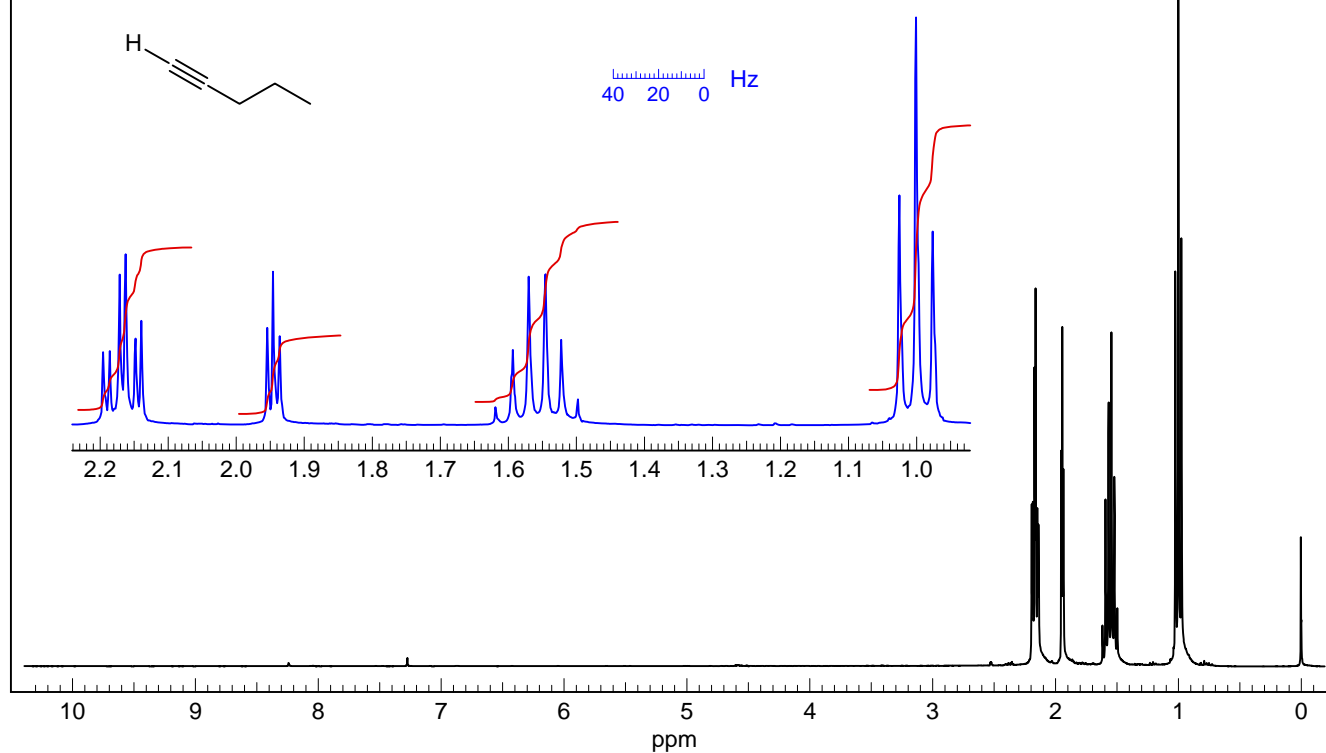
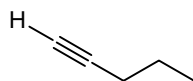
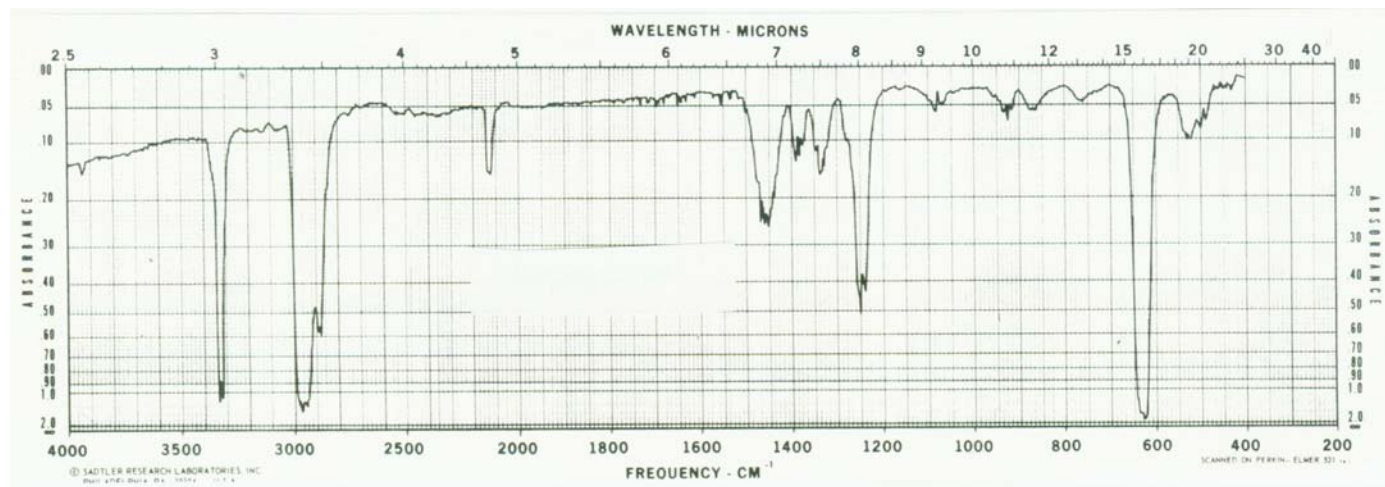
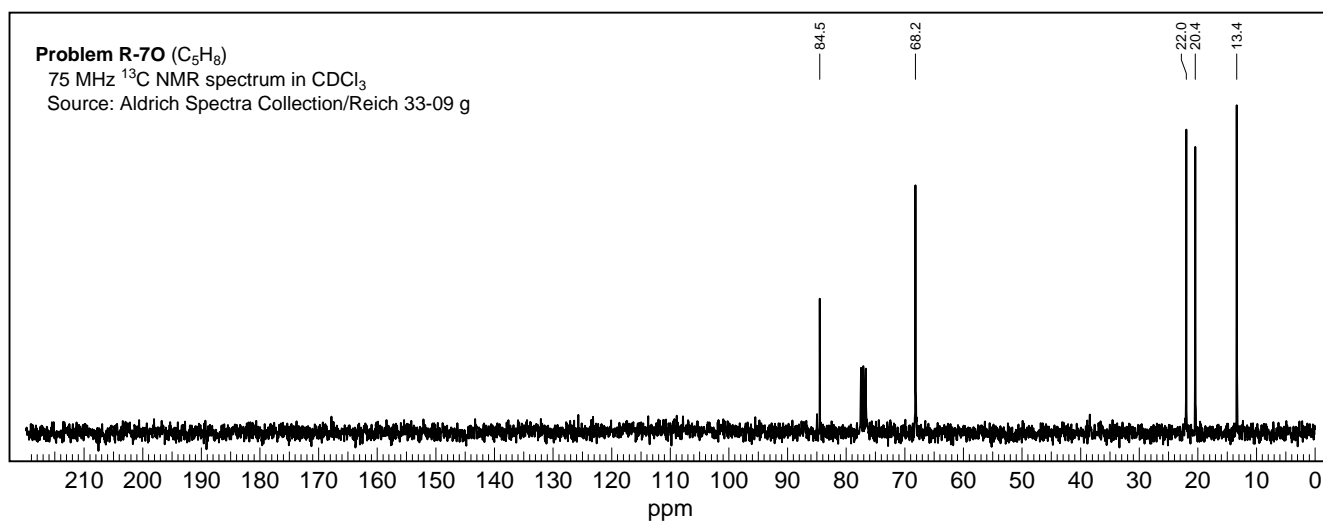


Problem R-270 (C_5H_8)300 MHz 1H NMR spectrum in $CDCl_3$

Source: Aldrich Spectra Collection/Reich 33-09 g

**Problem R-70** (C_5H_8)75 MHz ^{13}C NMR spectrum in $CDCl_3$

Source: Aldrich Spectra Collection/Reich 33-09 g



Problem Set 1 - NMR Spectra

Reich
Chem 345

Problem R-270 (C₅H₈)

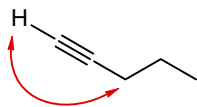
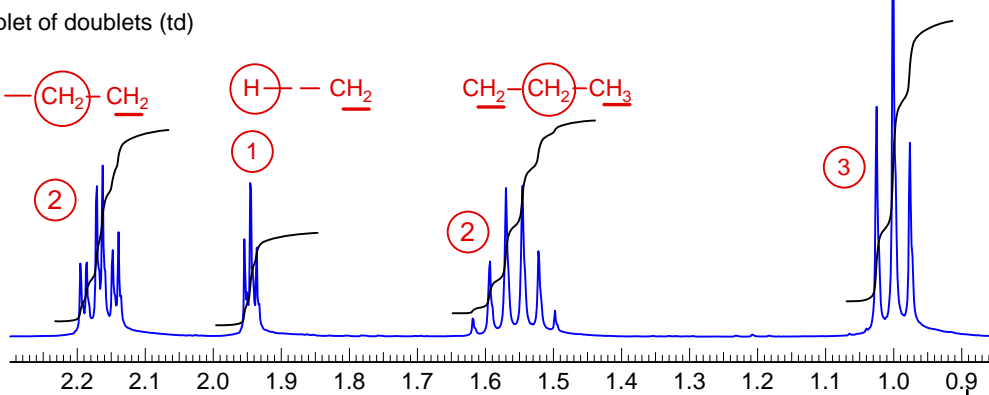
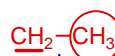
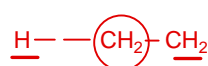
300 MHz ¹H NMR spectrum in CDCl₃

Source: Aldrich Spectra Collection/Reich 33-09 g

triplet of doublets (td)

IHD = 2

40 20 0 Hz



There is a long-range coupling (over 4 bonds) between the alkyne proton and the CH₂ group

Observed protons are circled
protons causing splitting are underlined

10 9 8 7 6 5 4 3 2 1 0 ppm

Problem R-70 (C₅H₈)

75 MHz ¹³C NMR spectrum in CDCl₃

Source: Aldrich Spectra Collection/Reich 33-09 g

