

Supporting Information for:

A Study of Di(amino)stibines with Terminal Sb(III) Hydrogen-Ligands by X-ray- and Neutron-Diffraction

Ryan J. Schwamm, Alison J. Edwards, Christopher M. Fitchett and Martyn P. Coles

Contents

Page

- S2 **Figure S1** ^1H NMR spectrum of $\text{Sb}(\text{NON}^{\text{Ar}'})\text{Cl}$ (**1a**).
S3 **Figure S2** $^{13}\text{C}\{^1\text{H}\}$ NMR spectrum of $\text{Sb}(\text{NON}^{\text{Ar}'})\text{Cl}$ (**1a**).
S4 **Figure S3** ^1H NMR spectrum of $\text{Sb}(\text{NON}^{\text{Ar}})\text{Cl}$ (**1b**).
S5 **Figure S4** $^{13}\text{C}\{^1\text{H}\}$ NMR spectrum of $\text{Sb}(\text{NON}^{\text{Ar}})\text{Cl}$ (**1b**).
S6 **Figure S5** ^1H NMR spectrum of $\text{Sb}(\text{NON}^{\text{Ar}'})\text{H}$ (**2a**).
S7 **Figure S6** $^{13}\text{C}\{^1\text{H}\}$ NMR spectrum of $\text{Sb}(\text{NON}^{\text{Ar}'})\text{H}$ (**2a**).
S8 **Figure S7** ^1H NMR spectrum of $\text{Sb}(\text{NON}^{\text{Ar}})\text{H}$ (**2b**).
S9 **Figure S8** $^{13}\text{C}\{^1\text{H}\}$ NMR spectrum of $\text{Sb}(\text{NON}^{\text{Ar}})\text{H}$ (**2b**).
S10 **Figure S9** ORTEP of **1a** showing dimeric arrangement of $[\text{Sb}(\text{NON}^{\text{Ar}'})\text{Cl}]_2$
S11 **Figure S10** ORTEP of **1b** showing three independent molecules of $\text{Sb}(\text{NON}^{\text{Ar}})\text{Cl}$
S12 **Figure S11** ORTEP of **2a- $\{\text{n}^0\}$** showing thermal ellipsoids for H-atoms
S13 **Figure S12** ORTEP of **2b** showing two independent molecules of $\text{Sb}(\text{NON}^{\text{Ar}})\text{H}$

Figure S1 ^1H NMR spectrum (600 MHz, C_6D_6) of $\text{Sb}(\text{NON}^{\text{Ar}'})\text{Cl}$ (**1a**)

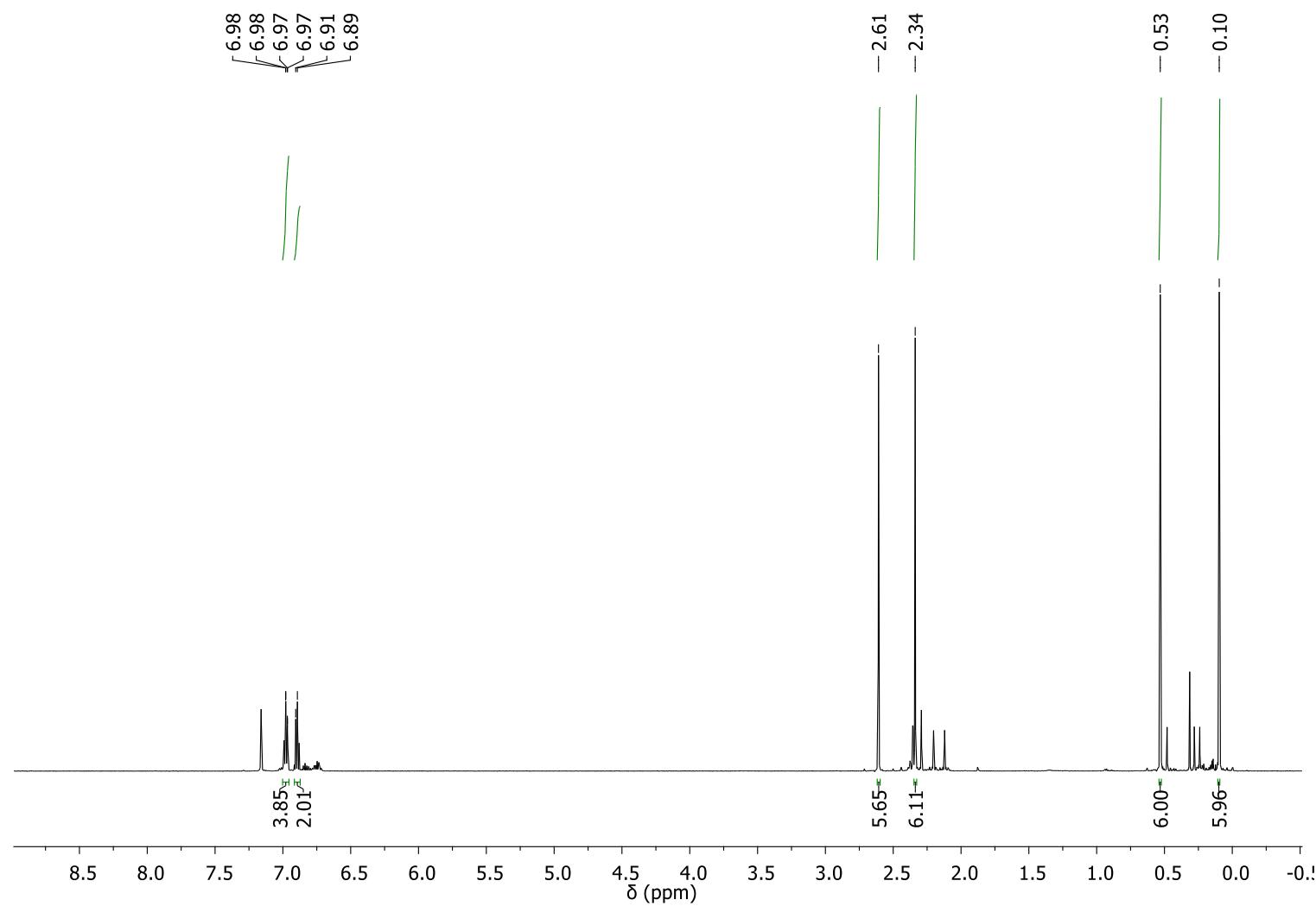


Figure S2 $^{13}\text{C}\{^1\text{H}\}$ NMR spectrum (150 MHz, C_6D_6) of $\text{Sb}(\text{NON}^{\text{Ar}'})\text{Cl}$ (**1a**)

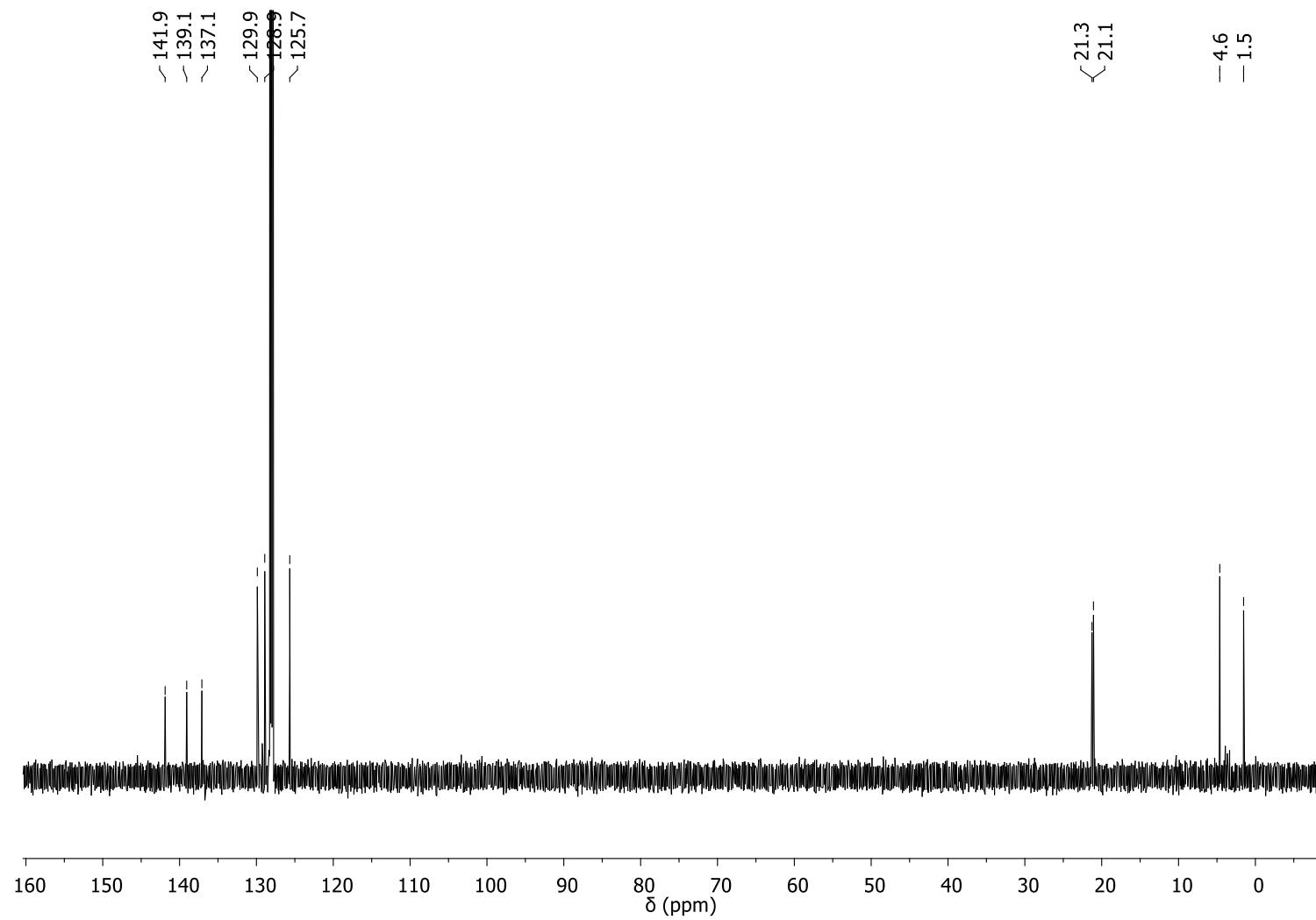


Figure S3 ^1H NMR spectrum (300 MHz, C_6D_6) of $\text{Sb}(\text{NON}^{\text{Ar}})\text{Cl}$ (**1b**)

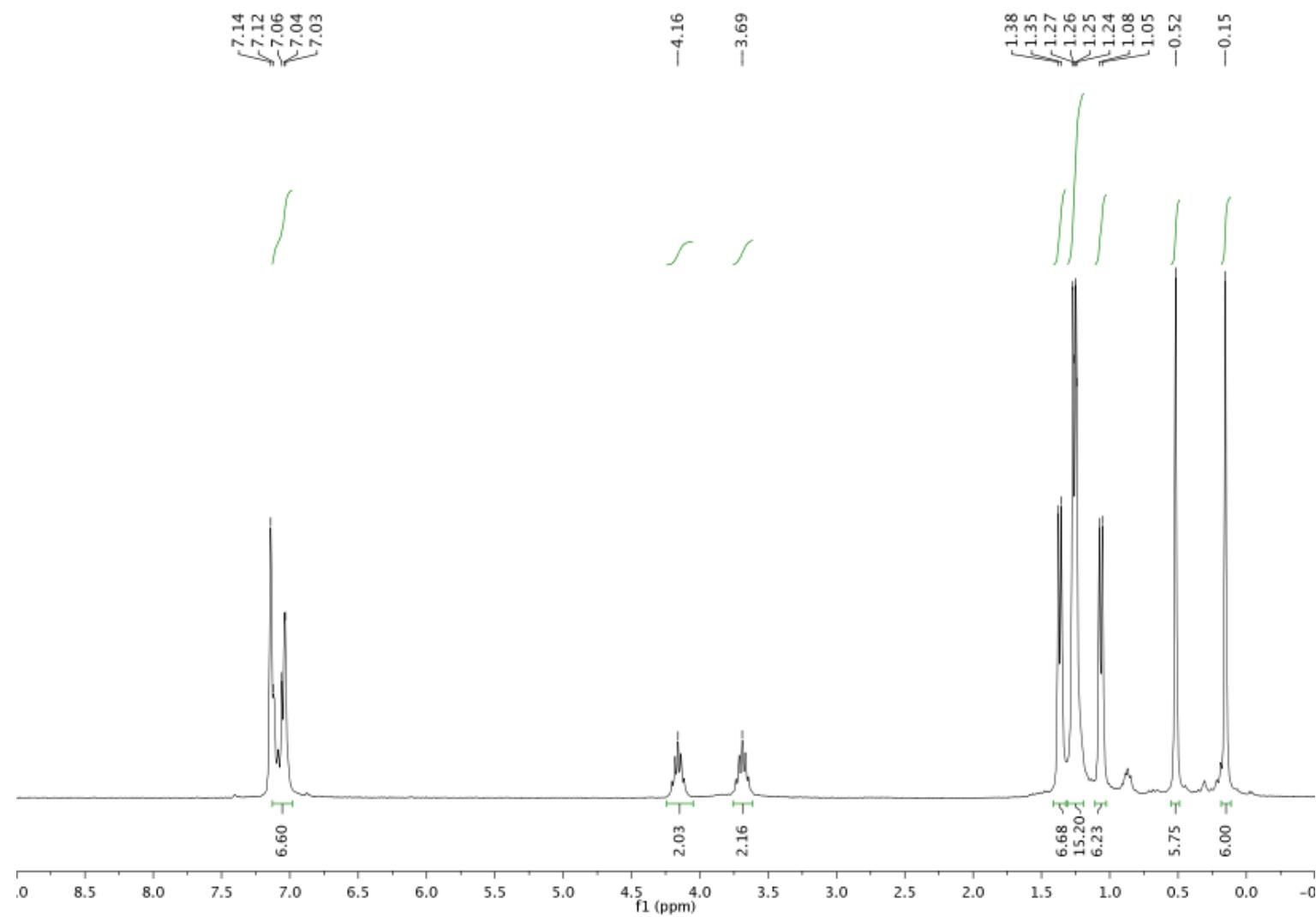


Figure S4 $^{13}\text{C}\{^1\text{H}\}$ NMR spectrum (75 MHz, C_6D_6) of $\text{Sb}(\text{NON}^{\text{Ar}})\text{Cl}$ (**1b**)

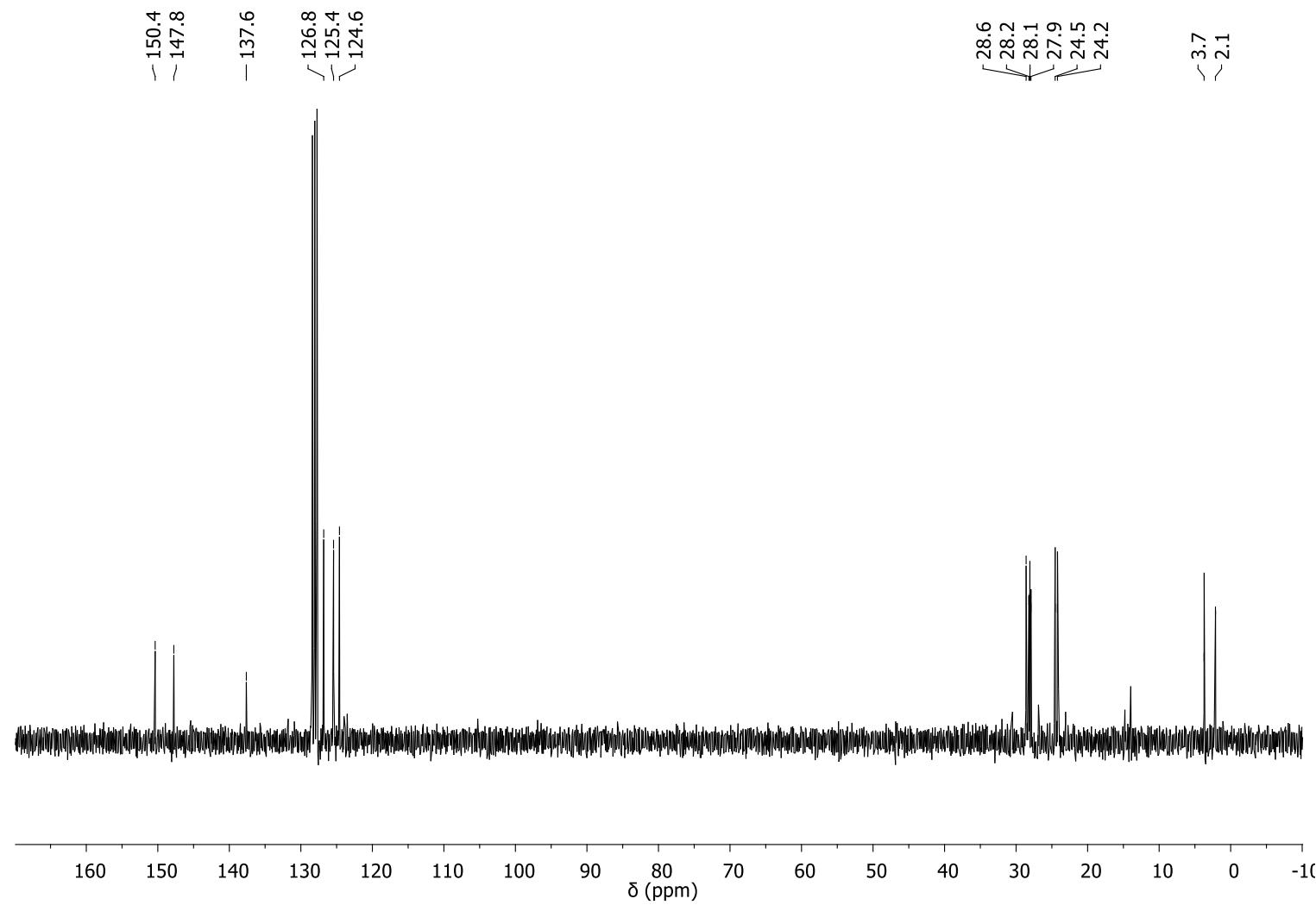


Figure S5 ^1H NMR spectrum (300 MHz, C_6D_6) of $\text{Sb}(\text{NON}^{\text{Ar}'})\text{H}$ (**2a**)

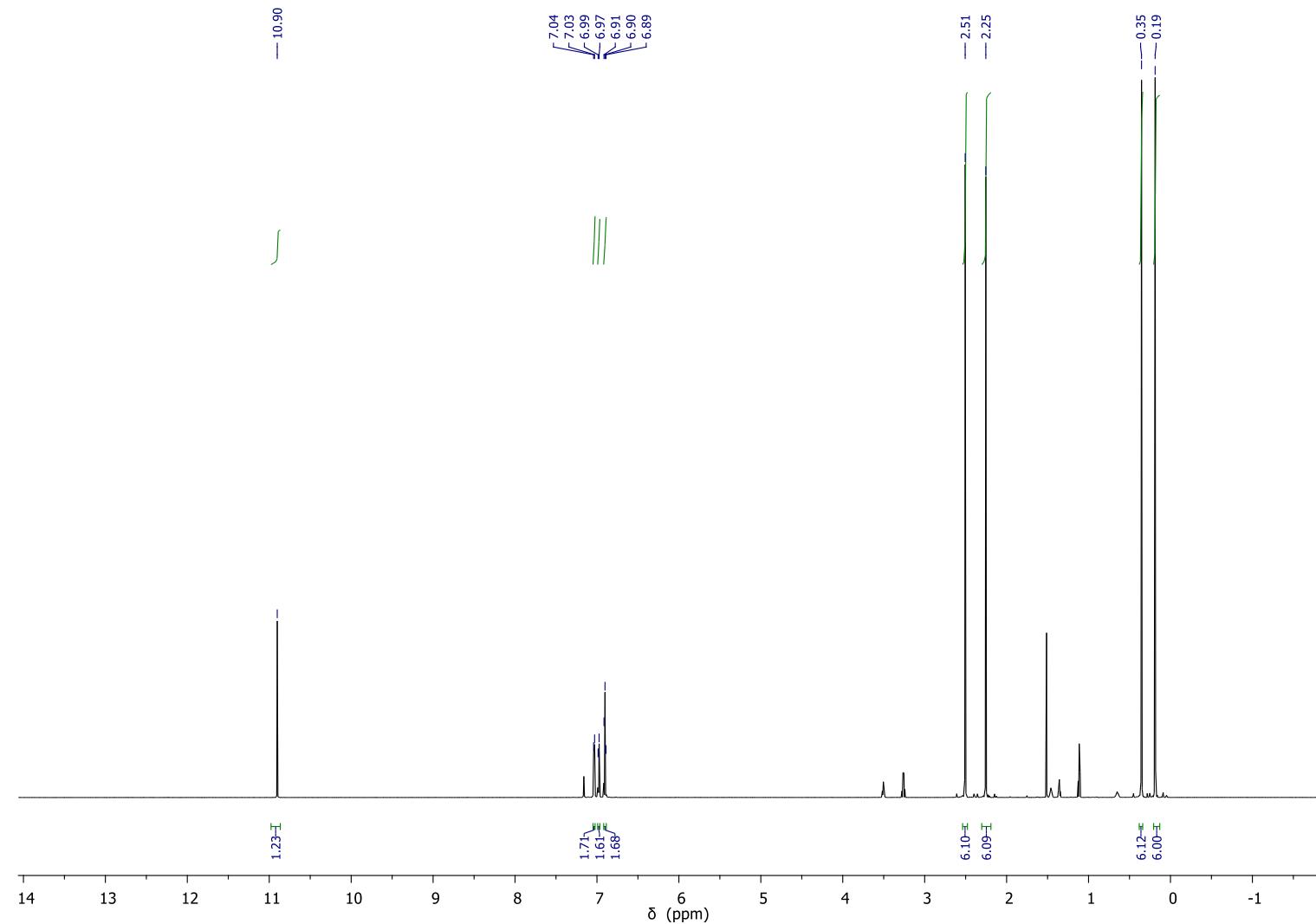


Figure S6 $^{13}\text{C}\{^1\text{H}\}$ NMR spectrum (75 MHz, C_6D_6) of $\text{Sb}(\text{NON}^{\text{Ar}'})\text{H}$ (**2a**)

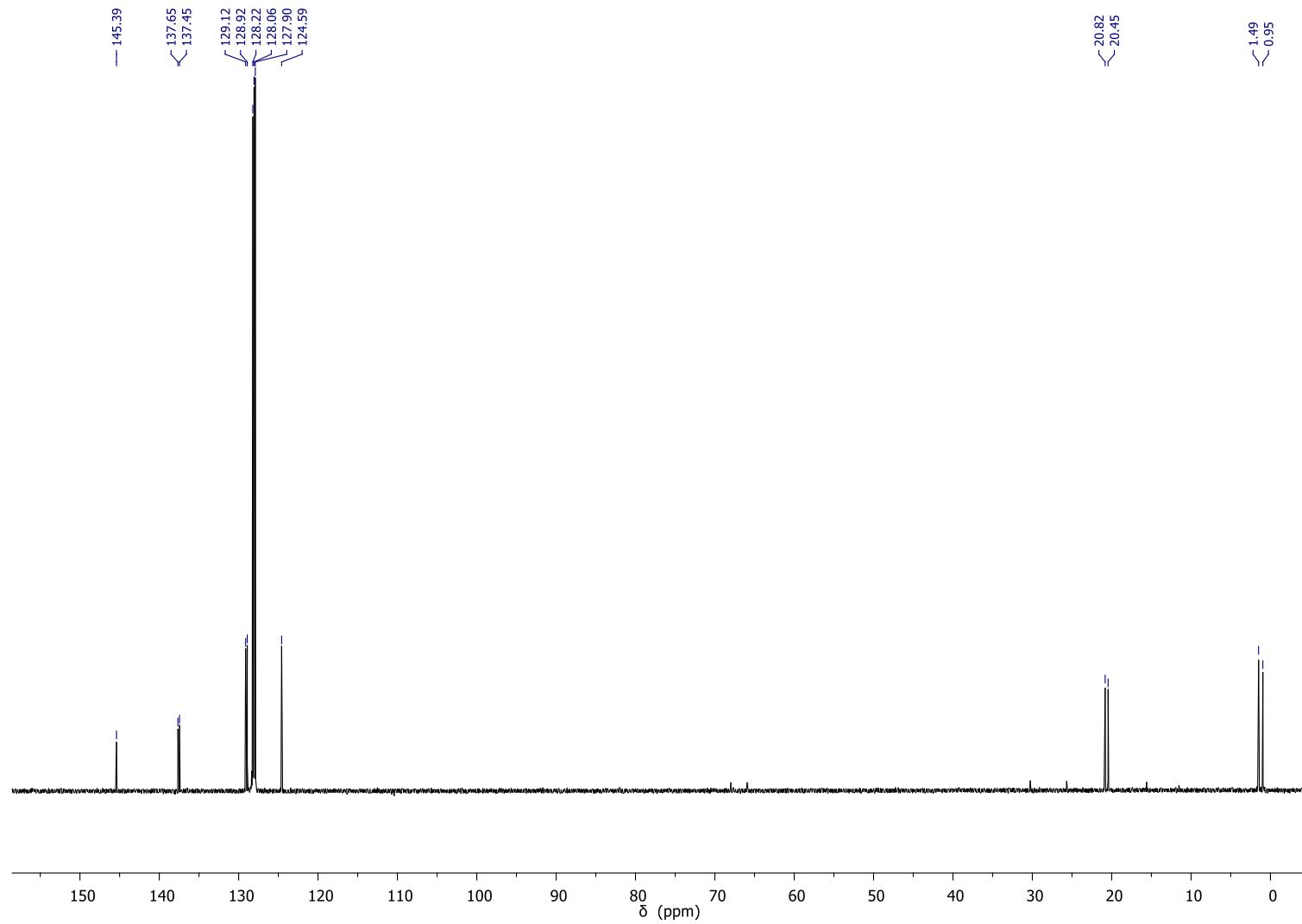


Figure S7 ^1H NMR spectrum (300 MHz, C_6D_6) of $\text{Sb}(\text{NON}^{\text{Ar}})\text{H}$ (**2b**)

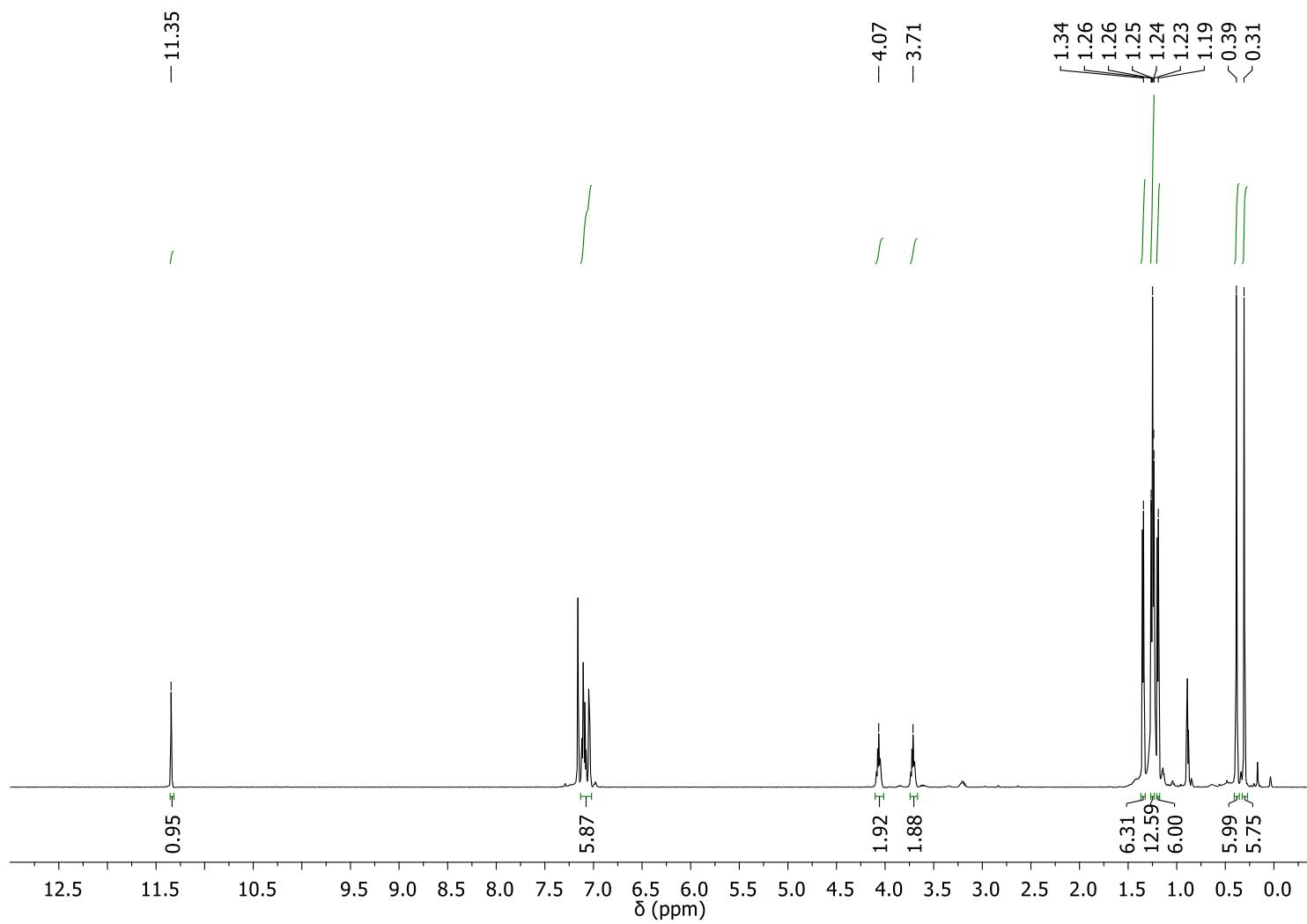


Figure S8 $^{13}\text{C}\{^1\text{H}\}$ NMR spectrum (75 MHz, C_6D_6) of $\text{Sb}(\text{NON}^{\text{Ar}})\text{H}$ (**2b**)

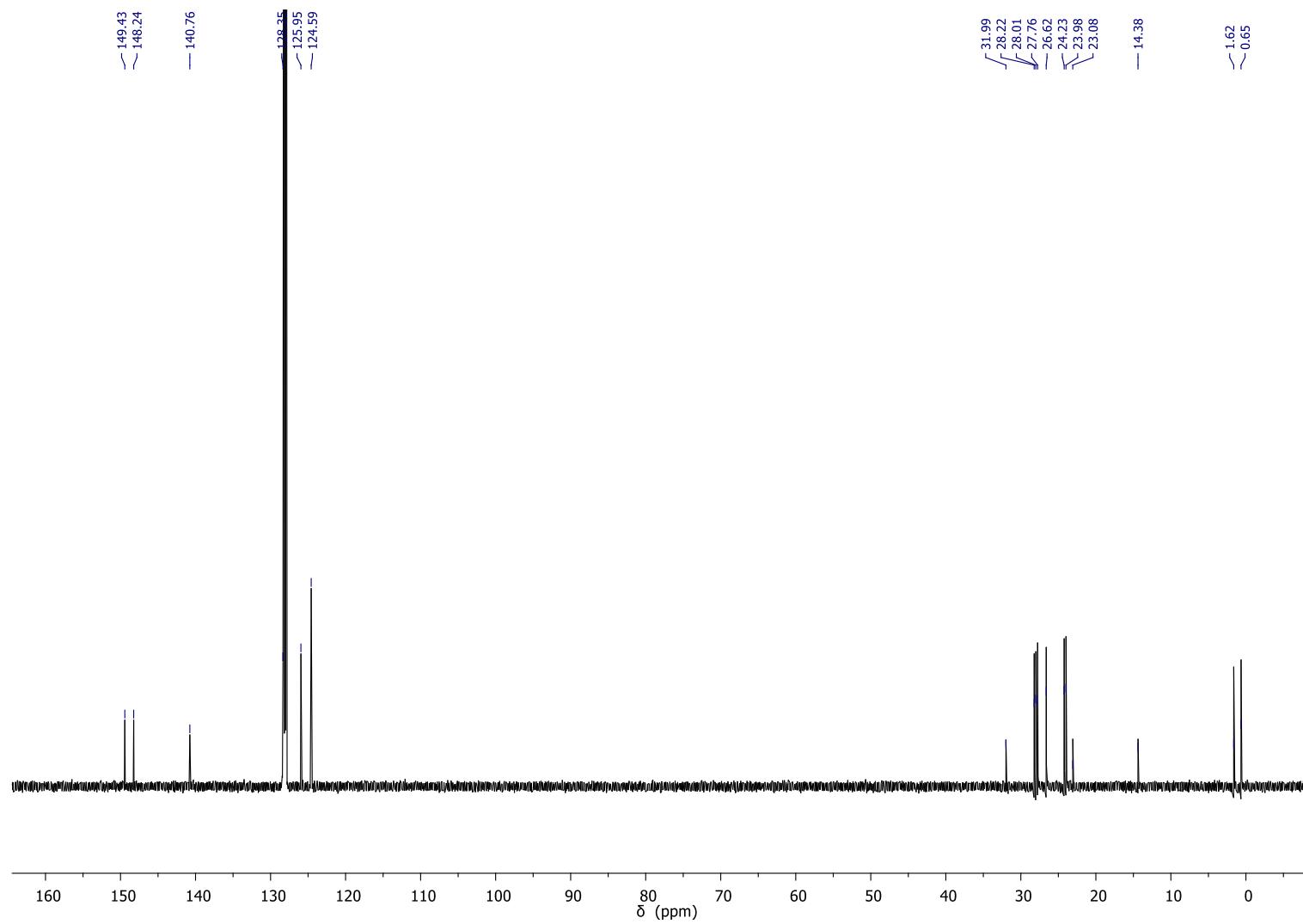


Figure S9 ORTEP of **1a** showing dimeric arrangement of $[\text{Sb}(\text{NON}^{\text{Ar}'})\text{Cl}]_2$ (' = 2-x, 2-y, -z)

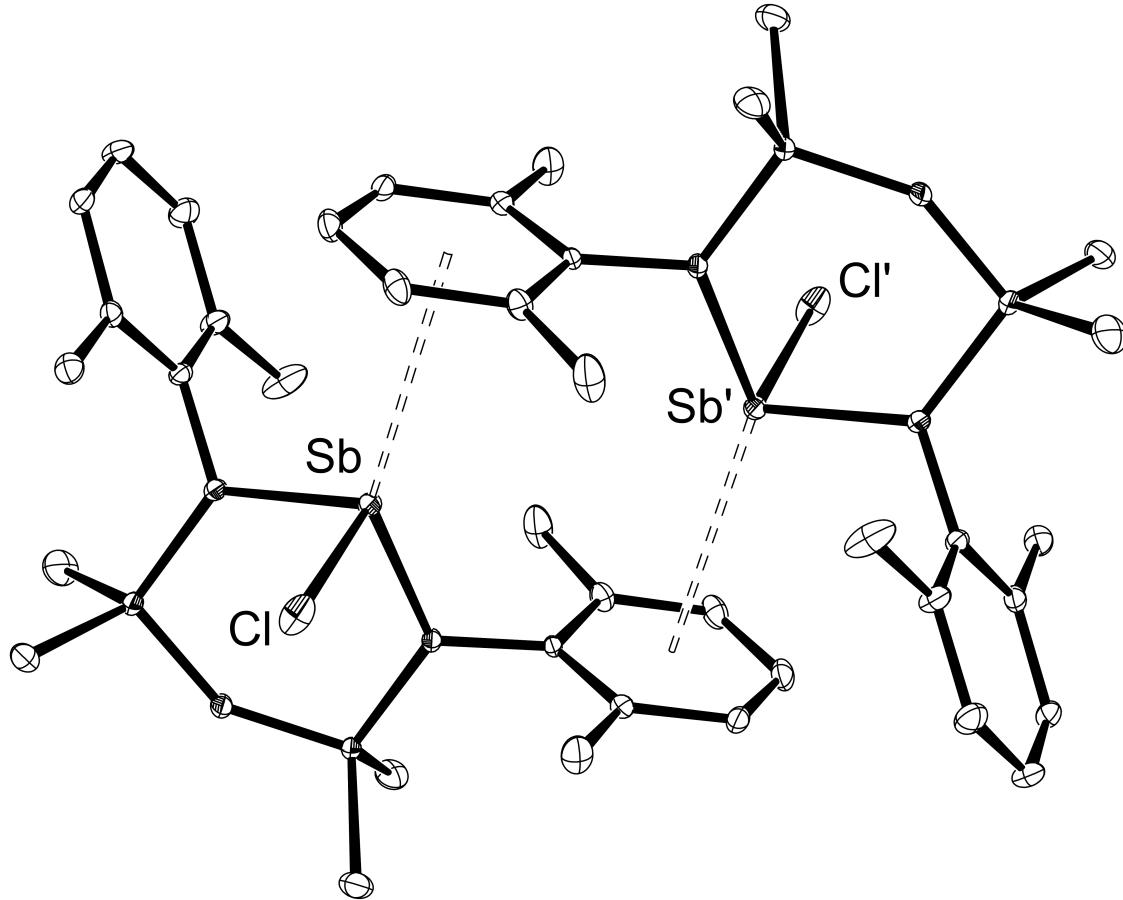


Figure S10 ORTEP of **1b** showing three independent molecules of $\text{Sb}(\text{NON}^{\text{Ar}})\text{Cl}$

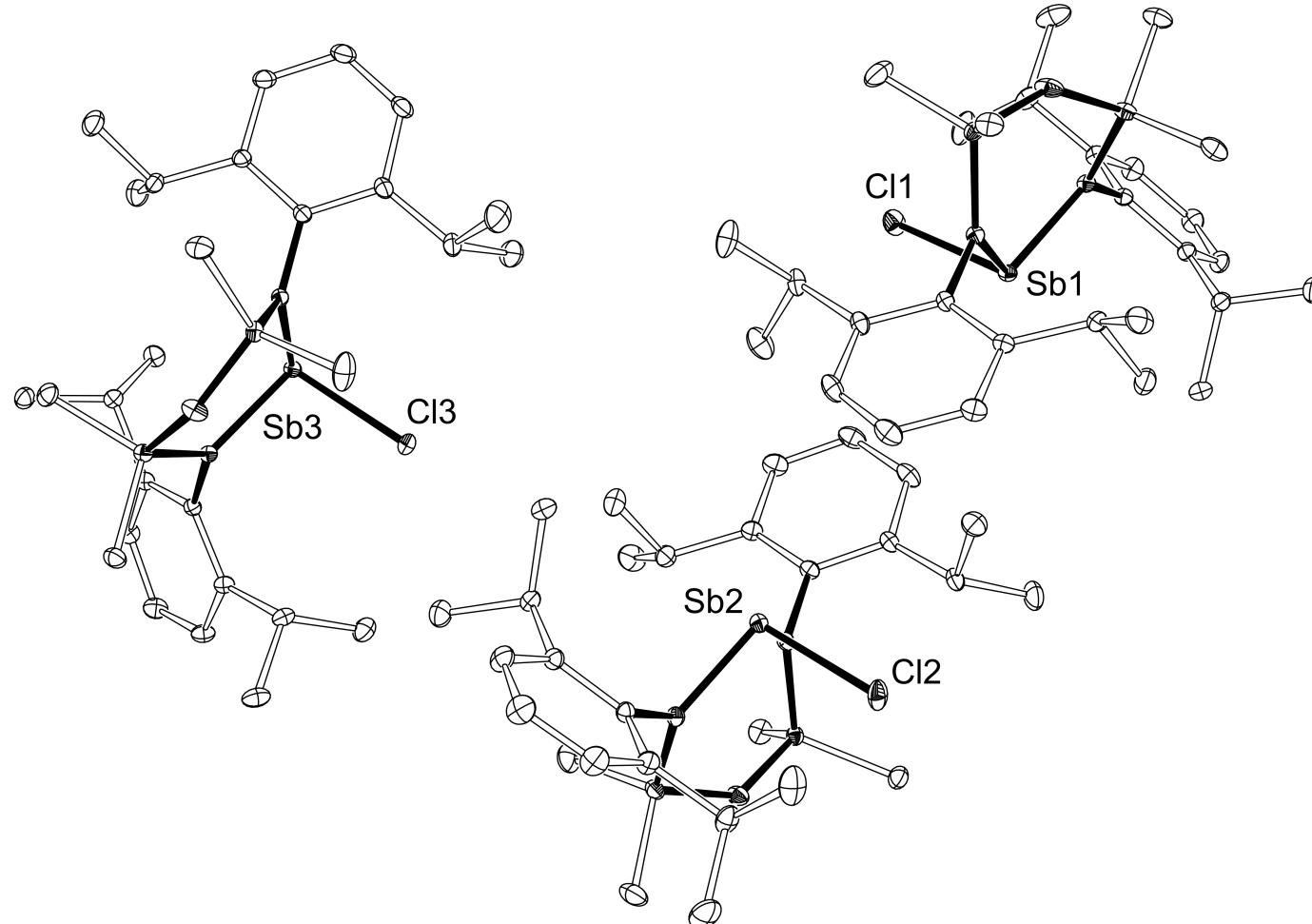


Figure S11 ORTEP of **2a-{n⁰}** showing thermal ellipsoids for H-atoms

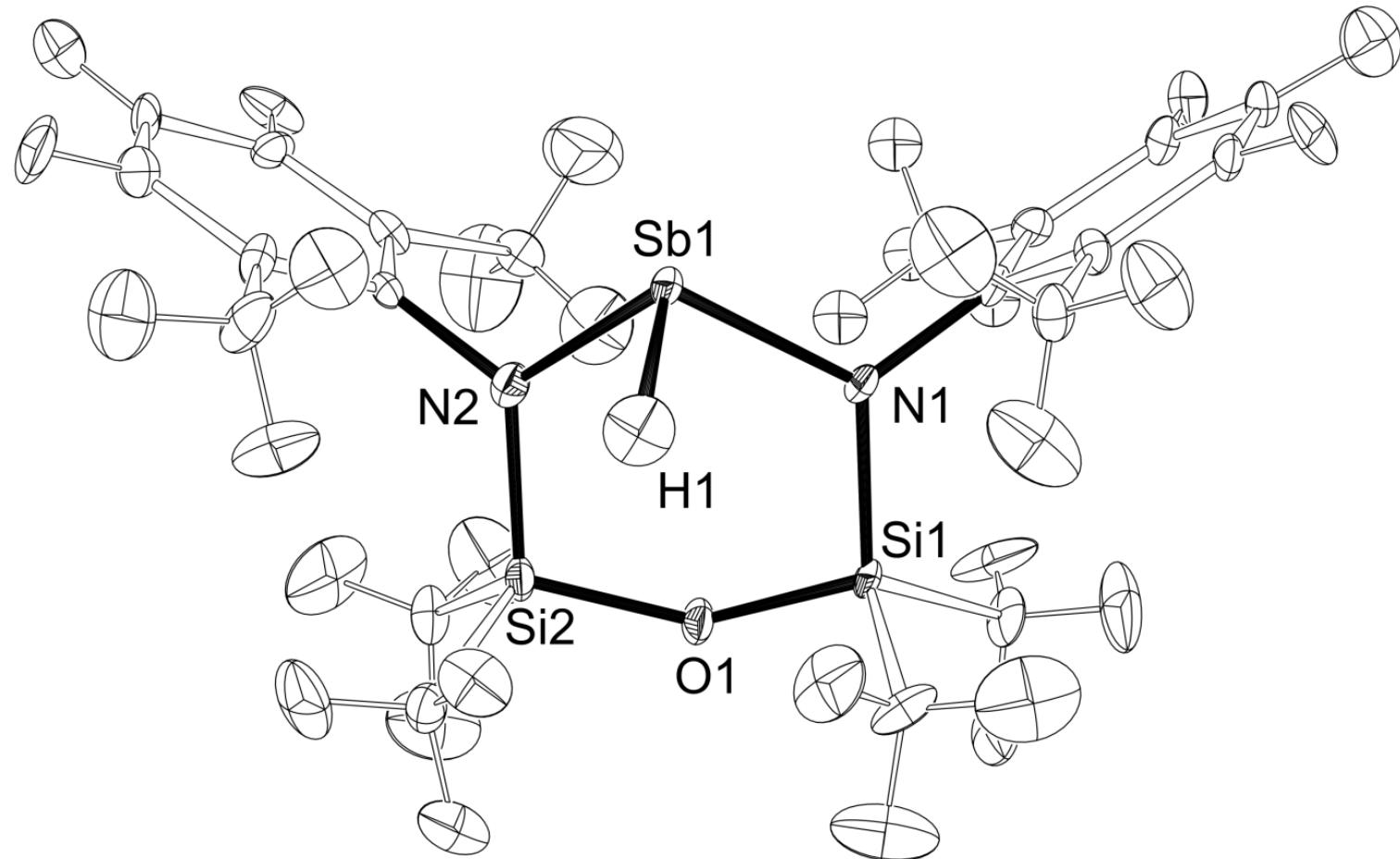


Figure S11 ORTEP of **2b** showing two independent molecules of $\text{Sb}(\text{NON}^{\text{Ar}})\text{H}$

