

Supporting Information for

**Cu(I)-Catalyzed Synthesis of Furan-Substituted Allenes Using
Conjugated Ene-Yne-Ketones as Carbene Precursors**

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Bioorganic Chemistry and Molecular Engineering of Ministry of Education, College of
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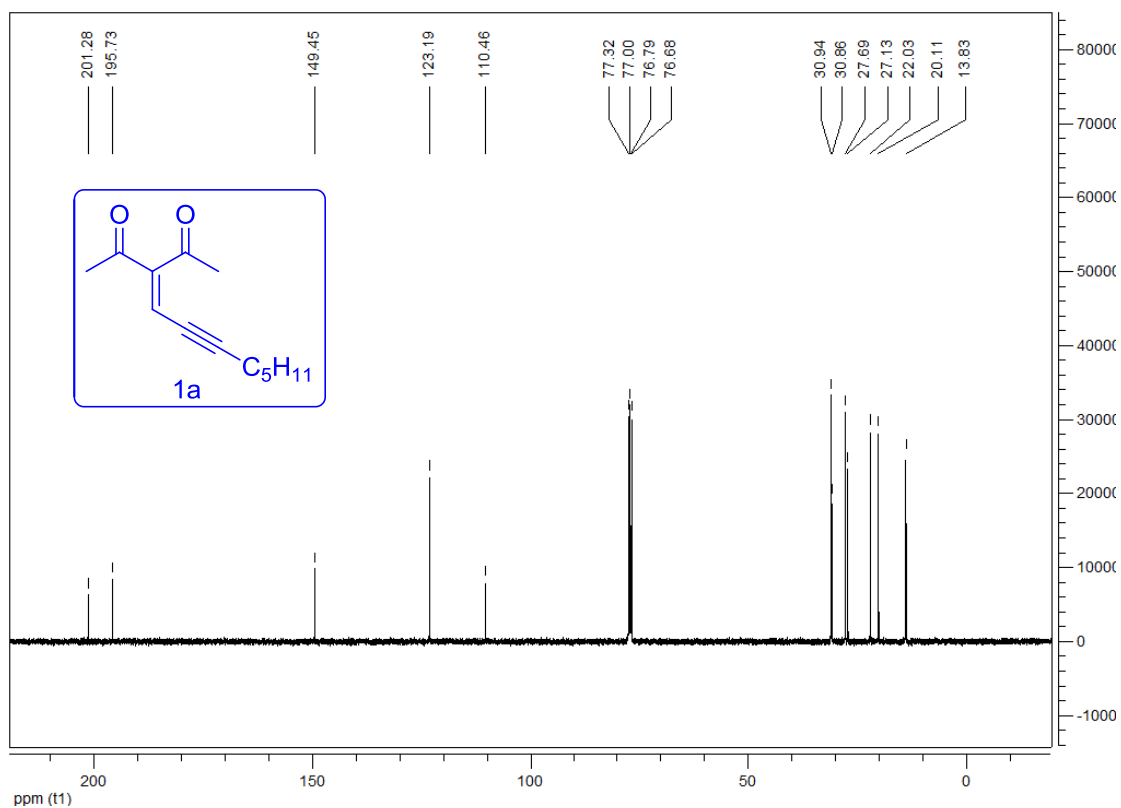
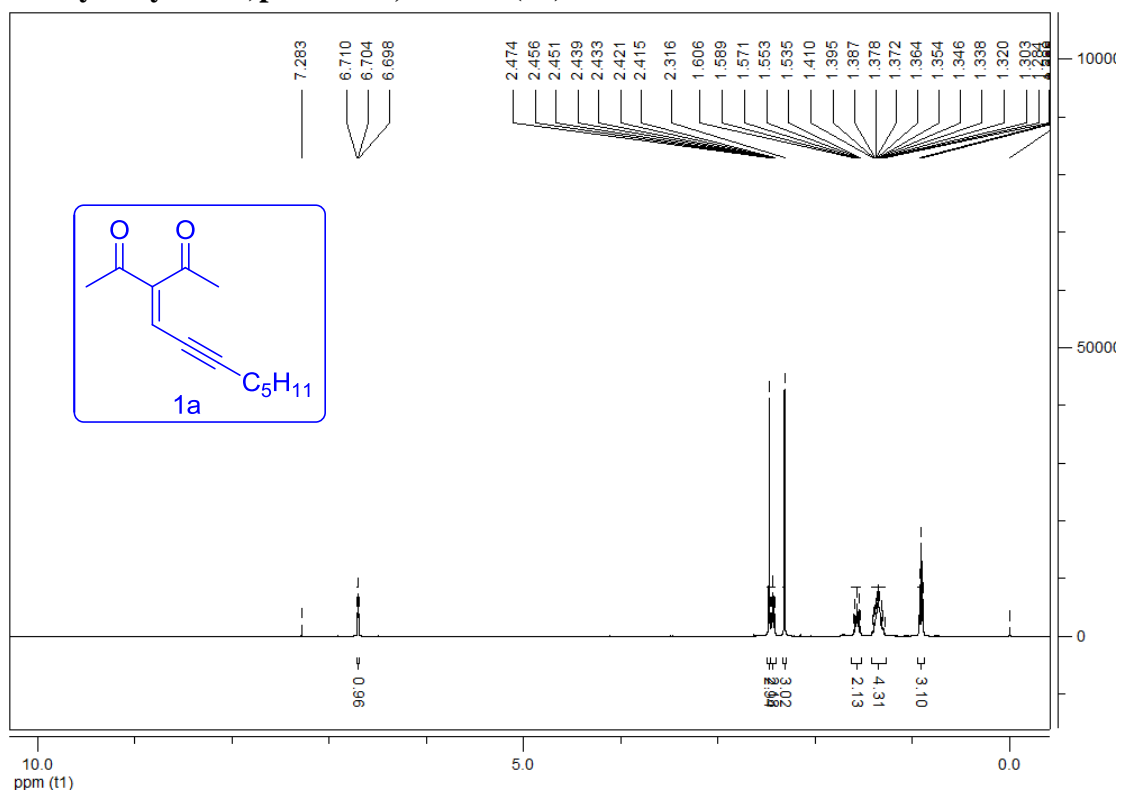
[‡]*School of Chemistry and Chemical Engineering, Shandong University, Jinan 250100, China*

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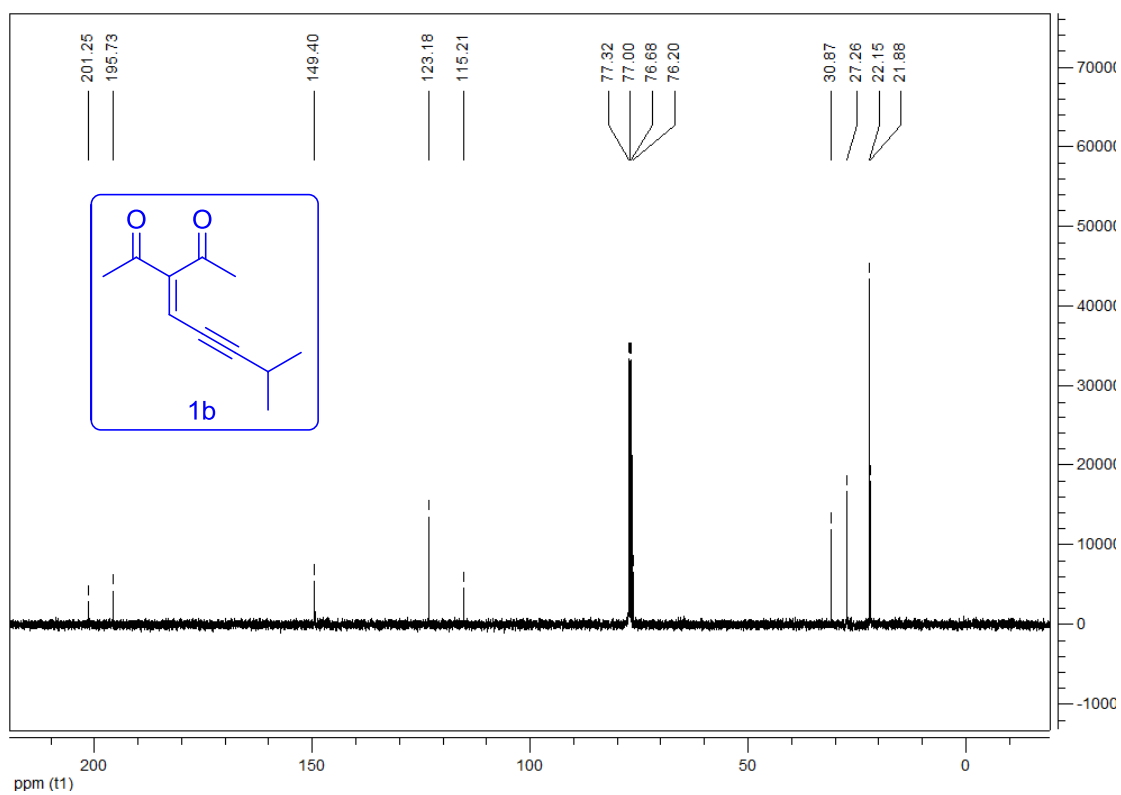
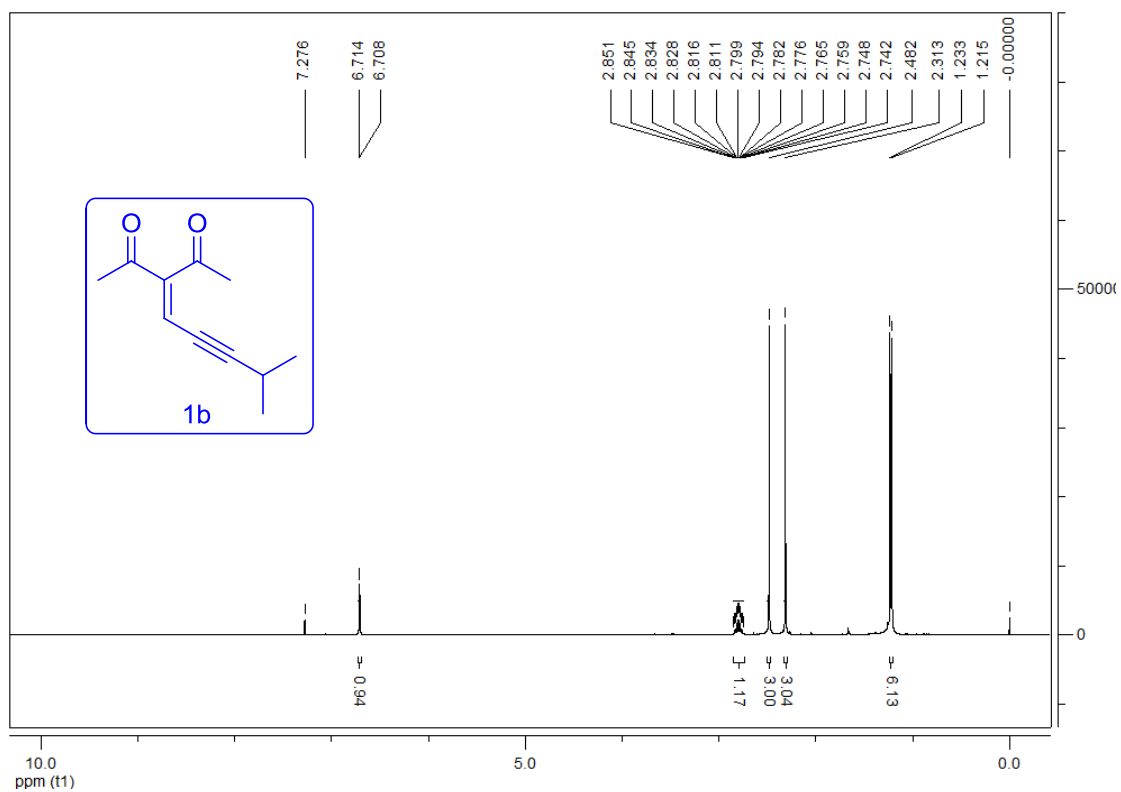
¹ H and ¹³ C NMR spectra for compounds 1a-l	S2-S13
¹ H and ¹³ C NMR spectra for compounds 4a-p	S14-S29
¹ H and ¹³ C NMR spectra for compounds 5a-j	S30-S39
¹ H and ¹³ C NMR spectra for compounds 6a-p	S40-S55
¹ H and ¹³ C NMR spectra for compounds 7a-i	S56-S67

^1H and ^{13}C NMR spectra of substrates and products

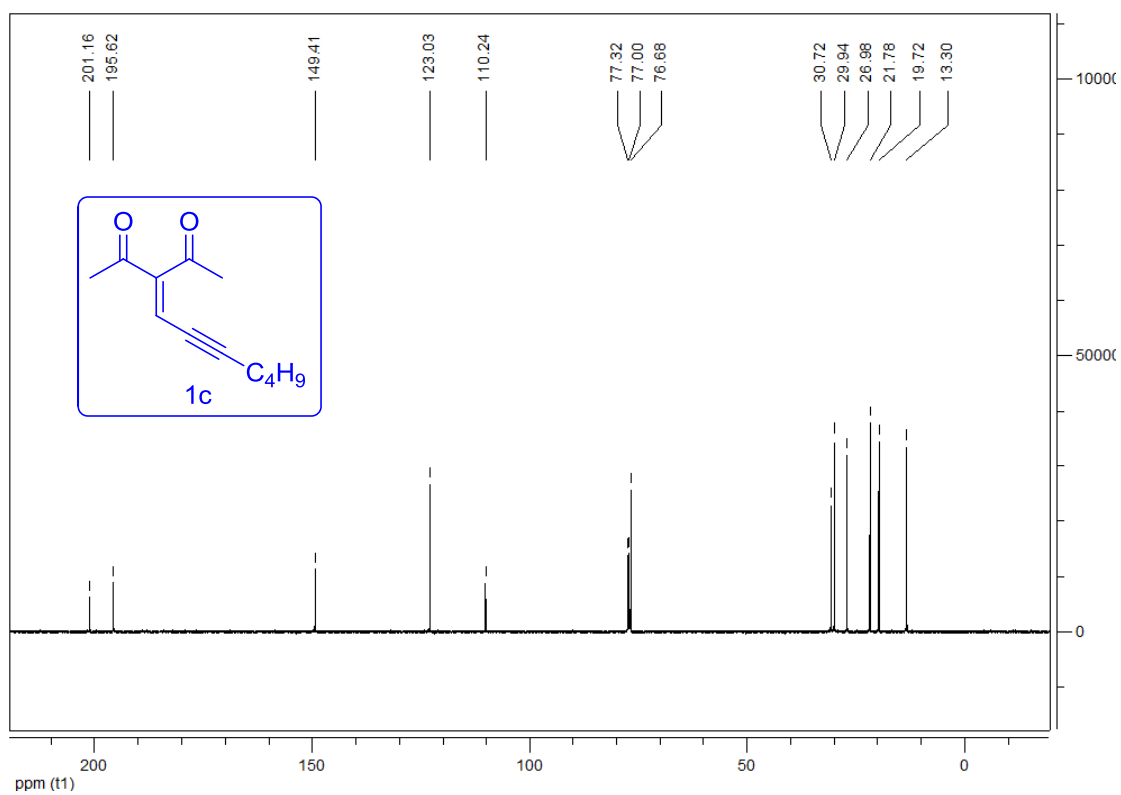
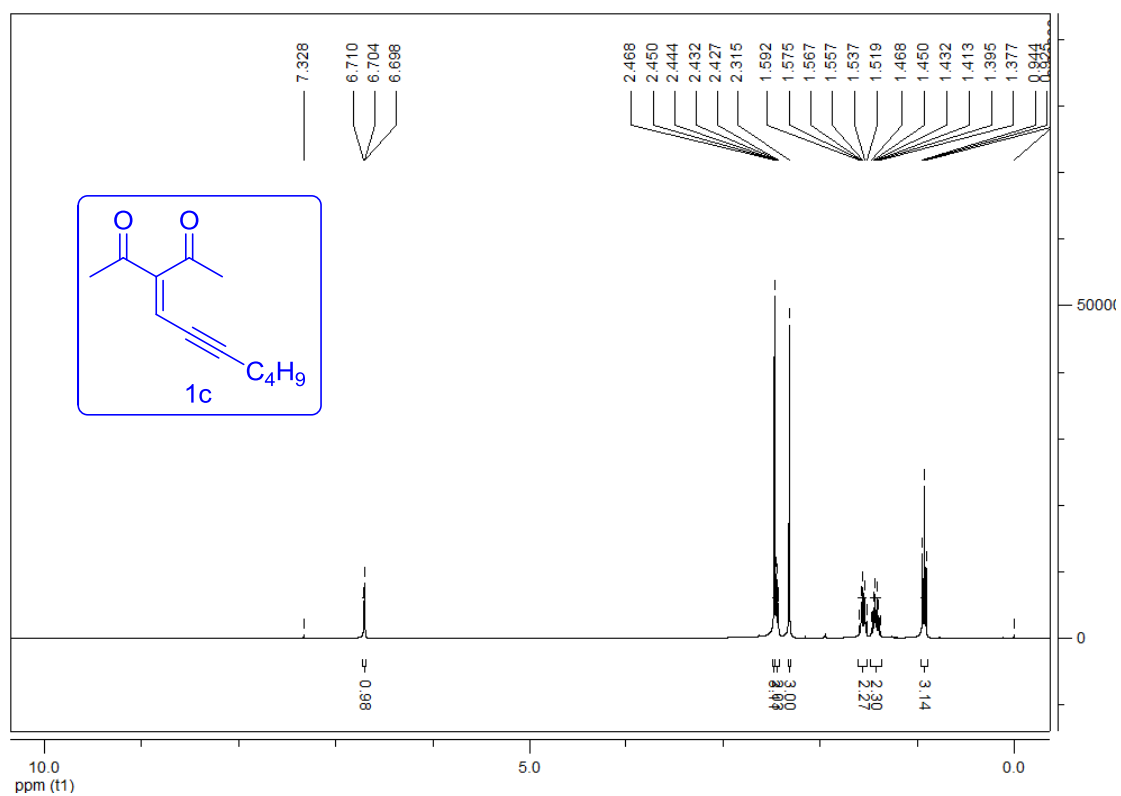
3-(Oct-2-yn-1-ylidene)pentane-2,4-dione (1a)



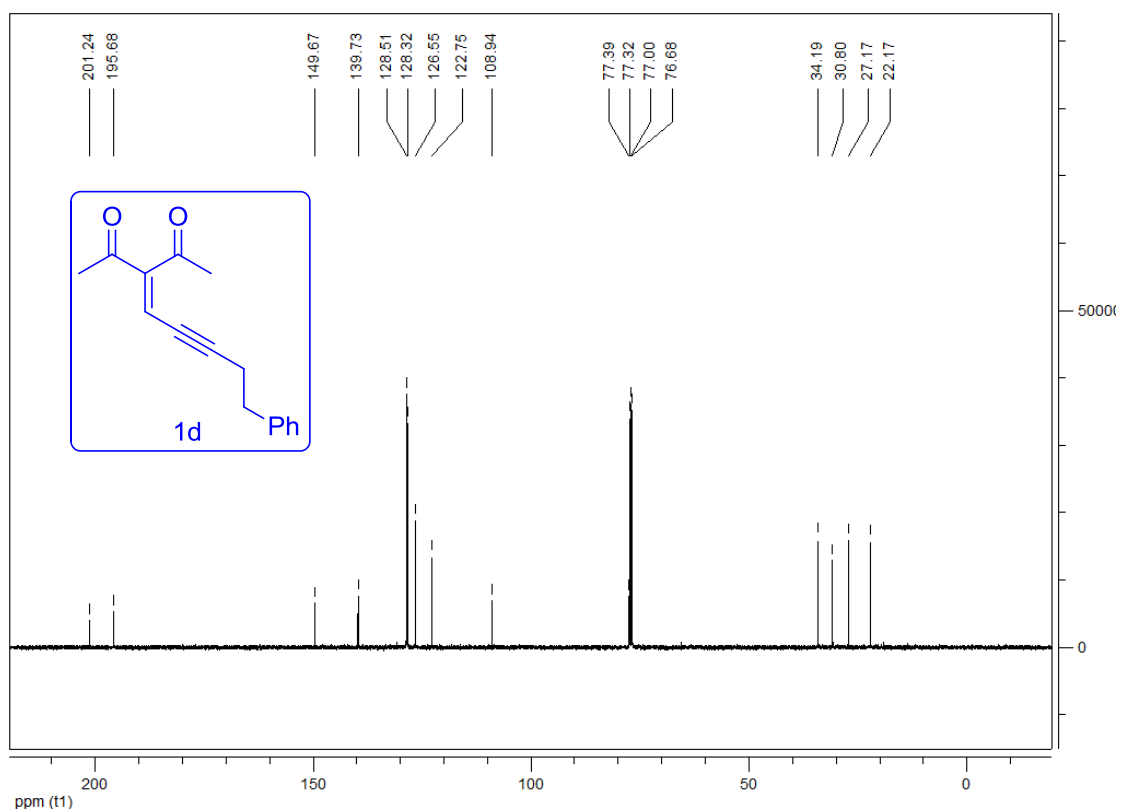
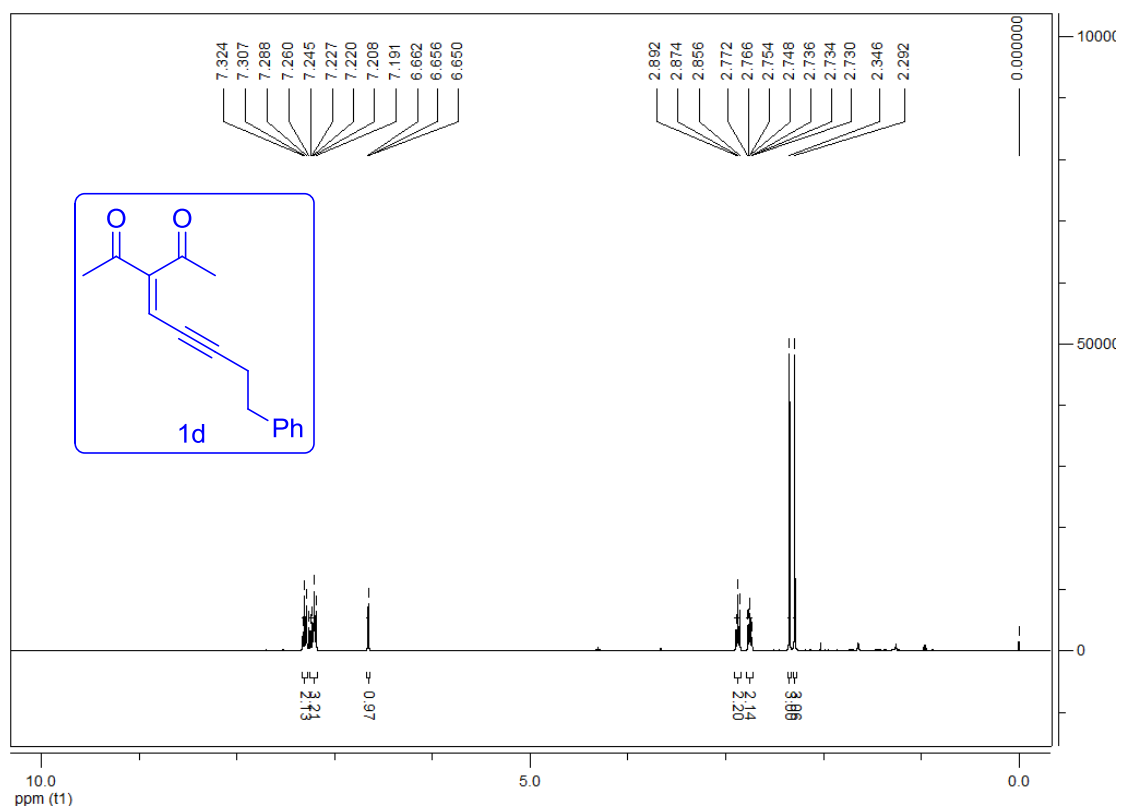
3-(4-Methylpent-2-yn-1-ylidene)pentane-2,4-dione (1b)



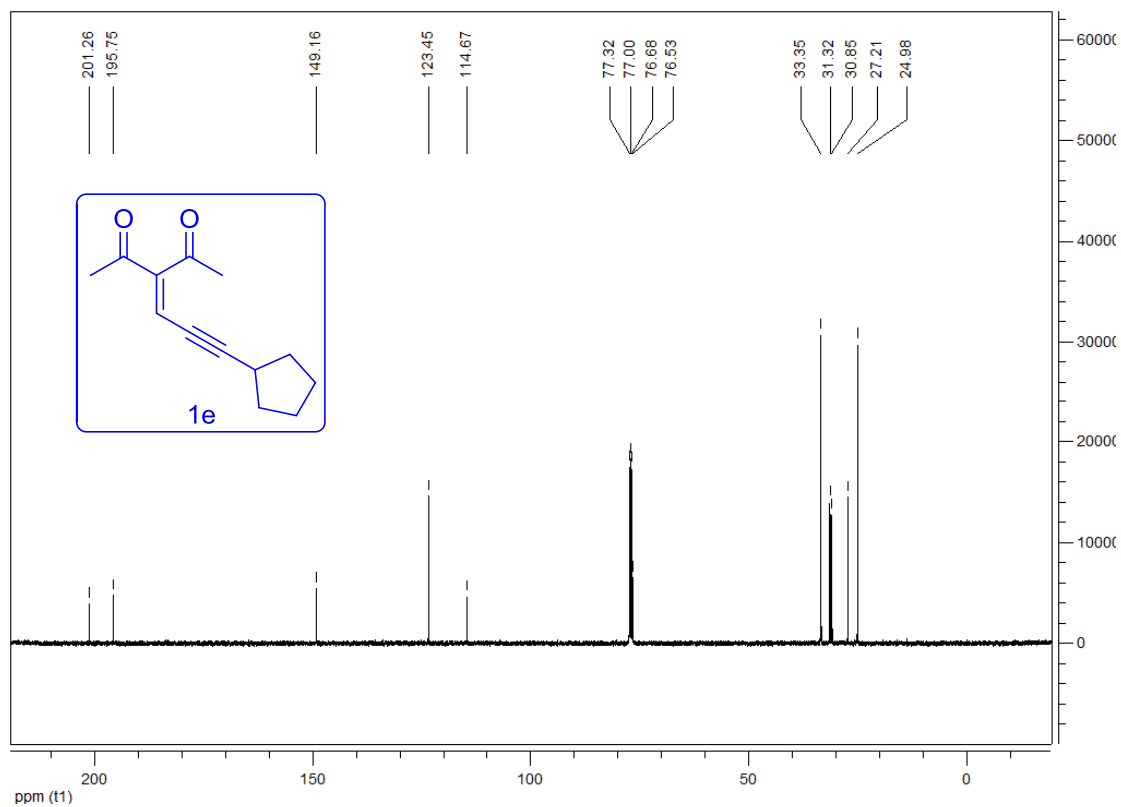
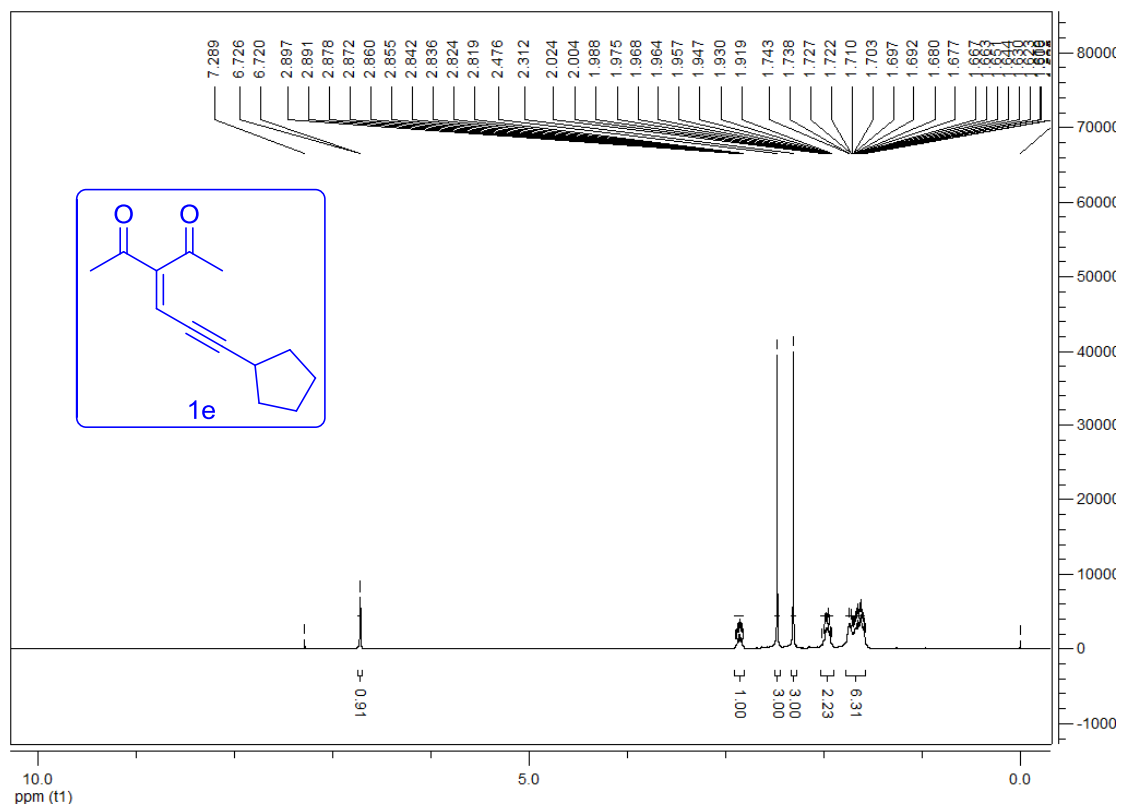
3-(Hept-2-yn-1-ylidene)pentane-2,4-dione (1c)



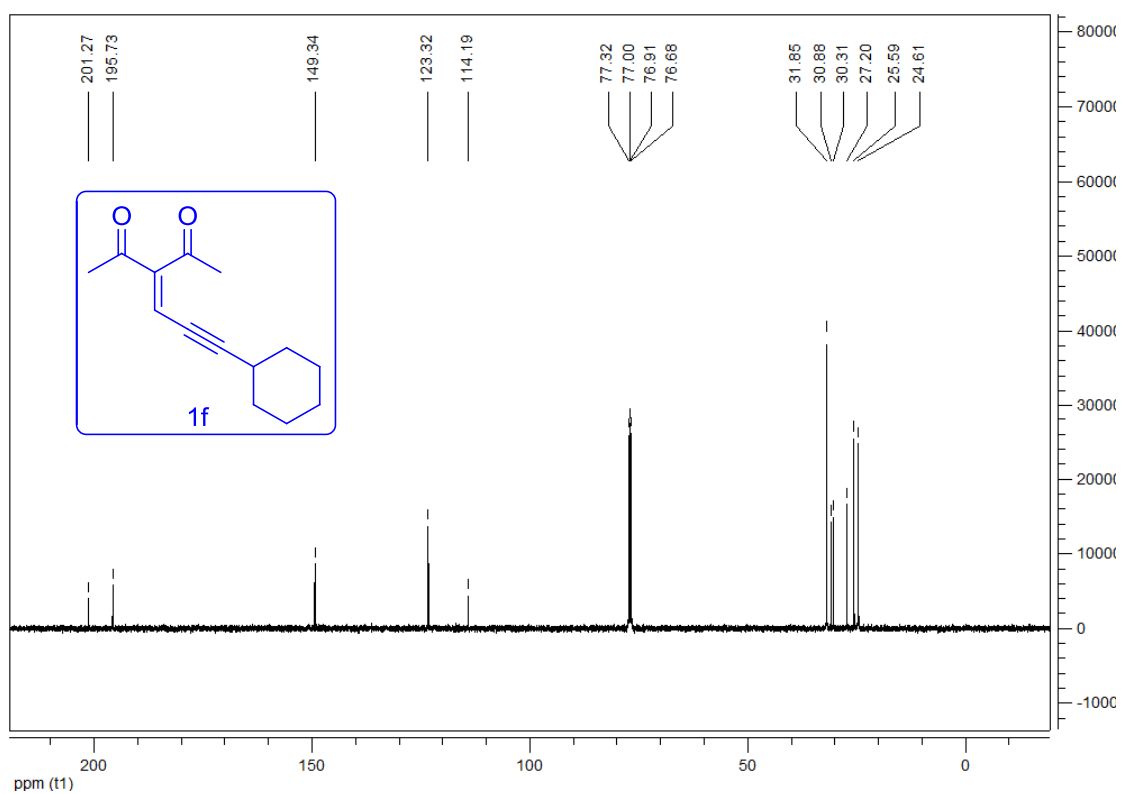
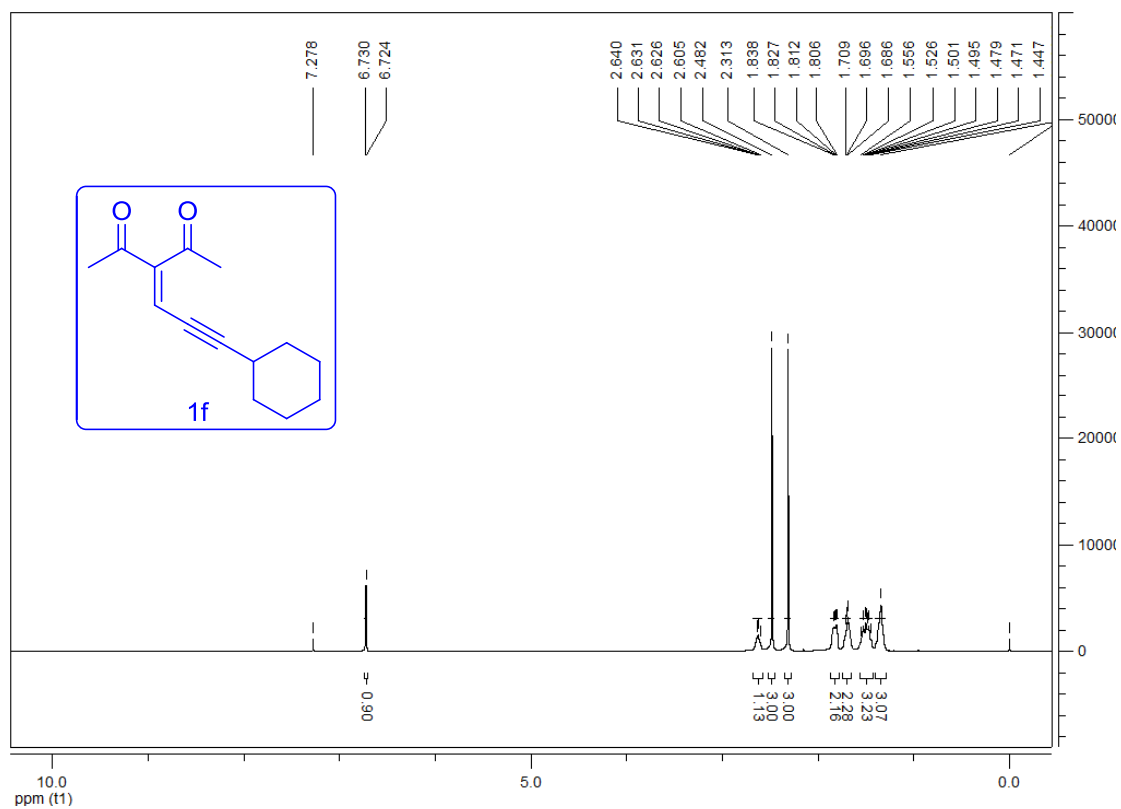
3-(5-Phenylpent-2-yn-1-ylidene)pentane-2,4-dione (1d)



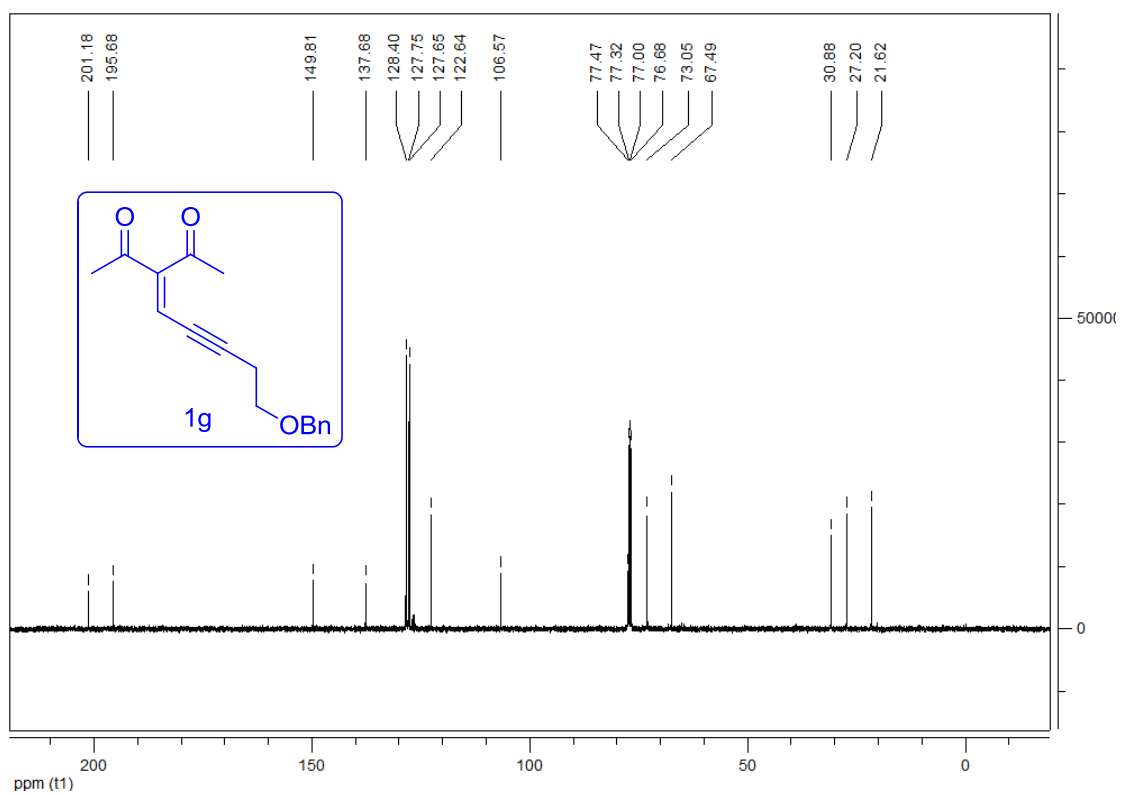
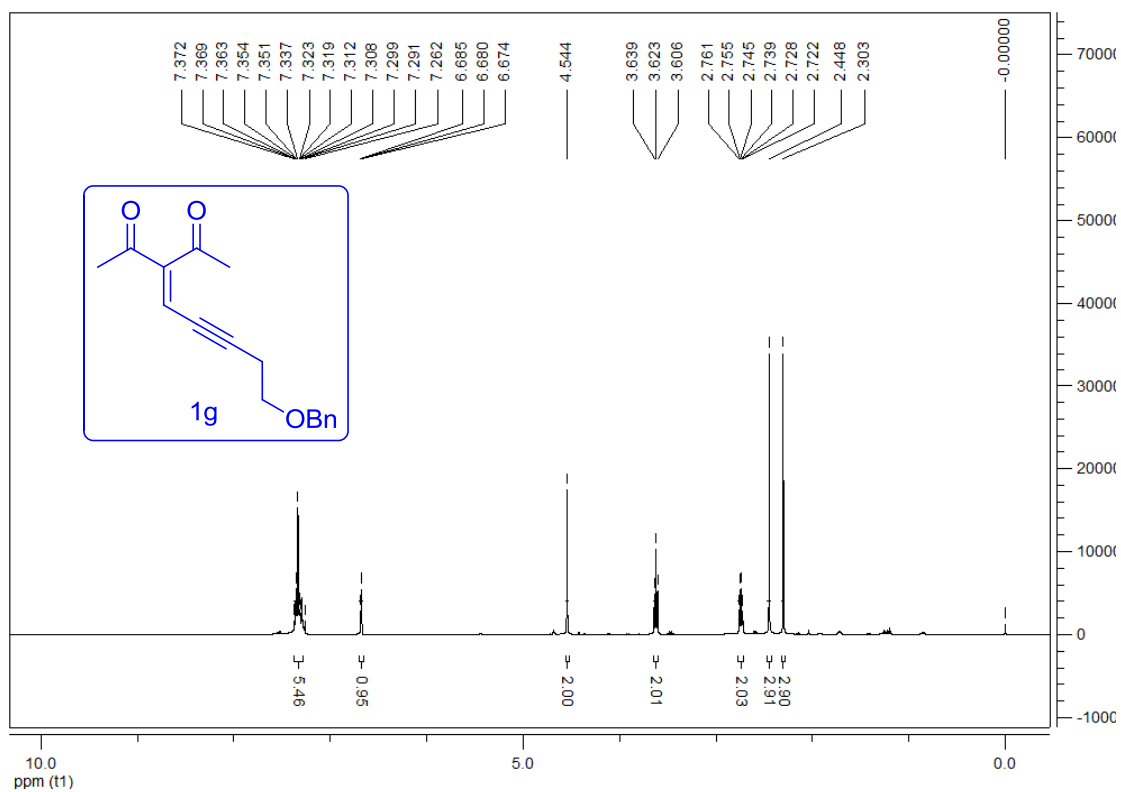
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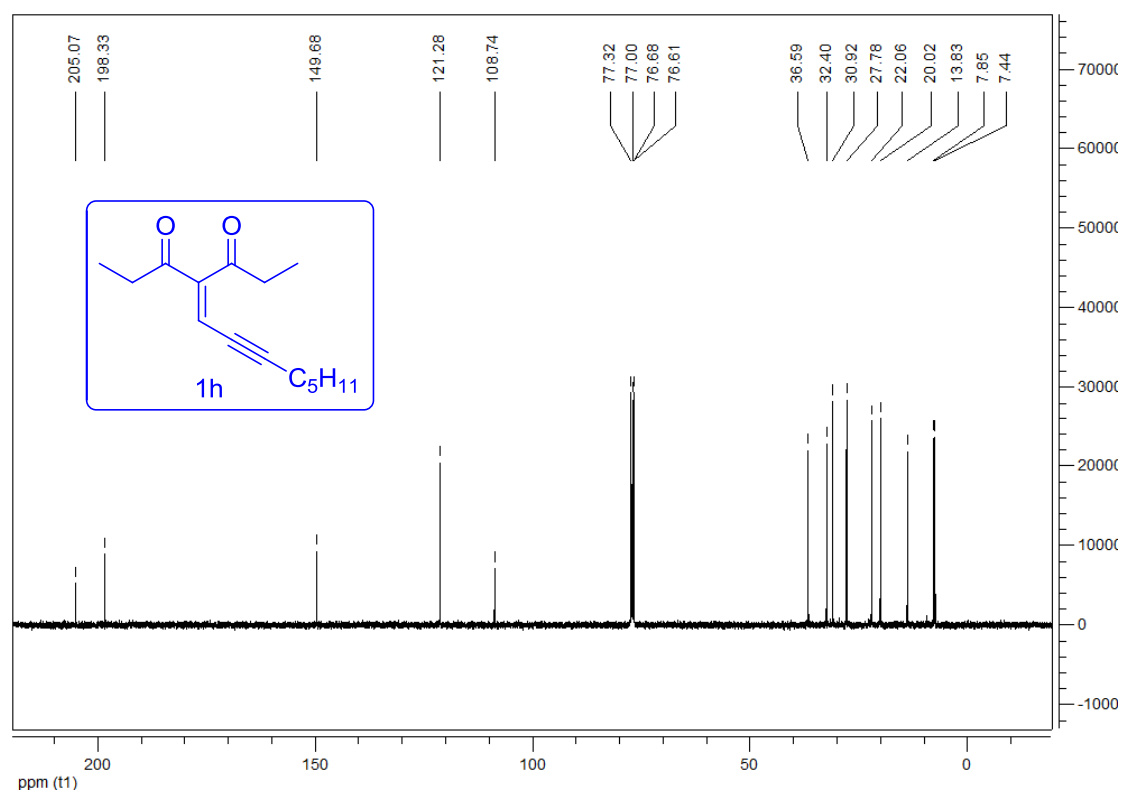
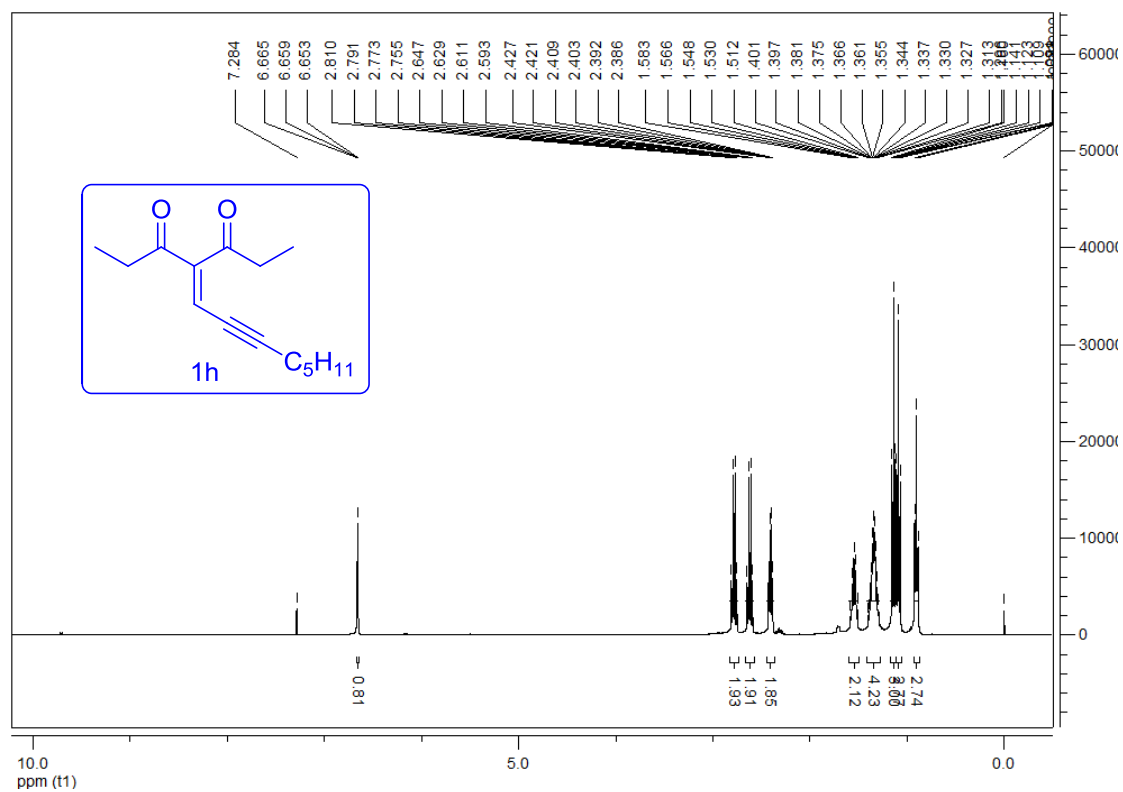
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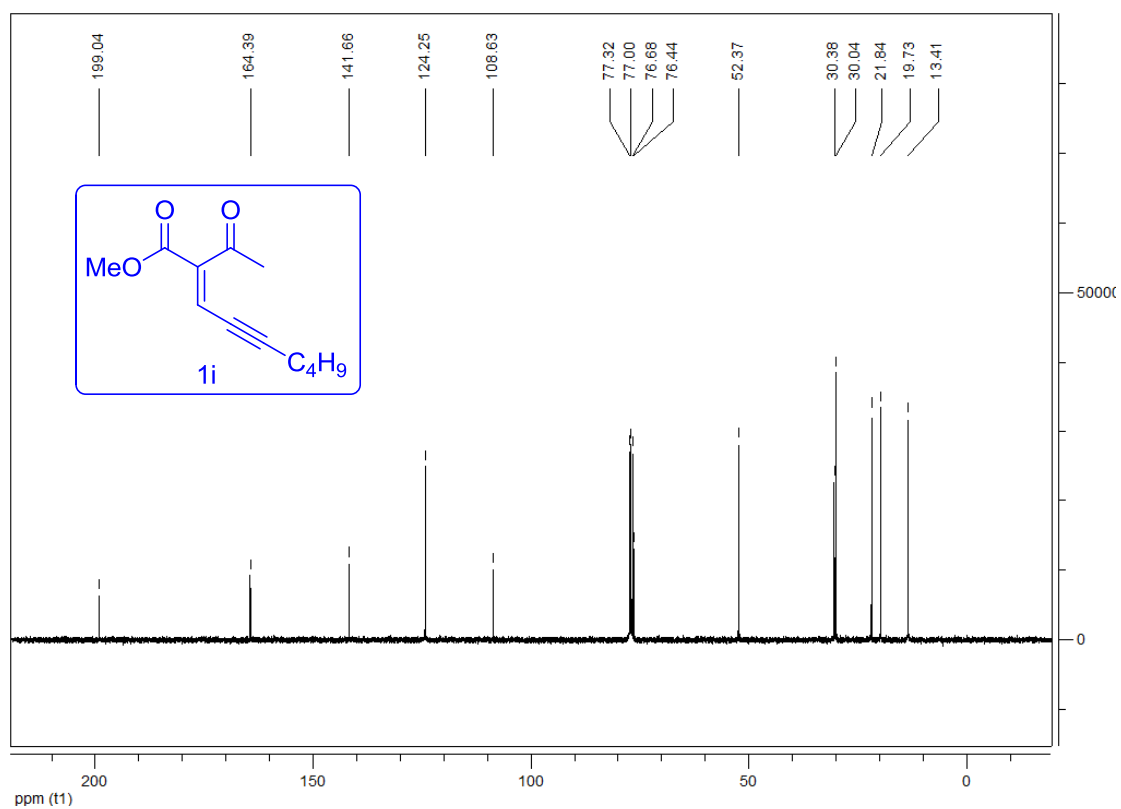
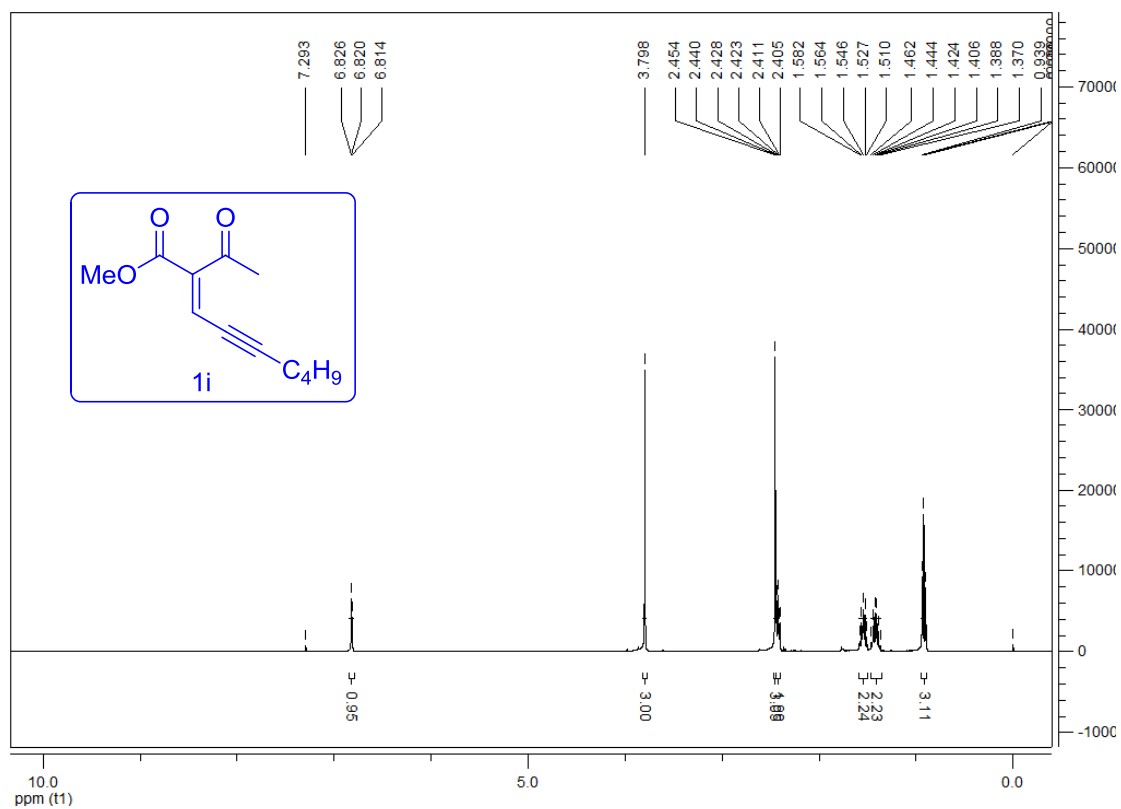
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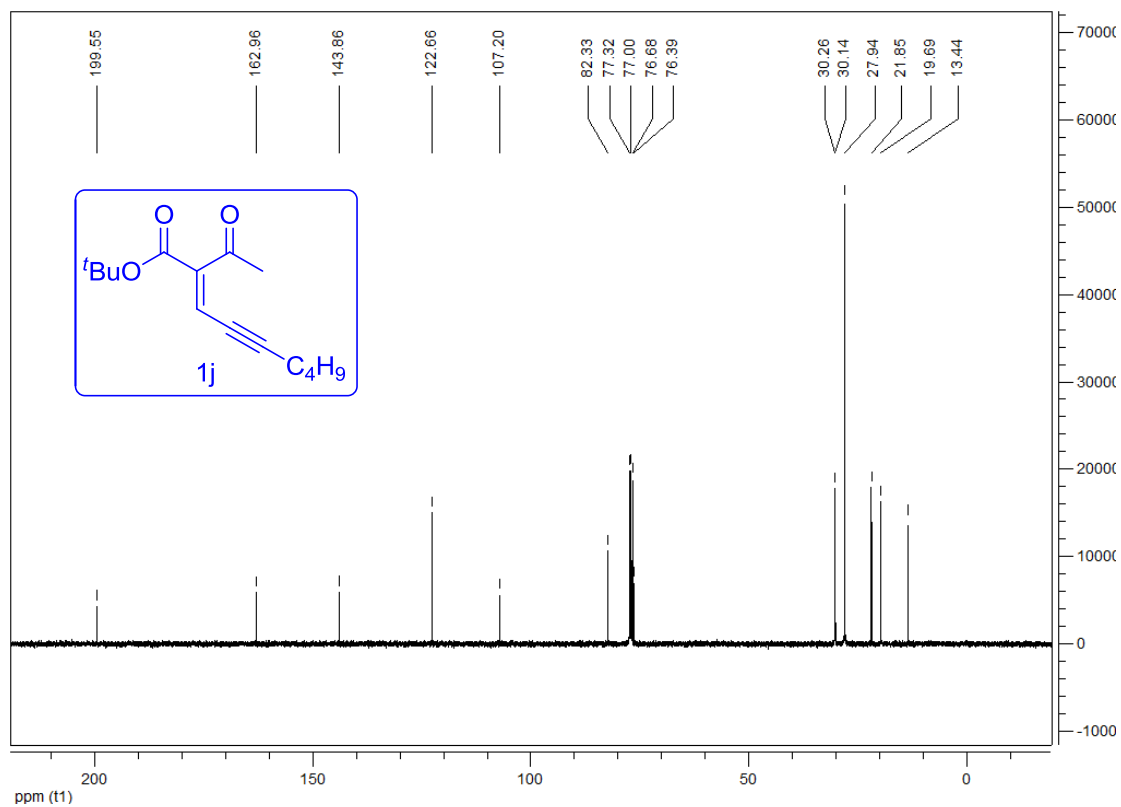
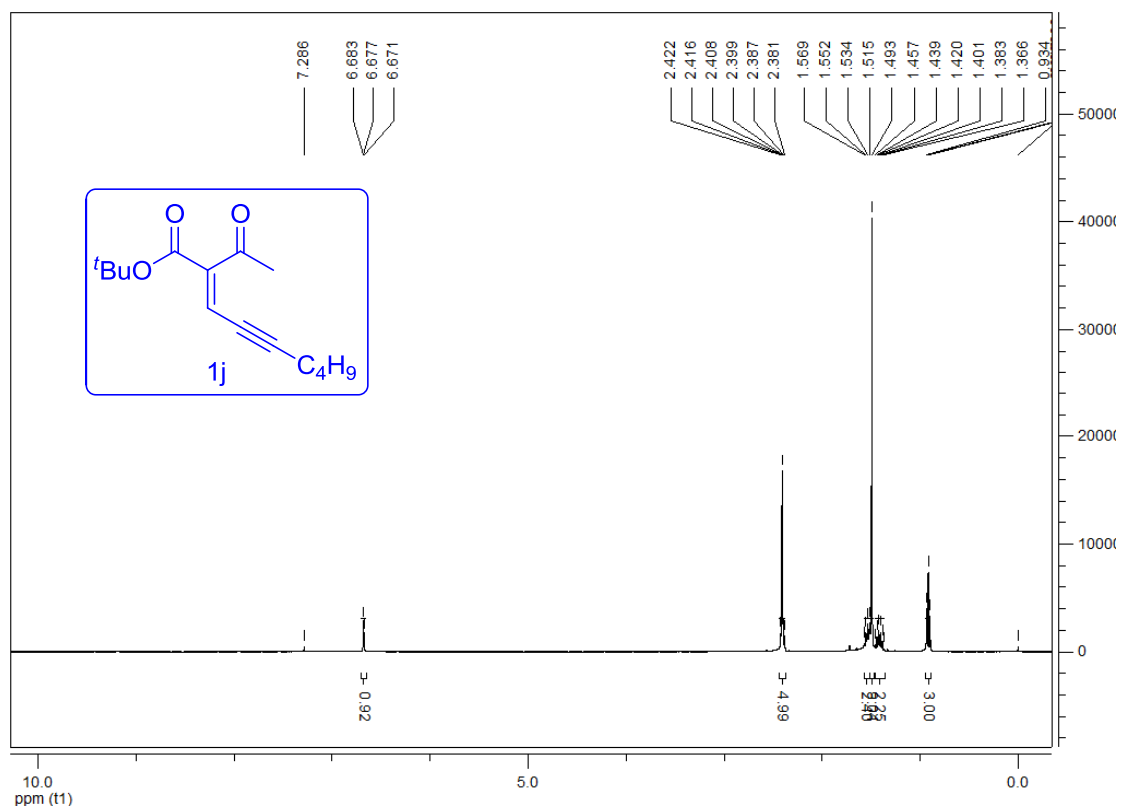
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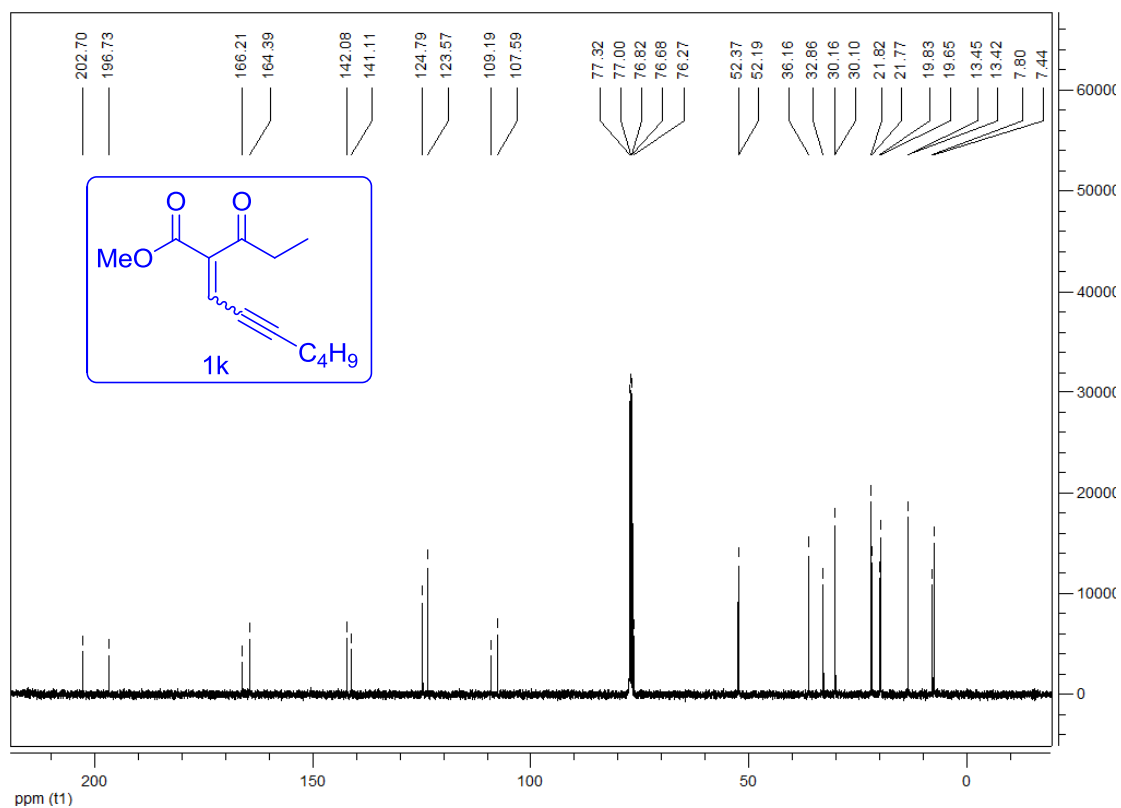
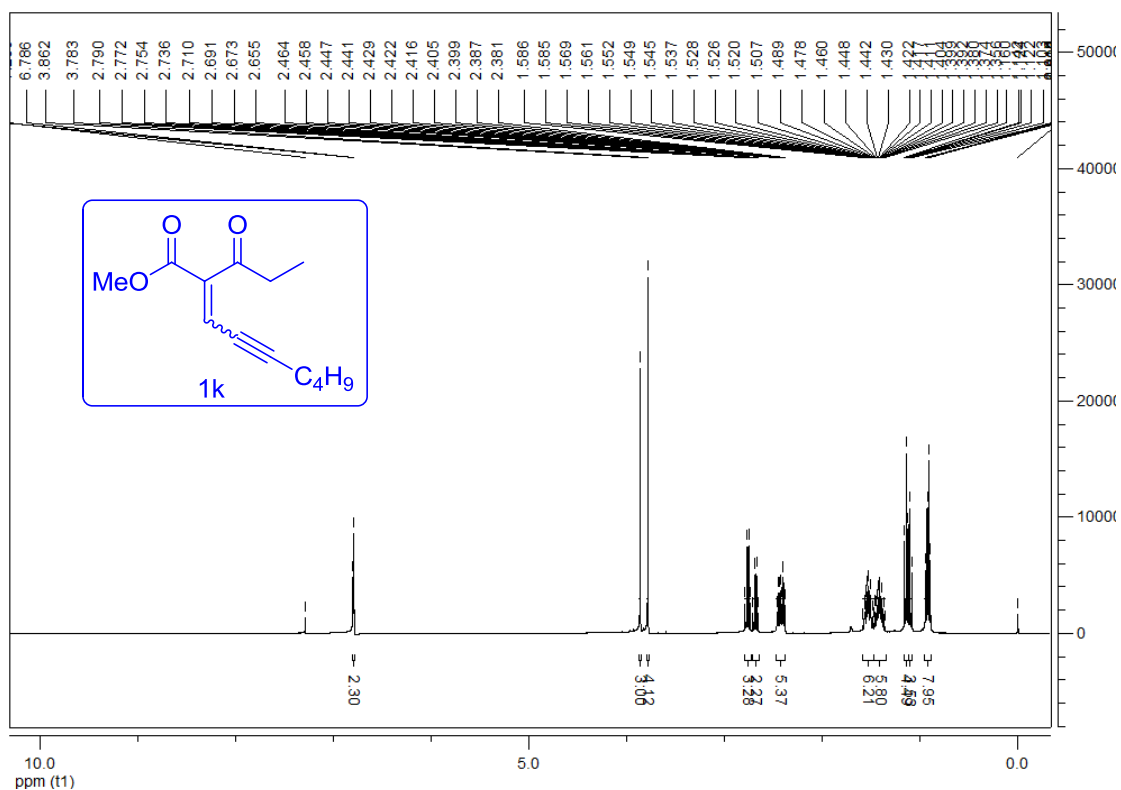
(E)-Methyl 2-acetylnon-2-en-4-ynoate (1i)



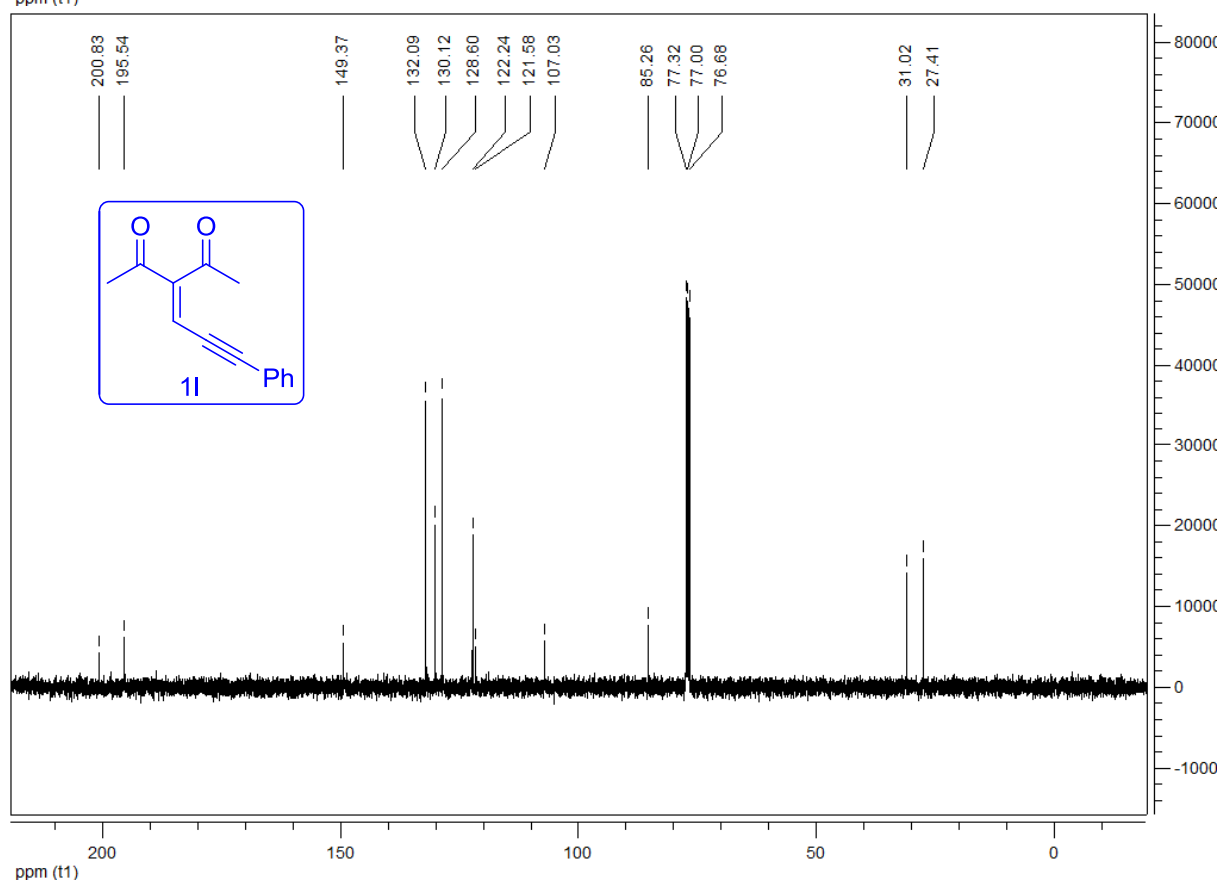
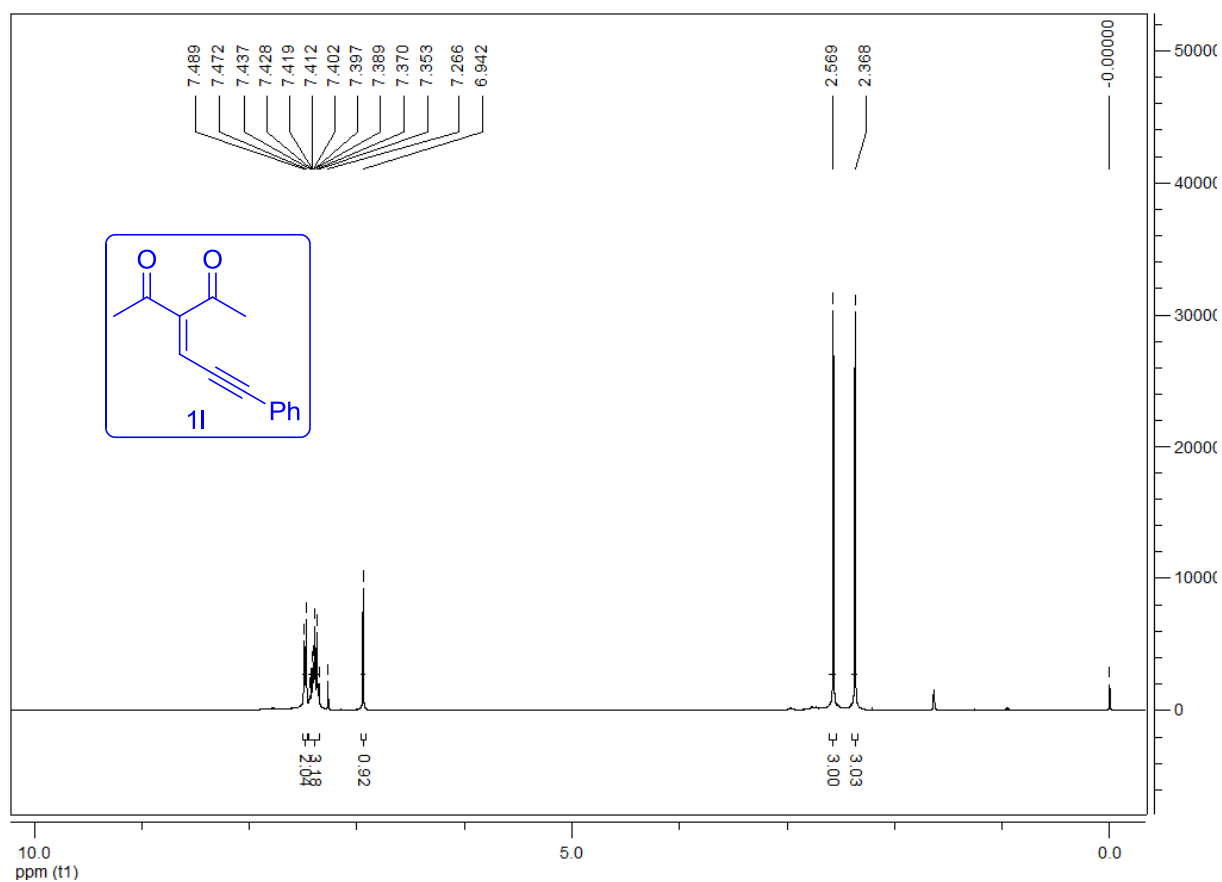
(E)-tert-Butyl 2-acetylnon-2-en-4-ynoate (1j)



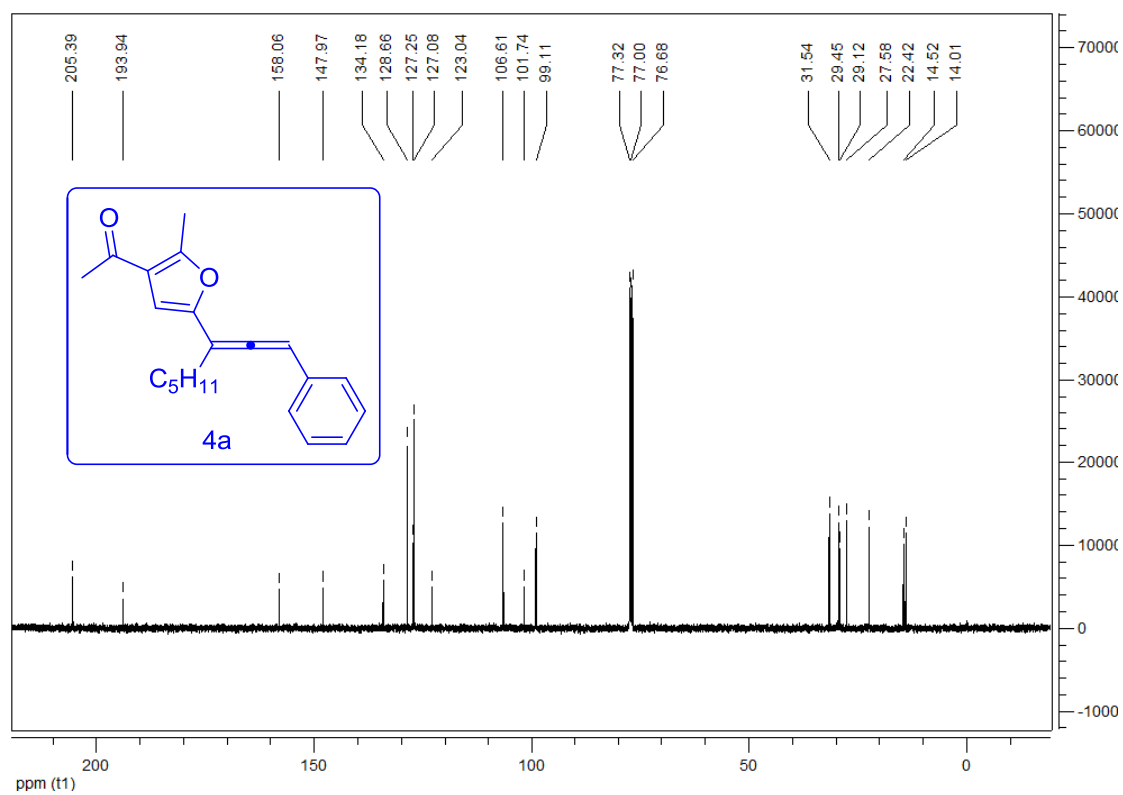
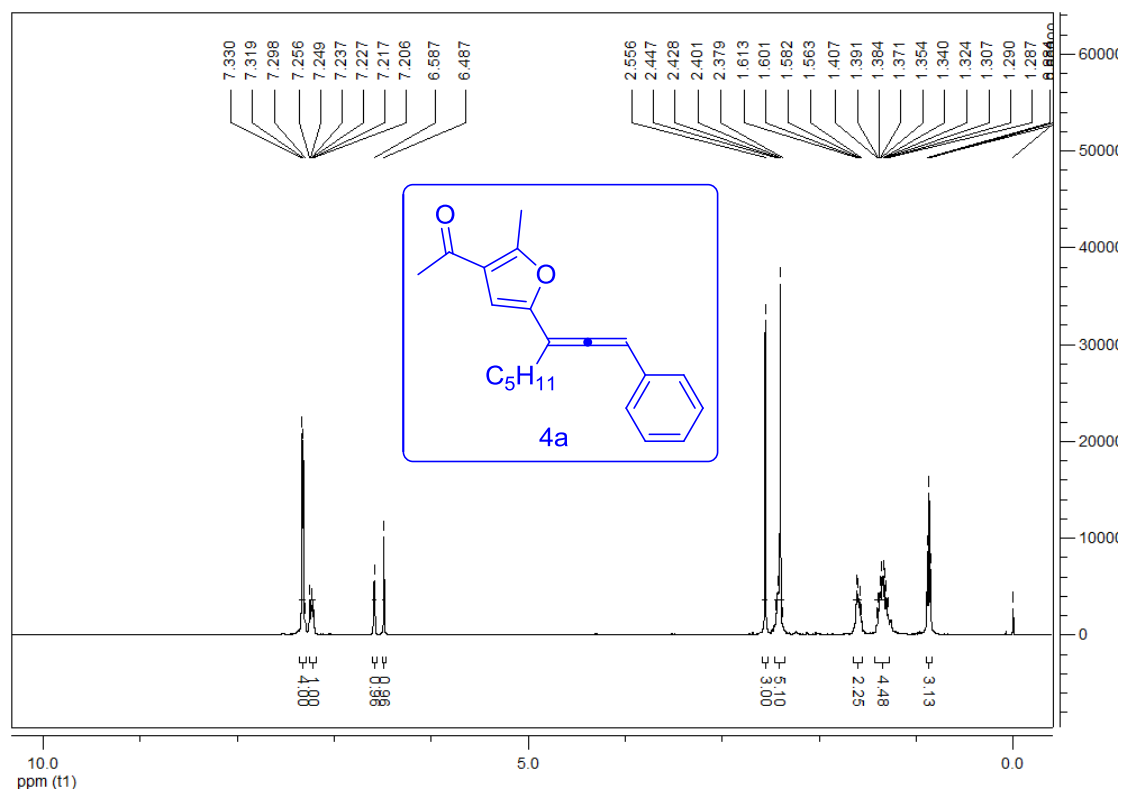
Methyl 2-propionylnon-2-en-4-ynoate (*E/Z* mixture) (1k)



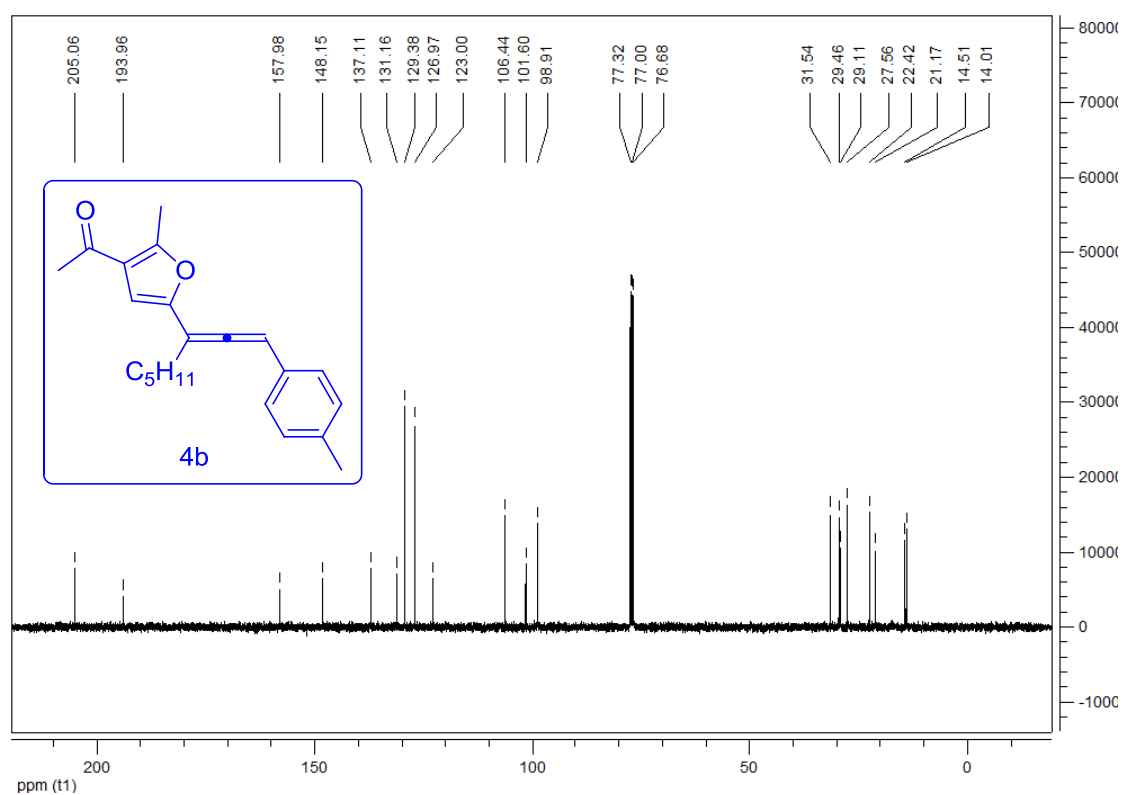
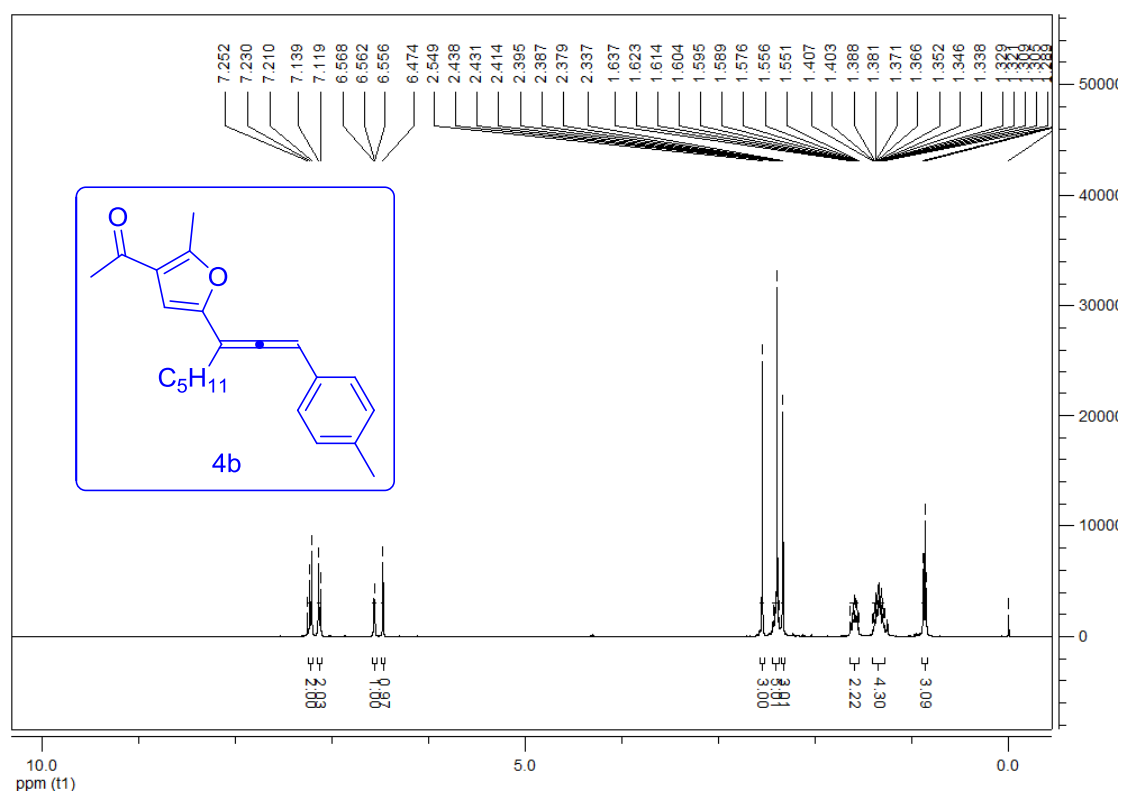
3-(3-phenylprop-2-yn-1-ylidene)pentane-2,4-dione (1I)



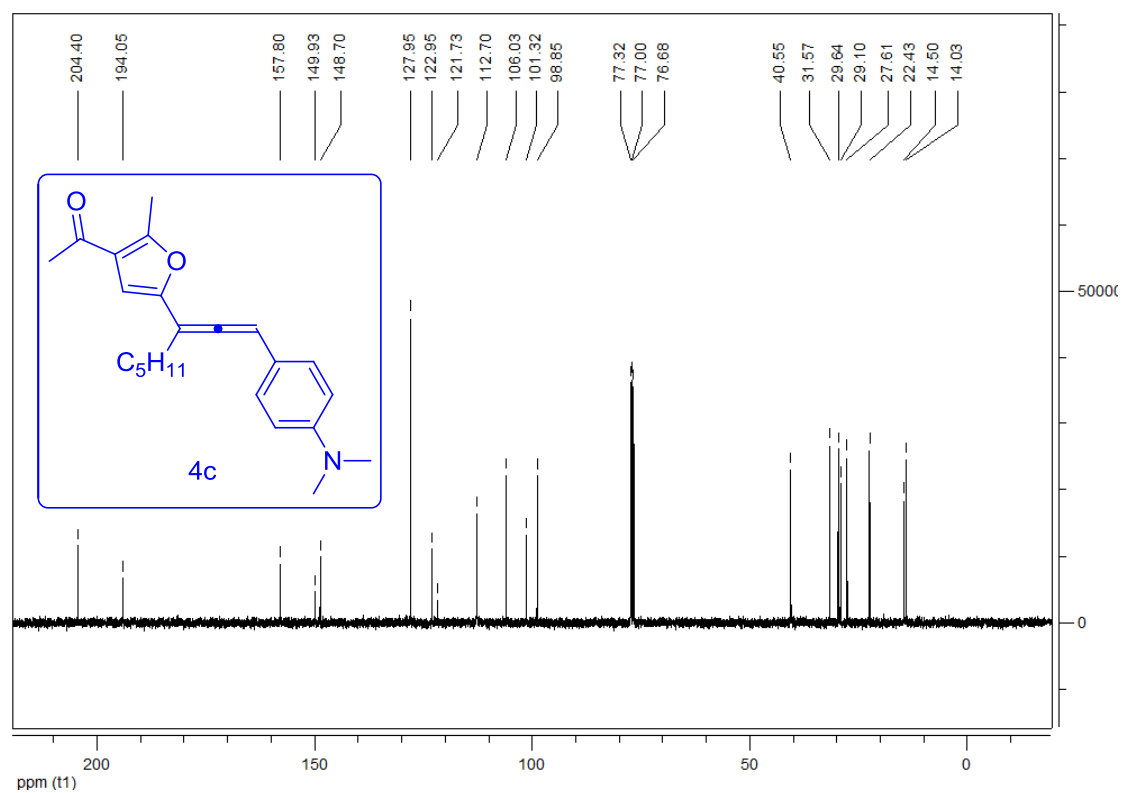
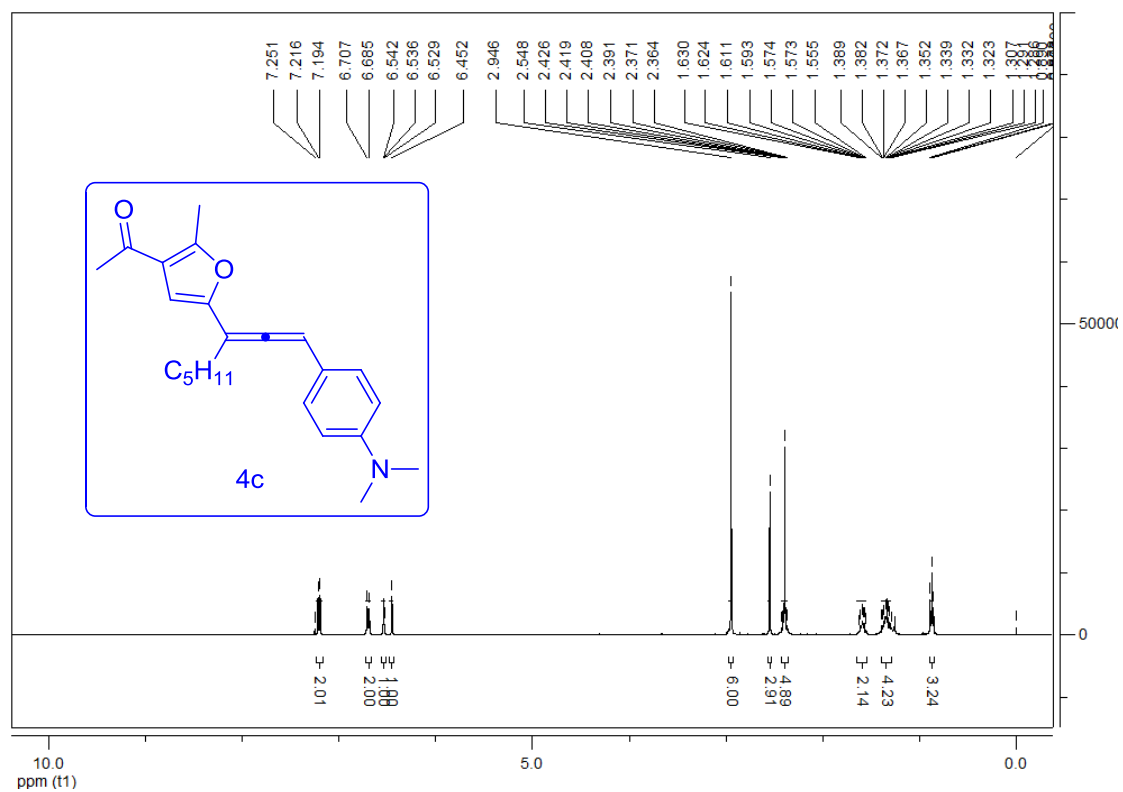
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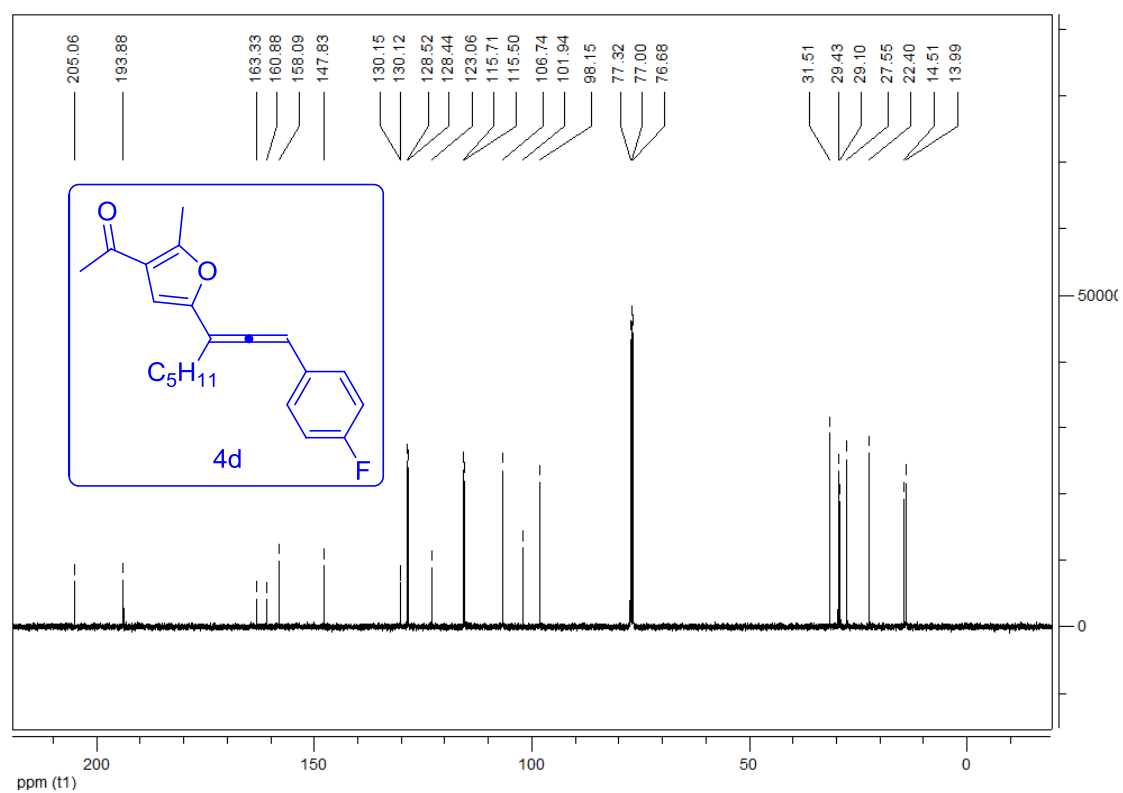
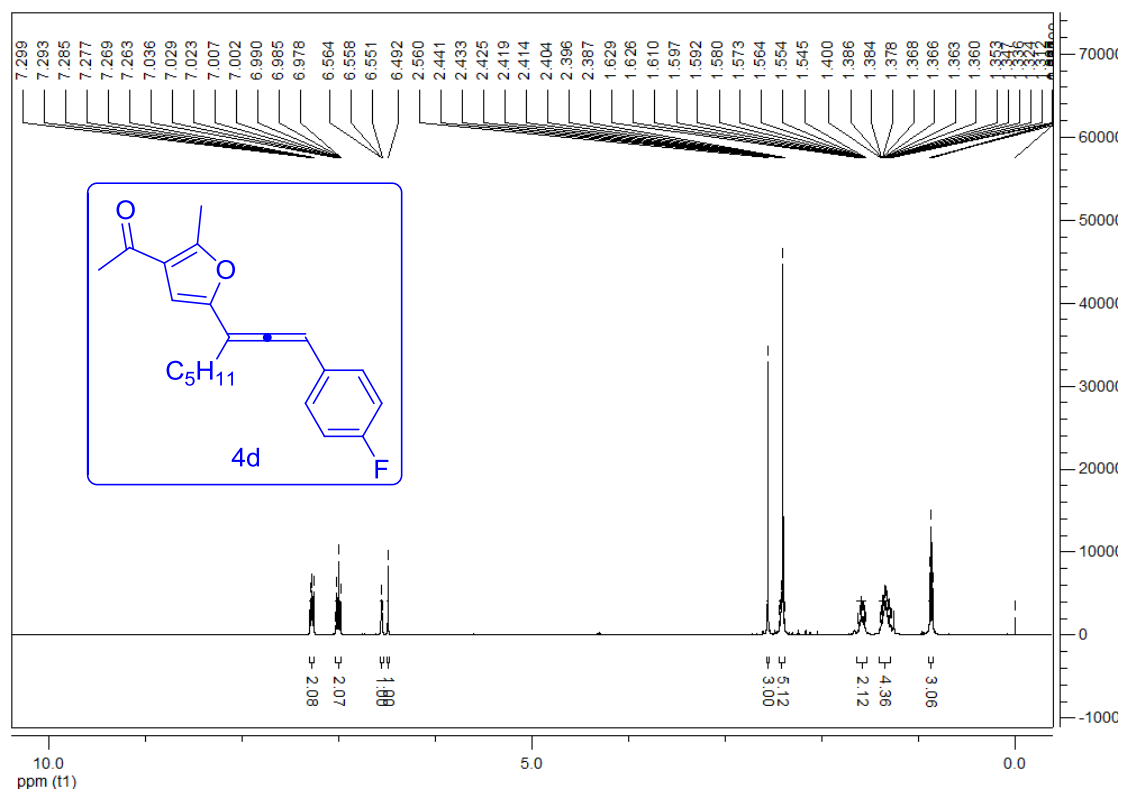
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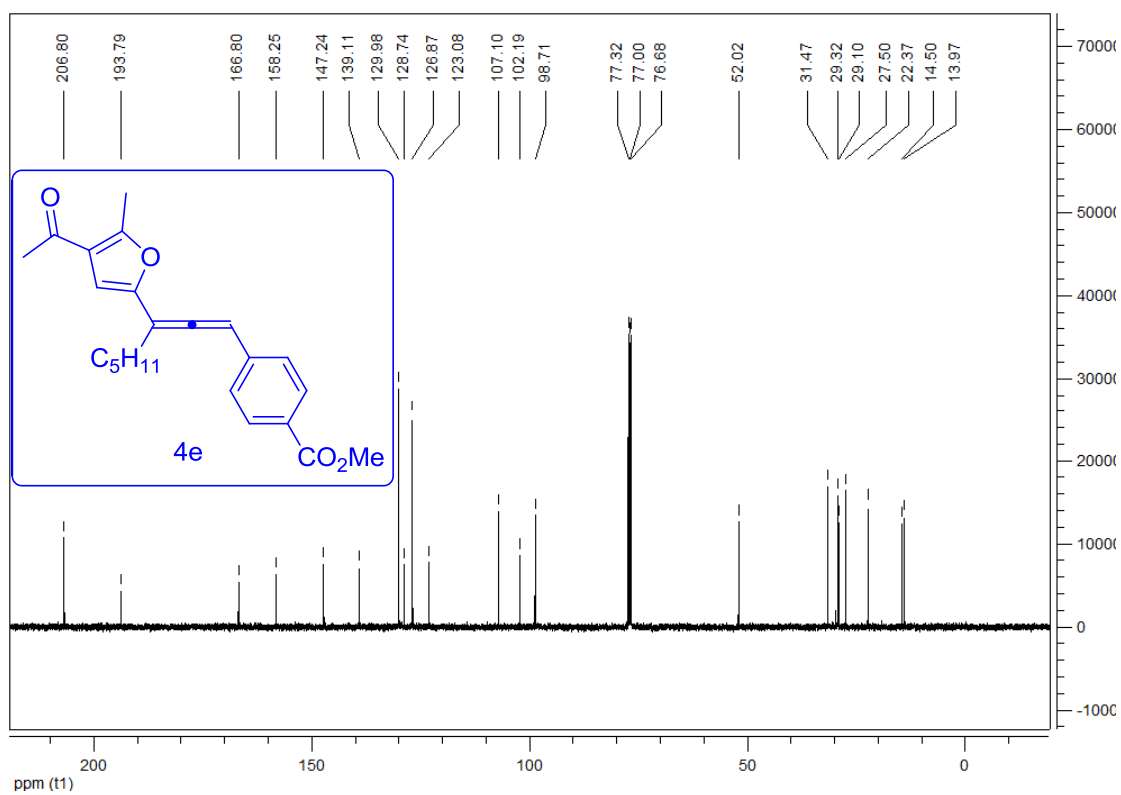
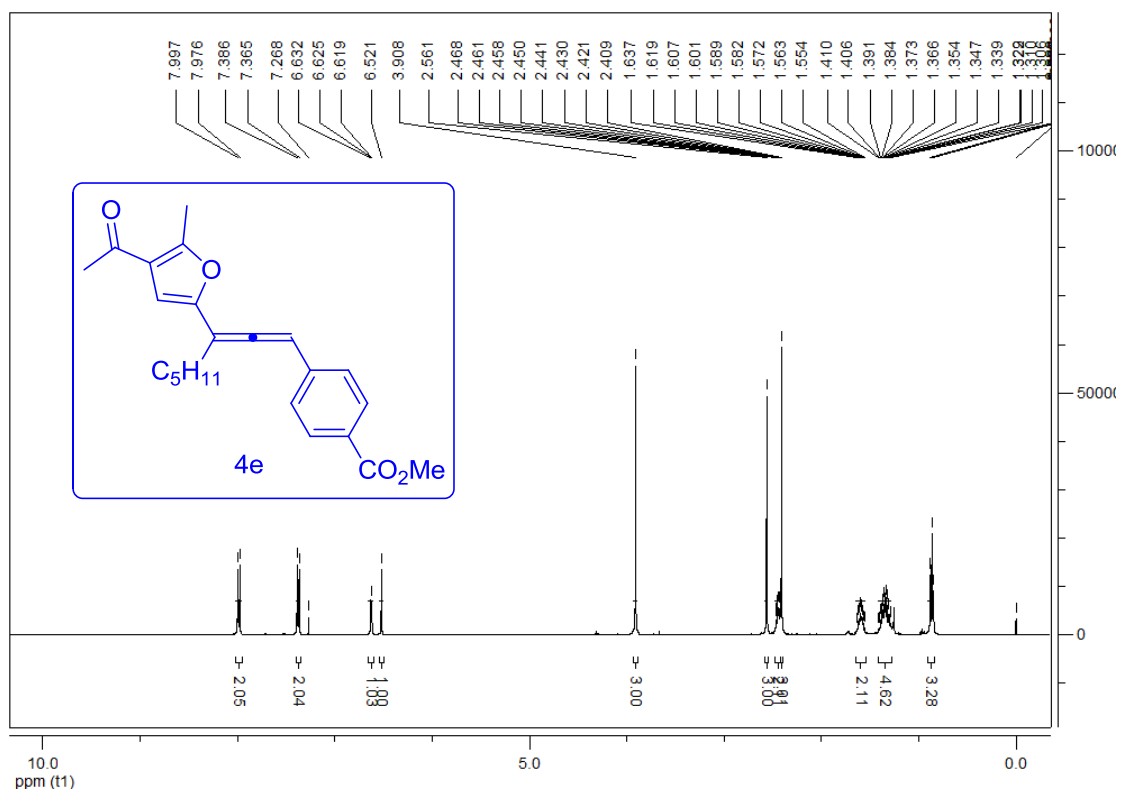
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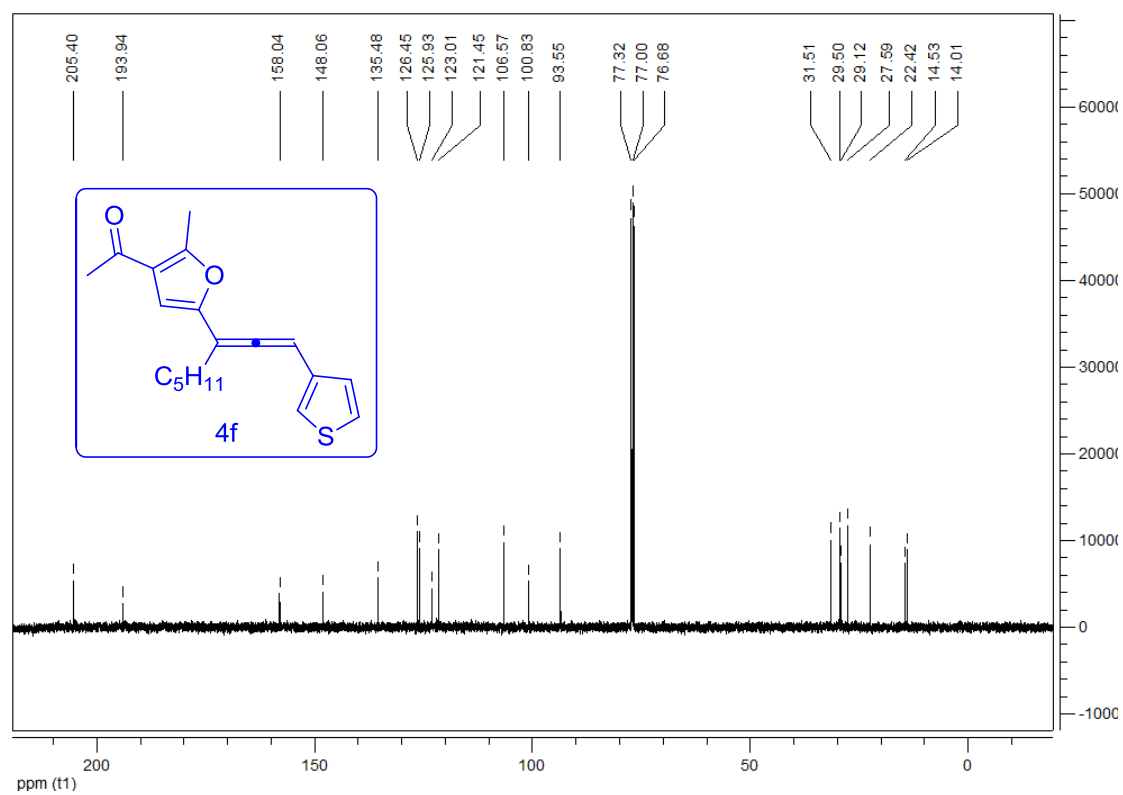
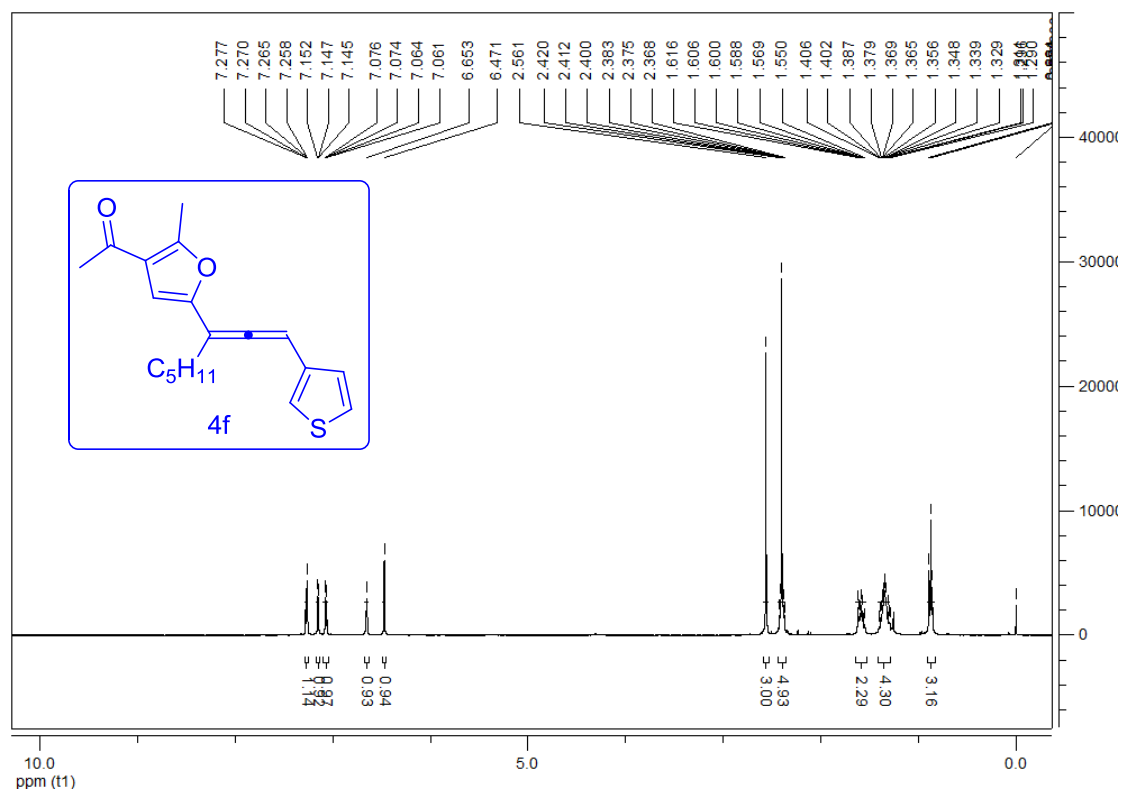
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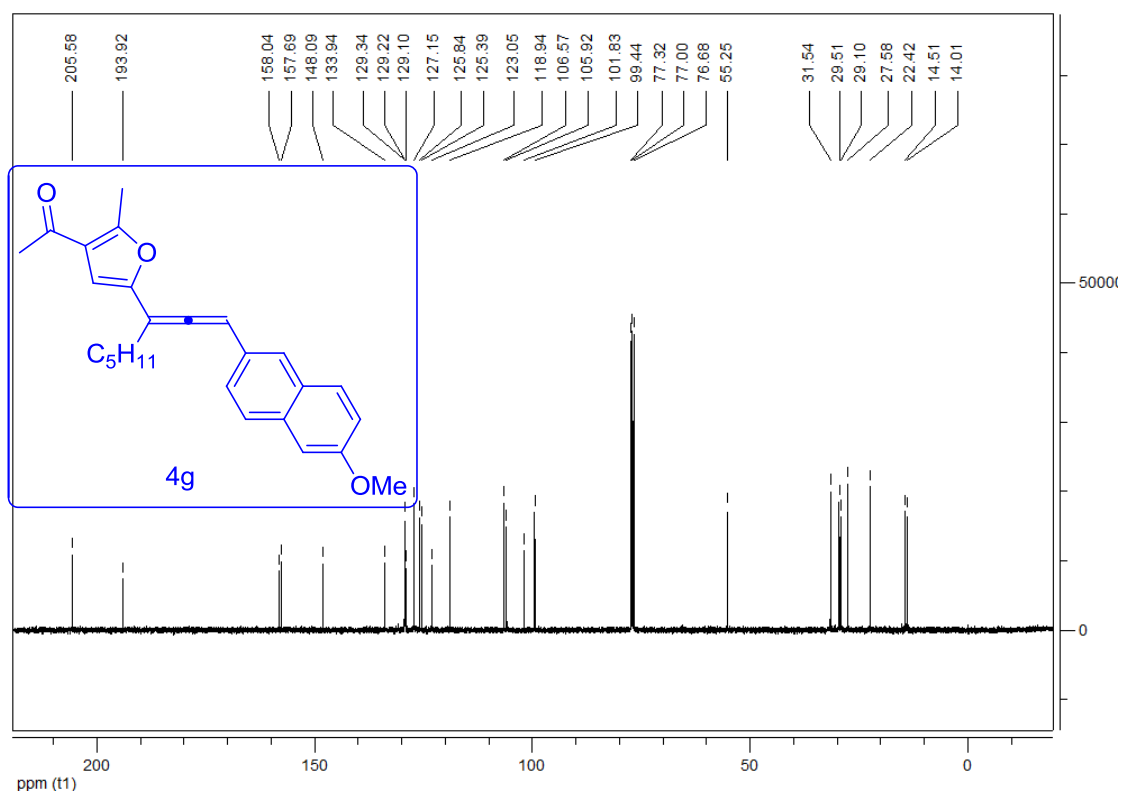
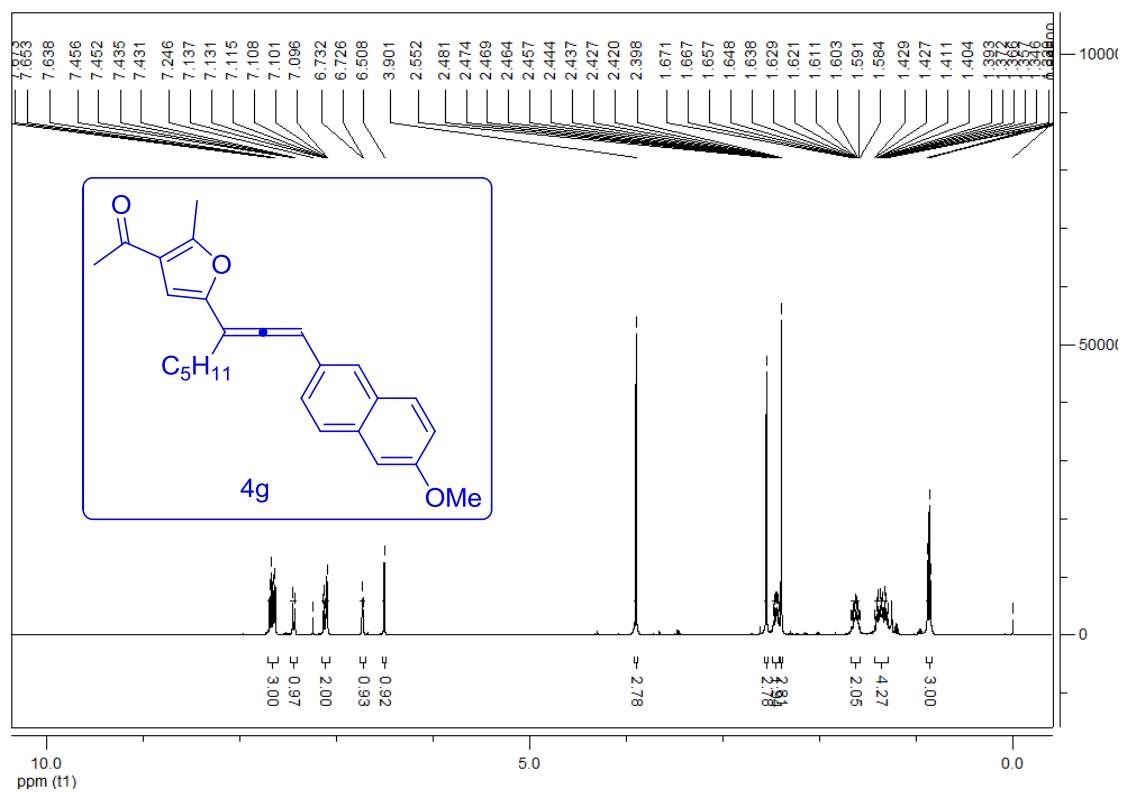
Methyl 4-(3-(4-acetyl-5-methylfuran-2-yl)octa-1,2-dien-1-yl)benzoate (4e)



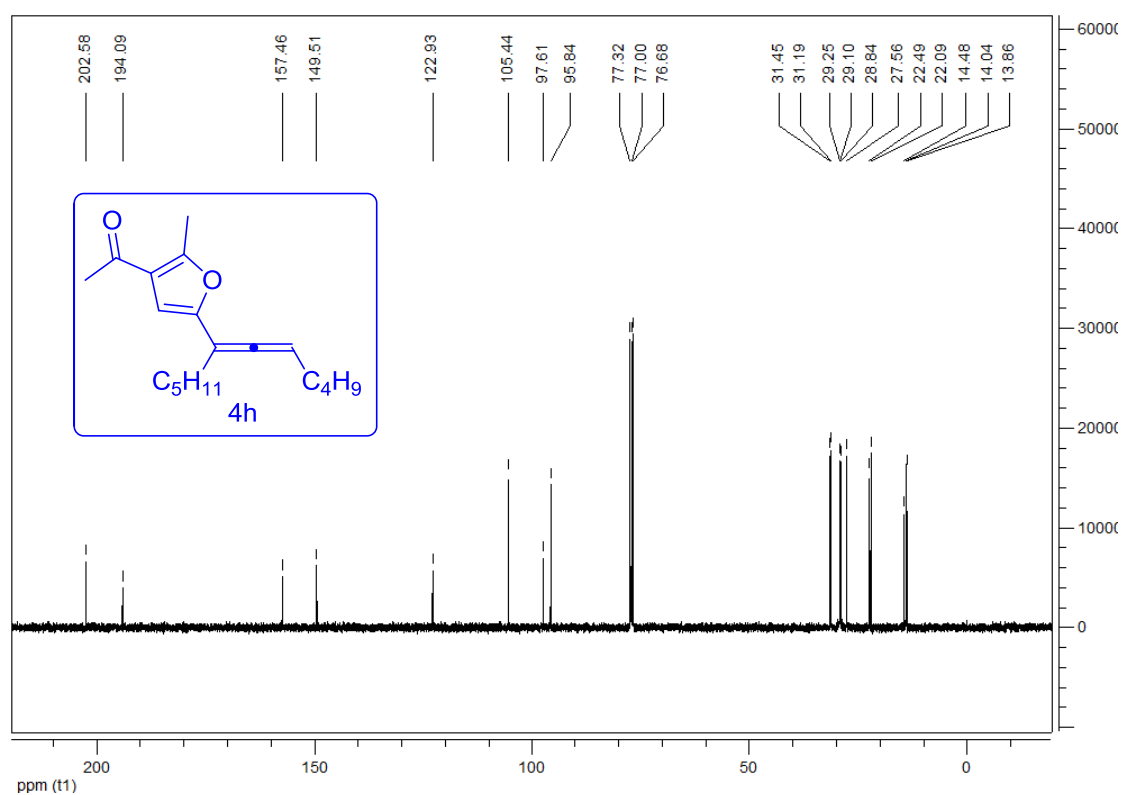
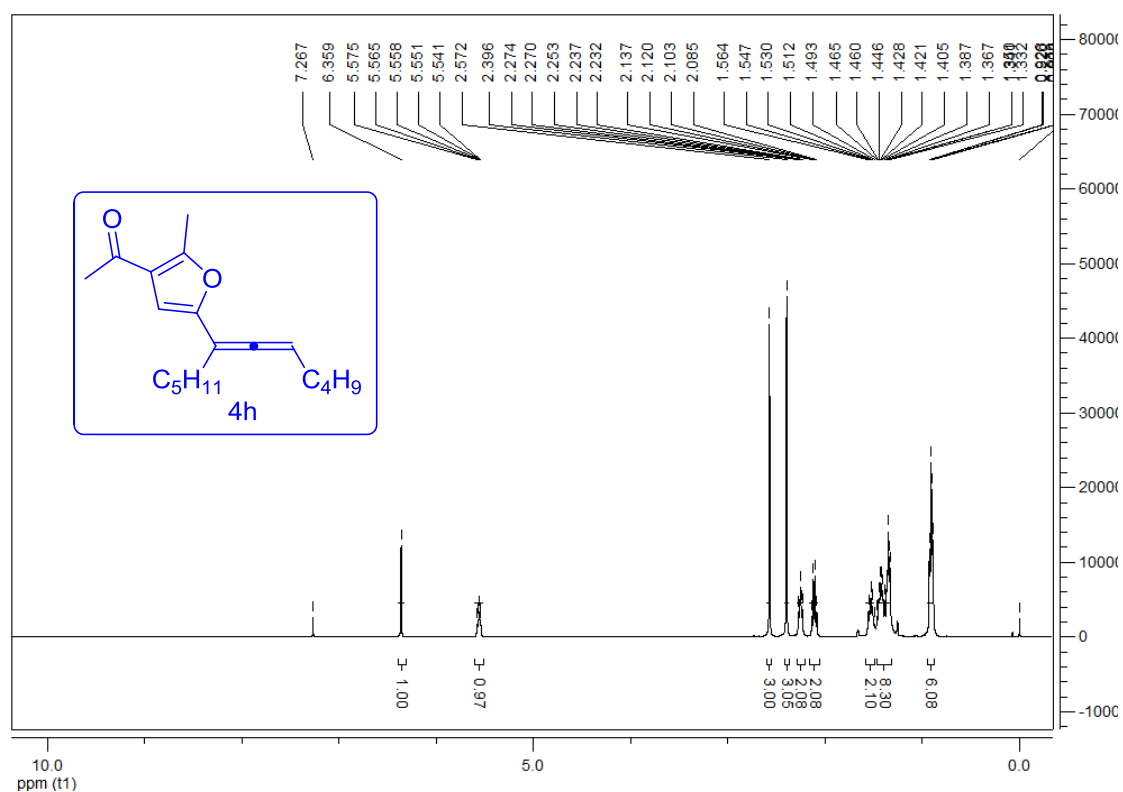
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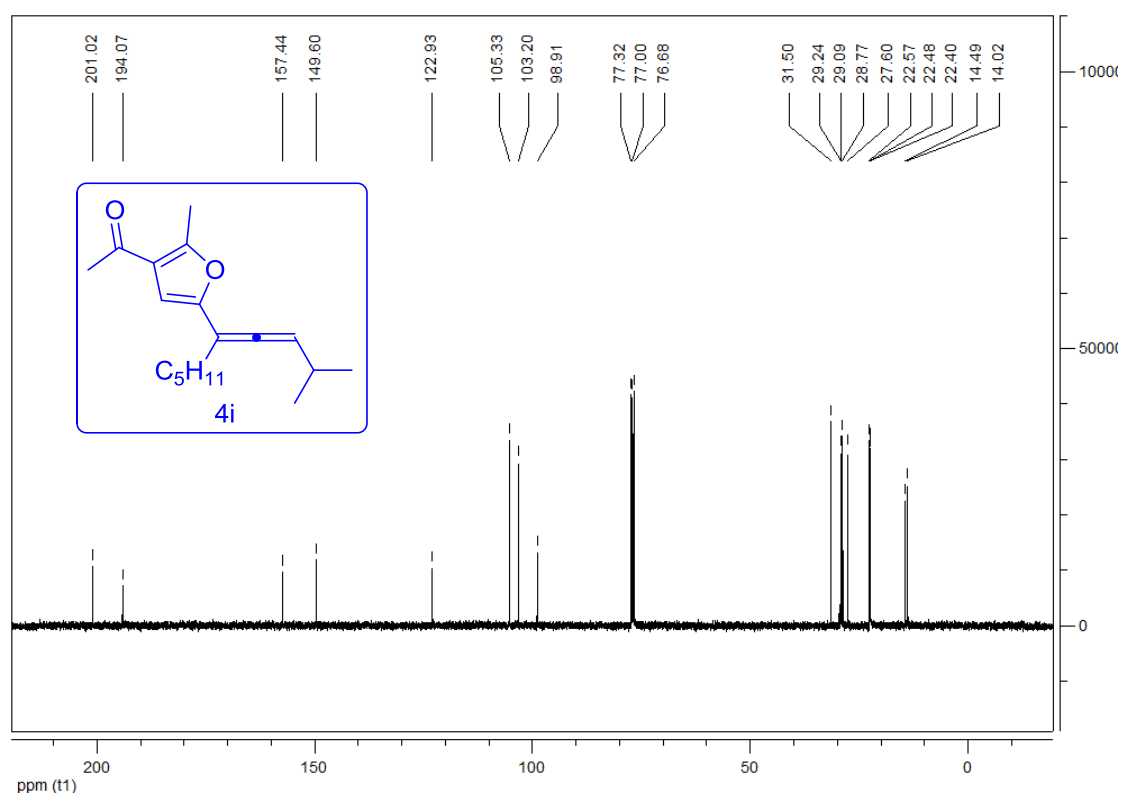
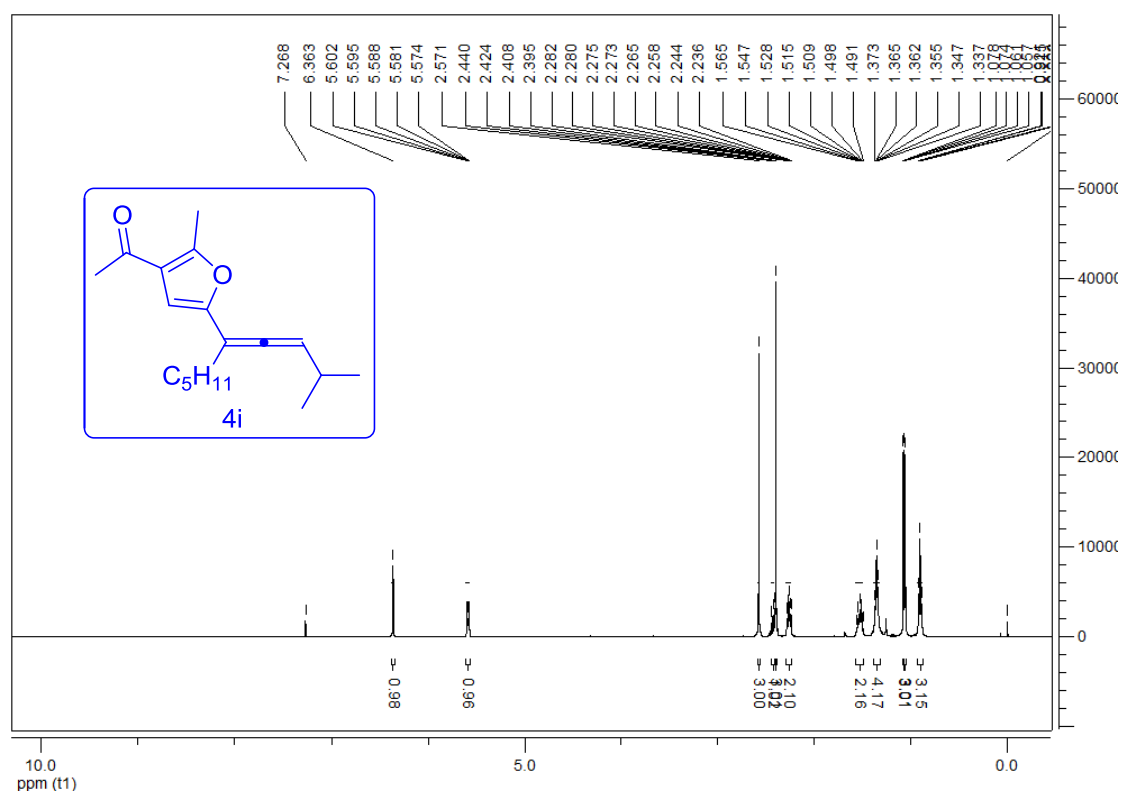
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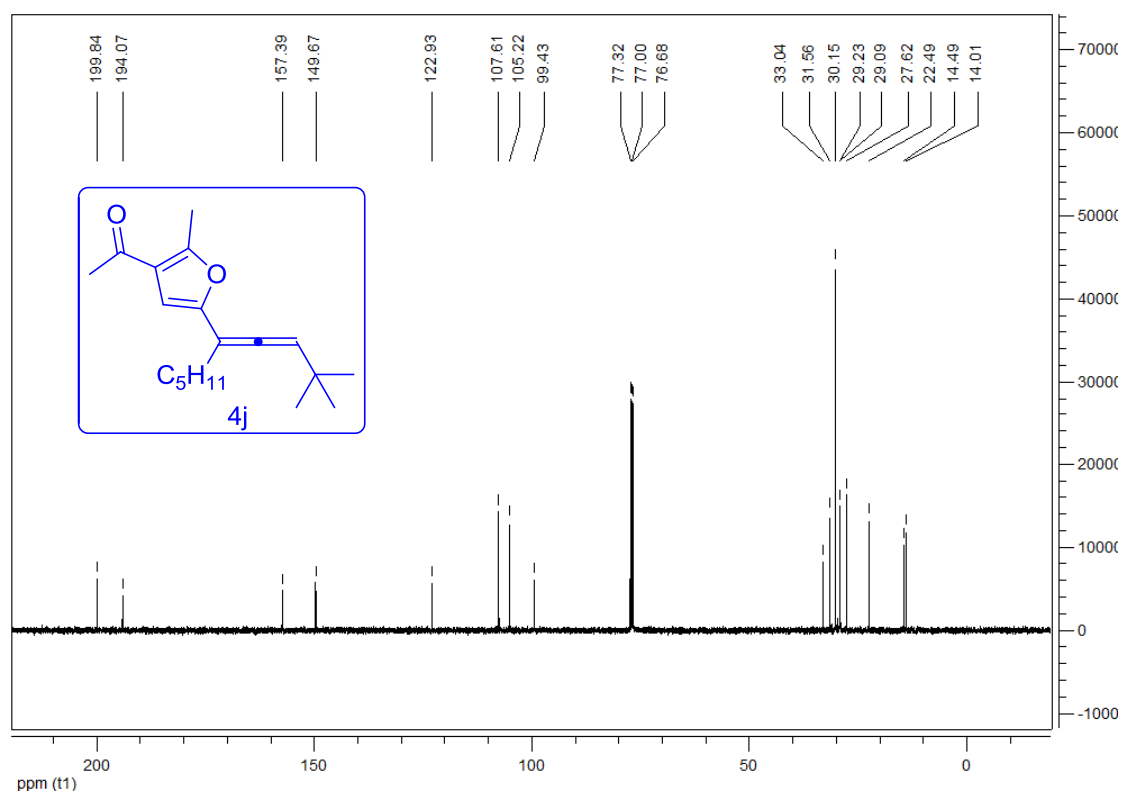
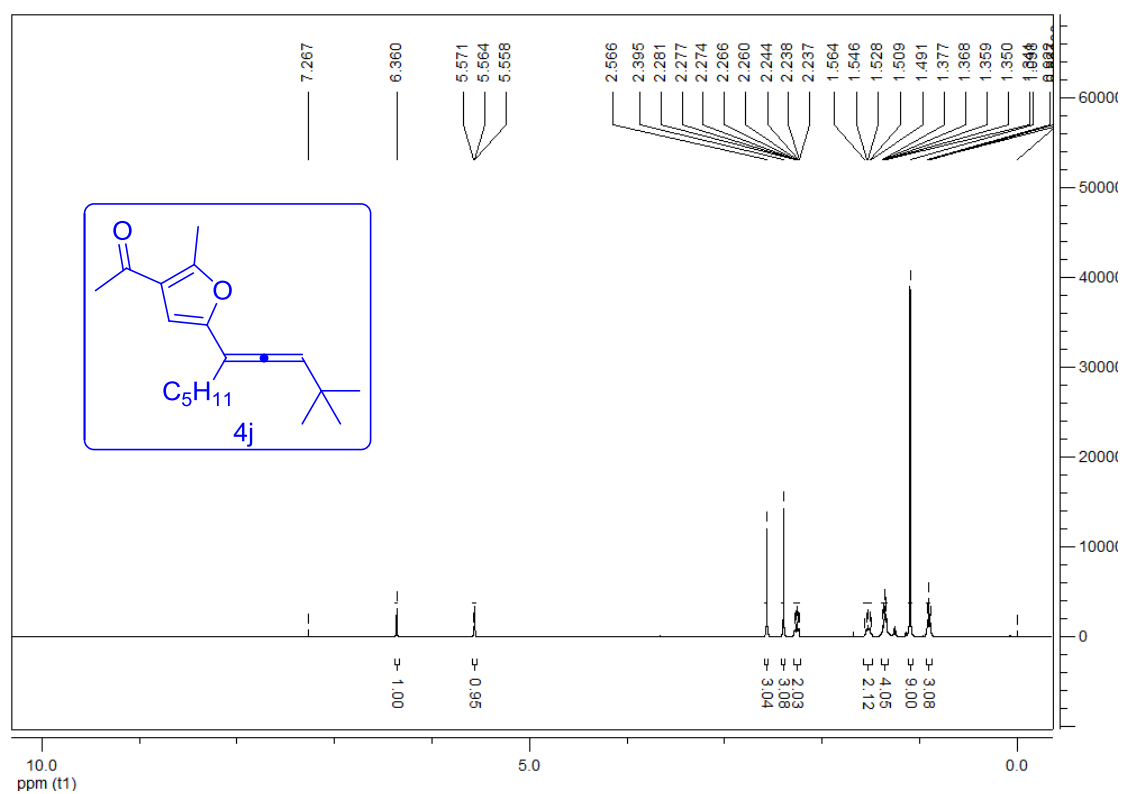
1-(5-(Dodeca-6,7-dien-6-yl)-2-methylfuran-3-yl)ethanone (4h)



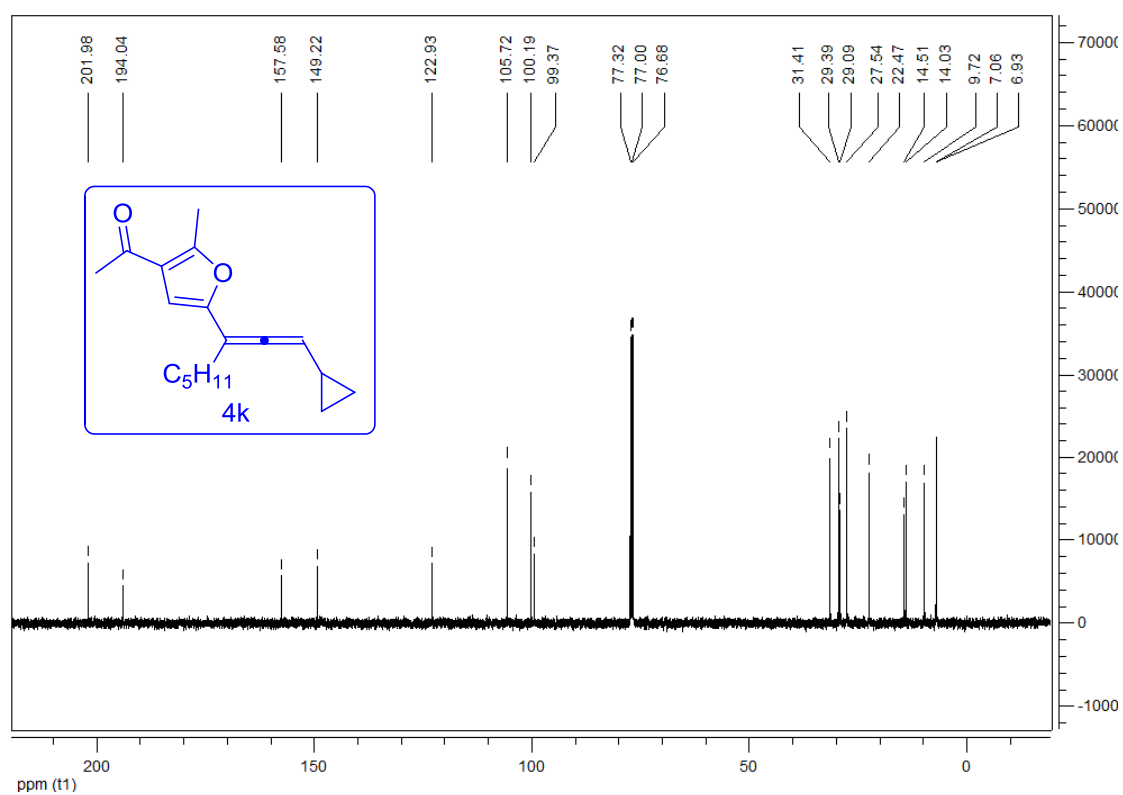
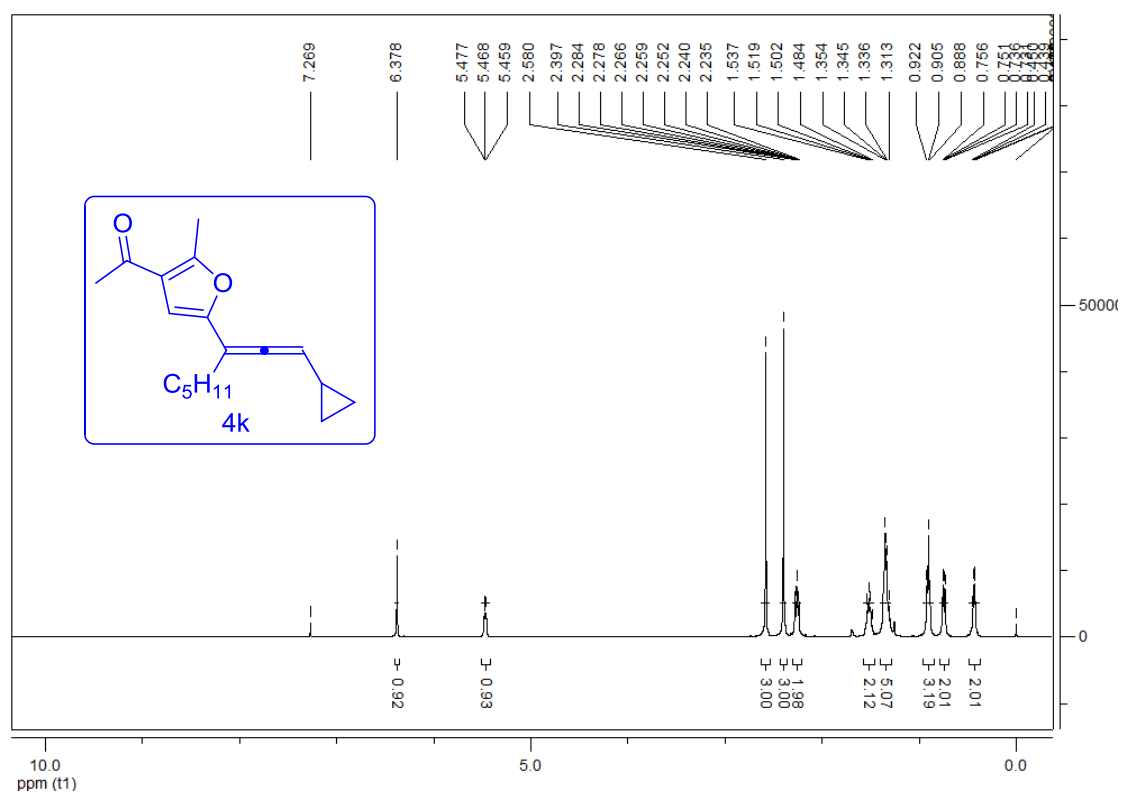
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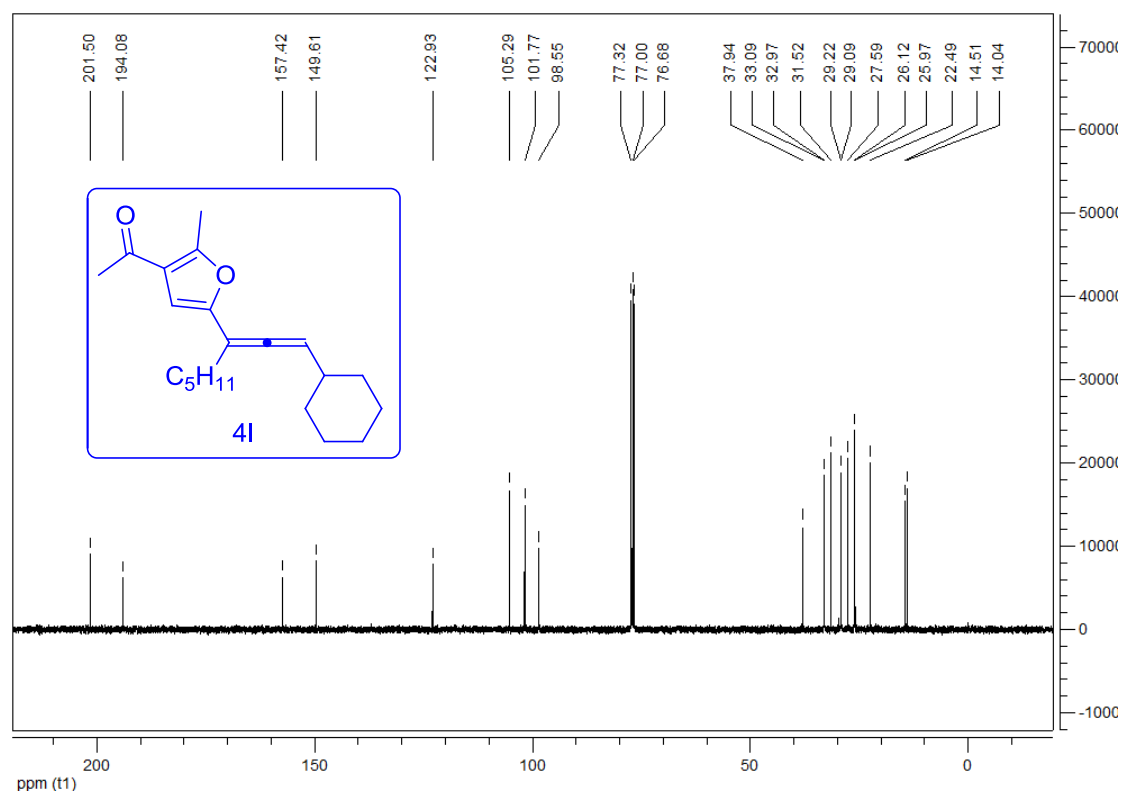
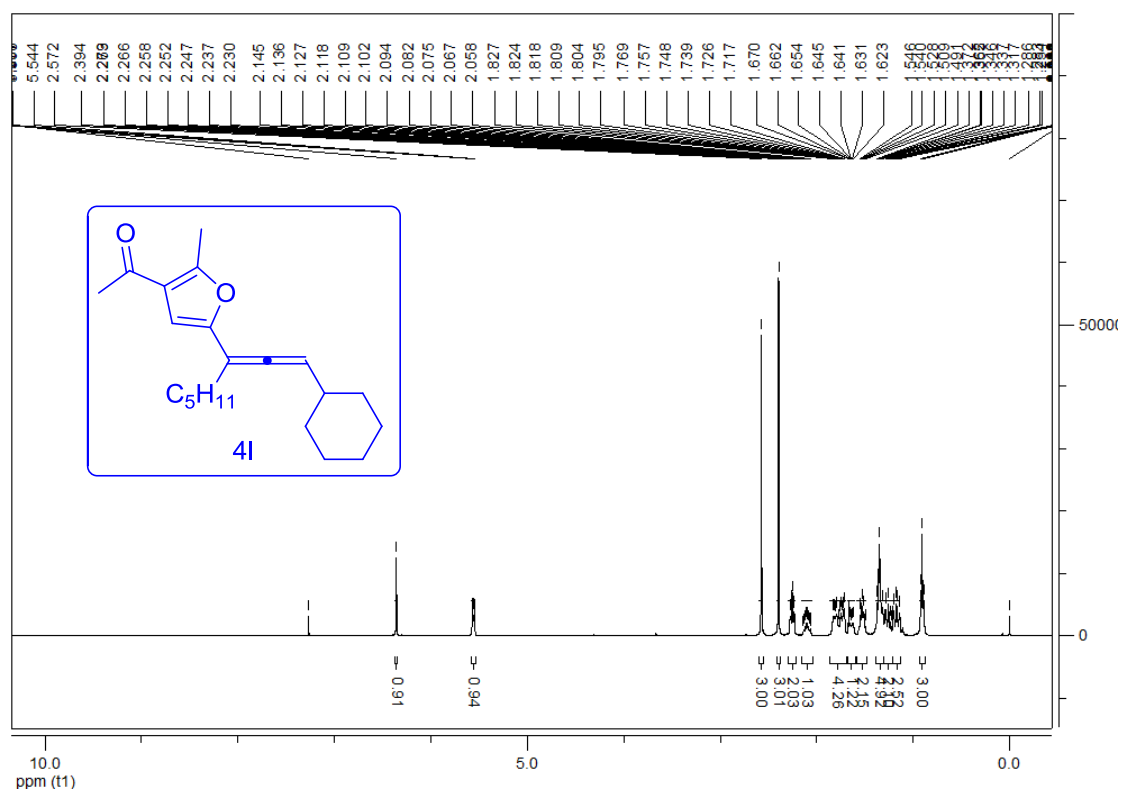
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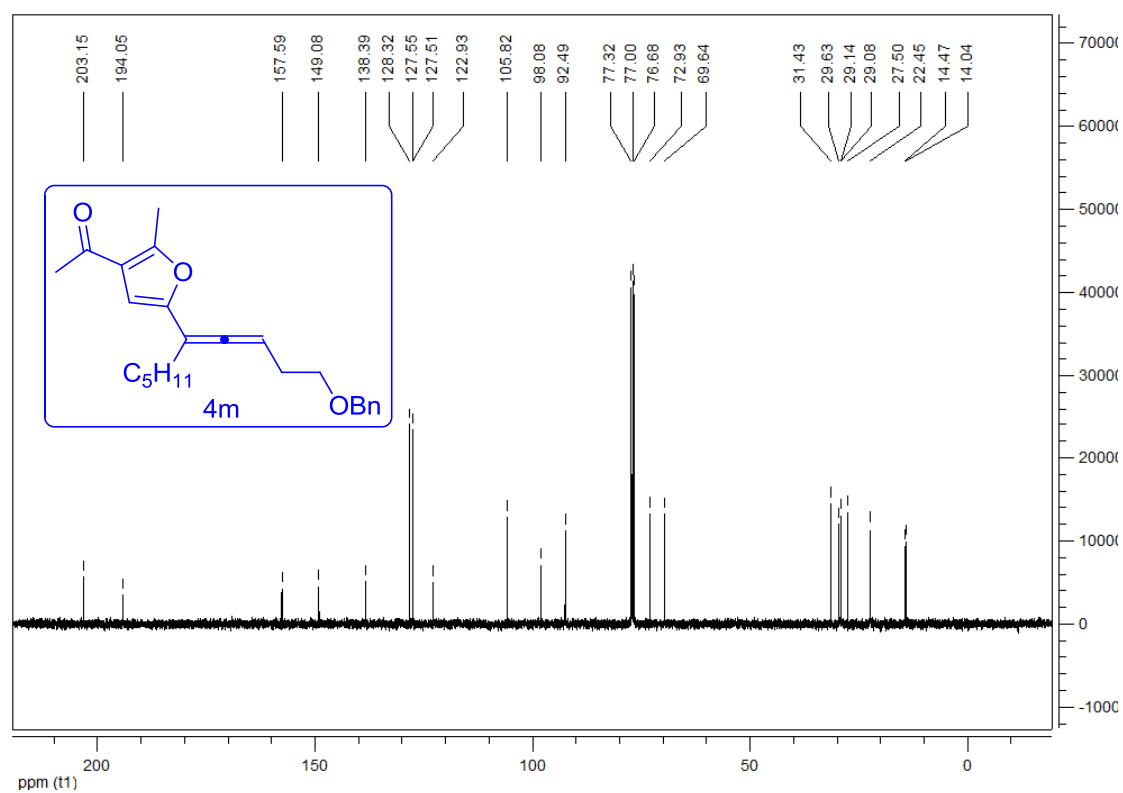
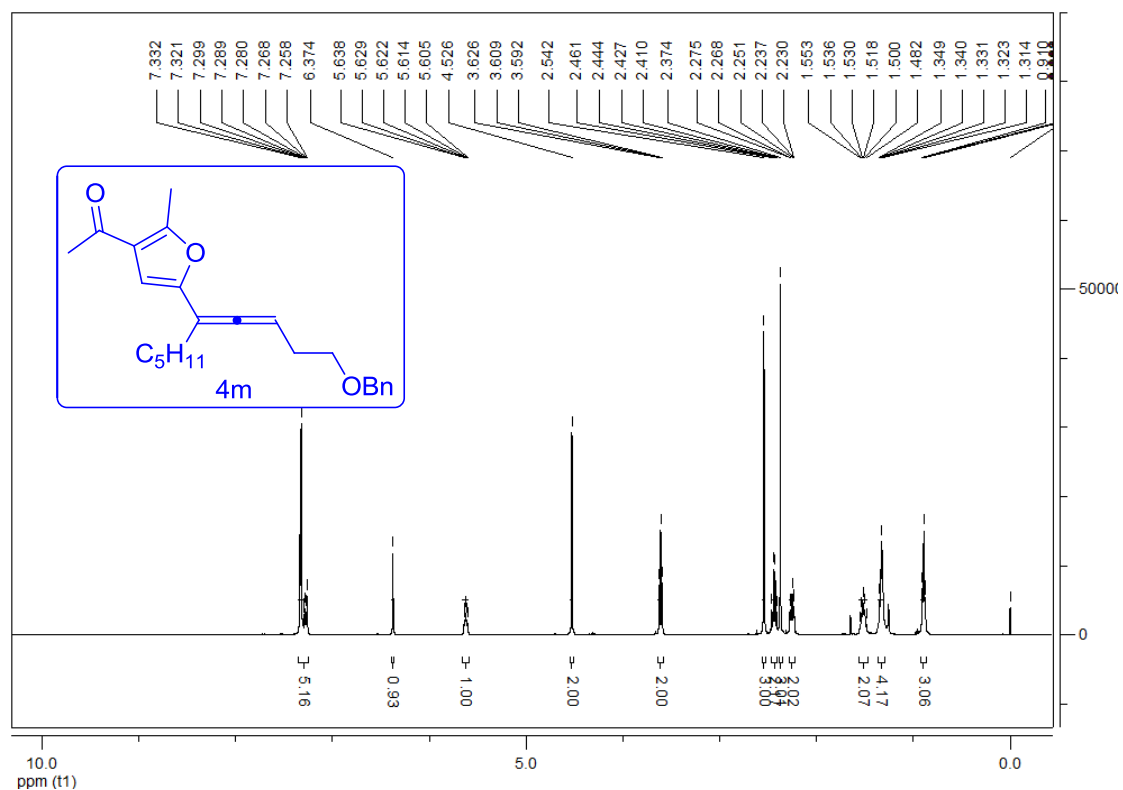
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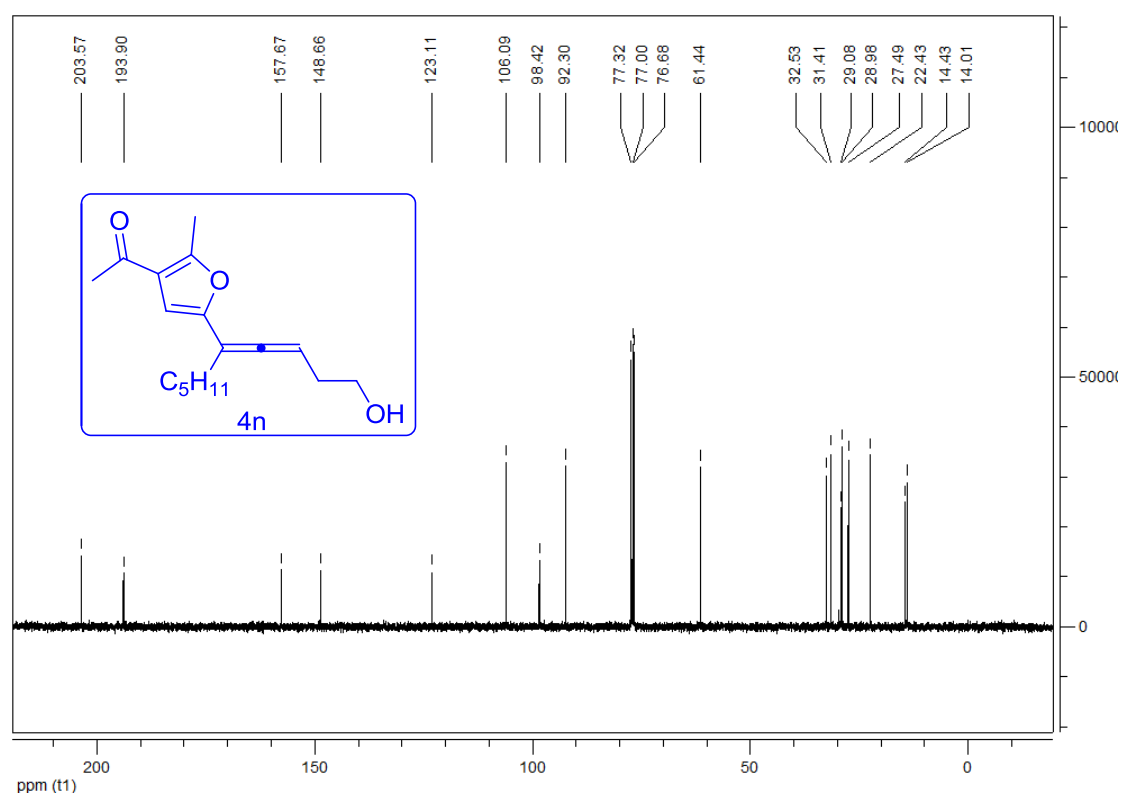
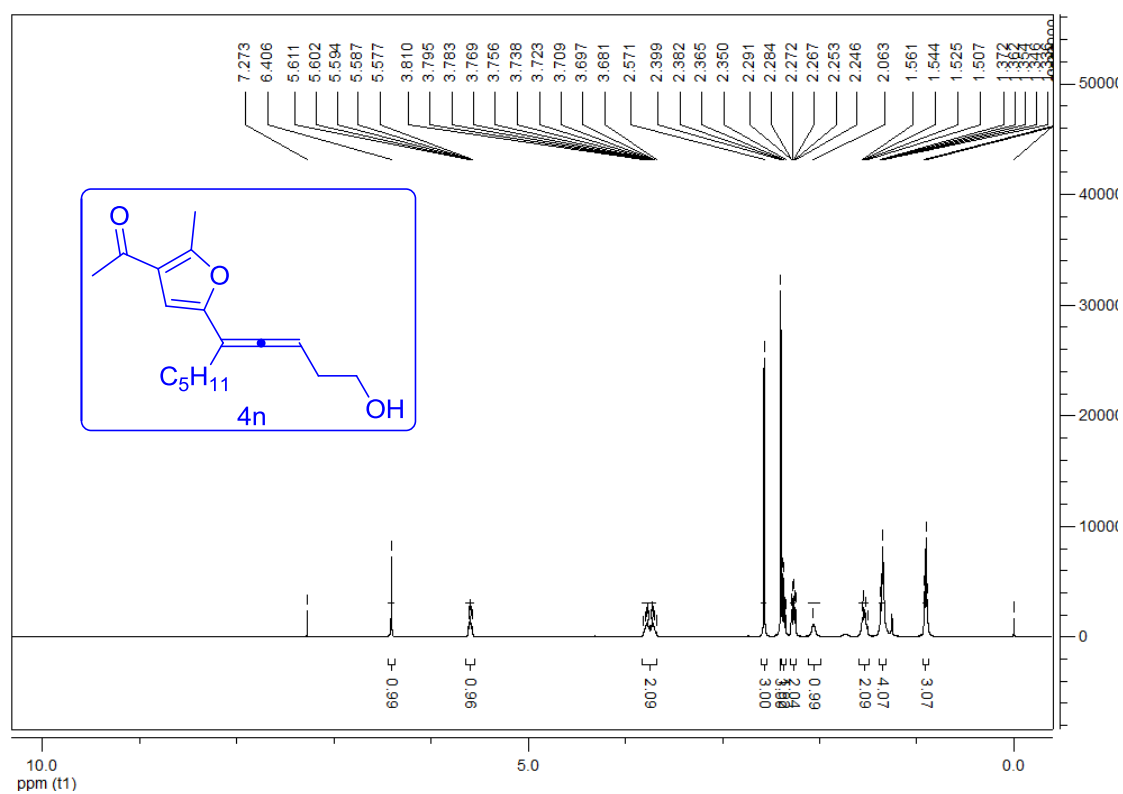
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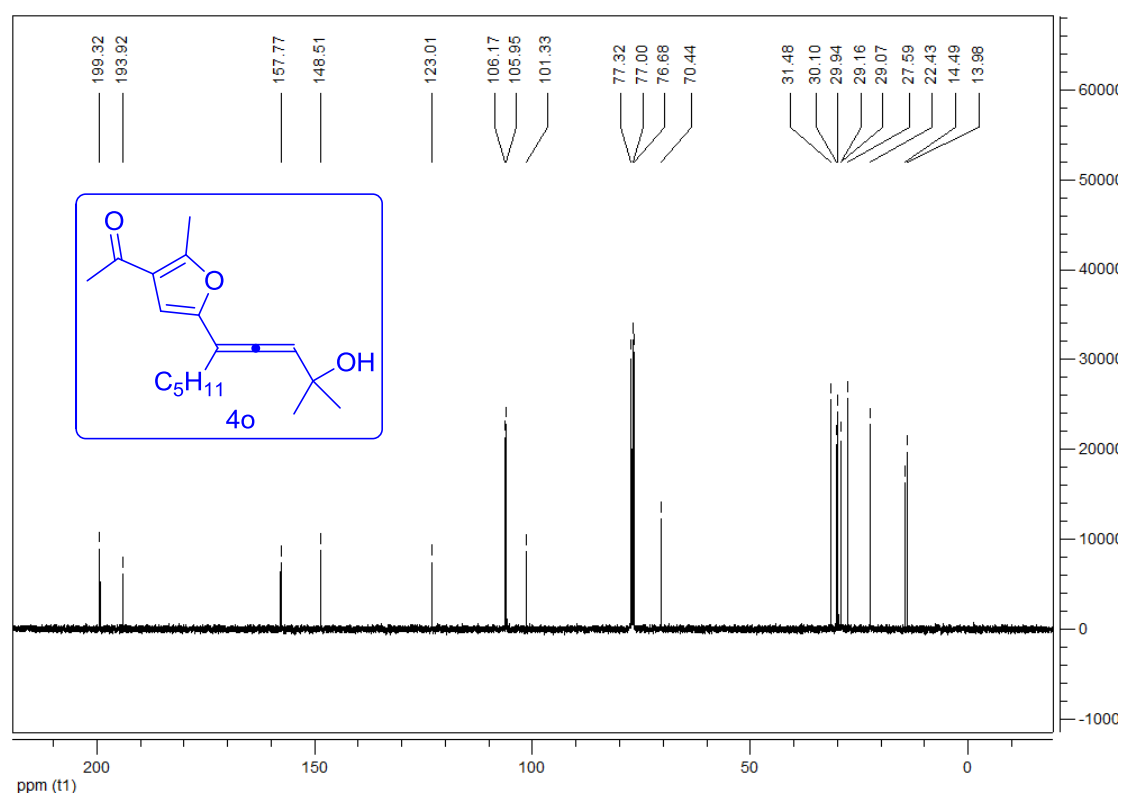
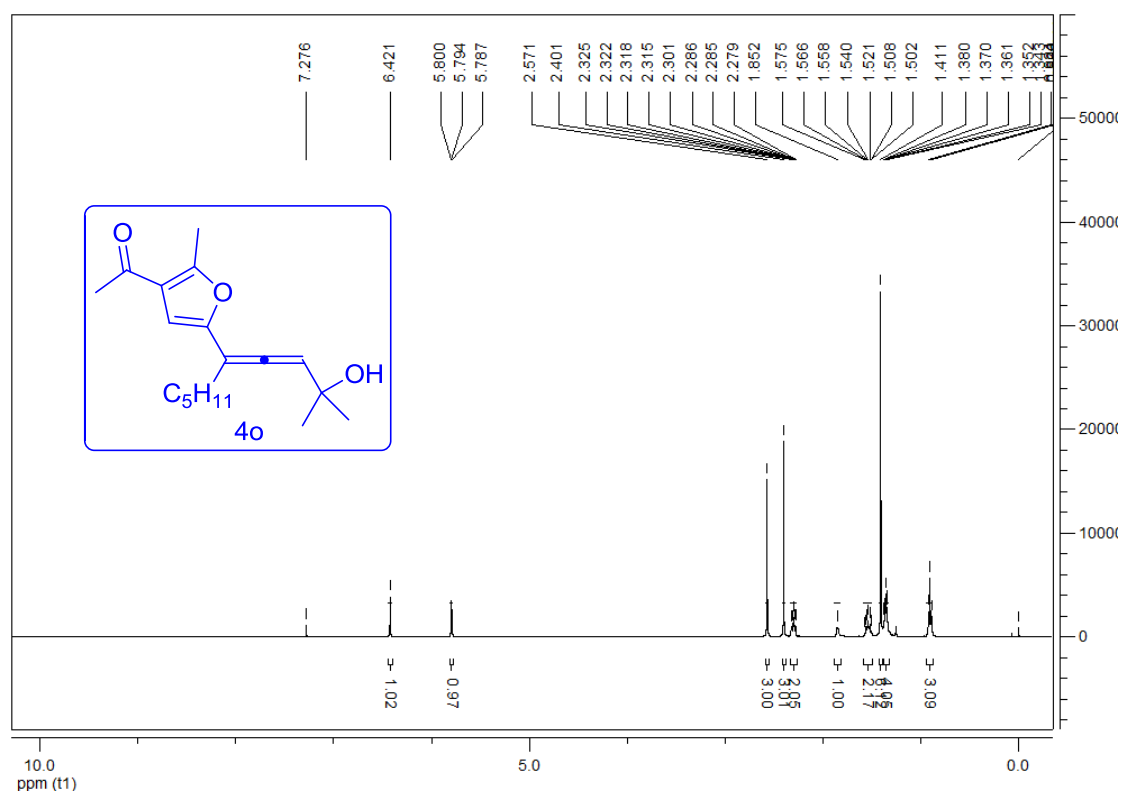
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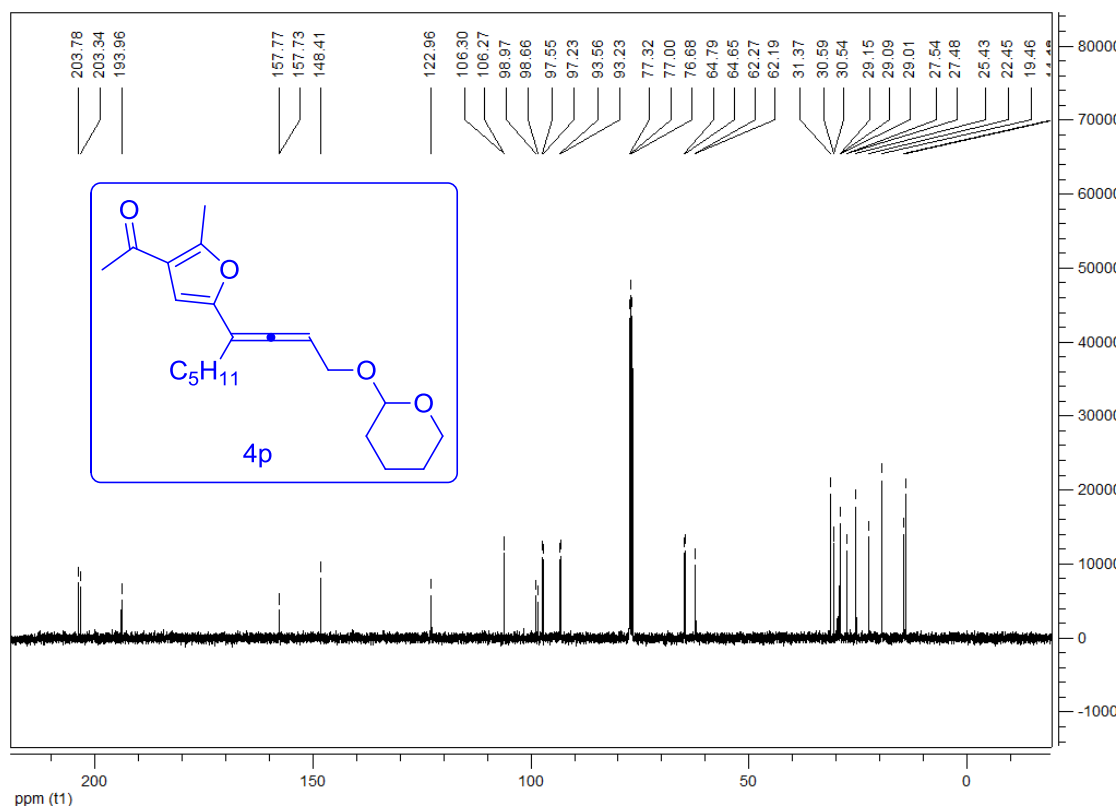
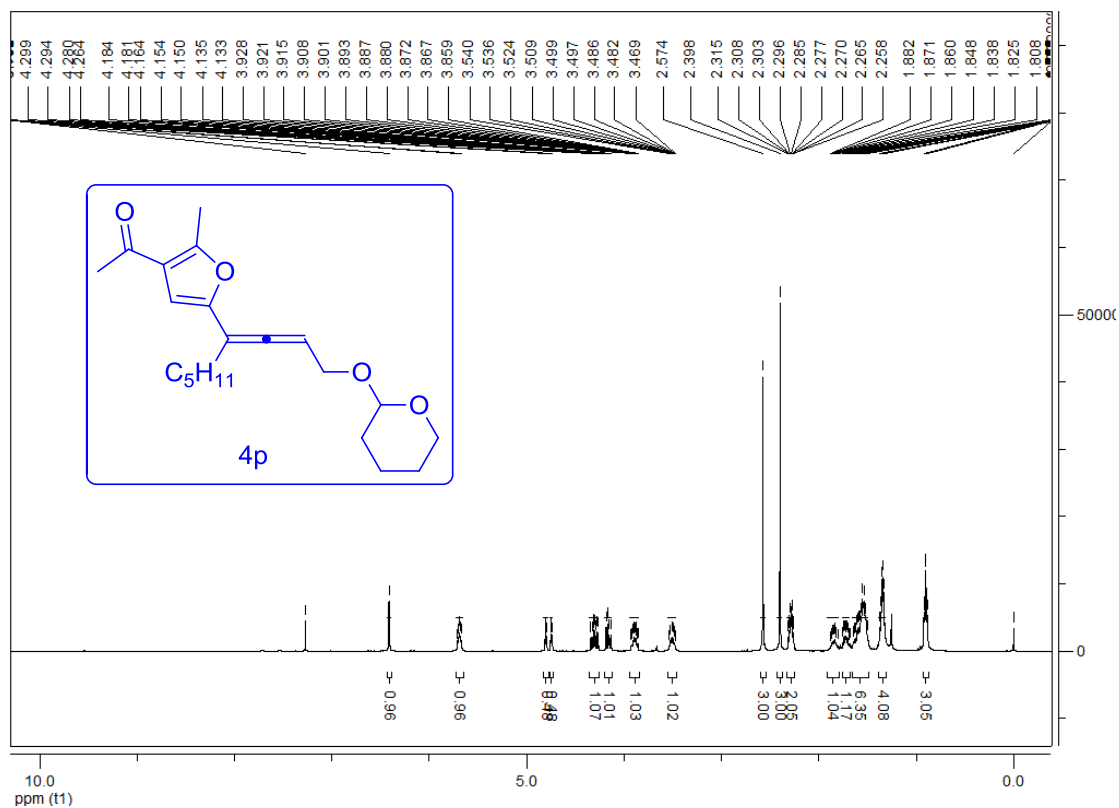
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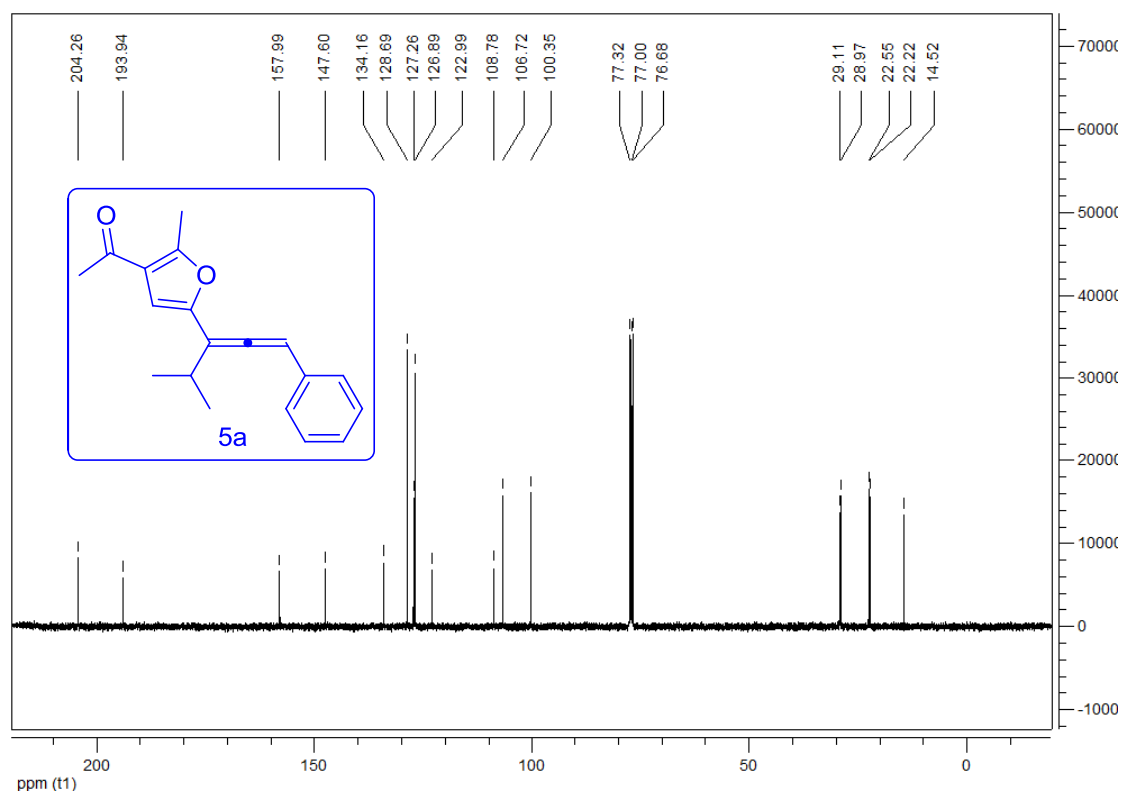
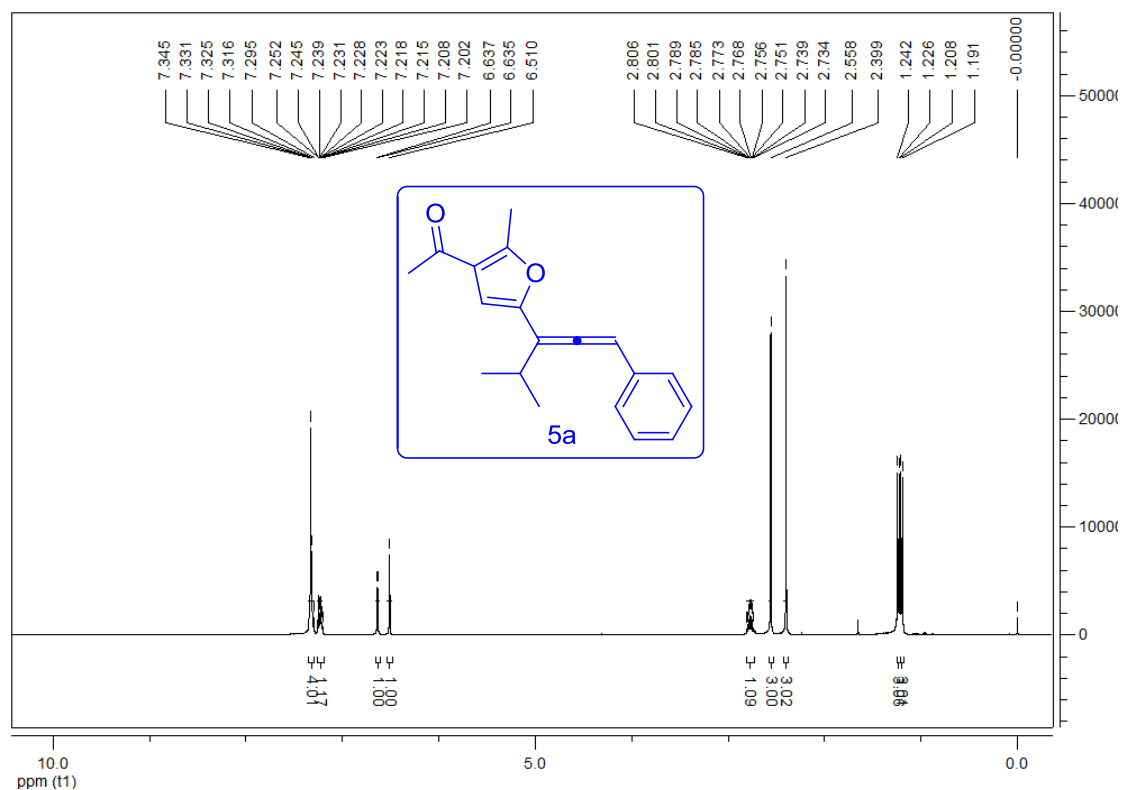
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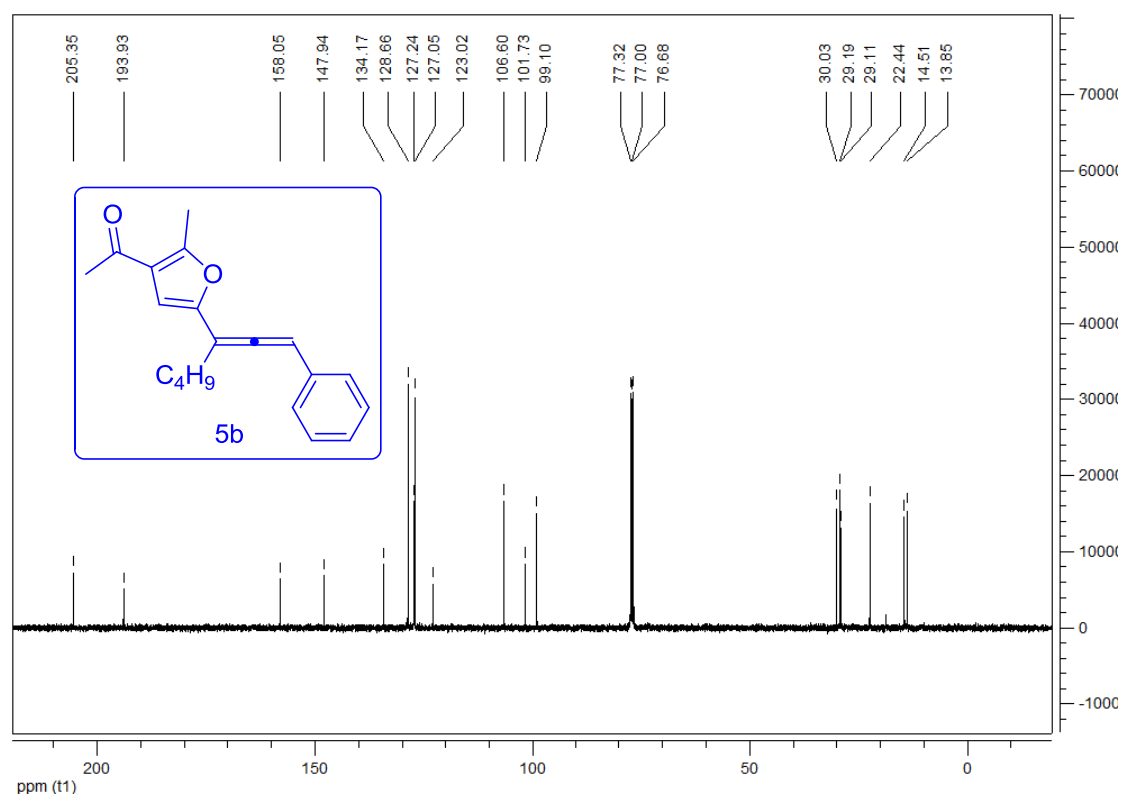
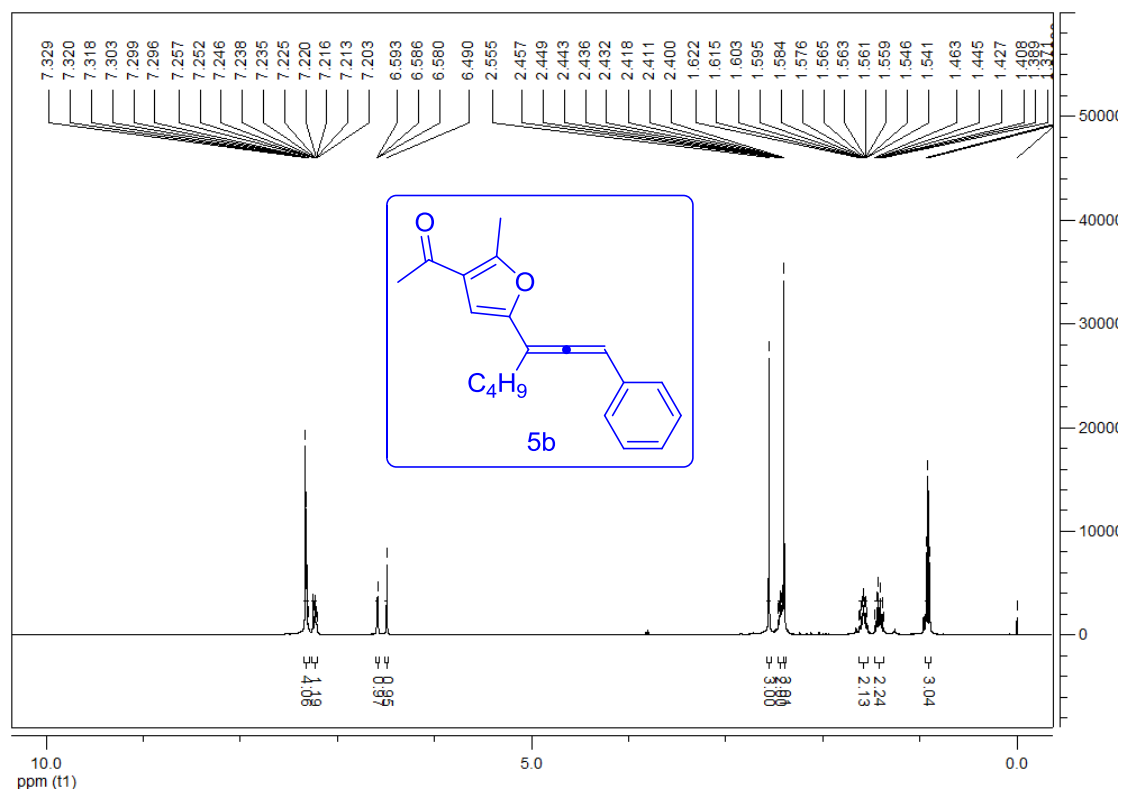
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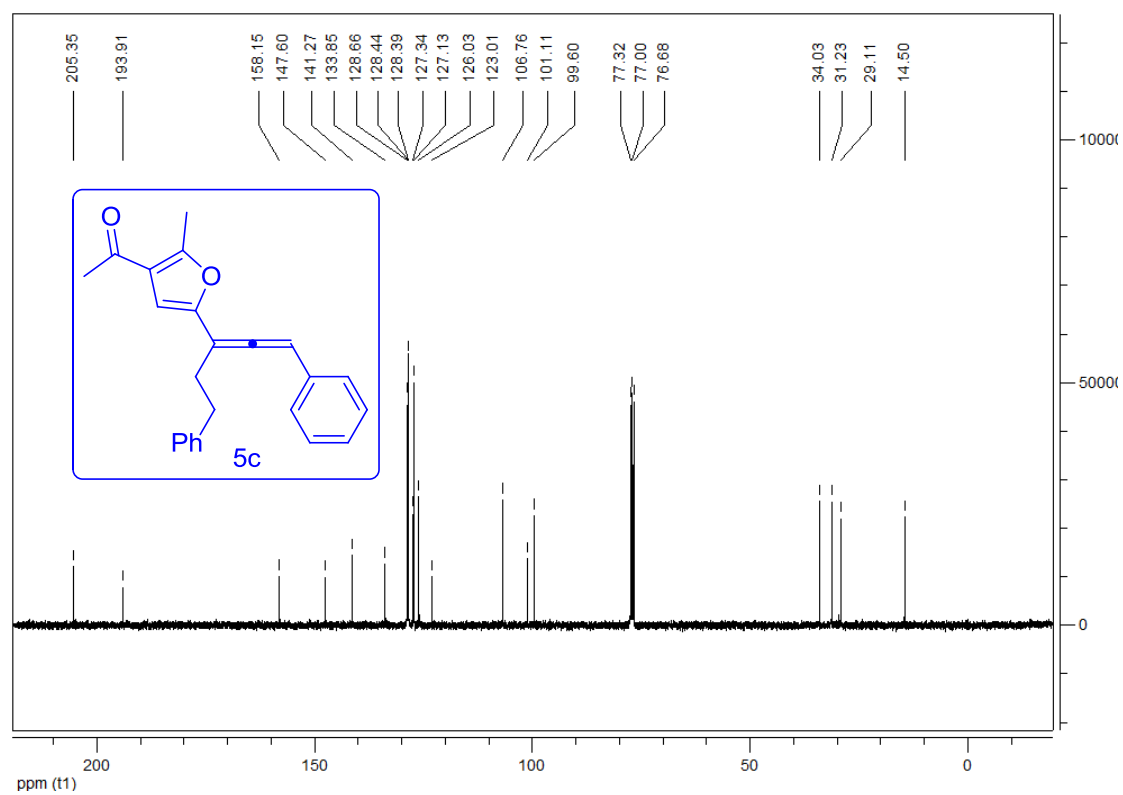
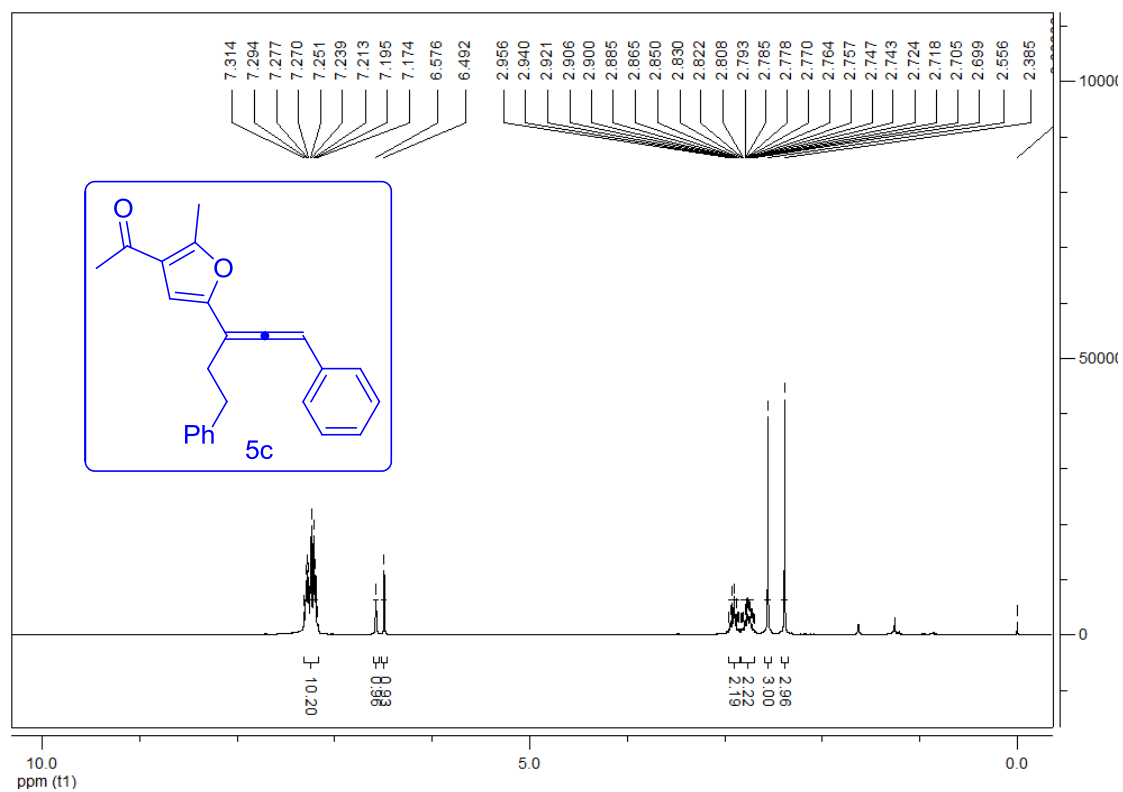
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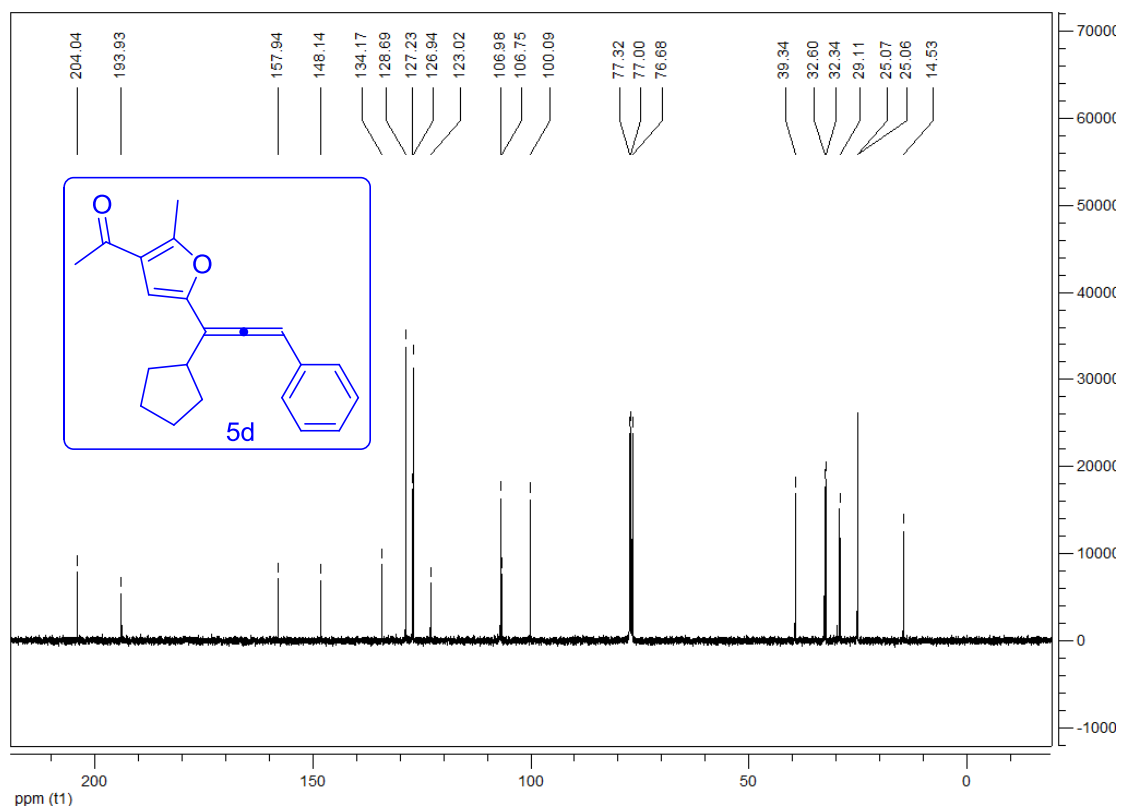
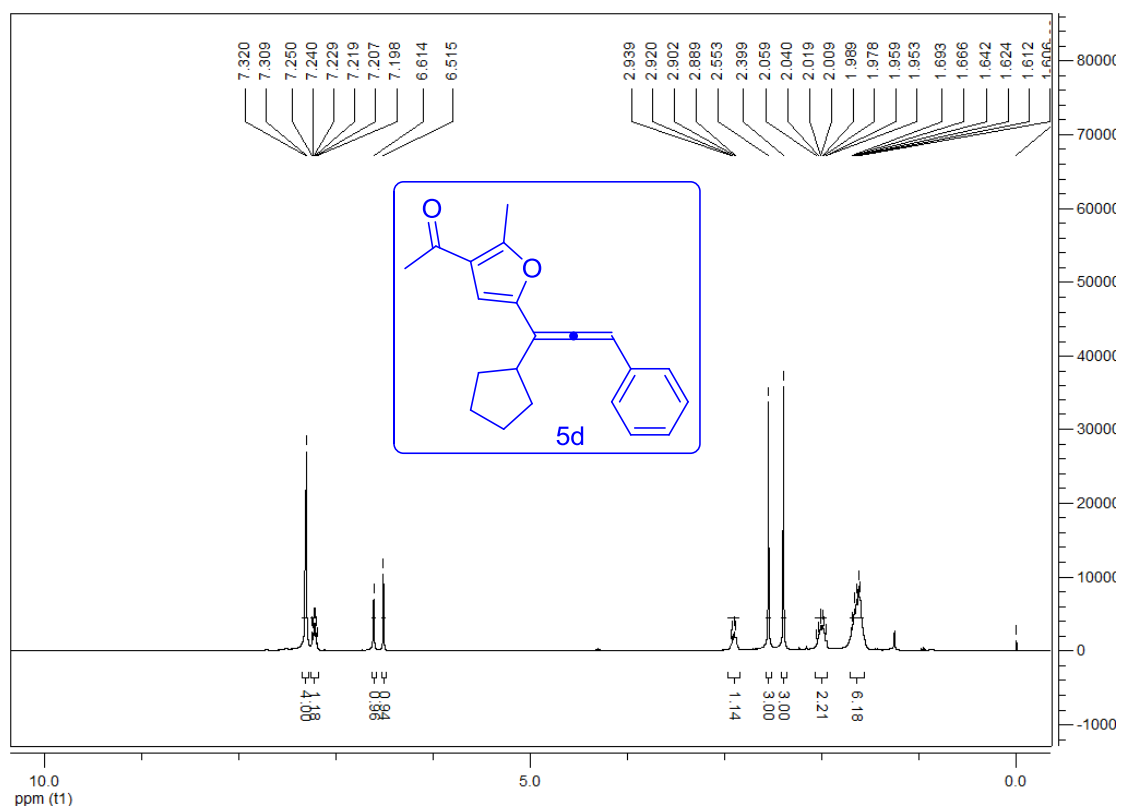
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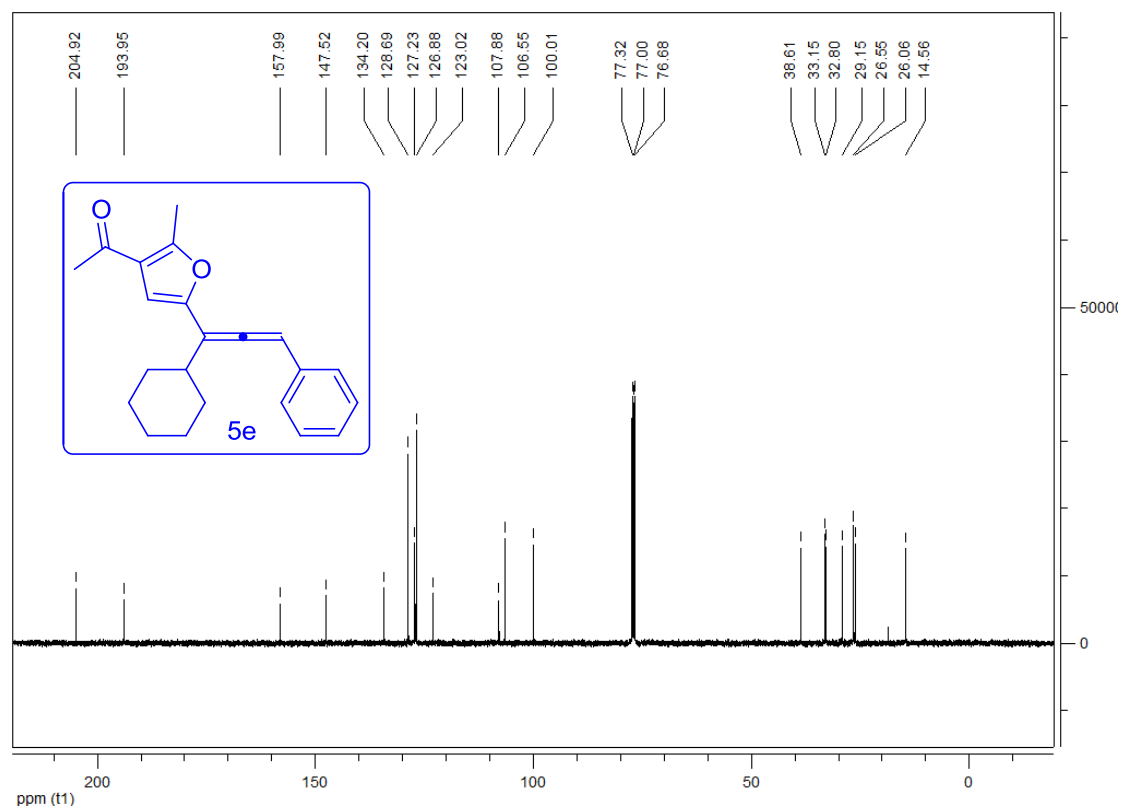
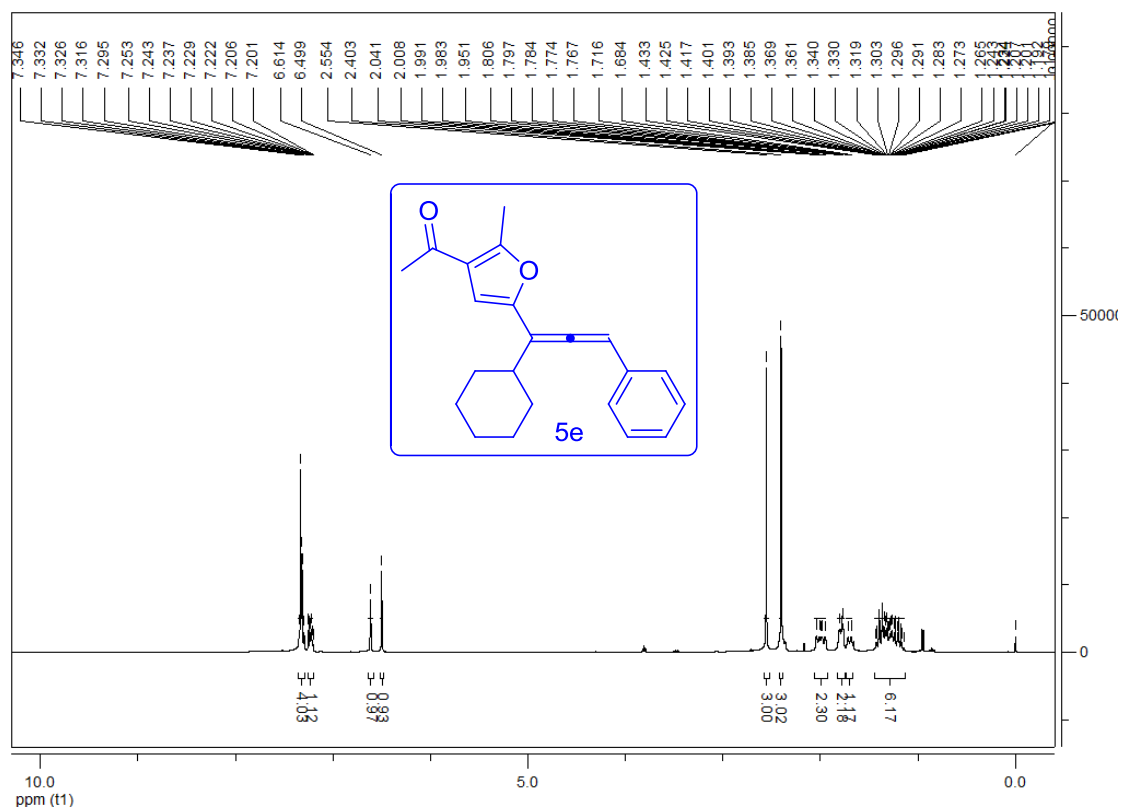
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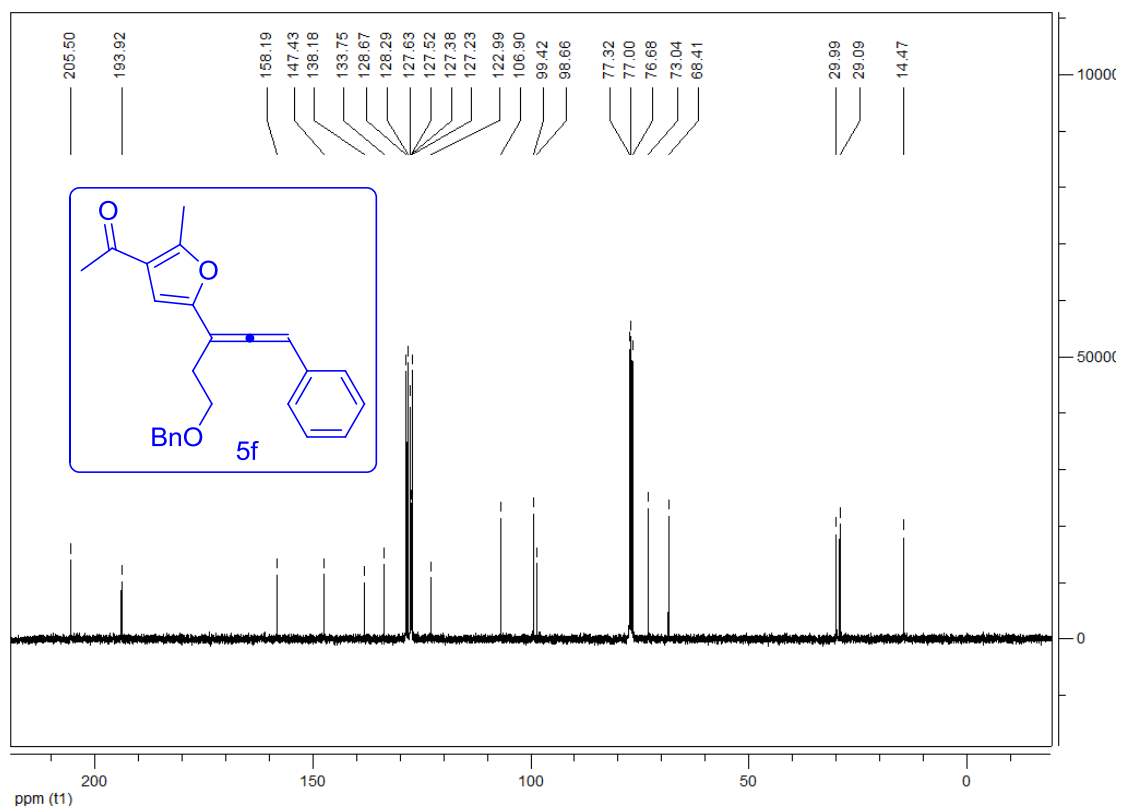
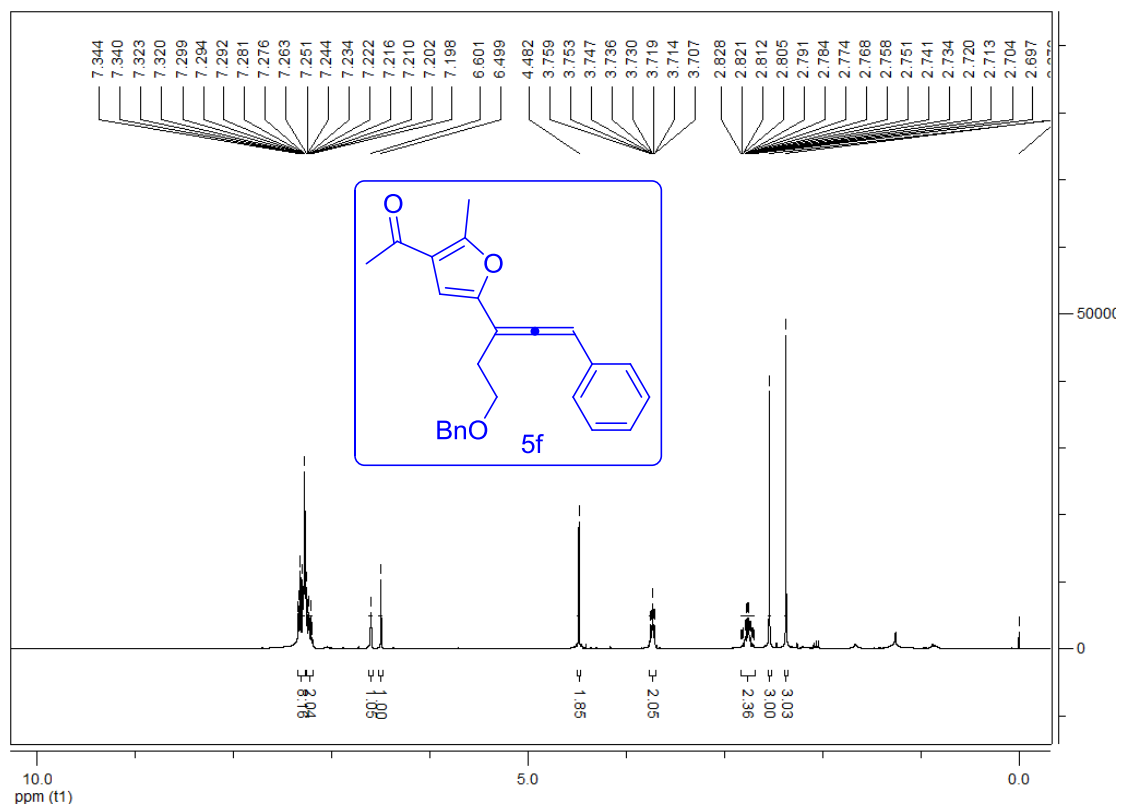
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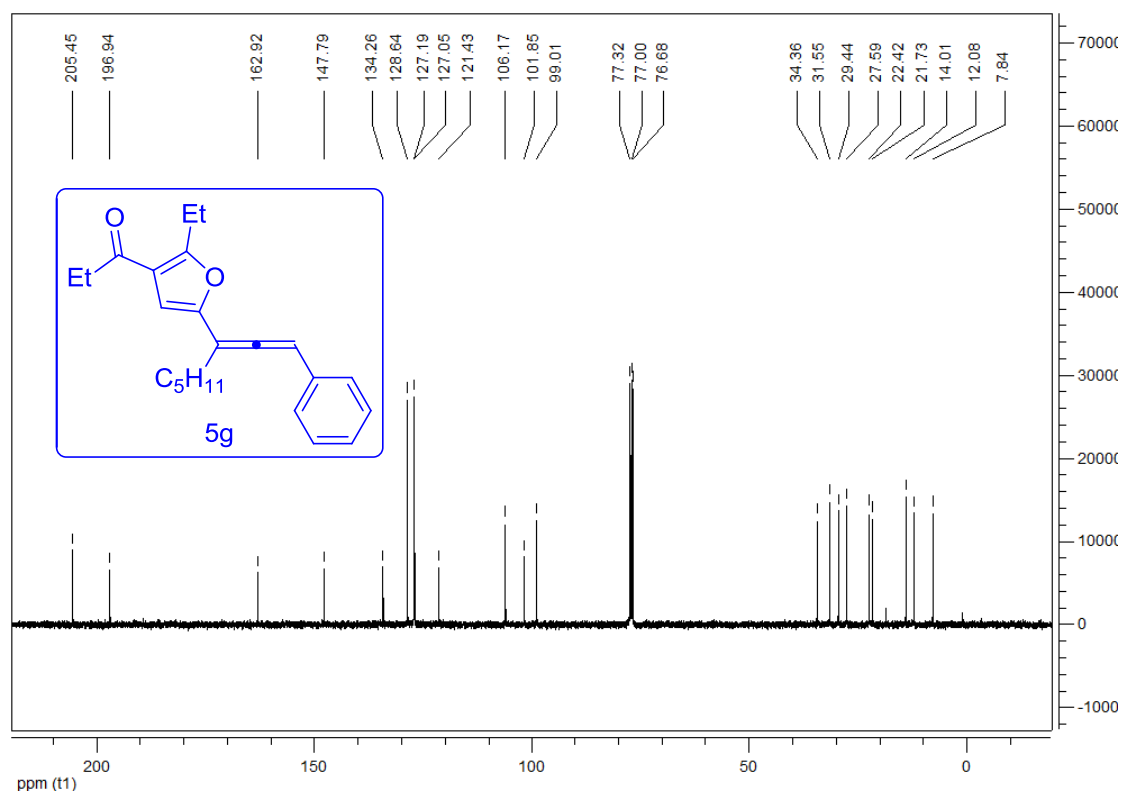
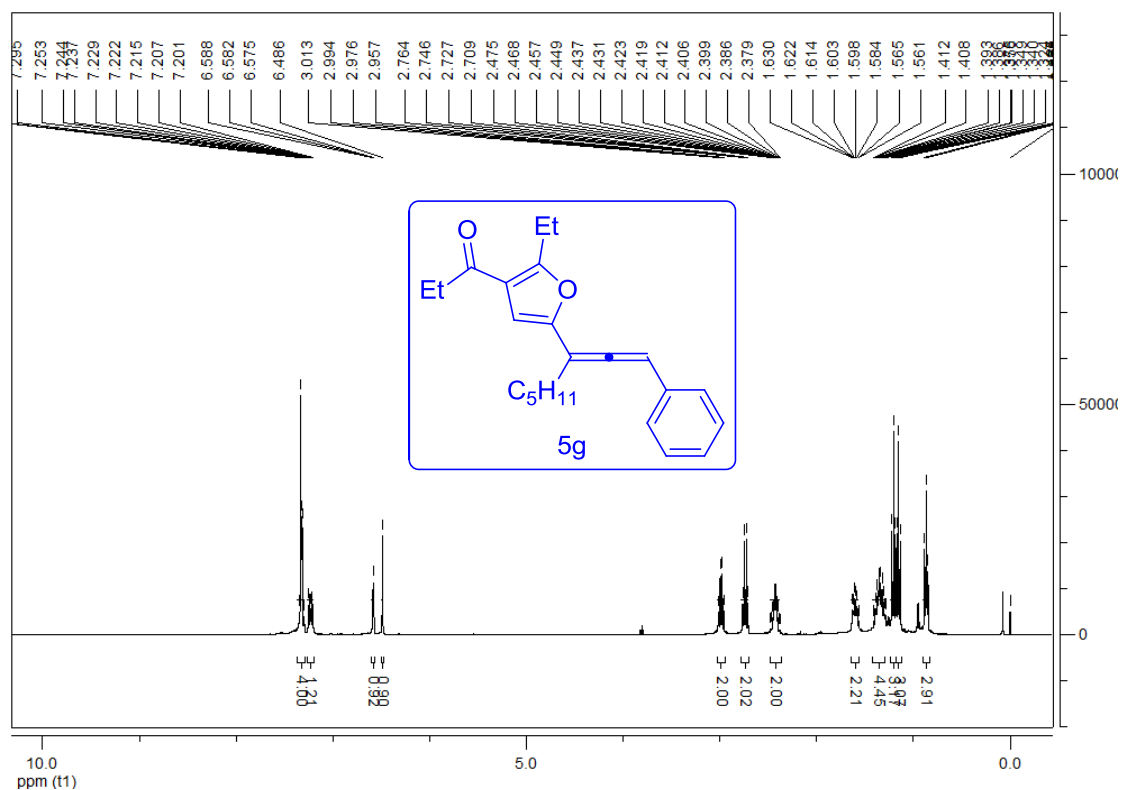
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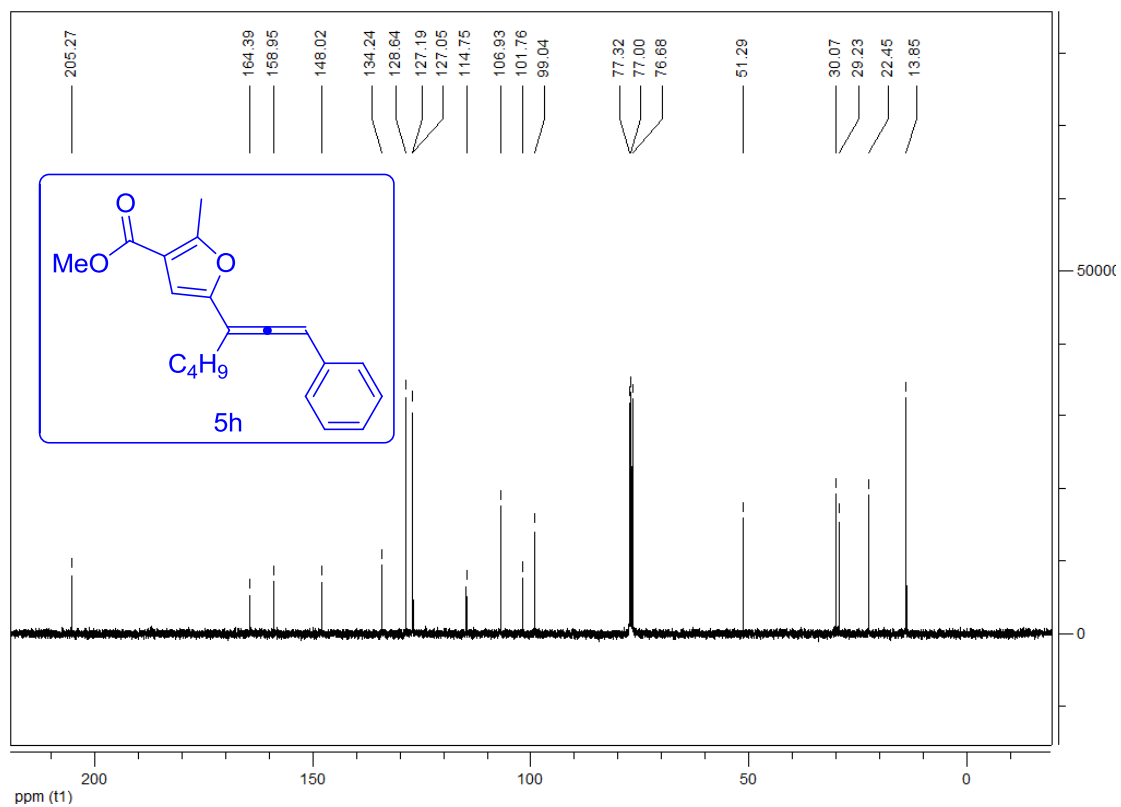
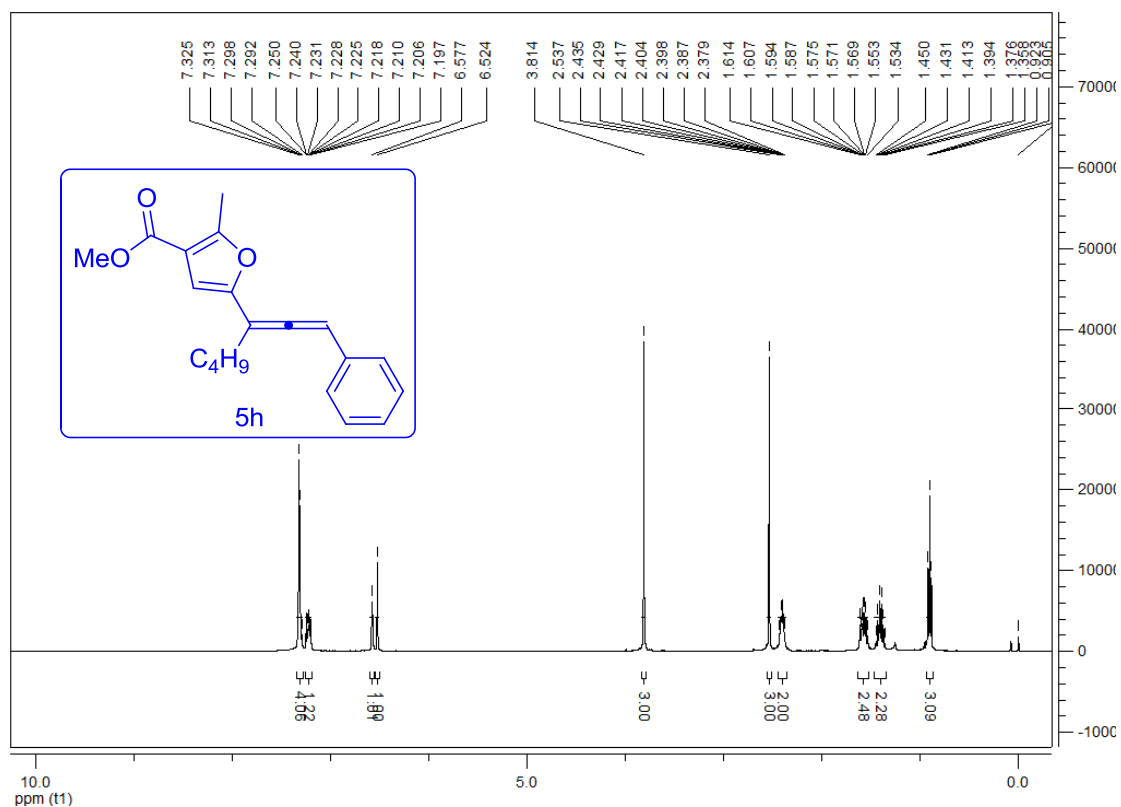
1-(5-(5-(Benzyloxy)-1-phenylpenta-1,2-dien-3-yl)-2-methylfuran-3-yl)ethanone (5f)



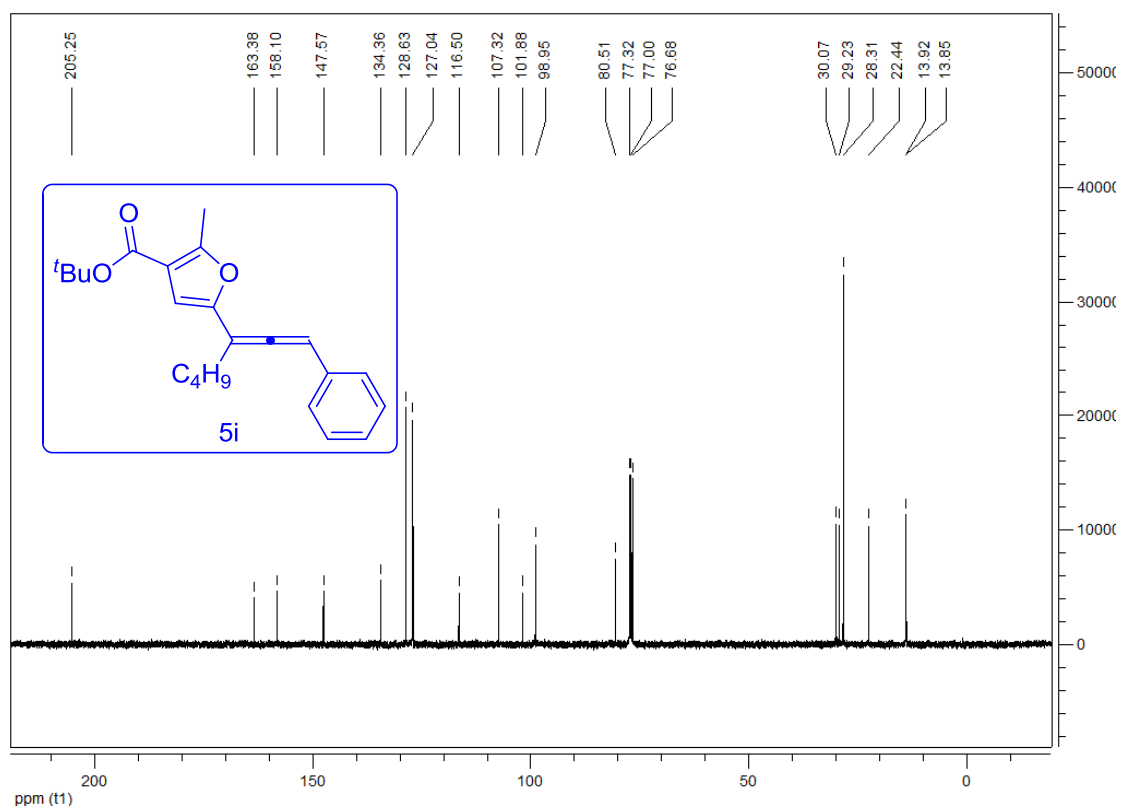
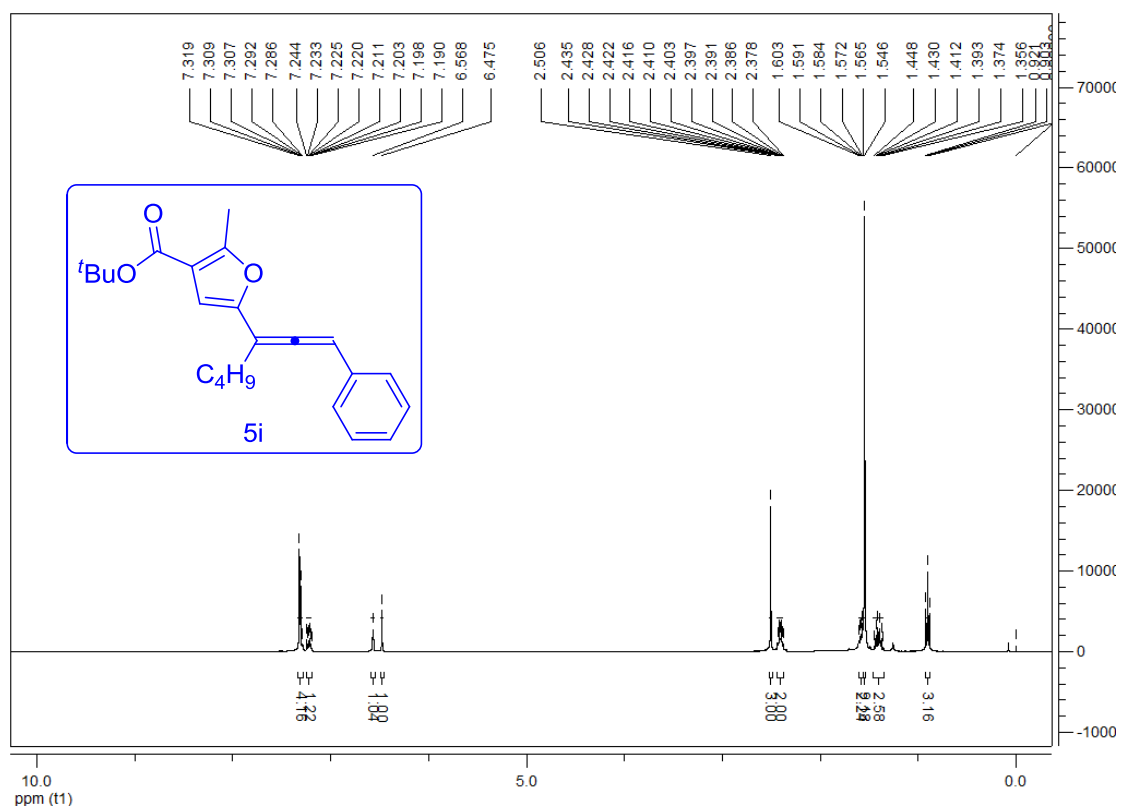
1-(2-Ethyl-5-(1-phenylocta-1,2-dien-3-yl)furan-3-yl)propan-1-one (5g)



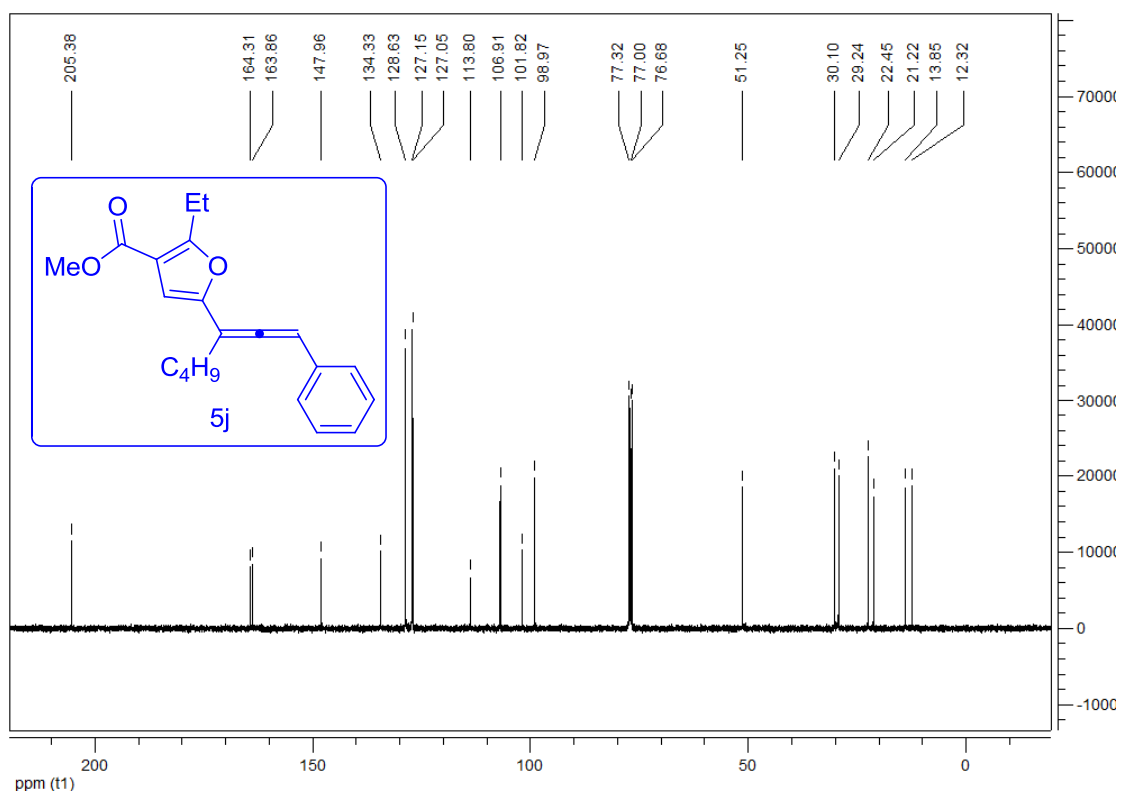
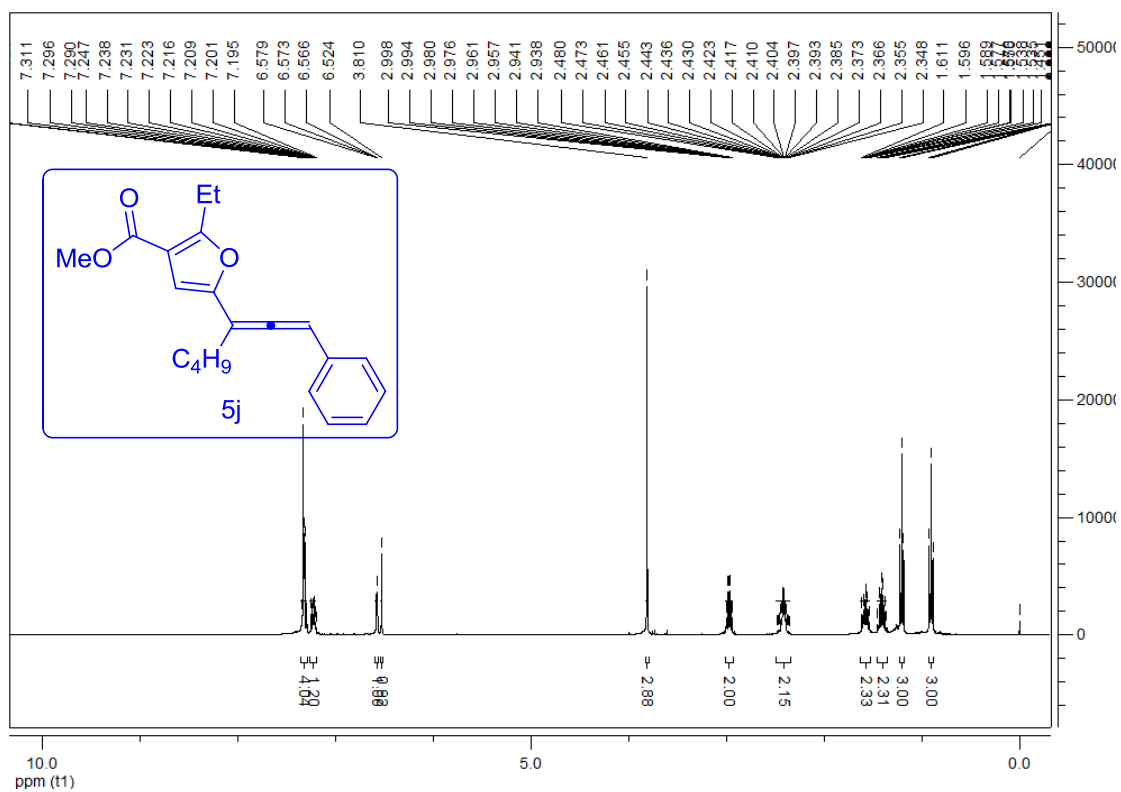
Methyl 2-methyl-5-(1-phenylhepta-1,2-dien-3-yl)furan-3-carboxylate (5h)



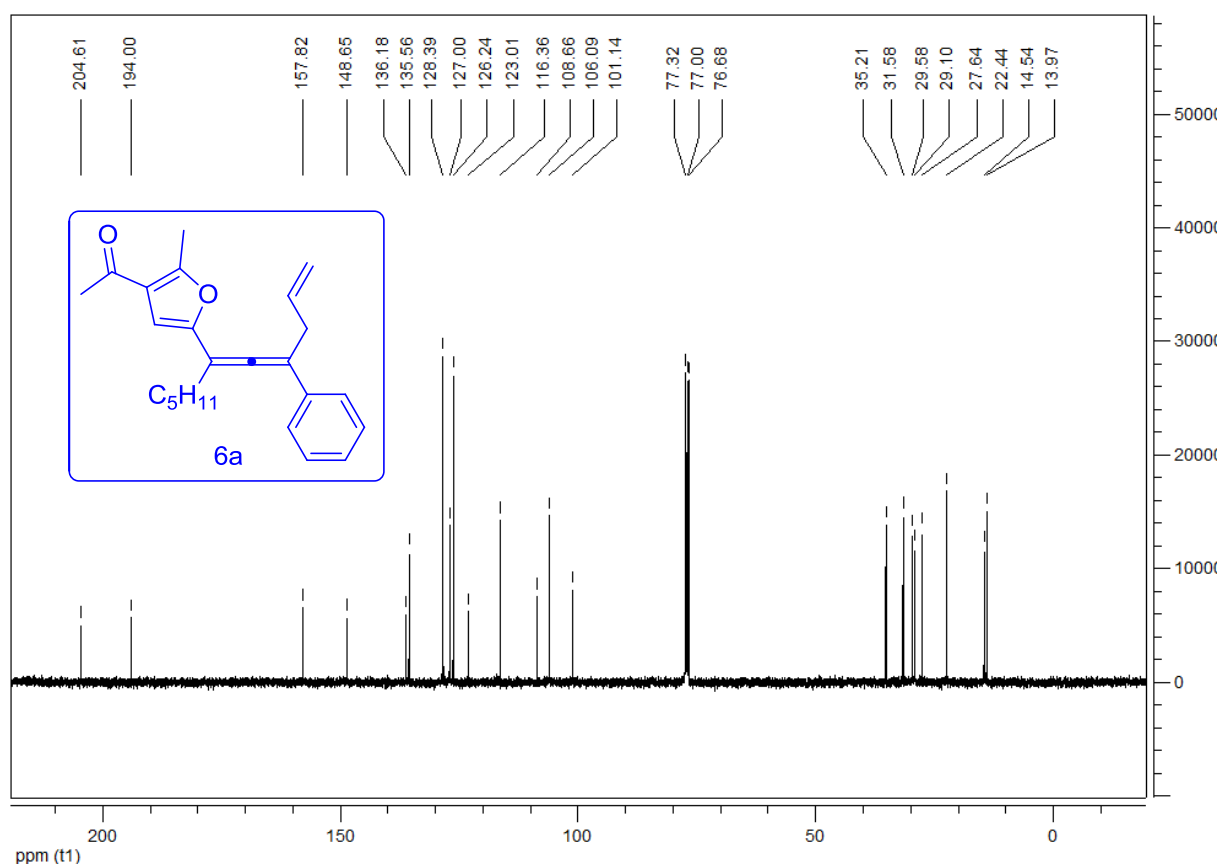
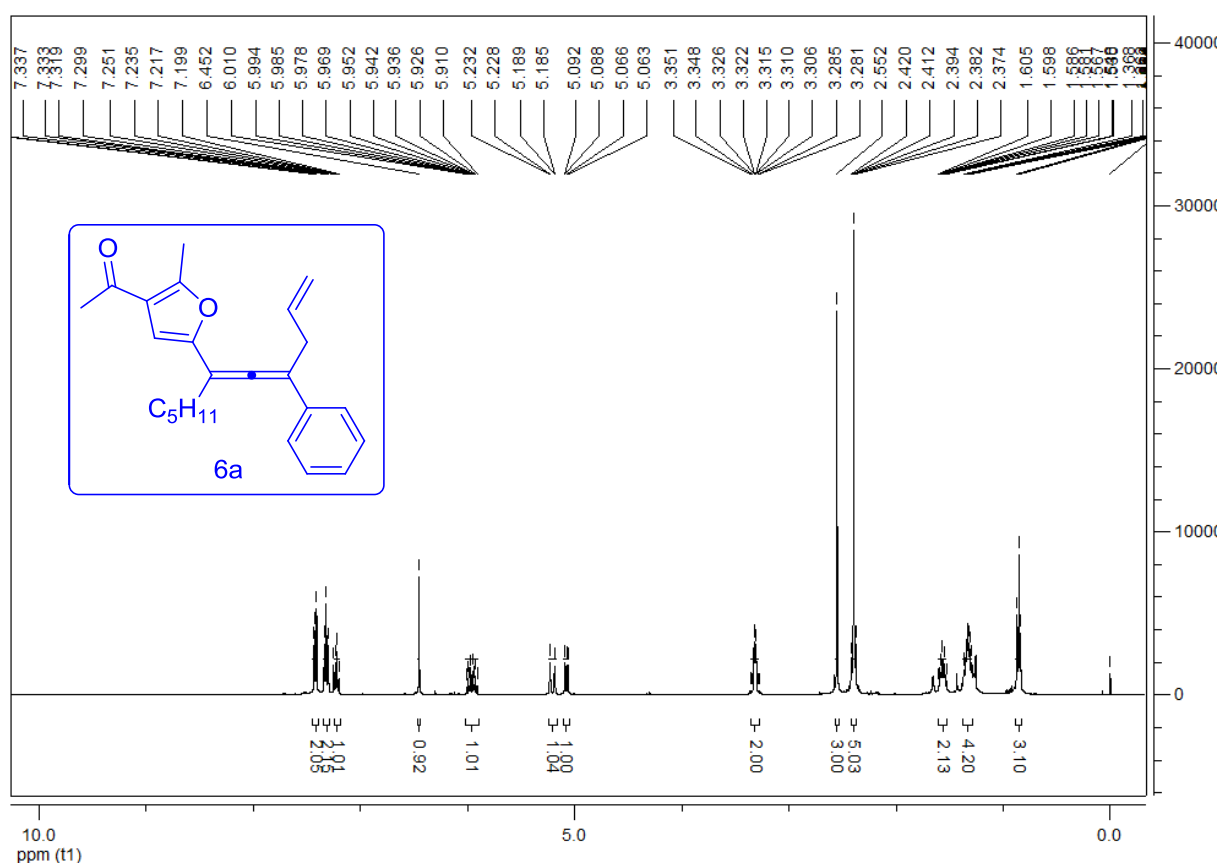
***tert*-Butyl 2-methyl-5-(1-phenylhepta-1,2-dien-3-yl)furan-3-carboxylate (5i)**



Methyl 2-ethyl-5-(1-phenylhepta-1,2-dien-3-yl)furan-3-carboxylate (5j)



1-(2-methyl-5-(4-phenylundeca-1,4,5-trien-6-yl)furan-3-yl)ethanone (6a)



Chemical structure of compound **6b** is shown in the inset:

CC(=O)C1=CC=C(C=C1)C2=CC(=C(C=C2)OC(=C(C)C)C=C(C)C3=CC=C(C=C3)C

6b

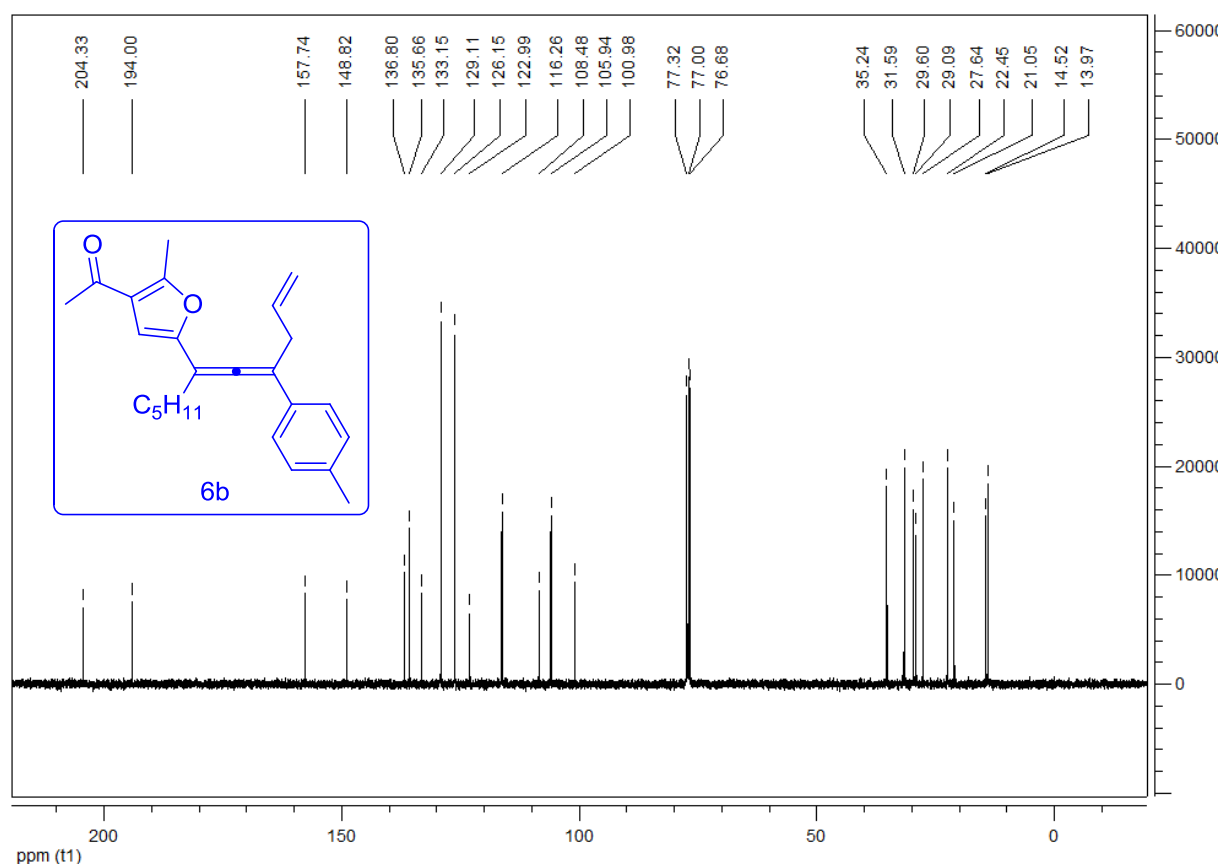
¹H NMR spectrum (CDCl₃) of compound **6b** is displayed below the structure. The x-axis represents the chemical shift in ppm (t1), ranging from 0.0 to 10.0. The y-axis represents the intensity, with a scale marker at 5000. The spectrum shows several peaks, with integrations provided for the main signals.

Chemical shifts (ppm) listed on the right side of the spectrum:

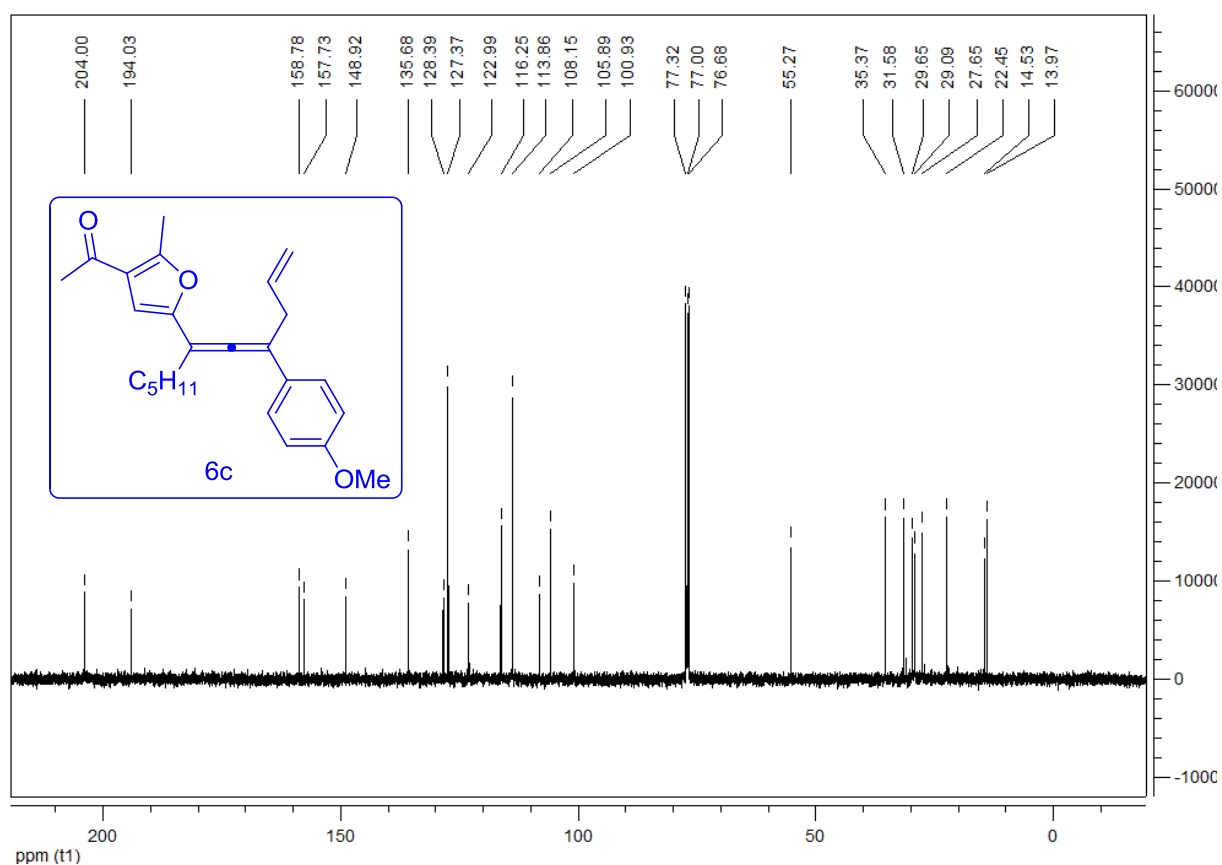
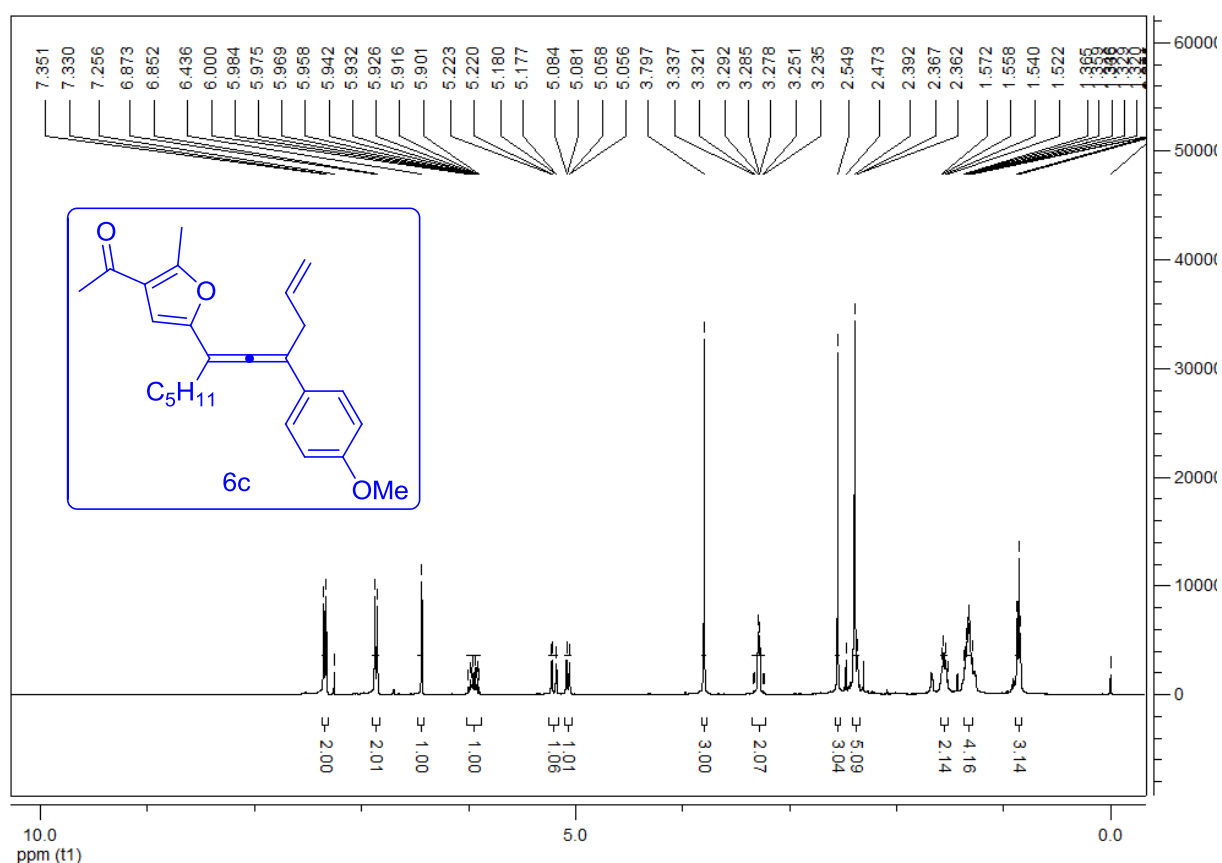
- 7.319, 7.298, 7.246, 7.137, 7.117, 6.438, 6.003, 5.987, 5.977, 5.971, 5.961, 5.944, 5.935, 5.928, 5.919, 5.903, 5.222, 5.218, 5.179, 5.175, 5.080, 5.077, 5.055, 5.052, 3.305, 3.302, 3.294, 3.290, 3.286, 3.245, 2.411, 2.402, 2.389, 2.372, 2.365, 2.329, 1.599, 1.593, 1.579, 1.576, 1.561, 1.542, 1.524, 1.388, 1.361, 1.346, 1.320, 1.320.

Integration values (bottom of the spectrum):

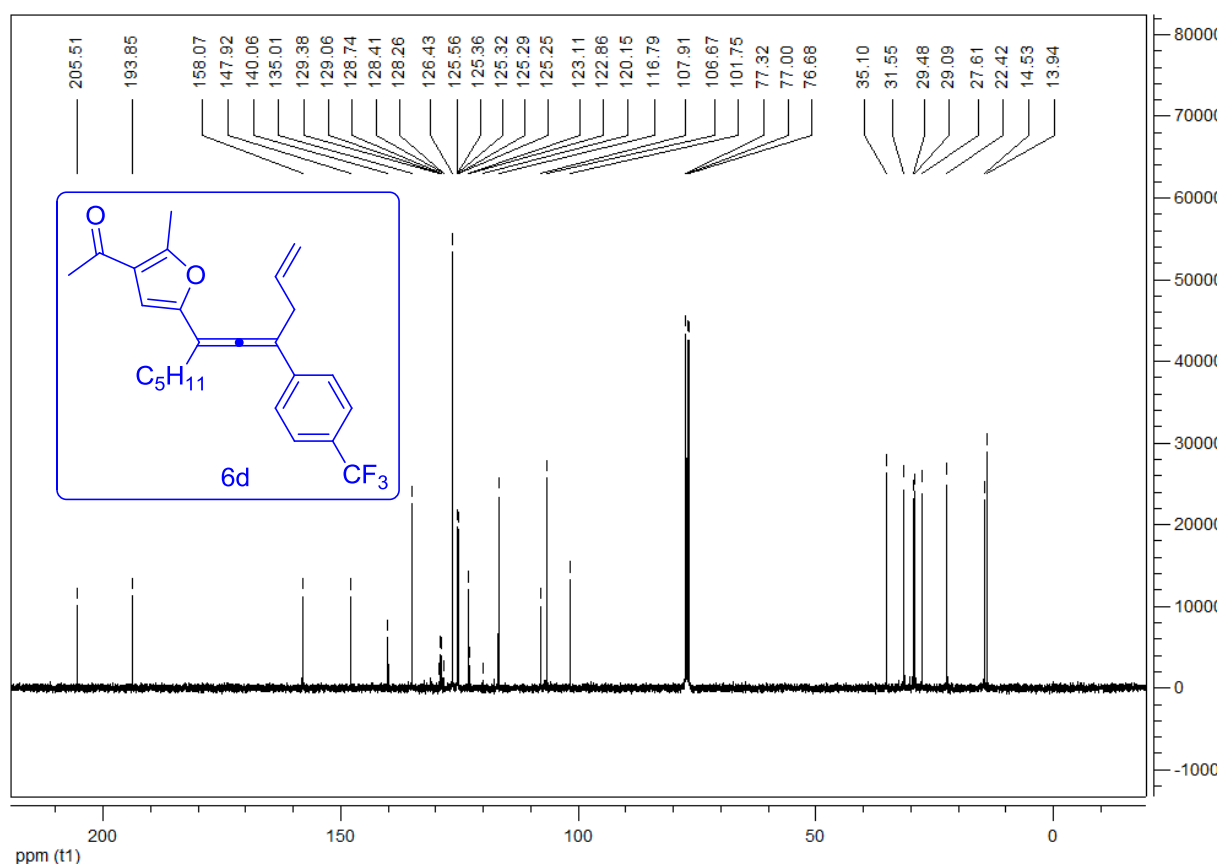
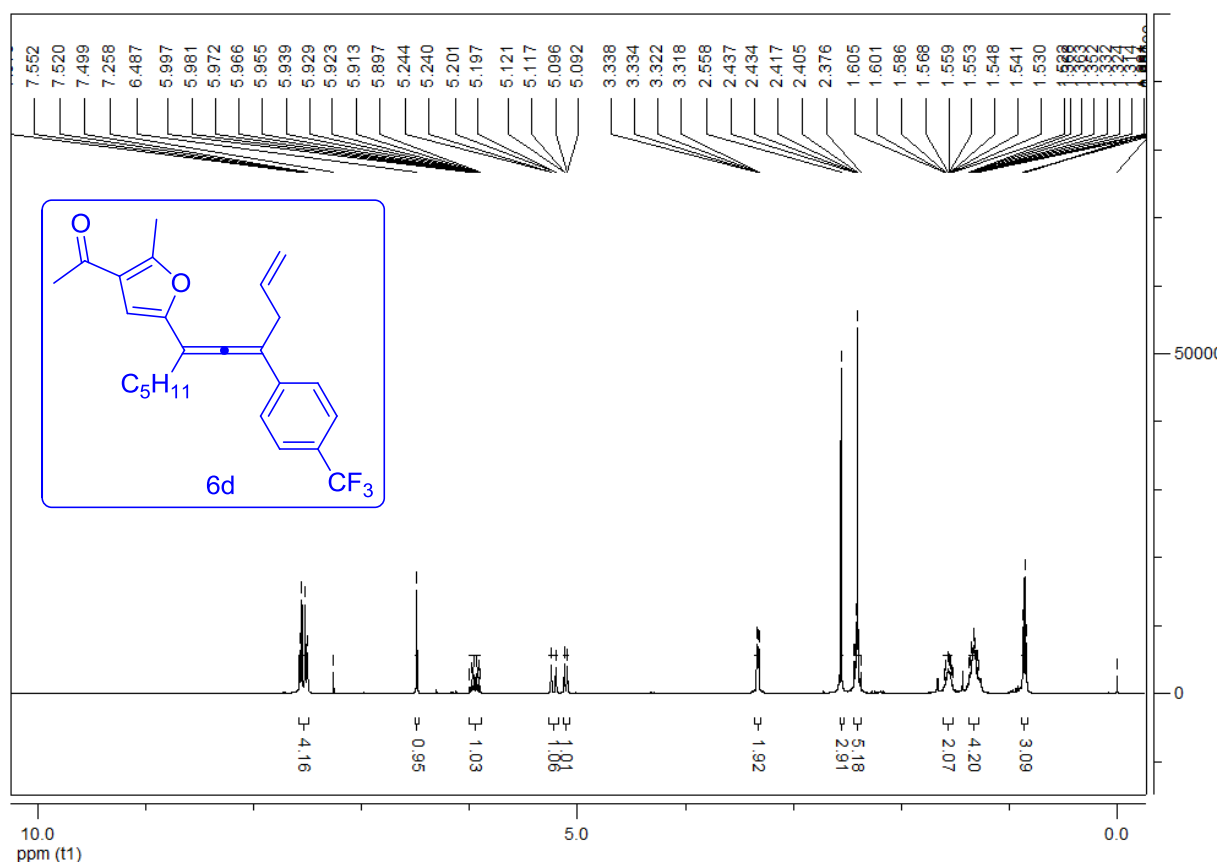
- 2.14, 2.09, 1.00, 1.04, 1.08, 1.95, 3.00, 3.28, 2.07, 4.05, 3.35.



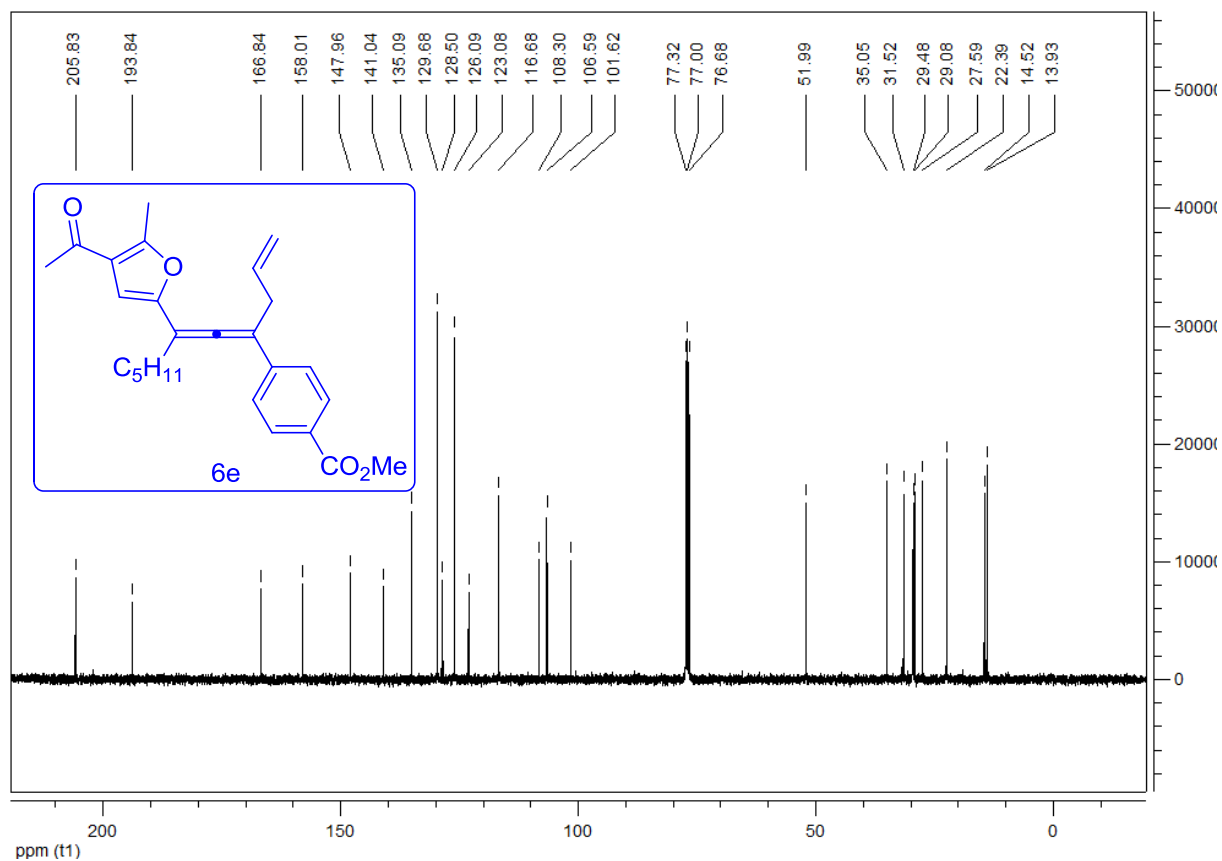
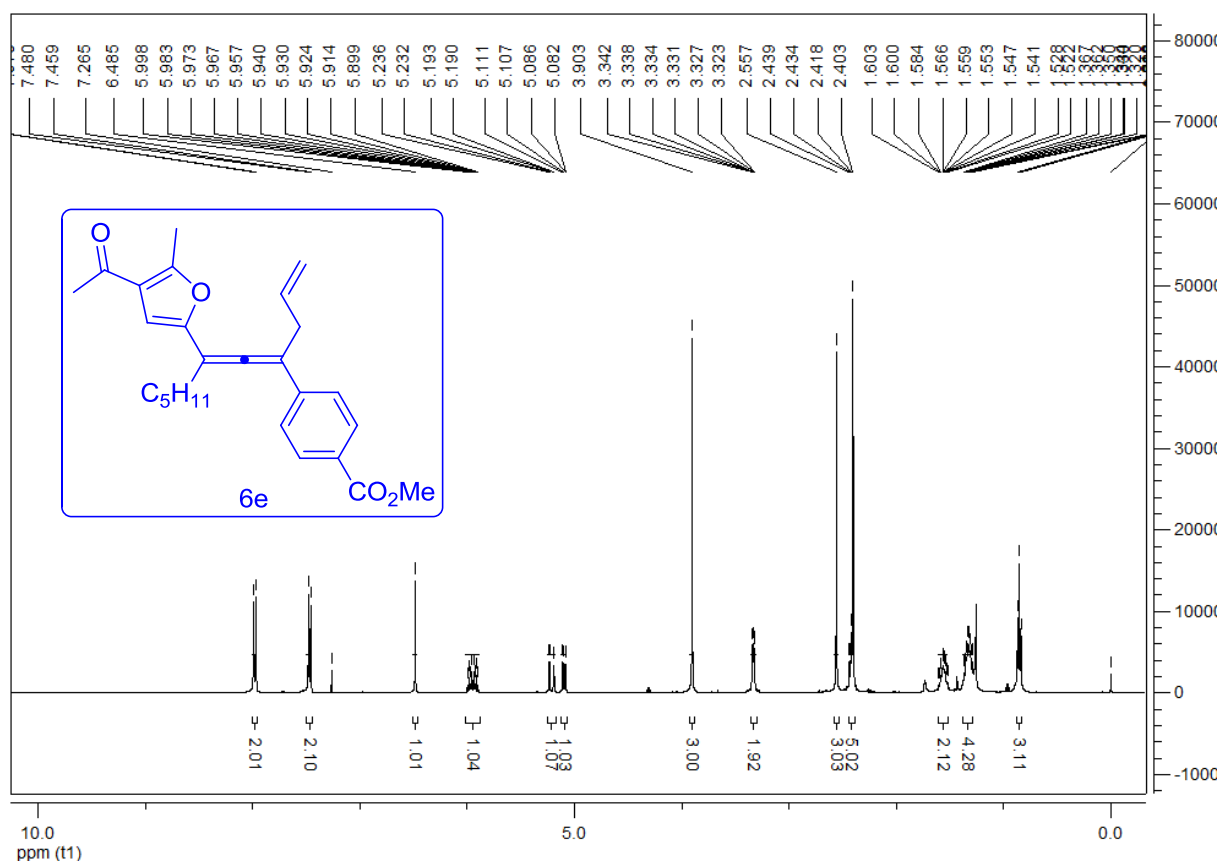
1-(5-(4-(4-methoxyphenyl)undeca-1,4,5-trien-6-yl)-2-methylfuran-3-yl)ethanone (6c)



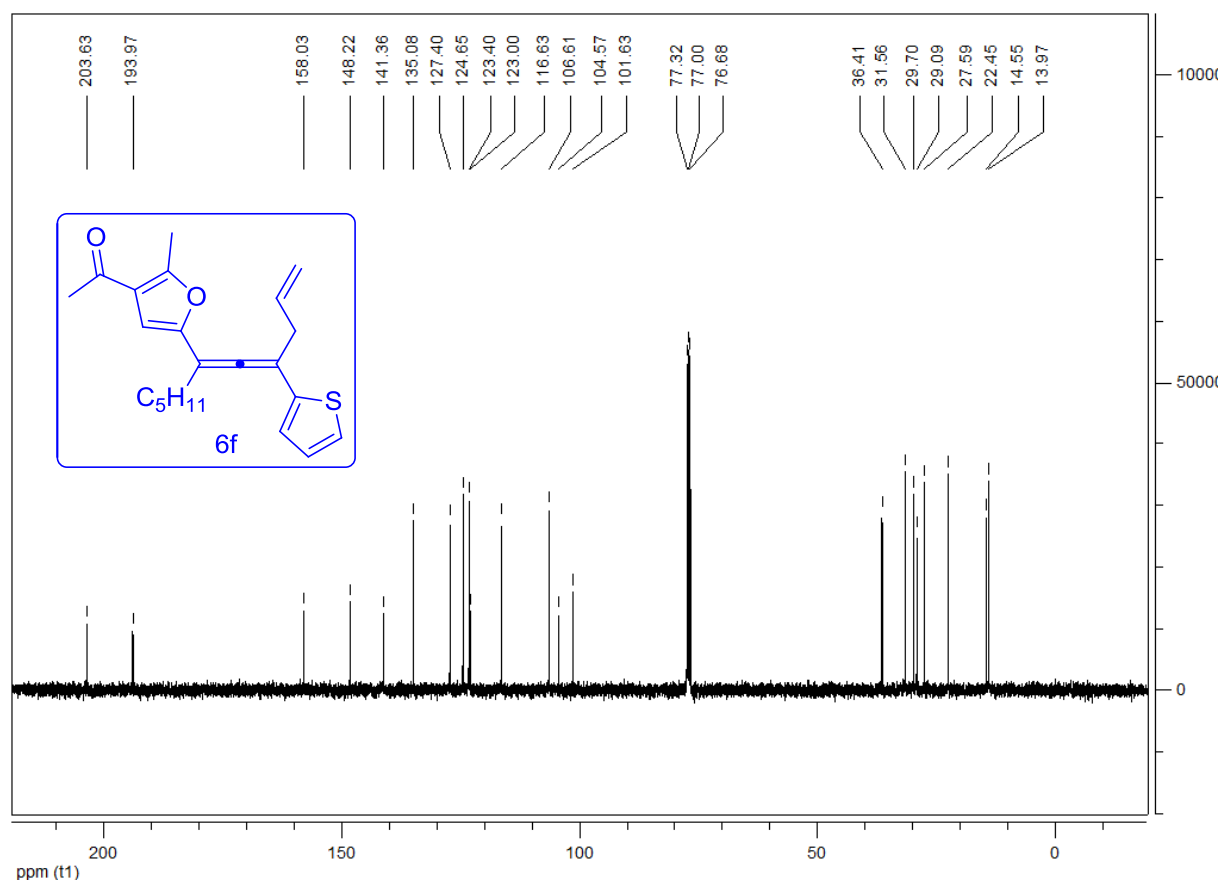
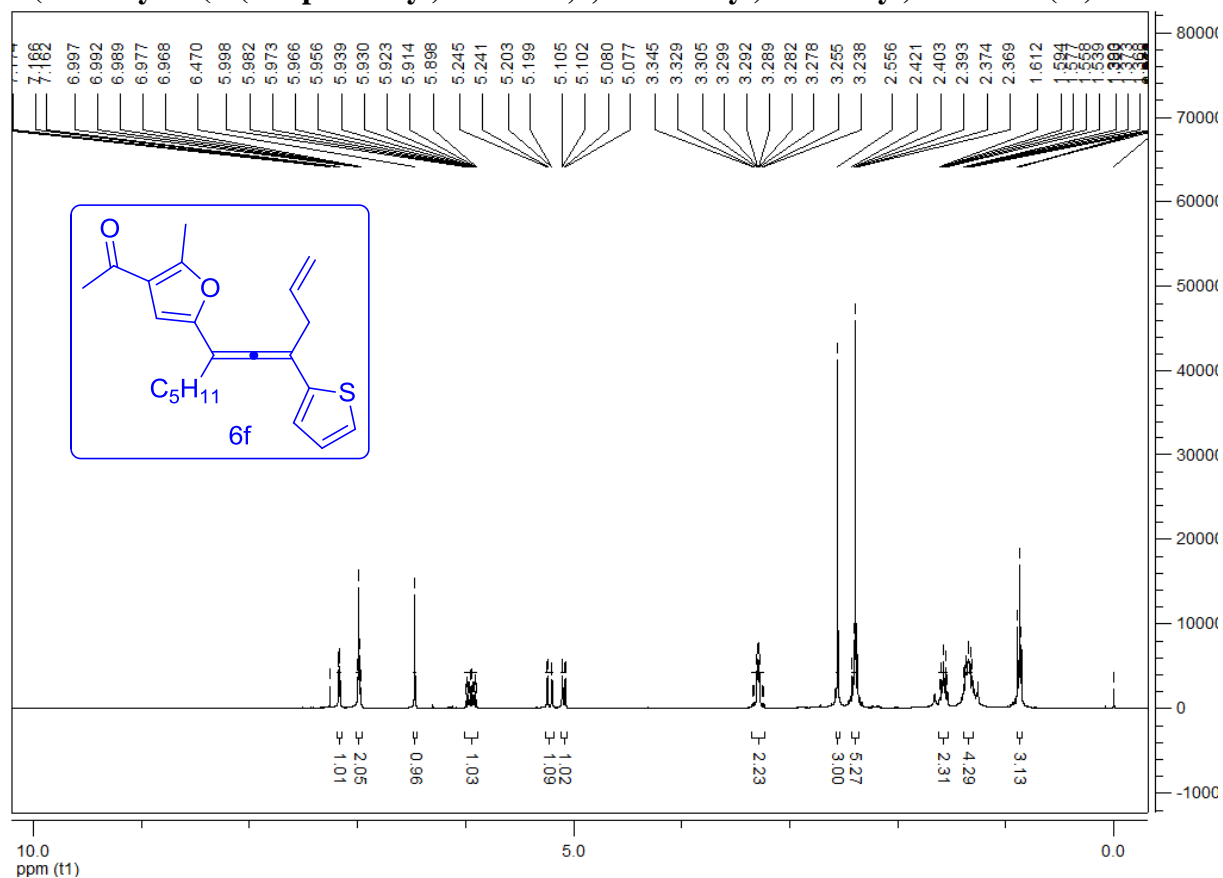
**1-(2-methyl-5-(4-(4-(trifluoromethyl)phenyl)undeca-1,4,5-trien-6-yl)furan-3-yl)ethanone
(6d)**



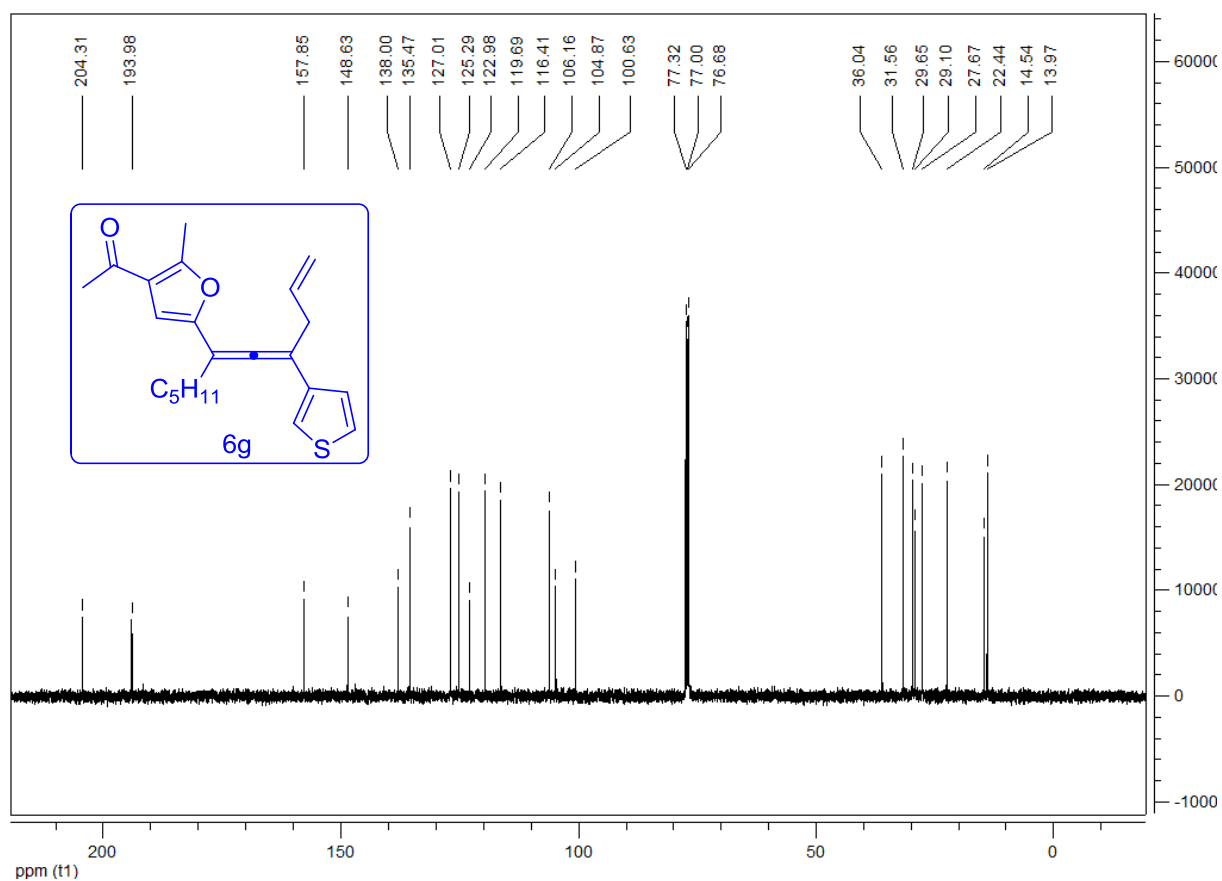
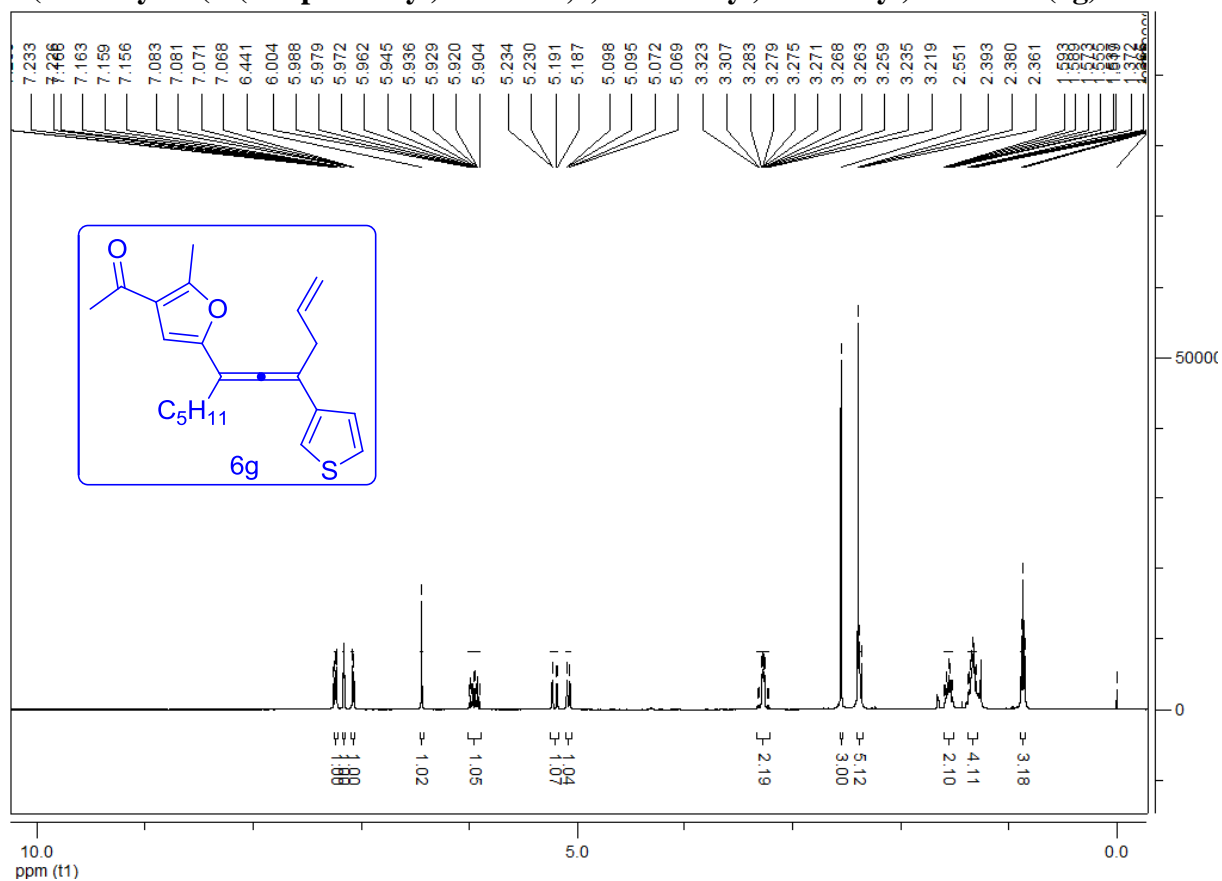
methyl 4-(6-(4-acetyl-5-methylfuran-2-yl)undeca-1,4,5-trien-4-yl)benzoate (6e)



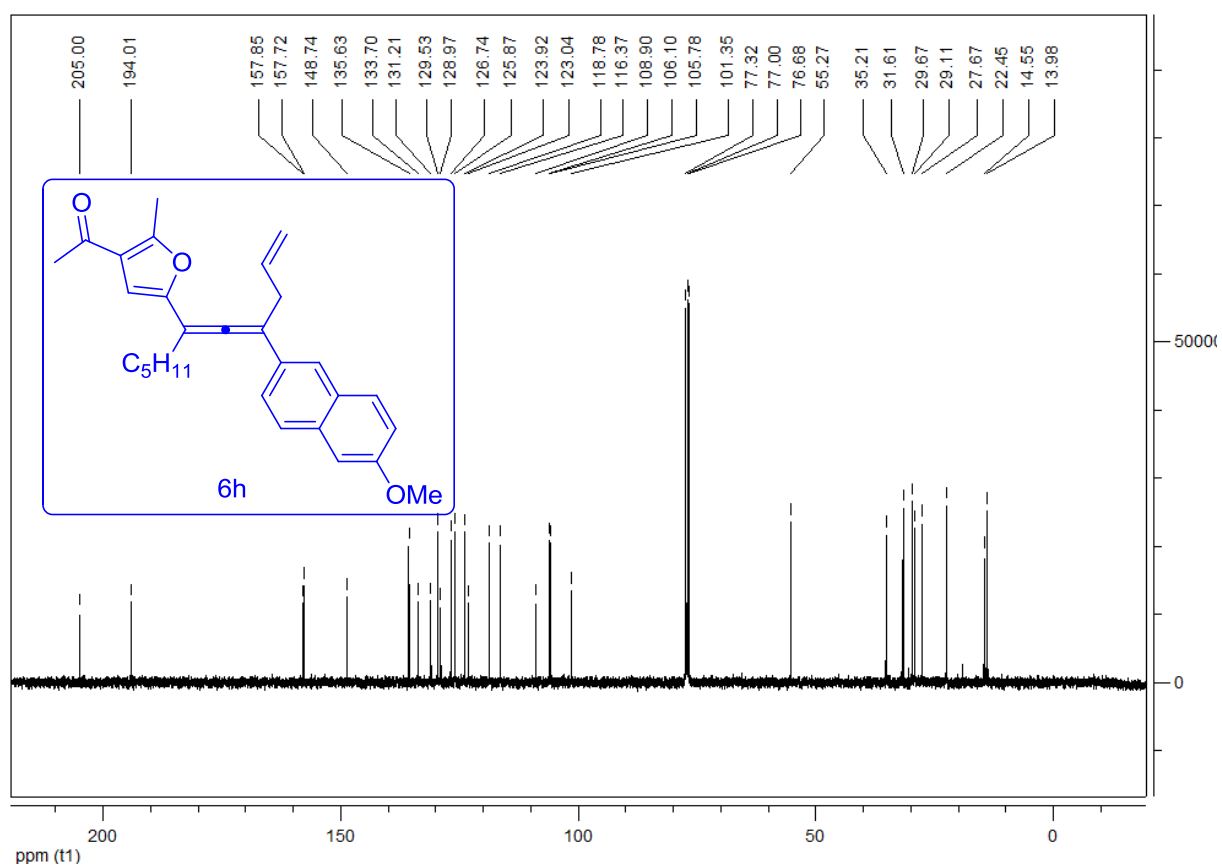
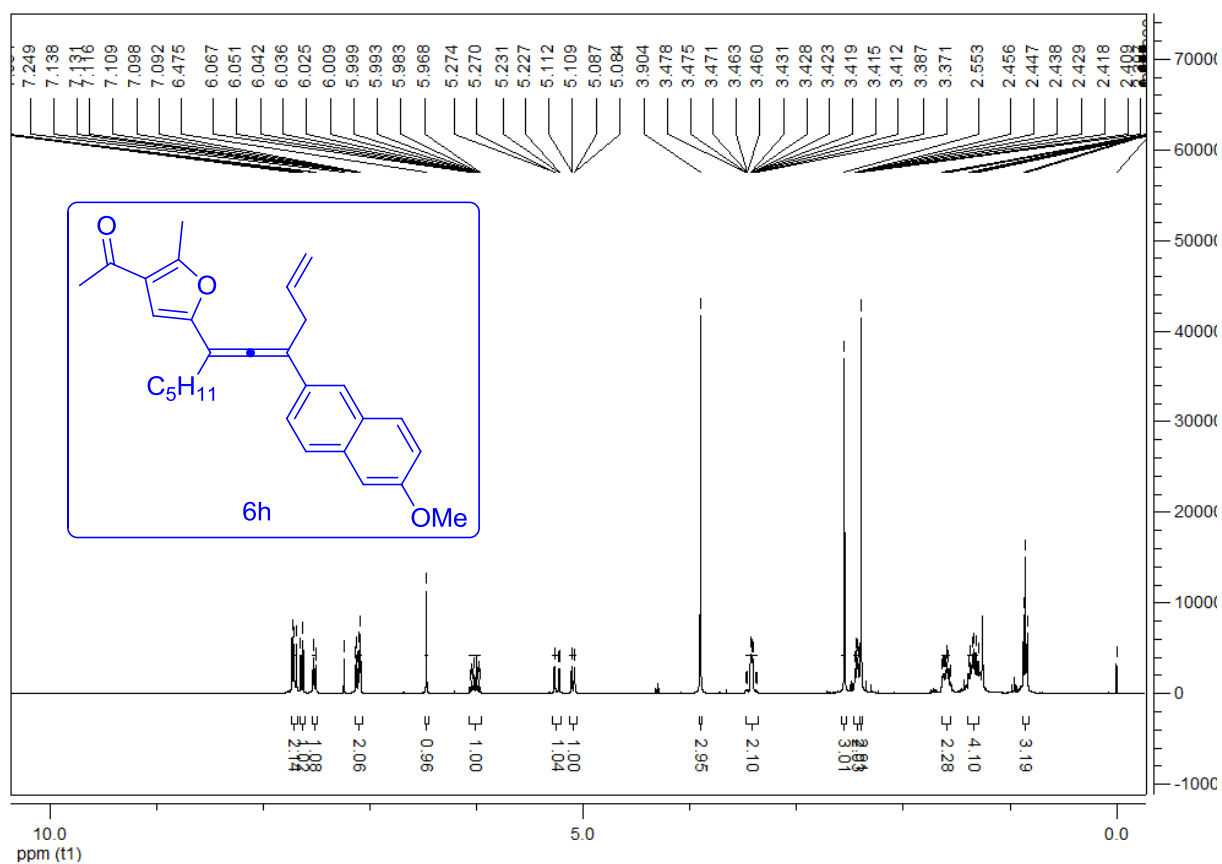
1-(2-methyl-5-(4-(thiophen-2-yl)undeca-1,4,5-trien-6-yl)furan-3-yl)ethanone (6f)



1-(2-methyl-5-(4-(thiophen-3-yl)undeca-1,4,5-trien-6-yl)furan-3-yl)ethanone (6g)



1-(5-(4-(6-methoxynaphthalen-2-yl)undeca-1,4,5-trien-6-yl)-2-methylfuran-3-yl)ethanone (6h)

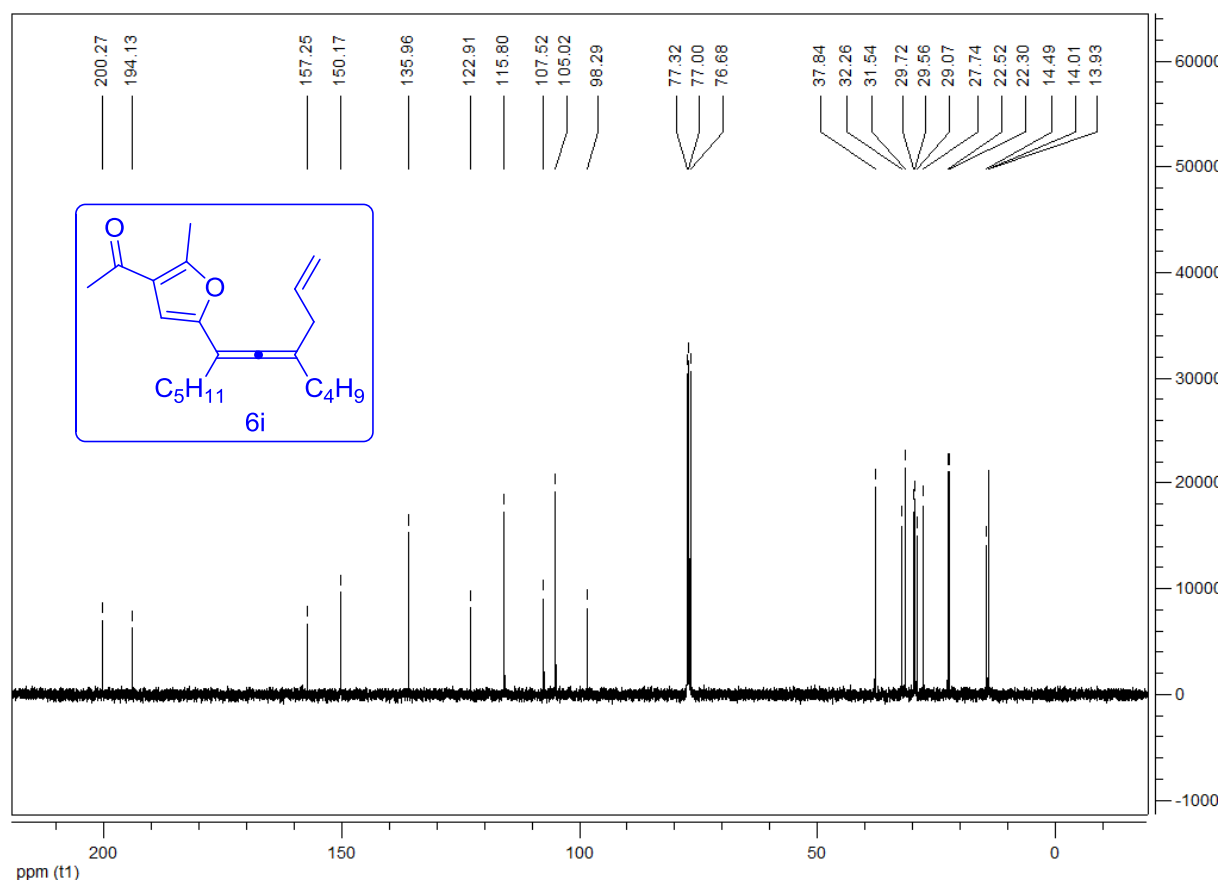


Chemical structure of compound **6i** is shown in the inset:

CCCCC/C=C/C(C1=CC(=C(C=C1)C(=O)C)C)CO

¹H NMR spectrum (400 MHz, CDCl₃):

Chemical Shift (ppm)	Integration
~7.265	0.93
~5.874	1.01
~4.807	1.88
~2.100	2.14
~1.200	6.02



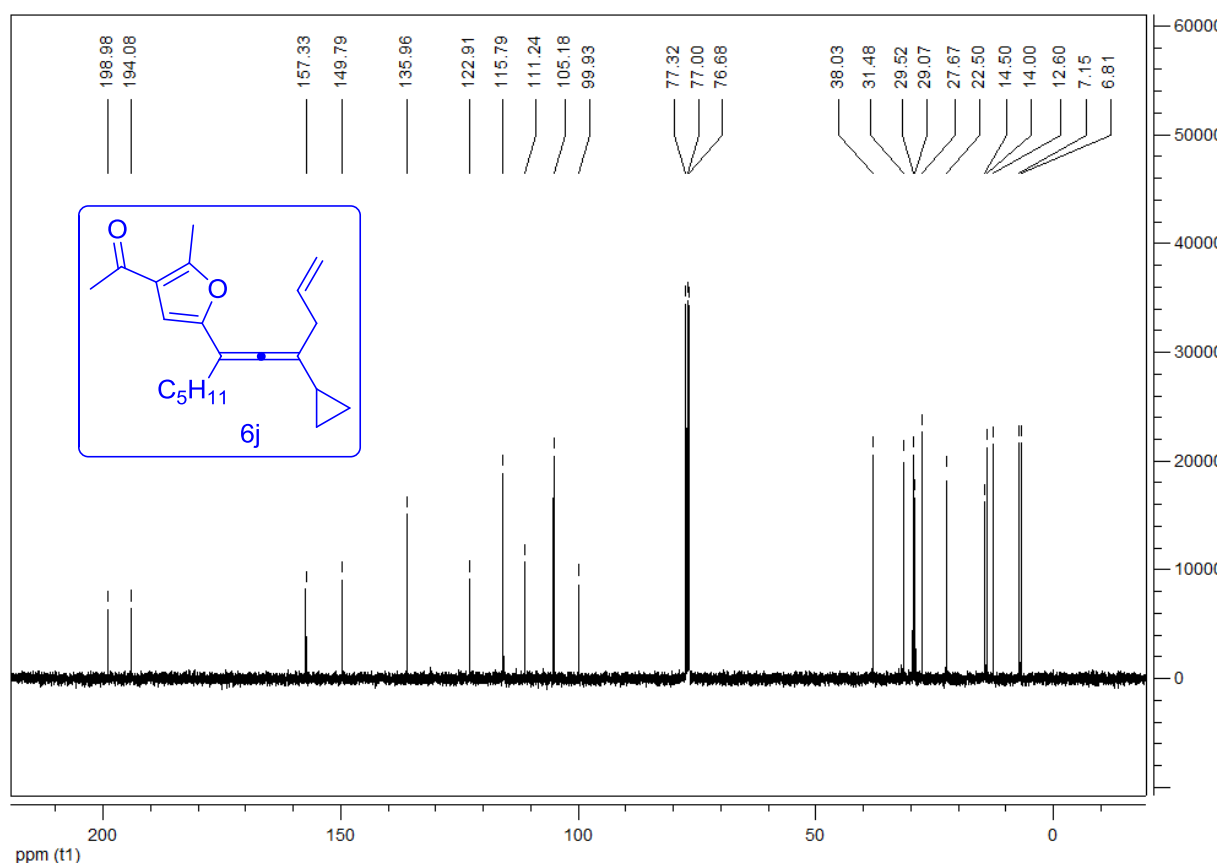
Chemical structure of compound **6j** is shown in the inset:

CC(=O)c1cc(C)oc1C=C(C2CC2)CC=C(CCC)CCC

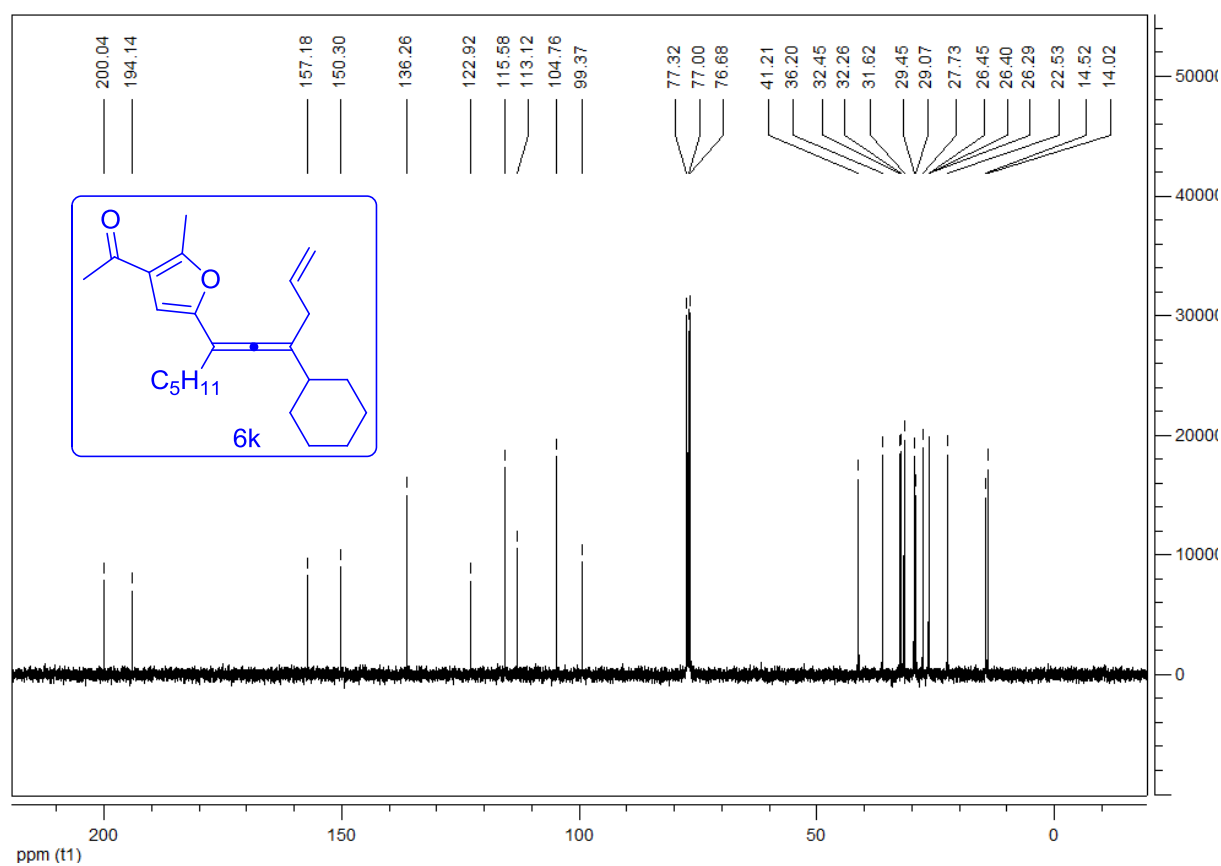
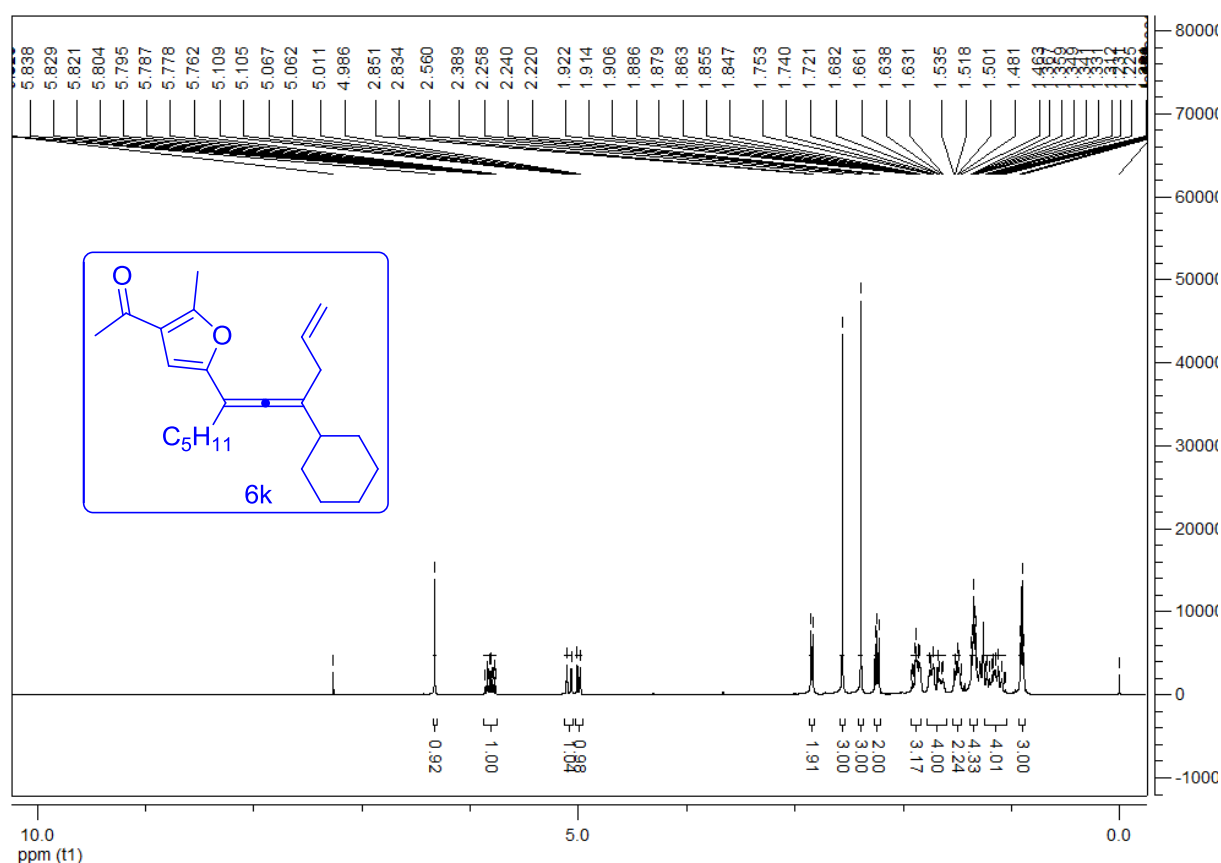
1H NMR spectrum (CDCl₃) data:

Chemical Shift (ppm)	Integration
~9.8	1.00
~5.8	1.03
~5.2	1.06
~2.1	2.00
~1.9	2.13
~1.8	3.00
~1.7	2.98
~1.6	2.13
~1.5	3.16
~1.4	2.07
~1.3	1.18
~1.2	4.07
~1.1	3.16
~1.0	2.14
~0.9	2.07
~0.8	1.18
~0.7	4.07
~0.6	3.16
~0.5	2.14
~0.4	2.07
~0.3	1.18
~0.2	4.07
~0.1	3.16
~0.0	2.14

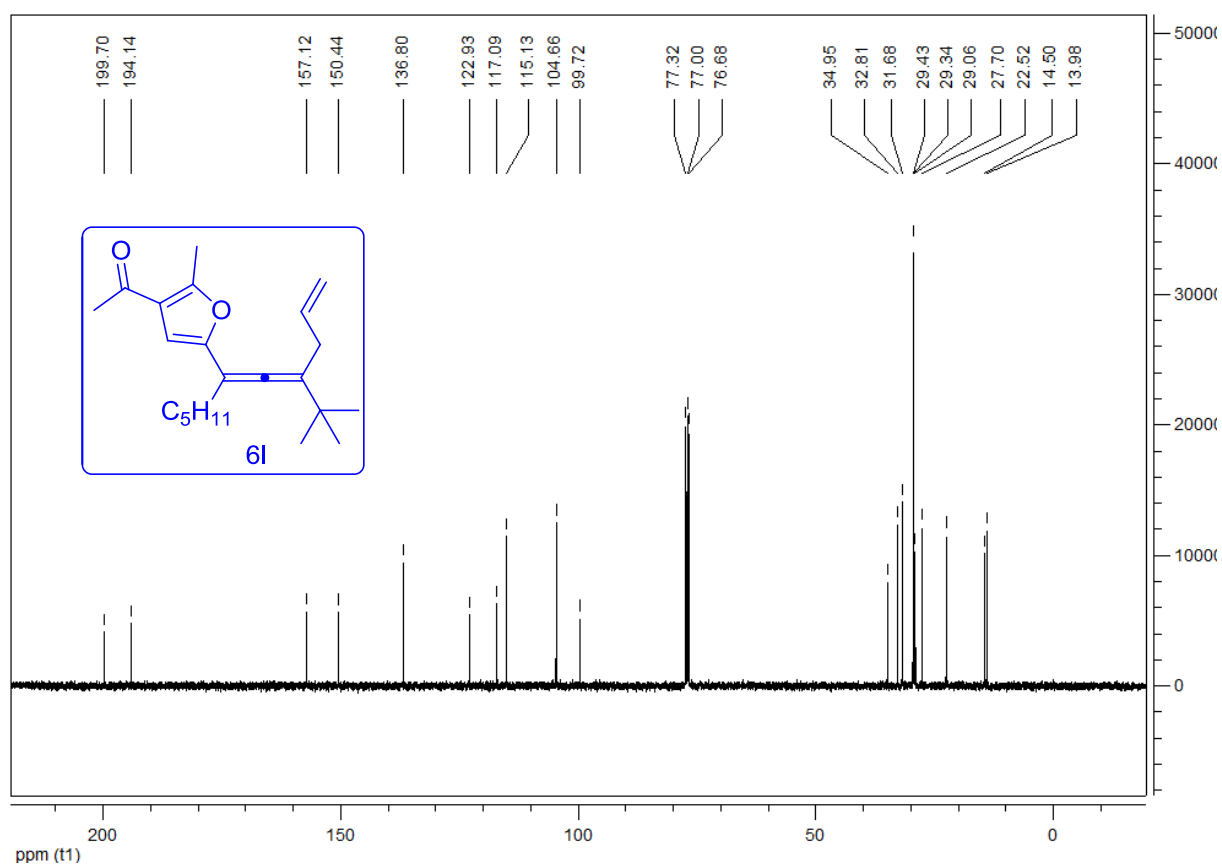
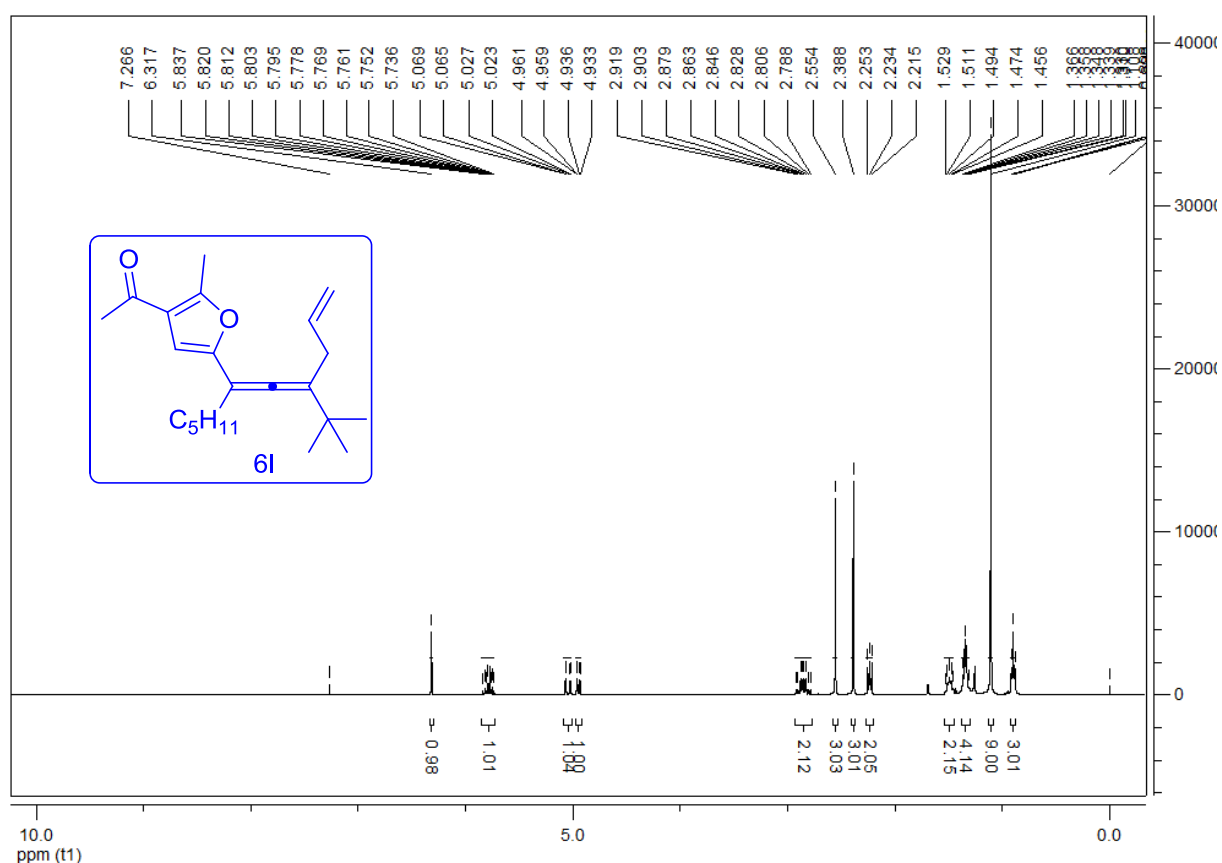
Chemical shifts (ppm) listed on the right side of the spectrum (from top to bottom): 9.892, 5.892, 5.883, 5.866, 5.857, 5.849, 5.841, 5.824, 5.163, 5.159, 5.120, 5.116, 5.044, 5.041, 5.019, 5.016, 2.938, 2.936, 2.922, 2.919, 2.555, 2.385, 2.238, 2.220, 2.201, 1.493, 1.475, 1.457, 1.439, 1.432, 1.421, 1.354, 1.344, 1.336, 1.327, 1.318, 1.241, 1.233, 1.220, 1.212, 1.208, 1.200, 1.193, 1.187, 1.180, 1.172, 1.165, 1.158, 1.150, 1.143, 1.136, 1.129, 1.122, 1.115, 1.108, 1.101, 1.094, 1.087, 1.080, 1.073, 1.066, 1.059, 1.052, 1.045, 1.038, 1.031, 1.024, 1.017, 1.010, 1.003, 0.996, 0.989, 0.982, 0.975, 0.968, 0.961, 0.954, 0.947, 0.940, 0.933, 0.926, 0.919, 0.912, 0.905, 0.898, 0.891, 0.884, 0.877, 0.870, 0.863, 0.856, 0.849, 0.842, 0.835, 0.828, 0.821, 0.814, 0.807, 0.800, 0.793, 0.786, 0.779, 0.772, 0.765, 0.758, 0.751, 0.744, 0.737, 0.730, 0.723, 0.716, 0.709, 0.702, 0.695, 0.688, 0.681, 0.674, 0.667, 0.660, 0.653, 0.646, 0.639, 0.632, 0.625, 0.618, 0.611, 0.604, 0.597, 0.590, 0.583, 0.576, 0.569, 0.562, 0.555, 0.548, 0.541, 0.534, 0.527, 0.520, 0.513, 0.506, 0.499, 0.492, 0.485, 0.478, 0.471, 0.464, 0.457, 0.450, 0.443, 0.436, 0.429, 0.422, 0.415, 0.408, 0.401, 0.394, 0.387, 0.380, 0.373, 0.366, 0.359, 0.352, 0.345, 0.338, 0.331, 0.324, 0.317, 0.310, 0.303, 0.296, 0.289, 0.282, 0.275, 0.268, 0.261, 0.254, 0.247, 0.240, 0.233, 0.226, 0.219, 0.212, 0.205, 0.198, 0.191, 0.184, 0.177, 0.170, 0.163, 0.156, 0.149, 0.142, 0.135, 0.128, 0.121, 0.114, 0.107, 0.100, 0.093, 0.086, 0.079, 0.072, 0.065, 0.058, 0.051, 0.044, 0.037, 0.030, 0.023, 0.016, 0.009, 0.002.



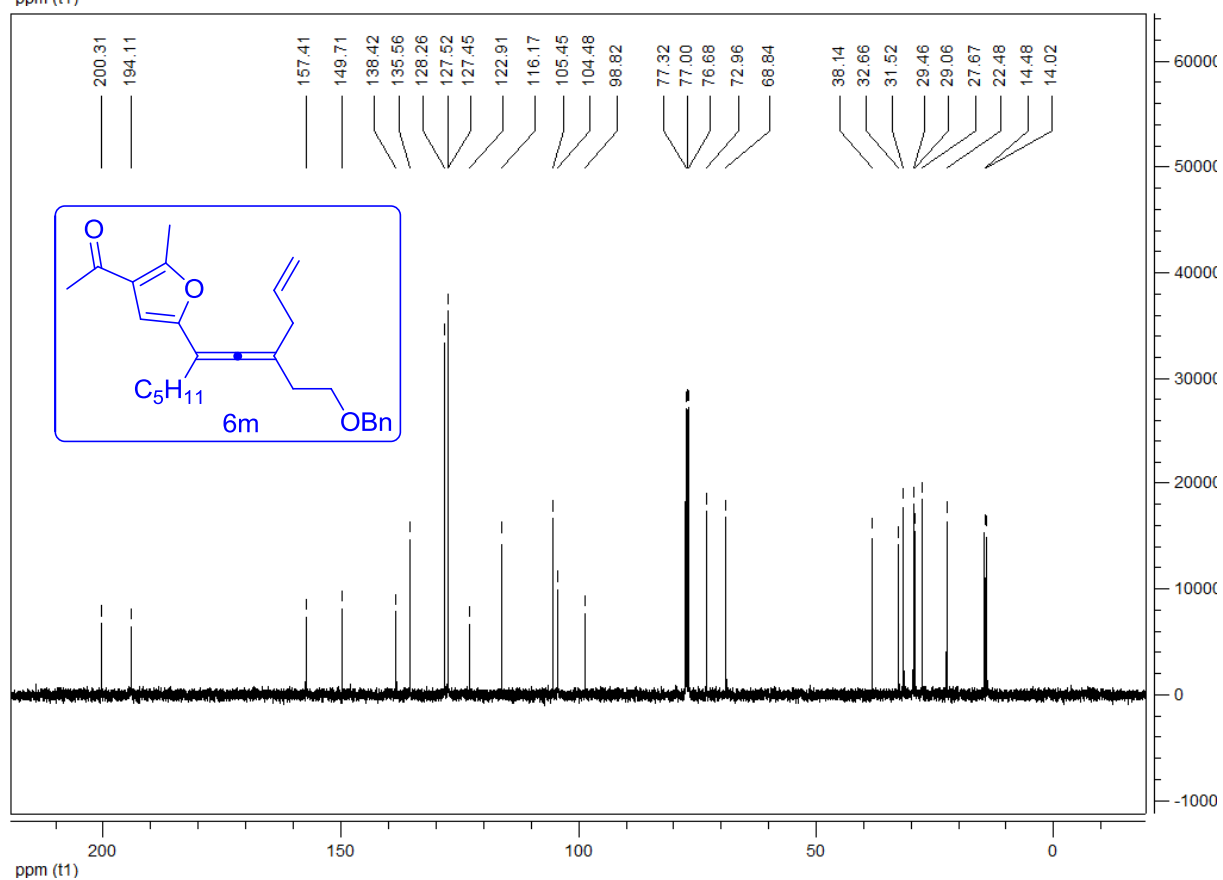
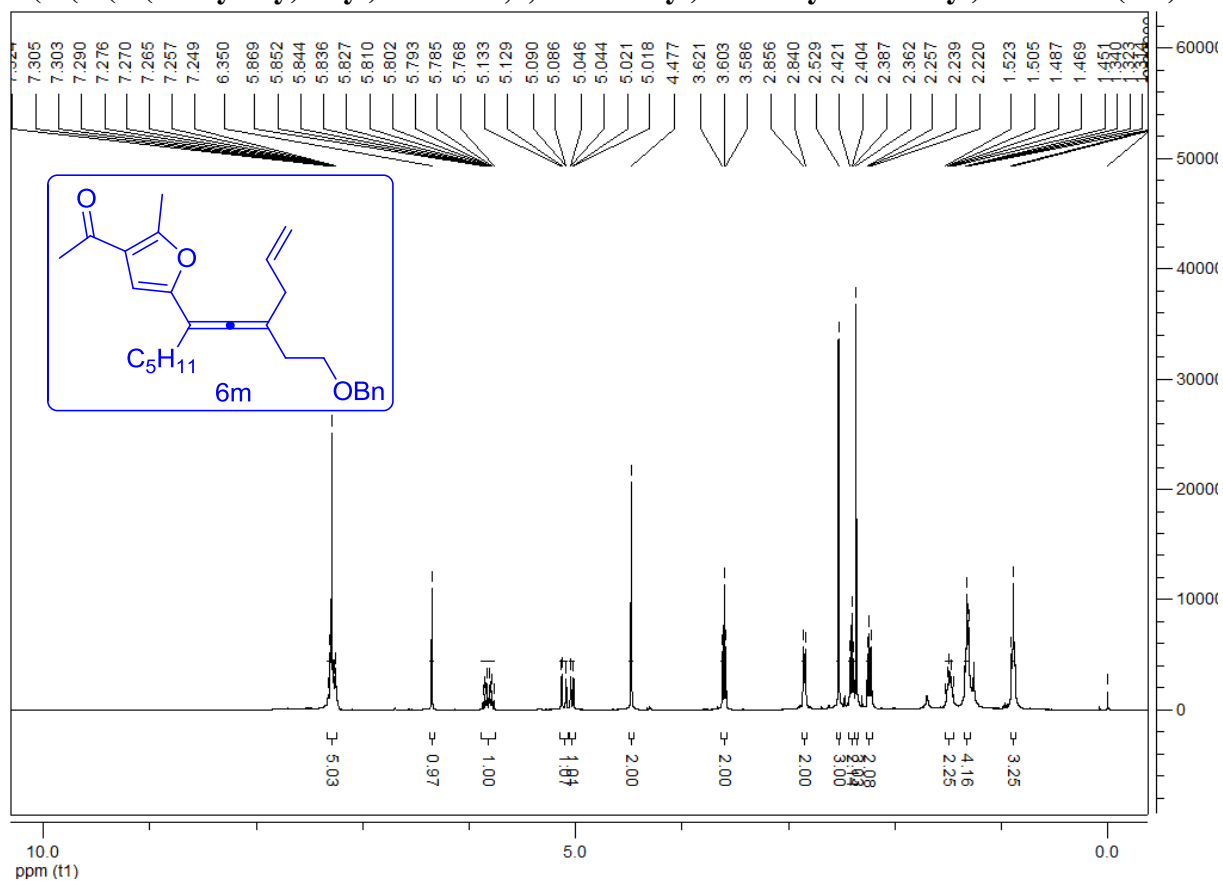
1-(5-(4-cyclohexylundeca-1,4,5-trien-6-yl)-2-methylfuran-3-yl)ethanone (6k)



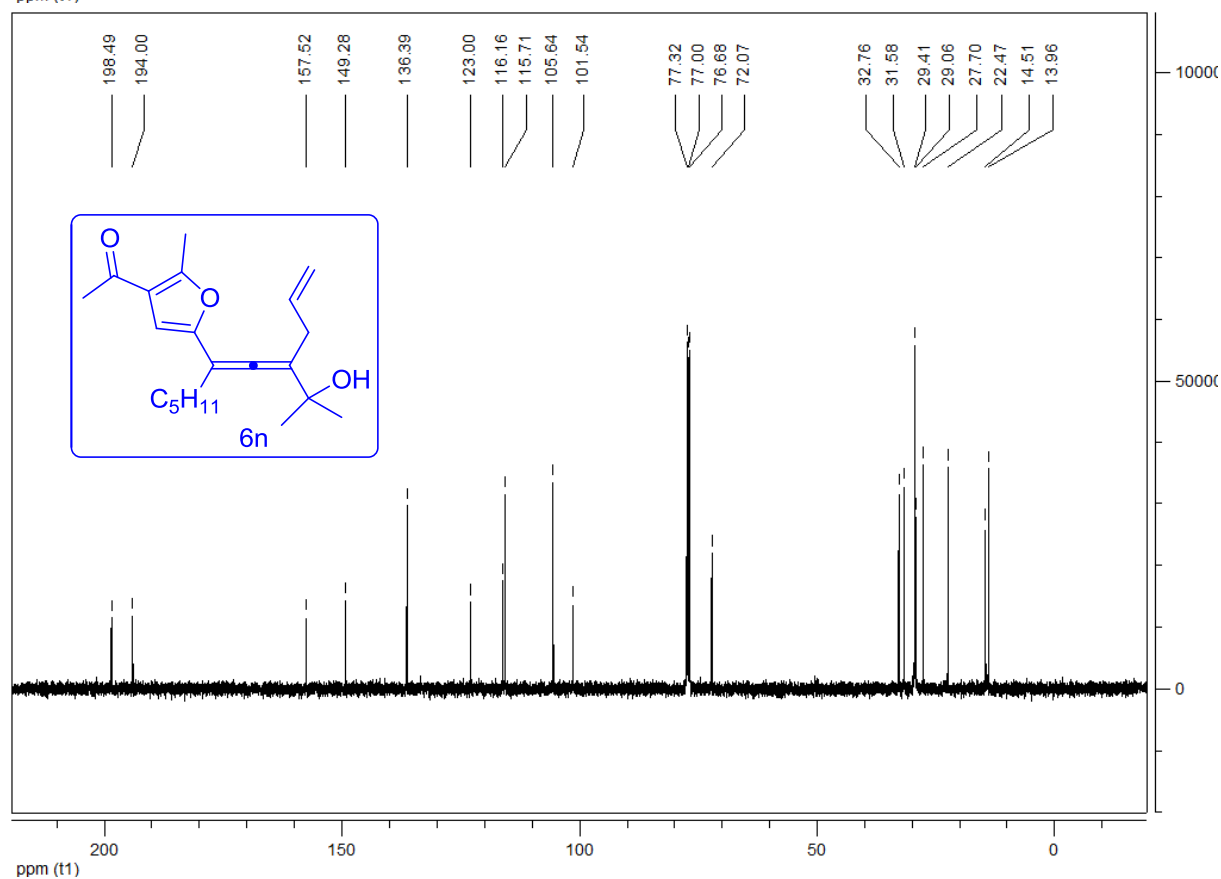
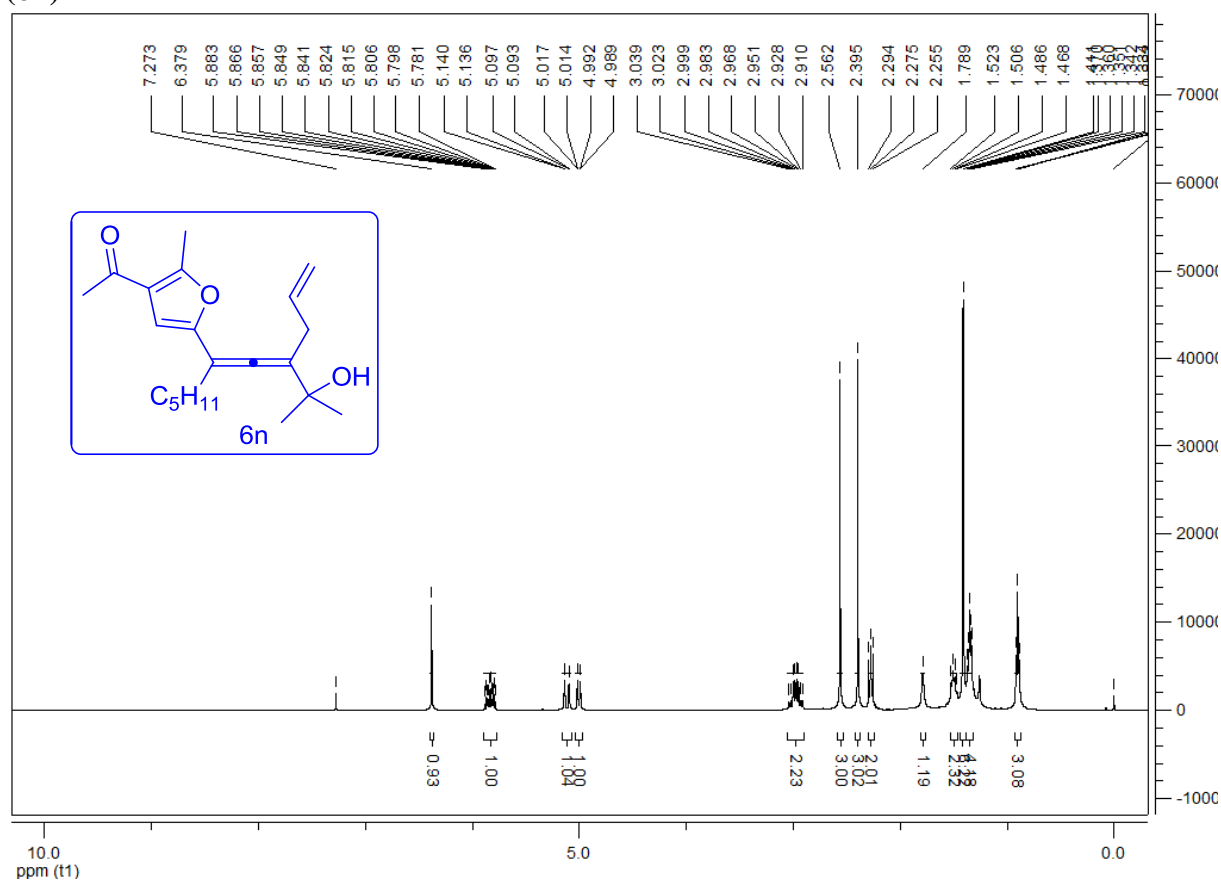
1-(5-(4-(tert-butyl)undeca-1,4,5-trien-6-yl)-2-methylfuran-3-yl)ethanone (6l)



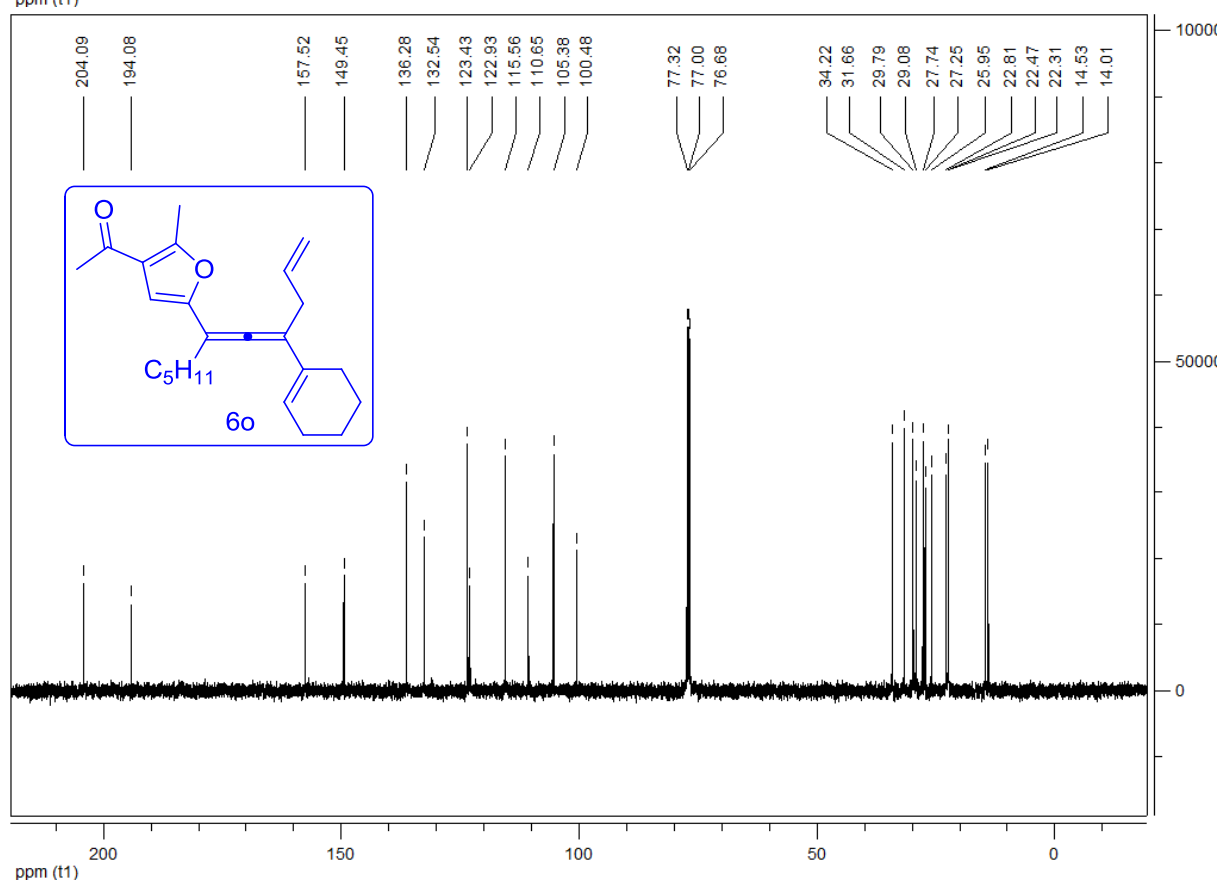
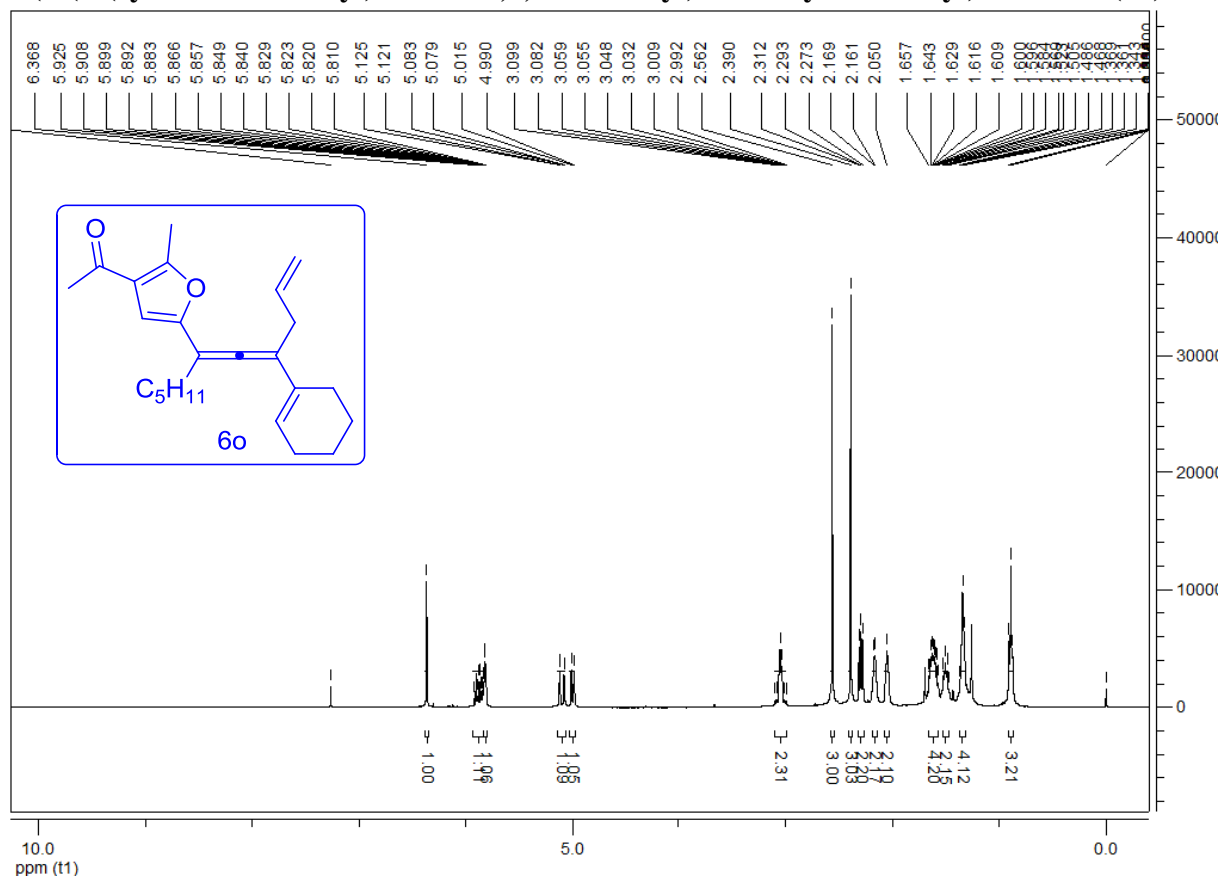
1-(5-(4-(2-(benzyloxy)ethyl)undeca-1,4,5-trien-6-yl)-2-methylfuran-3-yl)ethanone (6m)



**1-(5-(4-(2-hydroxypropan-2-yl)undeca-1,4,5-trien-6-yl)-2-methylfuran-3-yl)ethanone
(6n)**



1-(5-(4-(cyclohex-1-en-1-yl)undeca-1,4,5-trien-6-yl)-2-methylfuran-3-yl)ethanone (6o)

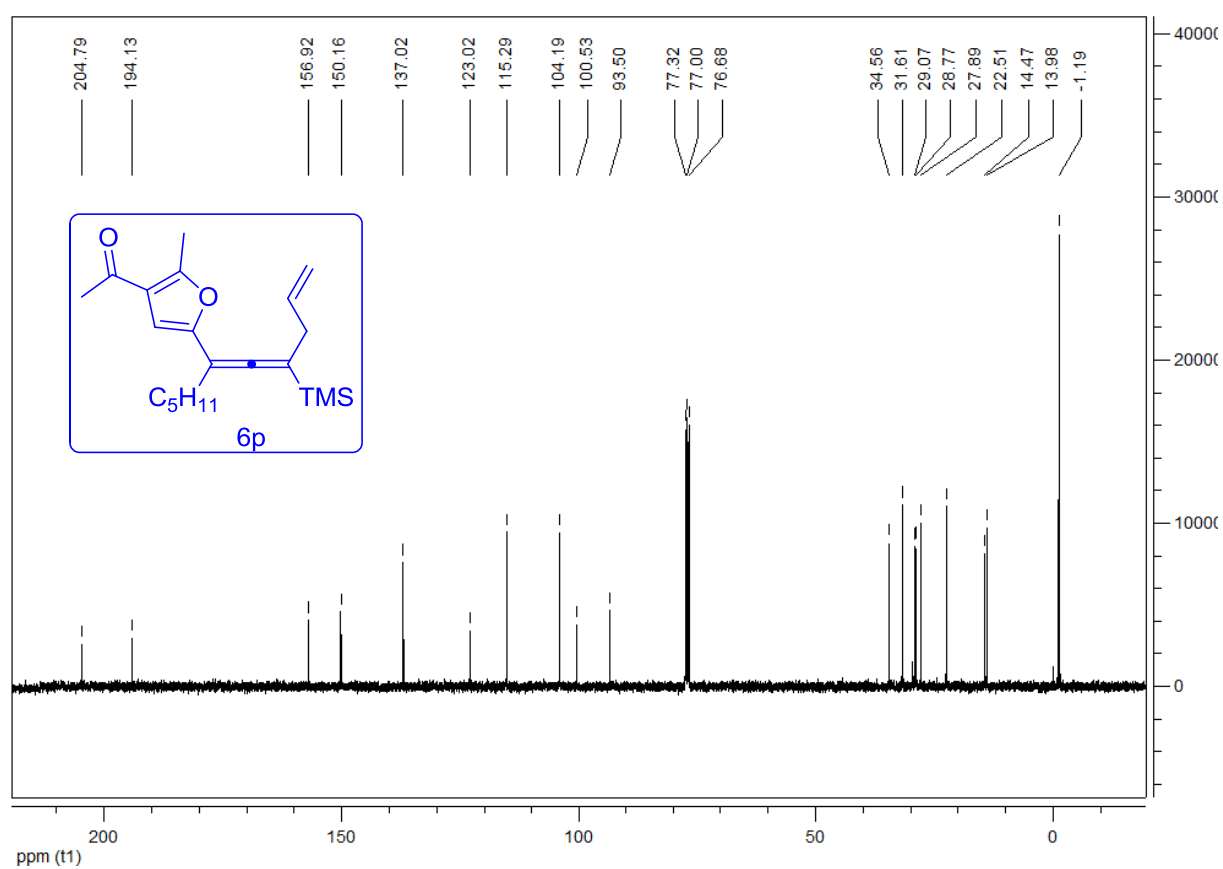


Chemical Structure of 6p: CC(C)C(=C(C1=CC(OC)=C(C1=O)C)C)C(C)(C)C

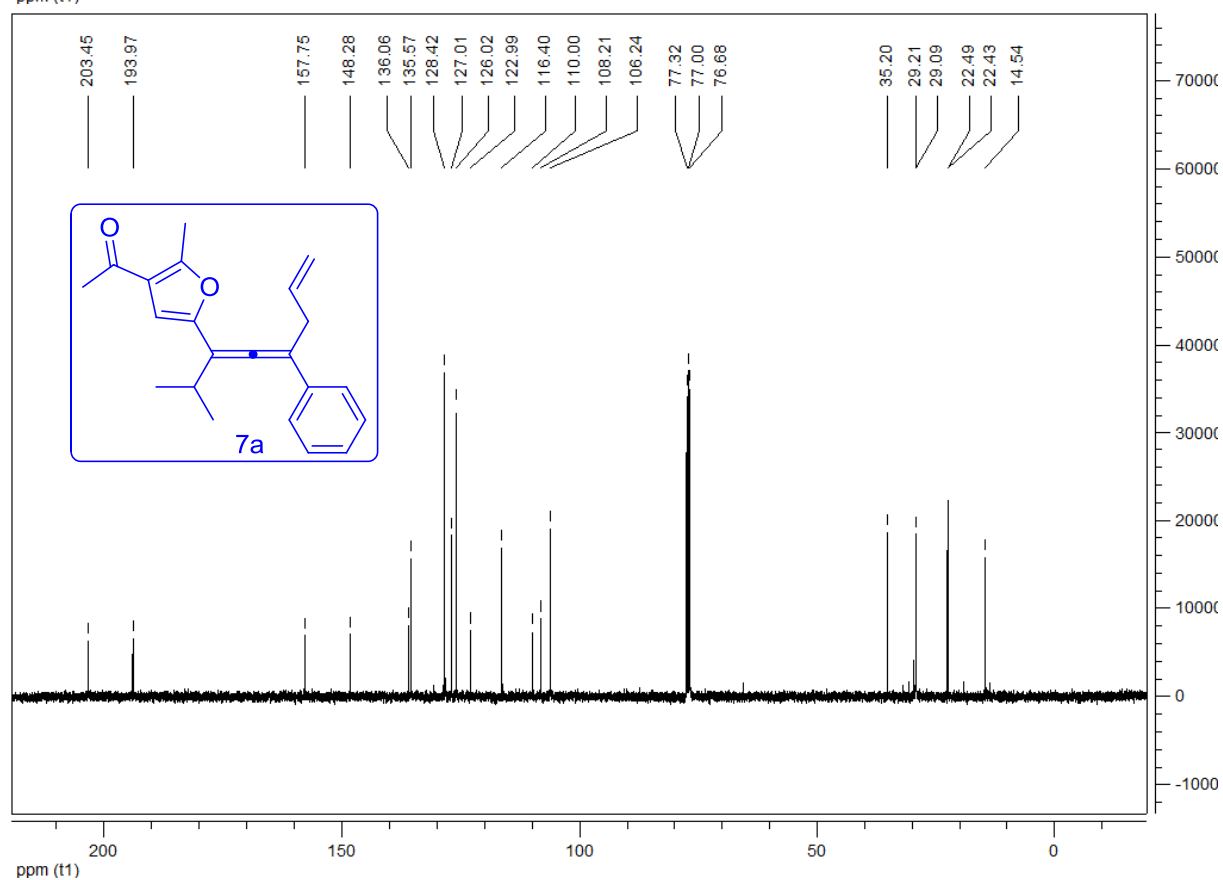
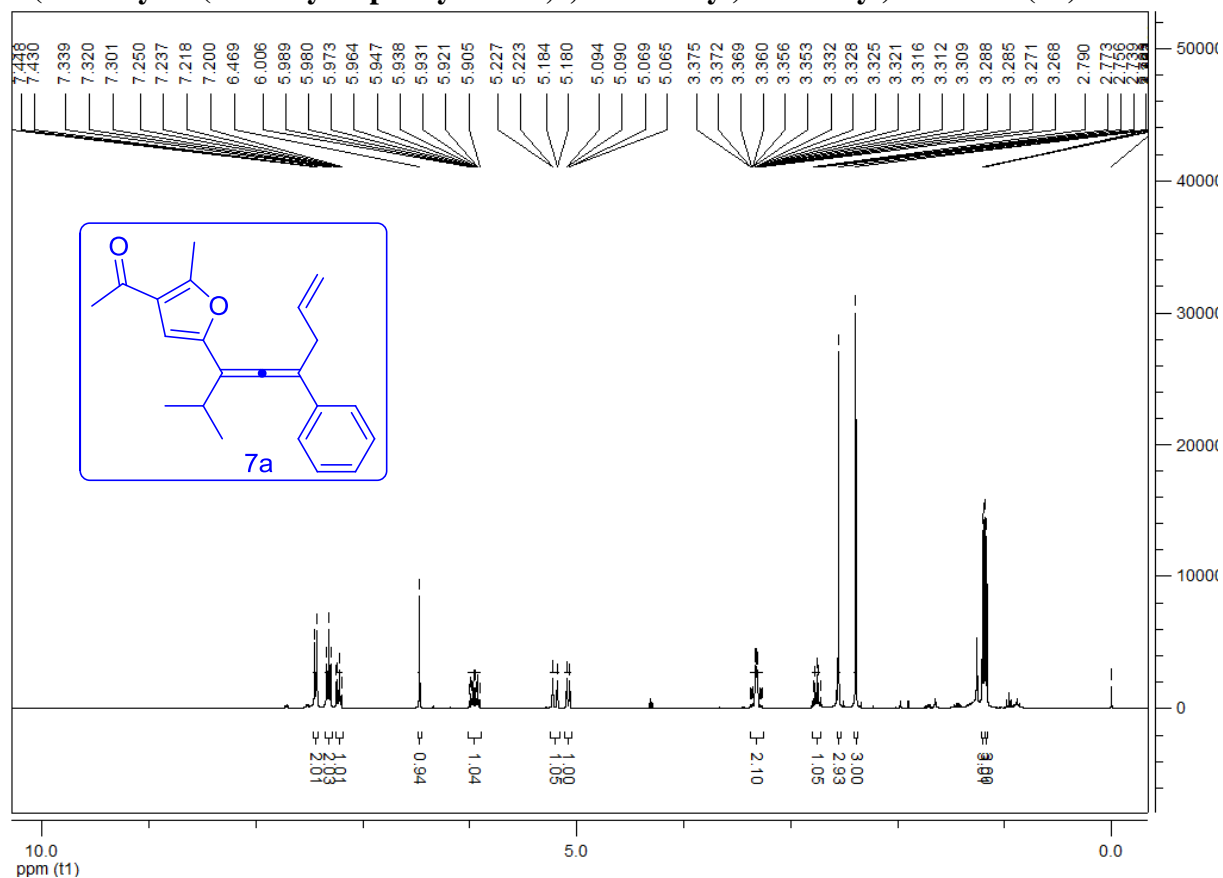
¹H NMR Spectrum Data:

Chemical Shift (ppm)	Integration
9.00	9.00
7.38	3.18
7.20	4.06
7.06	2.20
6.33	2.33
6.08	3.08
5.88	2.19
5.83	1.83
5.81	1.01
5.79	0.96

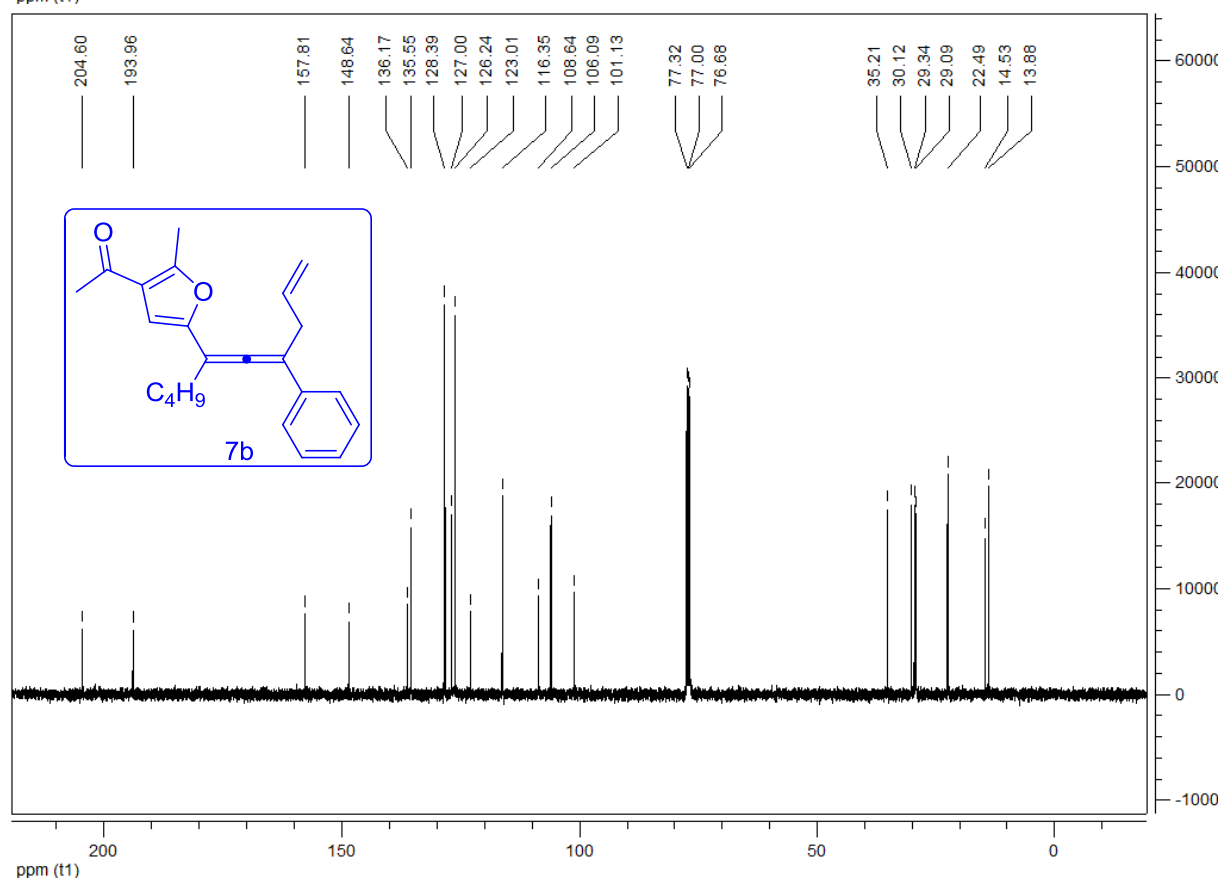
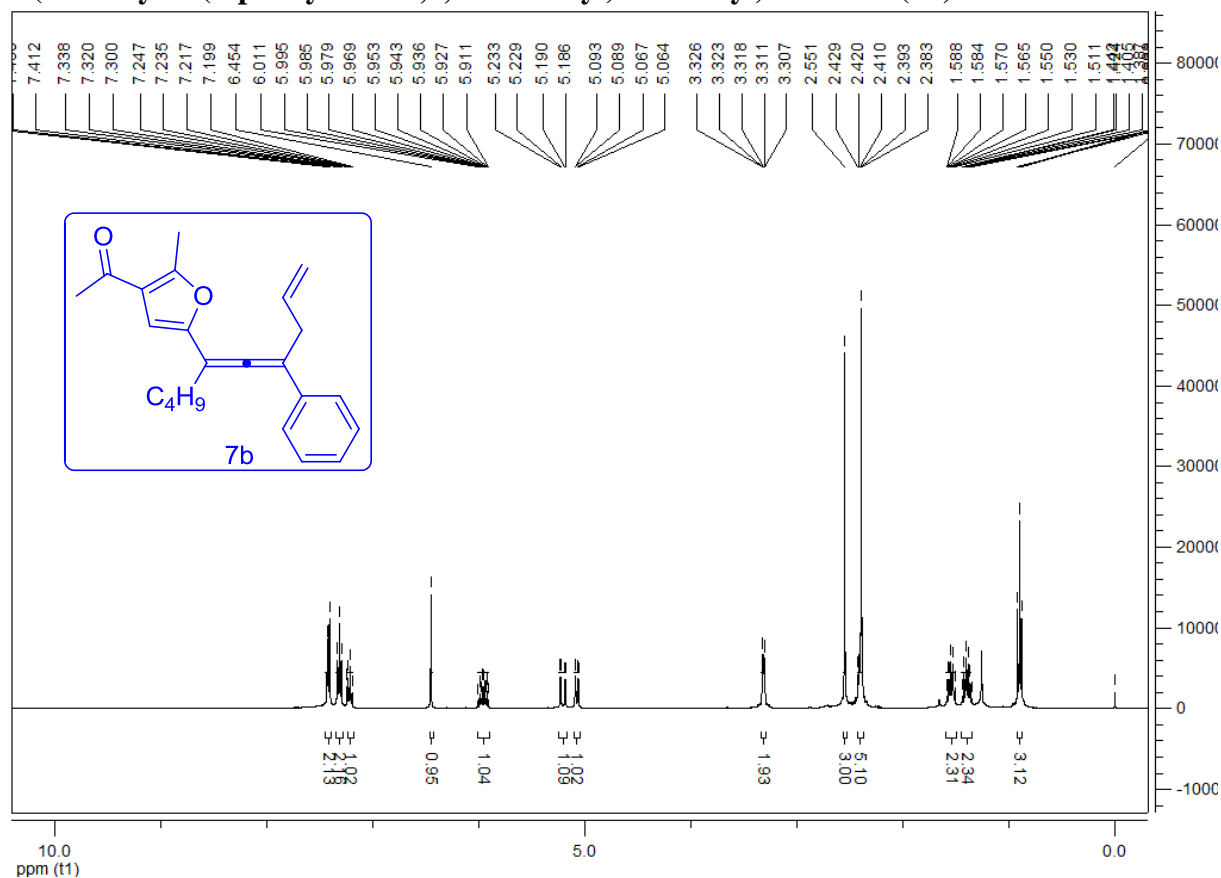
Peak List (ppm): 9.00, 8.99, 8.98, 8.97, 8.96, 8.95, 8.94, 8.93, 8.92, 8.91, 8.90, 8.89, 8.88, 8.87, 8.86, 8.85, 8.84, 8.83, 8.82, 8.81, 8.80, 8.79, 8.78, 8.77, 8.76, 8.75, 8.74, 8.73, 8.72, 8.71, 8.70, 8.69, 8.68, 8.67, 8.66, 8.65, 8.64, 8.63, 8.62, 8.61, 8.60, 8.59, 8.58, 8.57, 8.56, 8.55, 8.54, 8.53, 8.52, 8.51, 8.50, 8.49, 8.48, 8.47, 8.46, 8.45, 8.44, 8.43, 8.42, 8.41, 8.40, 8.39, 8.38, 8.37, 8.36, 8.35, 8.34, 8.33, 8.32, 8.31, 8.30, 8.29, 8.28, 8.27, 8.26, 8.25, 8.24, 8.23, 8.22, 8.21, 8.20, 8.19, 8.18, 8.17, 8.16, 8.15, 8.14, 8.13, 8.12, 8.11, 8.10, 8.09, 8.08, 8.07, 8.06, 8.05, 8.04, 8.03, 8.02, 8.01, 8.00, 7.99, 7.98, 7.97, 7.96, 7.95, 7.94, 7.93, 7.92, 7.91, 7.90, 7.89, 7.88, 7.87, 7.86, 7.85, 7.84, 7.83, 7.82, 7.81, 7.80, 7.79, 7.78, 7.77, 7.76, 7.75, 7.74, 7.73, 7.72, 7.71, 7.70, 7.69, 7.68, 7.67, 7.66, 7.65, 7.64, 7.63, 7.62, 7.61, 7.60, 7.59, 7.58, 7.57, 7.56, 7.55, 7.54, 7.53, 7.52, 7.51, 7.50, 7.49, 7.48, 7.47, 7.46, 7.45, 7.44, 7.43, 7.42, 7.41, 7.40, 7.39, 7.38, 7.37, 7.36, 7.35, 7.34, 7.33, 7.32, 7.31, 7.30, 7.29, 7.28, 7.27, 7.26, 7.25, 7.24, 7.23, 7.22, 7.21, 7.20, 7.19, 7.18, 7.17, 7.16, 7.15, 7.14, 7.13, 7.12, 7.11, 7.10, 7.09, 7.08, 7.07, 7.06, 7.05, 7.04, 7.03, 7.02, 7.01, 7.00, 6.99, 6.98, 6.97, 6.96, 6.95, 6.94, 6.93, 6.92, 6.91, 6.90, 6.89, 6.88, 6.87, 6.86, 6.85, 6.84, 6.83, 6.82, 6.81, 6.80, 6.79, 6.78, 6.77, 6.76, 6.75, 6.74, 6.73, 6.72, 6.71, 6.70, 6.69, 6.68, 6.67, 6.66, 6.65, 6.64, 6.63, 6.62, 6.61, 6.60, 6.59, 6.58, 6.57, 6.56, 6.55, 6.54, 6.53, 6.52, 6.51, 6.50, 6.49, 6.48, 6.47, 6.46, 6.45, 6.44, 6.43, 6.42, 6.41, 6.40, 6.39, 6.38, 6.37, 6.36, 6.35, 6.34, 6.33, 6.32, 6.31, 6.30, 6.29, 6.28, 6.27, 6.26, 6.25, 6.24, 6.23, 6.22, 6.21, 6.20, 6.19, 6.18, 6.17, 6.16, 6.15, 6.14, 6.13, 6.12, 6.11, 6.10, 6.09, 6.08, 6.07, 6.06, 6.05, 6.04, 6.03, 6.02, 6.01, 6.00, 5.99, 5.98, 5.97, 5.96, 5.95, 5.94, 5.93, 5.92, 5.91, 5.90, 5.89, 5.88, 5.87, 5.86, 5.85, 5.84, 5.83, 5.82, 5.81, 5.80, 5.79, 5.78, 5.77, 5.76, 5.75, 5.74, 5.73, 5.72, 5.71, 5.70, 5.69, 5.68, 5.67, 5.66, 5.65, 5.64, 5.63, 5.62, 5.61, 5.60, 5.59, 5.58, 5.57, 5.56, 5.55, 5.54, 5.53, 5.52, 5.51, 5.50, 5.49, 5.48, 5.47, 5.46, 5.45, 5.44, 5.43, 5.42, 5.41, 5.40, 5.39, 5.38, 5.37, 5.36, 5.35, 5.34, 5.33, 5.32, 5.31, 5.30, 5.29, 5.28, 5.27, 5.26, 5.25, 5.24, 5.23, 5.22, 5.21, 5.20, 5.19, 5.18, 5.17, 5.16, 5.15, 5.14, 5.13, 5.12, 5.11, 5.10, 5.09, 5.08, 5.07, 5.06, 5.05, 5.04, 5.03, 5.02, 5.01, 5.00, 4.99, 4.98, 4.97, 4.96, 4.95, 4.94, 4.93, 4.92, 4.91, 4.90, 4.89, 4.88, 4.87, 4.86, 4.85, 4.84, 4.83, 4.82, 4.81, 4.80, 4.79, 4.78, 4.77, 4.76, 4.75, 4.74, 4.73, 4.72, 4.71, 4.70, 4.69, 4.68, 4.67, 4.66, 4.65, 4.64, 4.63, 4.62, 4.61, 4.60, 4.59, 4.58, 4.57, 4.56, 4.55, 4.54, 4.53, 4.52, 4.51, 4.50, 4.49, 4.48, 4.47, 4.46, 4.45, 4.44, 4.43, 4.42, 4.41, 4.40, 4.39, 4.38, 4.37, 4.36, 4.35, 4.34, 4.33, 4.32, 4.31, 4.30, 4.29, 4.28, 4.27, 4.26, 4.25, 4.24, 4.23, 4.22, 4.21, 4.20, 4.19, 4.18, 4.17, 4.16, 4.15, 4.14, 4.13, 4.12, 4.11, 4.10, 4.09, 4.08, 4.07, 4.06, 4.05, 4.04, 4.03, 4.02, 4.01, 4.00, 3.99, 3.98, 3.97, 3.96, 3.95, 3.94, 3.93, 3.92, 3.91, 3.90, 3.89, 3.88, 3.87, 3.86, 3.85, 3.84, 3.83, 3.82, 3.81, 3.80, 3.79, 3.78, 3.77, 3.76, 3.75, 3.74, 3.73, 3.72, 3.71, 3.70, 3.69, 3.68, 3.67, 3.66, 3.65, 3.64, 3.63, 3.62, 3.61, 3.60, 3.59, 3.58, 3.57, 3.56, 3.55, 3.54, 3.53, 3.52, 3.51, 3.50, 3.49, 3.48, 3.47, 3.46, 3.45, 3.44, 3.43, 3.42, 3.41, 3.40, 3.39, 3.38, 3.37, 3.36, 3.35, 3.34, 3.33, 3.32, 3.31, 3.30, 3.29, 3.28, 3.27, 3.26, 3.25, 3.24, 3.23, 3.22, 3.21, 3.20, 3.19, 3.18, 3.17, 3.16, 3.15, 3.14, 3.13, 3.12, 3.11, 3.10, 3.09, 3.08, 3.07, 3.06, 3.05, 3.04,



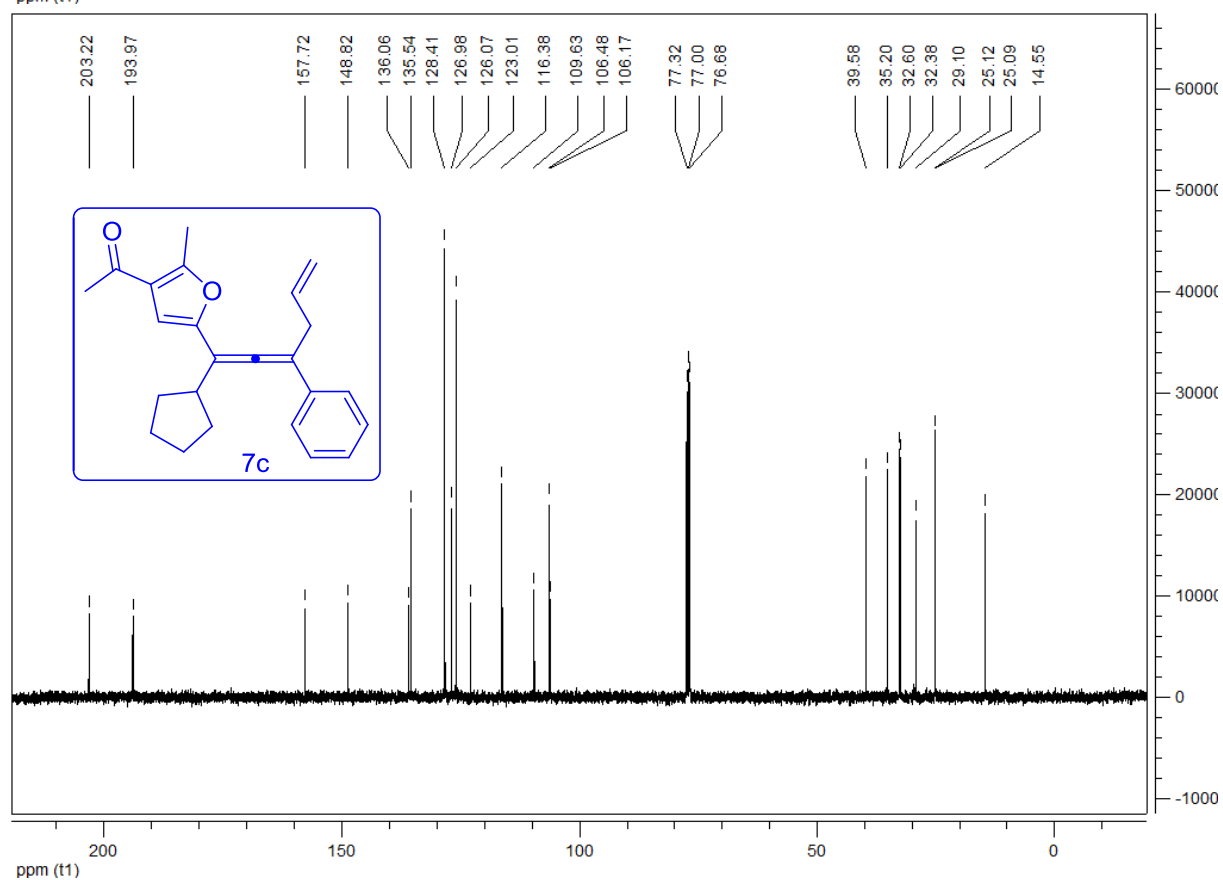
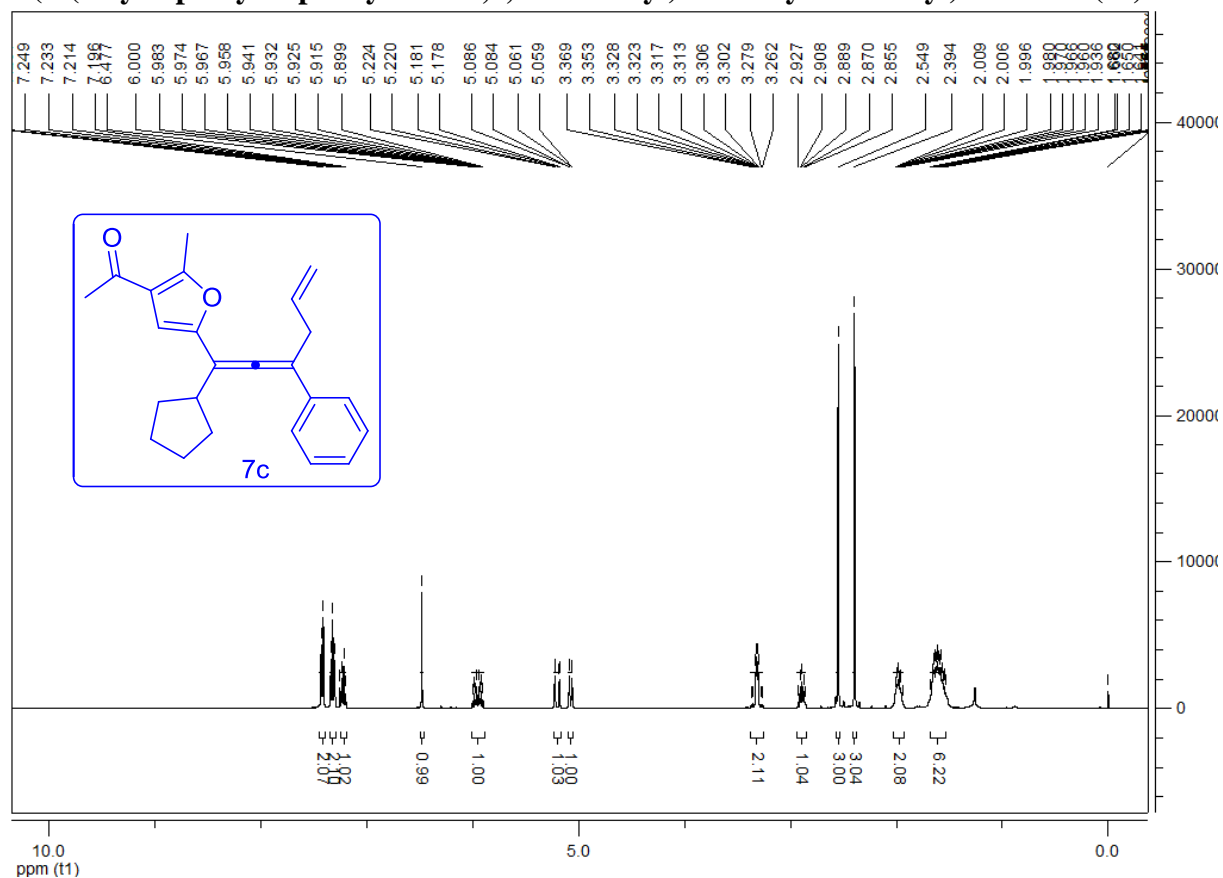
1-(2-methyl-5-(2-methyl-5-phenylocta-3,4,7-trien-3-yl)furan-3-yl)ethanone (7a)



1-(2-methyl-5-(7-phenyldeca-5,6,9-trien-5-yl)furan-3-yl)ethanone (7b)



1-(5-(1-cyclopentyl-3-phenylhexa-1,2,5-trien-1-yl)-2-methylfuran-3-yl)ethanone (7c)



Chemical structure of compound **7d** is shown in the inset:

CC(=O)C1=CC(=C(C=C1)OC(C)=C(C=C1)C=C(C=C2)C=C(C=C2)CO

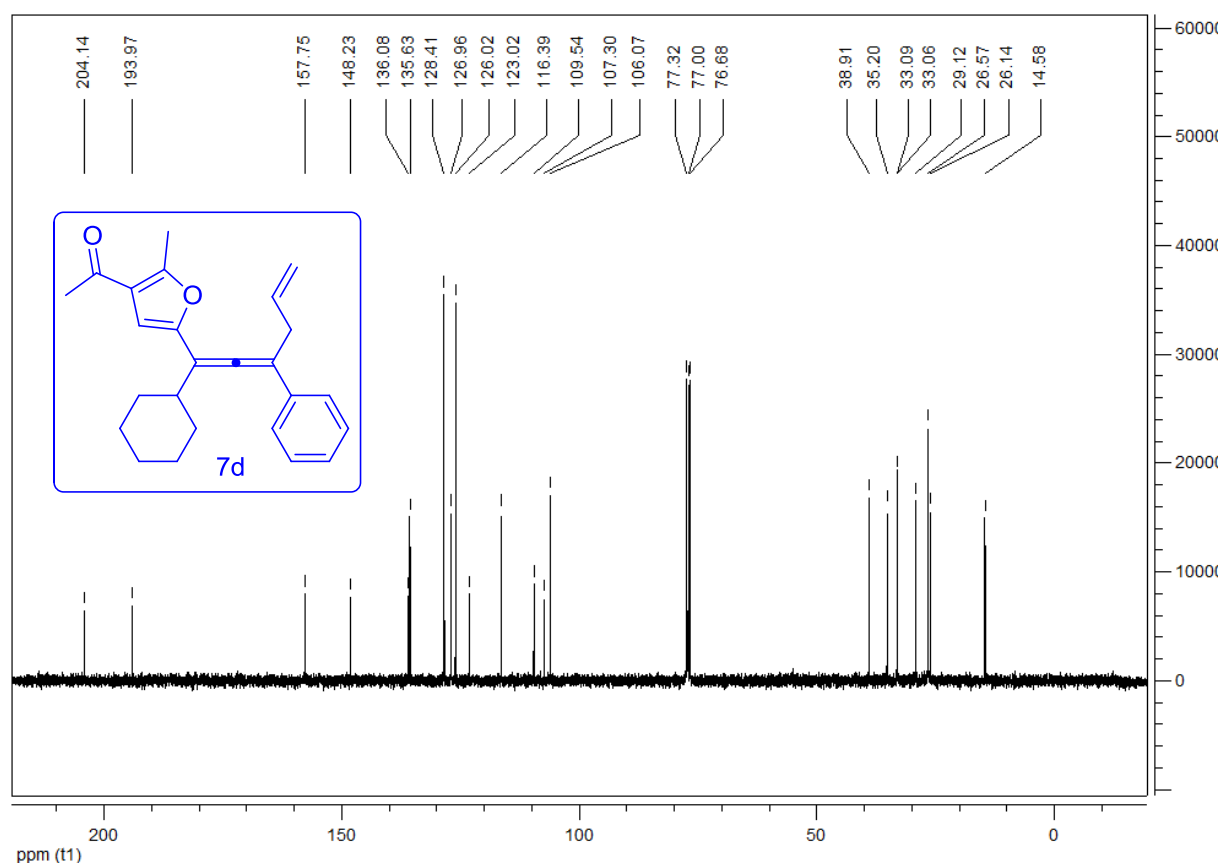
¹H NMR spectrum (CDCl₃) of compound **7d** is displayed. The x-axis represents the chemical shift in ppm (t1), ranging from 0.0 to 10.0. The y-axis represents the intensity in arbitrary units (0 to 6000). The spectrum shows several peaks, with integration values provided for each major signal.

Integration values (from left to right):

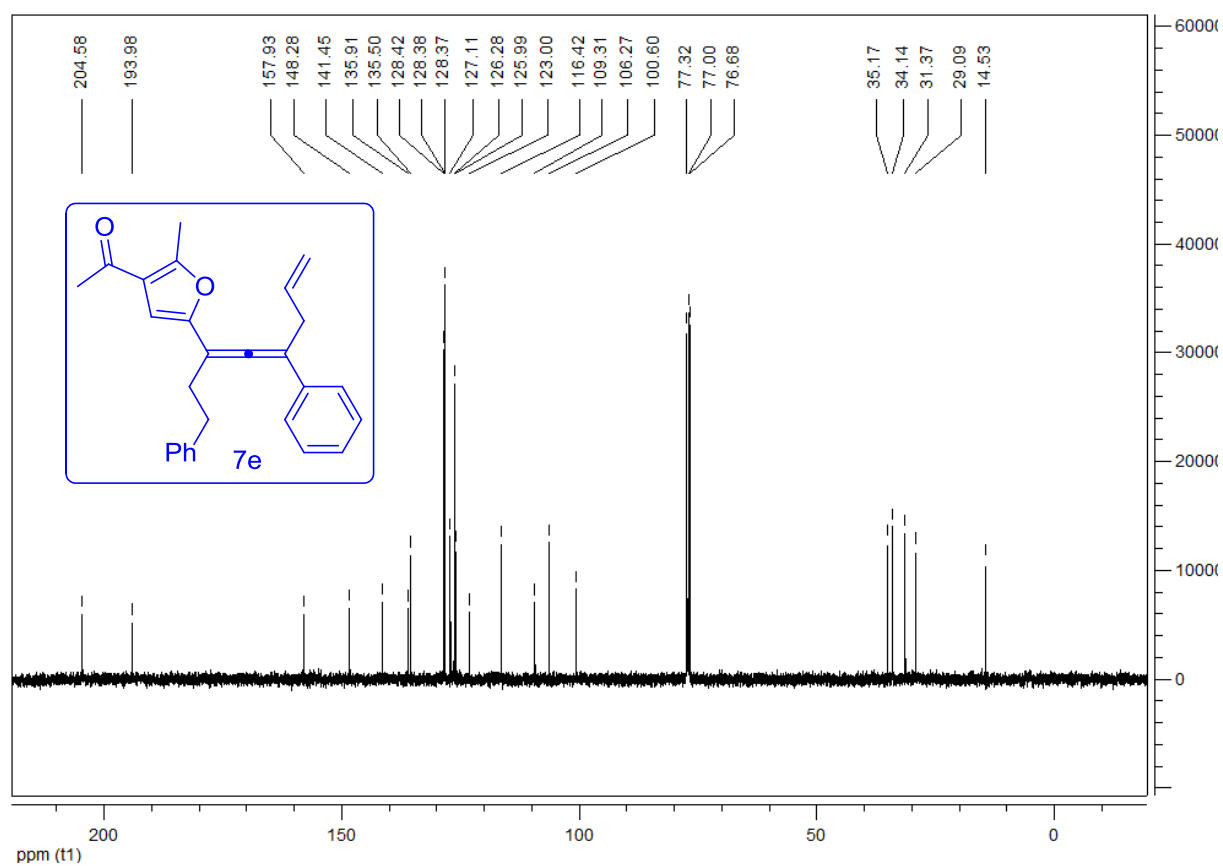
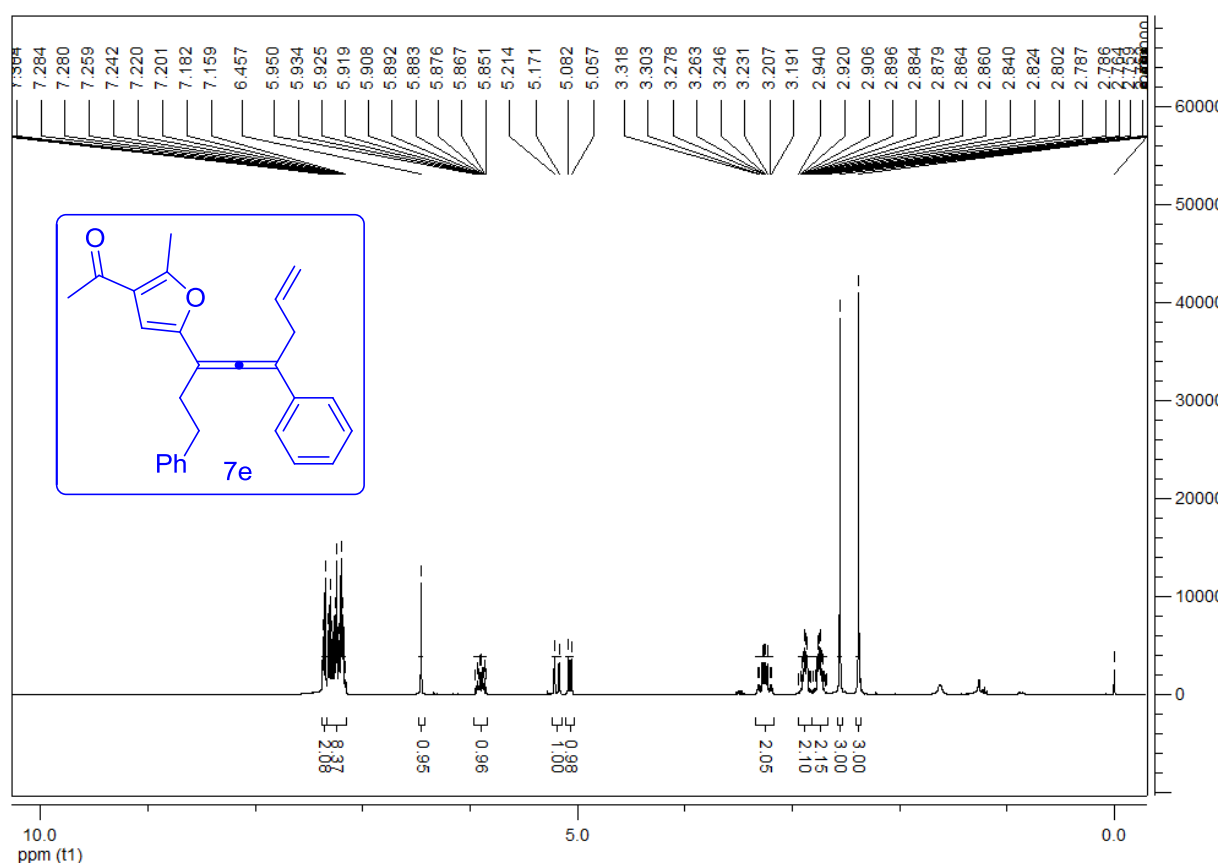
- 2.08
- 2.08
- 0.95
- 1.00
- 1.06
- 2.09
- 3.00
- 1.19
- 2.23
- 1.18
- 6.30

Chemical shifts (ppm) listed on the right side of the spectrum (from top to bottom):

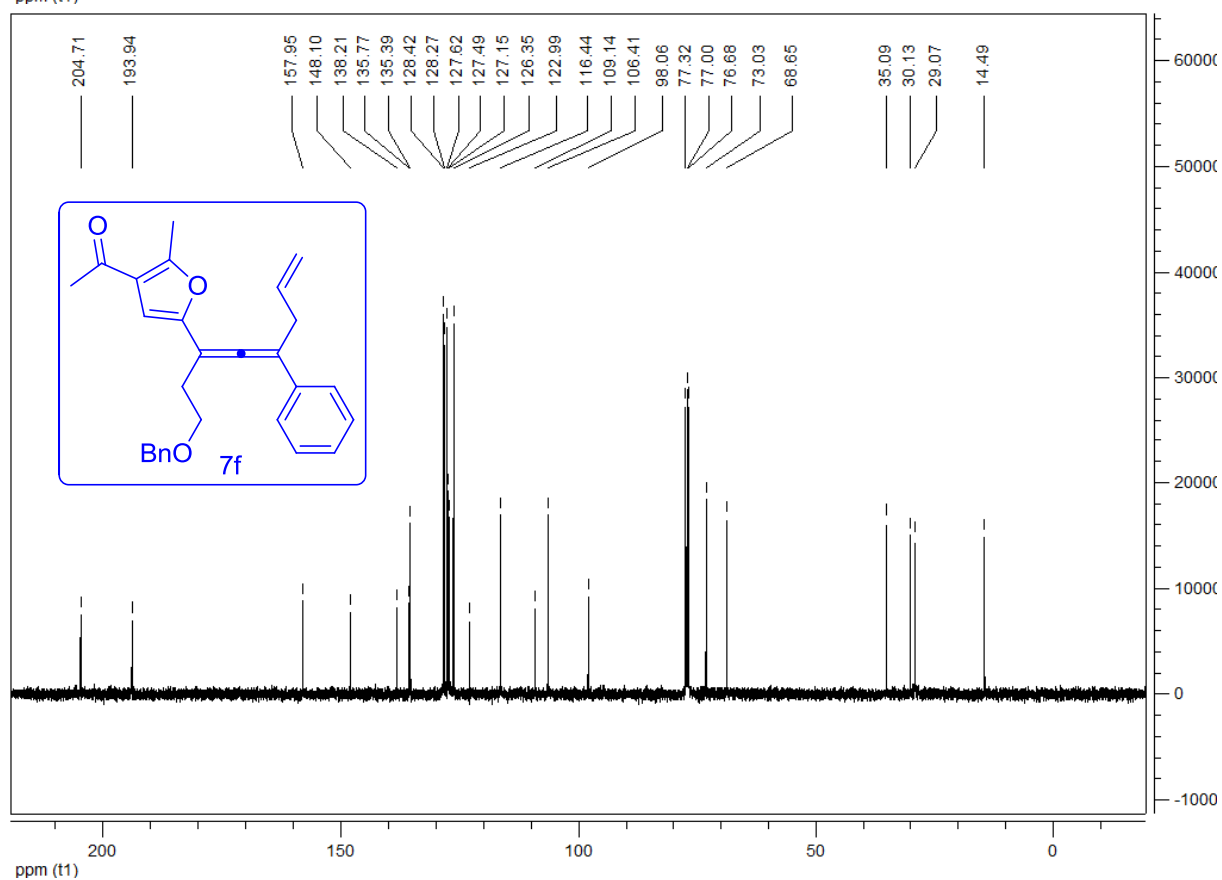
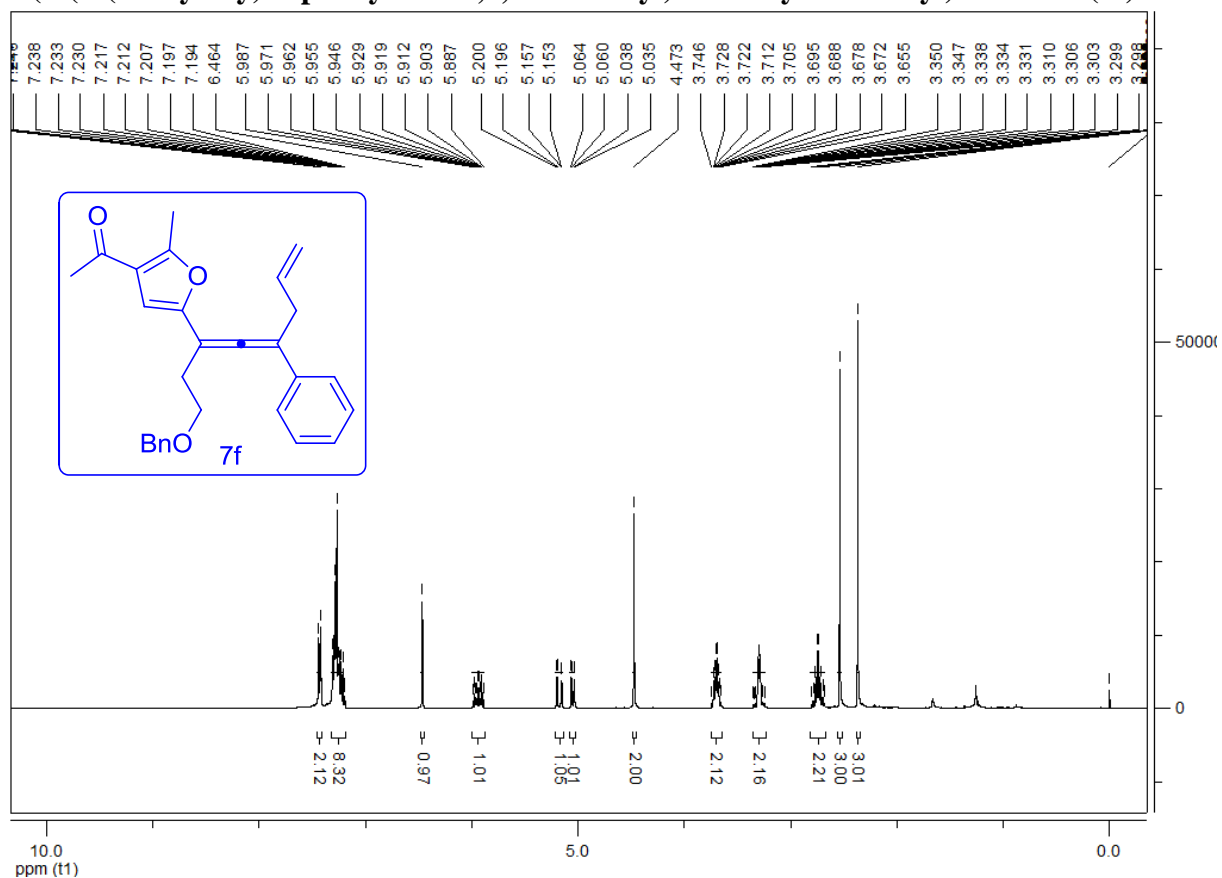
- 6.456
- 6.009
- 5.993
- 5.984
- 5.977
- 5.967
- 5.951
- 5.941
- 5.931
- 5.925
- 5.909
- 5.230
- 5.227
- 5.188
- 5.184
- 5.095
- 5.092
- 5.070
- 5.066
- 3.365
- 3.350
- 3.346
- 3.325
- 3.321
- 3.314
- 3.309
- 3.306
- 3.302
- 3.278
- 3.261
- 2.549
- 2.395
- 2.015
- 1.979
- 1.942
- 1.793
- 1.785
- 1.772
- 1.761
- 1.753
- 1.708
- 1.676
- 1.648
- 1.471
- 1.464
- 1.389
- 1.381
- 1.378
- 1.368
- 1.361
- 1.354
- 1.347
- 1.340
- 1.333
- 1.326
- 1.319
- 1.312
- 1.305
- 1.298
- 1.291
- 1.284
- 1.277
- 1.270
- 1.263
- 1.256
- 1.249
- 1.242
- 1.235
- 1.228
- 1.221
- 1.214
- 1.207
- 1.200
- 1.193
- 1.186
- 1.179
- 1.172
- 1.165
- 1.158
- 1.151
- 1.144
- 1.137
- 1.130
- 1.123
- 1.116
- 1.109
- 1.102
- 1.095
- 1.088
- 1.081
- 1.074
- 1.067
- 1.060
- 1.053
- 1.046
- 1.039
- 1.032
- 1.025
- 1.018
- 1.011
- 1.004
- 0.997
- 0.990
- 0.983
- 0.976
- 0.969
- 0.962
- 0.955
- 0.948
- 0.941
- 0.934
- 0.927
- 0.920
- 0.913
- 0.906
- 0.899
- 0.892
- 0.885
- 0.878
- 0.871
- 0.864
- 0.857
- 0.850
- 0.843
- 0.836
- 0.829
- 0.822
- 0.815
- 0.808
- 0.801
- 0.794
- 0.787
- 0.780
- 0.773
- 0.766
- 0.759
- 0.752
- 0.745
- 0.738
- 0.731
- 0.724
- 0.717
- 0.710
- 0.703
- 0.696
- 0.689
- 0.682
- 0.675
- 0.668
- 0.661
- 0.654
- 0.647
- 0.640
- 0.633
- 0.626
- 0.619
- 0.612
- 0.605
- 0.598
- 0.591
- 0.584
- 0.577
- 0.570
- 0.563
- 0.556
- 0.549
- 0.542
- 0.535
- 0.528
- 0.521
- 0.514
- 0.507
- 0.500
- 0.493
- 0.486
- 0.479
- 0.472
- 0.465
- 0.458
- 0.451
- 0.444
- 0.437
- 0.430
- 0.423
- 0.416
- 0.409
- 0.402
- 0.395
- 0.388
- 0.381
- 0.374
- 0.367
- 0.360
- 0.353
- 0.346
- 0.339
- 0.332
- 0.325
- 0.318
- 0.311
- 0.304
- 0.297
- 0.290
- 0.283
- 0.276
- 0.269
- 0.262
- 0.255
- 0.248
- 0.241
- 0.234
- 0.227
- 0.220
- 0.213
- 0.206
- 0.199
- 0.192
- 0.185
- 0.178
- 0.171
- 0.164
- 0.157
- 0.150
- 0.143
- 0.136
- 0.129
- 0.122
- 0.115
- 0.108
- 0.101
- 0.094
- 0.087
- 0.080
- 0.073
- 0.066
- 0.059
- 0.052
- 0.045
- 0.038
- 0.031
- 0.024
- 0.017
- 0.010
- 0.003
- 0.000



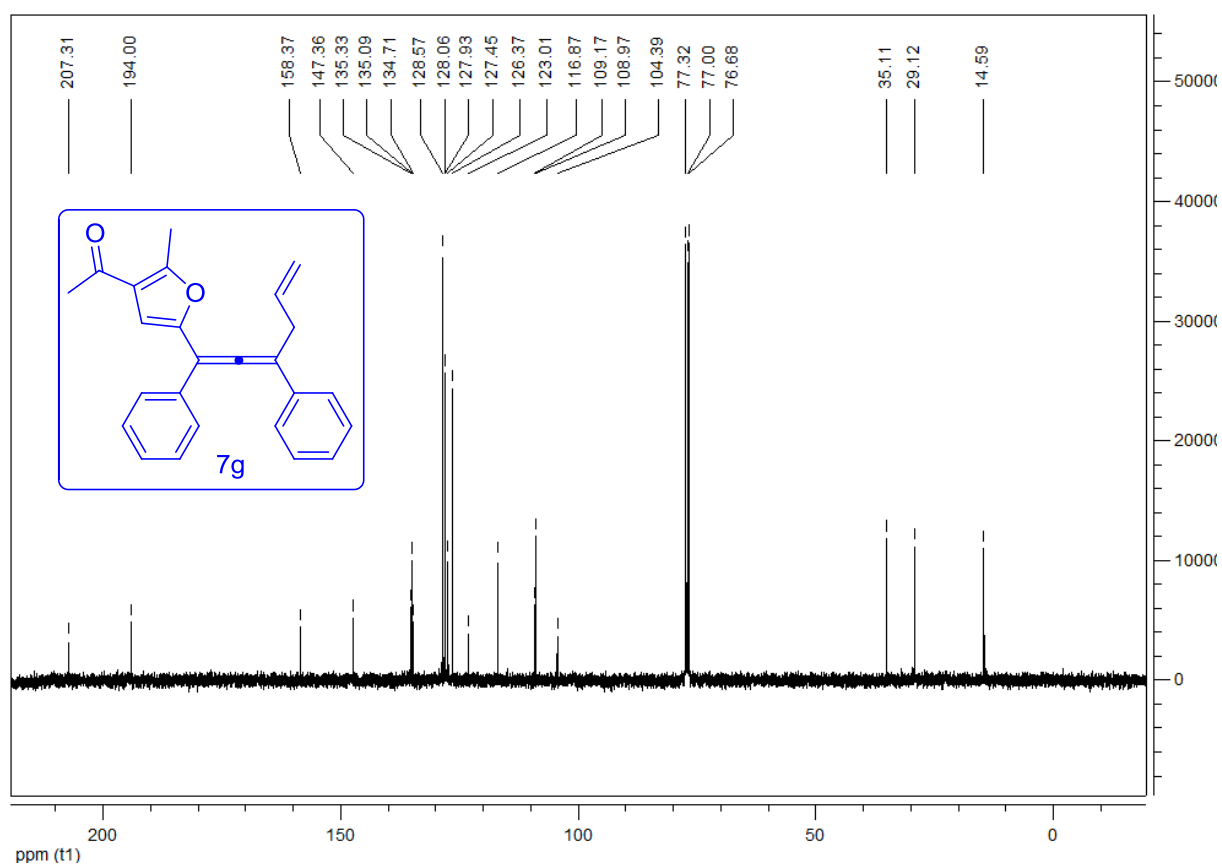
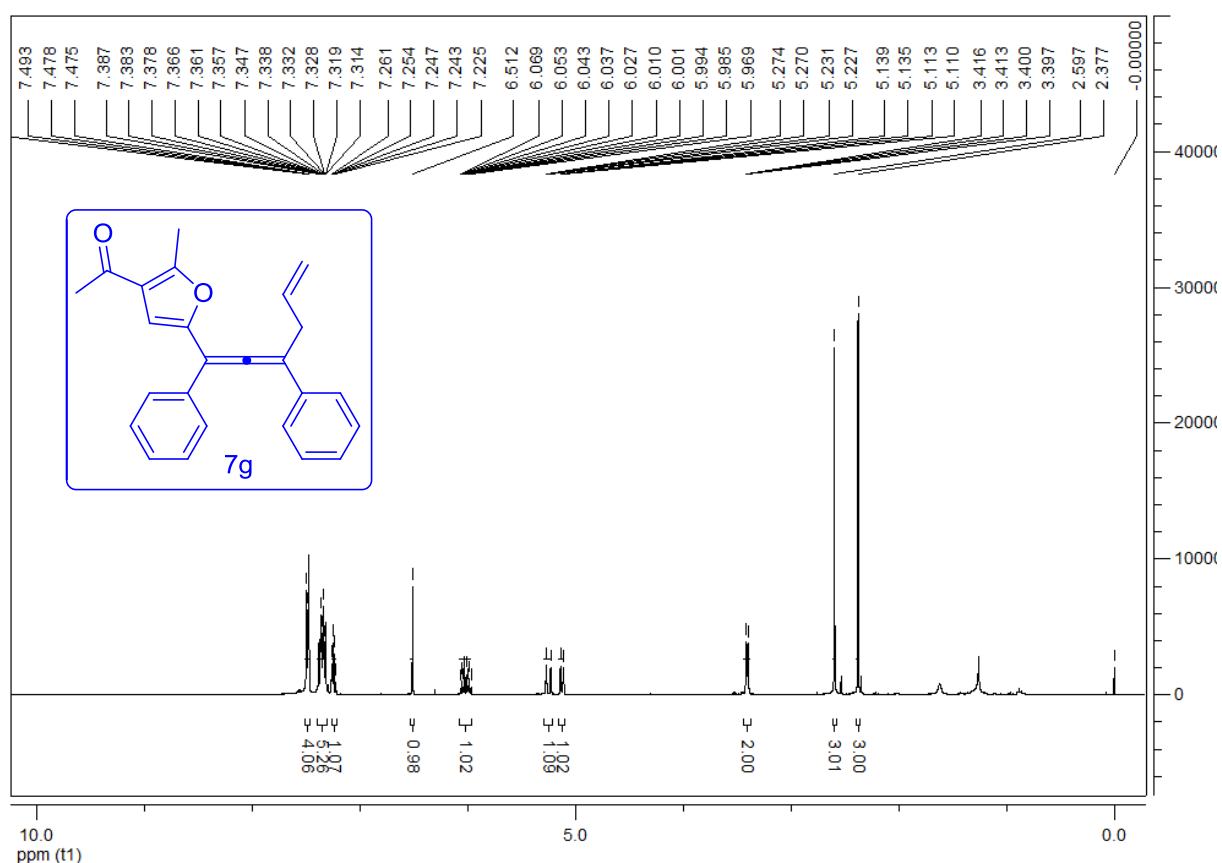
1-(5-(1,5-diphenylocta-3,4,7-trien-3-yl)-2-methylfuran-3-yl)ethanone (7e)



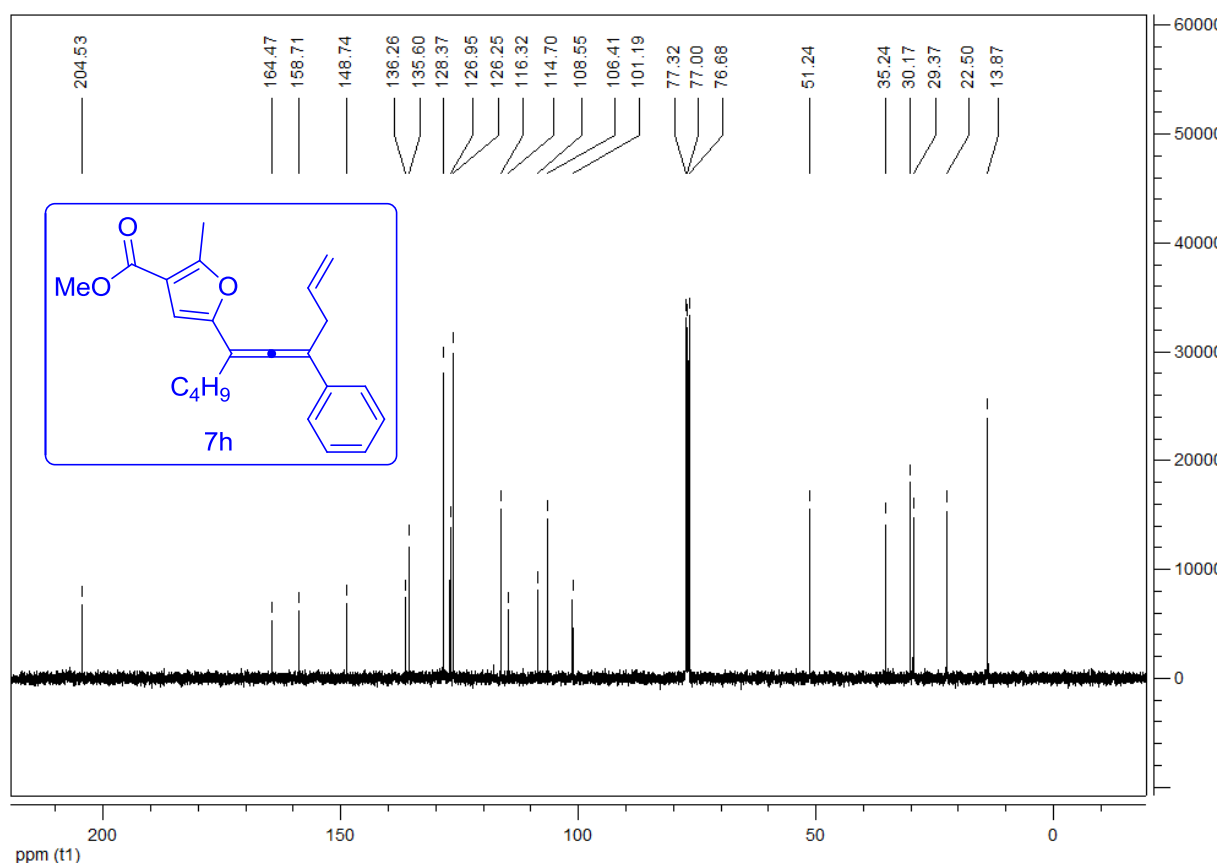
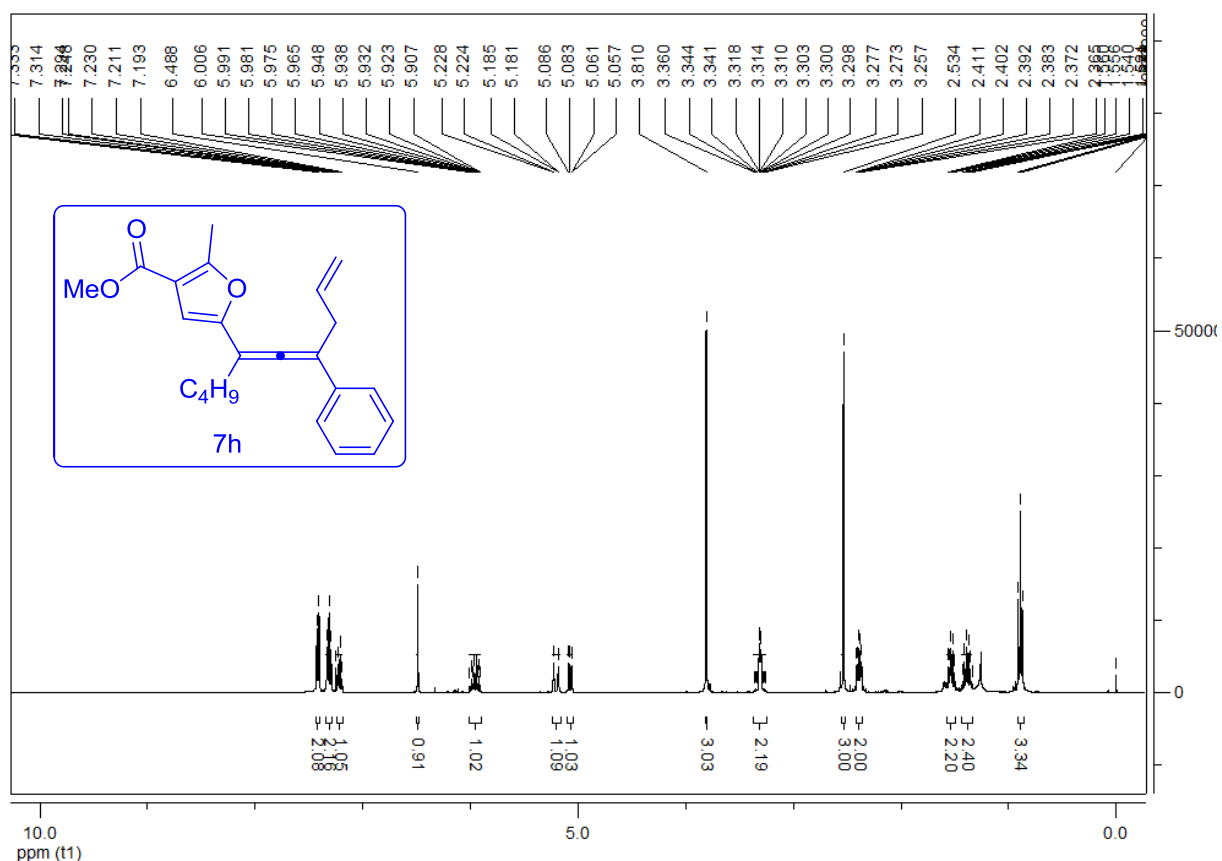
1-(5-(1-(benzyloxy)-5-phenylocta-3,4,7-trien-3-yl)-2-methylfuran-3-yl)ethanone (7f)



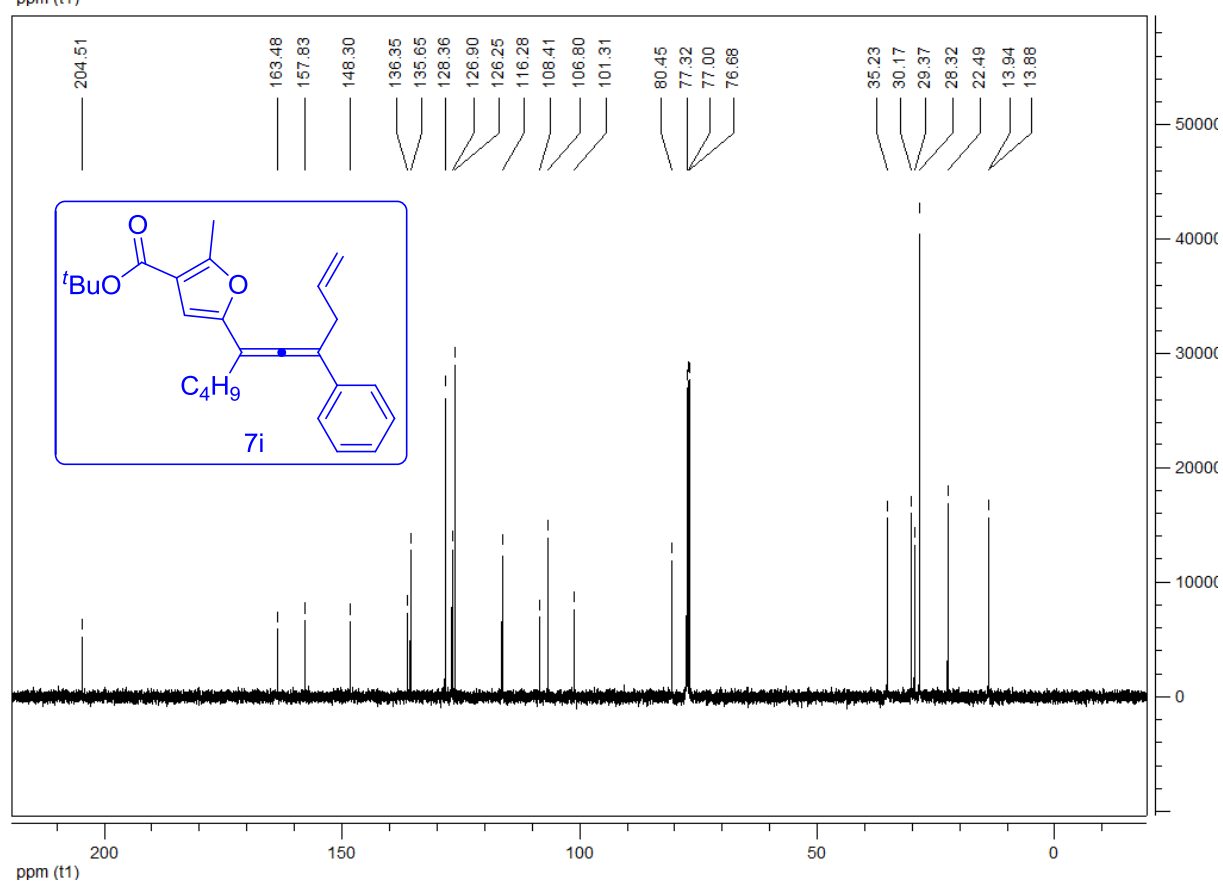
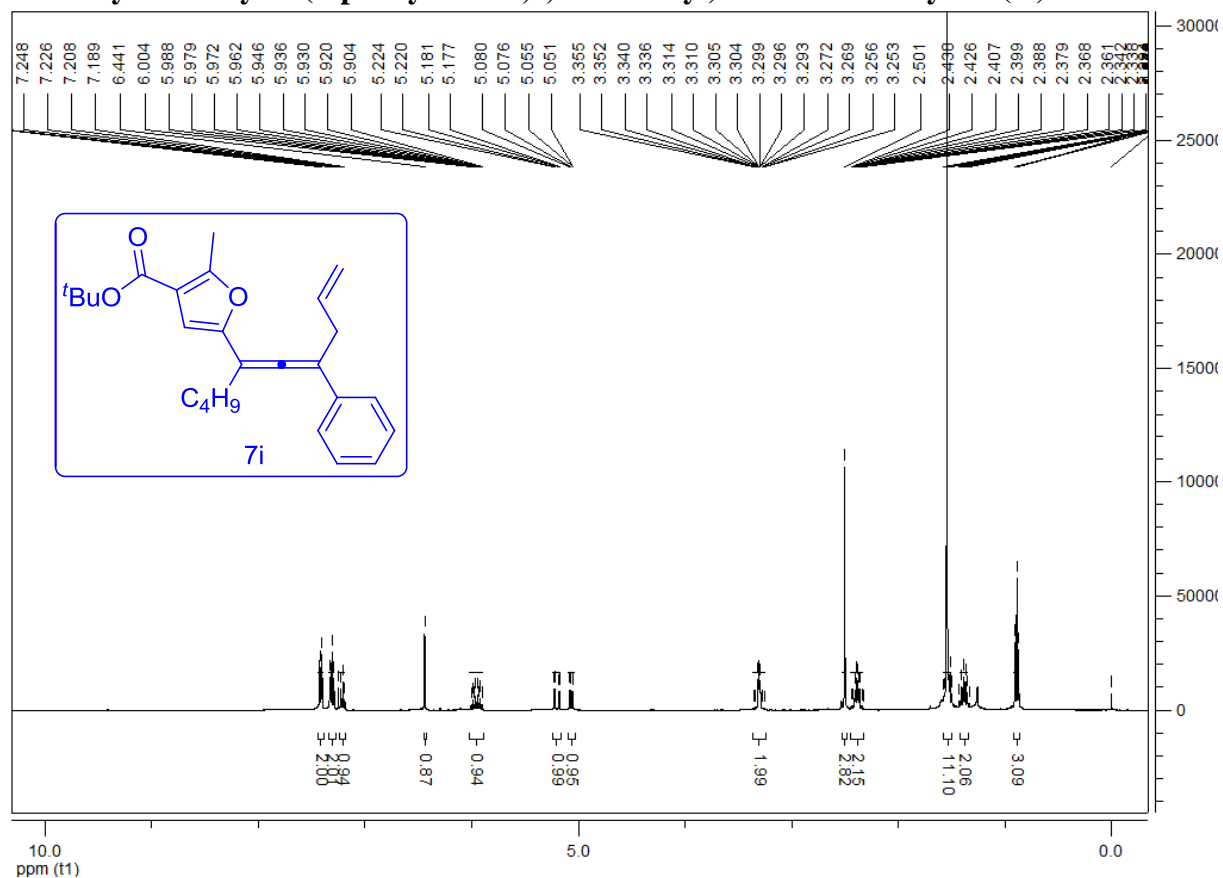
1-(5-(1,3-diphenylhexa-1,2,5-trien-1-yl)-2-methylfuran-3-yl)ethanone (7g)



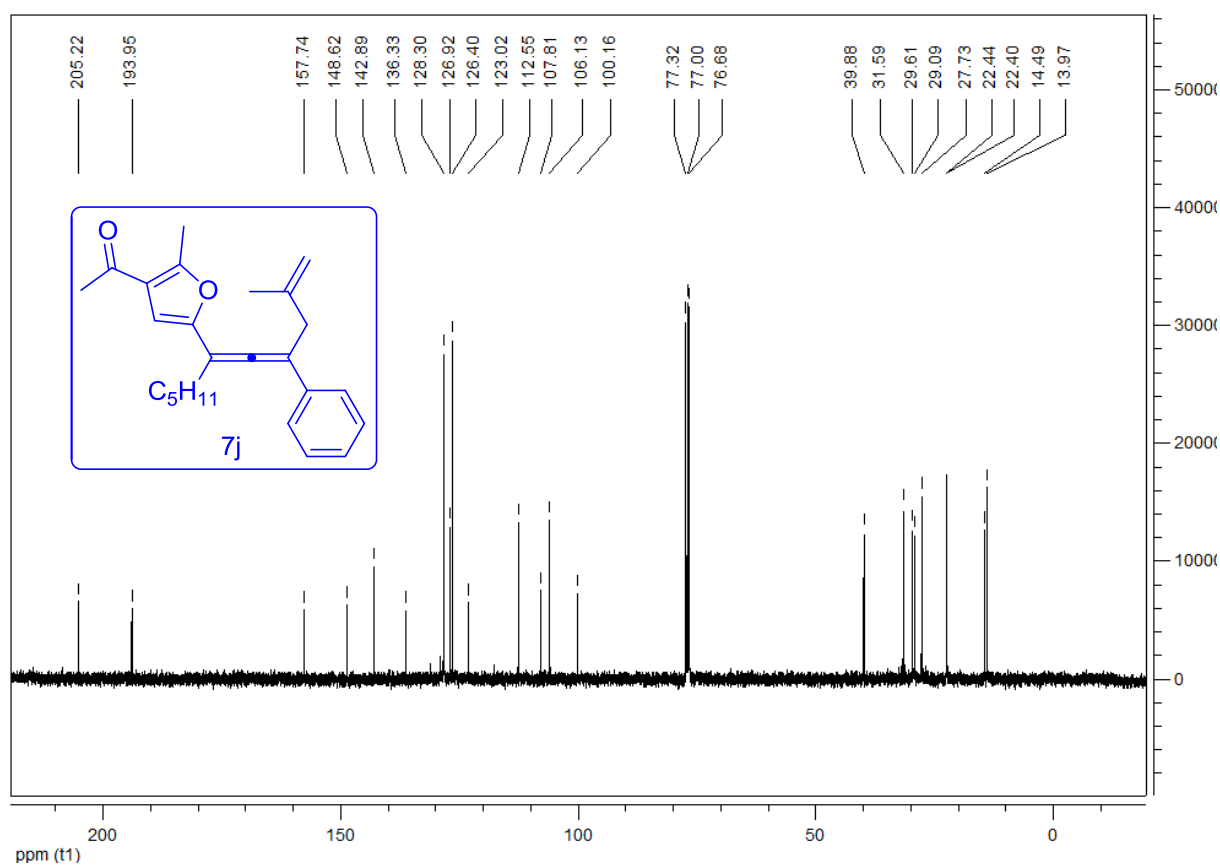
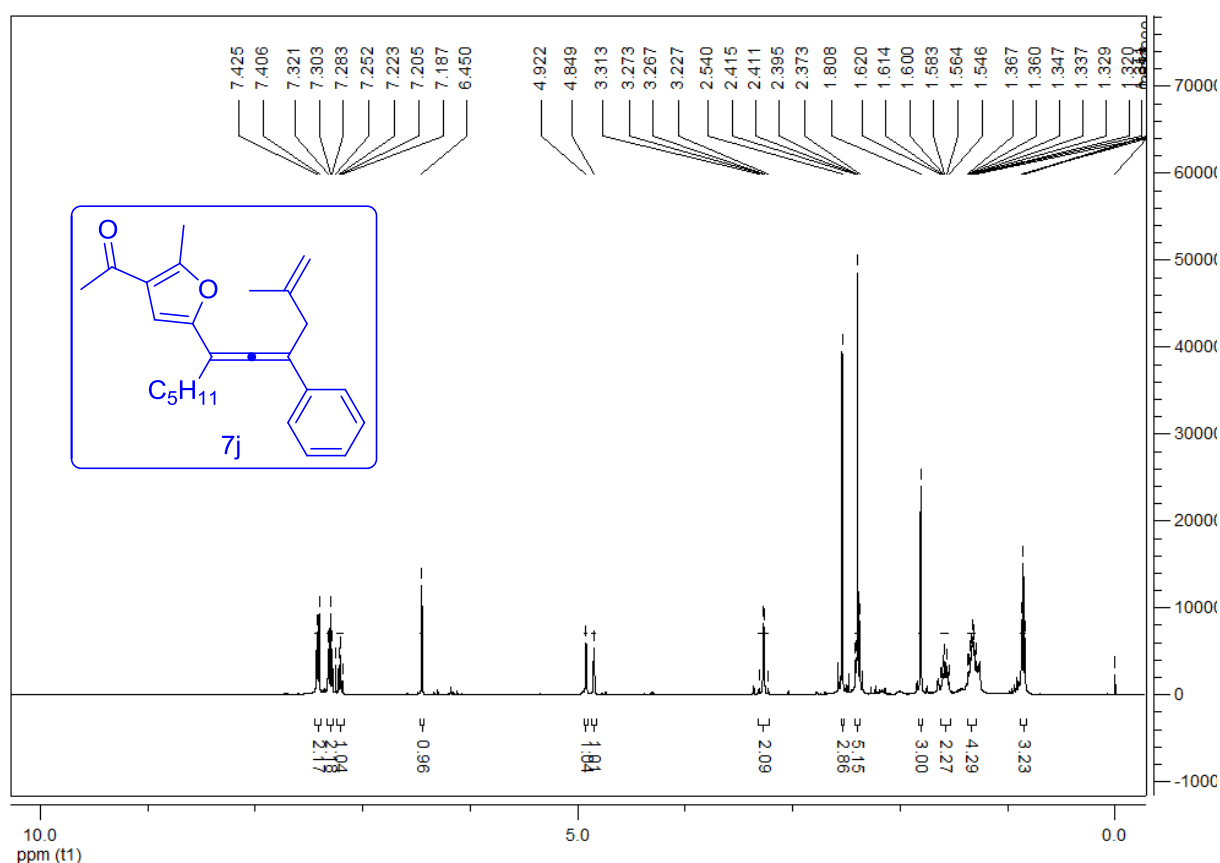
methyl 2-methyl-5-(7-phenyldeca-5,6,9-trien-5-yl)furan-3-carboxylate (7h)



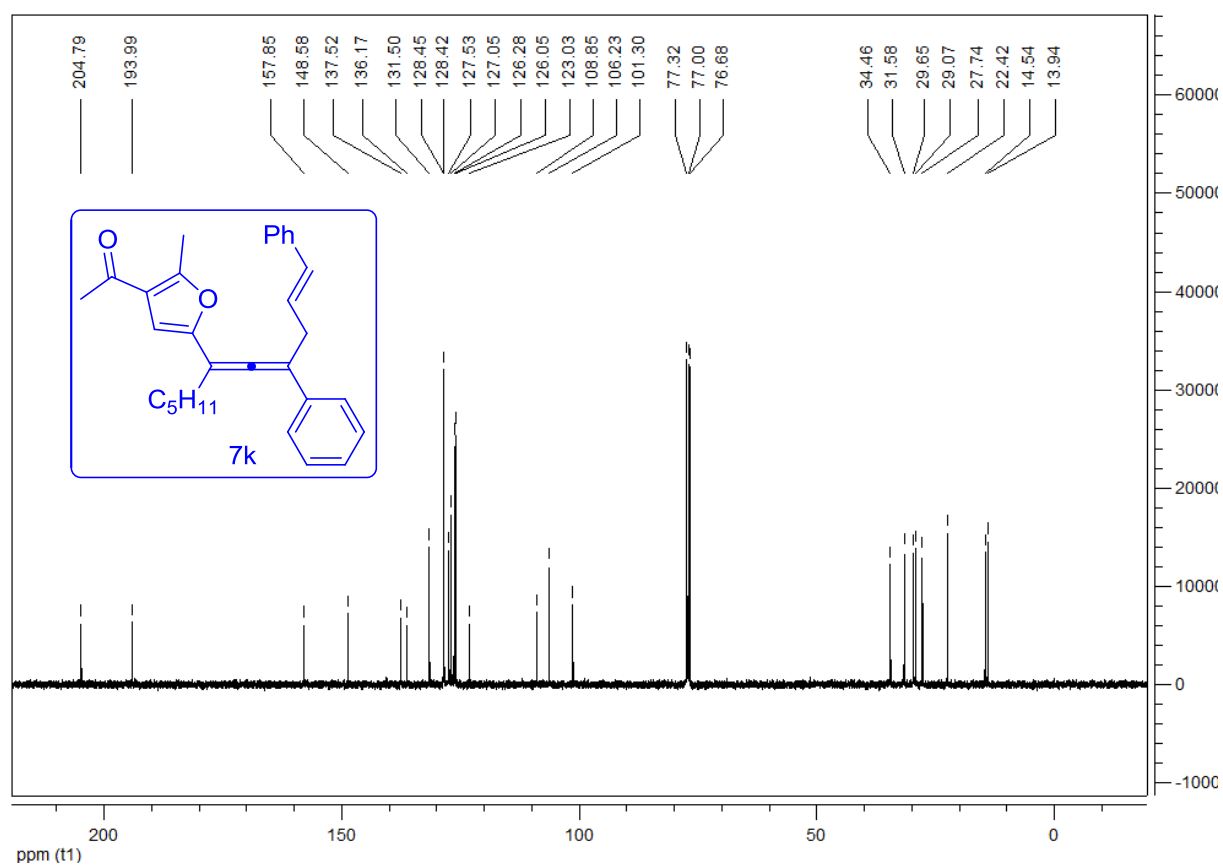
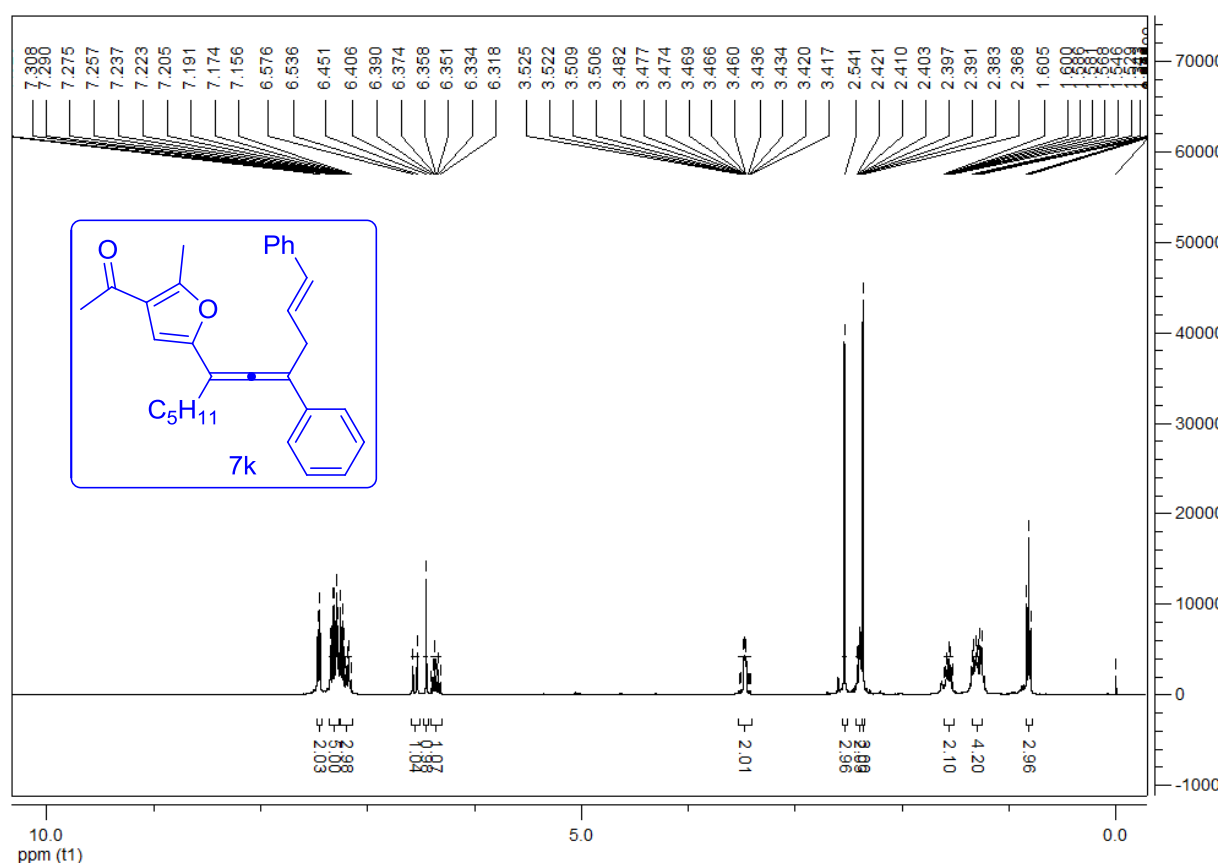
tert-butyl 2-methyl-5-(7-phenyldeca-5,6,9-trien-5-yl)furan-3-carboxylate (7i)



1-(2-methyl-5-(2-methyl-4-phenylundeca-1,4,5-trien-6-yl)furan-3-yl)ethanone (7j)



(E)-1-(5-(1,4-diphenylundeca-1,4,5-trien-6-yl)-2-methylfuran-3-yl)ethanone (7k)



**1-(5-(1-(cyclohex-2-en-1-yl)-1-phenylocta-1,2-dien-3-yl)-2-methylfuran-3-yl)ethanone
(7l)**

