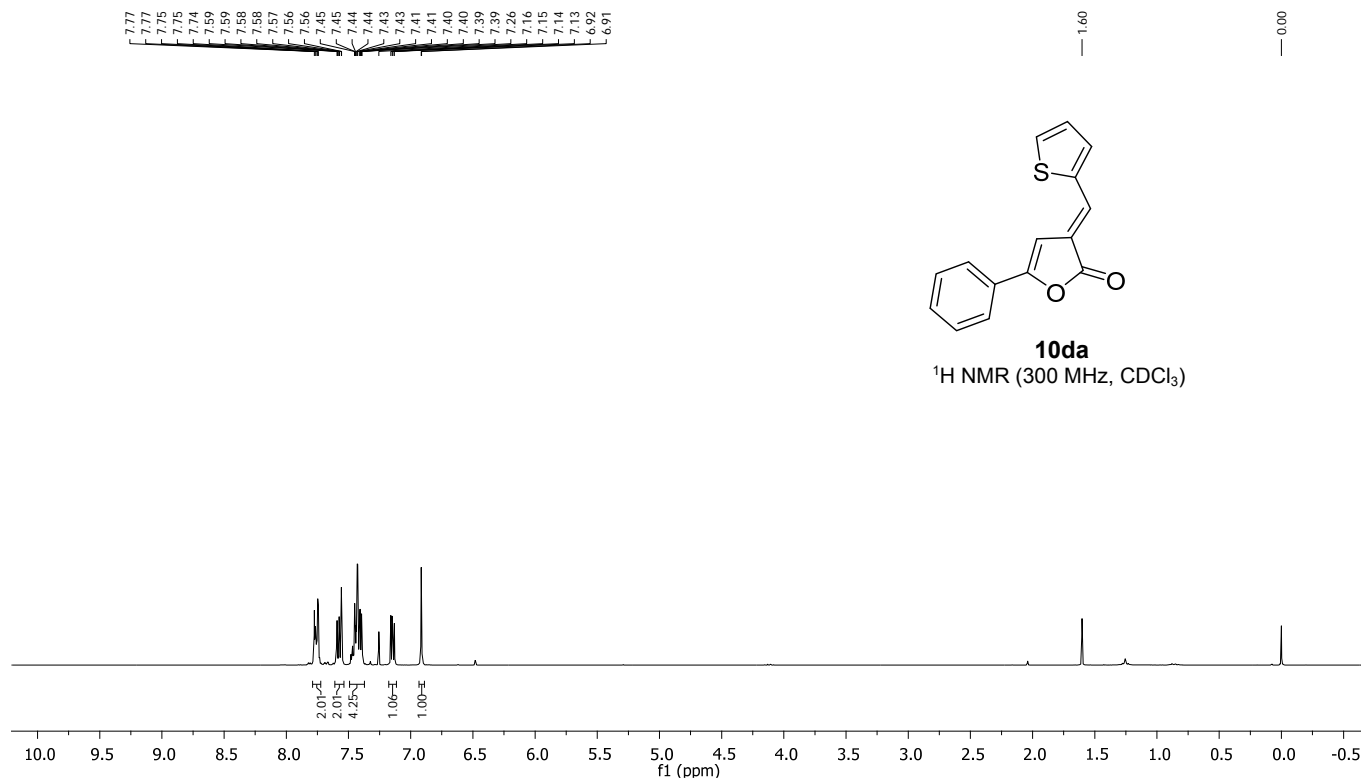
0.00



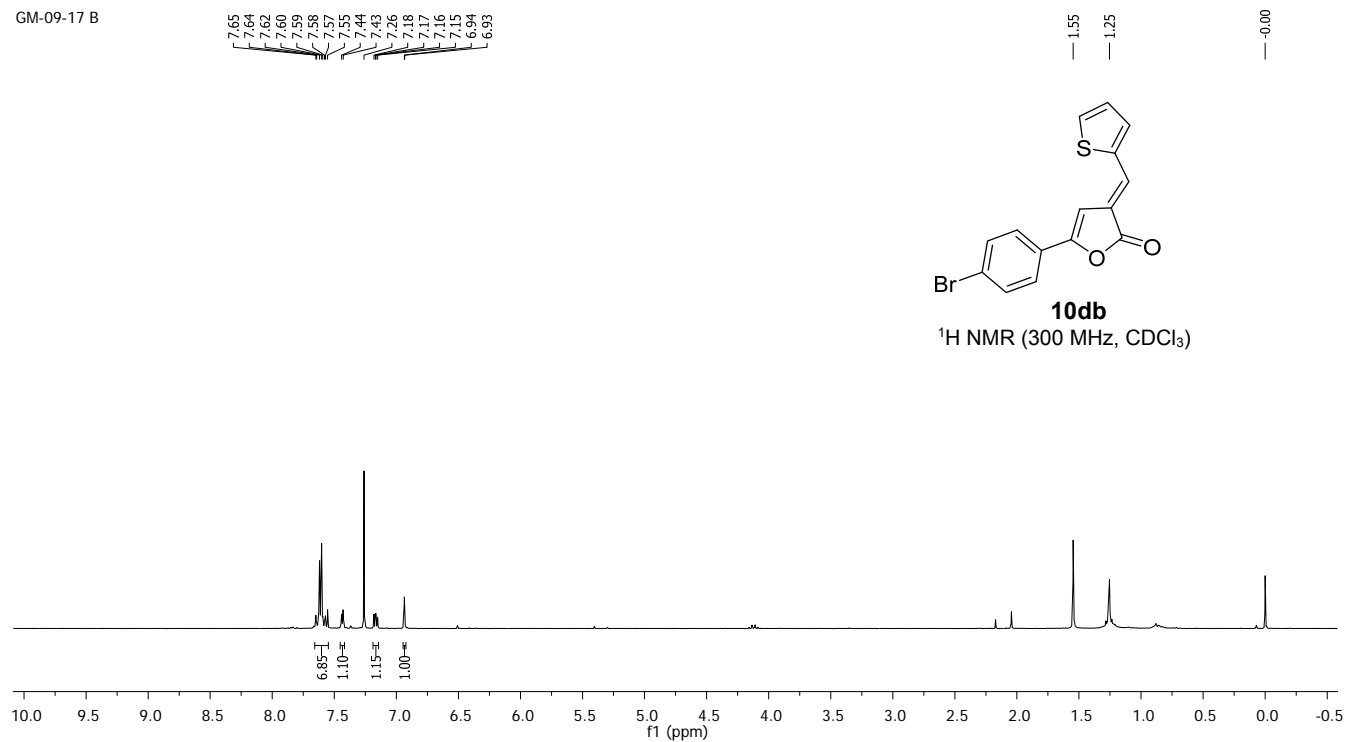
10cf

¹³C NMR (75 MHz, CDCl₃)

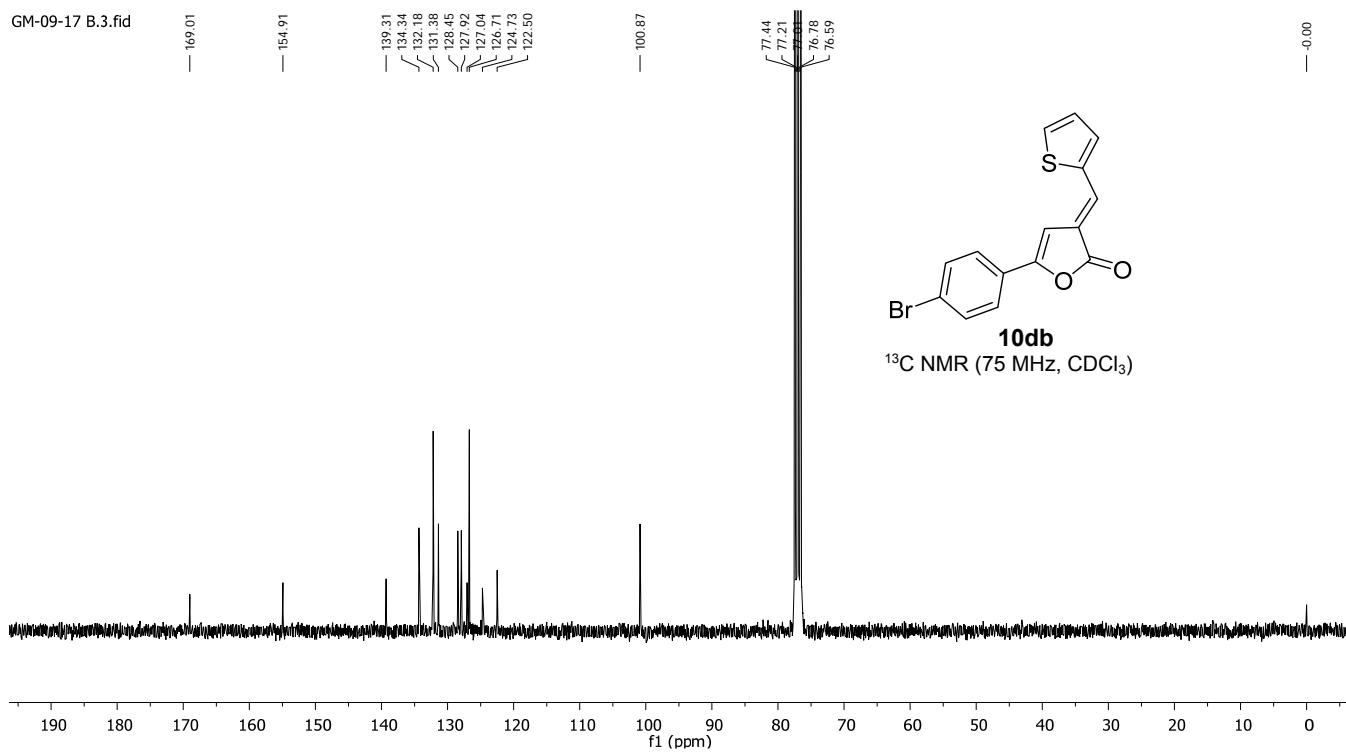


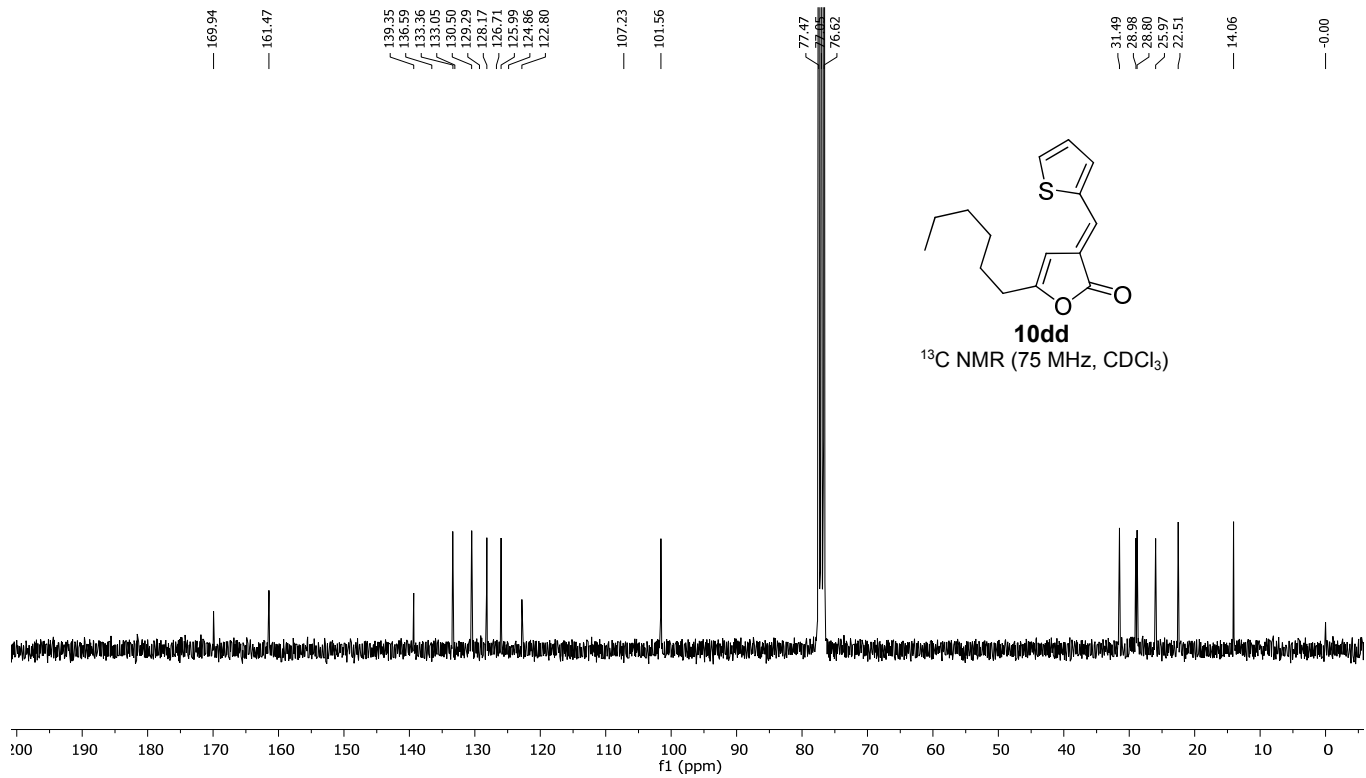
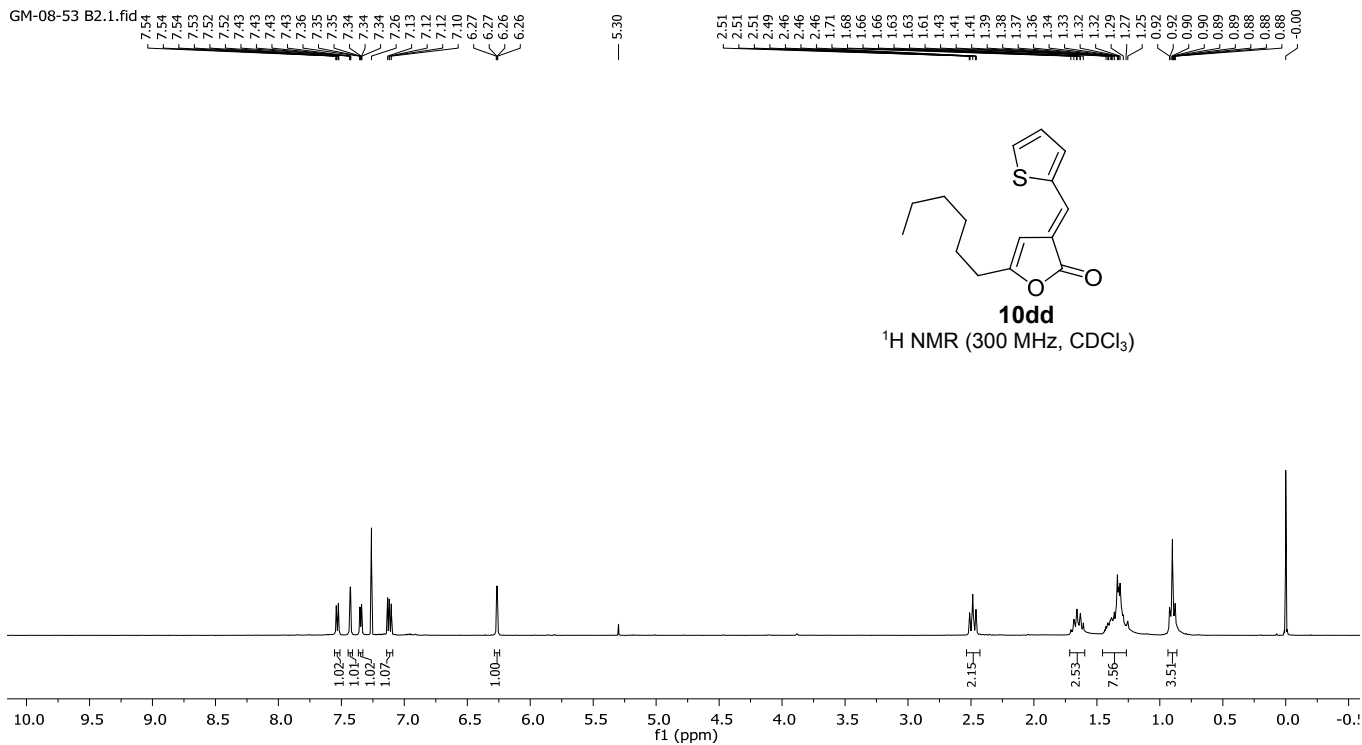


GM-09-17 B

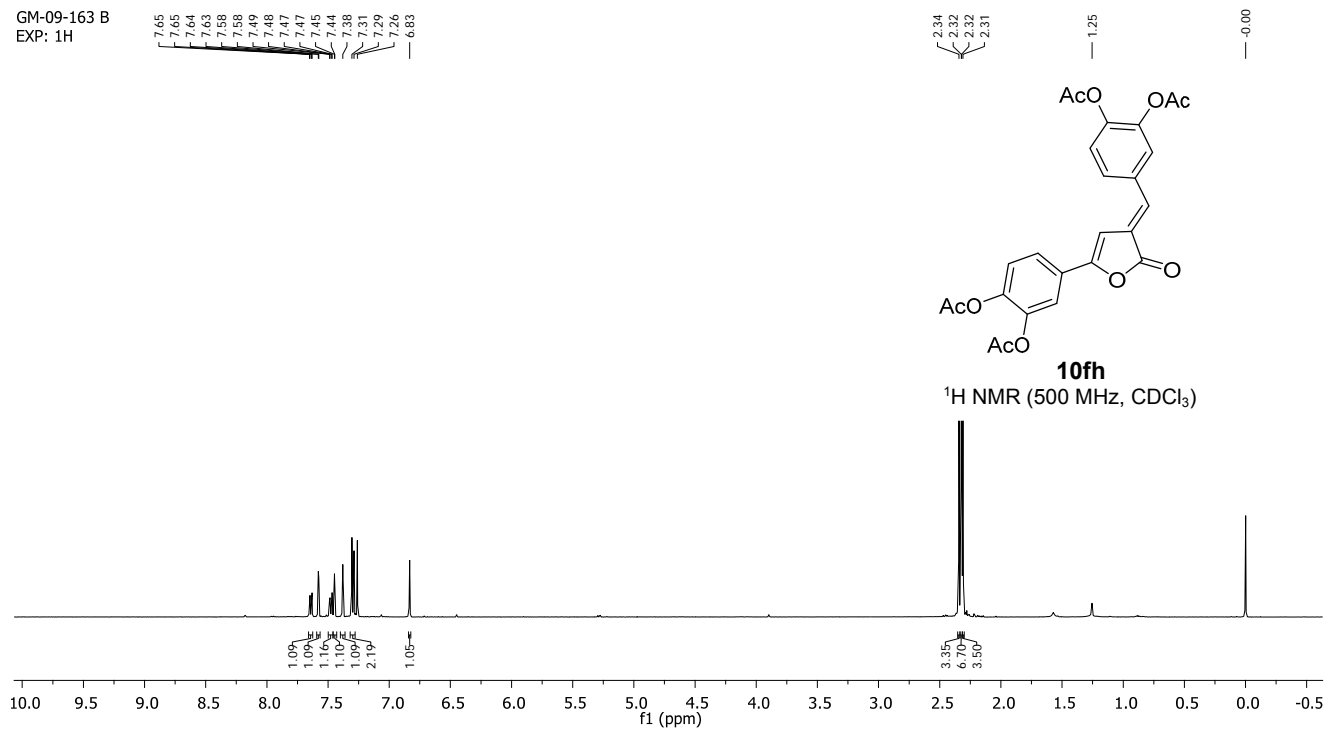


GM-09-17 B.3.fid

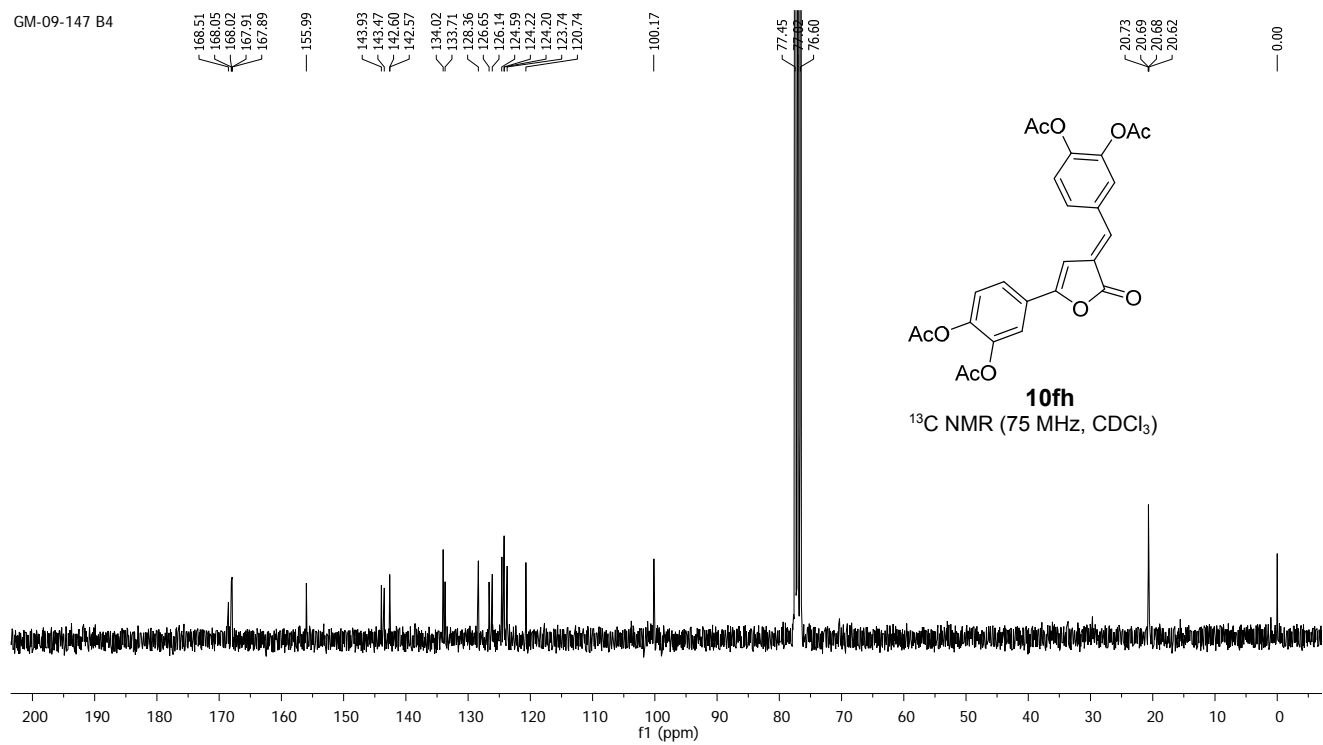


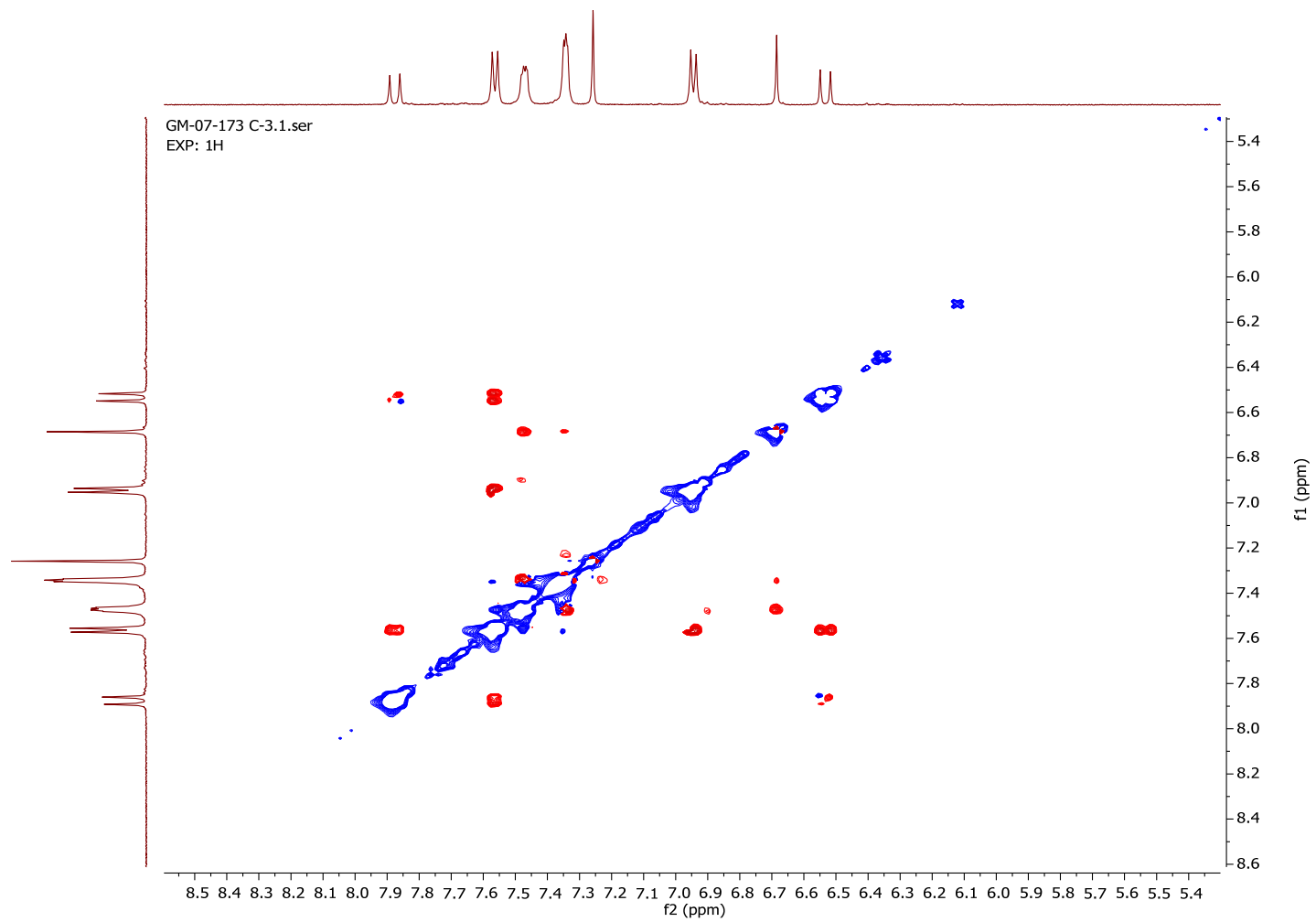
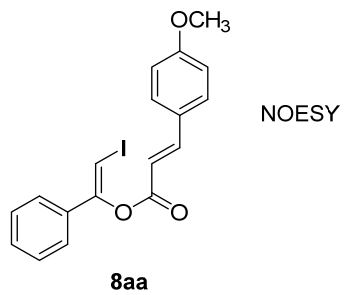


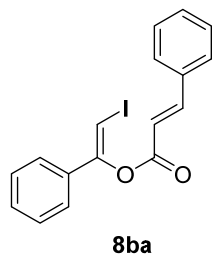
GM-09-163 B
EXP: 1H



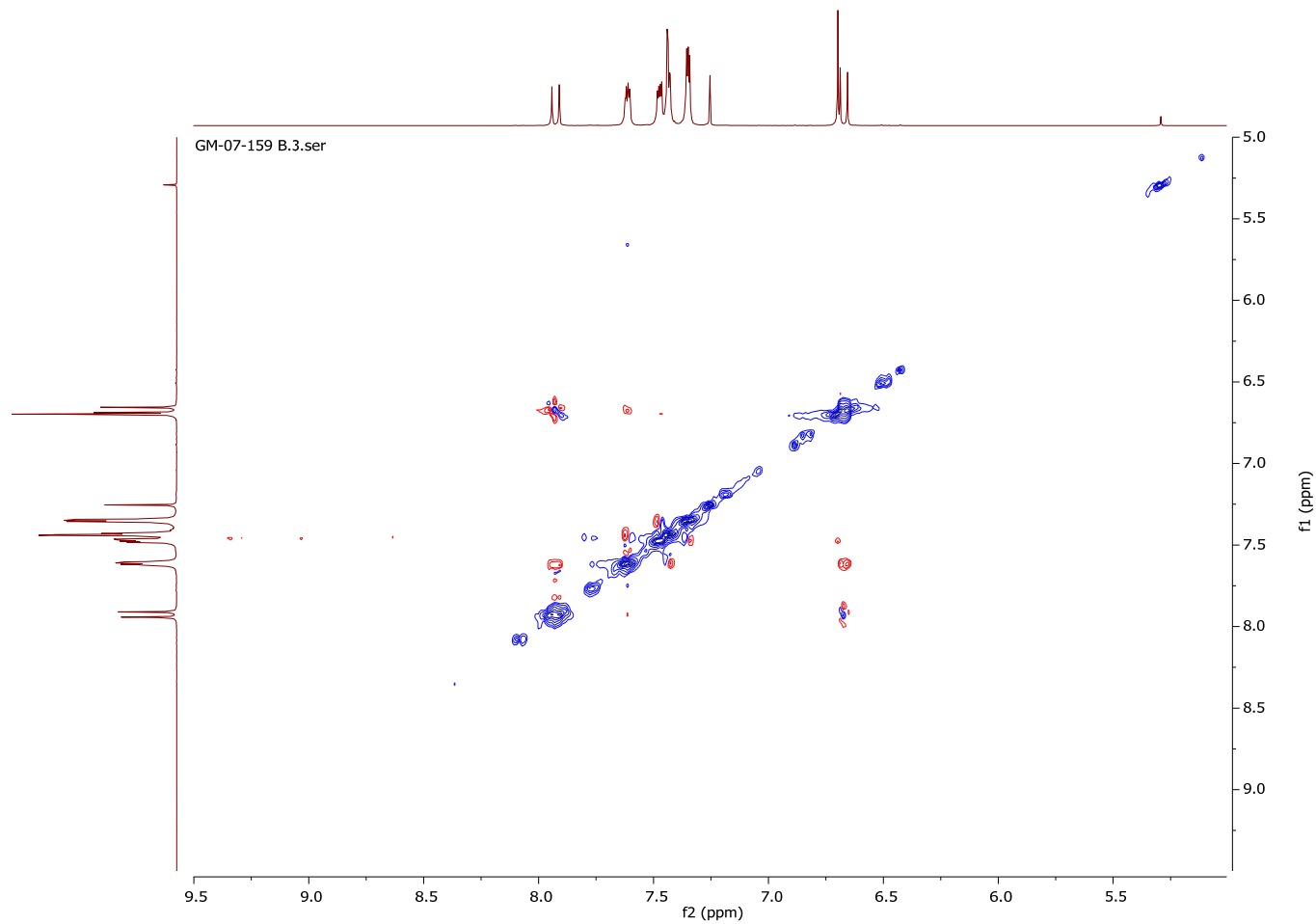
GM-09-147 B4

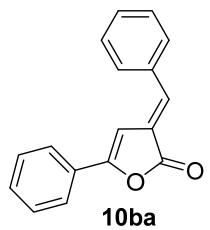




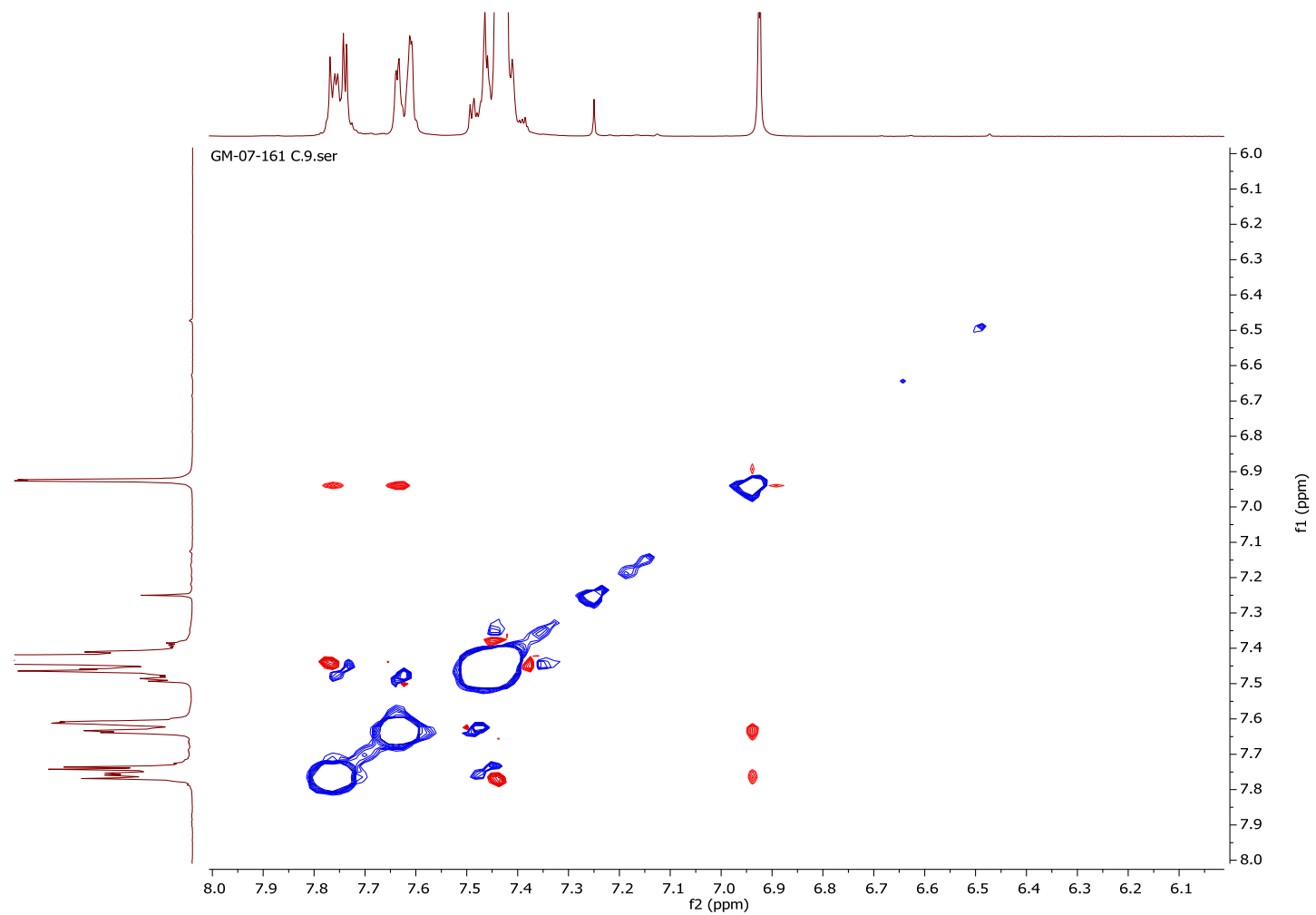


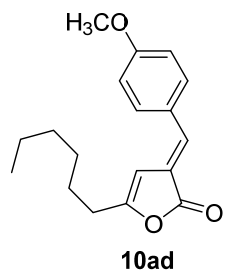
NOESY





NOESY





NOESY

