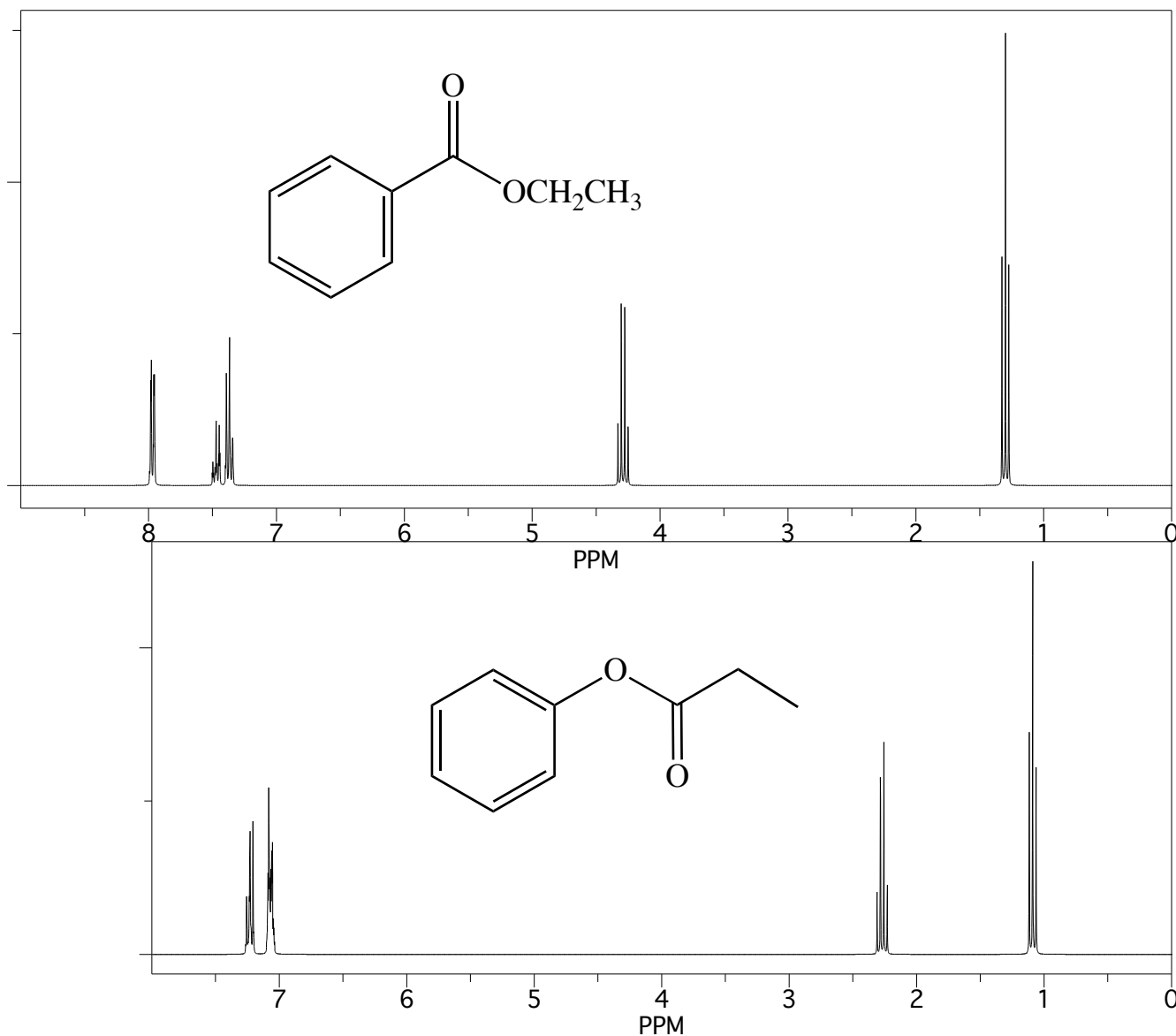
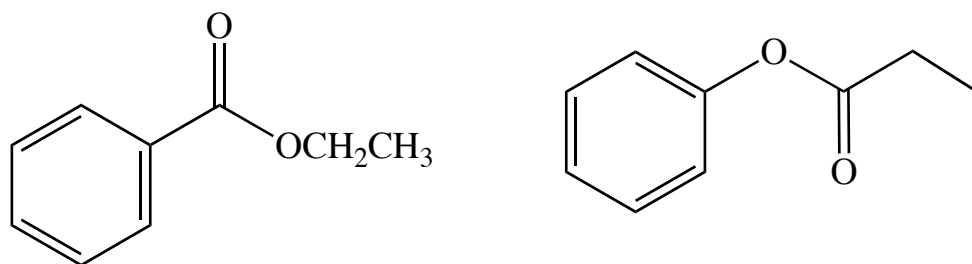


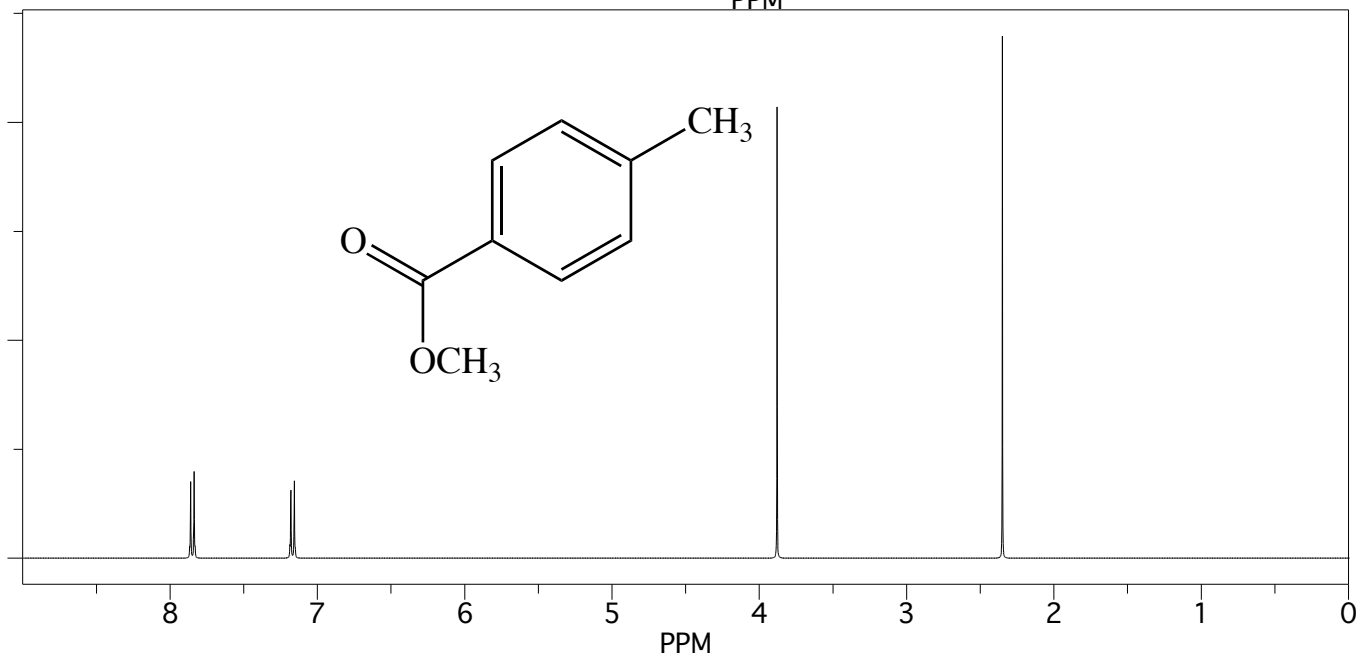
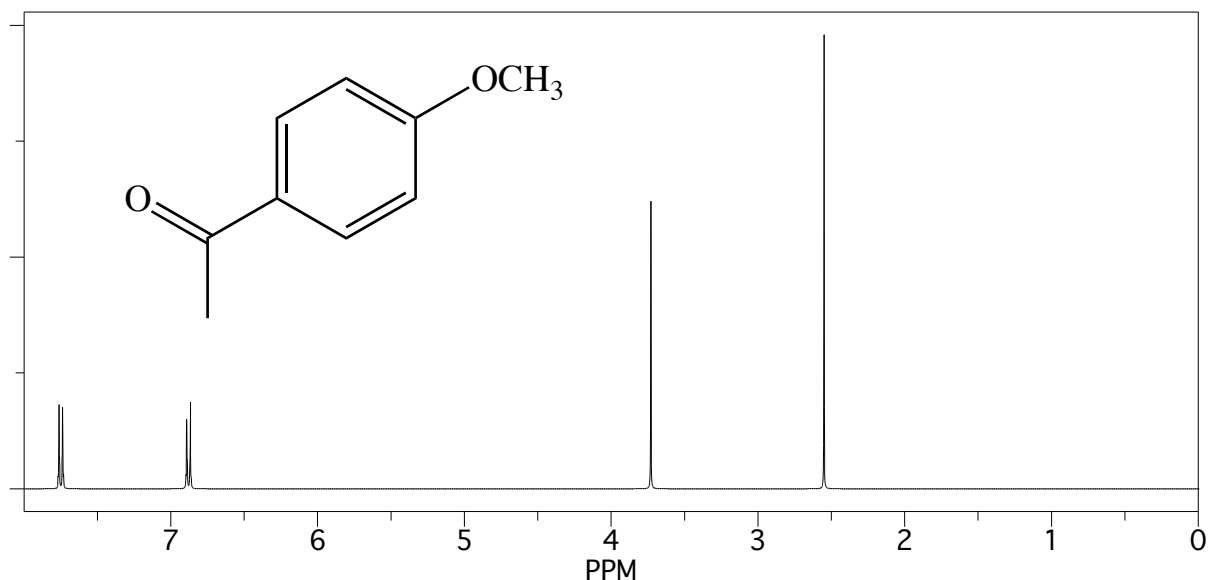
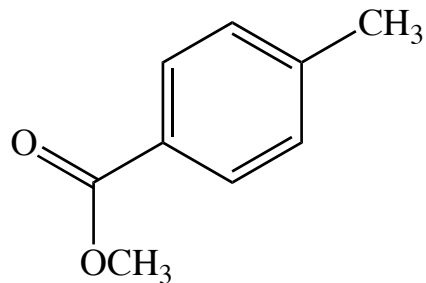
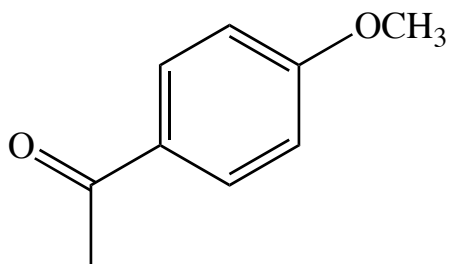
Exercise 57A - Substituted Benzenes

There are two ways to distinguish between the spectra of the two isomers shown. Which belongs to which?



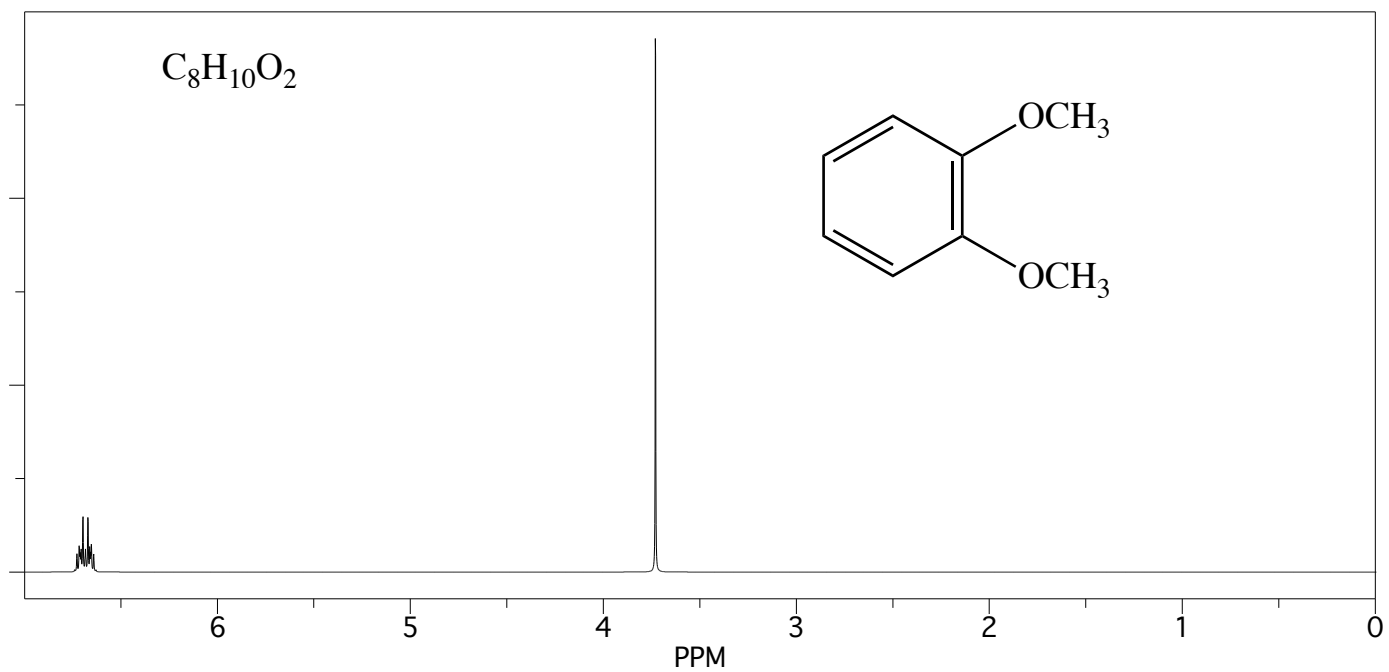
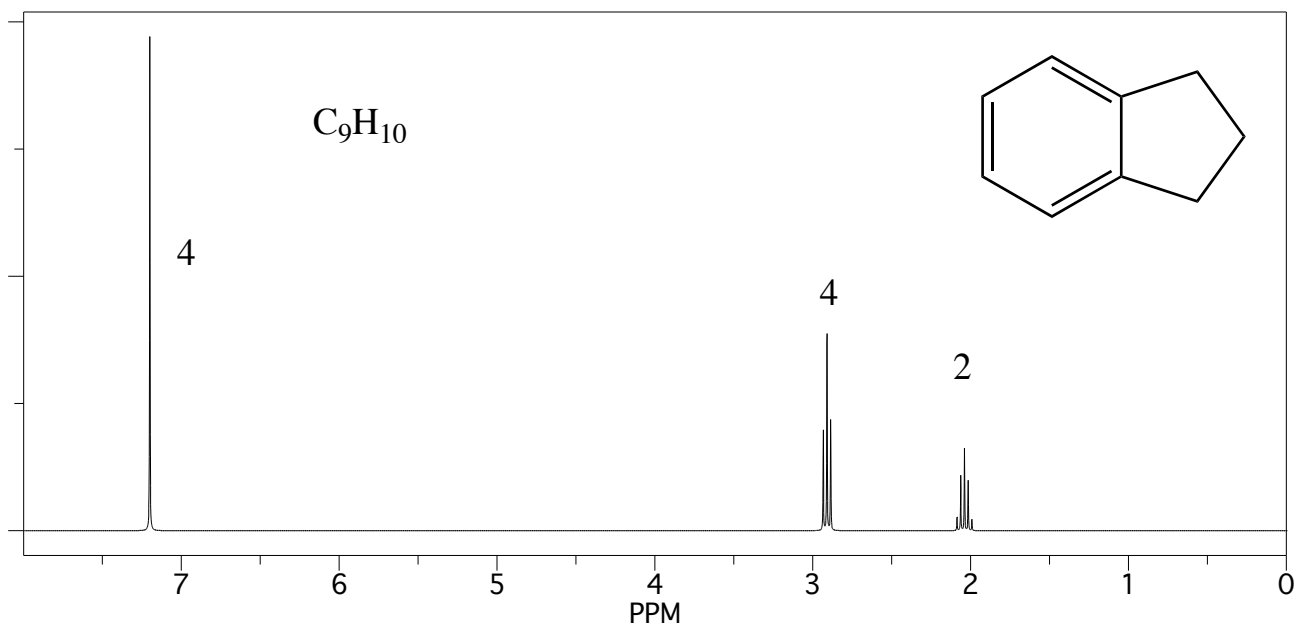
The most obvious difference is the shift of the CH₂ quartet. It will be more downfield when attached to O than when attached to C=O. In addition, the C=O group will deshield the ortho protons much more than the O atom.

Which spectrum belongs to which? This is quite subtle.



Tricky. The O atom will shield its ortho protons more than CH₃ will, so that spectrum with aromatic protons upfield of 7 must be the methoxy substituted compound. Note, too, that the methyl attached to the ester is slightly downfield of the methyl attached to OPh. This is usually the case and can be used to distinguish between these two very similar groups.

Deduce the structure of the following.



Match:

