# Stepwise synthesis of a stable diphosphasilirane and its unexpected dimerization

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Supplementary information

General: NMR spectra were recorded with a Bruker AV II 300 and a Bruker AV III HD 300. Coupling constants J are reported in Hertz (Hz) and the chemical shifts (δ) expressed in ppm relative to H_3PO_4 (^{31}P) or $SiMe_4$ (^1H, ^{13}C, ^{29}Si). Due to the quadrupole moment of aluminum and gallium the metal bound hydrogen atoms are not always visible in the ^1H NMR spectra. Their chemical shift was determined in highly concentrated solutions. The herein presented spectra resemble the compounds **1-6** after standard workup.
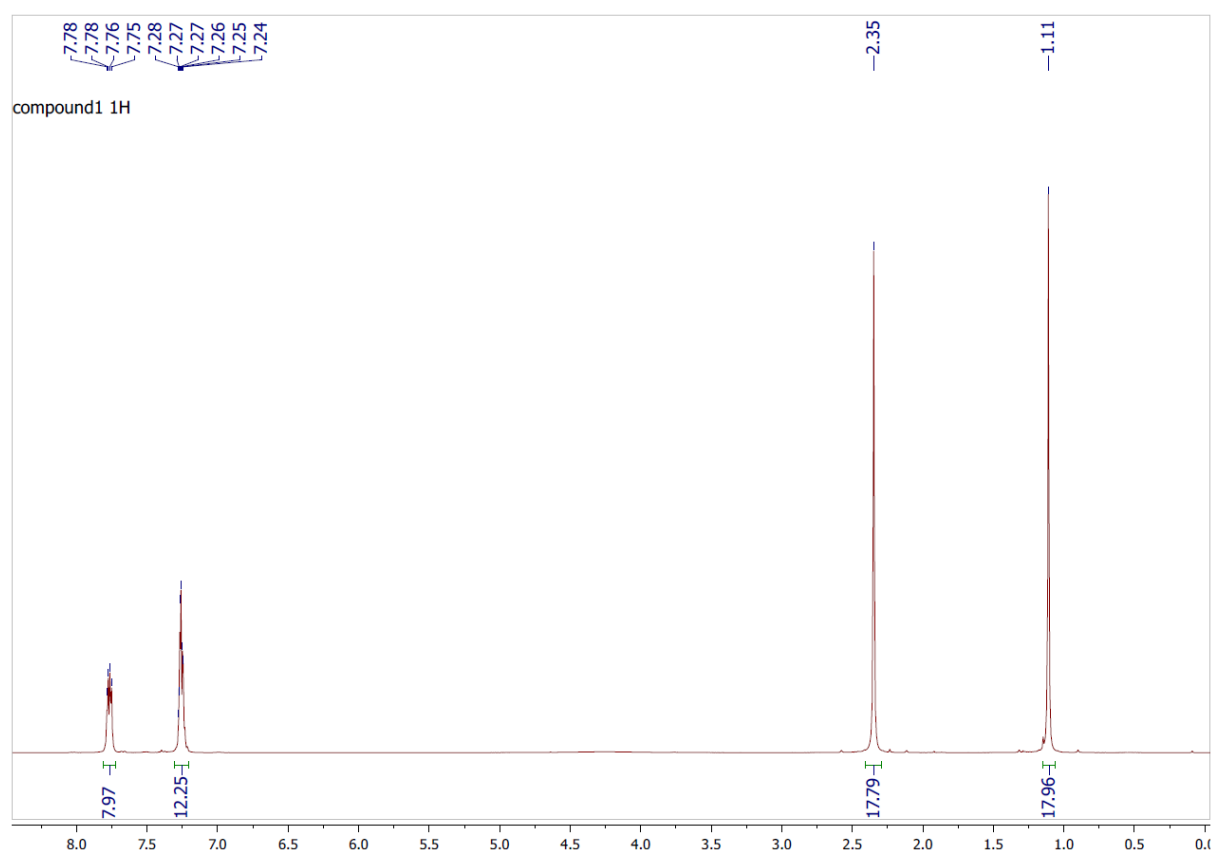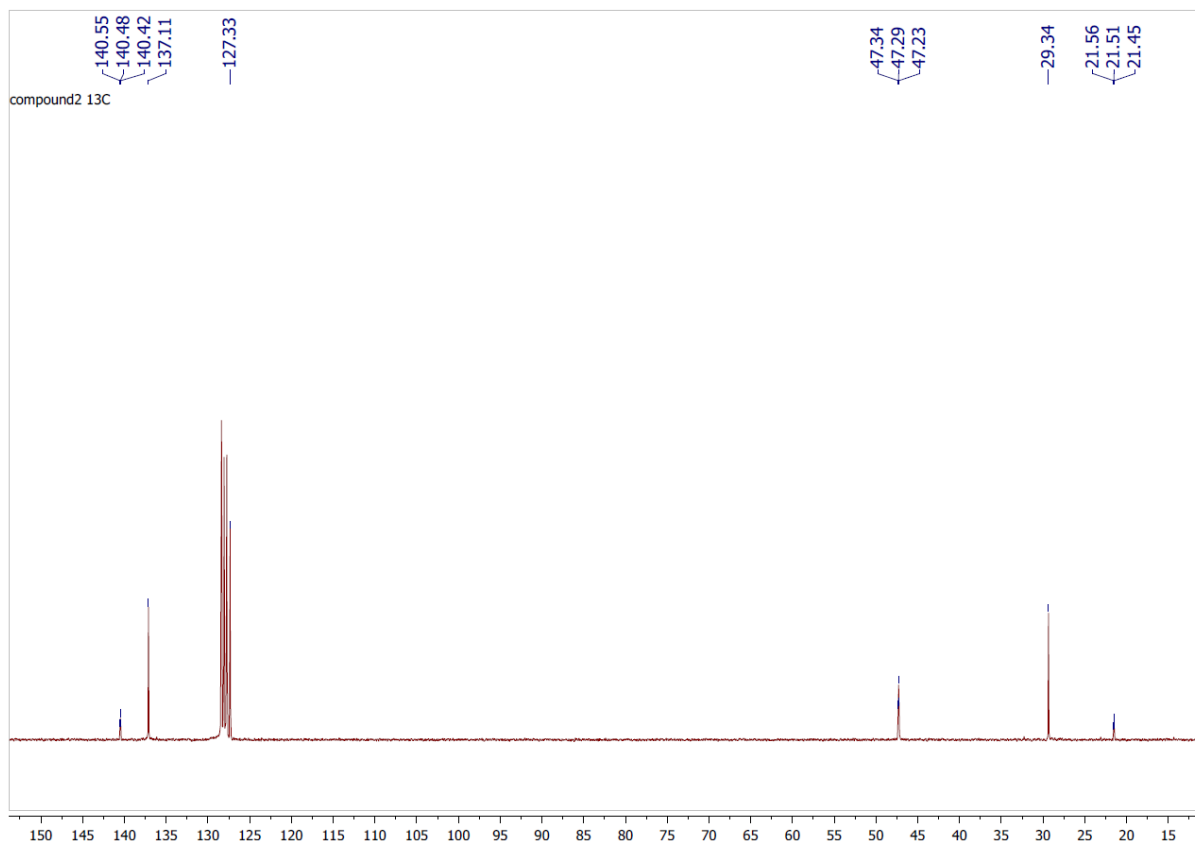

^1H NMR spectrum of compound **1** in $CDCl_3$.
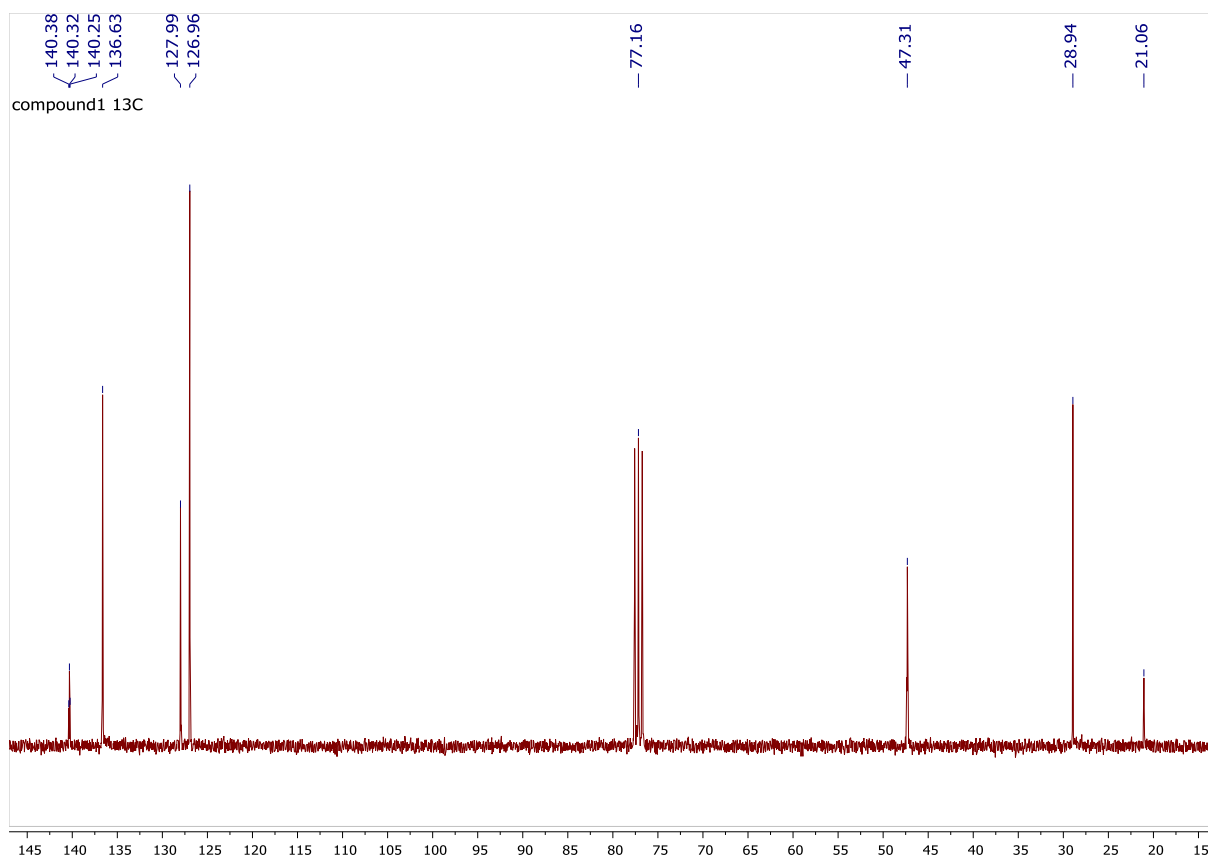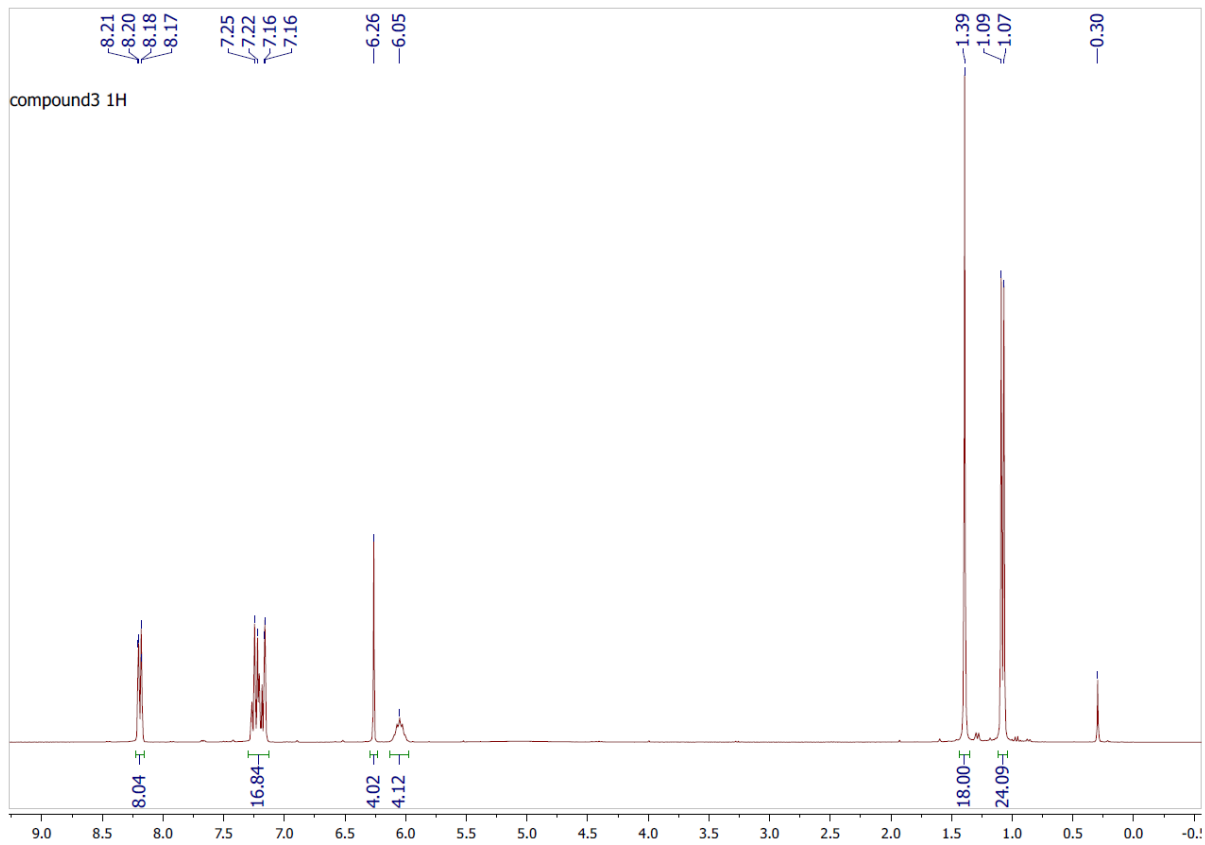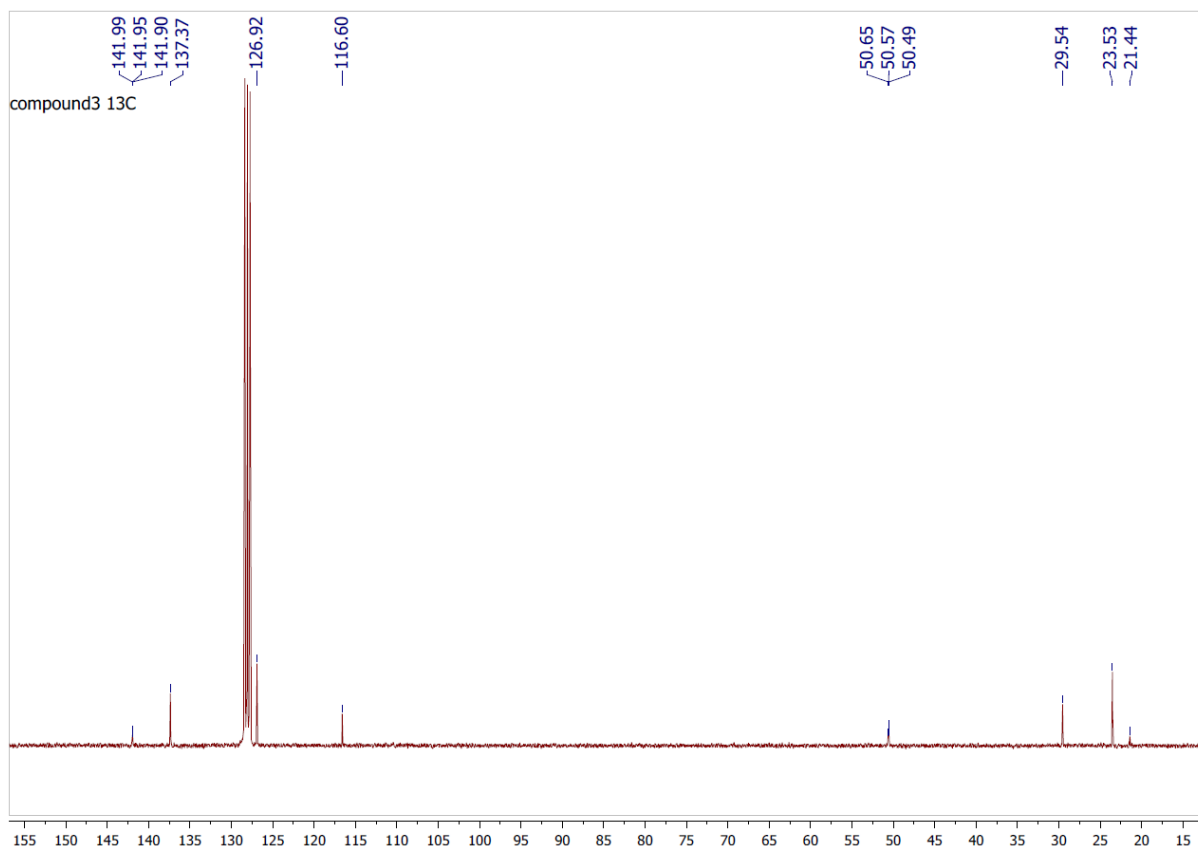
^{13}C NMR spectrum of compound **1** in CDCl$_3$.
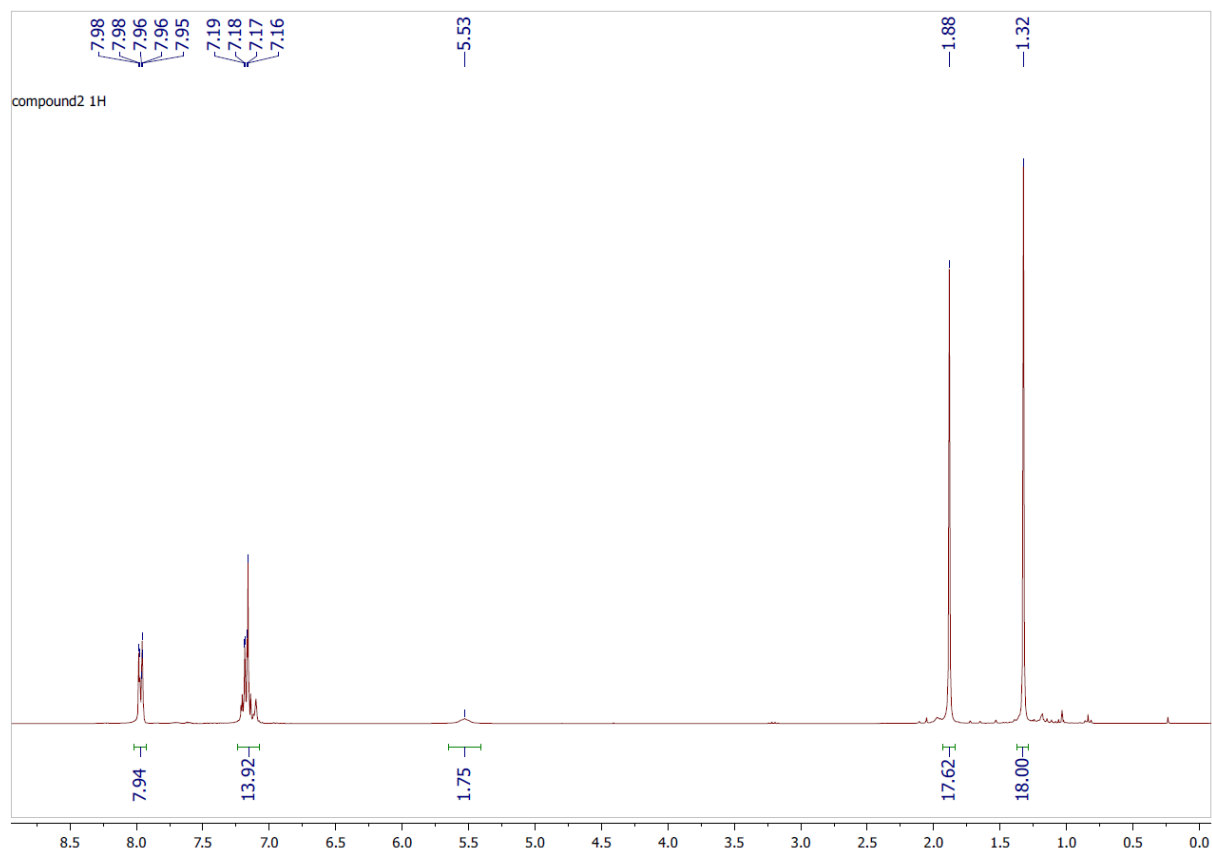
^{1}H NMR spectrum of compound **2** in C$_6$D$_6$.

^{13}C NMR spectrum of compound **2** in C$_6$D$_6$.

^{1}H NMR spectrum of compound **3** in C$_6$D$_6$.

^{13}C NMR spectrum of compound **3** in C$_6$D$_6$.
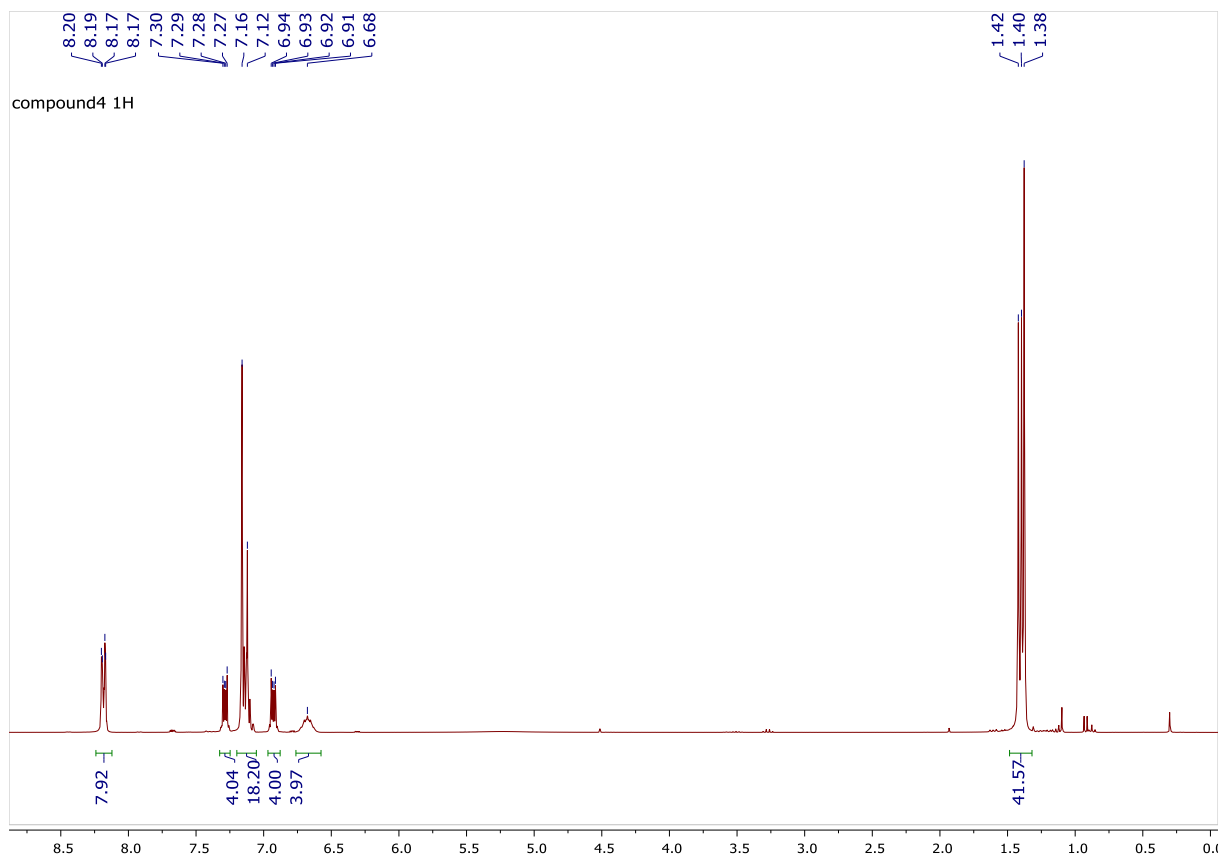
^{1}H NMR spectrum of compound **4** in C$_6$D$_6$.
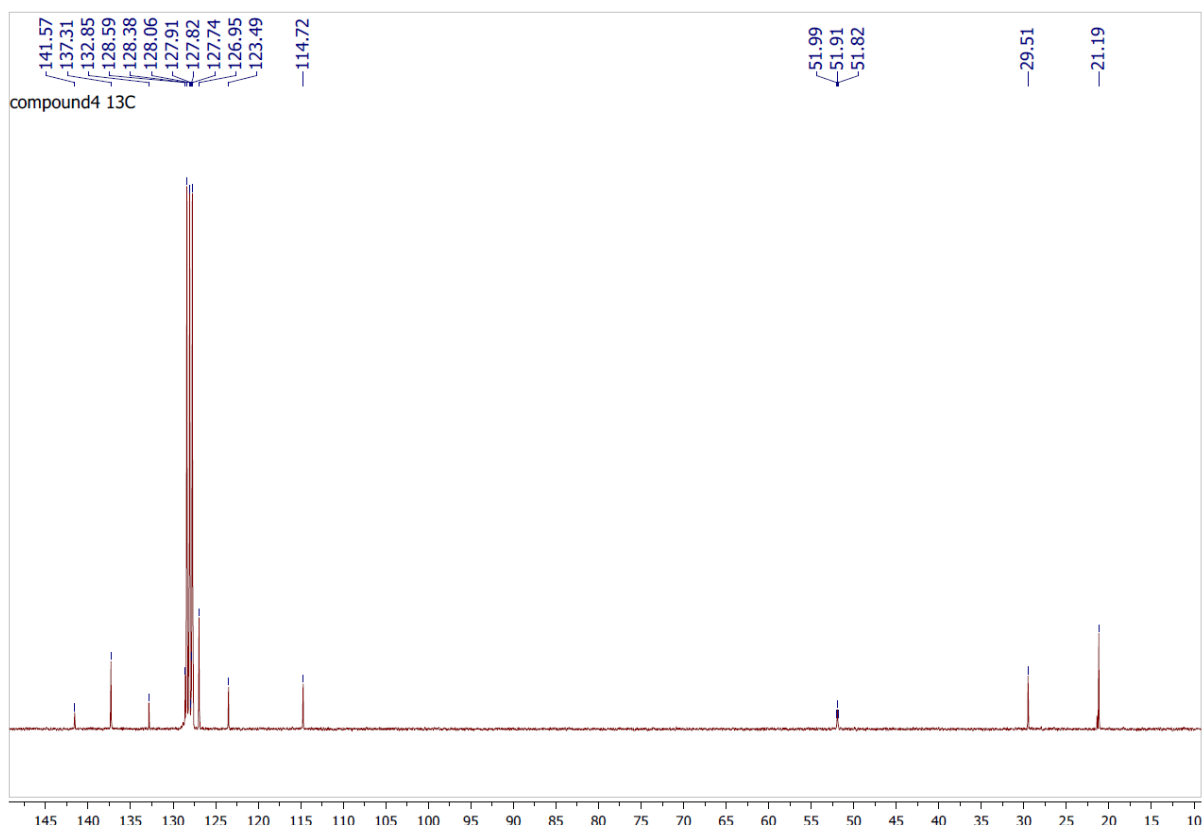
^{13}C NMR spectrum of compound **4** in C$_6$D$_6$.
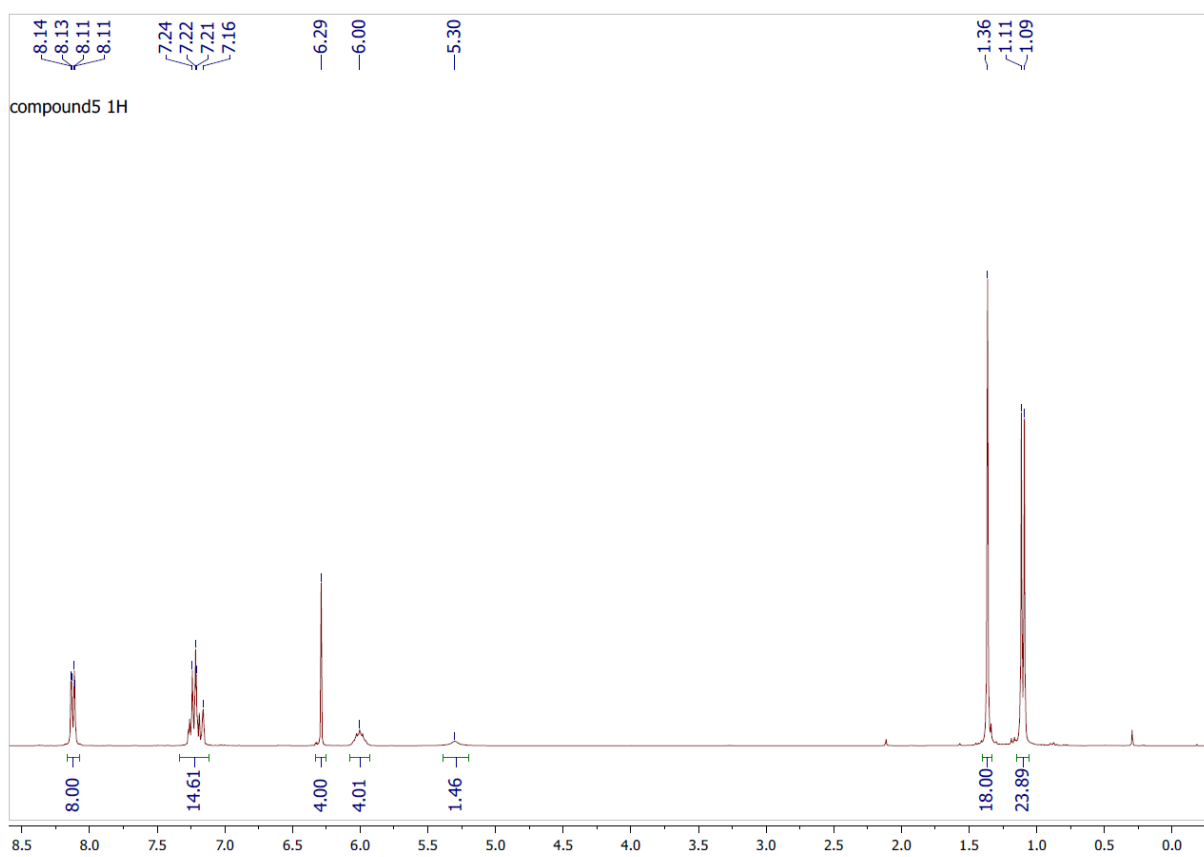
^{1}H NMR spectrum of compound **5** in C$_6$D$_6$.
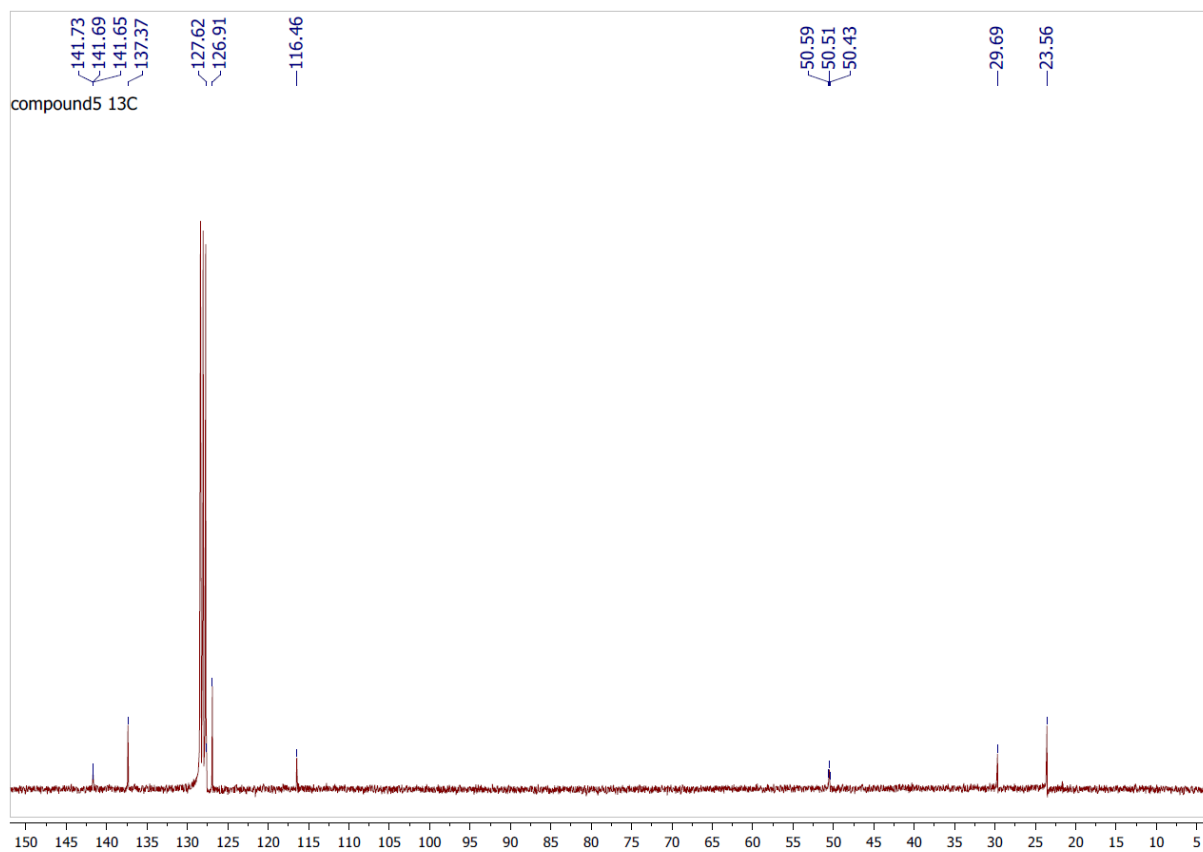
^{13}C NMR spectrum of compound **5** in C$_6$D$_6$.

^{1}H NMR spectrum of compound **6** in C$_6$D$_6$.

6

compound 6 13C

180.67
141.27
137.29
132.89
126.94
123.29
114.44
52.02
51.94
51.85
29.64
21.69
21.61
21.54
21.27

^{13}C NMR spectrum of compound **6** in C$_6$D$_6$.