

King Saud University

Name:

College of Science

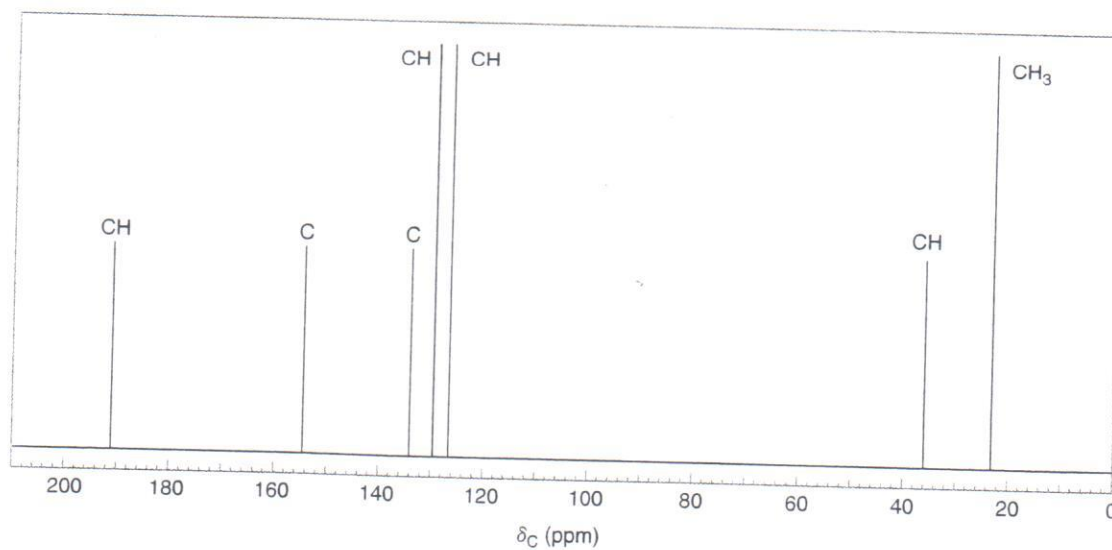
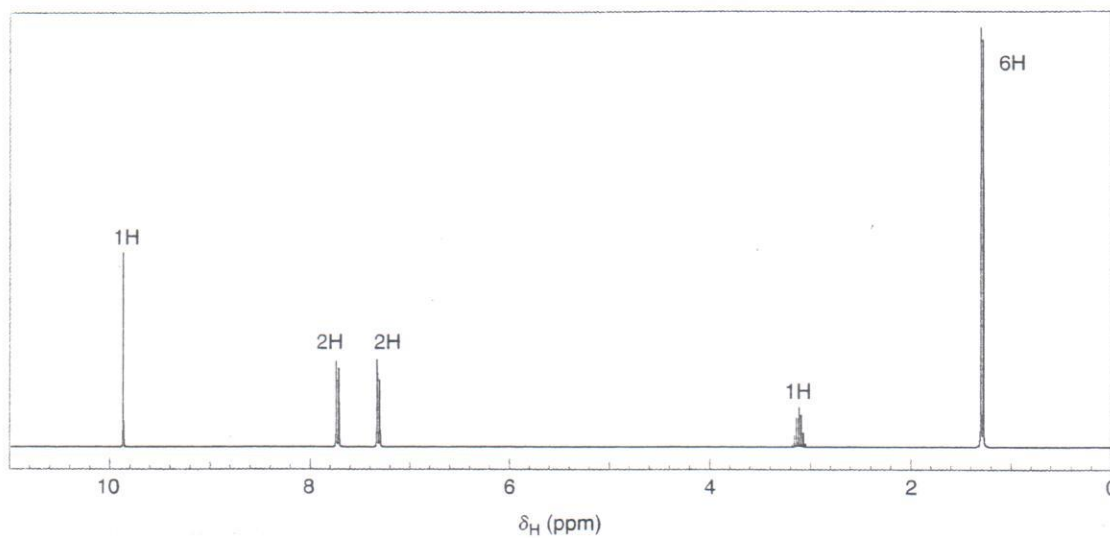
ID :

Chemistry Department

441 Chem – Spectroscopy of Organic Compounds

2nd Med-term Exam – 1st semester 1441

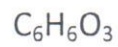
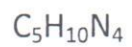
Q₁: Deduce the structure of the aromatic compound that gives the following ¹H and ¹³C-NMR spectra. The MS of this compound shows a molecular ion at m/z 148.



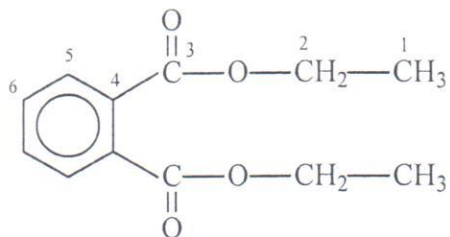
Q₂: An unknown compound (A) shows the following data in MS:

m/z	%
126	100
127	6.66

Which of the following molecular formulas would you expect to be the write formula of the unknown (A):



Q₃: An ester with the structure:



Gave the following ¹³C-NMR spectra.

Correlate each Carbon atom with the signals and justify the type of splitting in the off-resonance decoupled spectrum.

