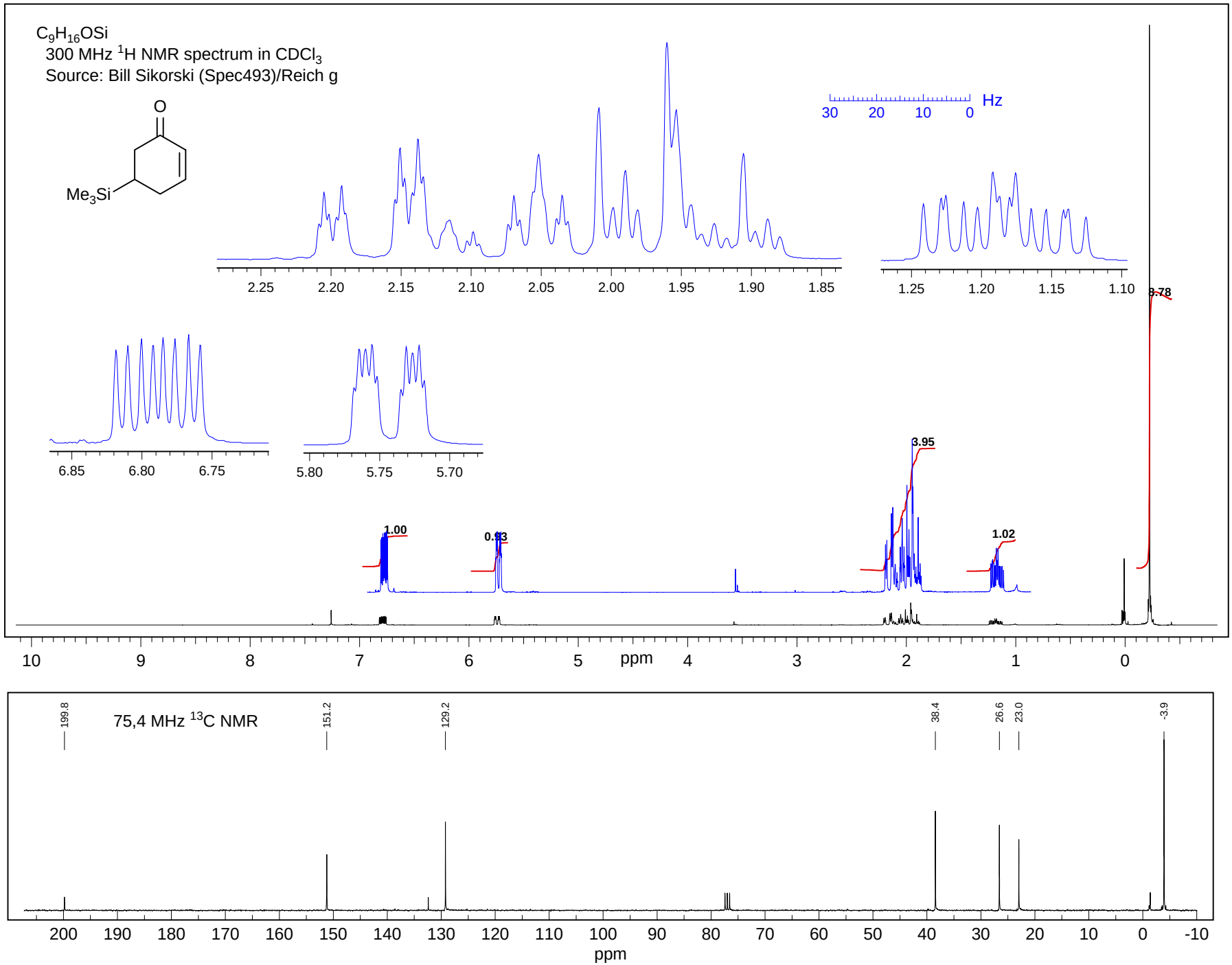
Exercise: Assign all of the protons and determine all couplings in 5-trimethylsilyl-2-cyclohexenone. Begin by drawing a proper conformation of the molecule, and assigning and analyzing the isolated multiplets. Then tackle the overlapped region δ 1.8-2.2. The spectrum is essentially first order.



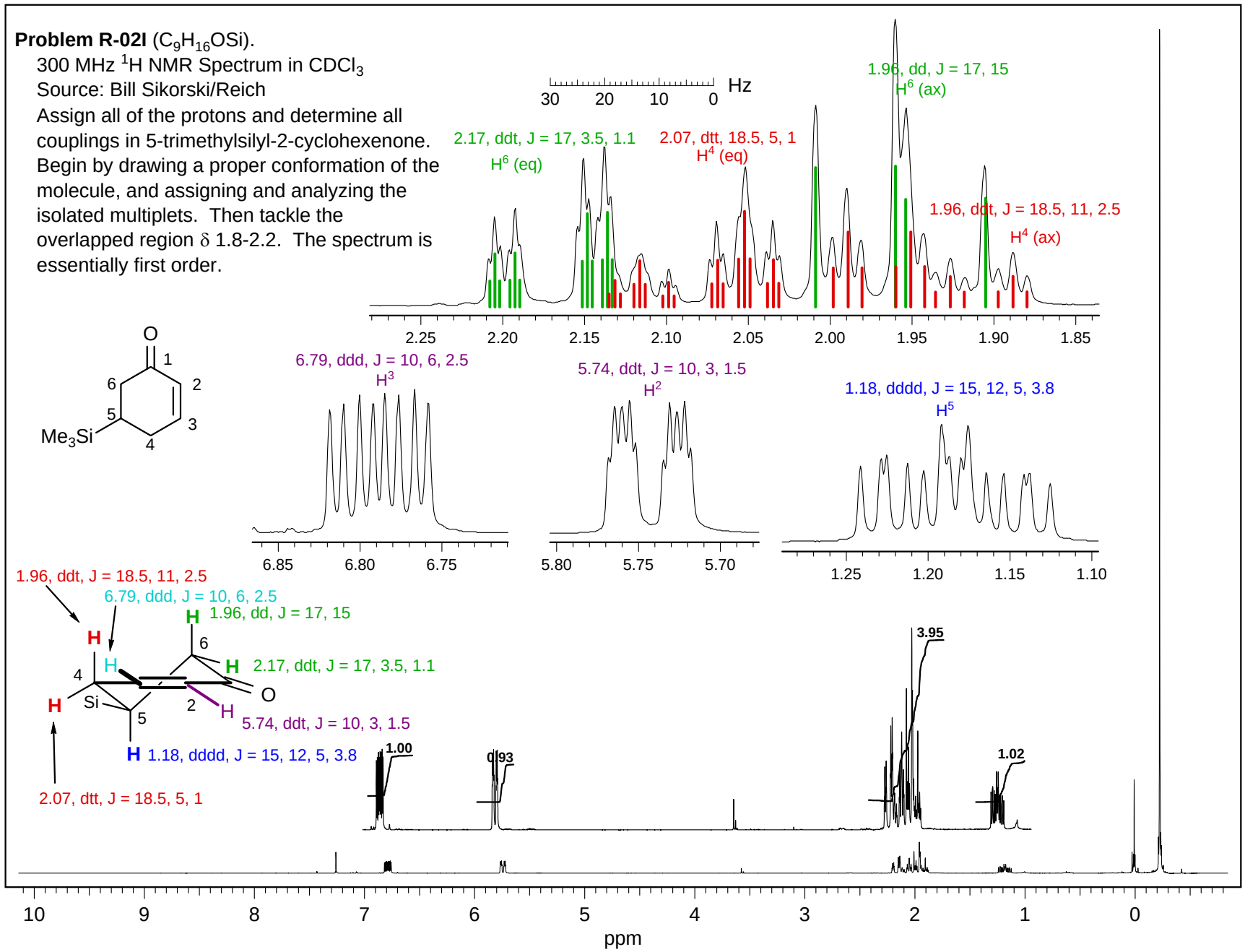
PLT NMR-spec493-5-trimethylsilyl-2-cyclohexenone-g.plt

Problem R-02I ($C_9H_{16}OSi$).

300 MHz ^1H NMR Spectrum in $CDCl_3$

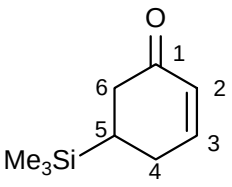
Source: Bill Sikorski/Reich

Assign all of the protons and determine all couplings in 5-trimethylsilyl-2-cyclohexenone. Begin by drawing a proper conformation of the molecule, and assigning and analyzing the isolated multiplets. Then tackle the overlapped region δ 1.8-2.2. The spectrum is essentially first order.

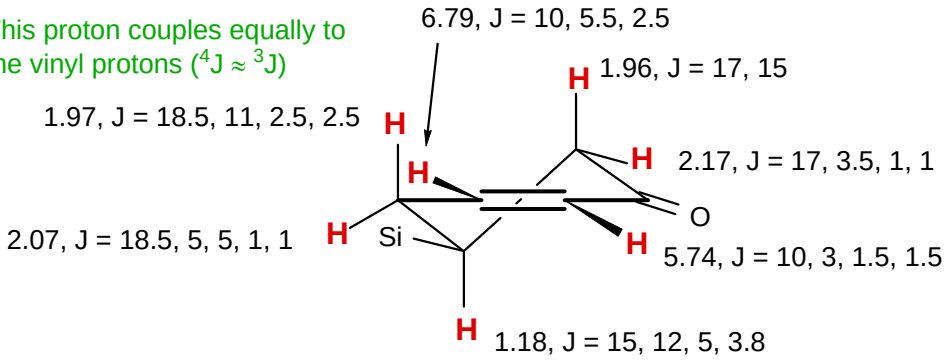


PLT NMR-spec493-5-trimethylsilyl-2-cyclohexenone-g.plt

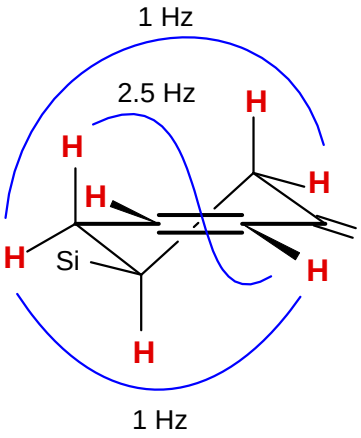
300 MHz ^{1}H NMR Spectrum in $CDCl_3$
Source: Bill Sikorski/Reich

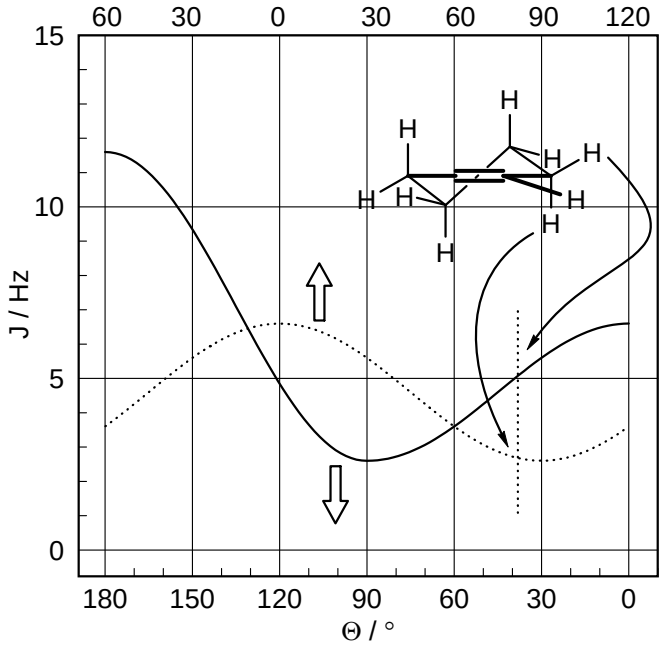


This proton couples equally to the vinyl protons ($^{4}J \approx {}^{3}J$)



^{4}J couplings





Observed J are 5 and 2.5