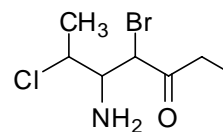
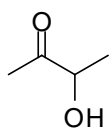
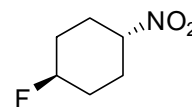
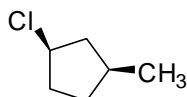
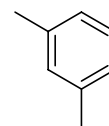
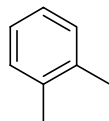
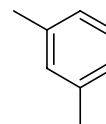
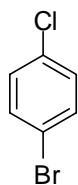
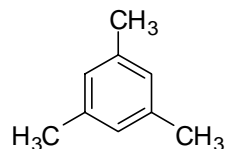
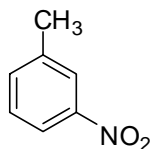


CH 351 QUALITATIVE ORGANIC ANALYSIS

1. How many signals would you expect to see in the ^1H NMR spectrum of the following compounds? Label the nonidentical protons with a, b, c, d, etc. with the decreasing shielding (a – most shielded, b – less shielded, etc.)

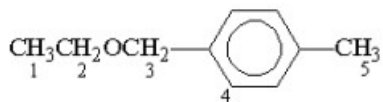


2.

(a) If a chemical shift of an NMR signal is 7.2 ppm measured in a 60 MHz NMR spectrometer, how many Hz would this signal be from the TMS signal?

(b) Using a 60 MHz spectrometer, the protons in dichloromethane appear at 5.30 ppm. When the same sample is placed in a 100 MHz instrument, where does the signal appear in ppm and in Hz?

(c) Which of the following protons gives an NMR signal with the lowest chemical shift value (farthest upfield)?



The assignment is due November 13 (Tuesday, due to Veterans day).