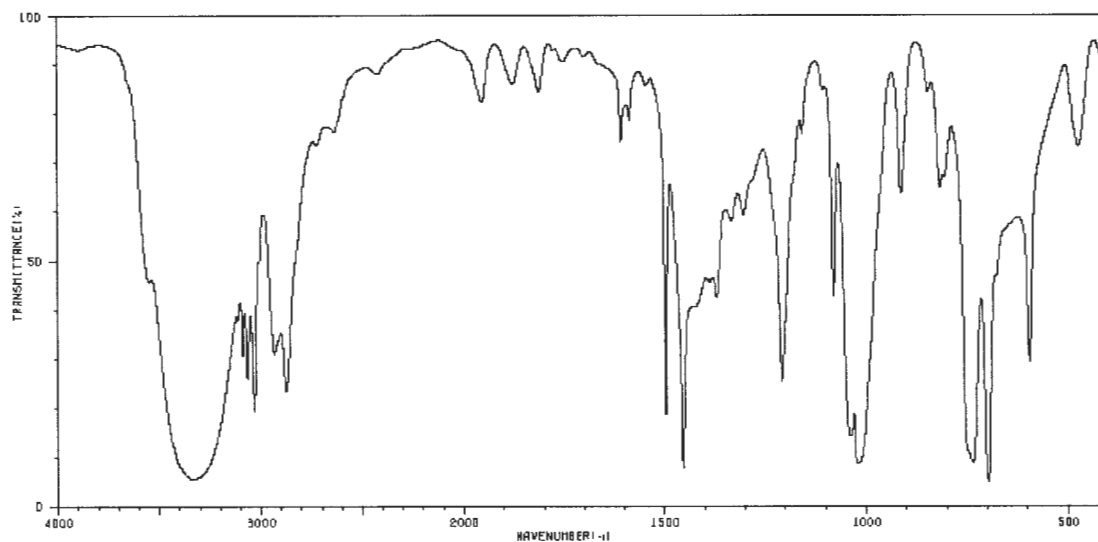
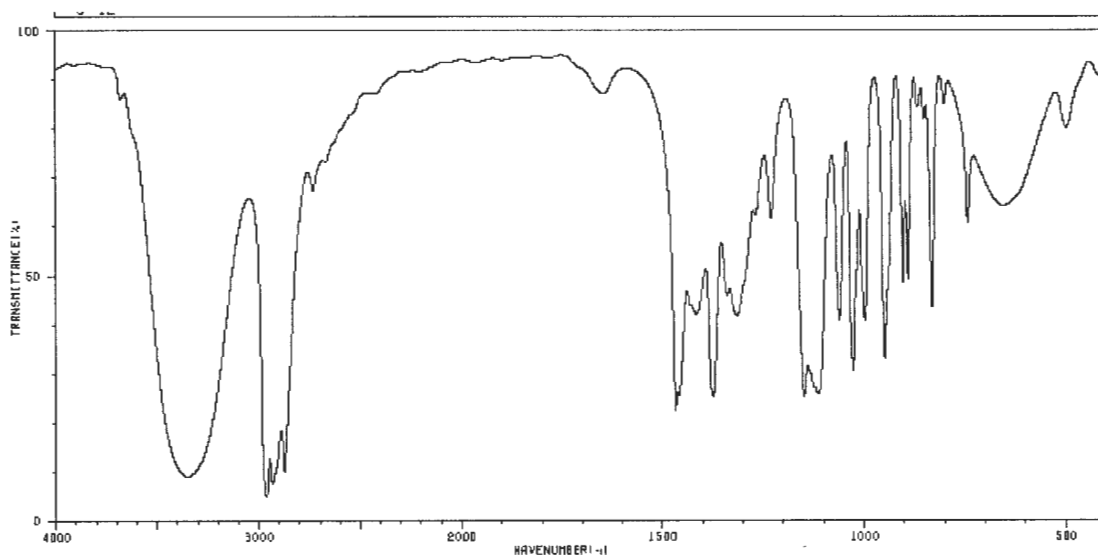


In this assignment:

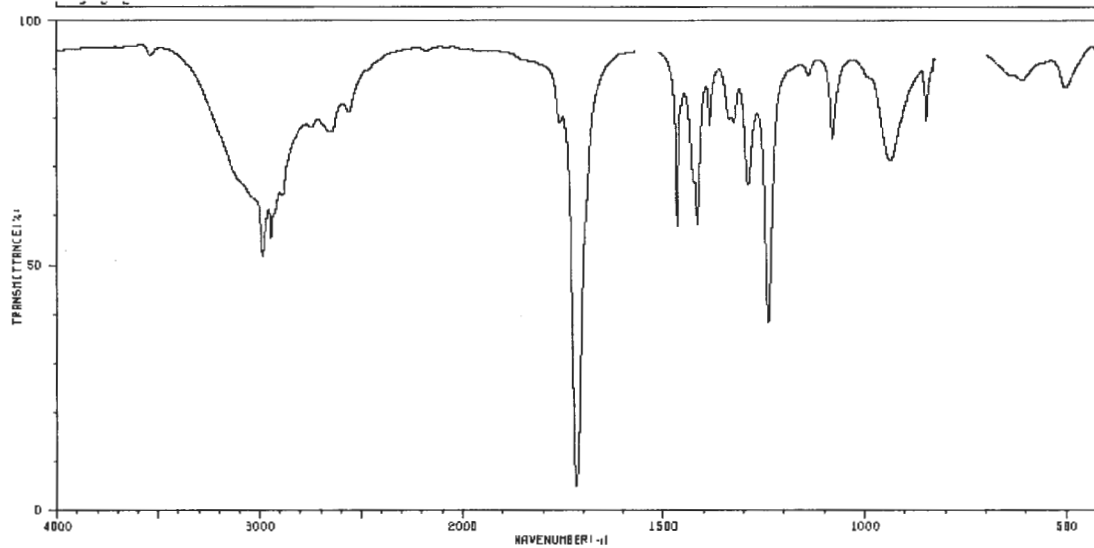
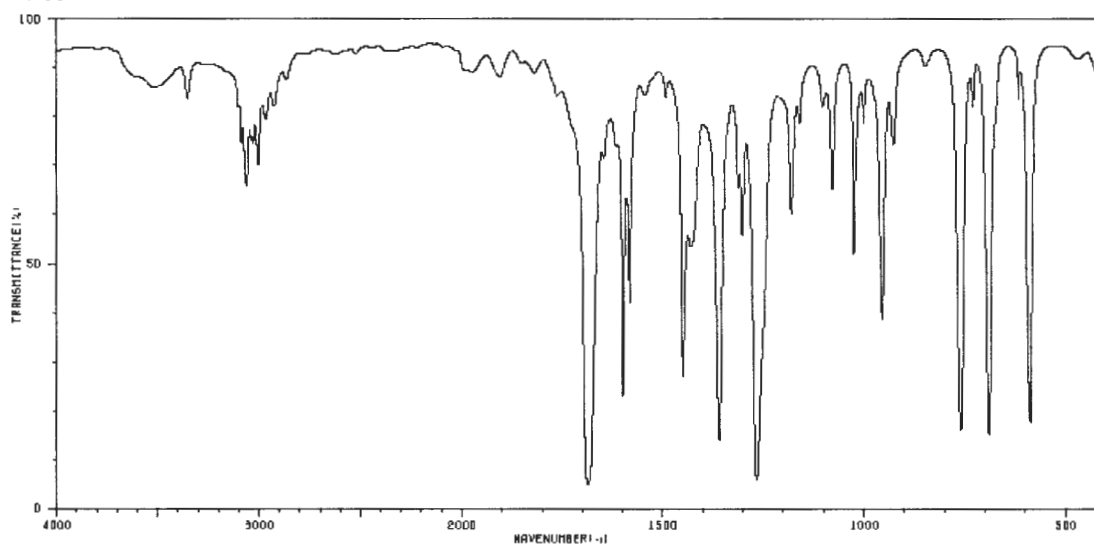
- NMR spectroscopy
- IR spectroscopy
- Problem-solving and structure identification

1. Associate each of the following IR spectra with one of the following compounds and justify your answer.

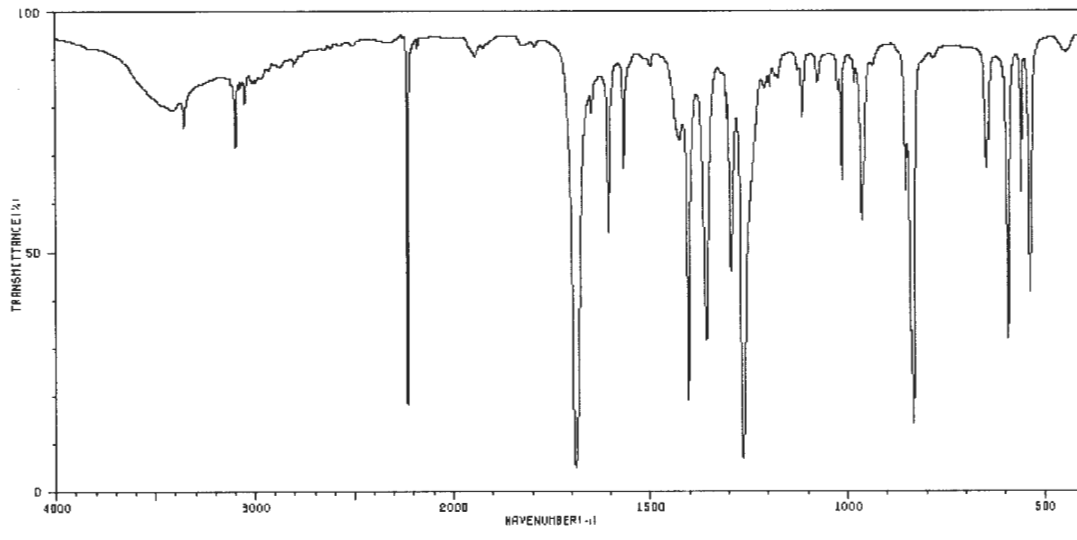
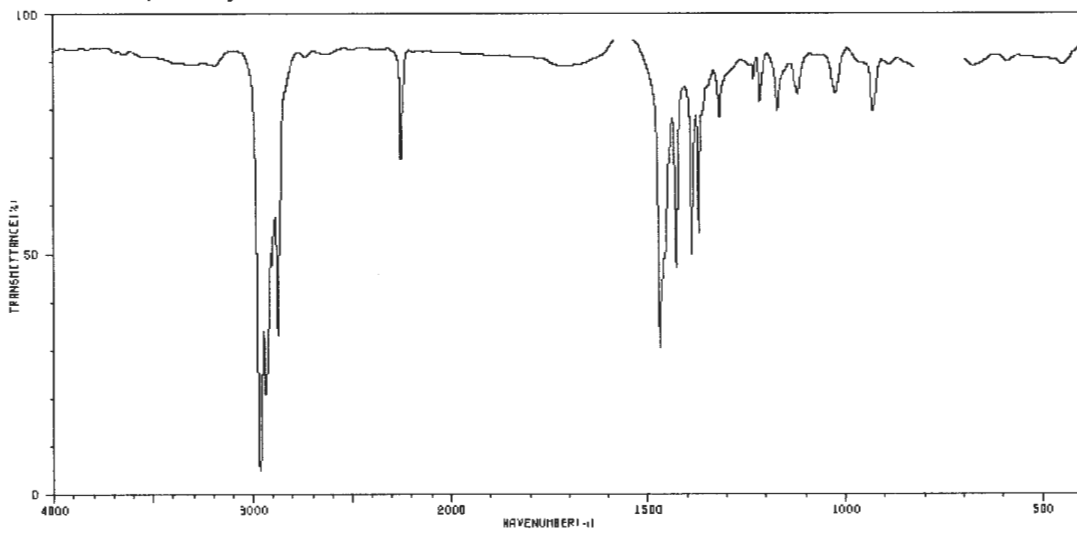
- Propanoic acid
- 2-Pentanol
- Benzyl alcohol
- Acetophenone



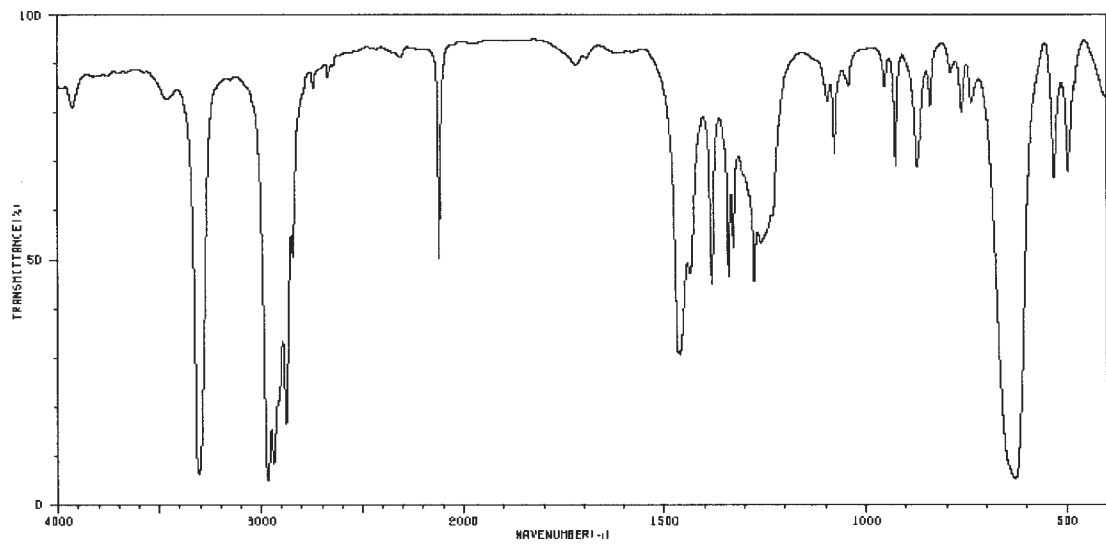
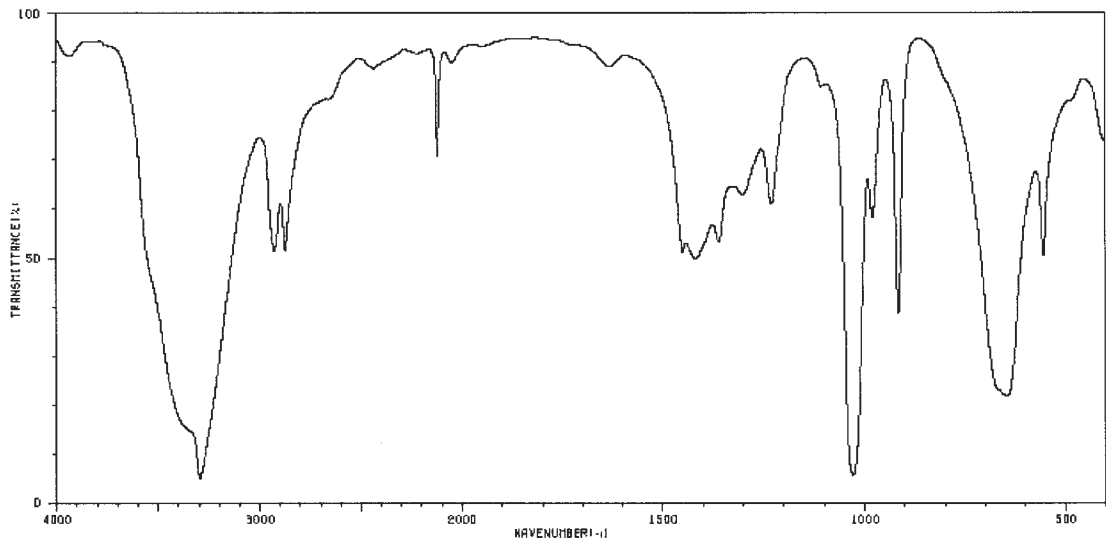
1. cont.



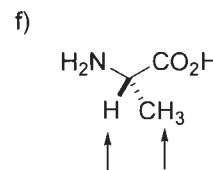
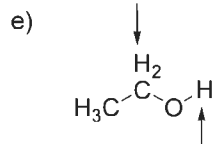
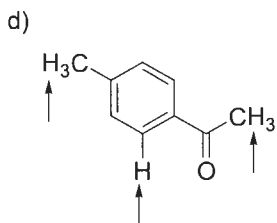
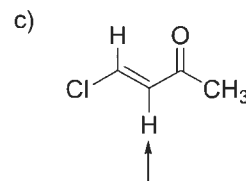
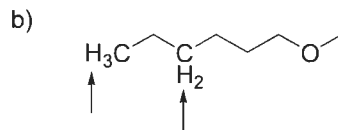
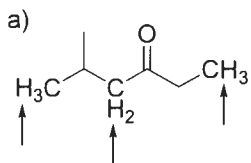
2. Associate each of the following IR spectra with one of the following compounds and justify your answer.
- a. 2-Propyn-1-ol
 - b. 1-Pentyne
 - c. 4-Methylpentanenitrile
 - d. p-Acetylbenzonitrile



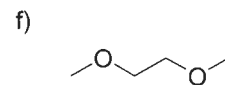
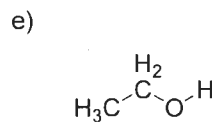
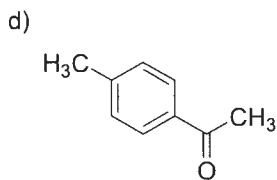
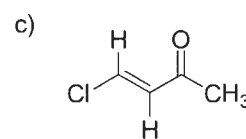
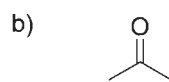
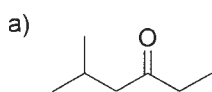
2. Cont.



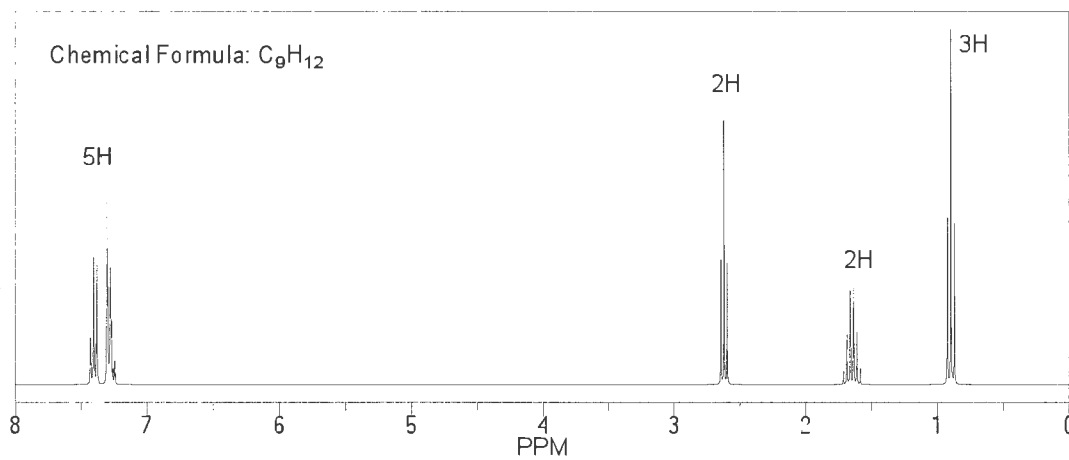
3. Give the number of peaks expected in the ^1H NMR for the indicated protons in each of the following structures:



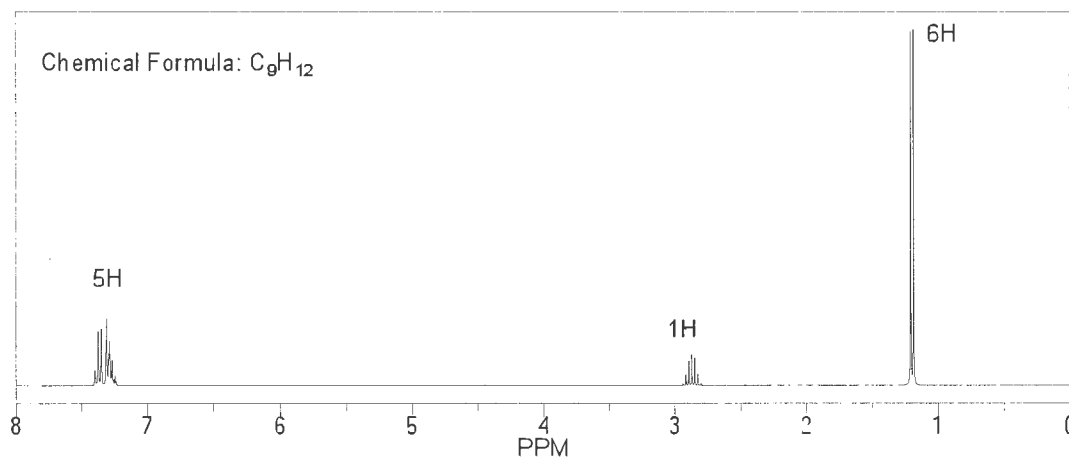
4. How many signals would be expected in the ^1H NMR of the following molecules?



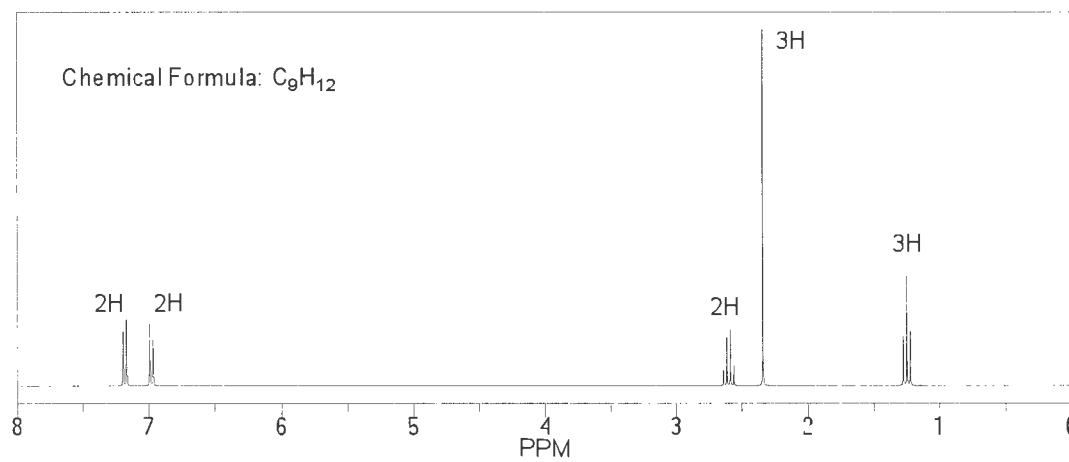
28.



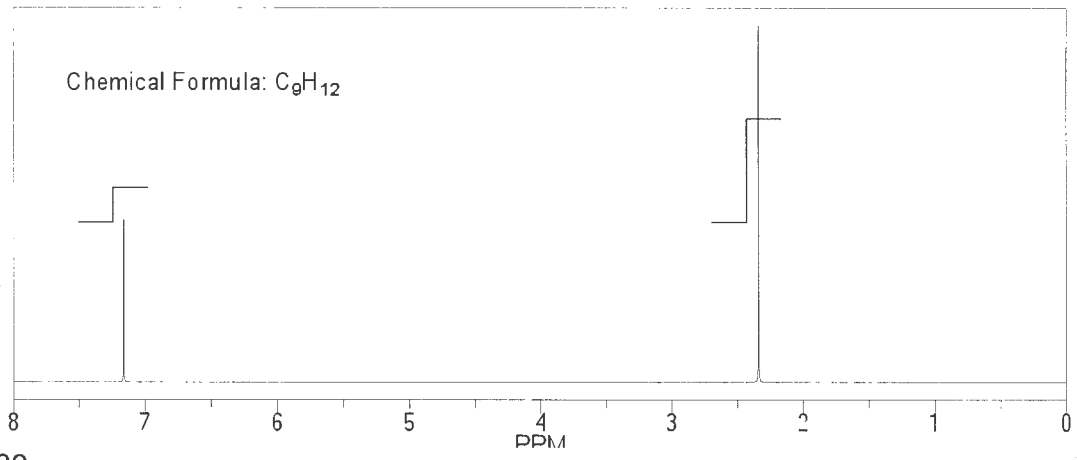
29.



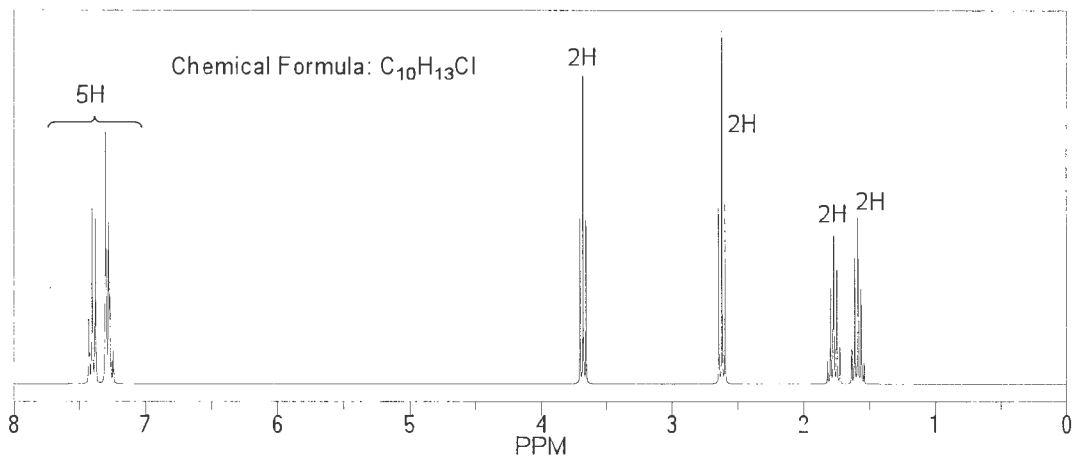
30.



31.



32.



33.

