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Supplementary Material

**Studies on the Enantioselective Synthesis of Carbazolones as Intermediates in  
Aspidosperma and Kopsia Alkaloid synthesis**

Christopher J. Gartshore and David W. Lupton\*

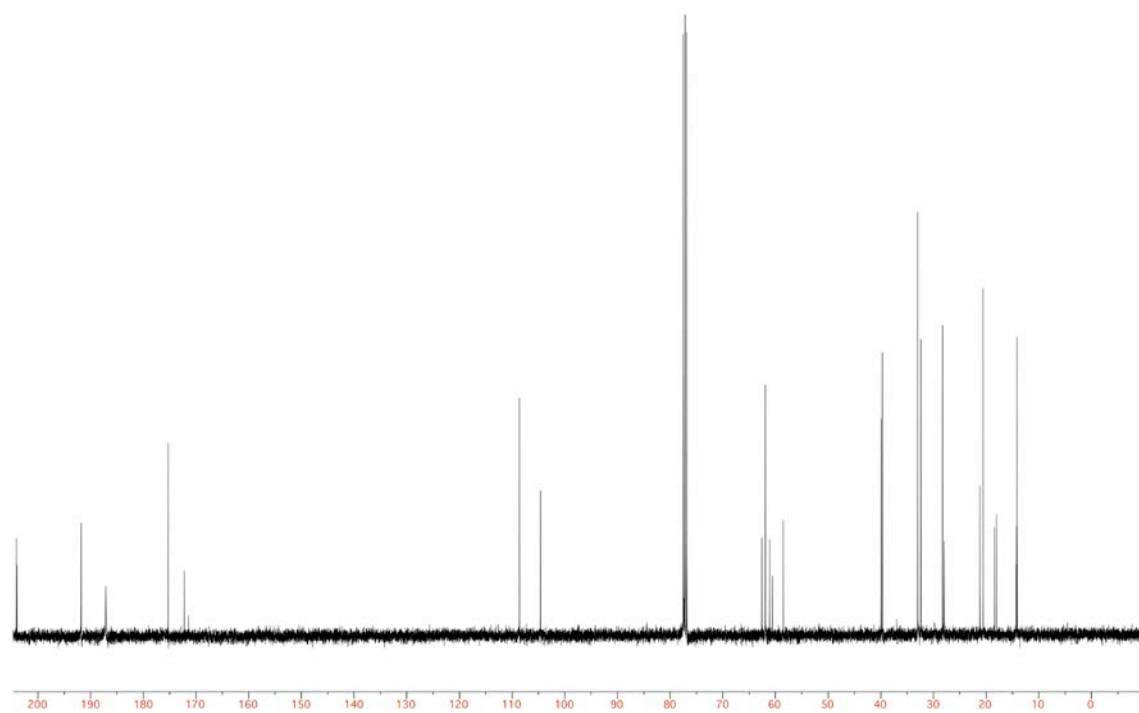
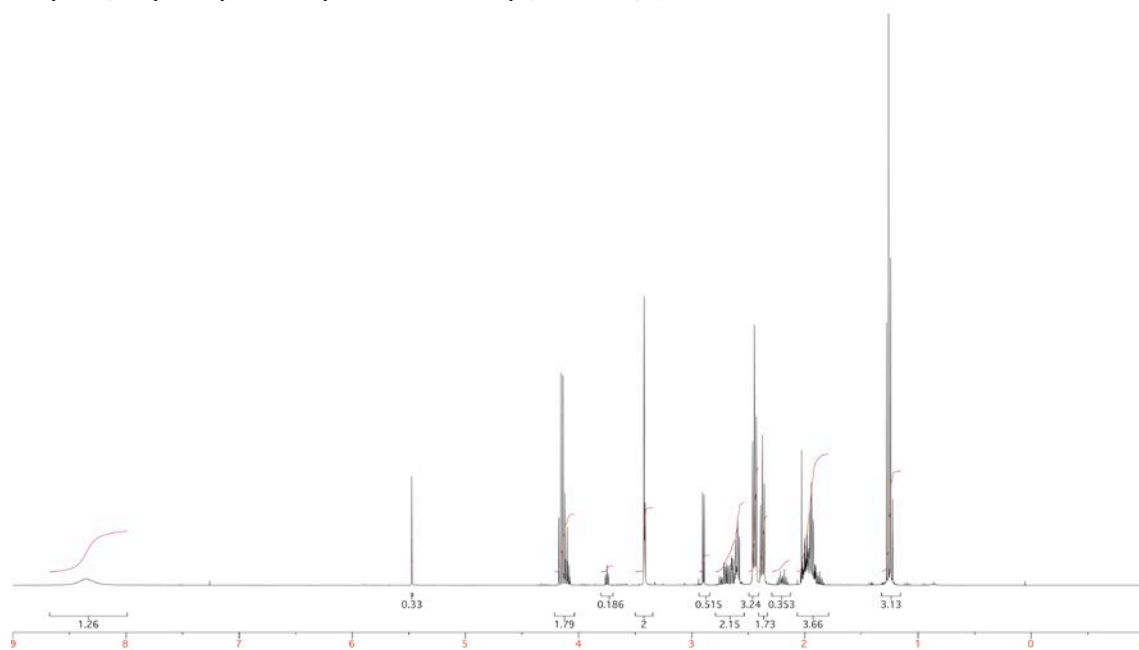
*School of Chemistry, Monash University, Clayton 3800, Victoria, AUSTRALIA*

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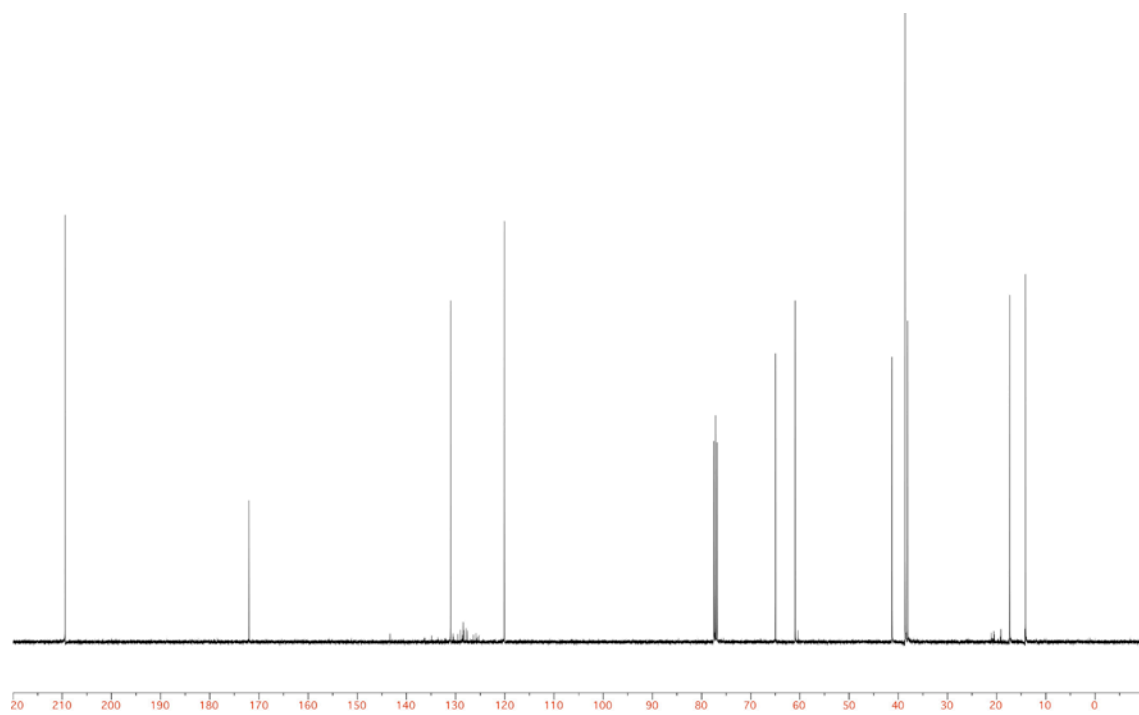
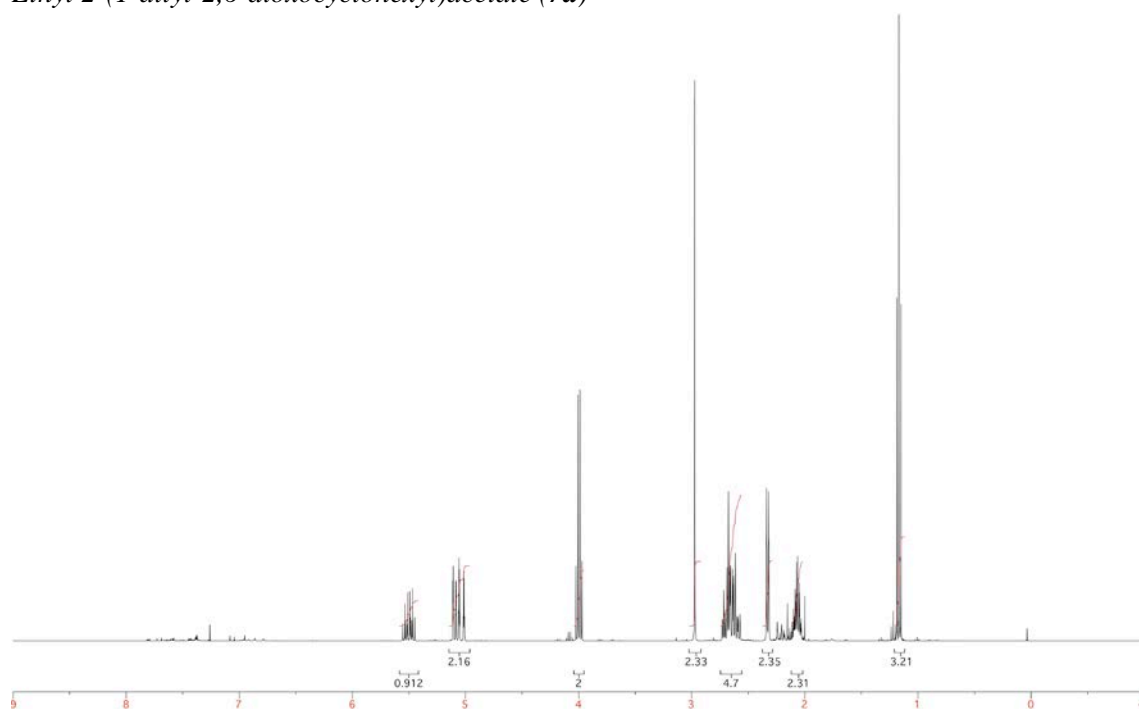
I      <sup>1</sup>H and <sup>13</sup>C NMR spectra

SI-2

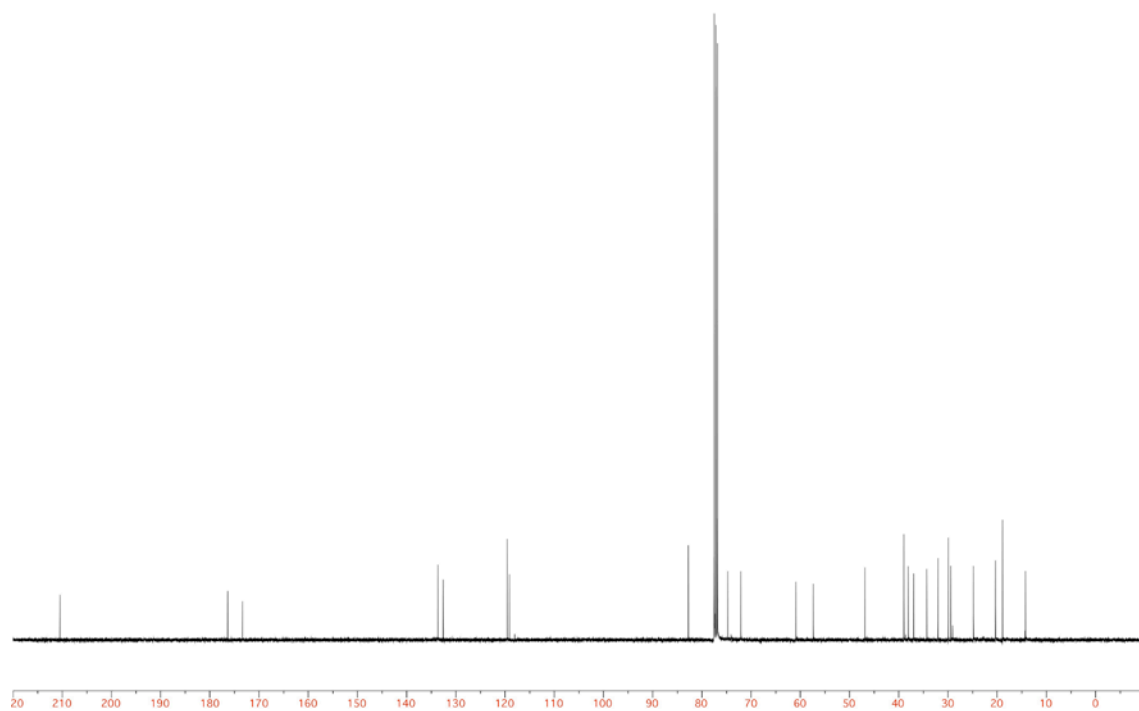
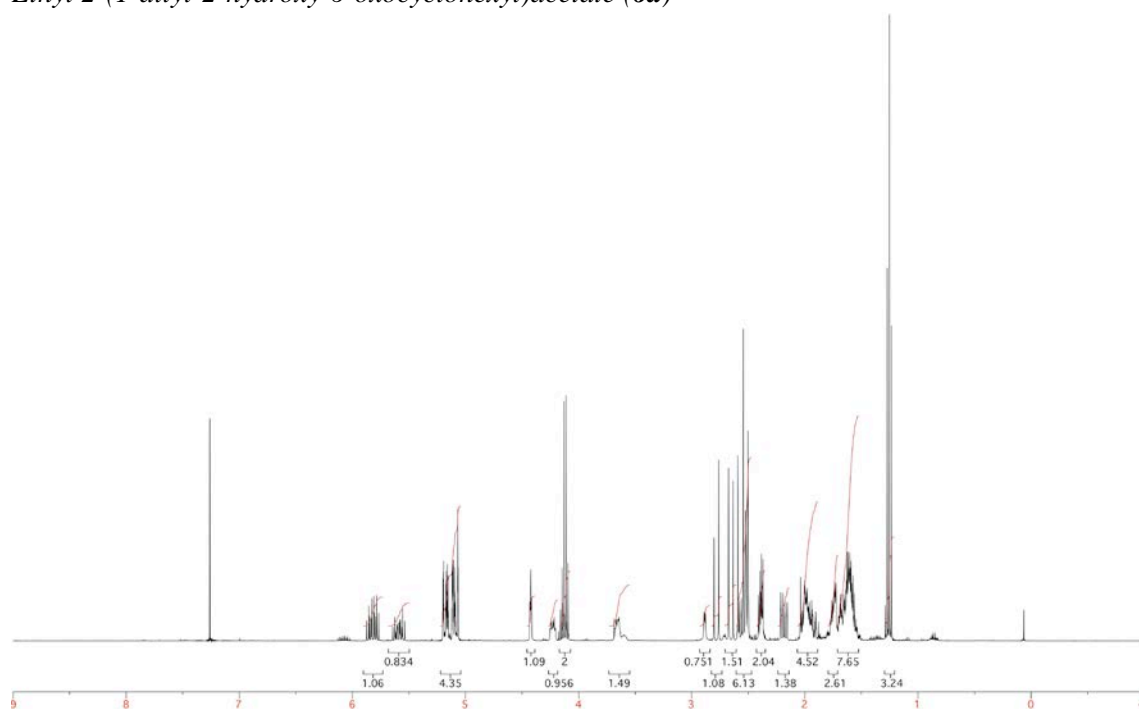
*Ethyl 2-(2-hydroxy-6-oxocyclohex-1-en-1-yl)acetate (9)*



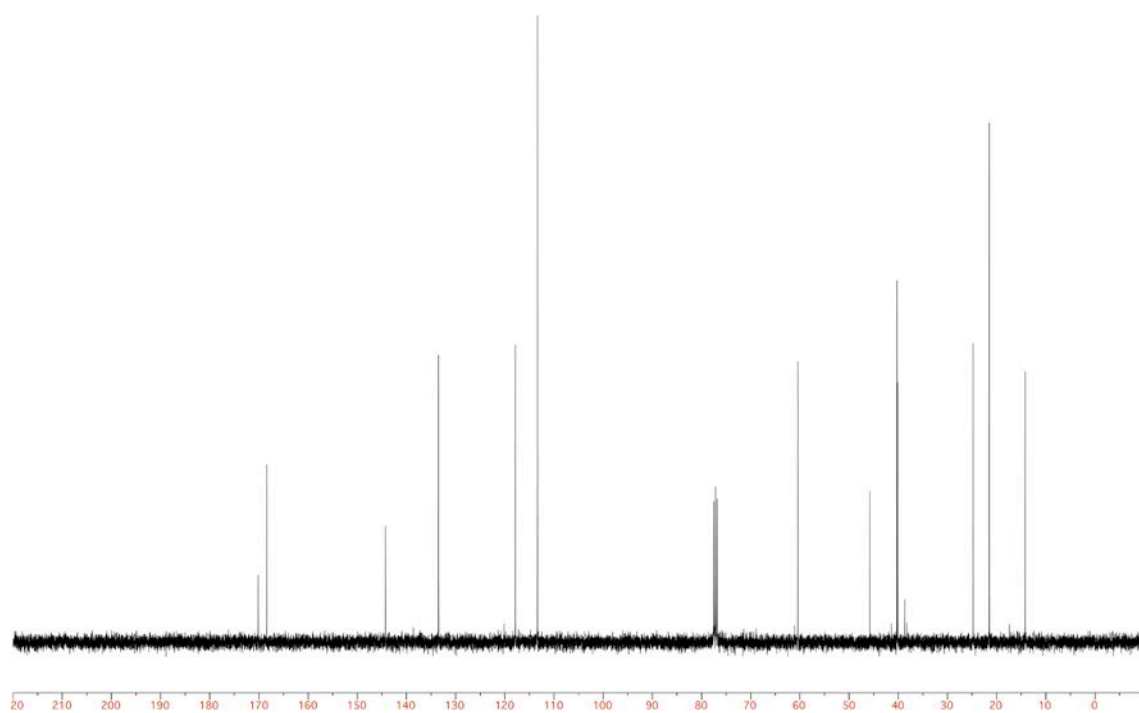
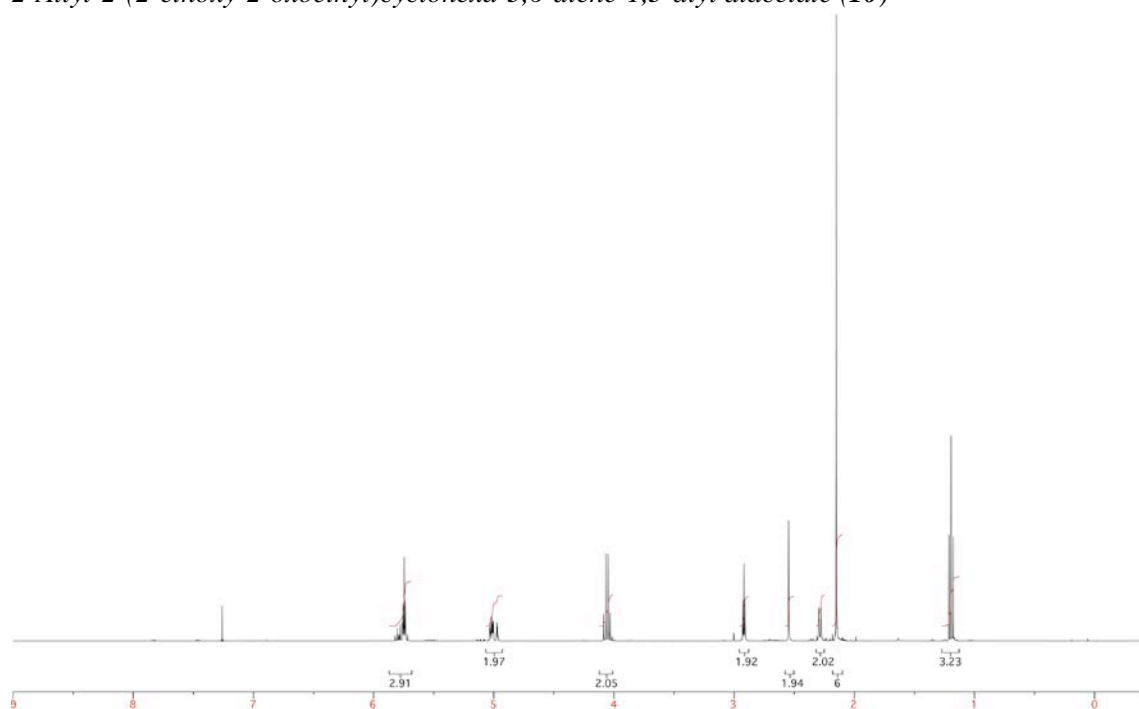
*Ethyl 2-(1-allyl-2,6-dioxocyclohexyl)acetate (7a)*



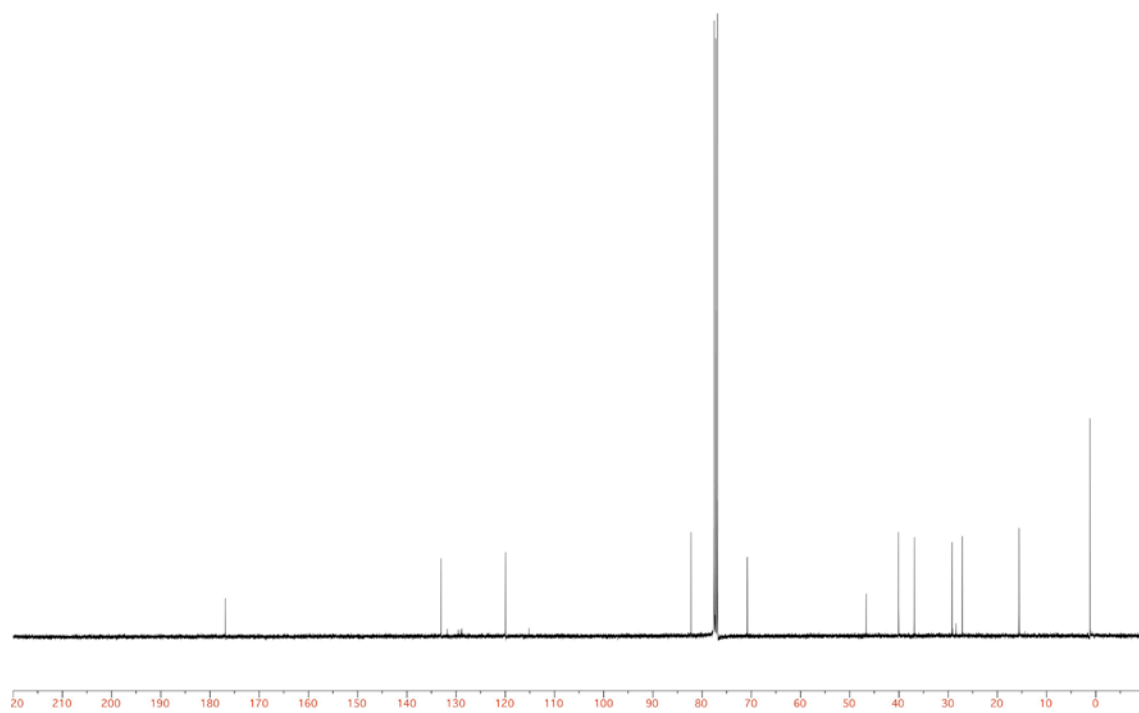
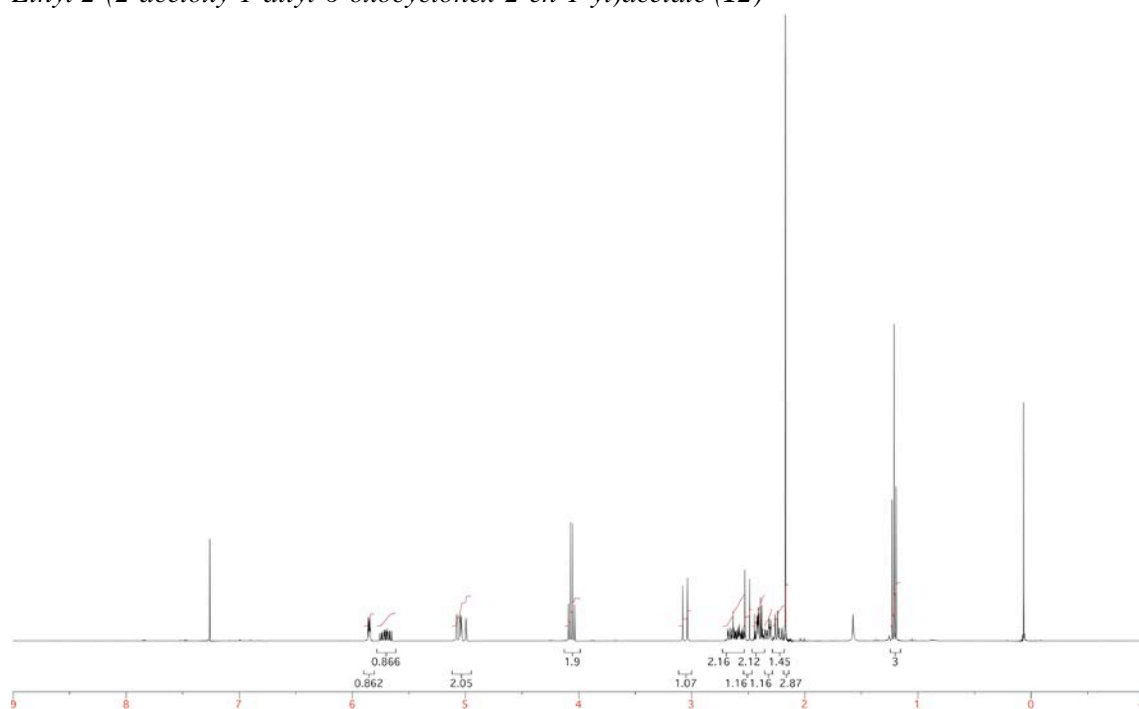
*Ethyl 2-(1-allyl-2-hydroxy-6-oxocyclohexyl)acetate (6a)*



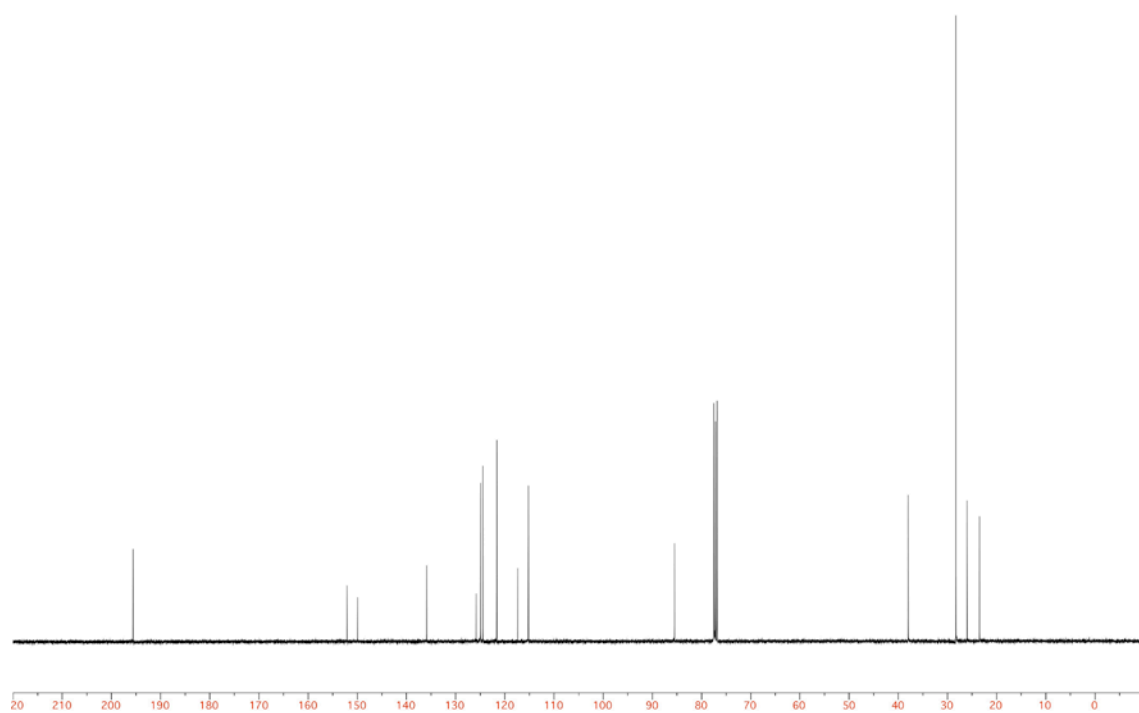
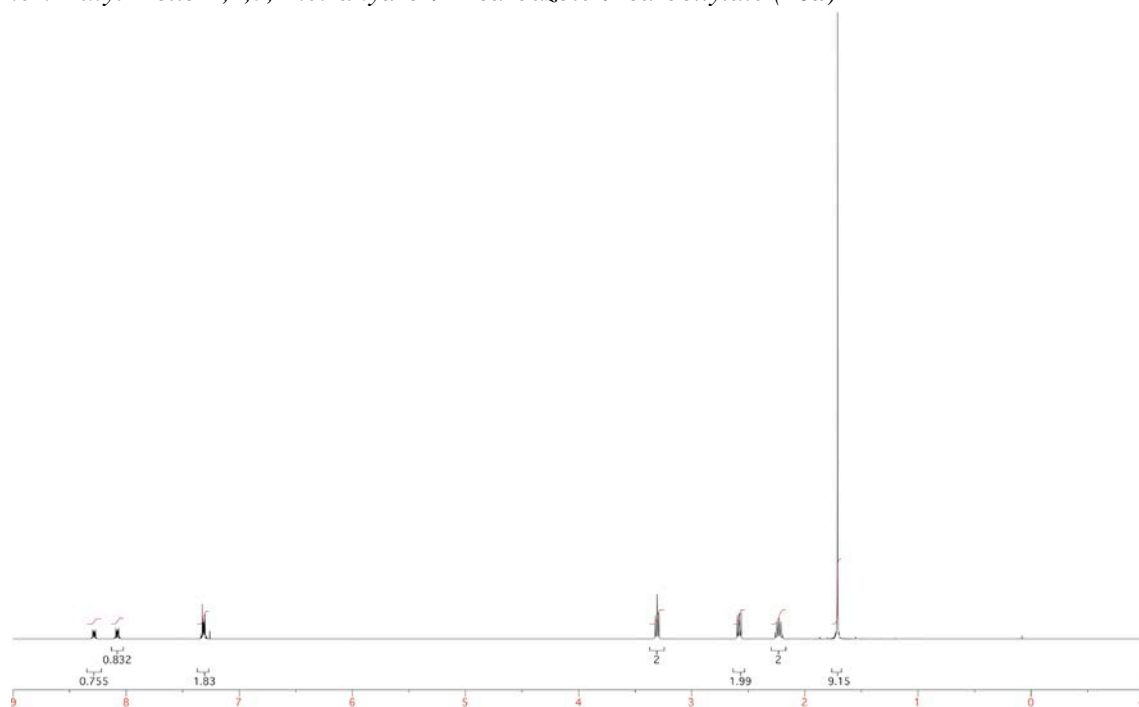
*2-Allyl-2-(2-ethoxy-2-oxoethyl)cyclohexa-3,6-diene-1,3-diyl diacetate (10)*



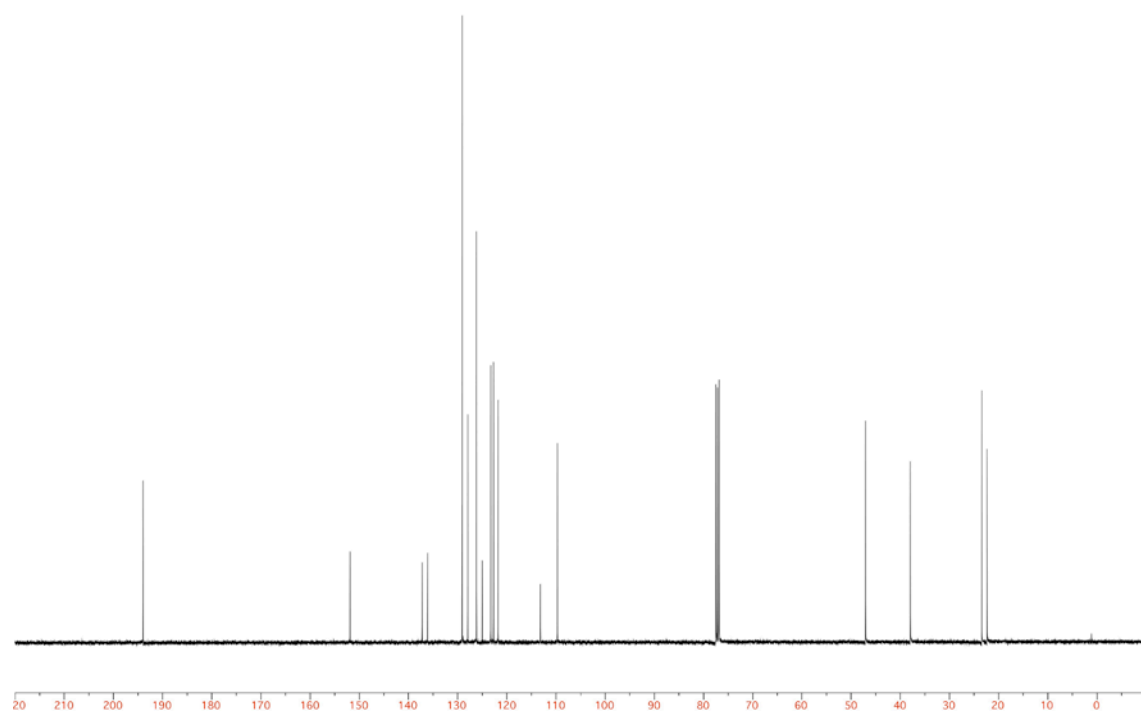
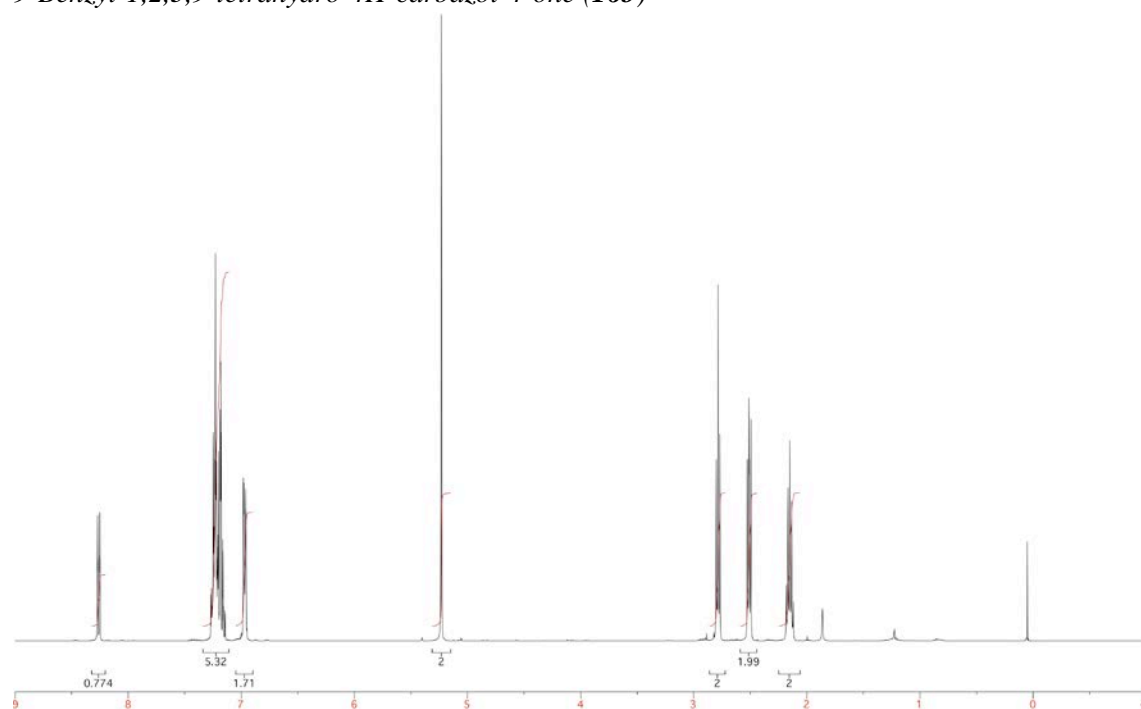
*Ethyl 2-(2-acetoxy-1-allyl-6-oxocyclohex-2-en-1-yl)acetate (12)*



*tert*-Butyl 4-oxo-1,2,3,4-tetrahydro-9H-carbazole-9-carboxylate (**16a**)

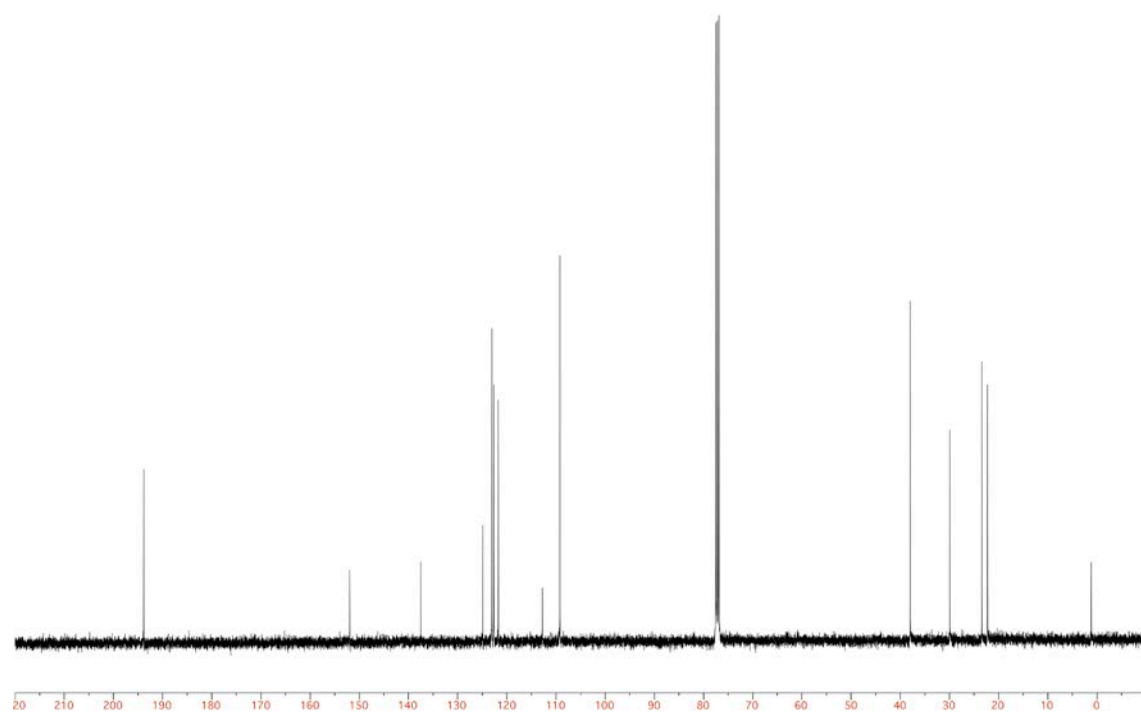
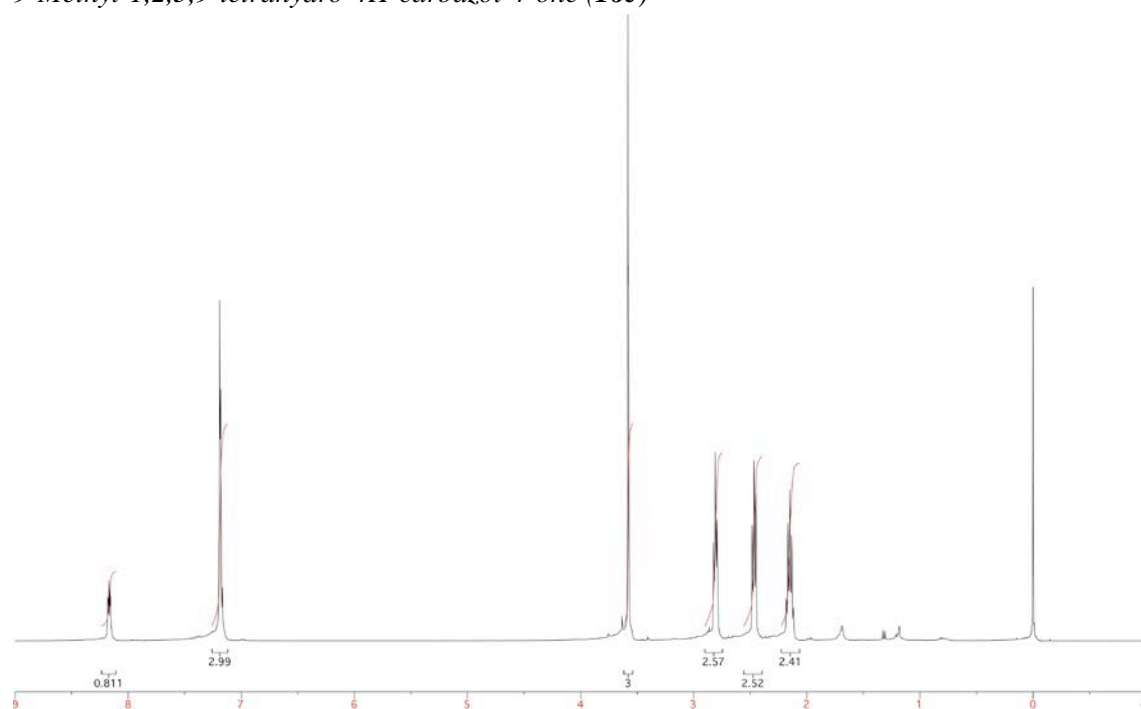


9-Benzyl-1,2,3,9-tetrahydro-4H-carbazol-4-one (**16b**)

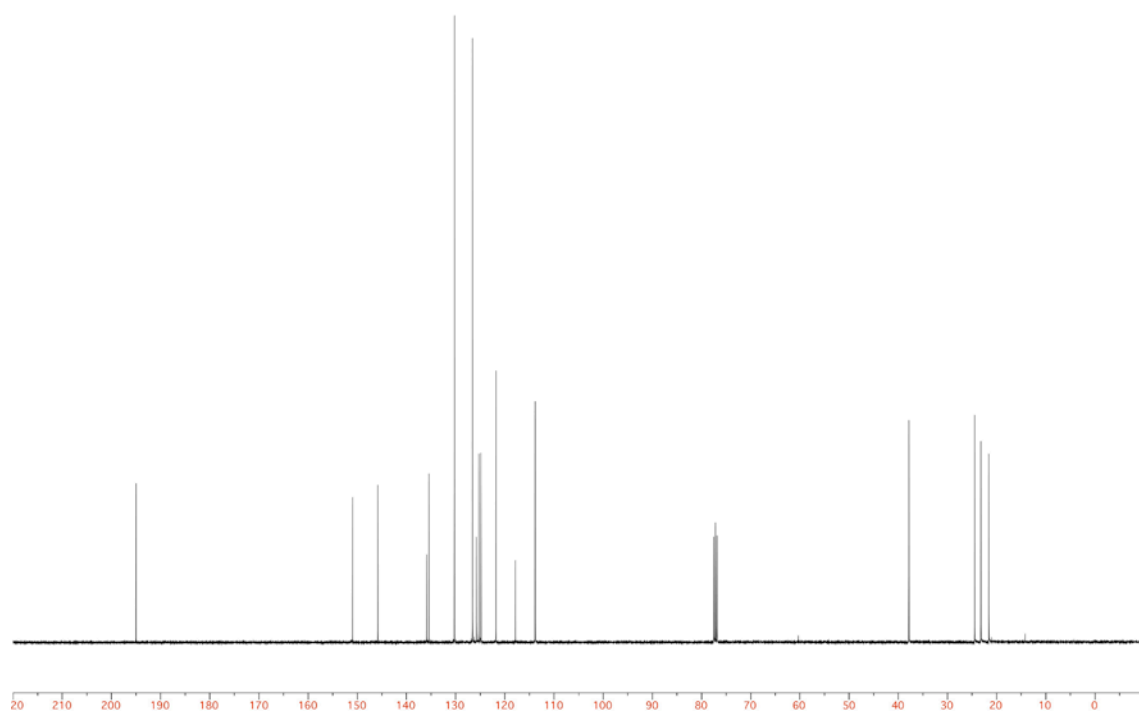
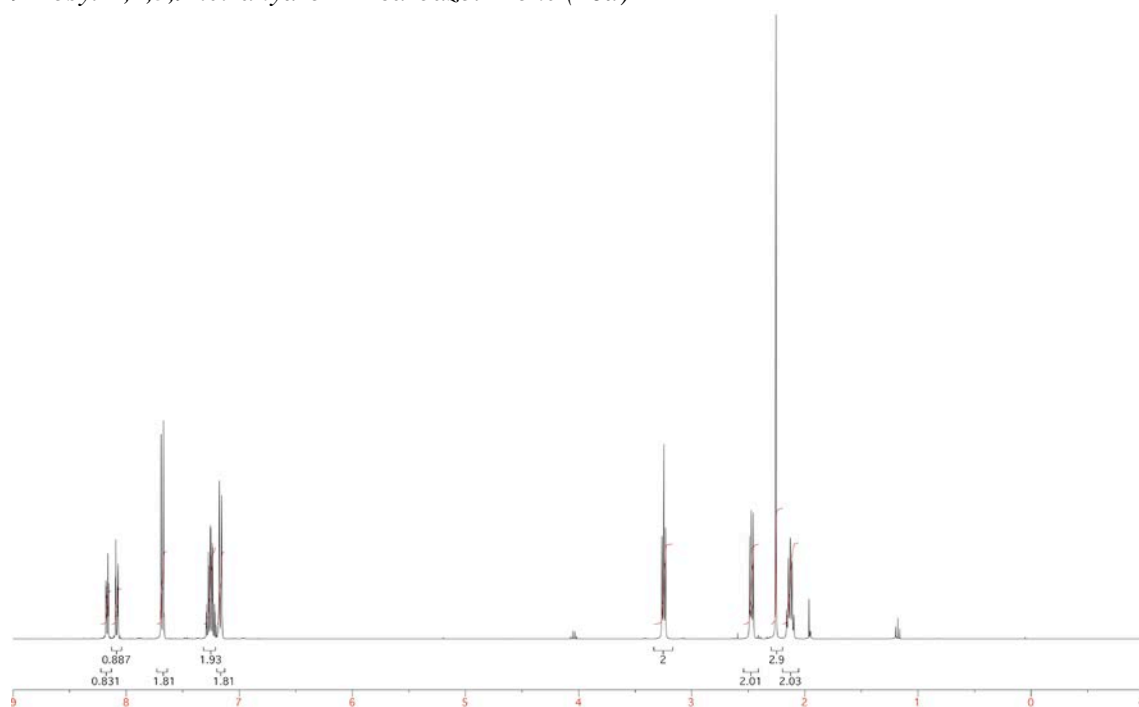




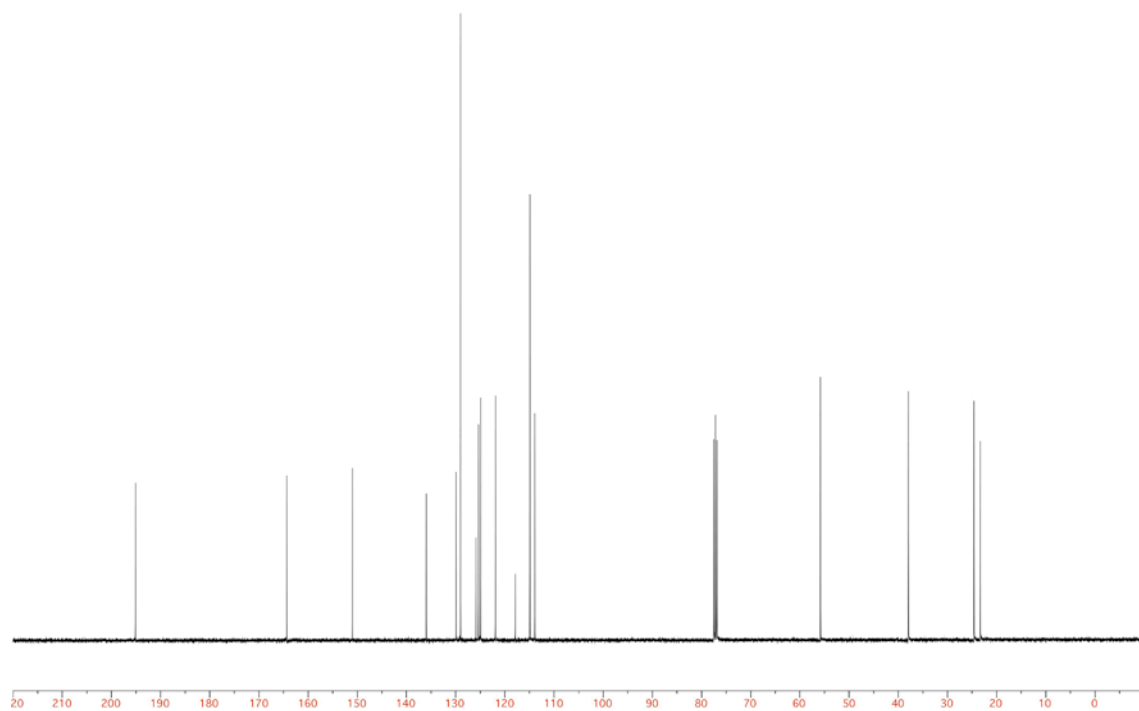
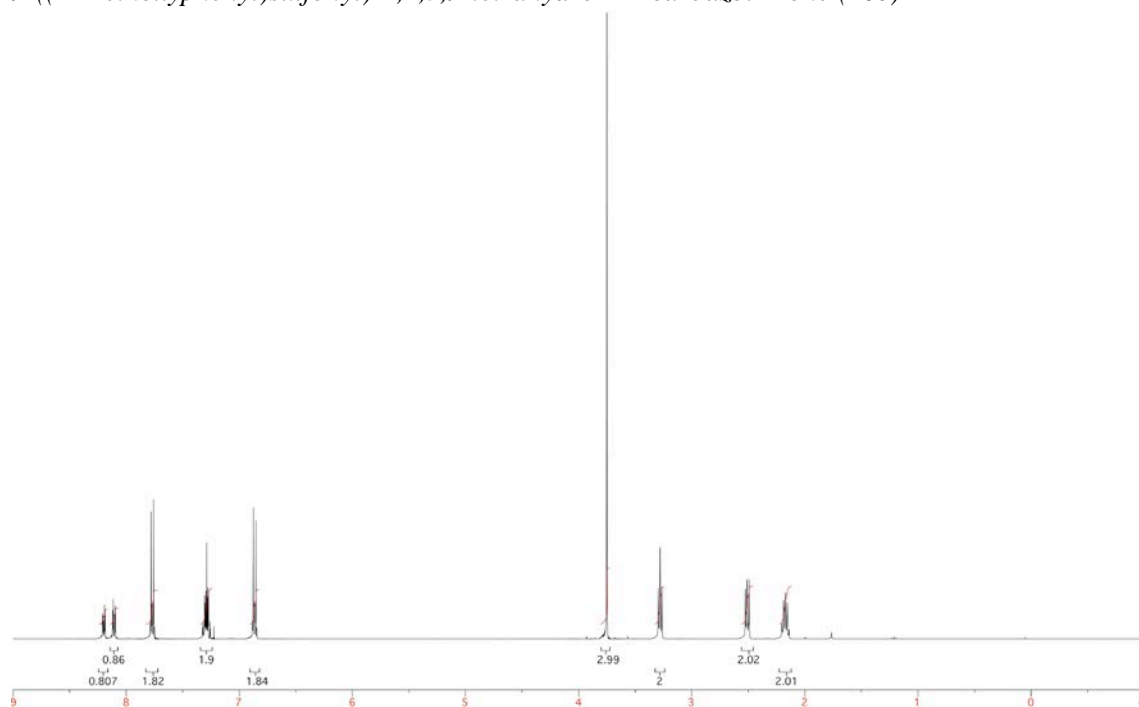
*9-Methyl-1,2,3,9-tetrahydro-4H-carbazol-4-one (16c)*



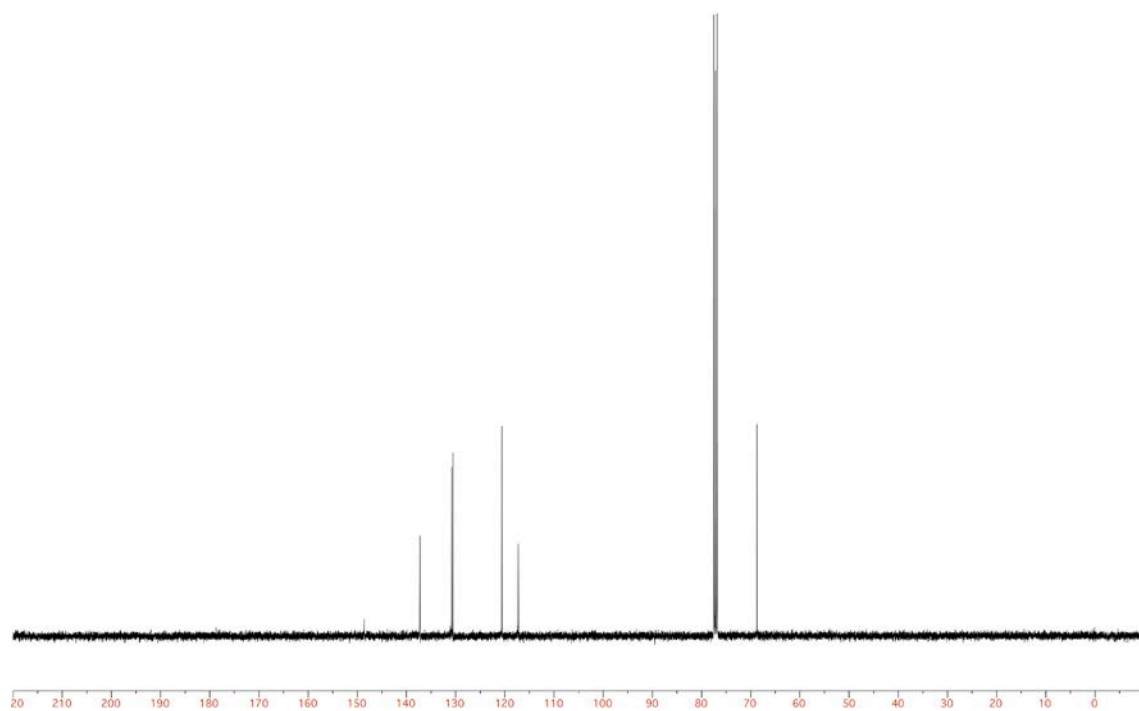
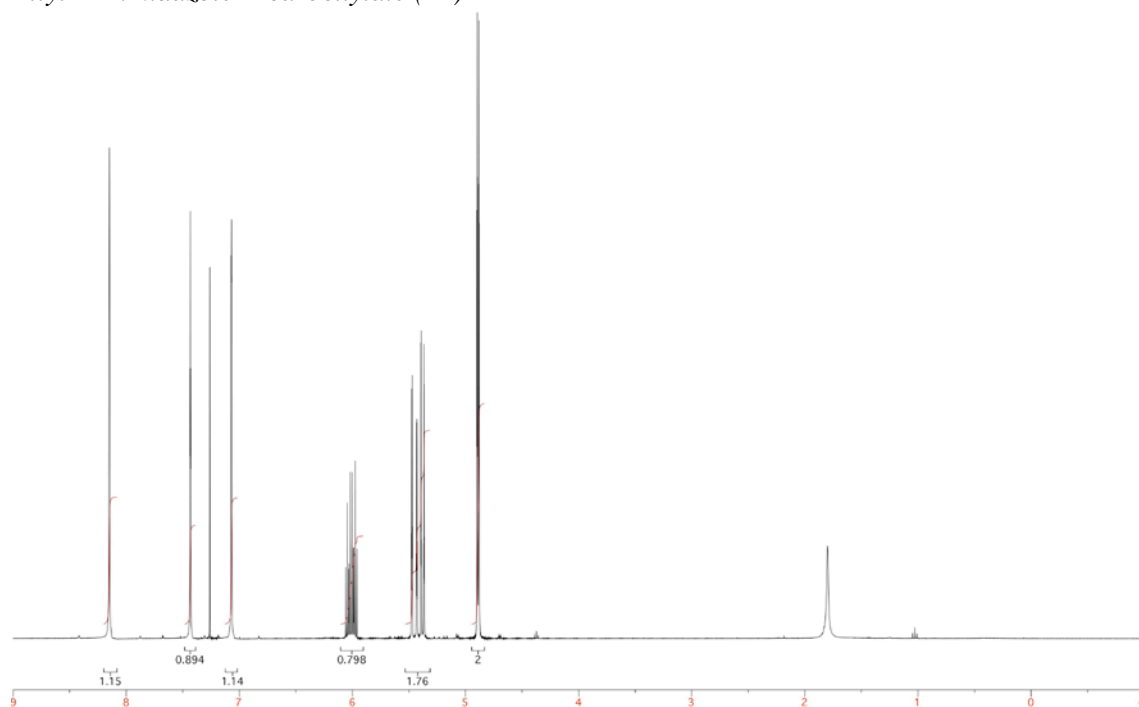
9-Tosyl-1,2,3,9-tetrahydro-4H-carbazol-4-one (**16d**)



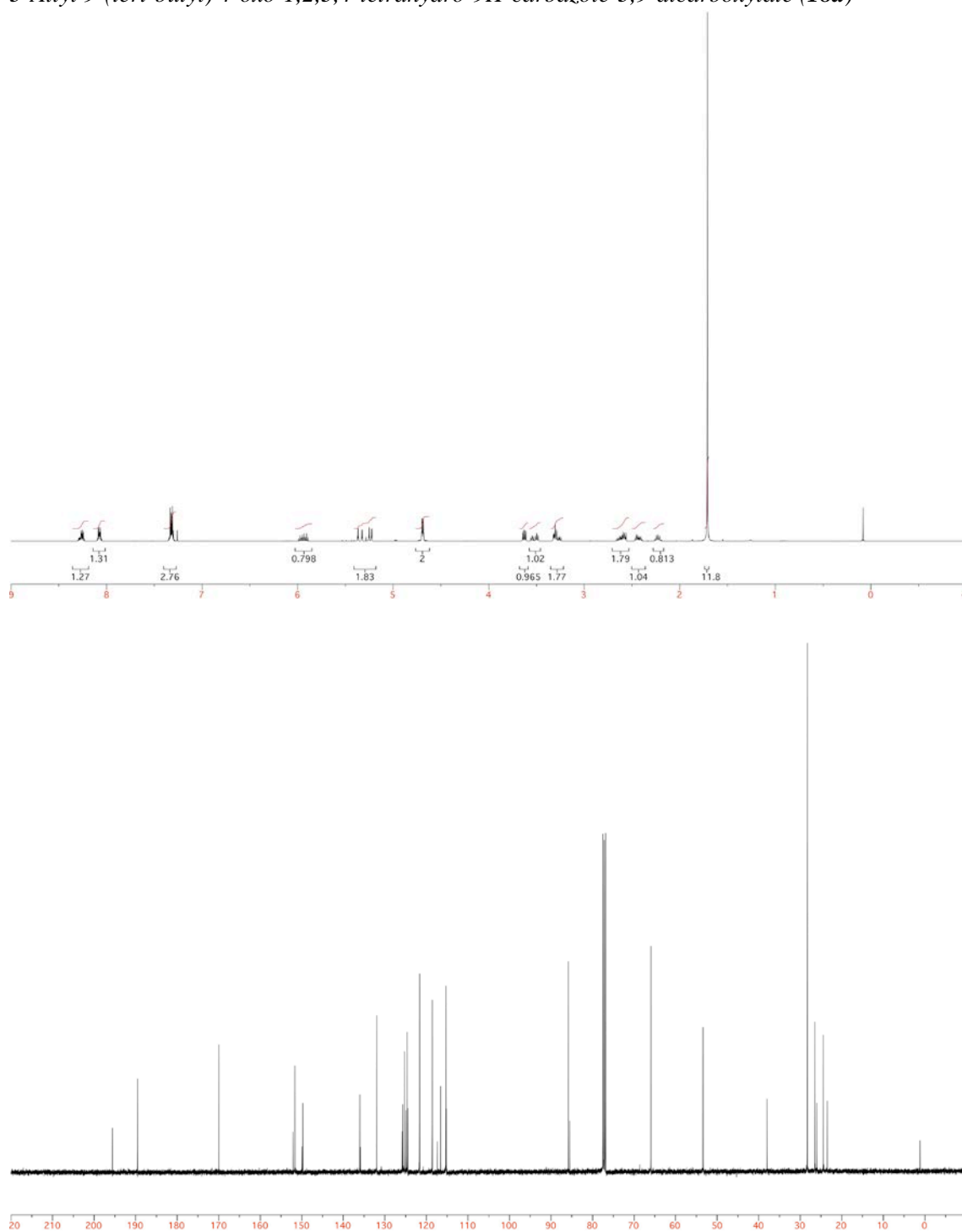
*9-((4-Methoxyphenyl)sulfonyl)-1,2,3,9-tetrahydro-4H-carbazol-4-one (16e)*



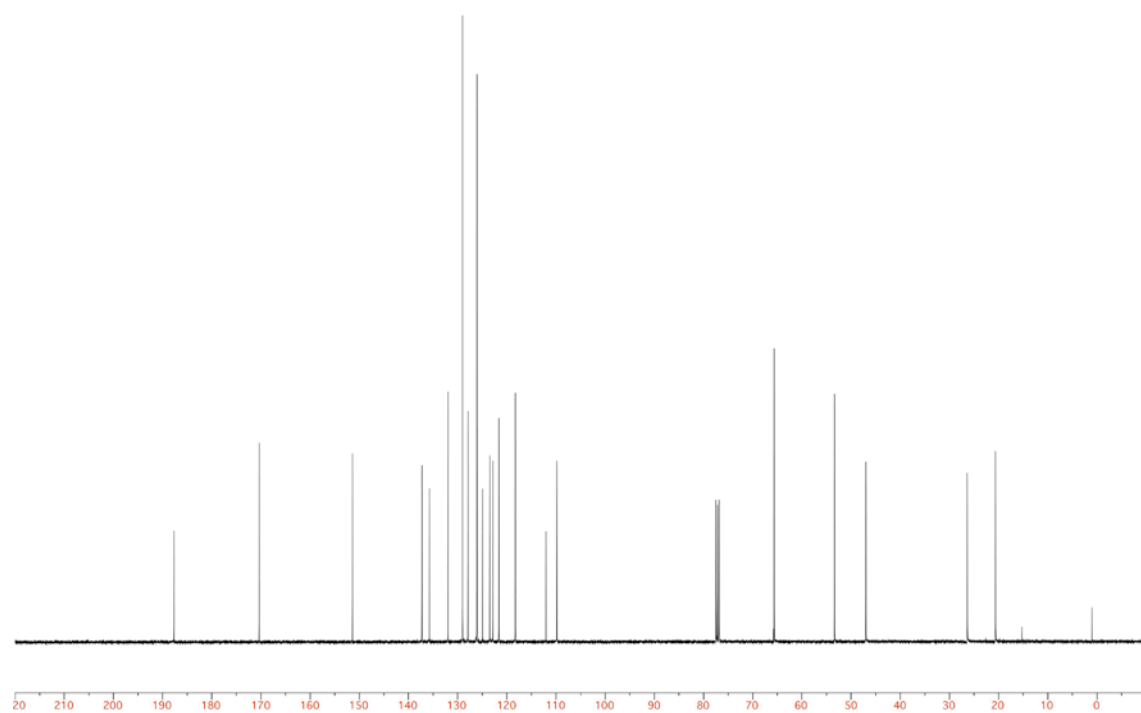
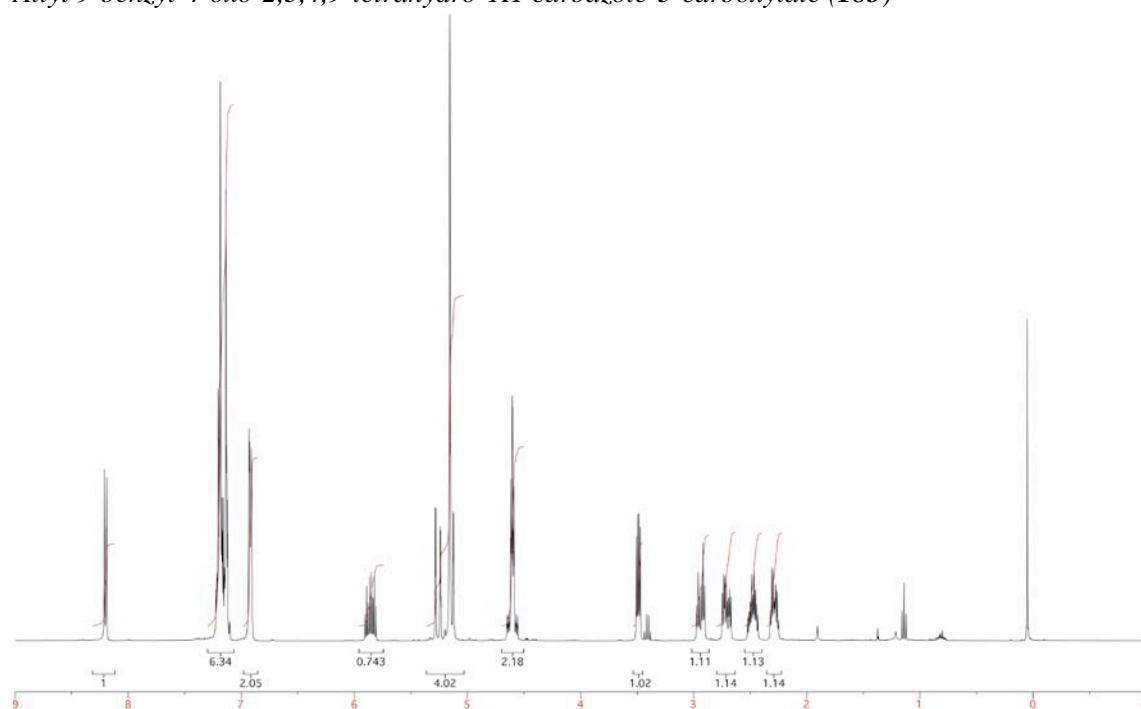
*Allyl 1H-imidazole-1-carboxylate (17)*



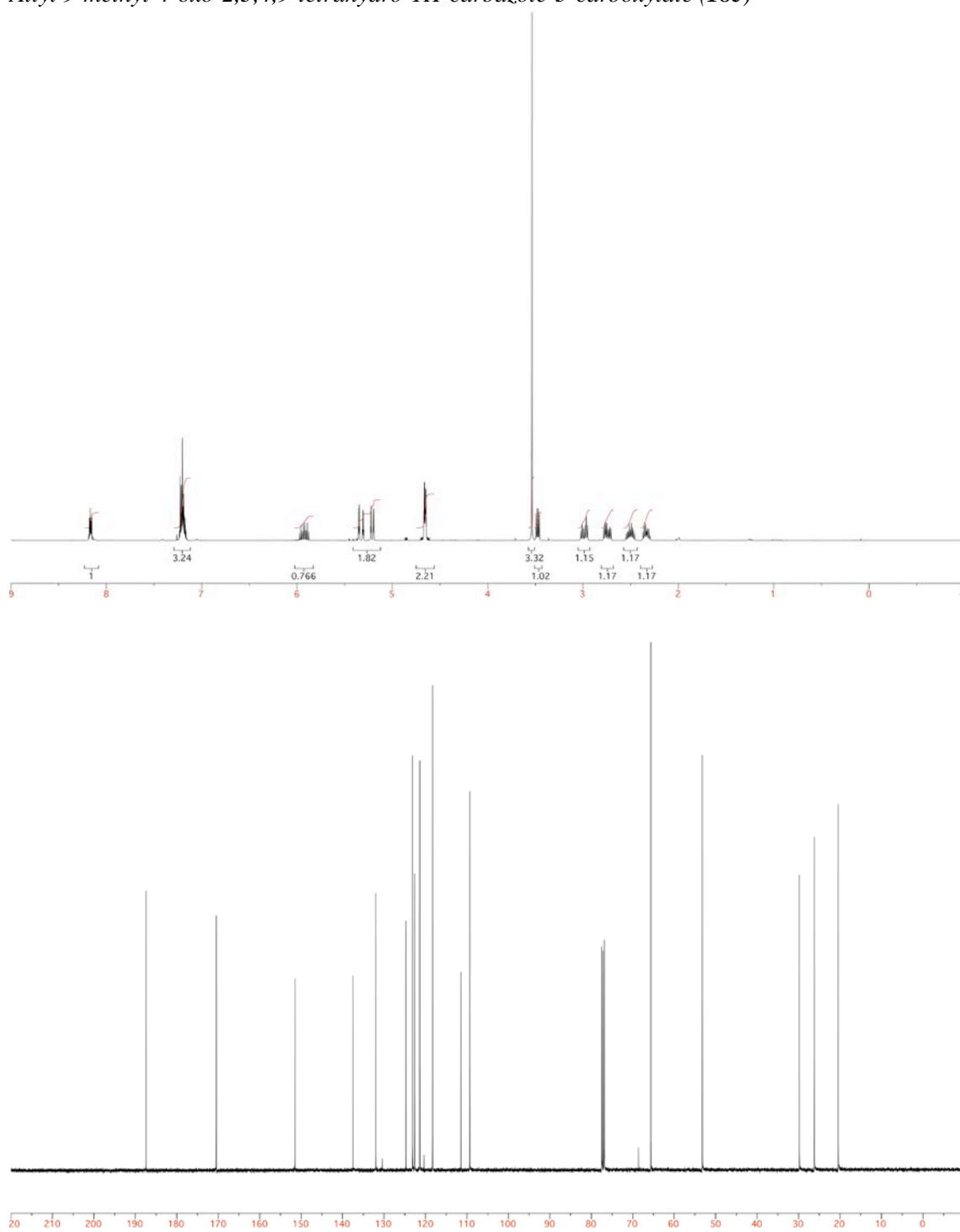
*3-Allyl 9-(tert-butyl) 4-oxo-1,2,3,4-tetrahydro-9H-carbazole-3,9-dicarboxylate (18a)*



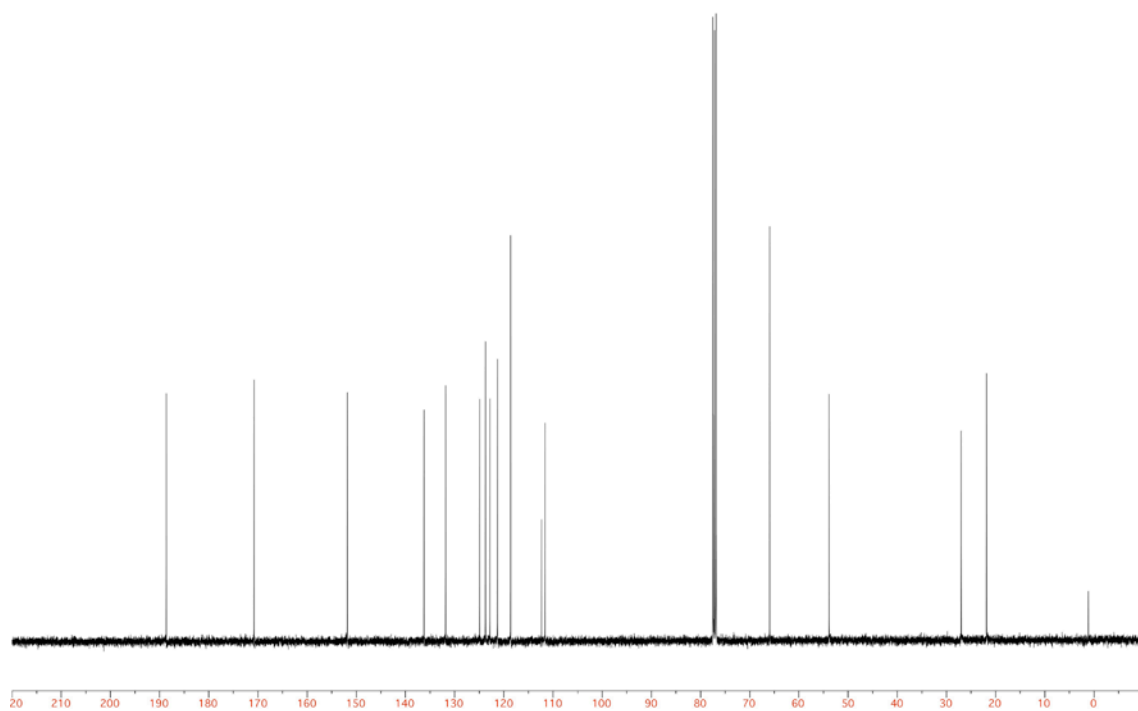
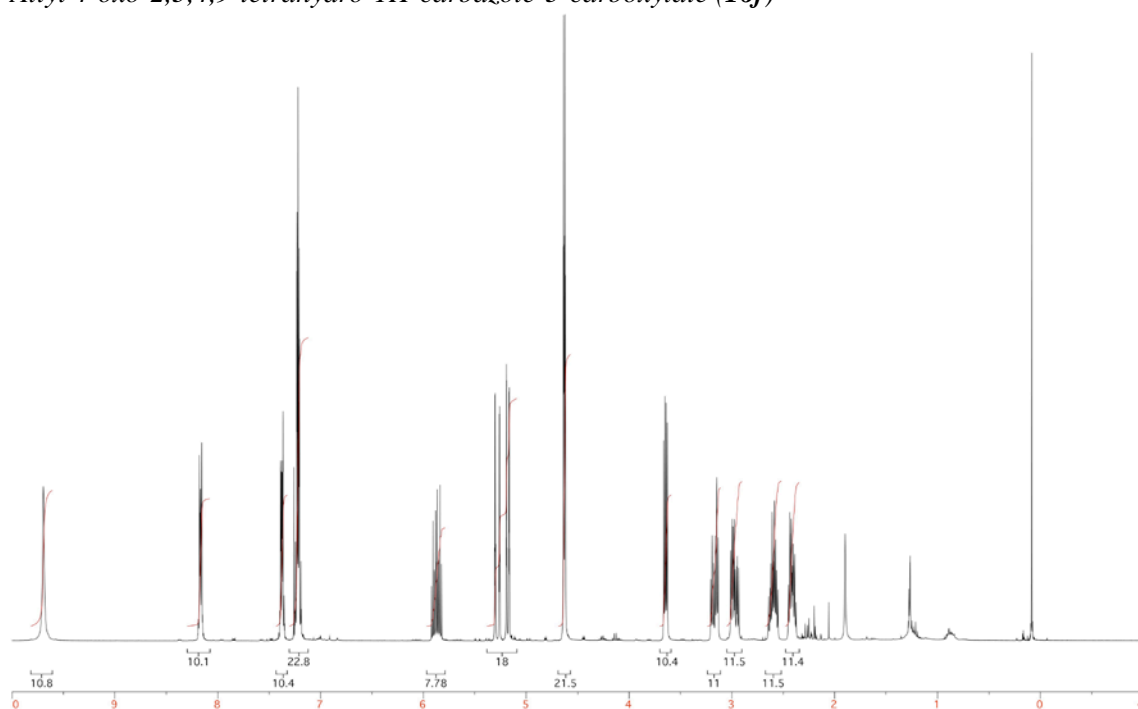
*Allyl 9-benzyl-4-oxo-2,3,4,9-tetrahydro-1H-carbazole-3-carboxylate (18b)*



*Allyl 9-methyl-4-oxo-2,3,4,9-tetrahydro-1H-carbazole-3-carboxylate (18c)*

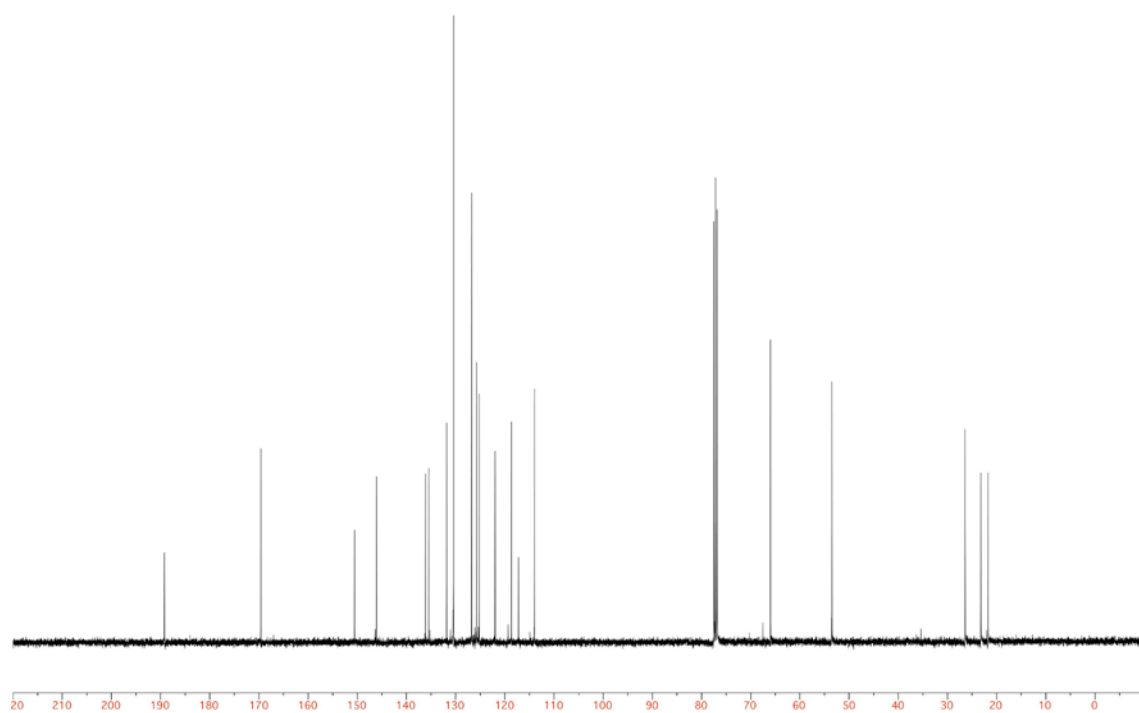
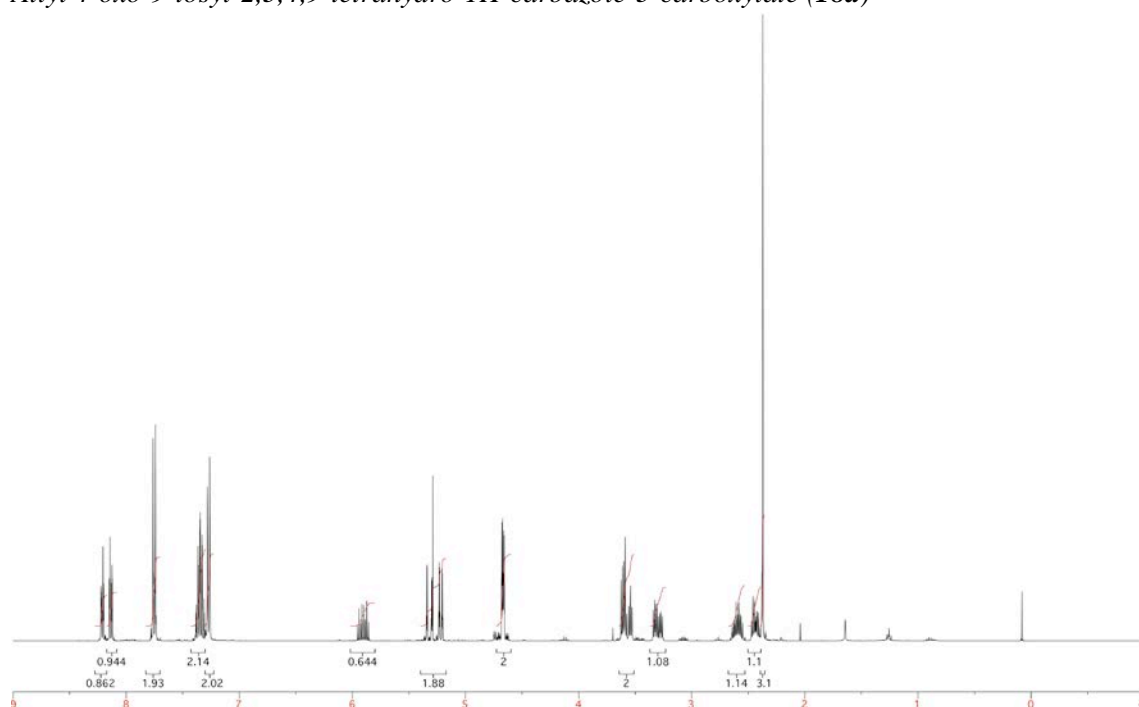


*Allyl 4-oxo-2,3,4,9-tetrahydro-1H-carbazole-3-carboxylate (16f)*

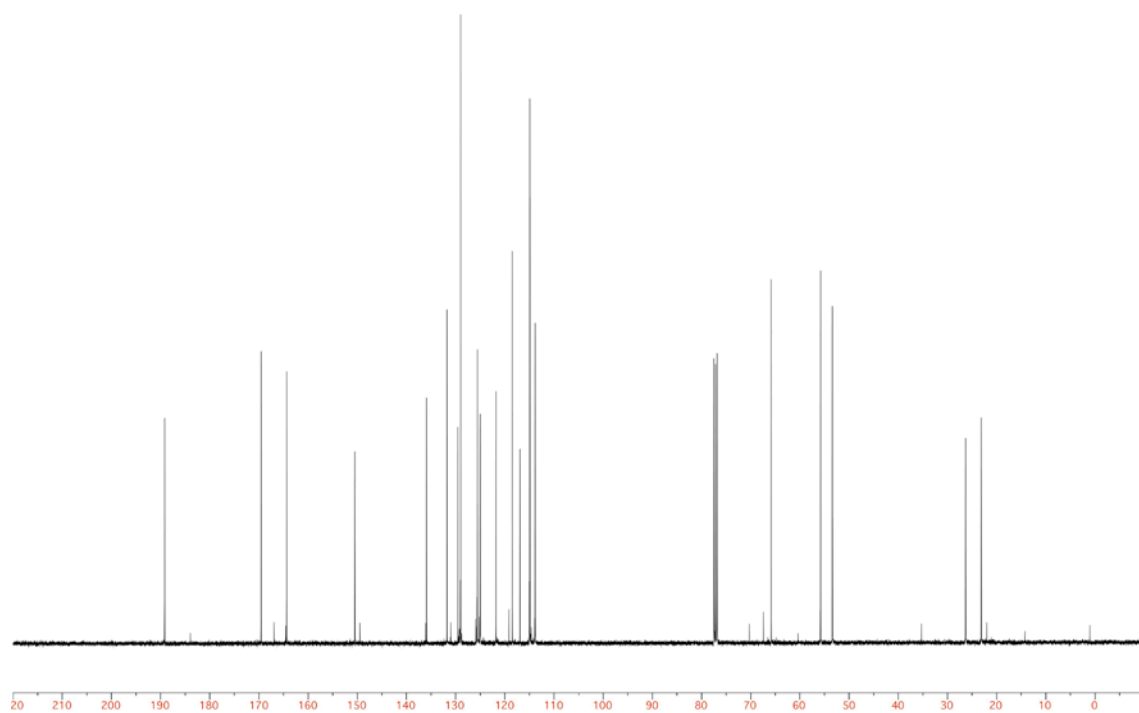
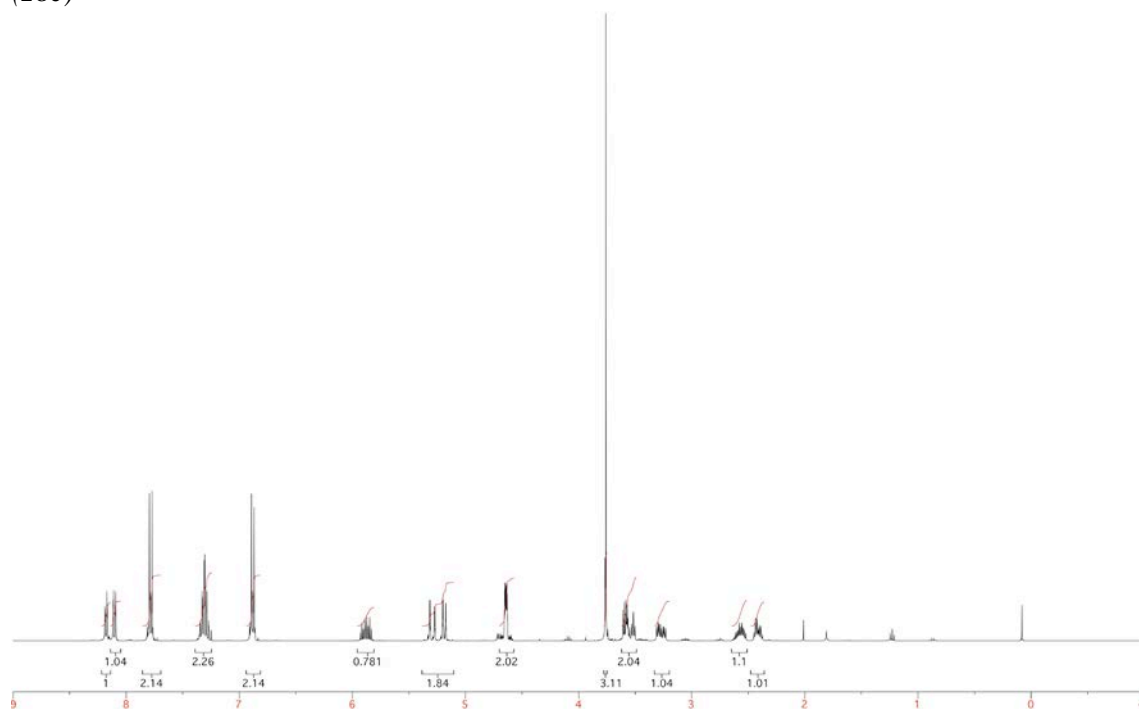




*Allyl 4-oxo-9-tosyl-2,3,4,9-tetrahydro-1H-carbazole-3-carboxylate (18d)*



*Allyl 9-((4-methoxyphenyl)sulfonyl)-4-oxo-2,3,4,9-tetrahydro-1H-carbazole-3-carboxylate (18e)*



3-allyl 9-(tert-butyl) 4-oxo-3-(prop-2-yn-1-yl)-1,2,3,4-tetrahydro-9H-carbazole-3,9-dicarboxylate (**5m**)

