

1) Draw structures consistent with the molecular formula and IR data:

a)  $C_5H_{10}$        $3050\text{ cm}^{-1}$      $1650\text{ cm}^{-1}$

b)  $C_6H_{10}$        $2150\text{ cm}^{-1}$

c)  $C_6H_{10}$       no IR absorptions between  $1600\text{--}1700\text{ cm}^{-1}$   
or above  $3000\text{ cm}^{-1}$

d)  $C_6H_{10}O$        $1725\text{ cm}^{-1}$      $3030\text{ cm}^{-1}$

e)  $C_8H_{16}$       Soluble in  $H_2SO_4$

f)  $C_8H_{16}$       insoluble in  $H_2SO_4$