

Supporting Information For: Wacker-Type Oxidation of Internal Alkenes using Pd(Quinox) and TBHP

Ryan J. DeLuca,[†] Jennifer L. Edwards,[†] Laura D. Steffens,[†] Brian W. Michel,[†] Xiaoxiao Qiao,[‡] Chunyin Zhu,[‡] Silas P. Cook,^{*,‡} Matthew S. Sigman^{*,†}

[†] *University of Utah, Department of Chemistry, 315 S. 1400 E. Salt Lake City, Utah 84112*

[‡] *Indiana University, Department of Chemistry, 800 E. Kirkwood Ave. Bloomington, IN 47405*

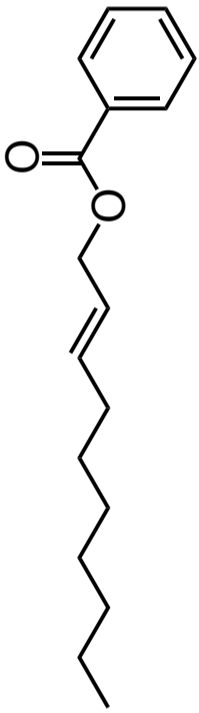
E-mail: sigman@chem.utah.edu,[†] sicook@indiana.edu.[‡]

Table of Contents

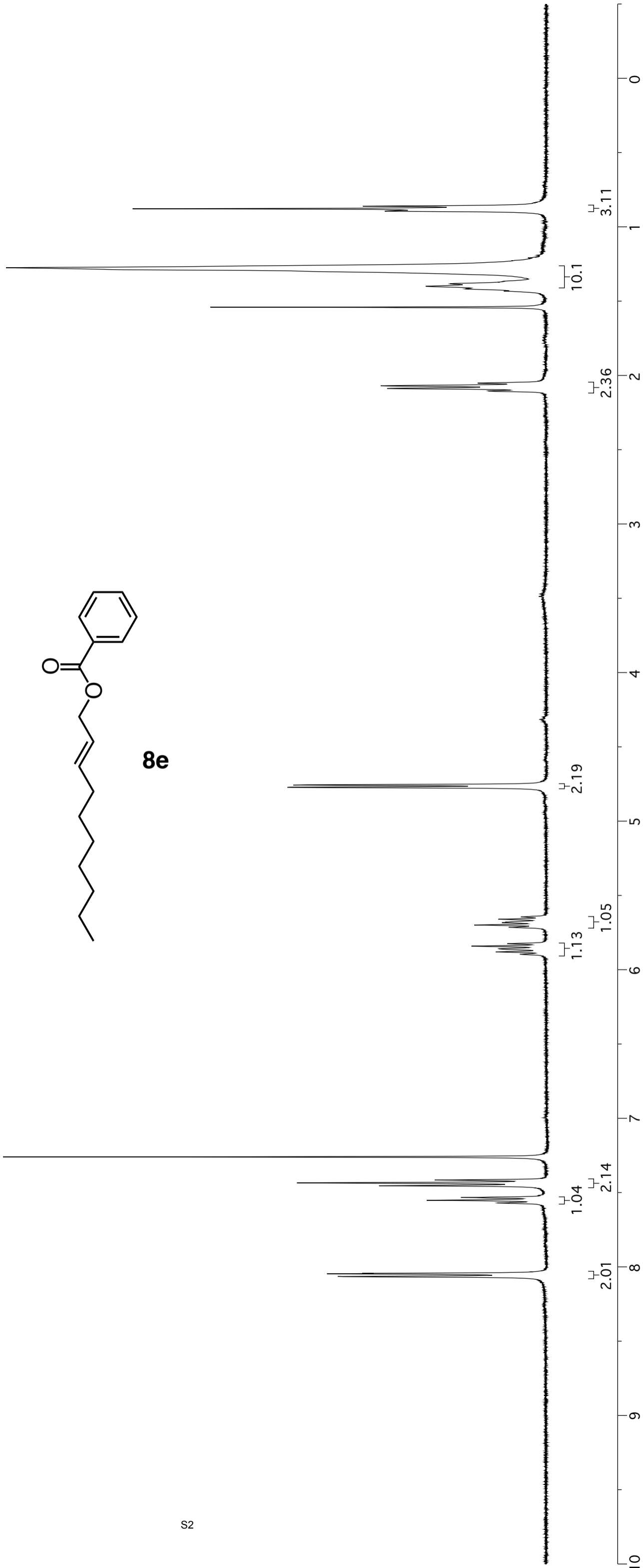
S1	General Considerations
S2-S28	¹ H and ¹³ C NMR spectra

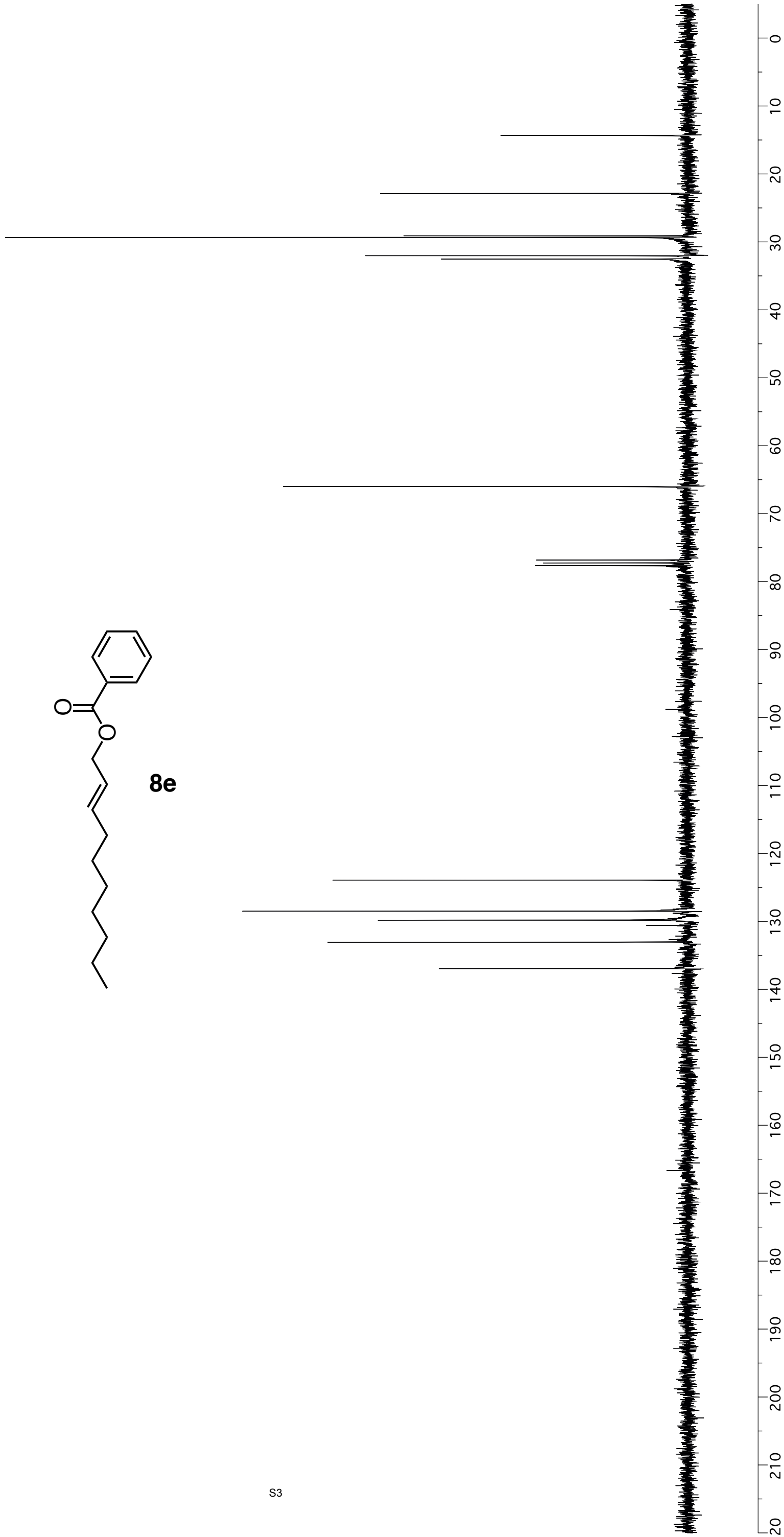
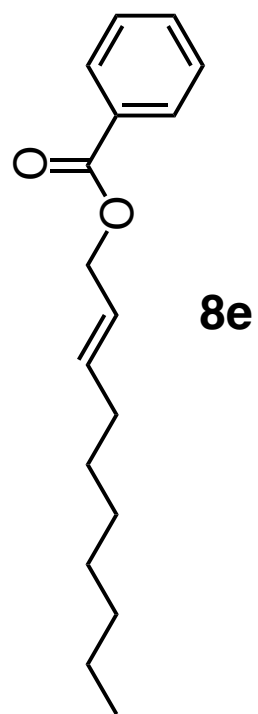
General Considerations:

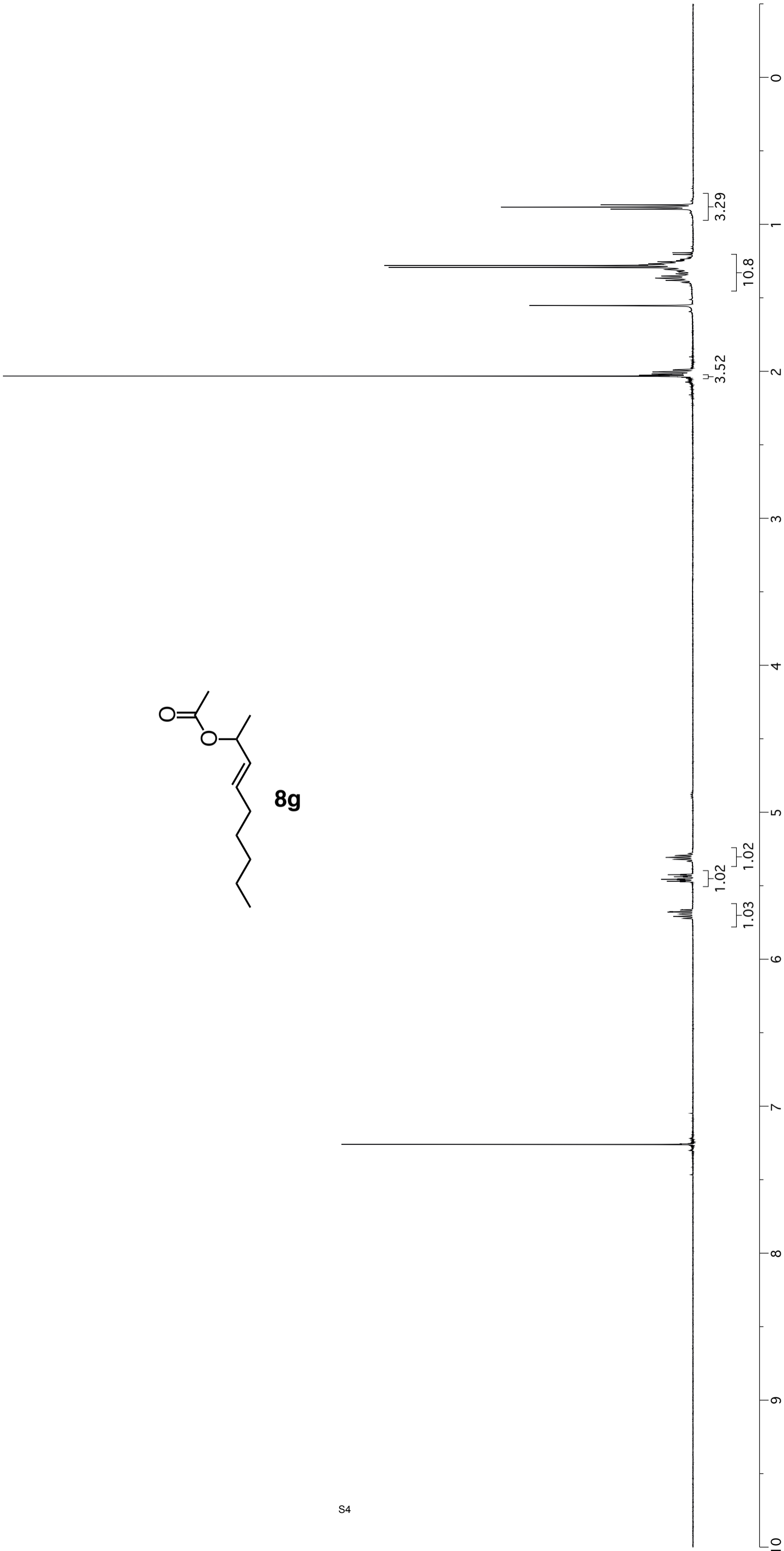
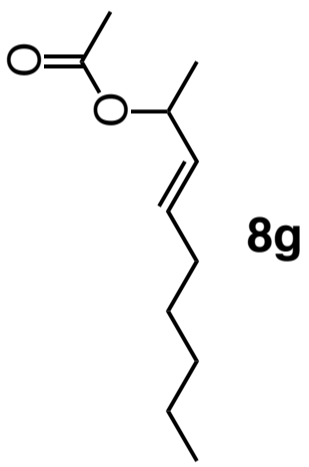
Dichloromethane for Pd(Quinox)-TBHP Wacker-type reactions was reagent grade and used without further purification. Dry CH₂Cl₂, THF, Ether, Toluene, hexanes and acetonitrile were dried by passing through a column of activated alumina. Triethylamine (TEA) was distilled from CaH₂ for ligand and substrate synthesis. Unless otherwise noted all chemicals were purchased and used without further purification. *All silver salts were stored in a nitrogen filled glove box and protected from light.* 4-N,N-dimethylaminopyridine (DMAP) was recrystallized from toluene. ¹H-NMR spectra were obtained at 300 MHz, 400 MHz or 500 MHz, chemical shifts are reported in ppm, and referenced to the CHCl₃ singlet at 7.26 ppm. ¹³C-NMR spectra were obtained at 75MHz, 100 MHz or 126 MHz and referenced to the center peak of the CHCl₃ at 77.23 ppm. **ALTHOUGH NO PROBLEMS OCCURRED DURING THESE STUDIES, HIGHLY CONCENTRATED SOLUTIONS OF TBHP IN THE PRESENCE OF TRANSITION METALS CAN BE DANGEROUS.**

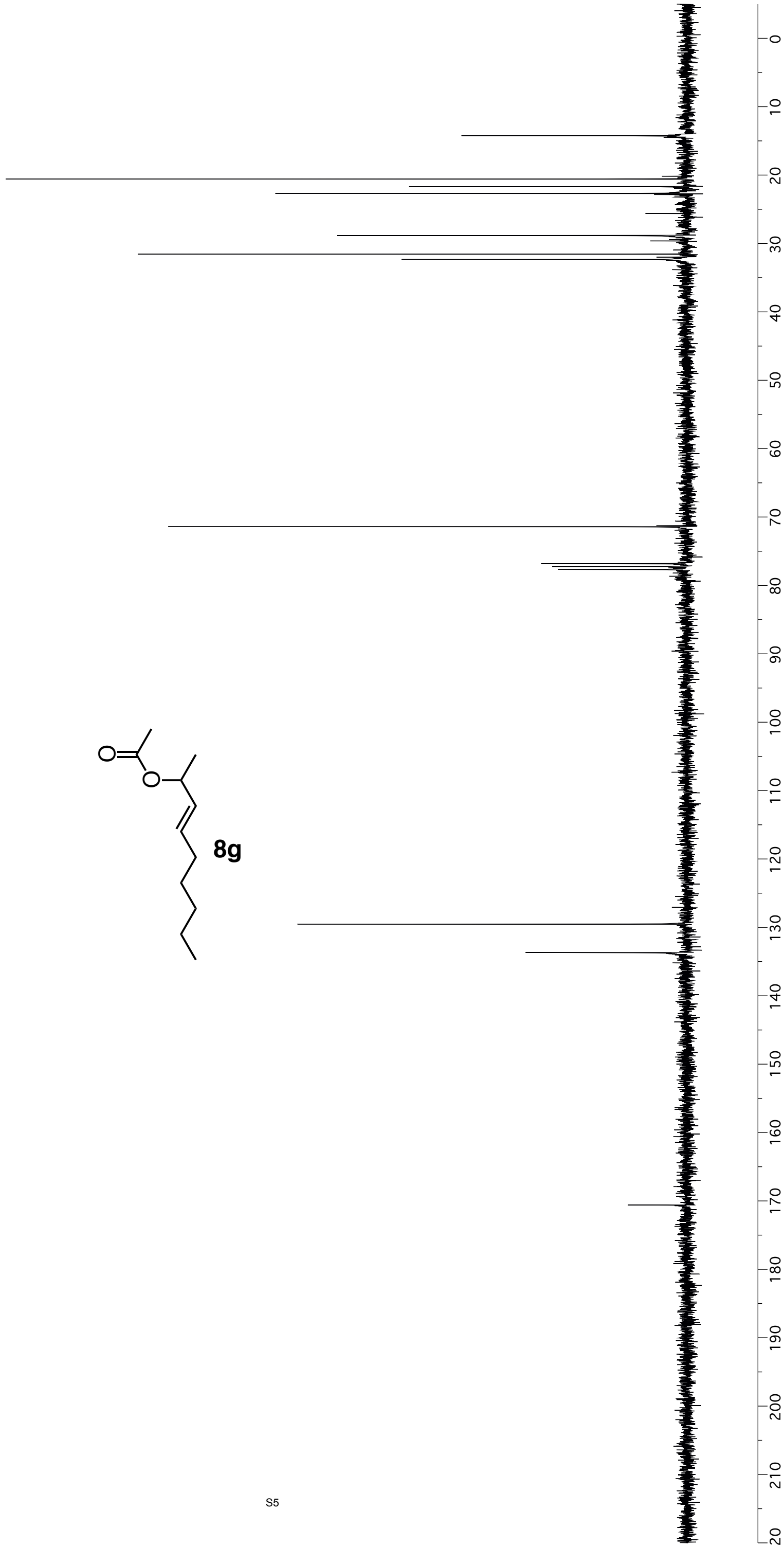
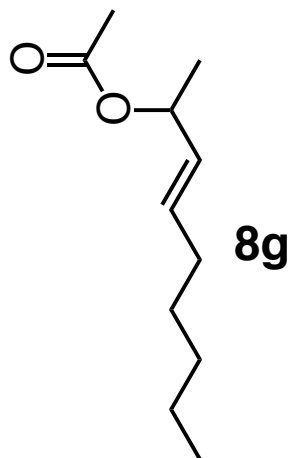


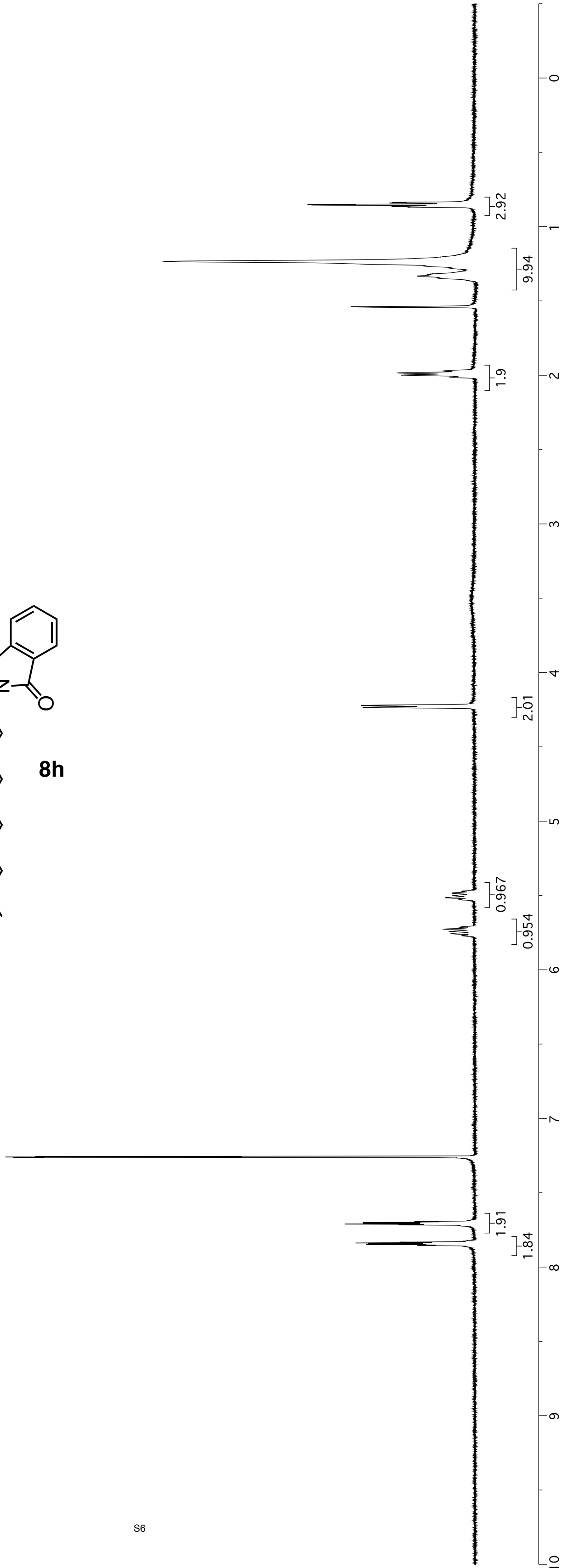
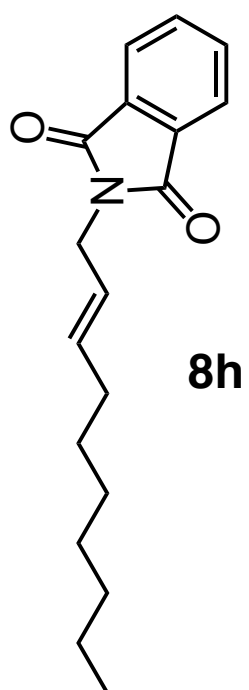
8e

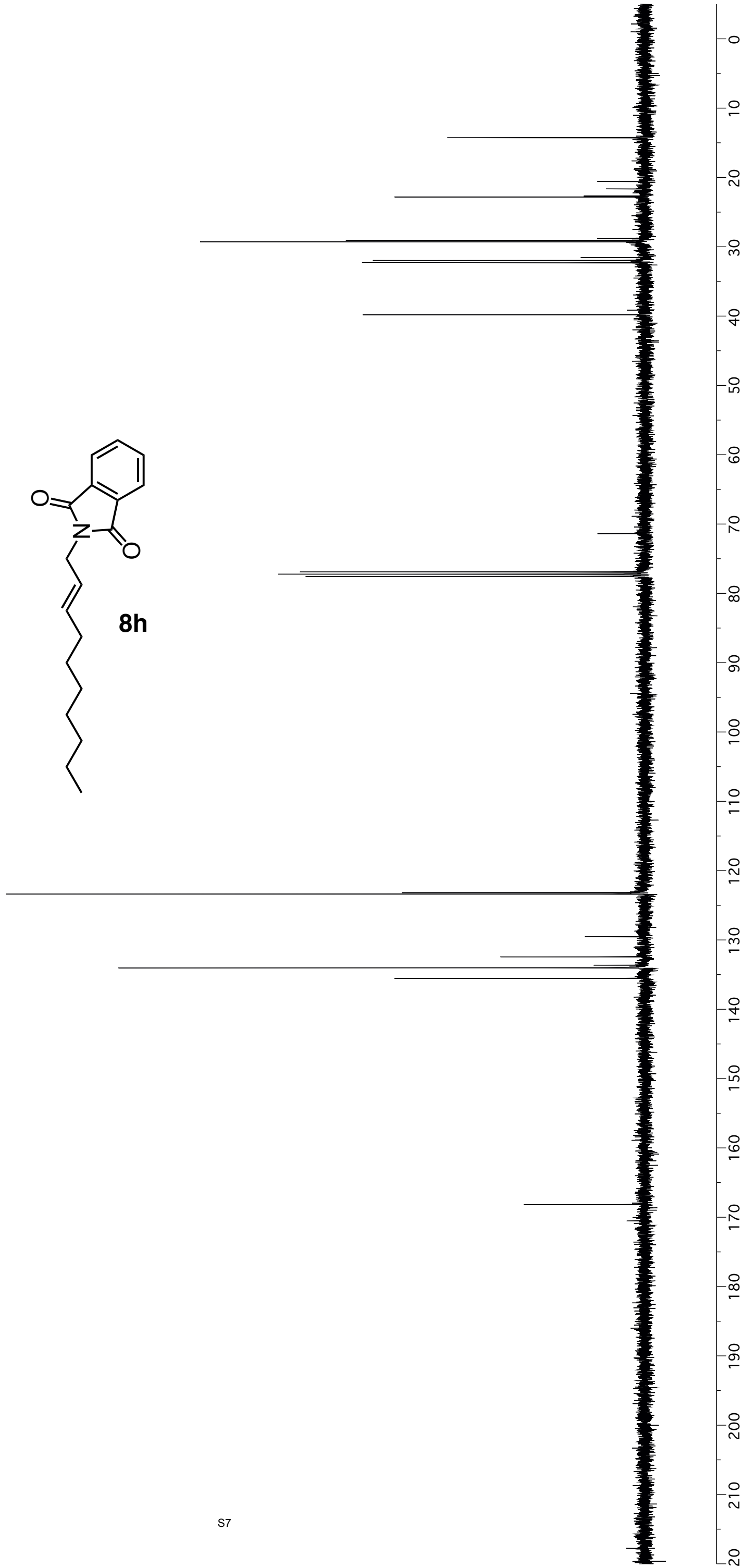
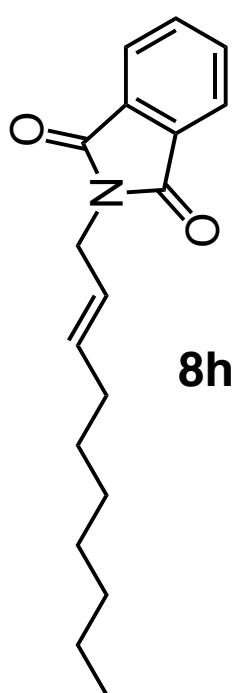


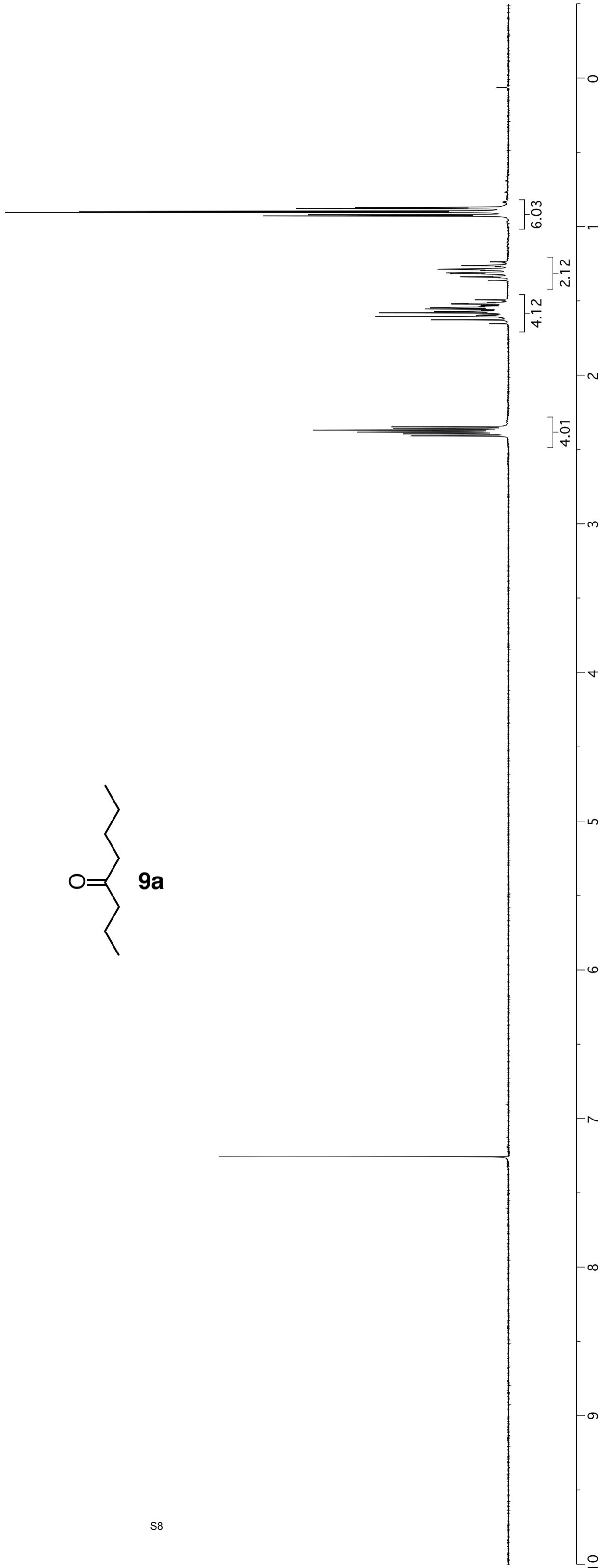
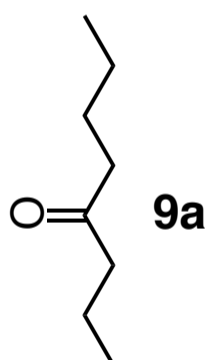


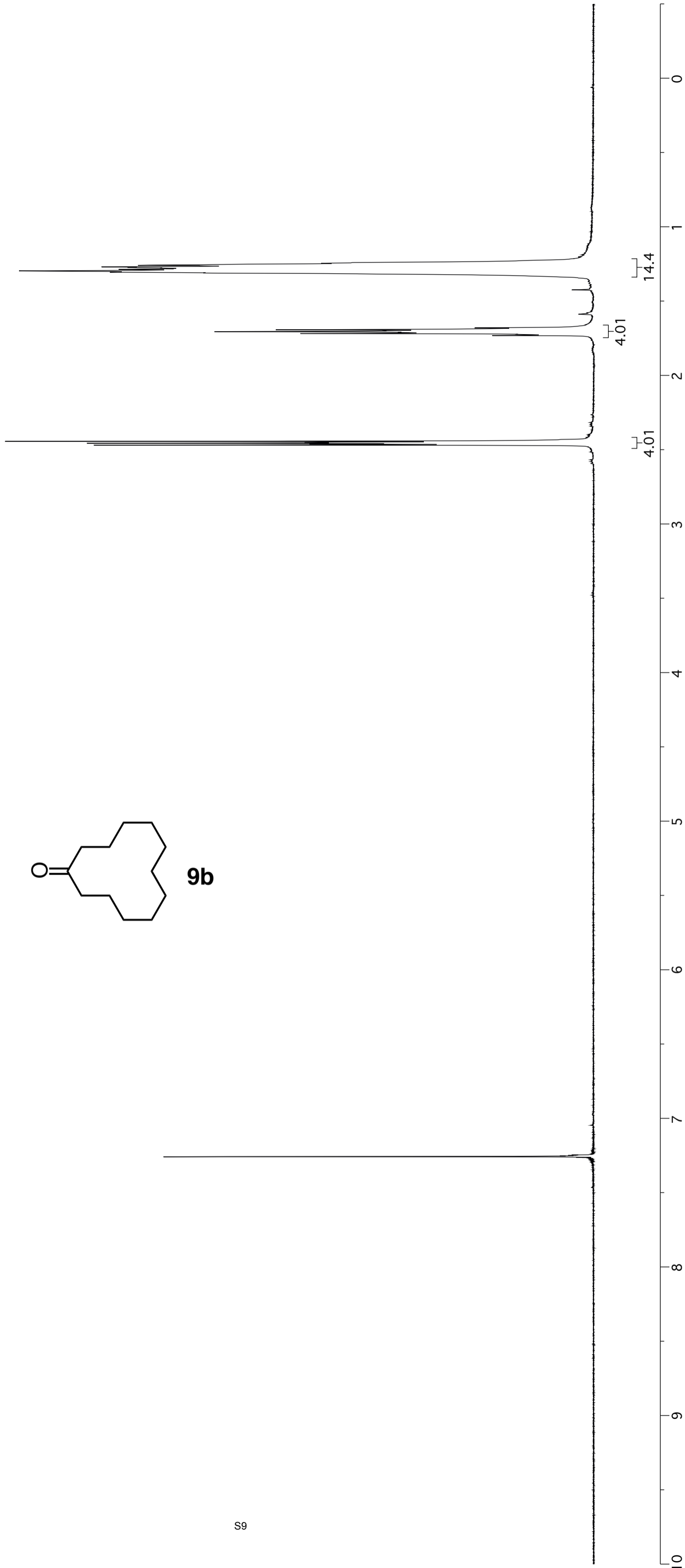
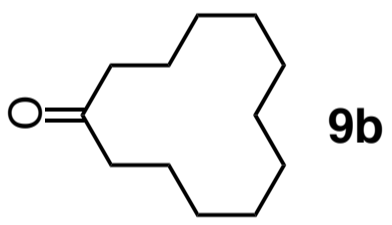


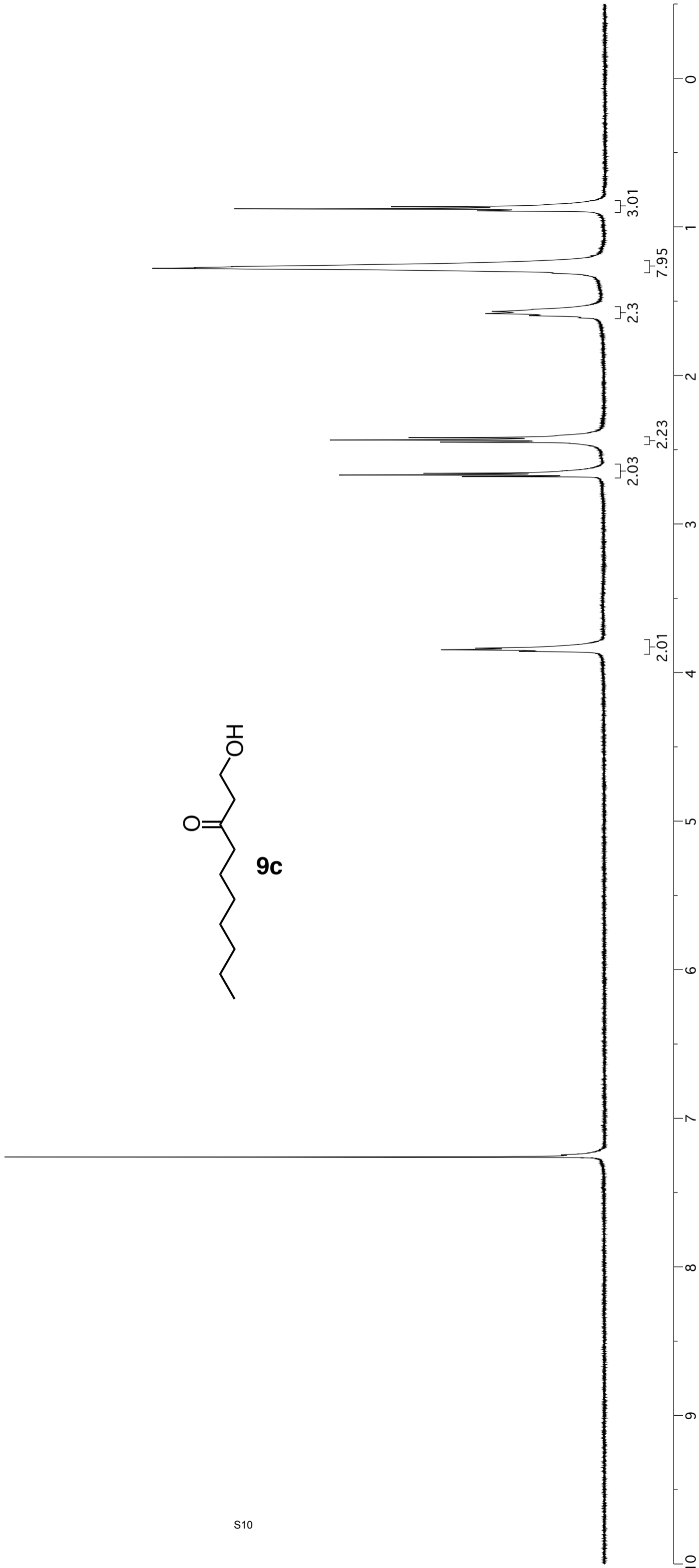
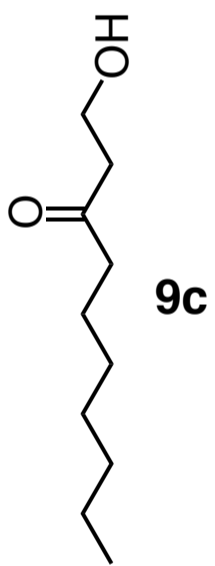


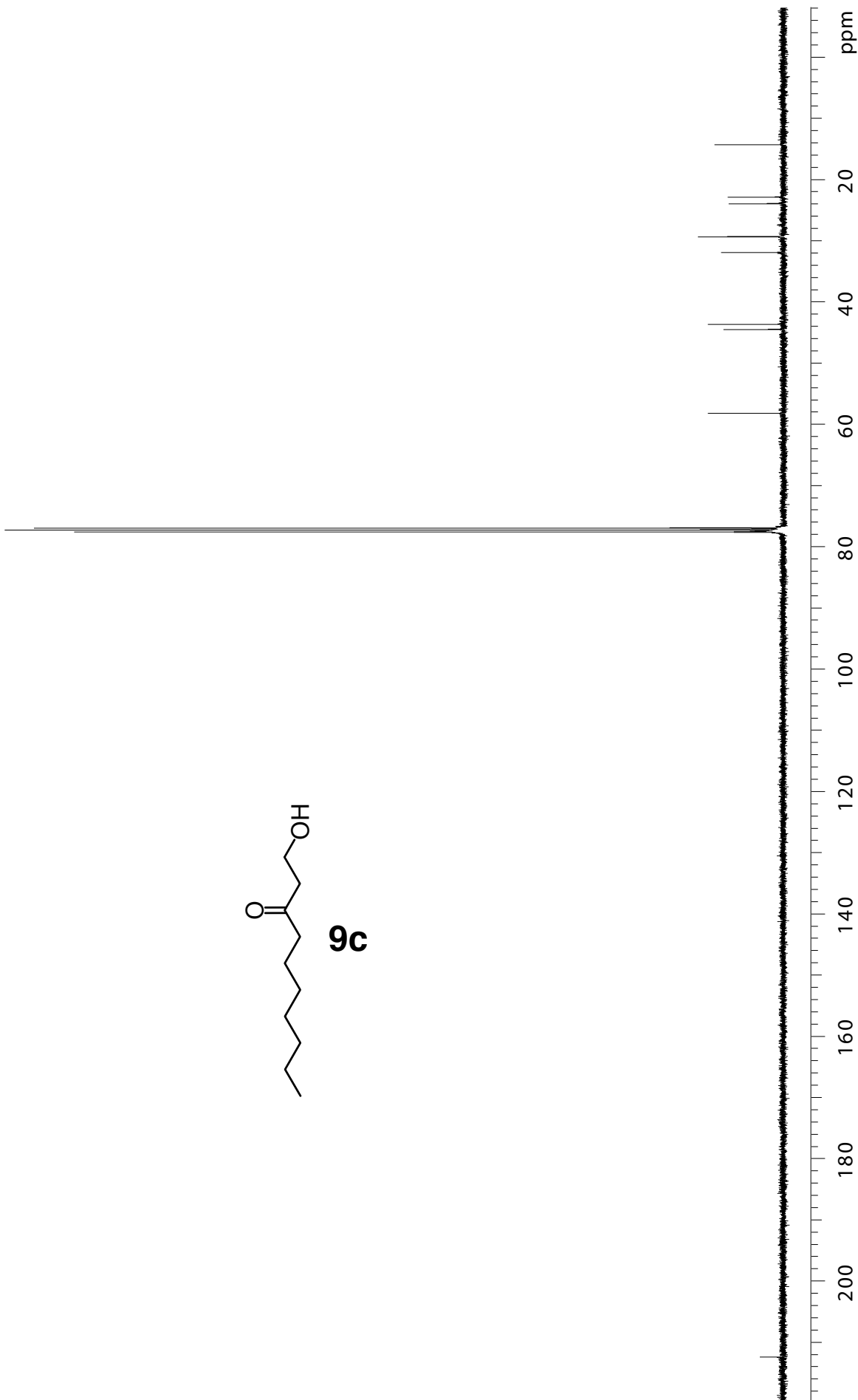
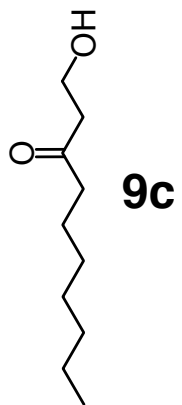


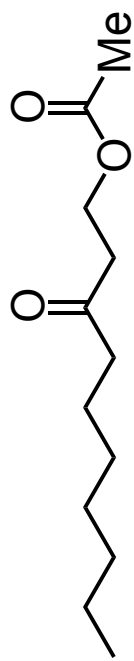




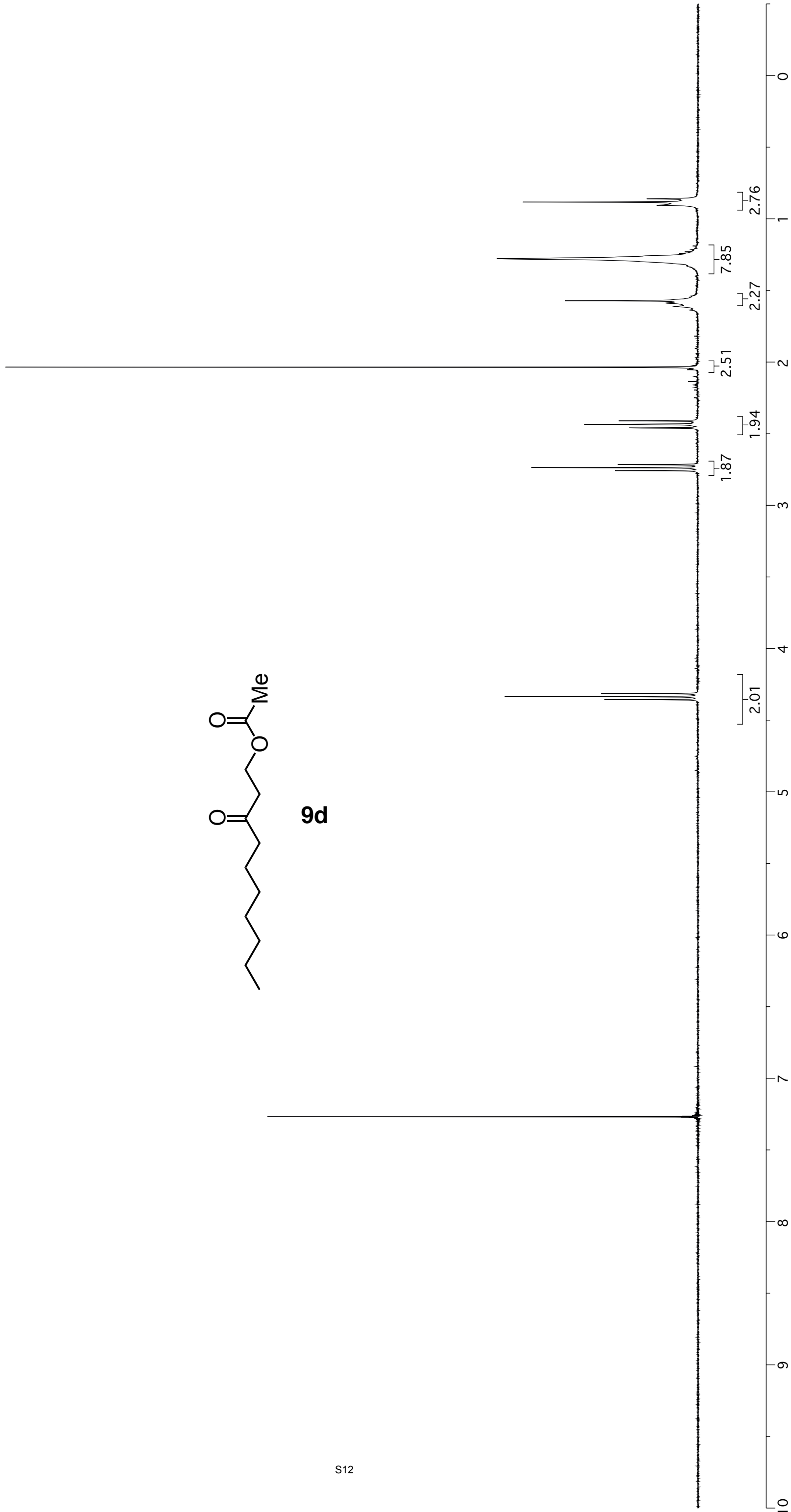


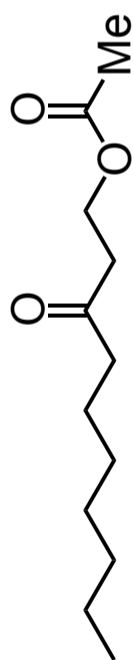




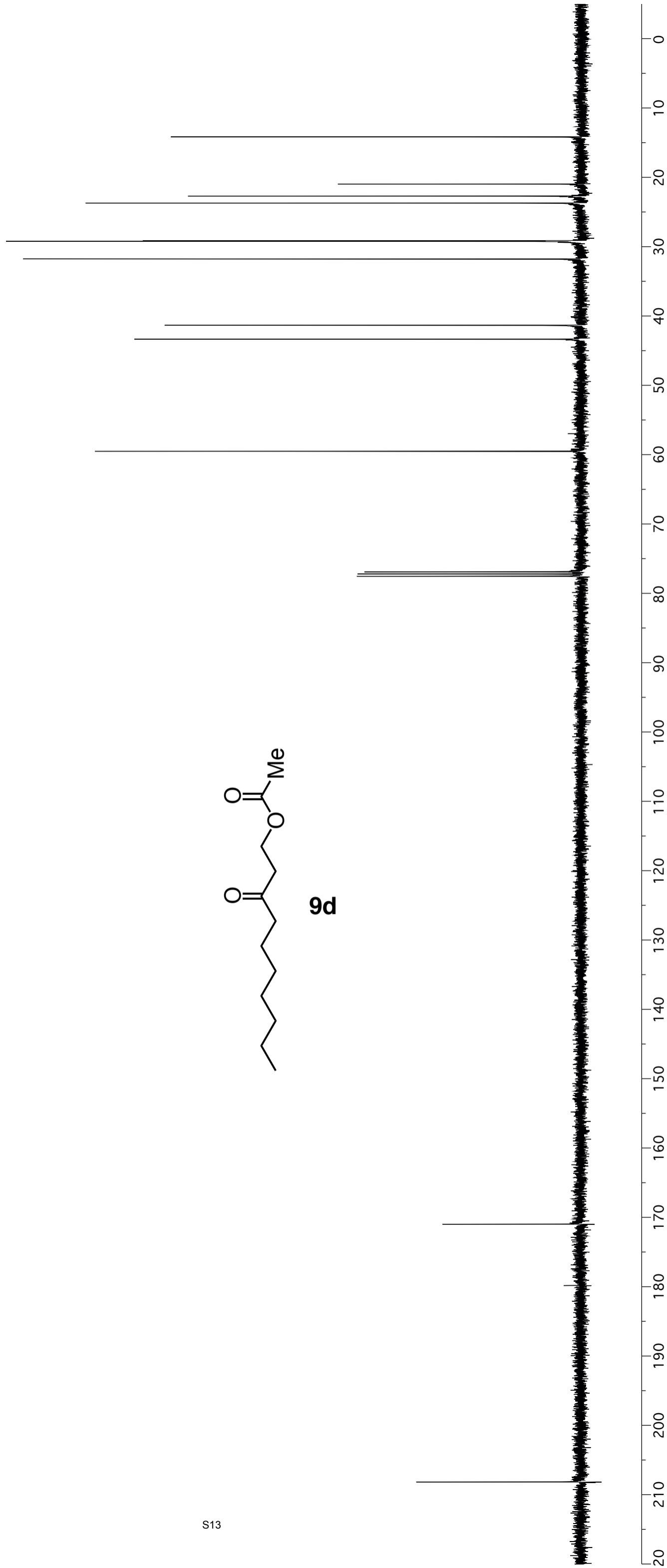


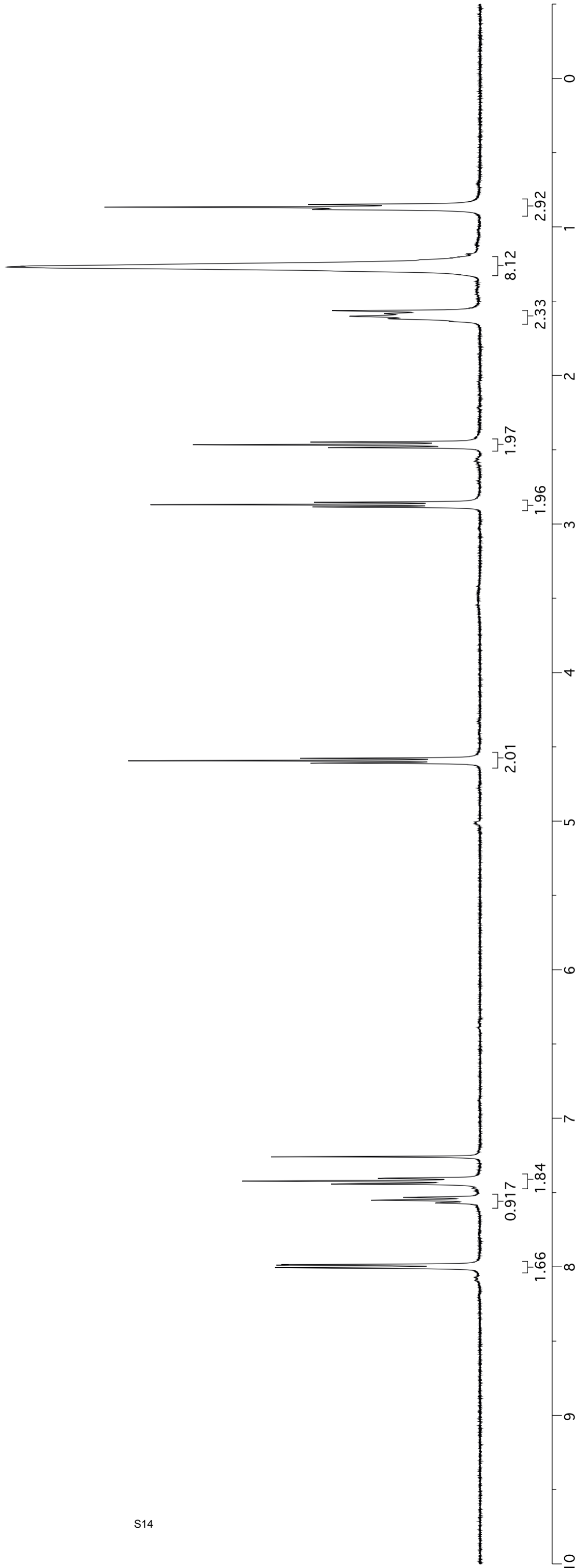
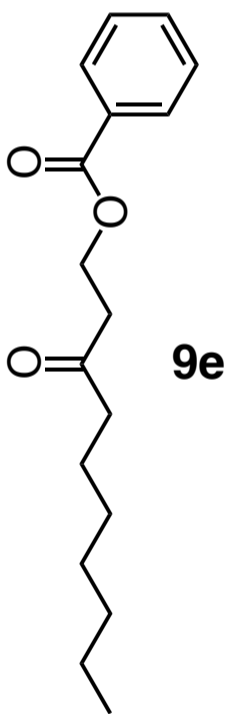
9d

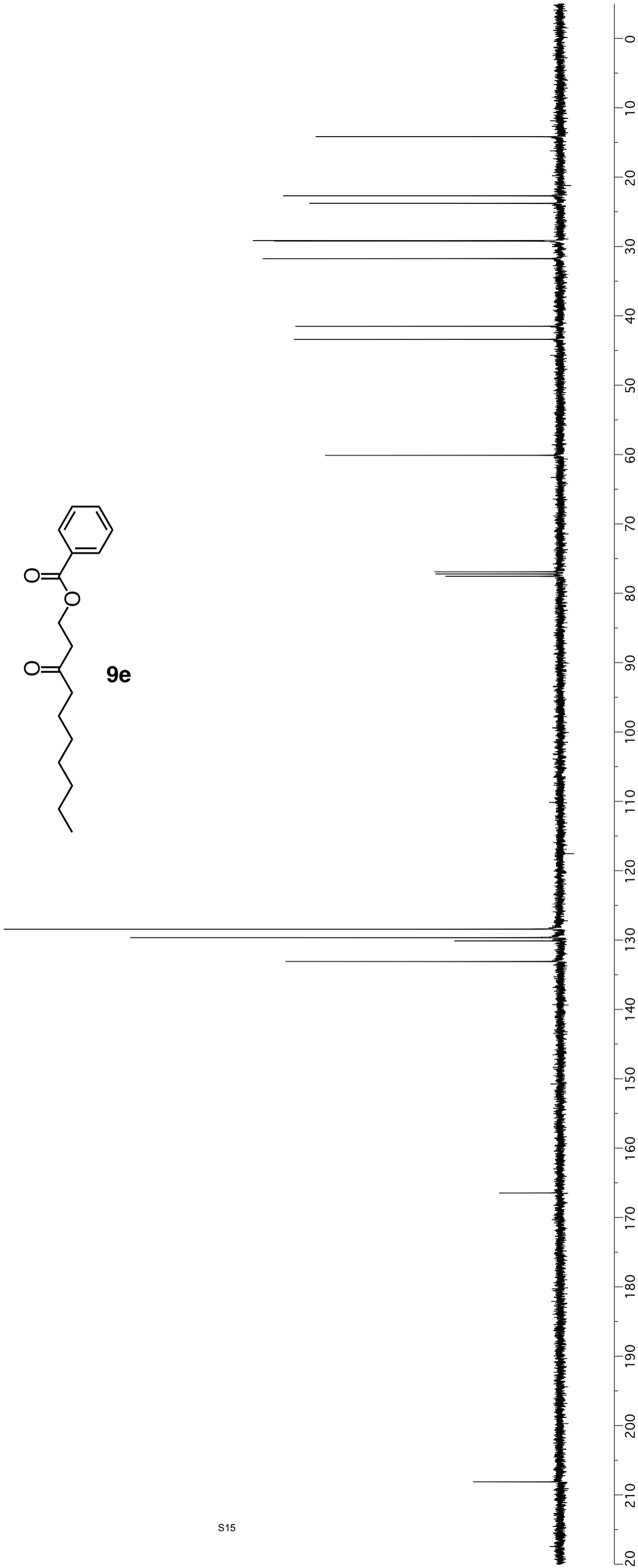
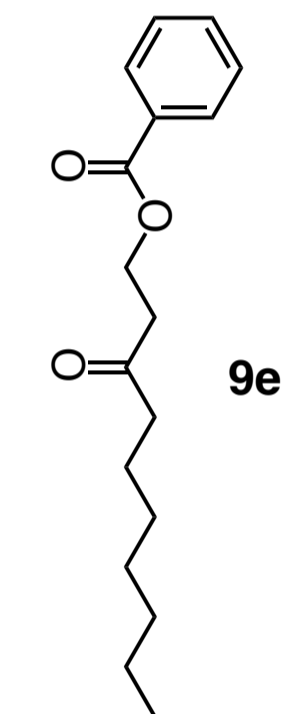


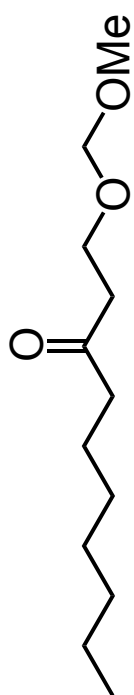


9d

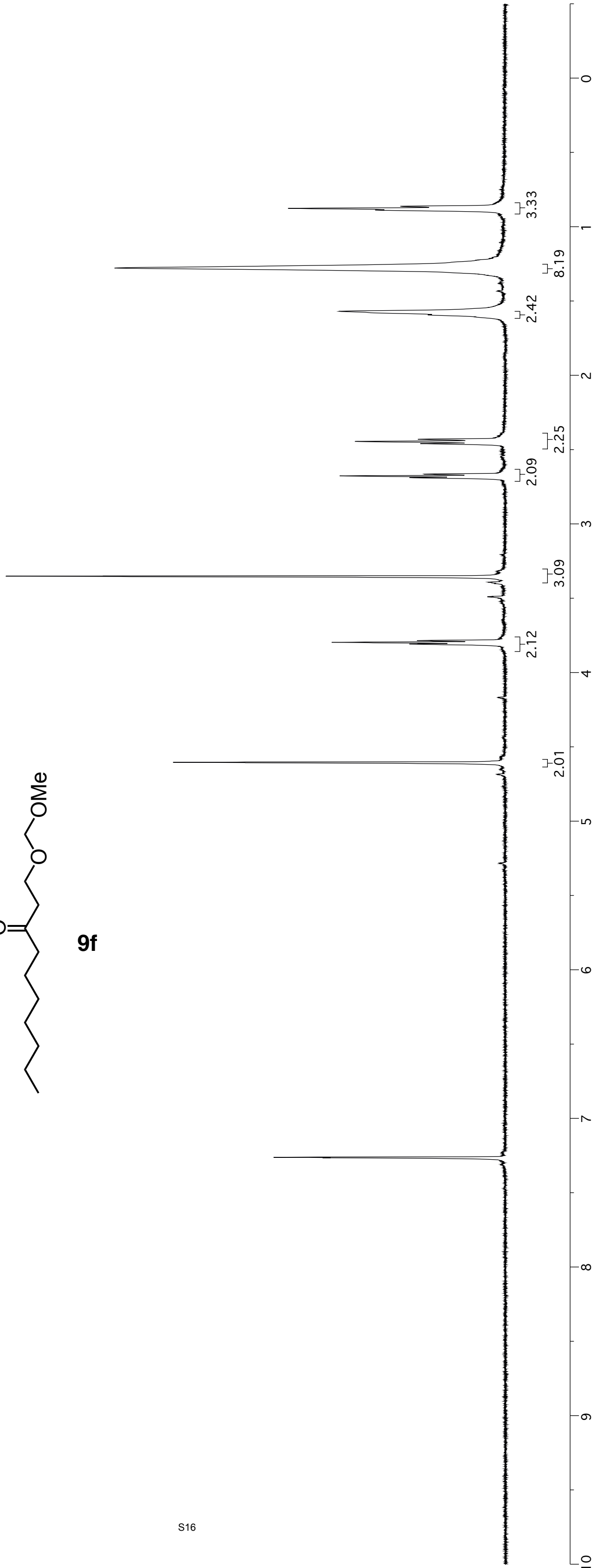


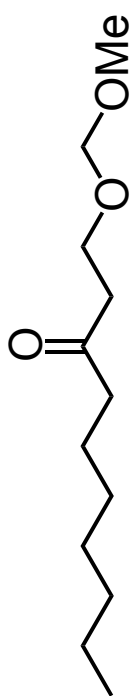




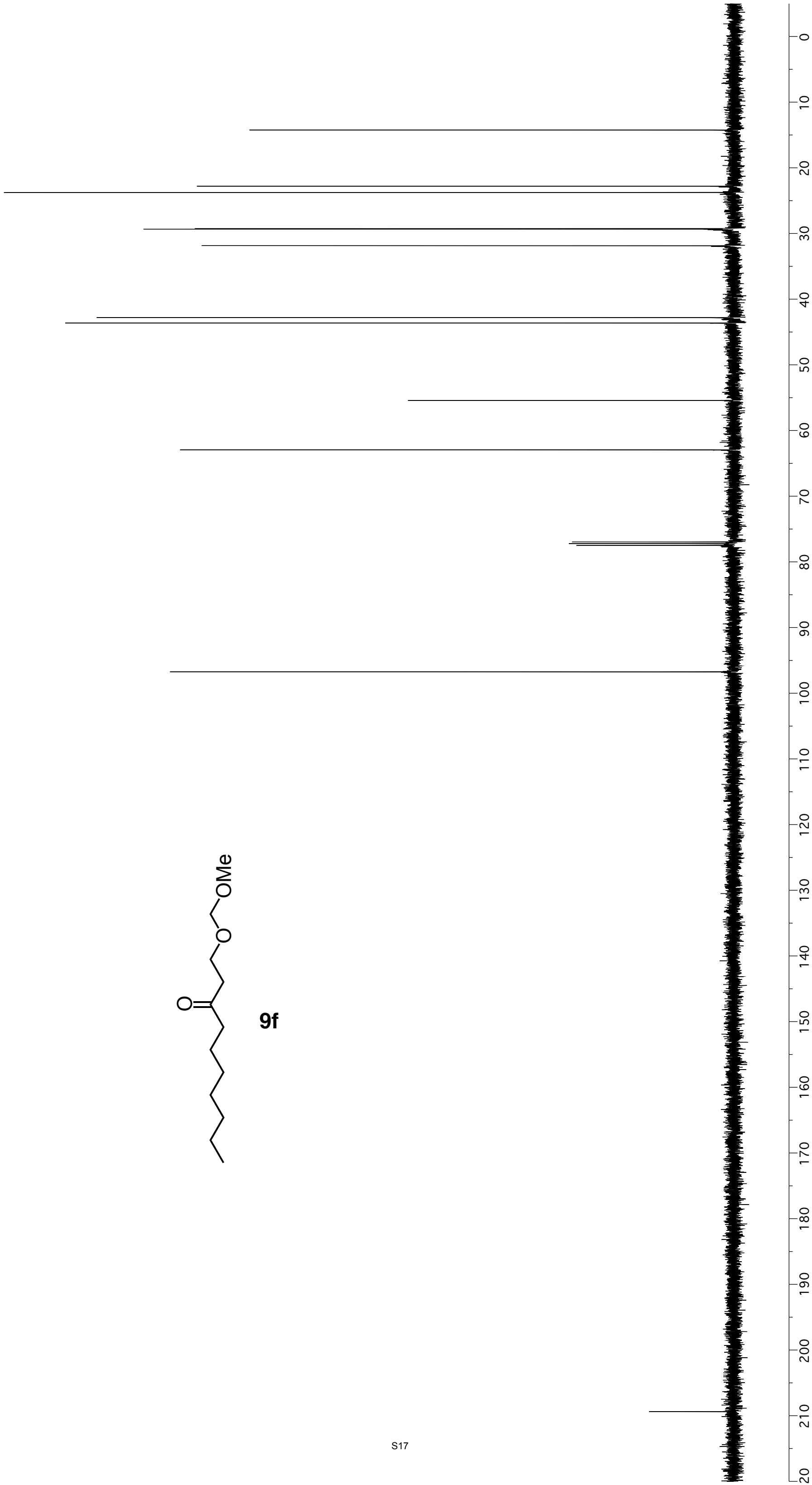


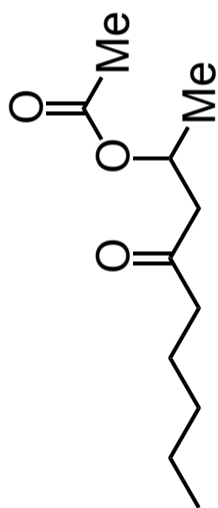
9f



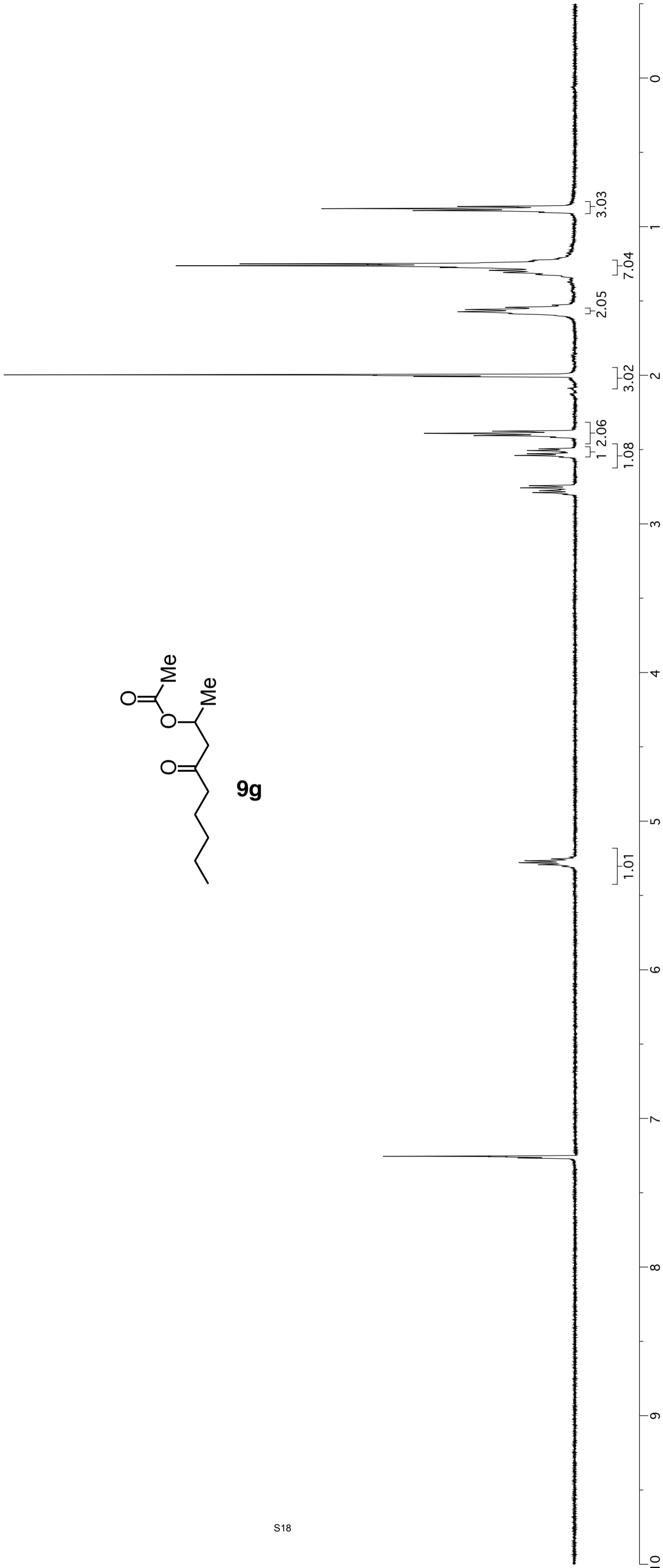


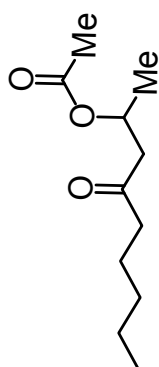
9f



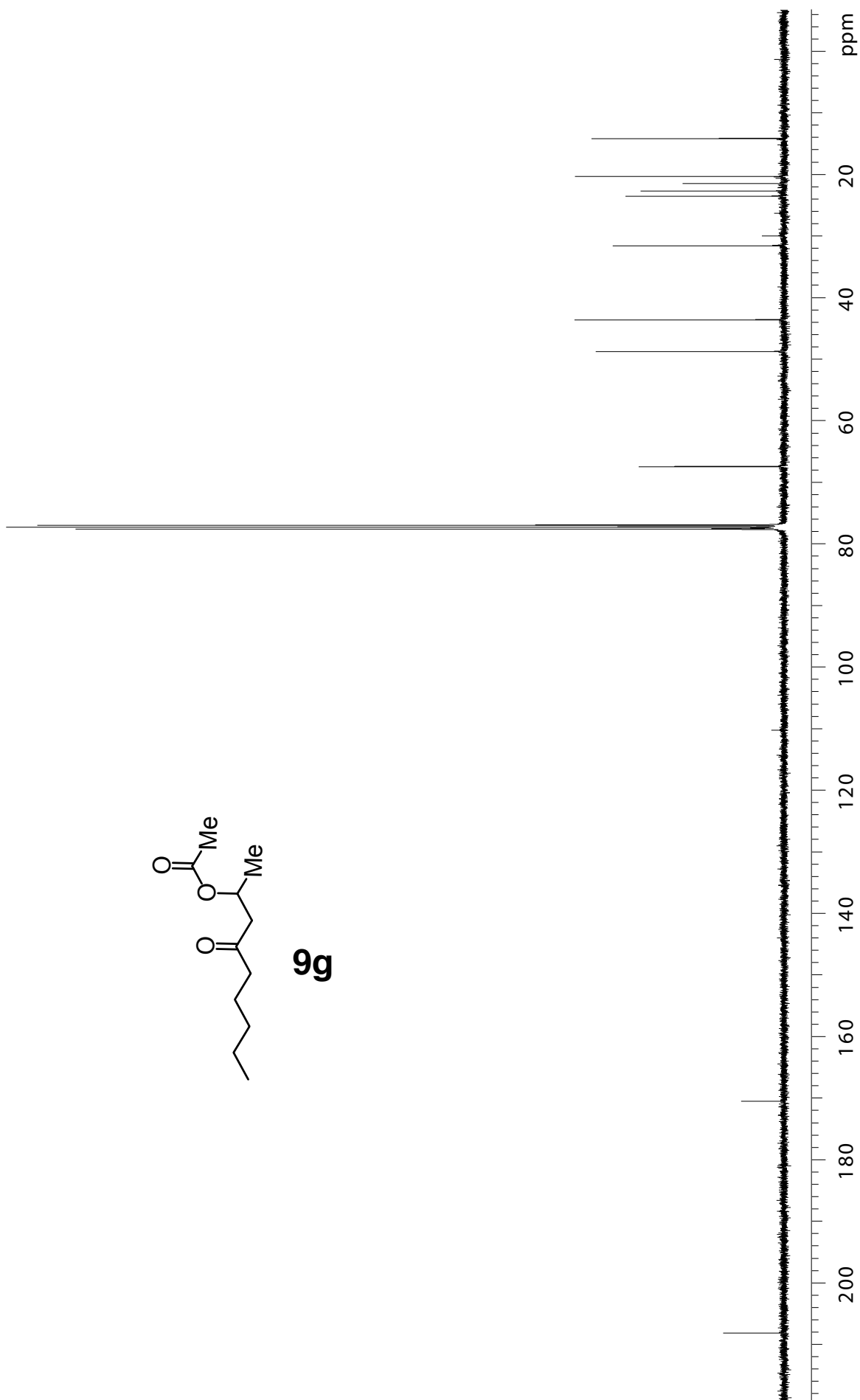


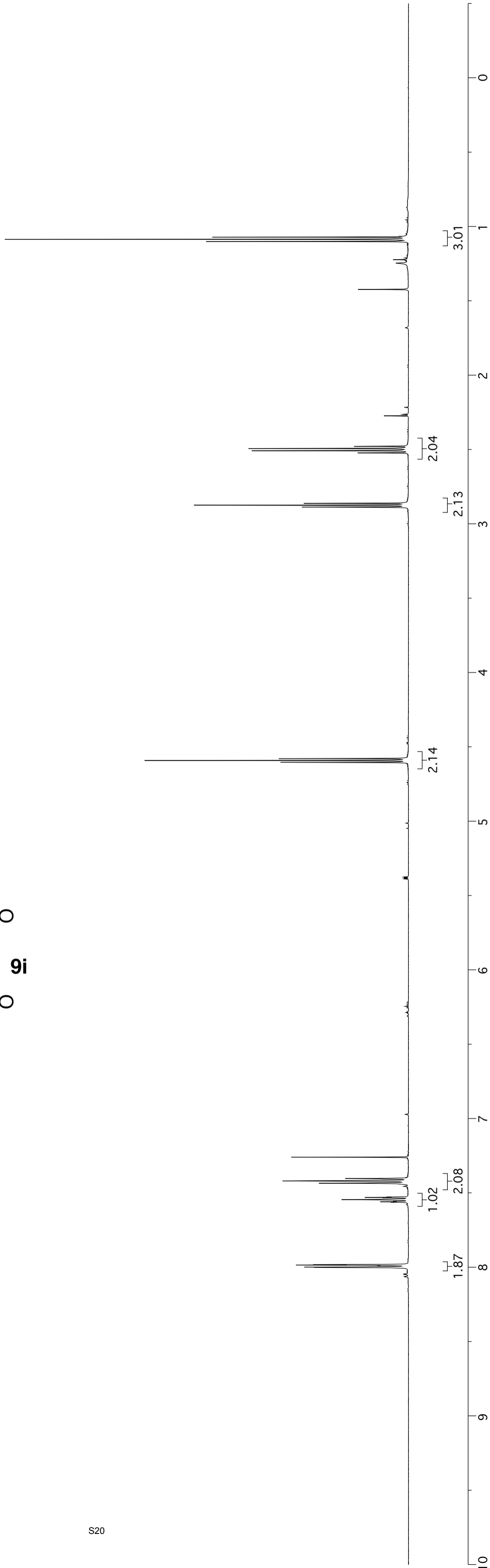
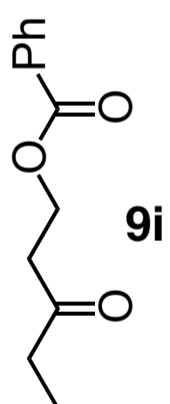
9g

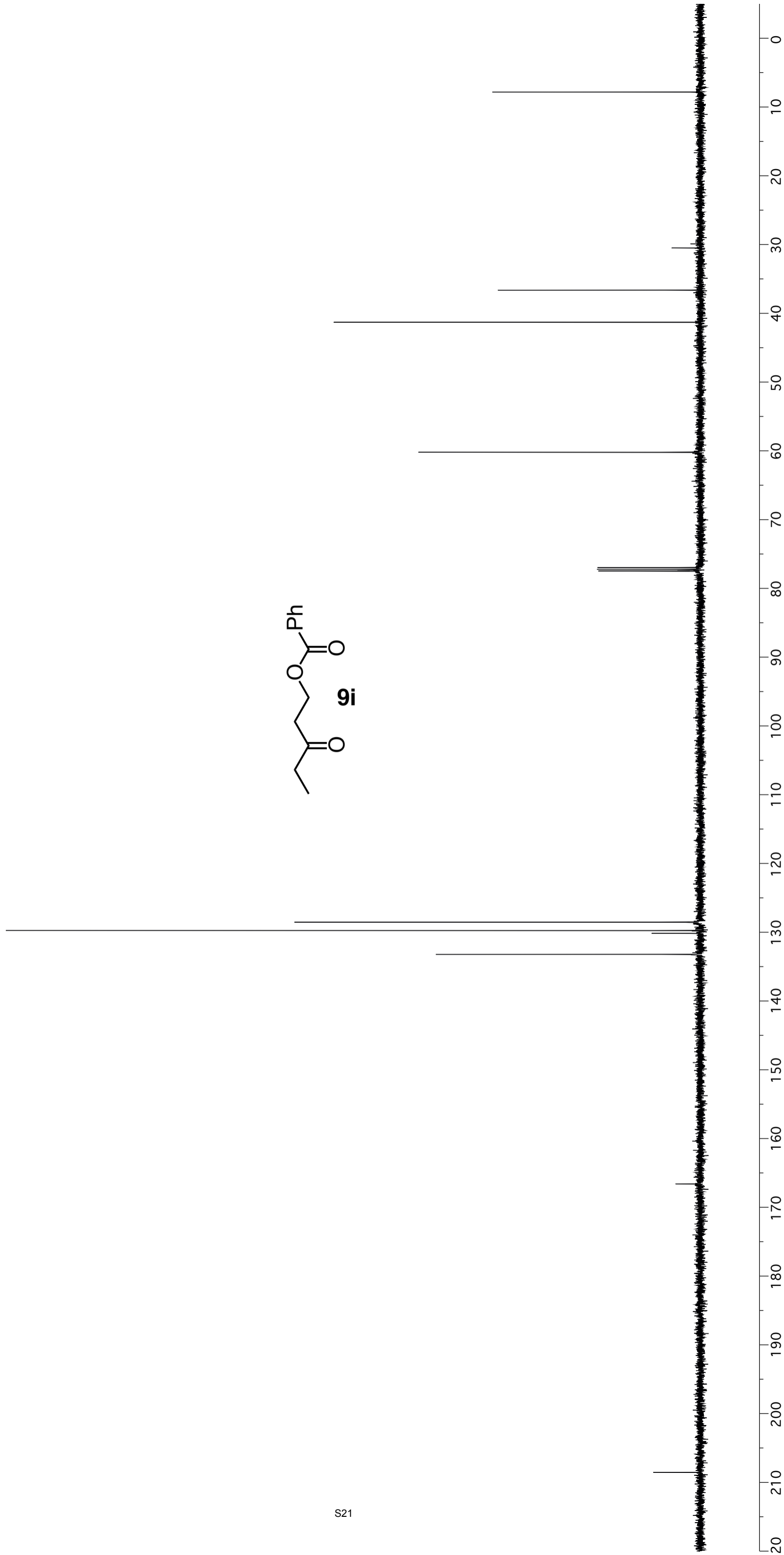
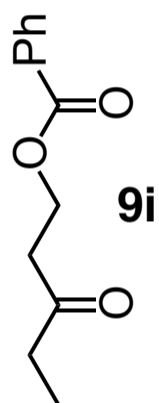


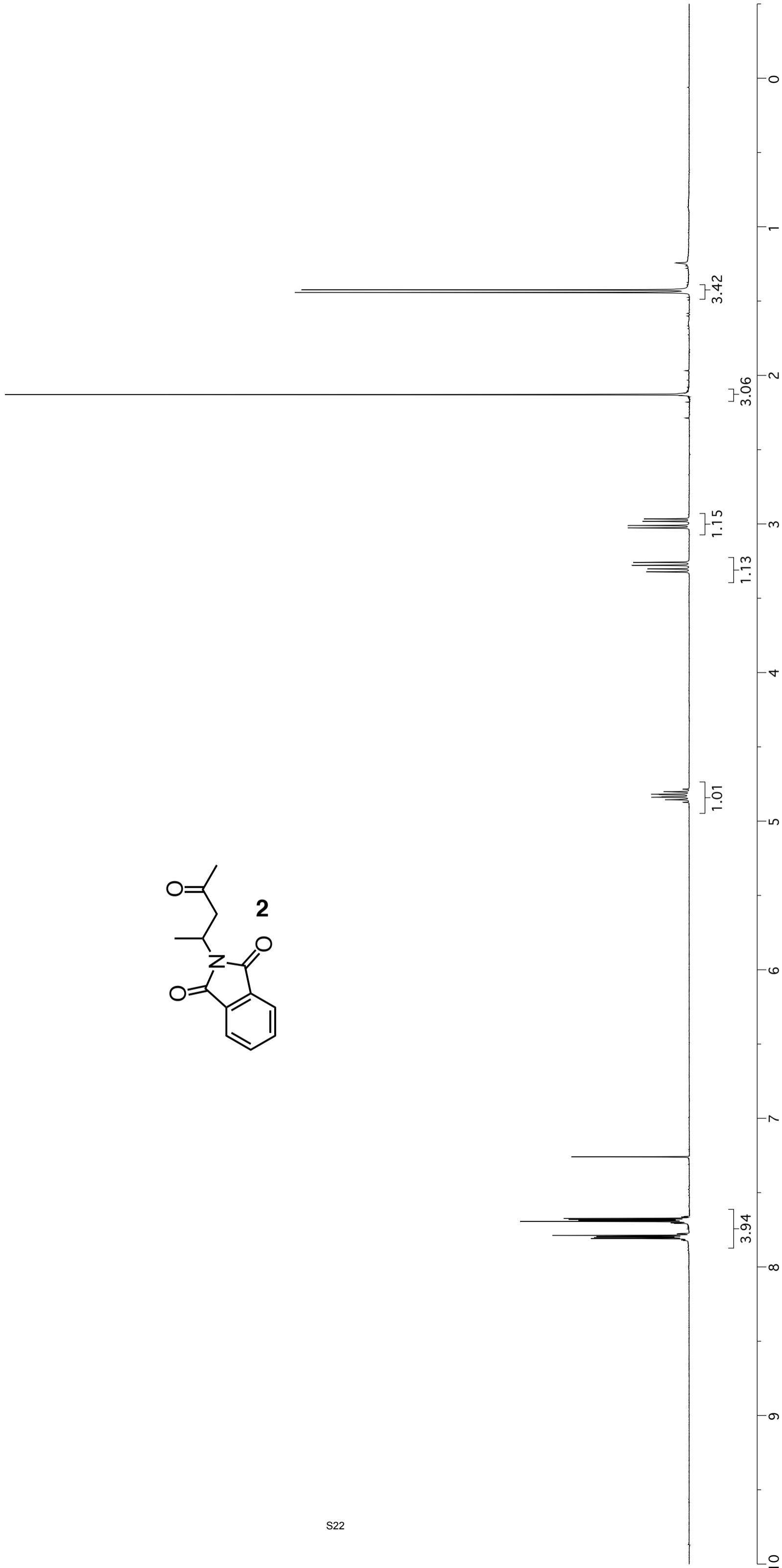
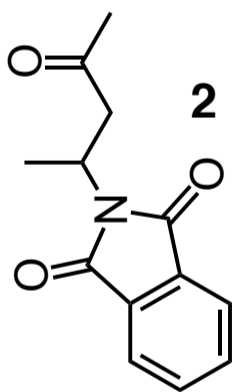


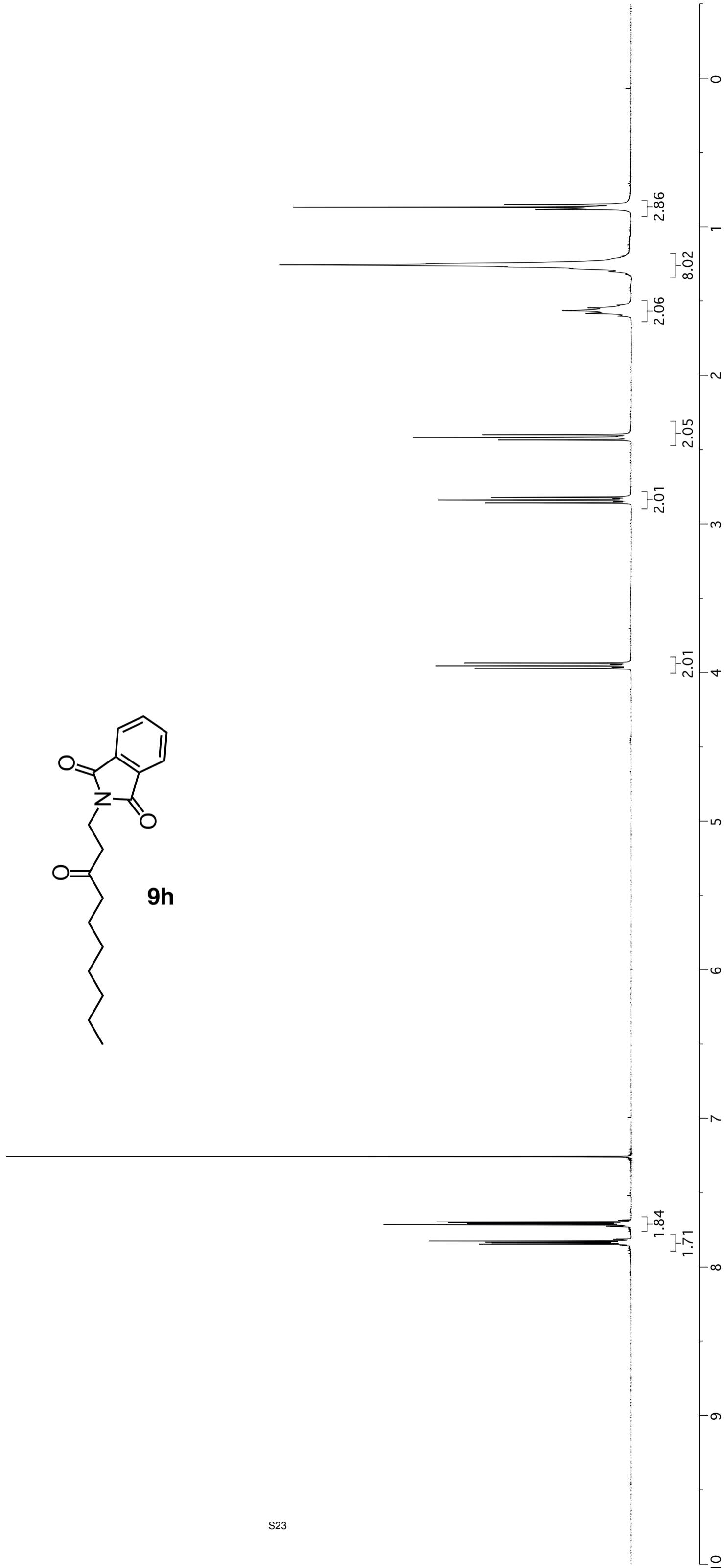
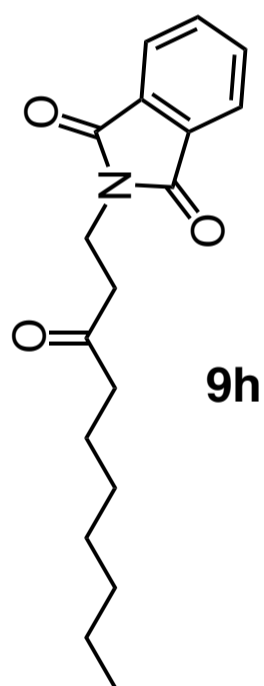
9g

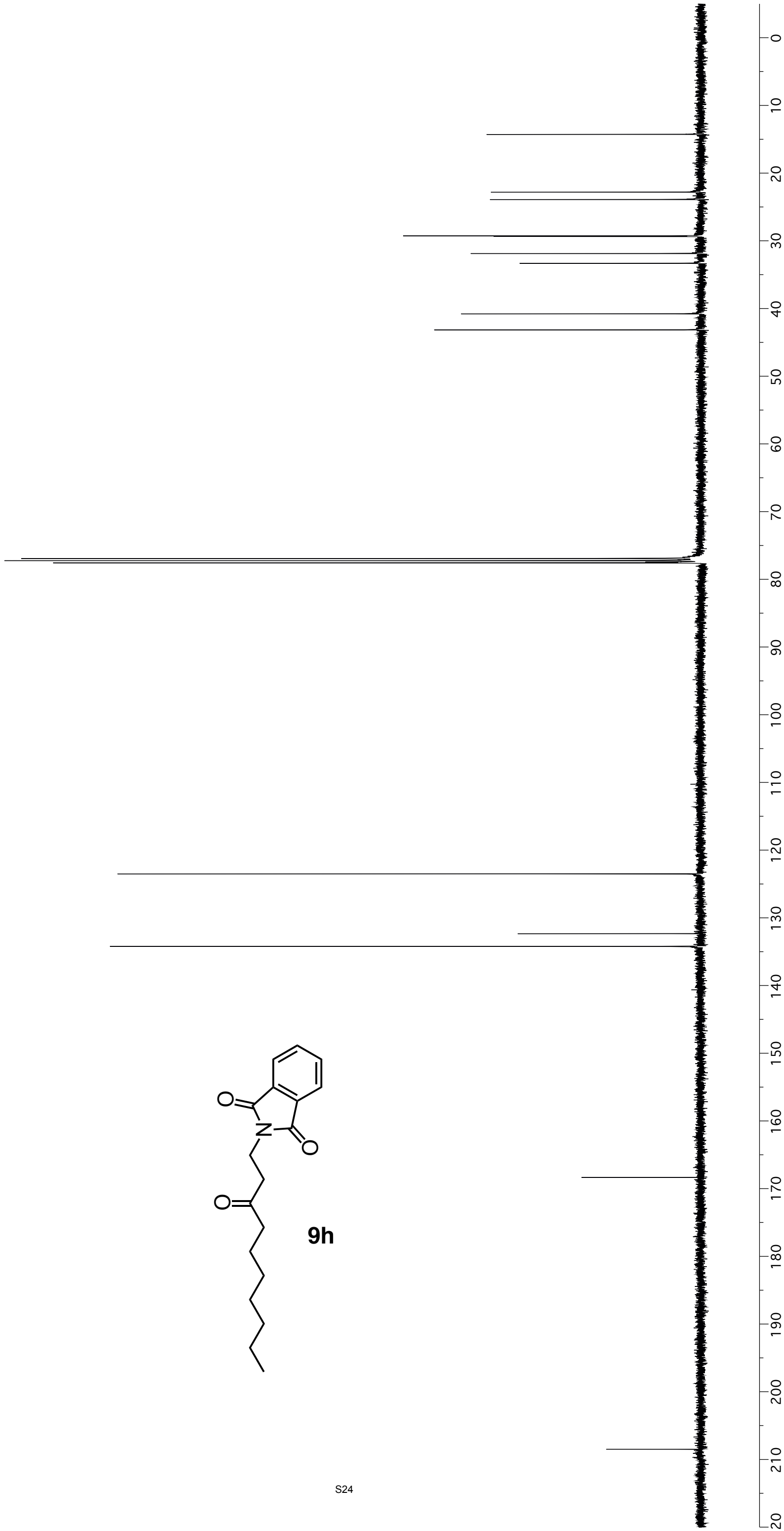
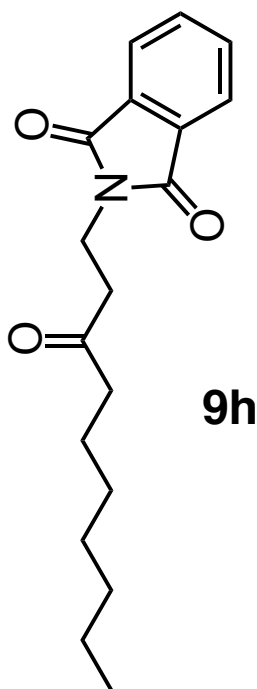


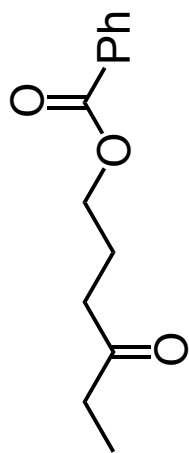




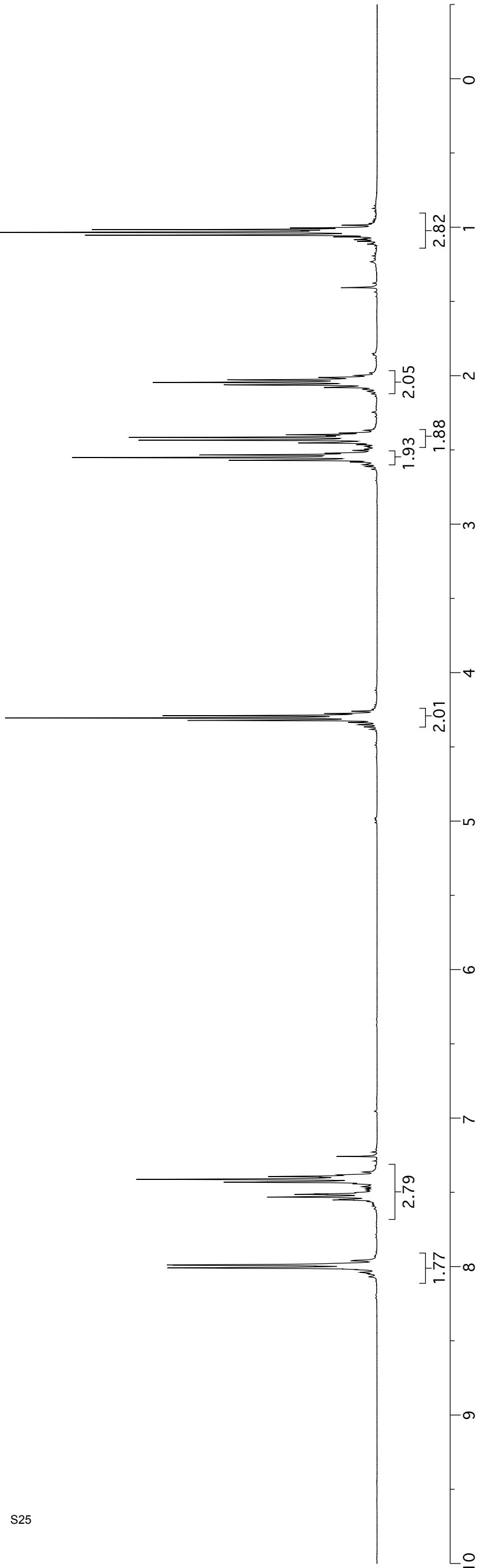


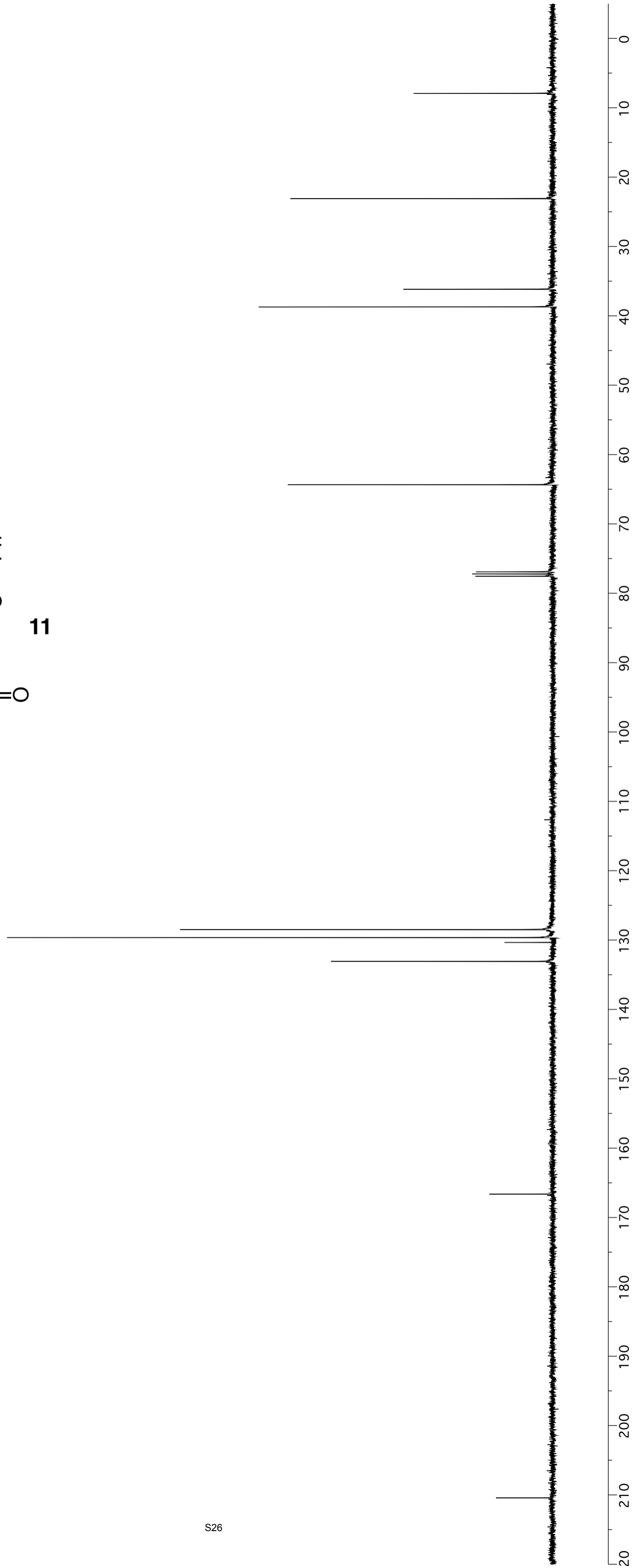
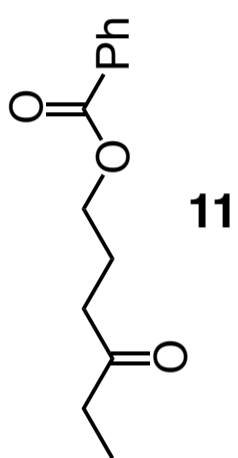






11





qx-2-192-2-3
STANDARD PROTON PARAMETERS

1.84
1.86
1.88
2.12
2.30
2.46
2.47
2.49
2.58
2.60
2.62

7.07
7.09
7.11
7.12
7.13
7.14
7.15
7.24



13

2.12
2.82
3.00
2.22
2.11

3.74

