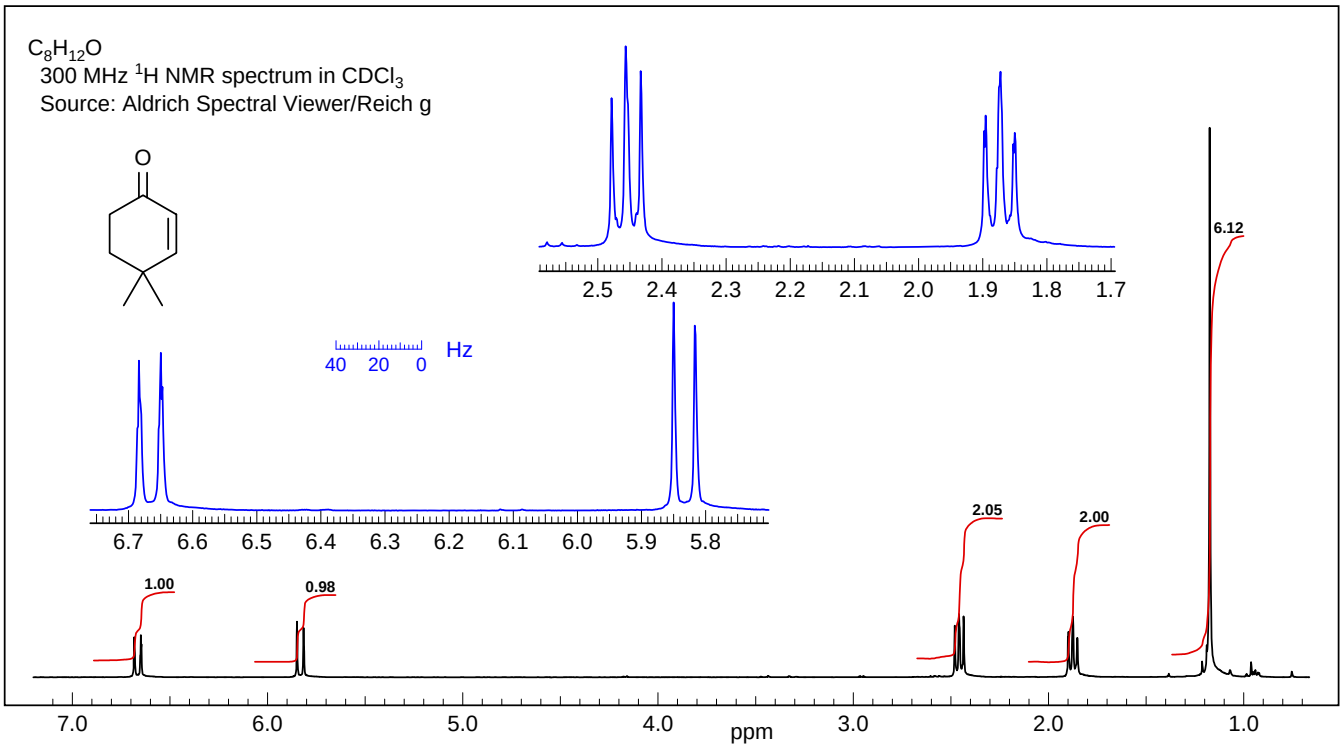
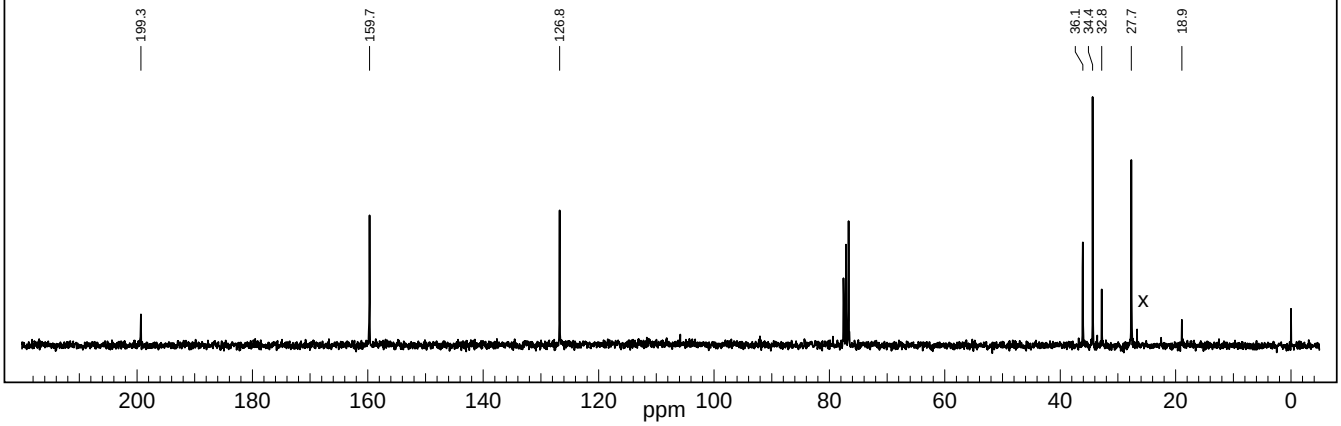
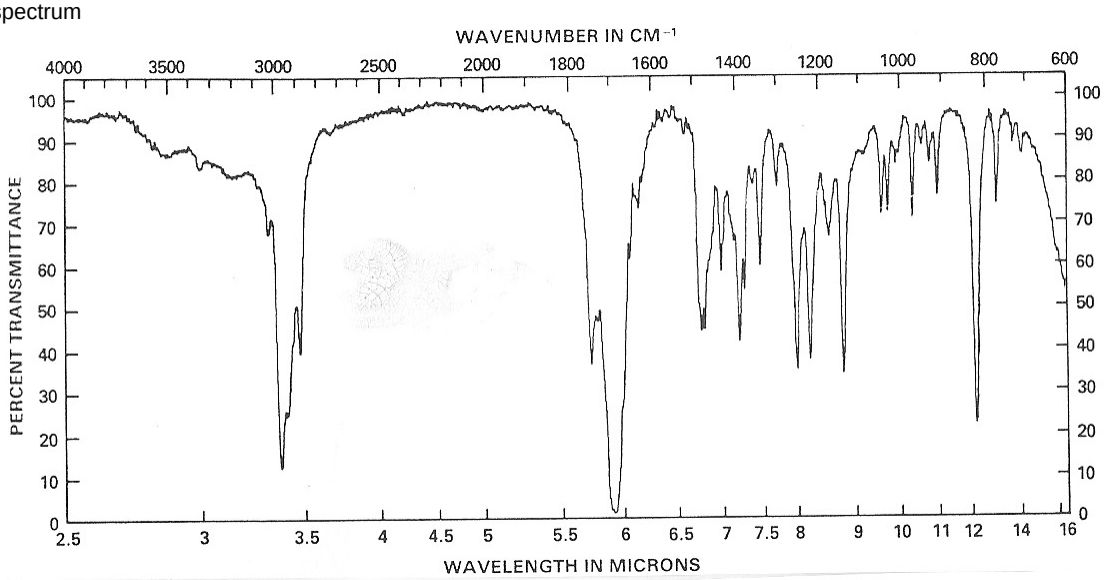
$C_8H_{12}O$
300 MHz ^1H NMR spectrum in $CDCl_3$
Source: Aldrich Spectral Viewer/Reich g



$C_8H_{12}O$
75 MHz ^{13}C NMR spectrum in $CDCl_3$
Source: Aldrich Spectral Viewer/Reich



IR spectrum



PLT NMR-cyclohexenone-4,4-dimethyl-g.plt

Chem 345
Reich Final Practice Exam
Dec, 2009

10. (15 pts.) The ^{1}H NMR of a compound $C_8H_{12}O$ is shown below.

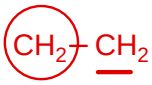
(a) The number of double bonds and rings is 3. *Hint: The structure contains a ring.*

(b) Write part structures revealed by the chemical shifts, splitting and number of hydrogens for the regions requested. In each part structure, **circle** the hydrogens responsible for the absorption and **underline** the hydrogens that give rise to the splitting.

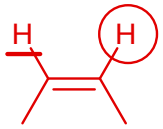
Peak at 1.2 δ

2 x CH_3

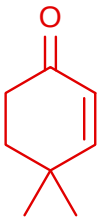
Peaks at 1.9 δ

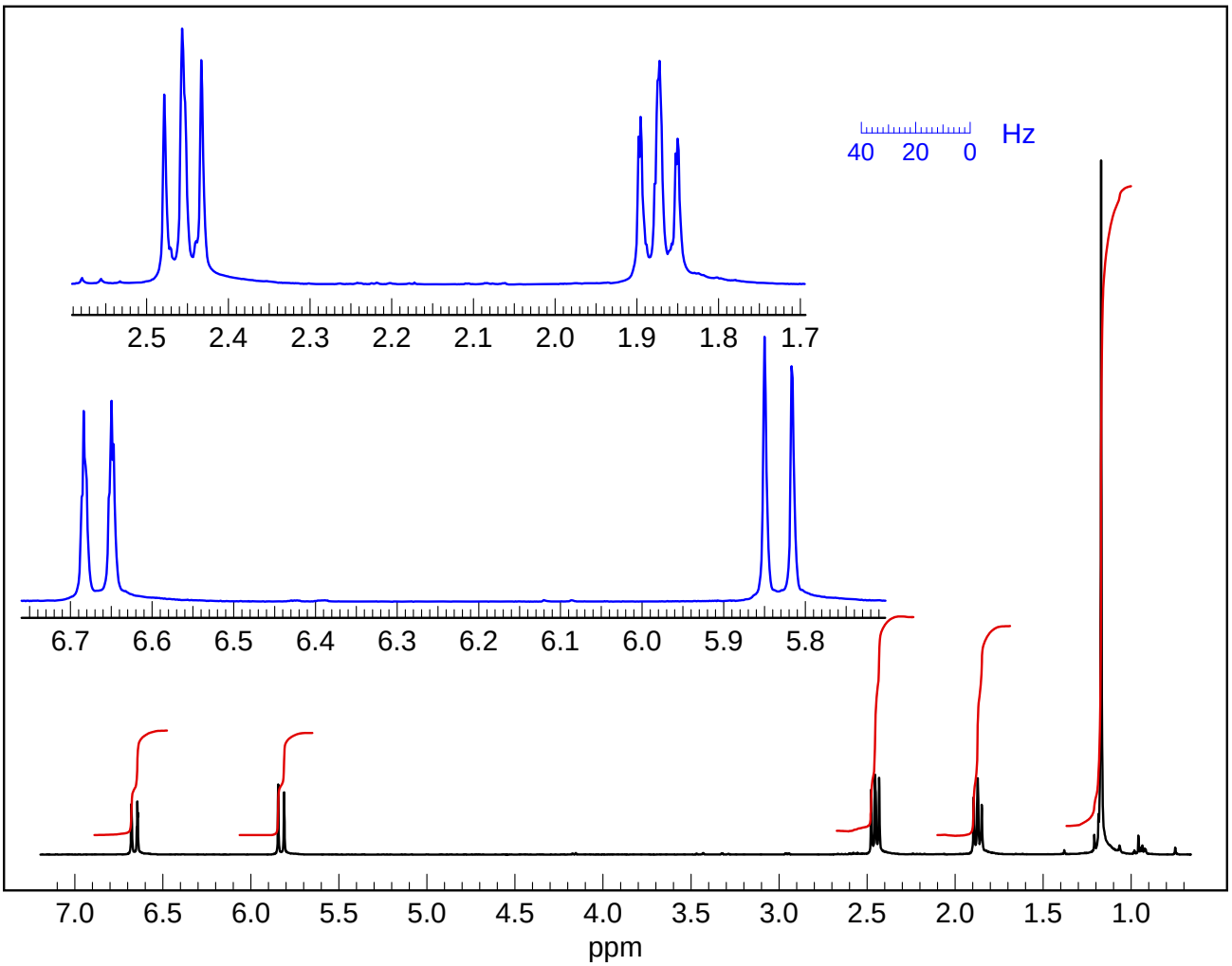


Peaks at 5.8 δ



(c) The structure is :





PLT NMR-cyclohexenone-4,4-dimethyl-g.plt