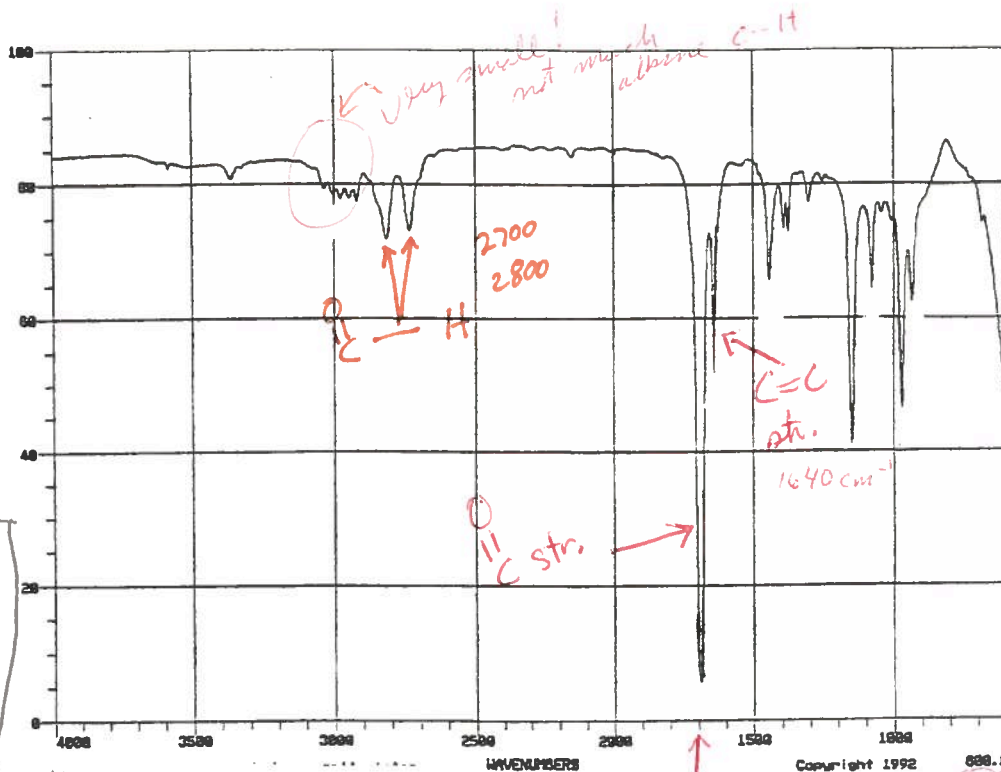
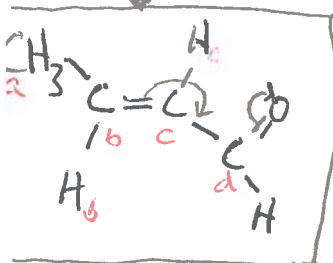
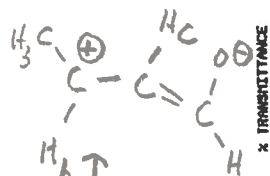
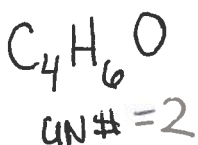


# Spectroscopy Problem Set

Please provide structures for the compounds represented by the following spectra.

A.

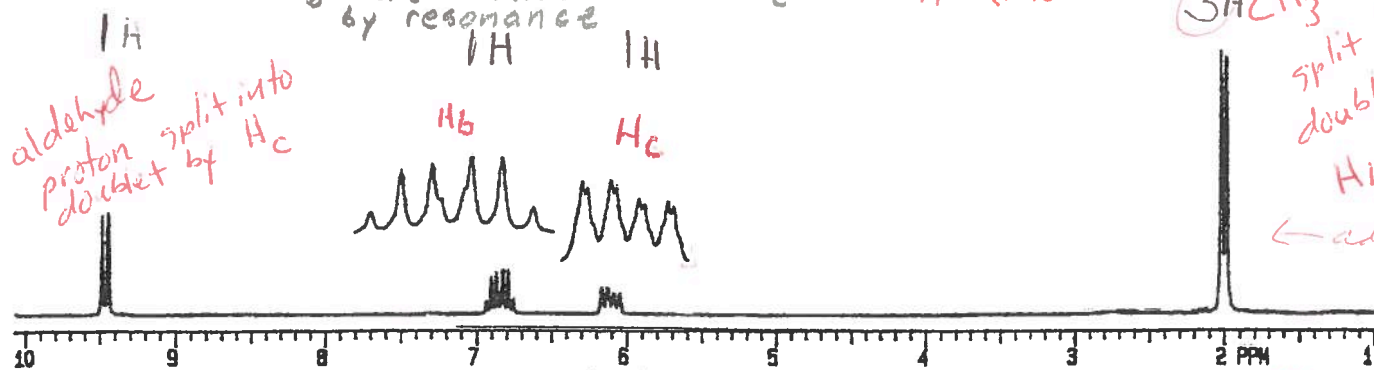


$C=C$   
 1620-1650

$H_b$  more deshielded than  $H_c$   
 by resonance

1700 (1695)

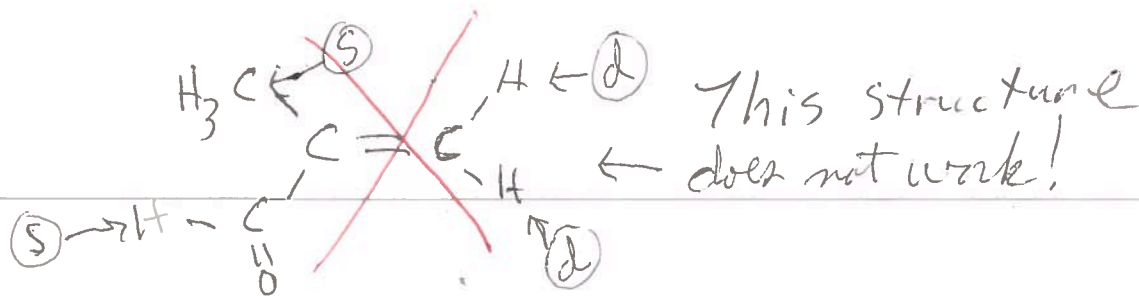
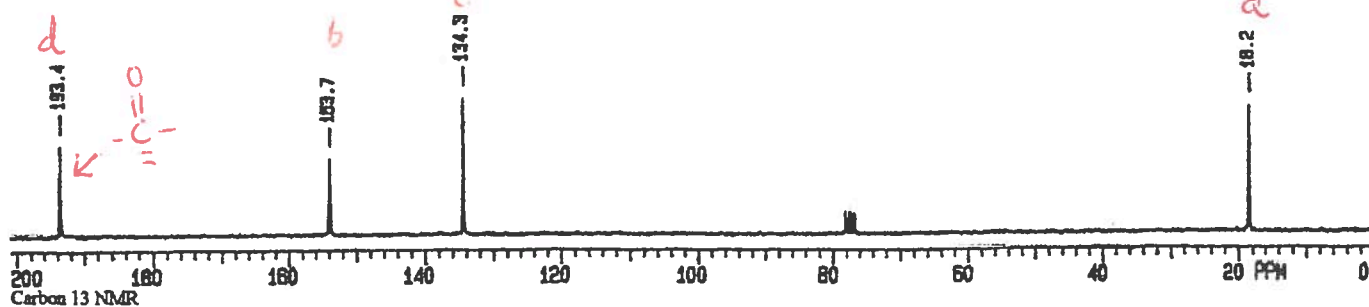
$3H$   $CH_3$  signal  
 split into  
 doublet by  
 $H_b$   
 ← adj to H



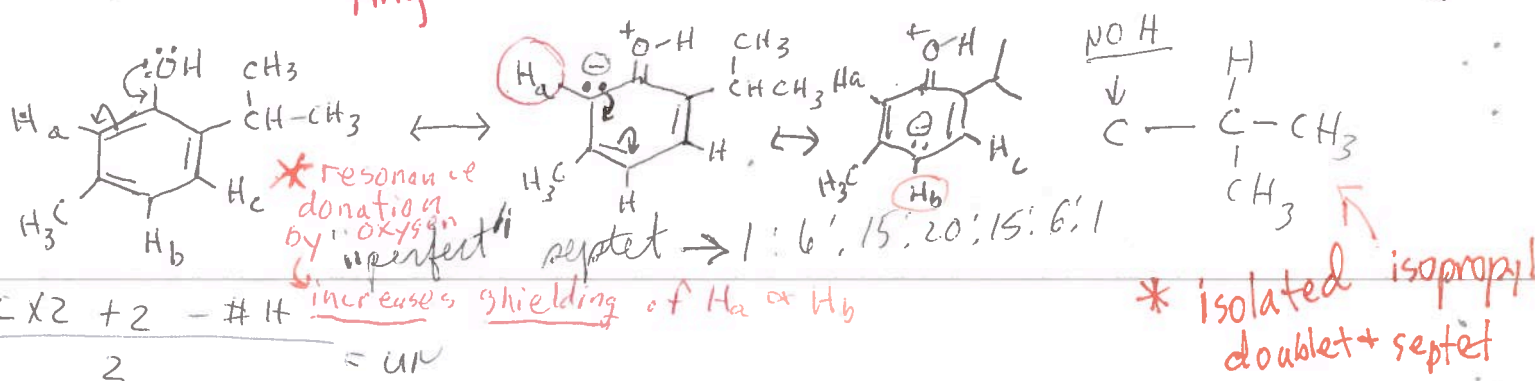
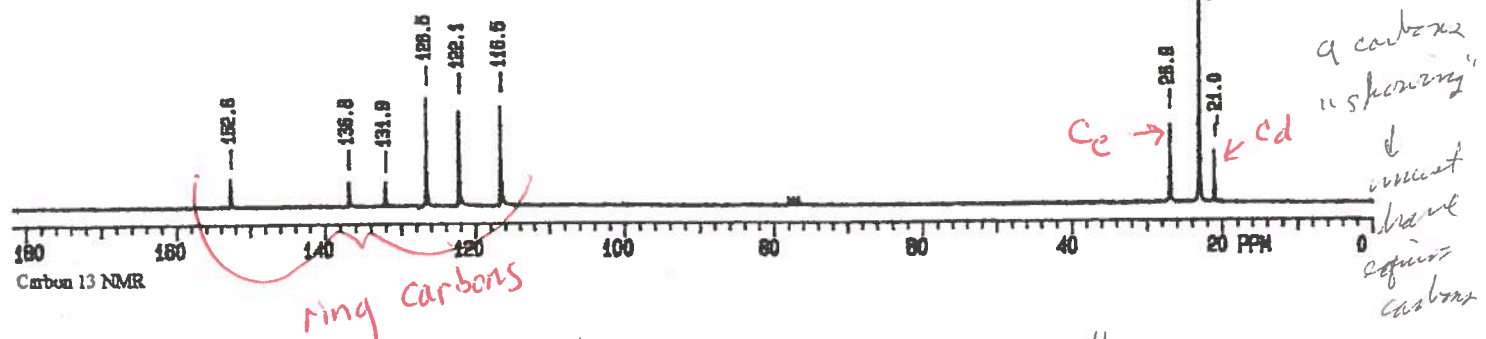
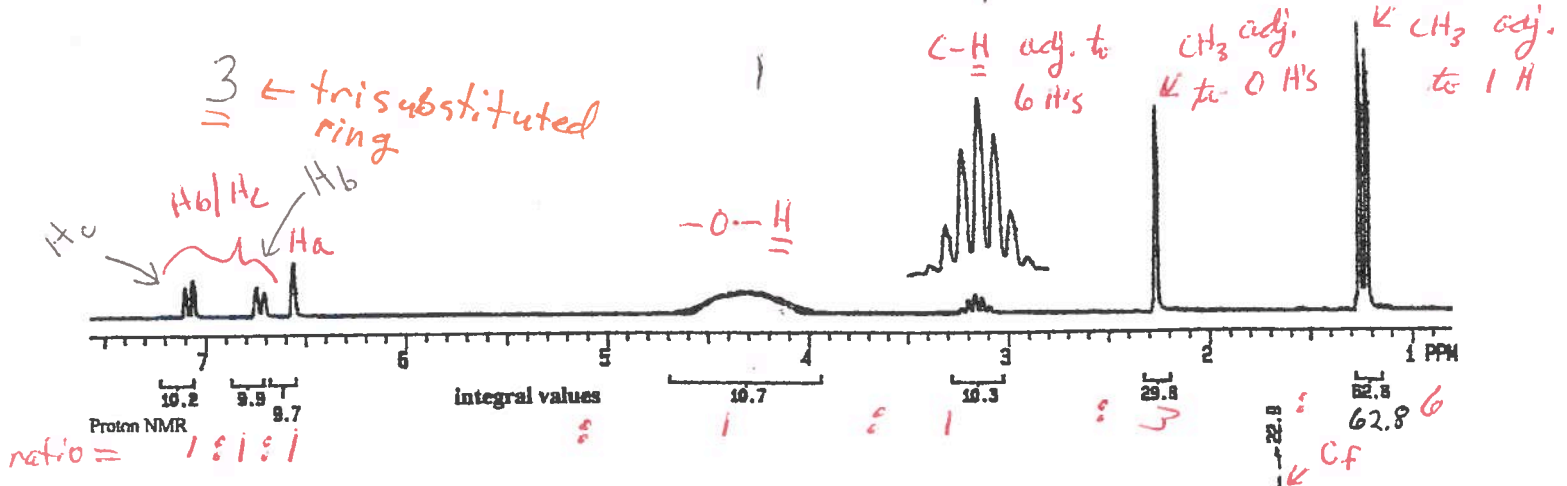
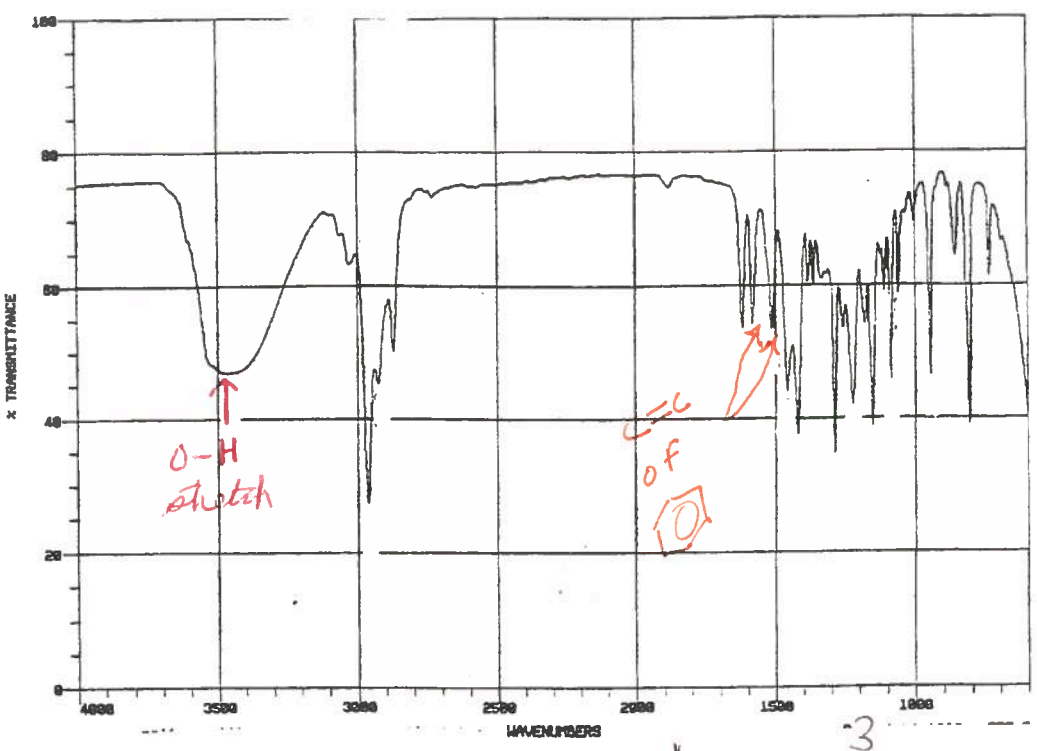
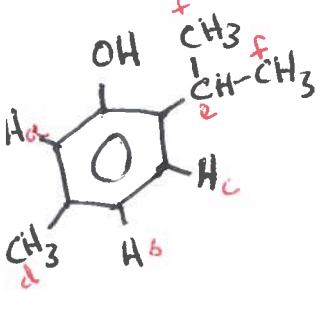
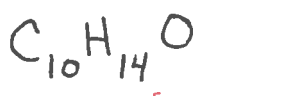
ratio = 1 : 2 : 2 : 3

Proton NMR integral values

42.3 : 42.3

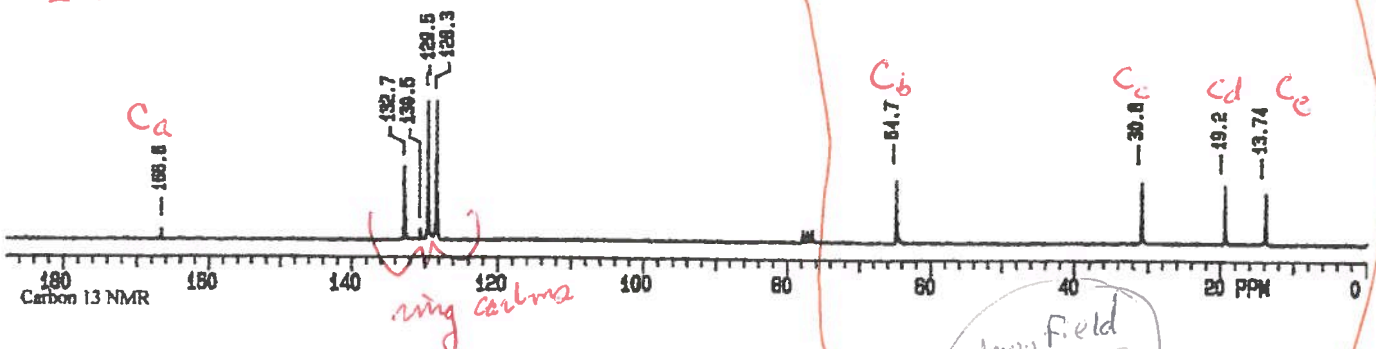
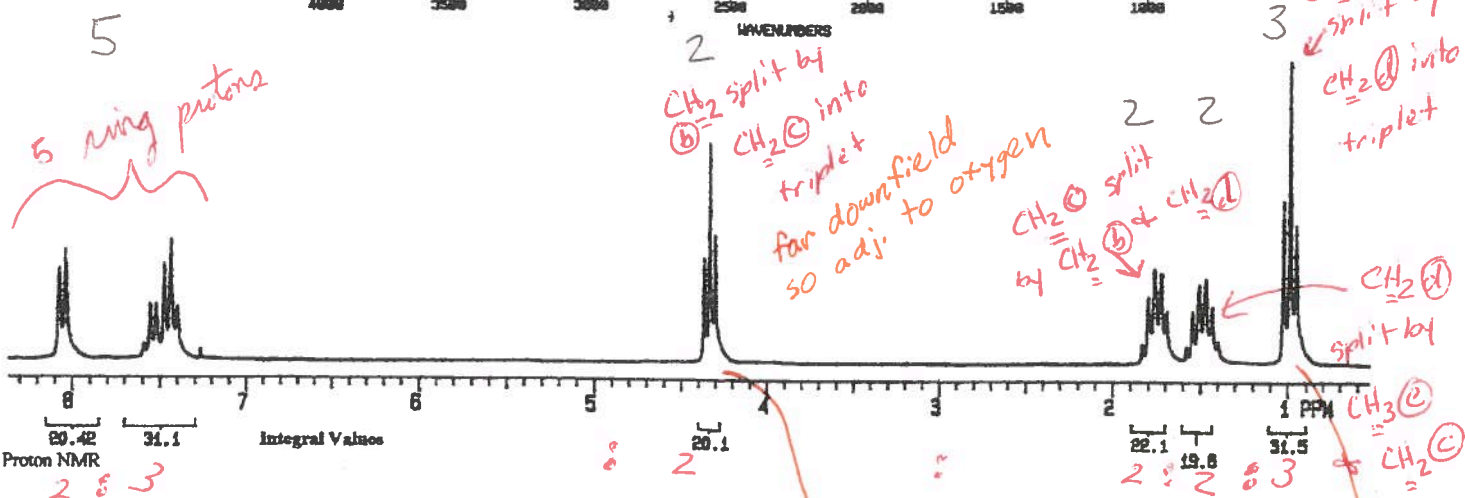
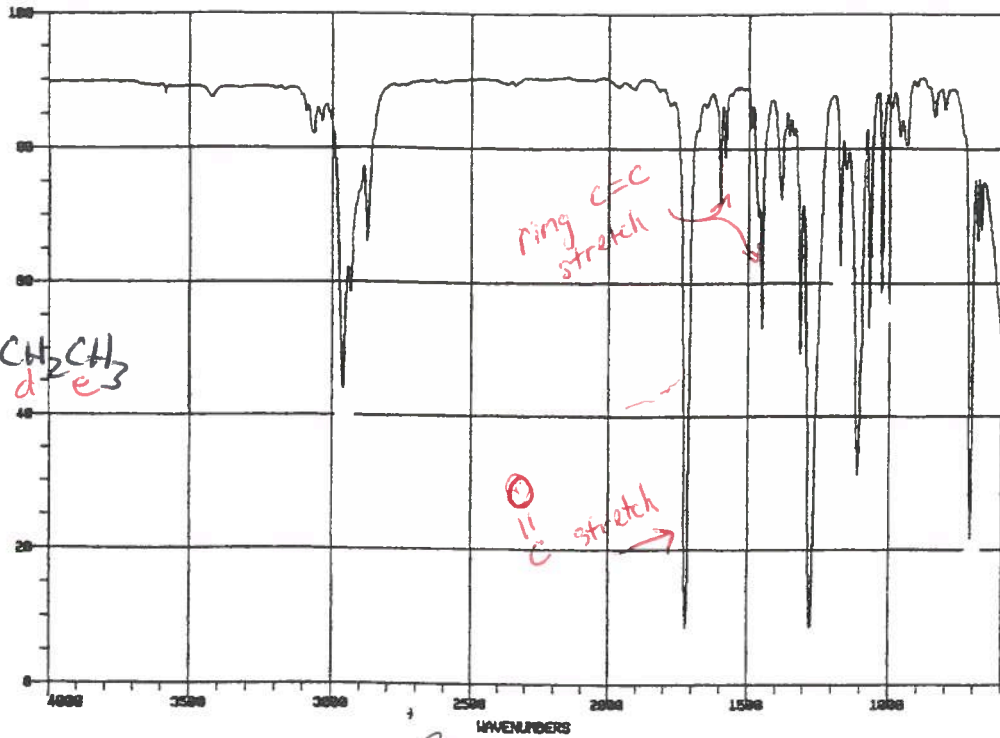
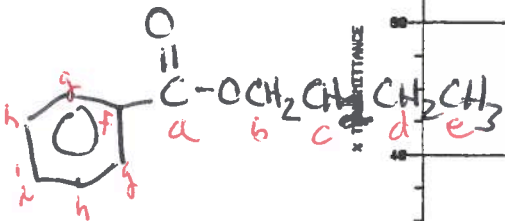


B. UN # = 4



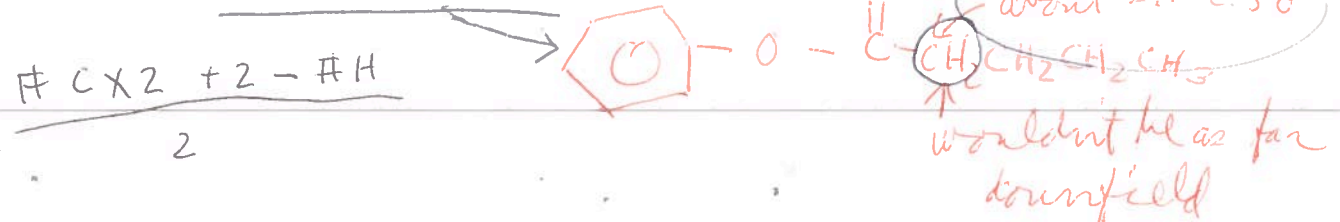
C.  
 $C_{11}H_{14}O_2$

$UN = 5$



downfield 4.3  $\delta$   
 $-O-CH_2CH_2-$  vs  $-CH_2CH_3$

doesn't work!



$UN = 5$