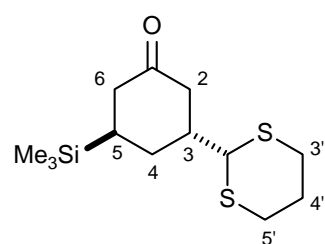


Exercise: Assign key protons and determine stereochemistry

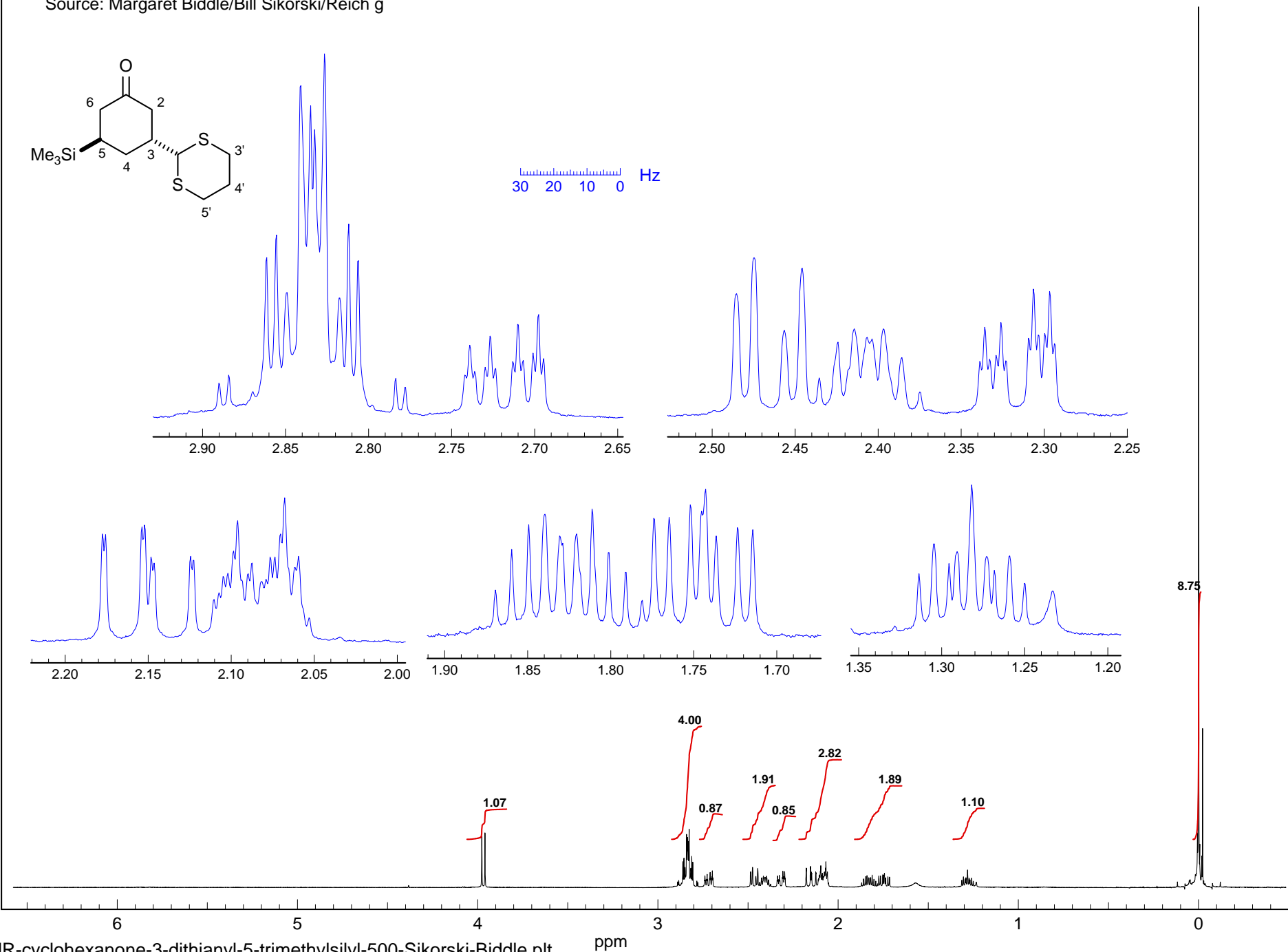
$C_{13}H_{24}OS_2Si$

500 MHz 1H NMR spectrum in $CDCl_3$

Source: Margaret Biddle/Bill Sikorski/Reich g



30 20 10 0 Hz

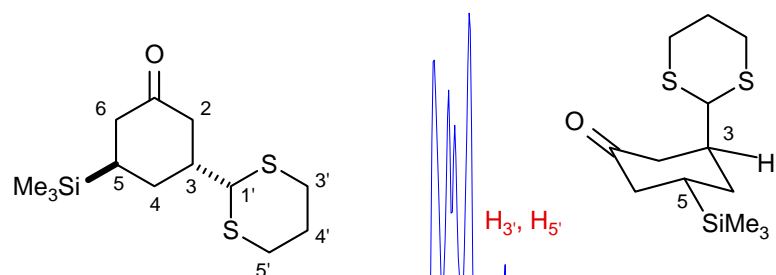


Exercise: Assign key protons and determine stereochemistry

$C_{13}H_{24}OS_2Si$

500 MHz 1H NMR spectrum in $CDCl_3$

Source: Margaret Biddle/Bill Sikorski/Reich g



- The proton H^5 (δ 1.28) must be axial, an apparent tt, $J = 11.1, 4.4$ Hz - clearly two J_{ax-ax} and two J_{ax-eq}
- The proton H^3 (δ 2.41) must be equatorial, it is an apparent d of pentets, $J = 8.8$ and ca 5 Hz - the doublet coupling is to $H_{1'}$, the other four nearly equal couplings are two J_{eq-eq} and two J_{eq-ax} .
- So the two substituents on the cyclohexanone are *trans*, and the larger Me_3Si group is largely equatorial.

