

➤ **Liên kết $C_{sp^3}-H$:** Giãn C-H (Stretching C-H) và uốn C-H (Bending C-H) của nhóm Methyl ($-CH_3$) và nhóm Methylene ($-CH_2-$)

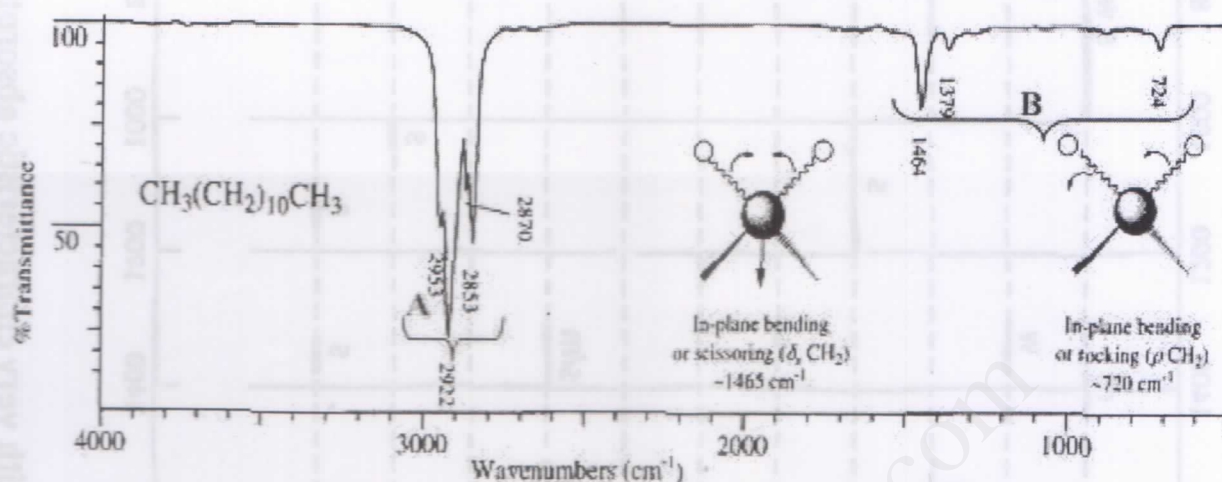
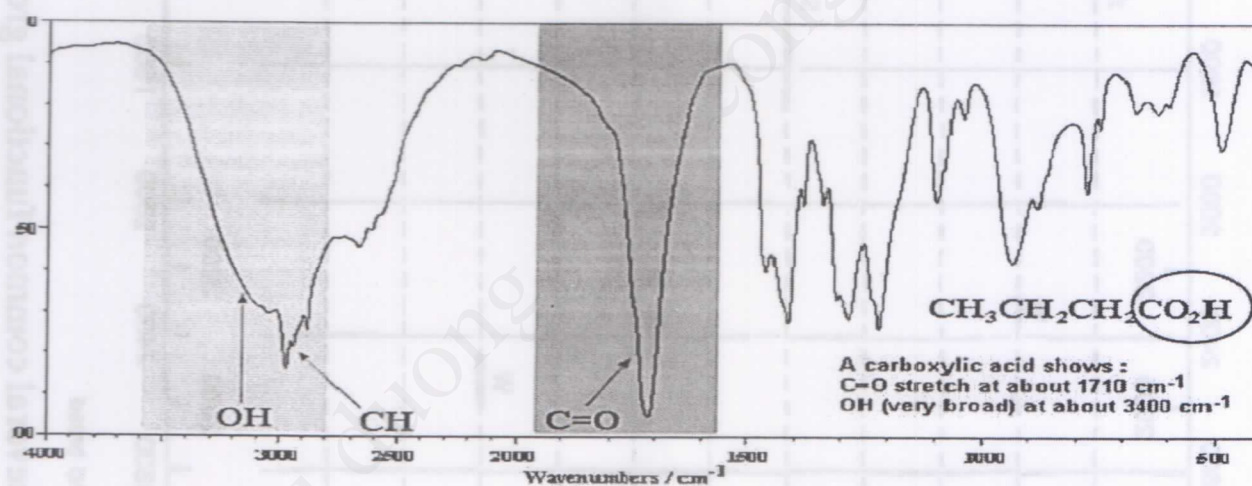
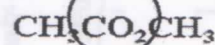
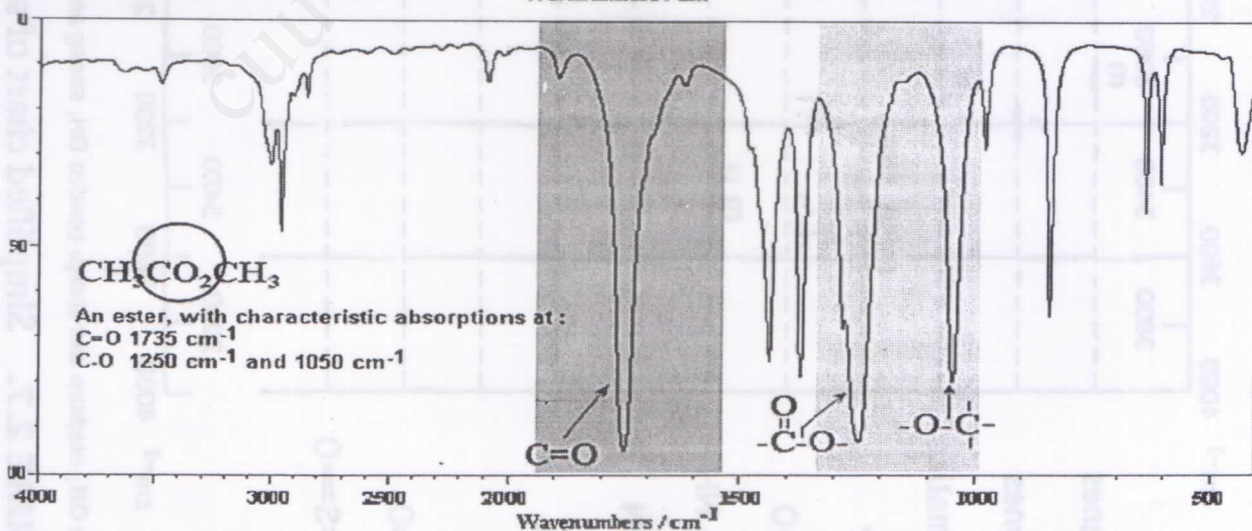


FIGURE 2.8. Dodecane. C—H stretch: 2953 cm^{-1} $\nu_{as}CH_3$, 2870 cm^{-1} ν_sCH_3 , 2922 cm^{-1} $\nu_{as}CH_2$, 2853 cm^{-1} ν_sCH_2 . C—H bend: 1464 cm^{-1} δ_sCH_2 , 1450 cm^{-1} $\delta_{as}CH_3$, 1379 cm^{-1} δ_sCH_3 , CH_2 rock: 724 cm^{-1} ρCH_2 .

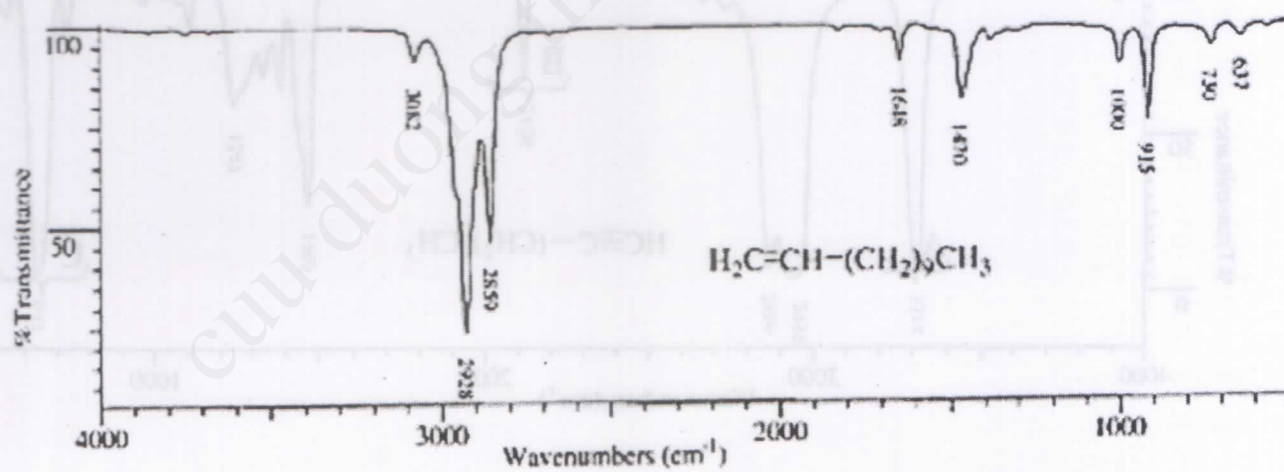
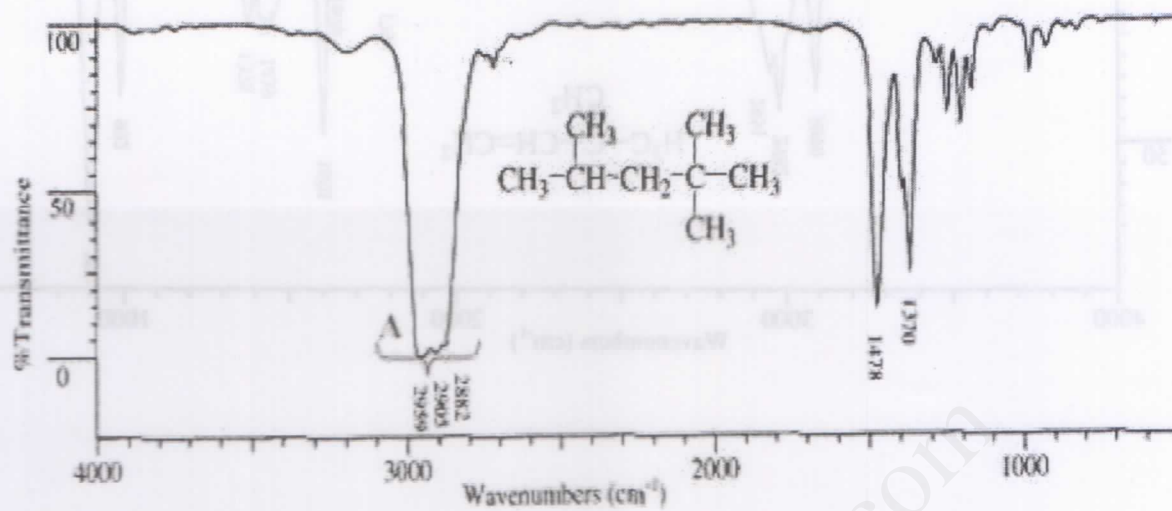


A carboxylic acid shows :
C=O stretch at about 1710 cm^{-1}
OH (very broad) at about 3400 cm^{-1}

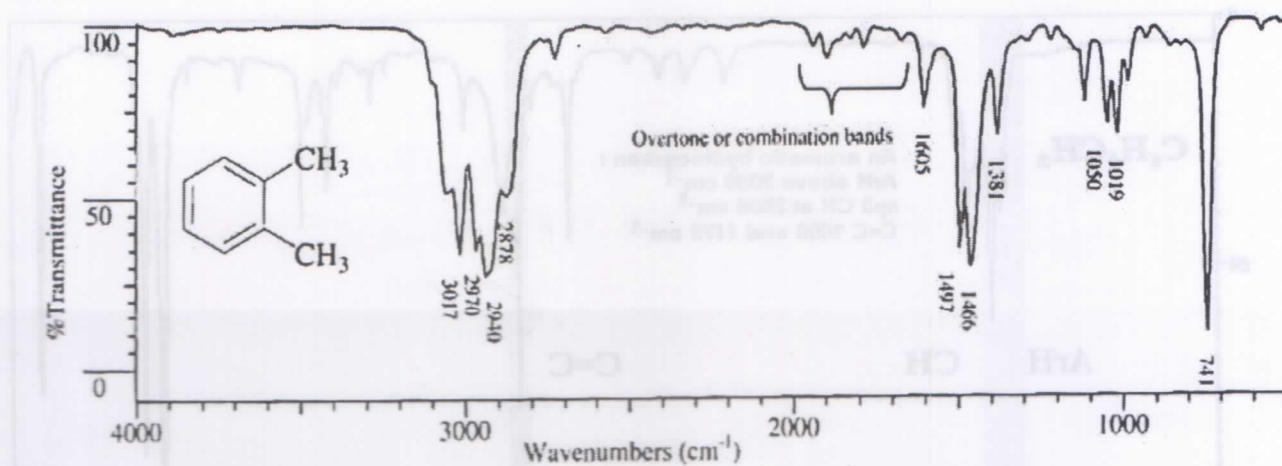


An ester, with characteristic absorptions at :
C=O 1735 cm^{-1}
C-O 1250 cm^{-1} and 1050 cm^{-1}

Alkane mạch nhánh



a



b

