

## Supplementary information

# Acid catalyzed formation of C-C and C-S bonds via Excited State Proton Transfer

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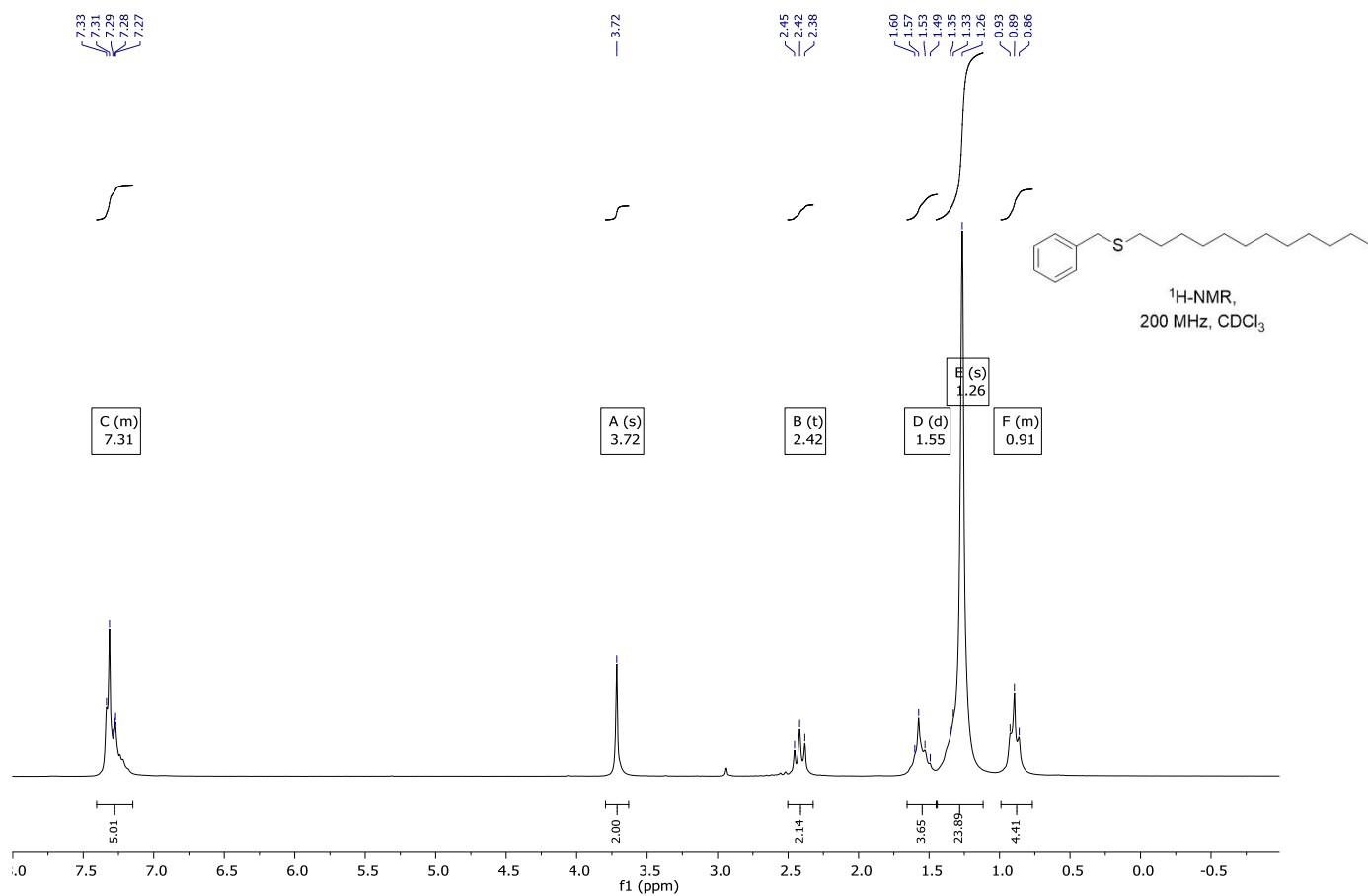
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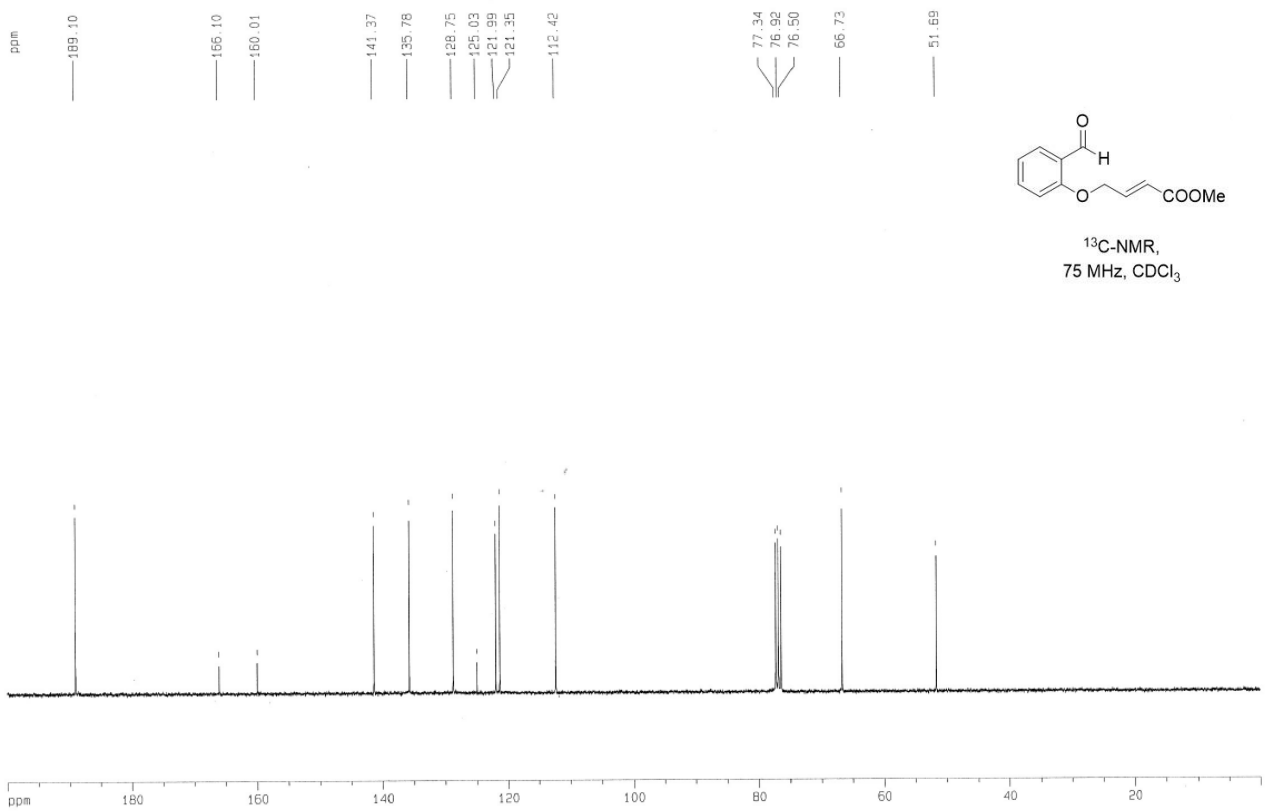
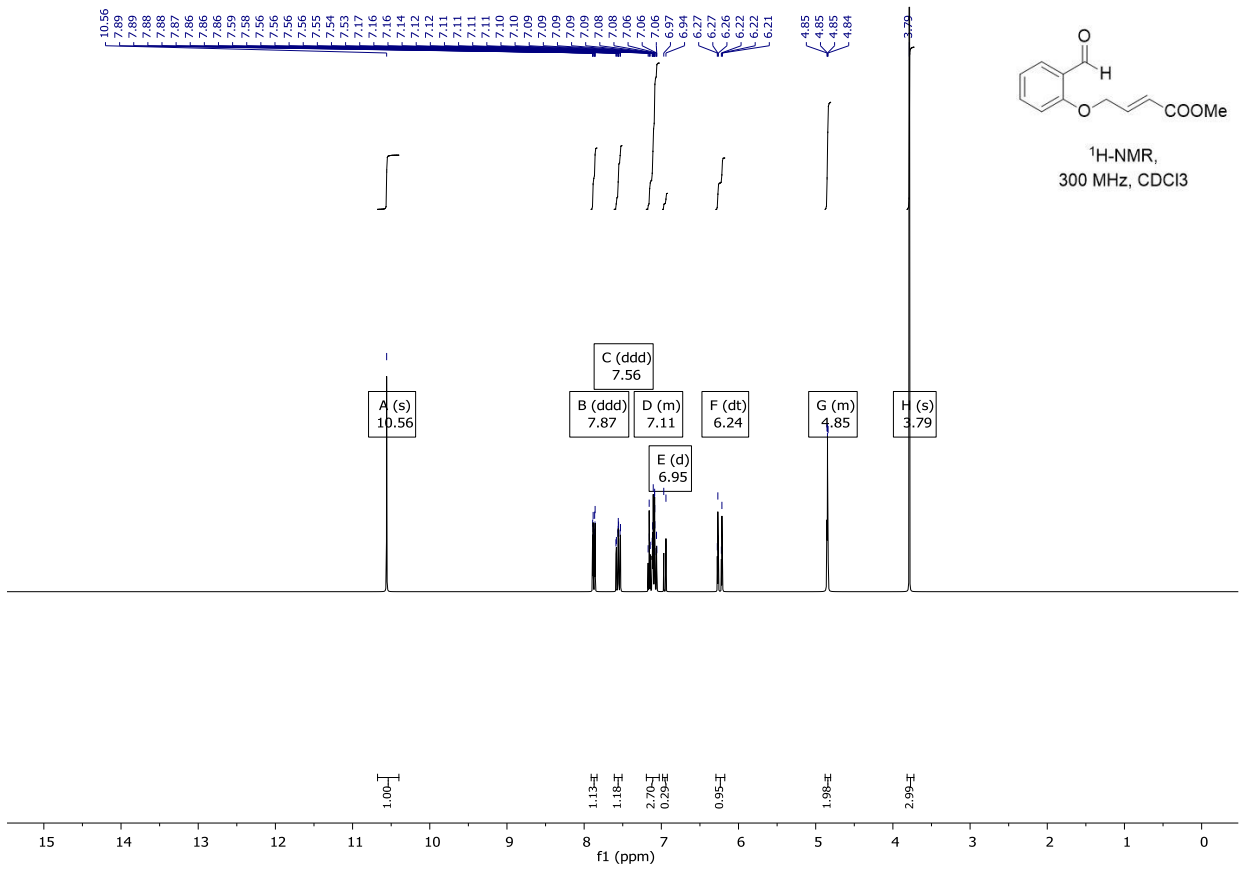
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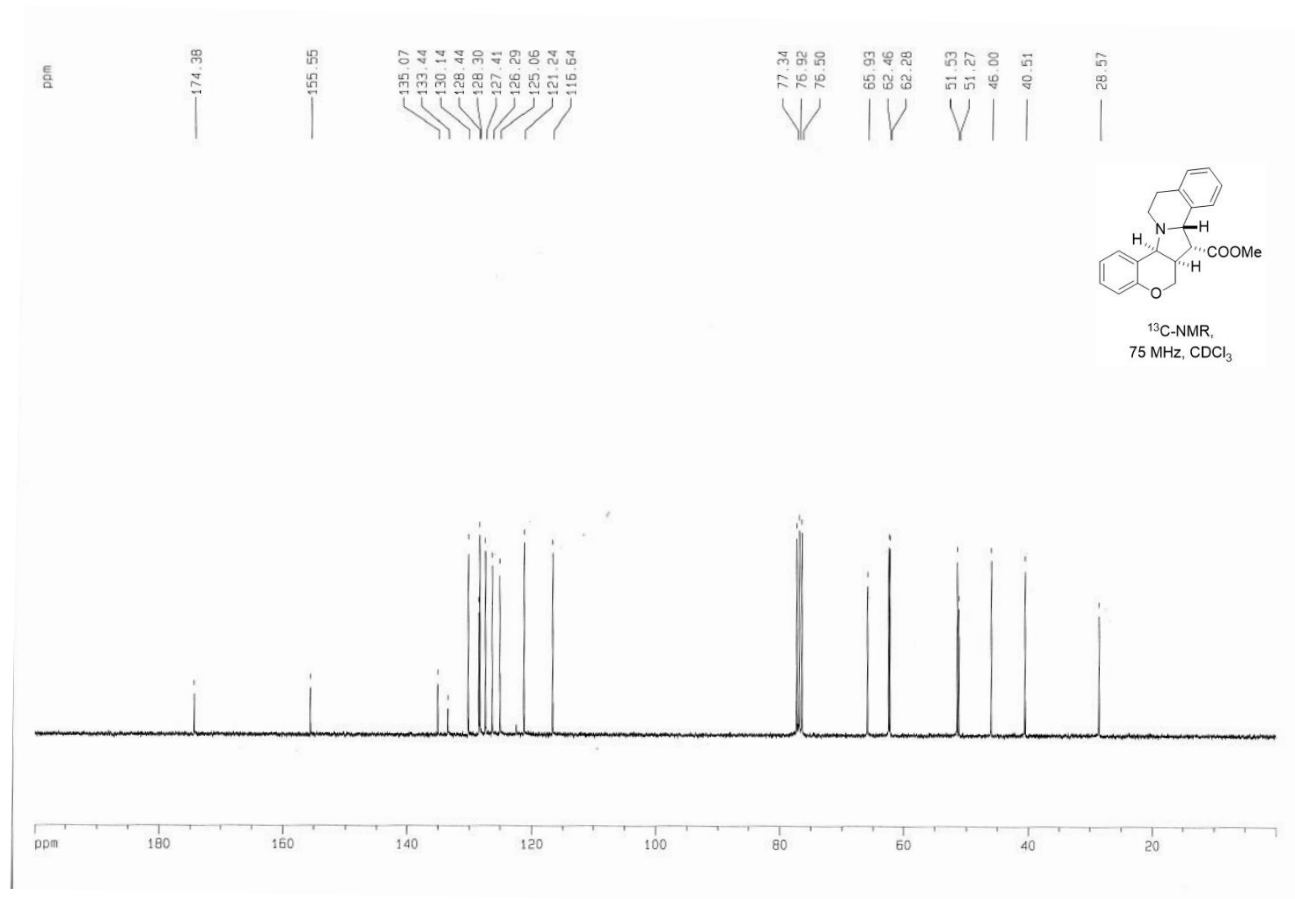
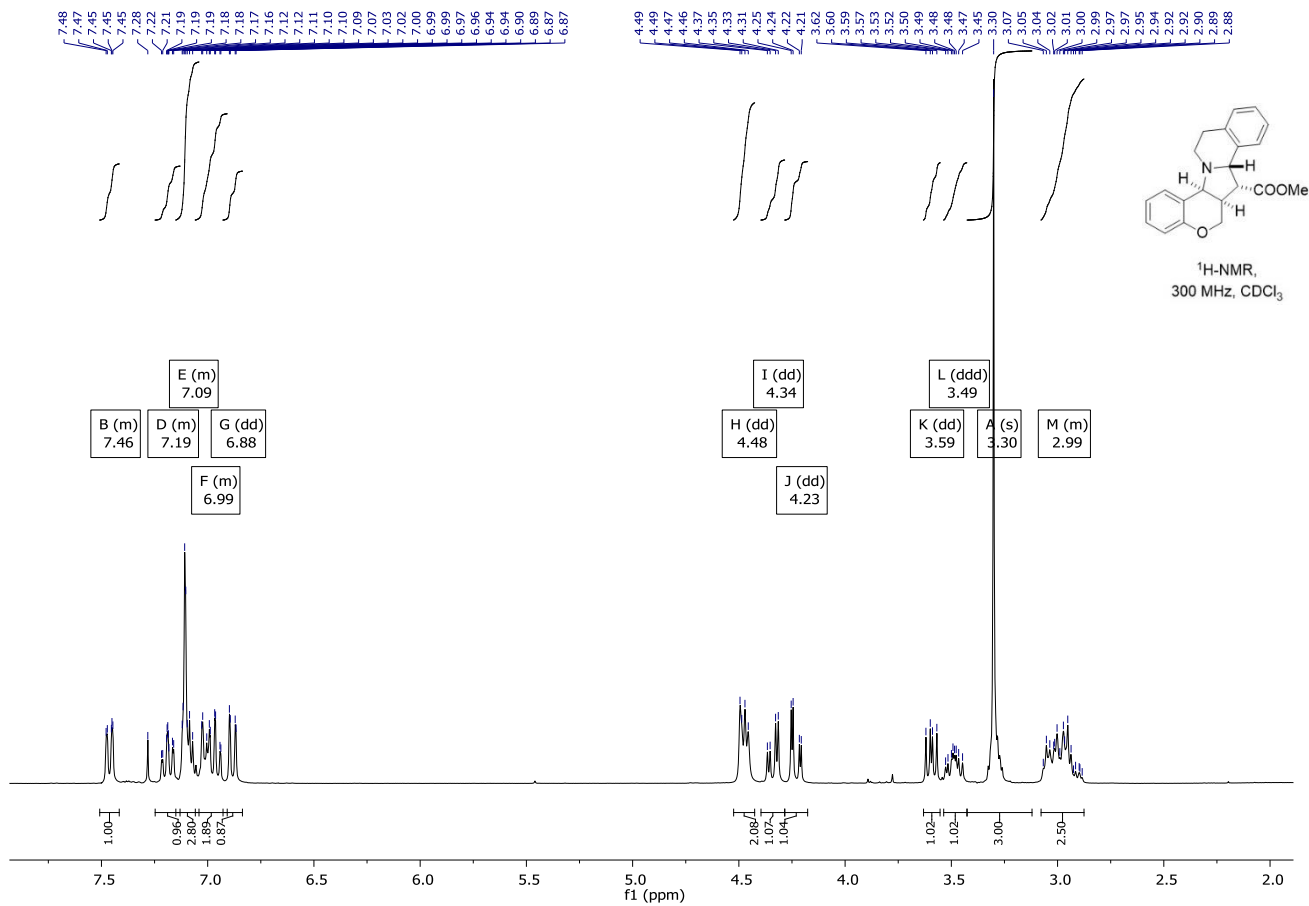
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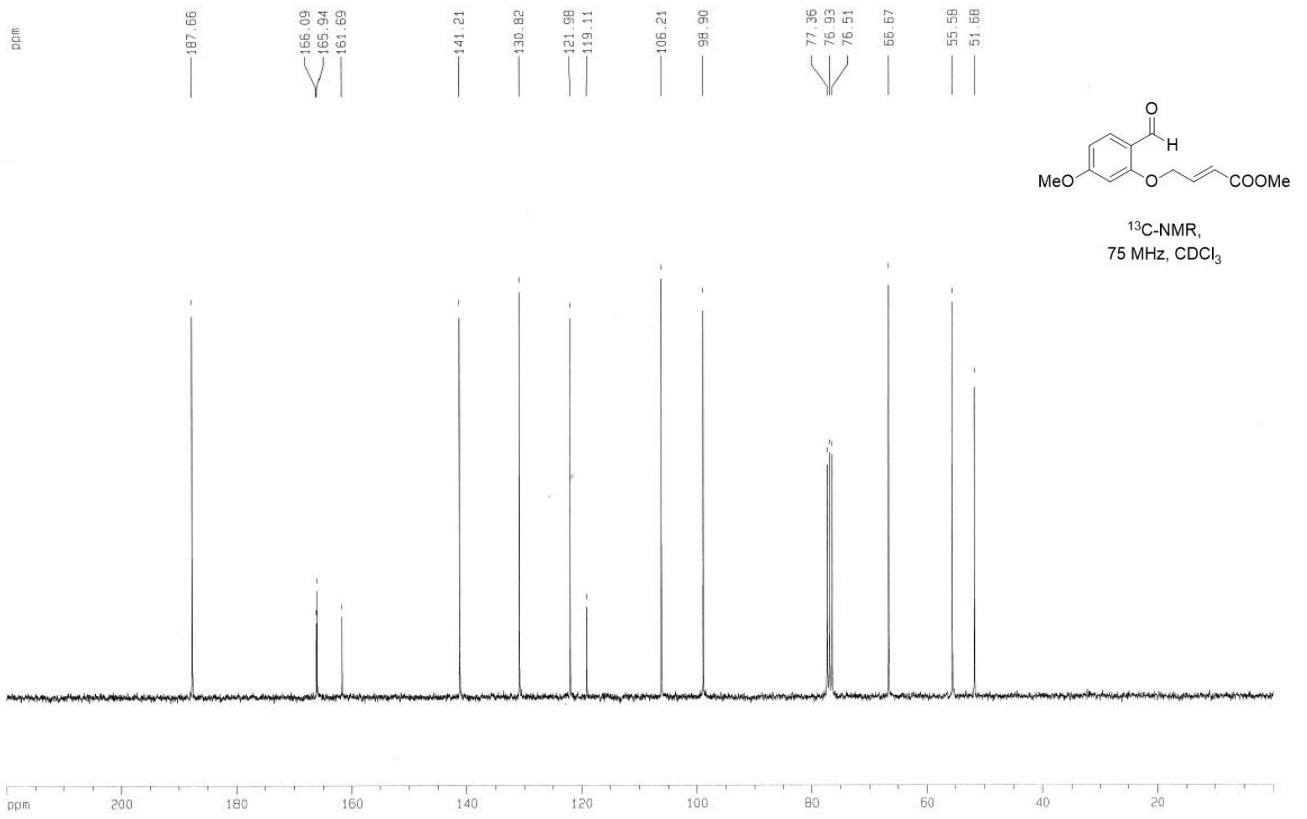
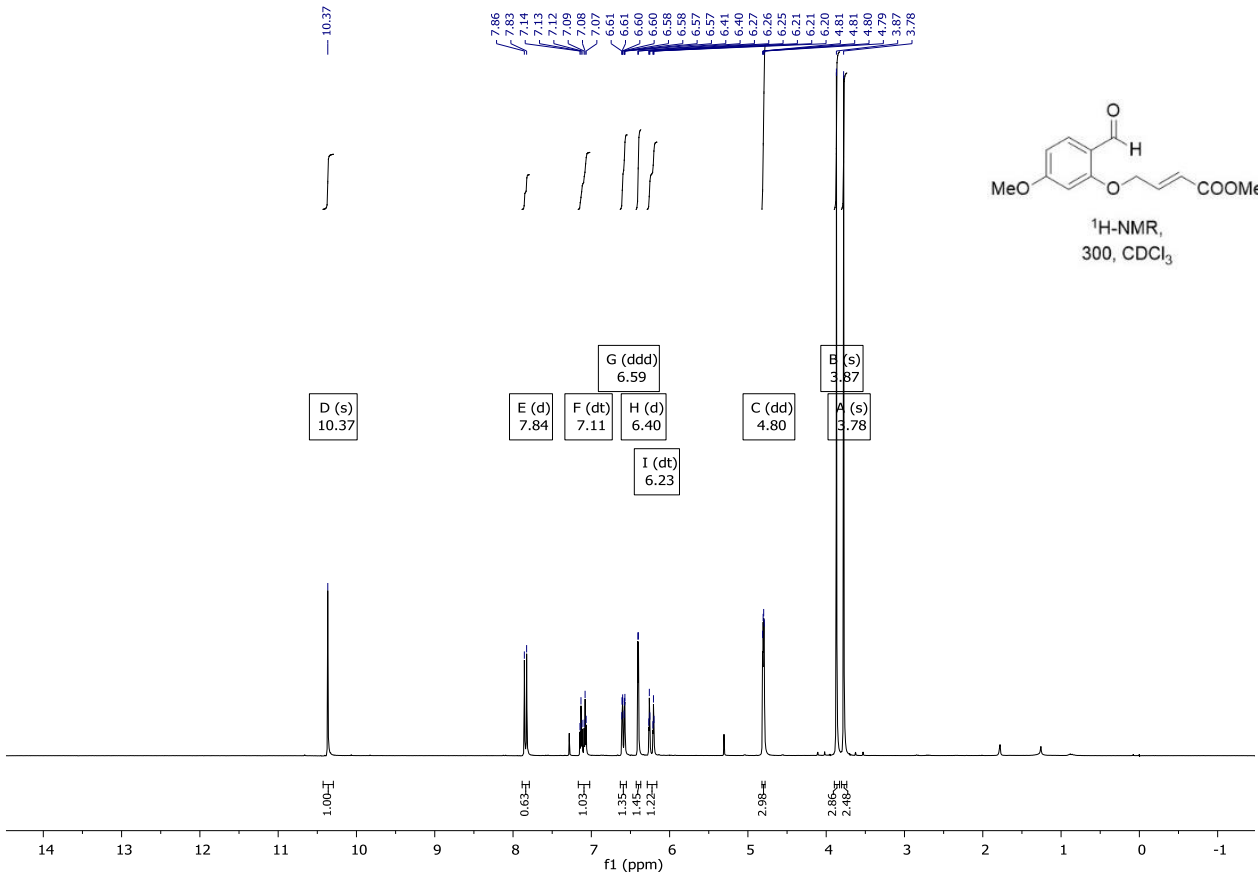
1. <sup>1</sup> H and <sup>13</sup> C-NMR spectra of the synthesized compounds	S2
2. UV-Visible spectra of compounds <b>PA1</b> , <b>PA2</b> , <b>1</b> and <b>4a</b> .	S7

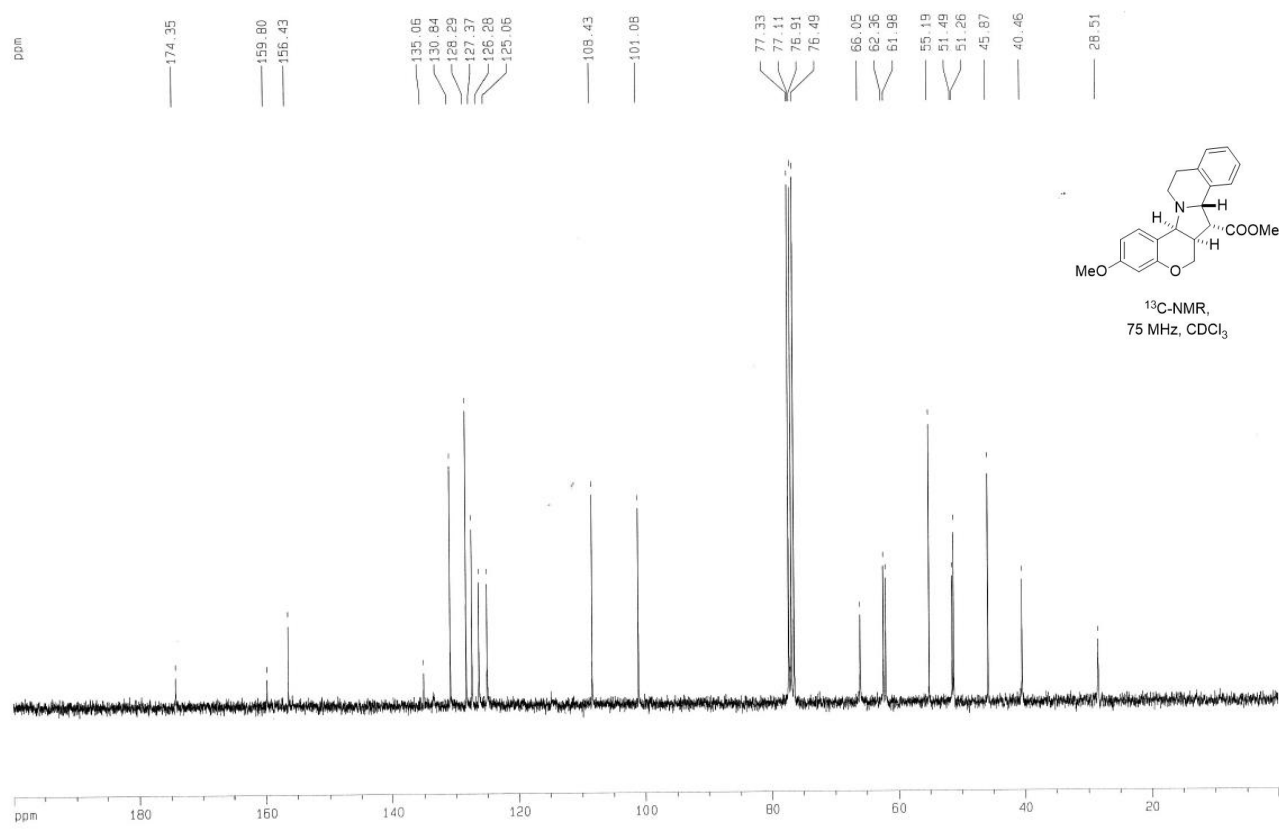
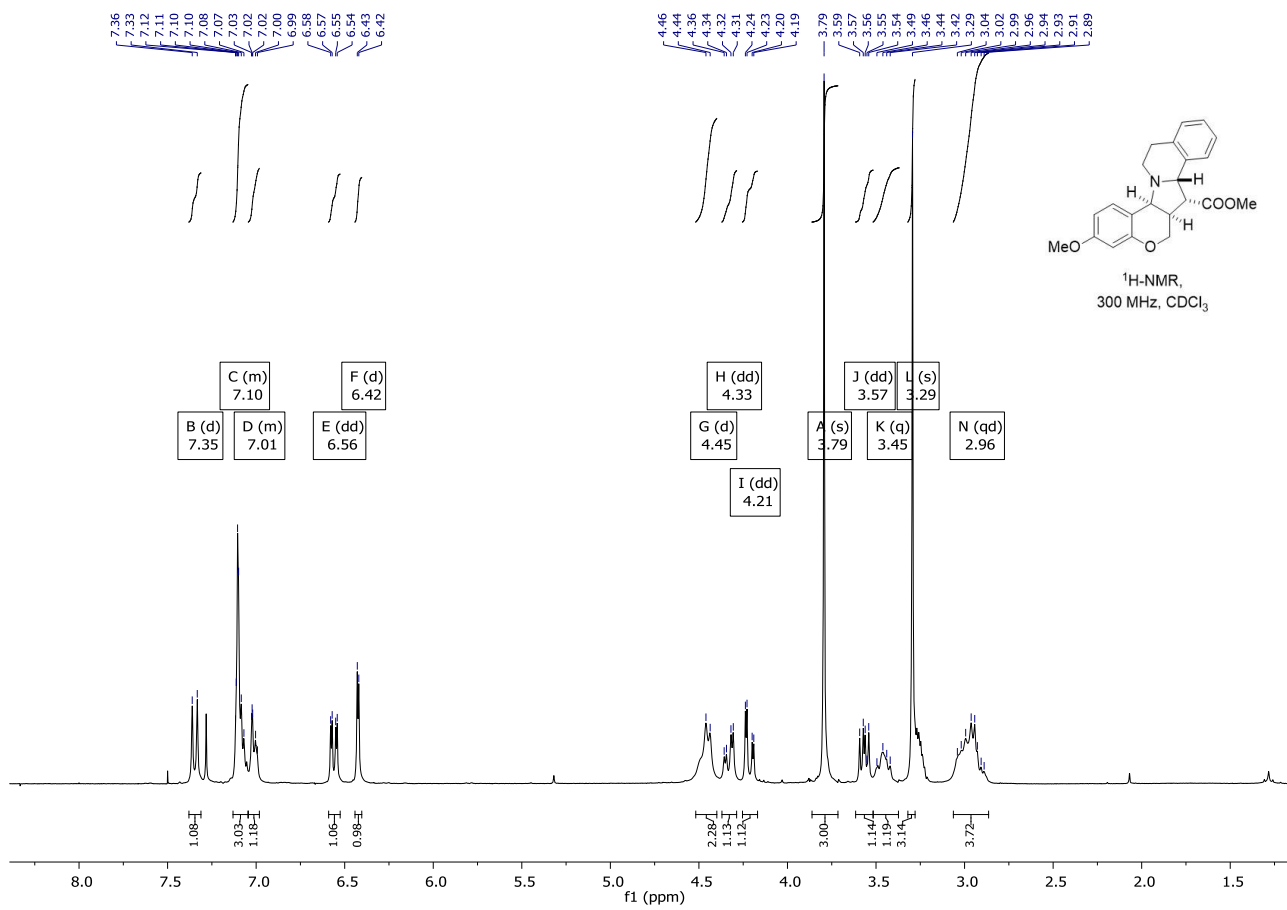
# 1. <sup>1</sup>H and <sup>13</sup>C-NMR spectra of the synthesized compounds.



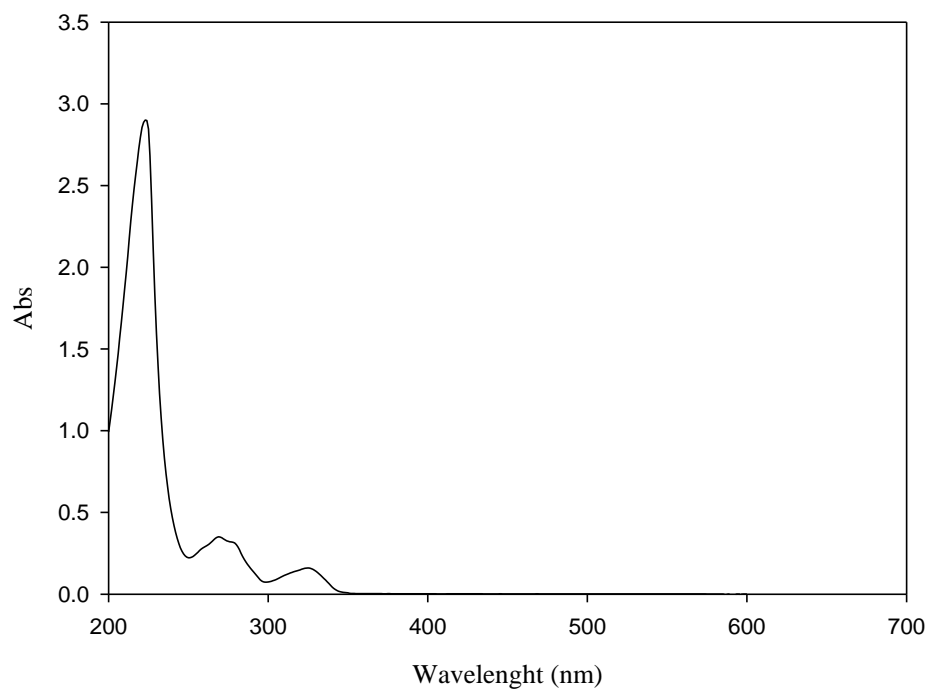




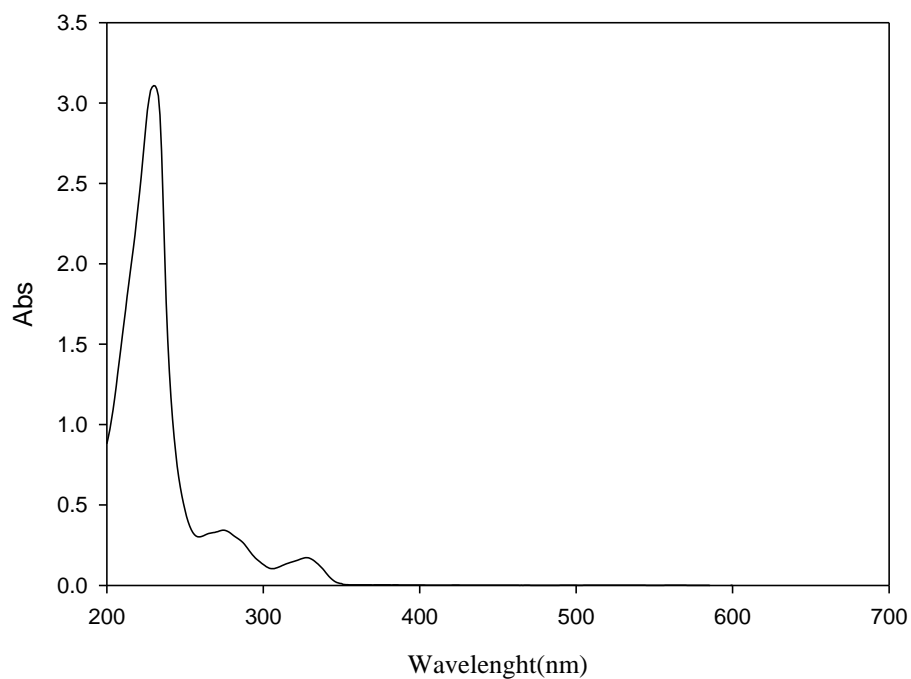




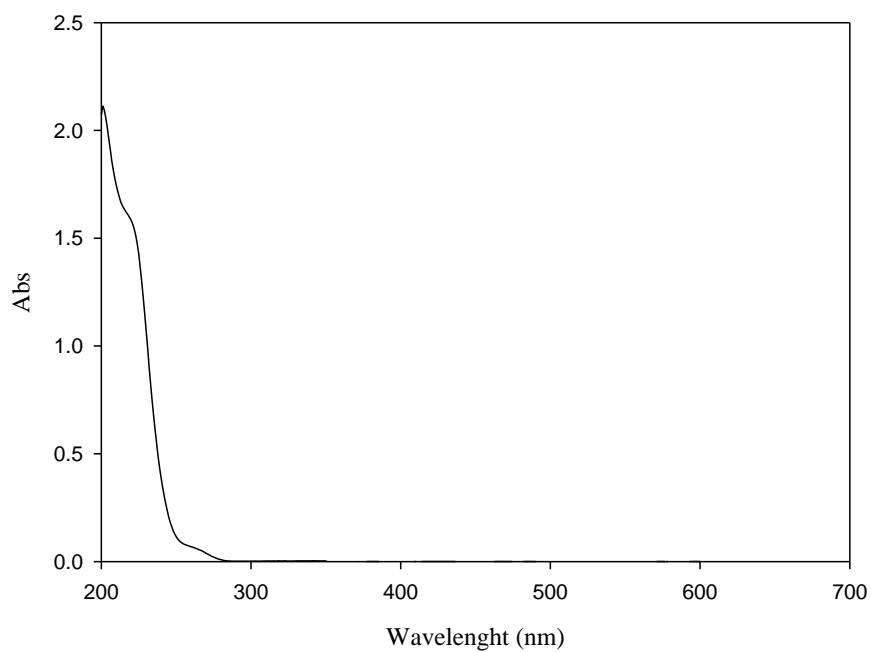
## 2. UV-Visible spectra of compounds PA1, PA2, 1 and 4a.



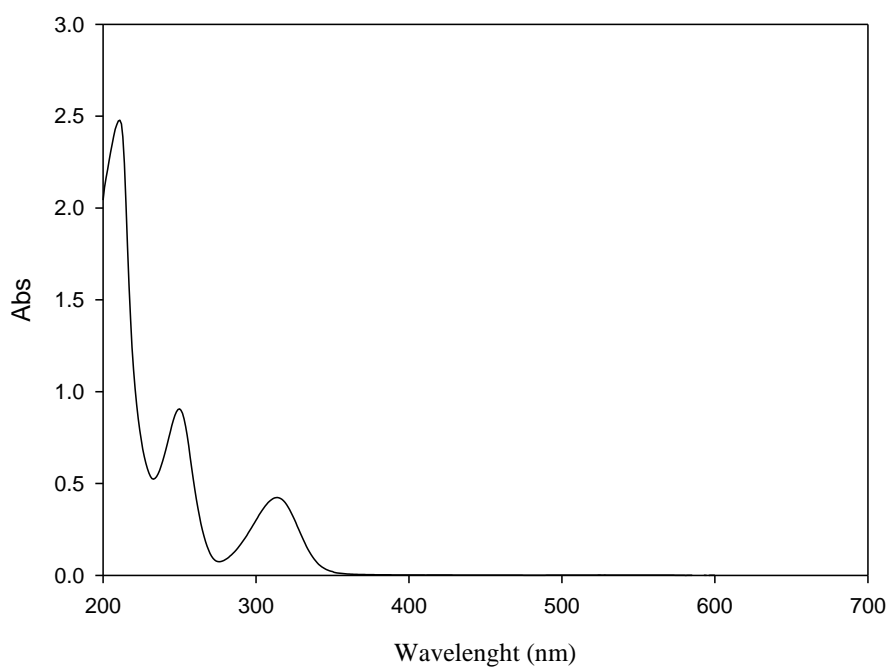
**Figure S1.** UV-Visible spectra of a solution  $10^{-4}$  M of 2-Naphtol (**PA1**) in Acetonitrile.



**Figure S2.** UV-Visible spectra of a solution  $10^{-4}$  M of 7-Bromo-2-naphtol in Acetonitrile

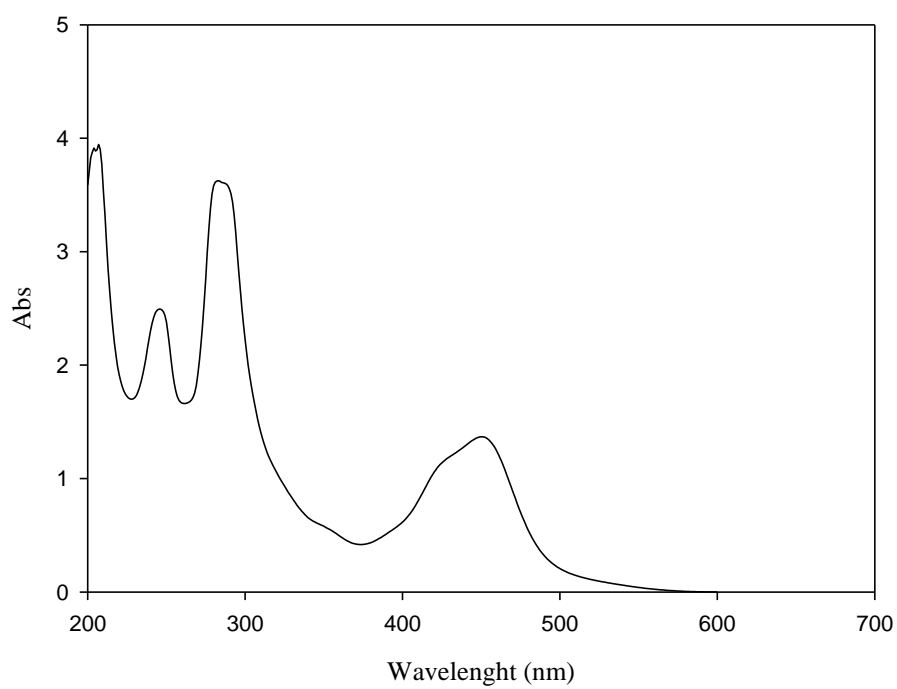


**Figure S3.** UV-Visible spectra of a solution  $10^{-4}$  M of Benzyl 2,2,2-trichloroacetimidate **1** in Acetonitrile



**Figure S4.** UV-Visible spectra of a solution  $10^{-4}$  M of (E)-methyl 4-(2-formylphenoxy)but-2-enoate **4a** in Acetonitrile





**Figure S5.** UV-Visible spectra of a solution  $10^{-4}$  M of Tris(2,2'-bipyridyl)dichlororuthenium(II) hexahydrate in Acetonitrile