Potential Structures: Draw each structure, determine the number of unique carbons and protons, determine the splitting pattern for each set of protons (singlet, doublet, etc), and determine the key IR resonance and its location. Then match each structure to the 13C and 1H NMR.

1-Propanol

unique number of carbons: _____

unique number of protons: _____

major IR resonance and location: _____

3-bromopentane

unique number of carbons: _____

unique number of protons: _____

major IR resonance and location: _____

2-methyl-1-propanol

unique number of carbons: _____

unique number of protons: _____

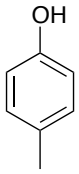
major IR resonance and location: _____

3-methyl-2-butanone

unique number of carbons: _____

unique number of protons: _____

major IR resonance and location: _____



4-hydroxytoluene

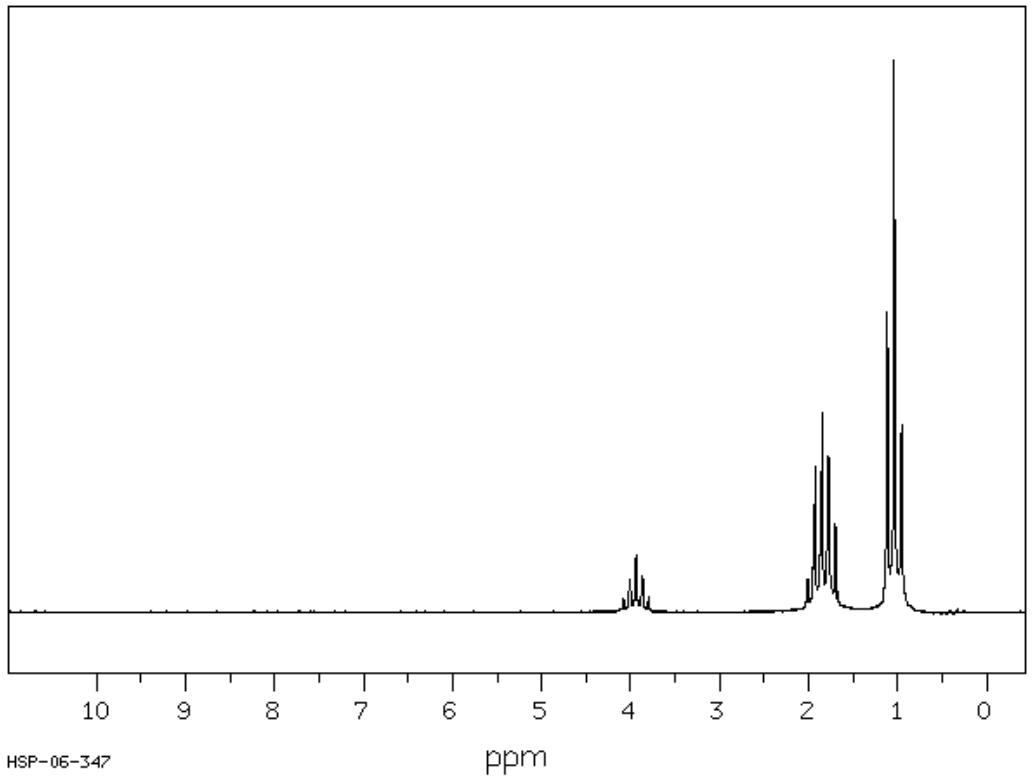
unique number of carbons: _____

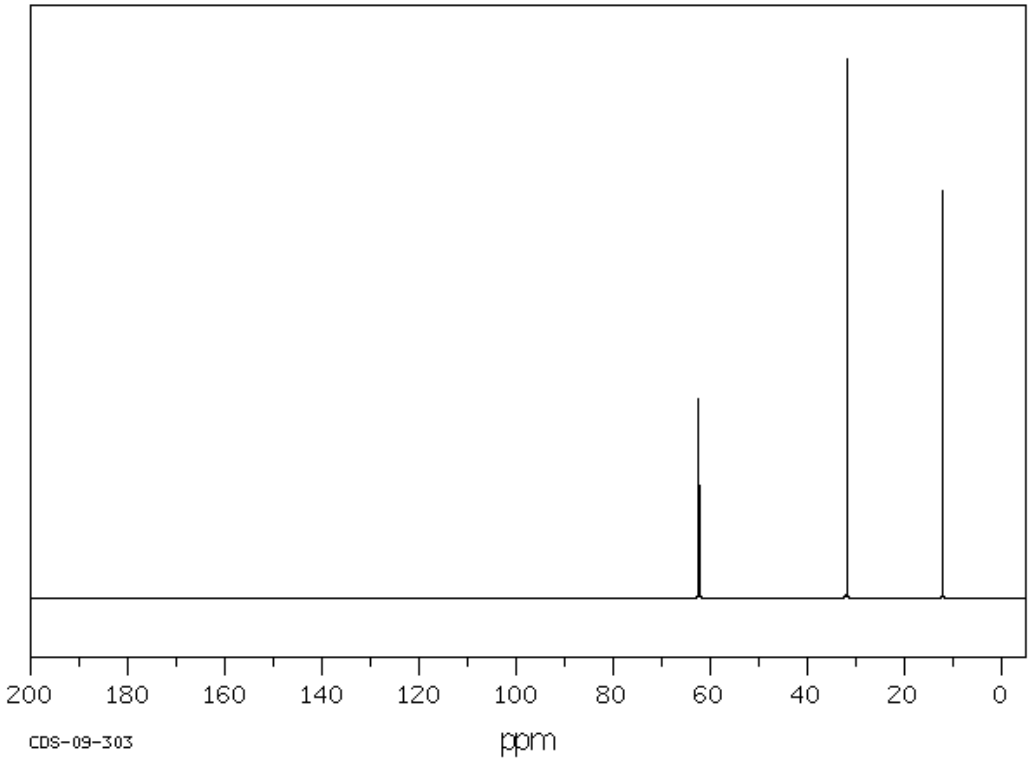
unique number of protons: _____

major IR resonance and location: _____

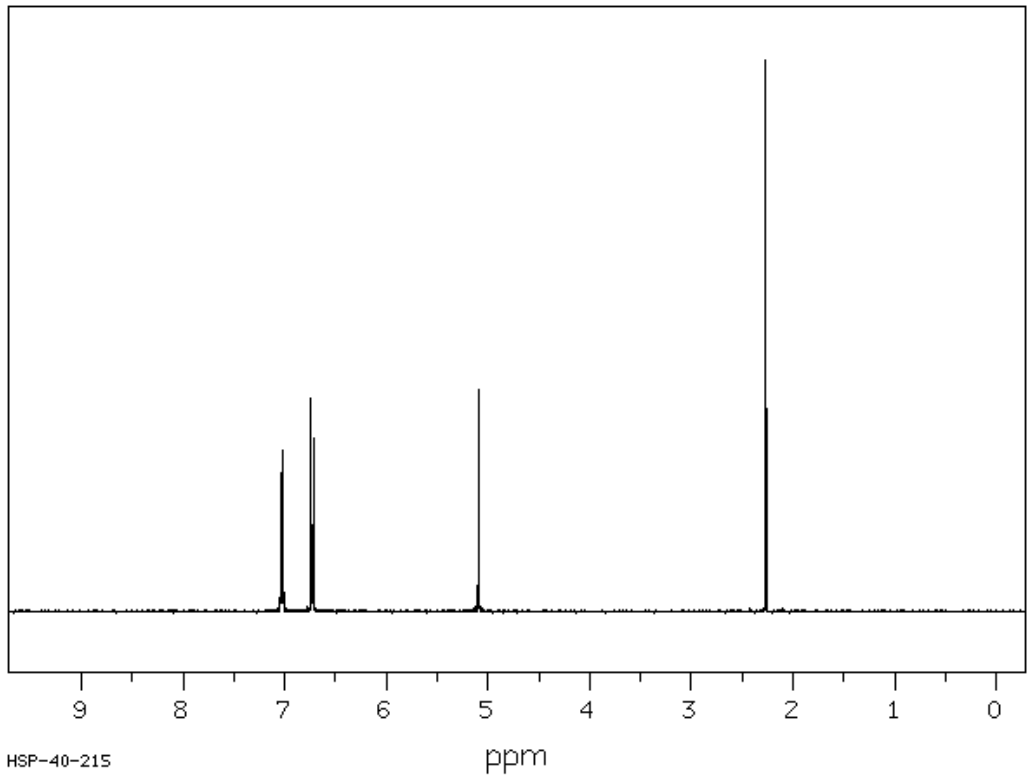
Identify each structure and label the ^{1}H NMR and ^{13}C NMR.

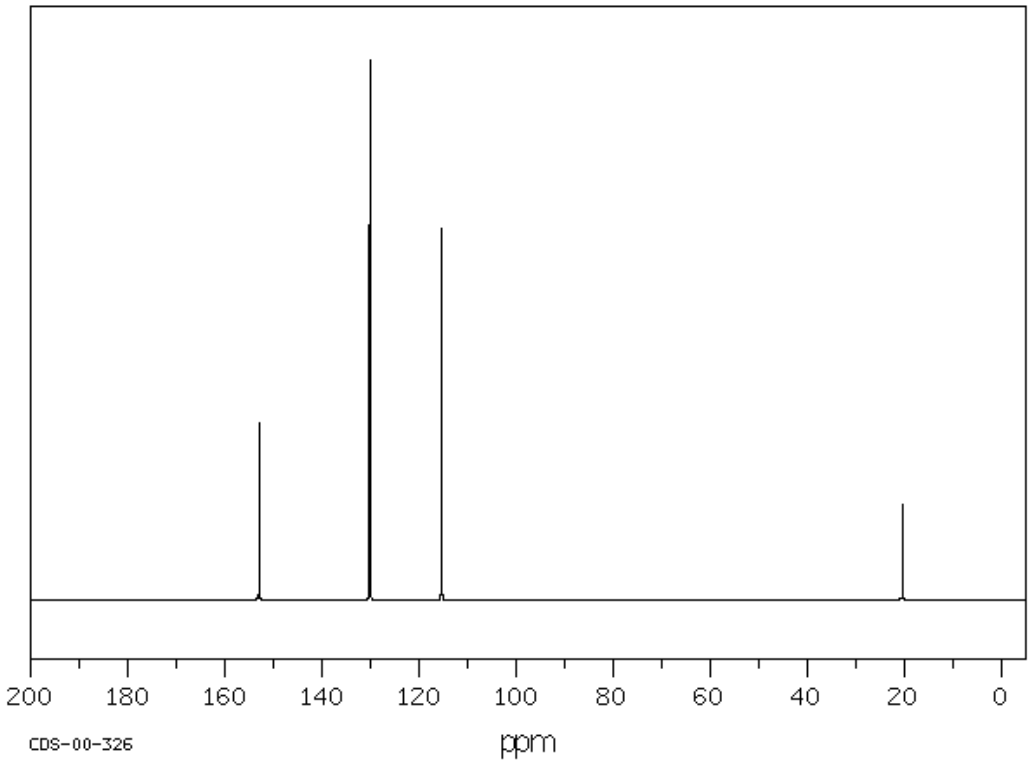
Structure:_____



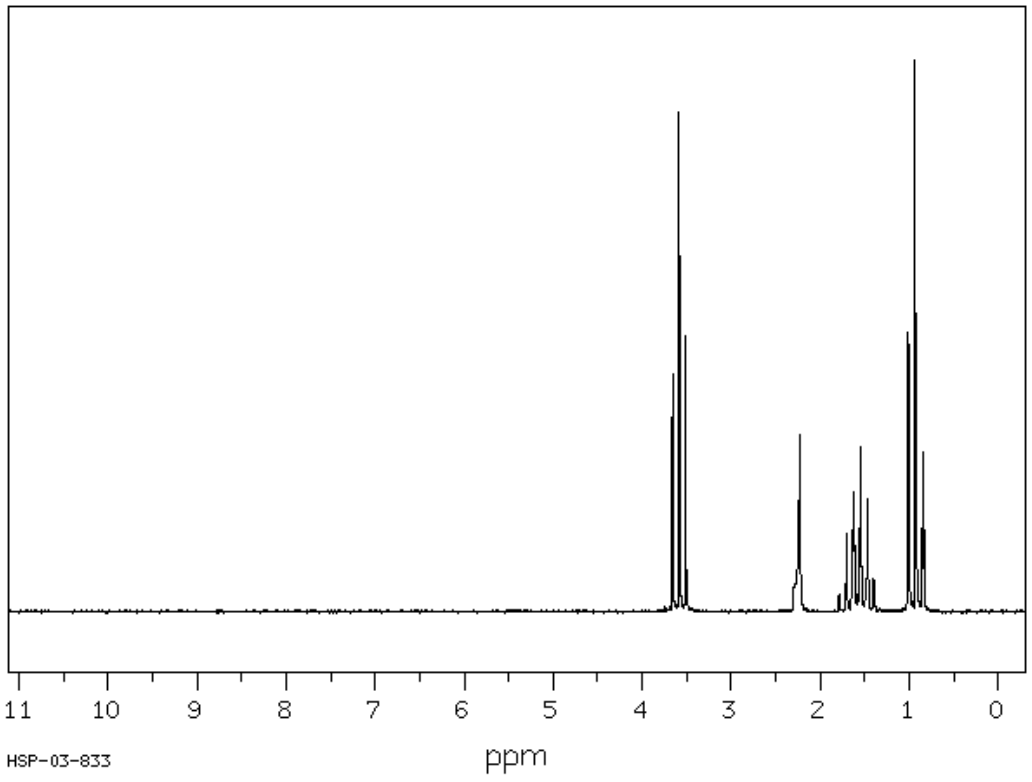


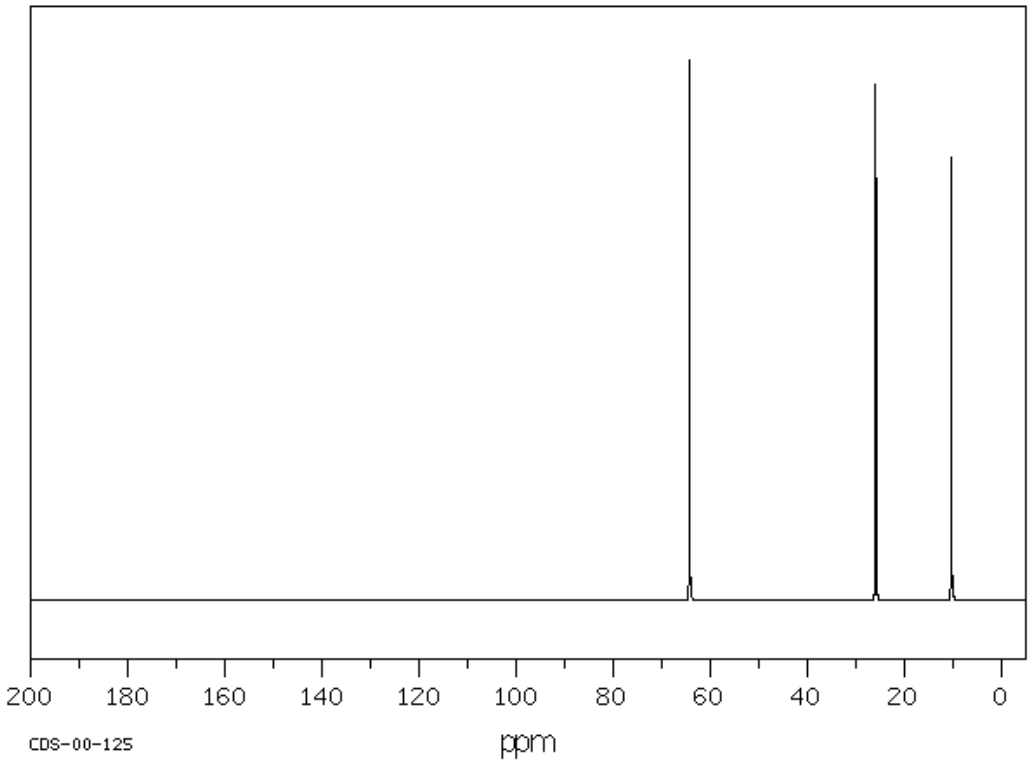
Structure: _____



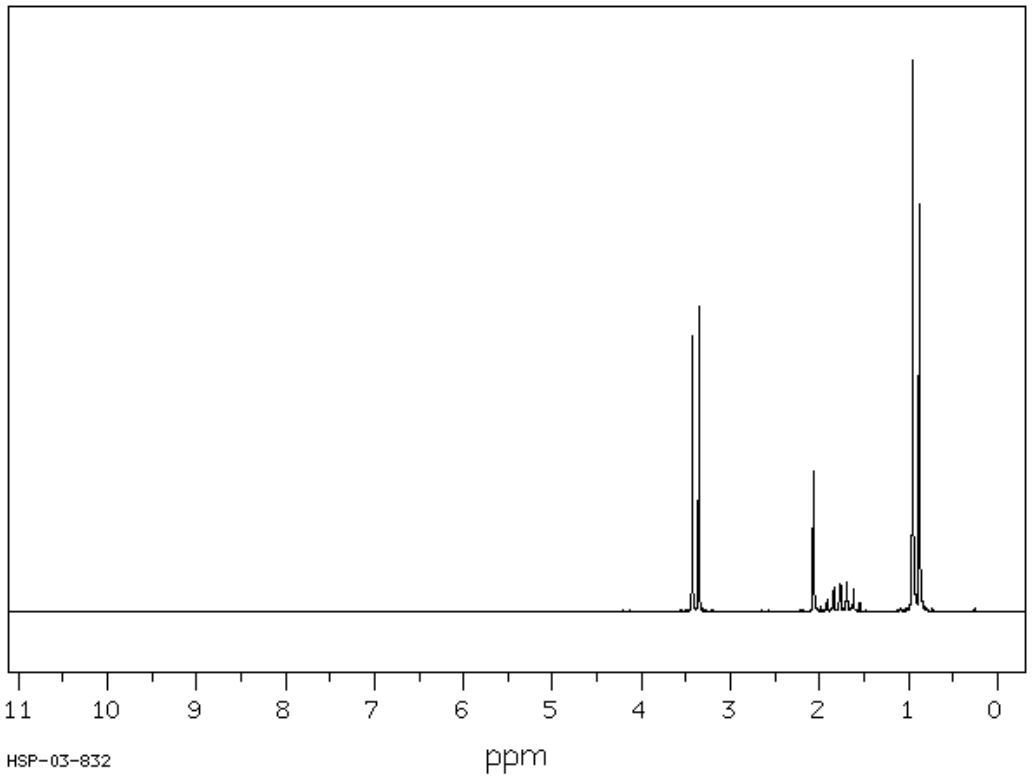


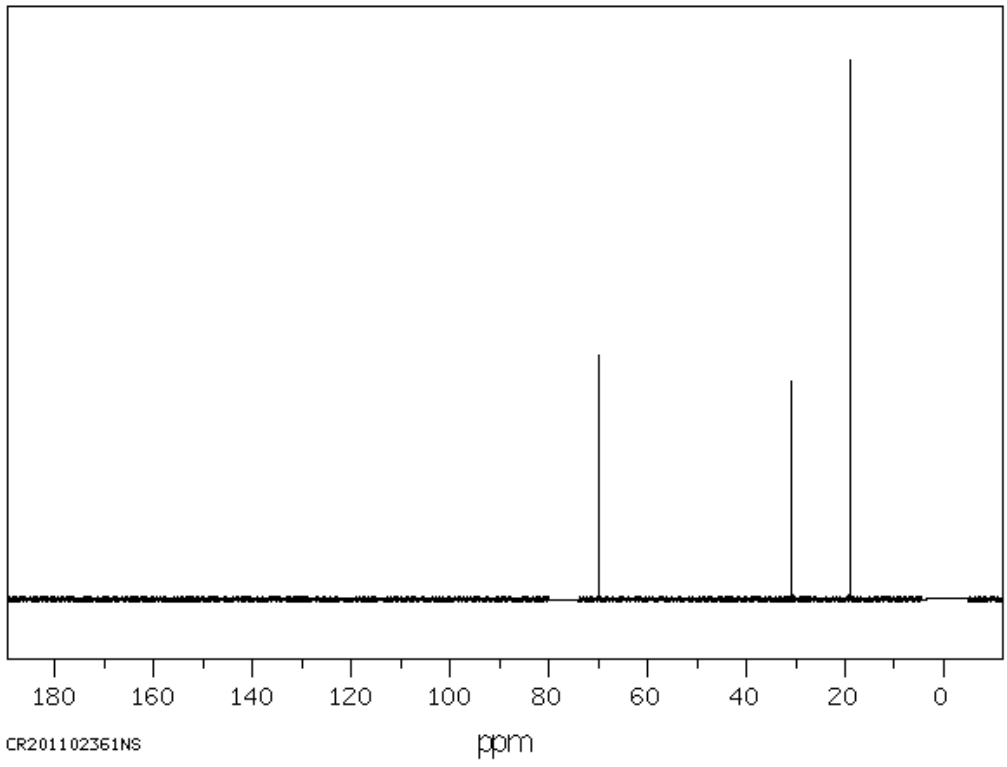
Structure: _____





Structure: _____





Structure: _____