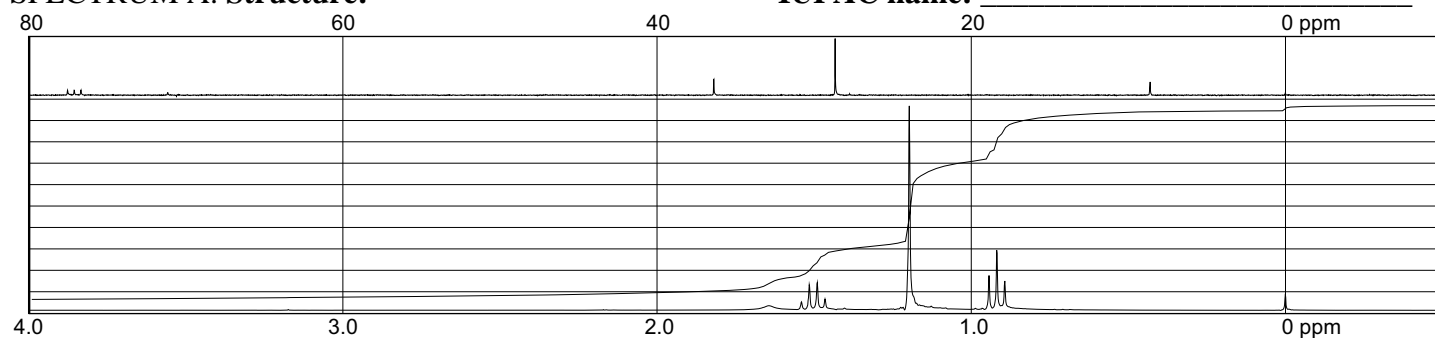


3. 300 MHz  $^1\text{H}$  NMR and 75 MHz  $^{13}\text{C}$  NMR spectra are shown below for the eight constitutional isomers of alcohols with the molecular formula  $\text{C}_5\text{H}_{12}\text{O}$ . Spectra are collected in  $\text{CDCl}_3$  with tetramethylsilane (TMS) as an internal standard. Write the structure and IUPAC name of each alcohol above its spectra. (16 points)

*Hint: First work out the structures of the eight constitutional isomers of alcohols with the molecular formula  $\text{C}_5\text{H}_{12}\text{O}$ .*

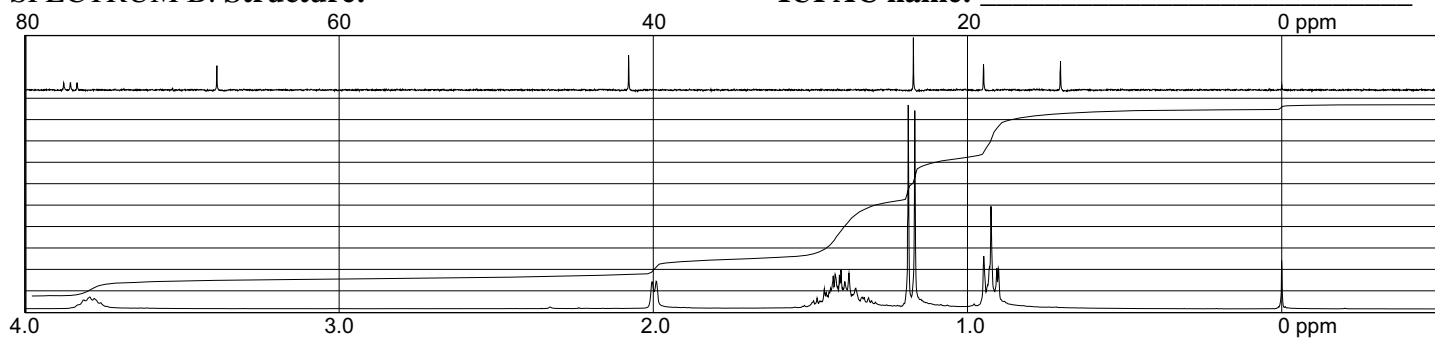
SPECTRUM A. Structure: \_\_\_\_\_

IUPAC name: \_\_\_\_\_



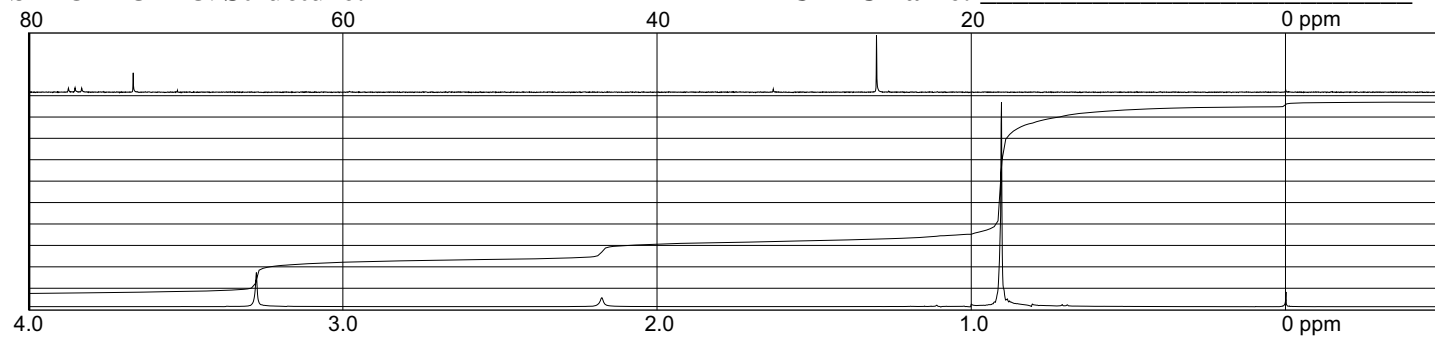
SPECTRUM B. Structure: \_\_\_\_\_

IUPAC name: \_\_\_\_\_



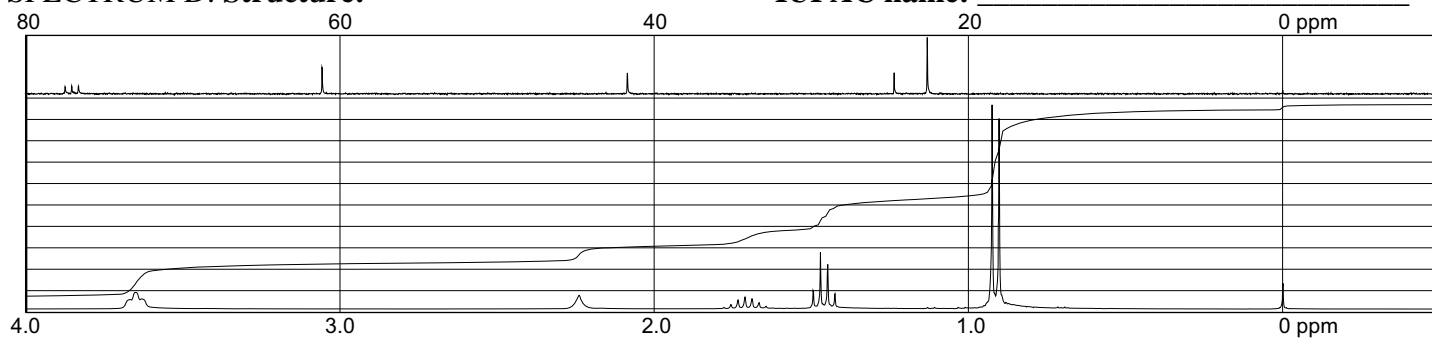
SPECTRUM C. Structure: \_\_\_\_\_

IUPAC name: \_\_\_\_\_



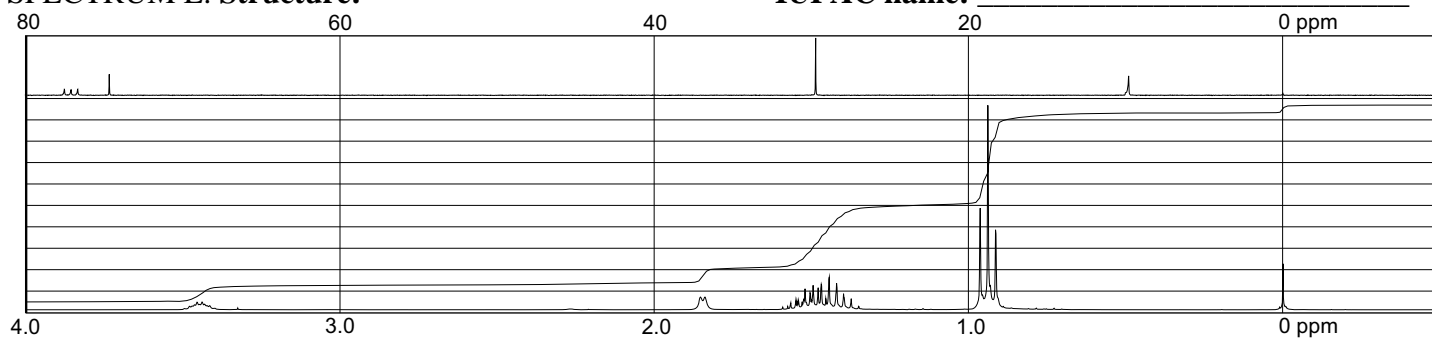
SPECTRUM D. Structure: \_\_\_\_\_

IUPAC name: \_\_\_\_\_



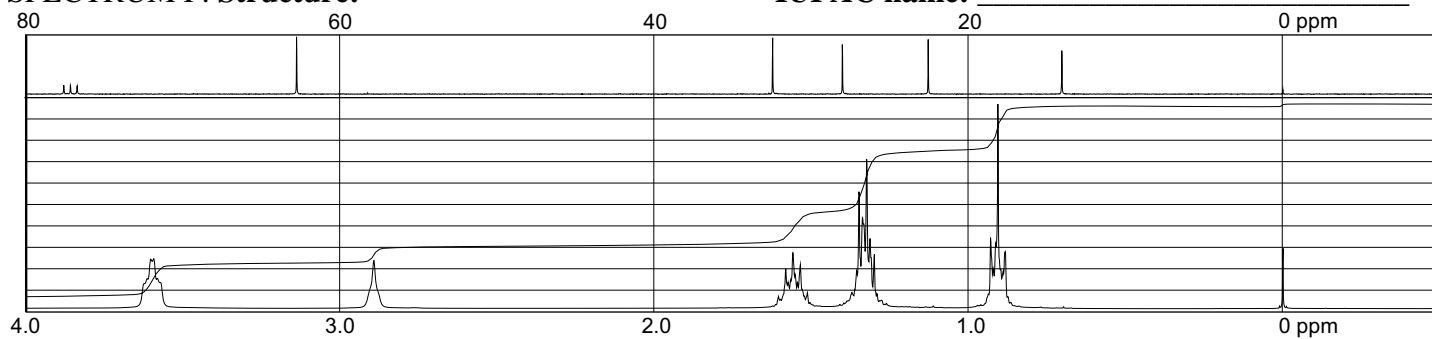
SPECTRUM E. Structure: \_\_\_\_\_

IUPAC name: \_\_\_\_\_



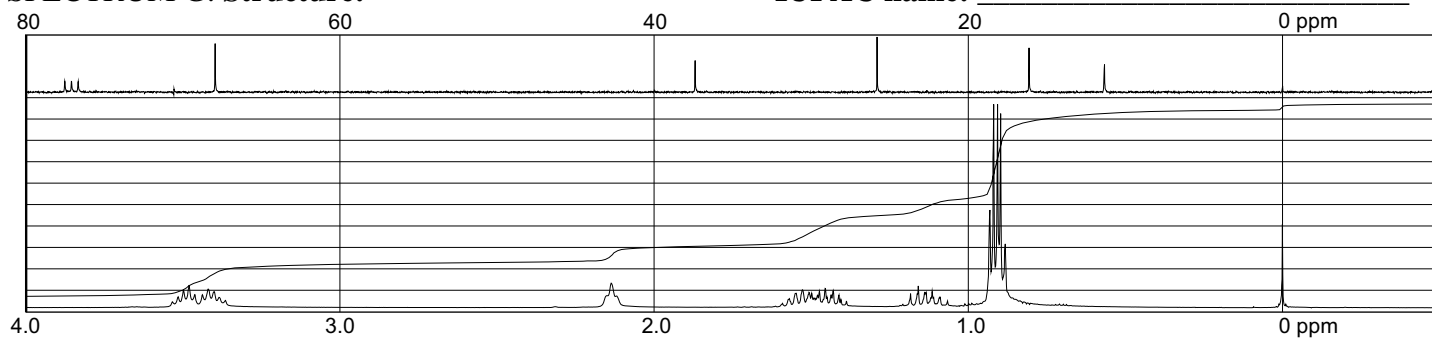
SPECTRUM F. Structure: \_\_\_\_\_

IUPAC name: \_\_\_\_\_



SPECTRUM G. Structure: \_\_\_\_\_

IUPAC name: \_\_\_\_\_



SPECTRUM H. Structure:

IUPAC name:

