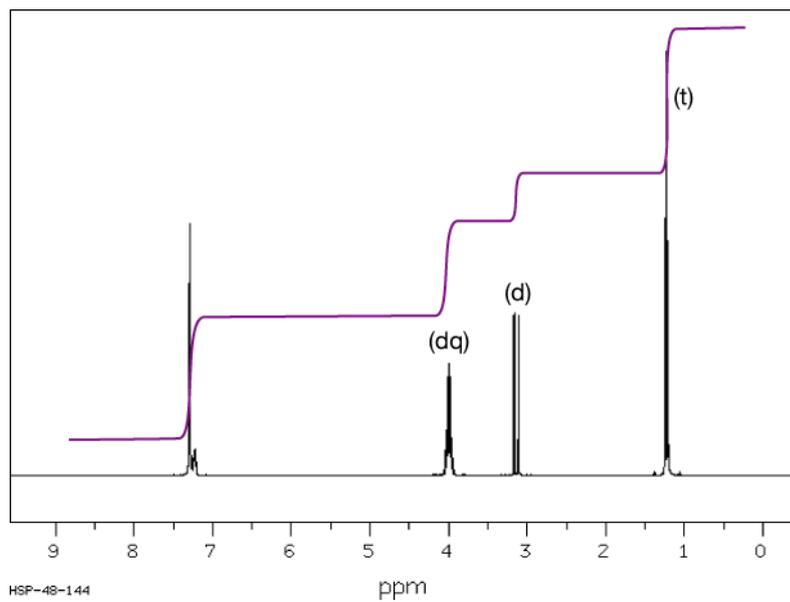
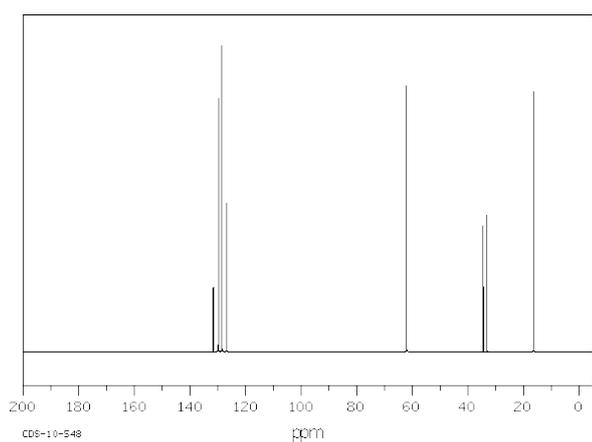


(31) 次のスペクトルを与える化合物の構造式を示せ。

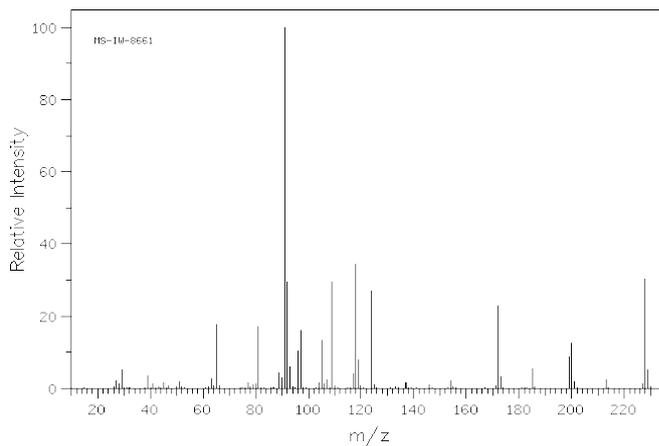
^1H NMR (400 MHz, CDCl_3)



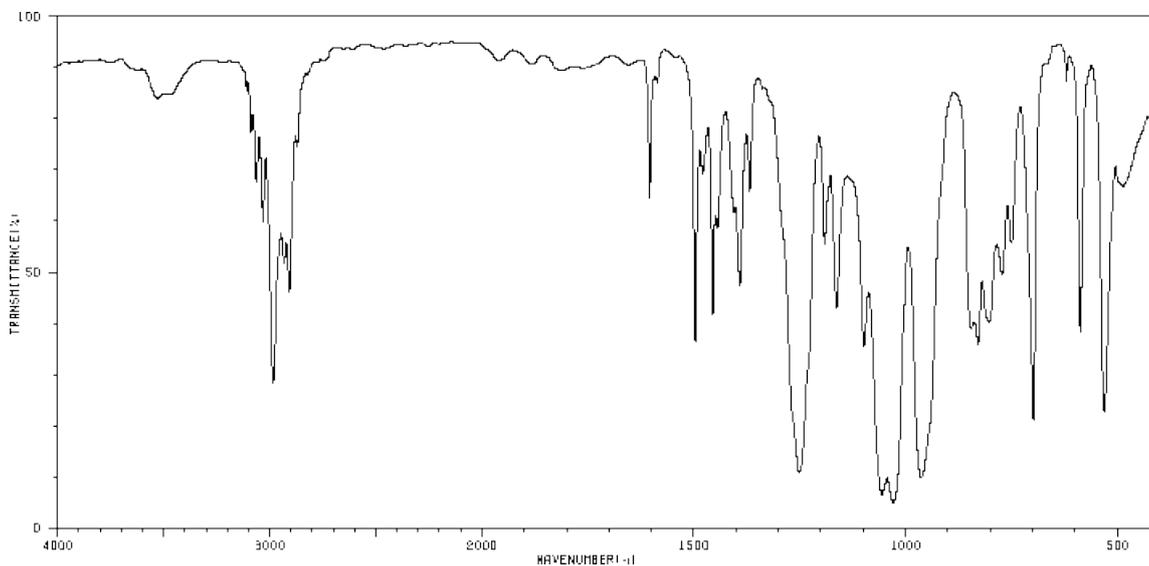
^{13}C $\{^1\text{H}\}$ NMR (25 MHz, CDCl_3)



MS (EI)

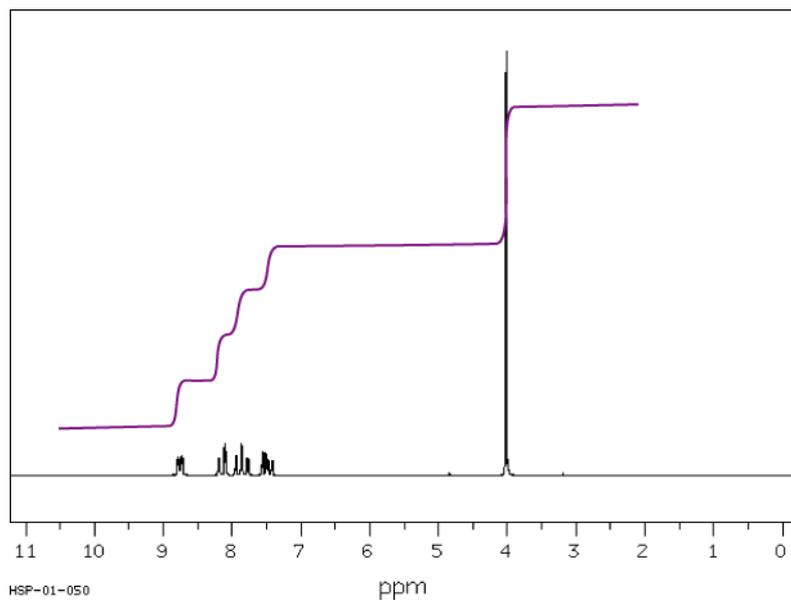


IR (liquid film)

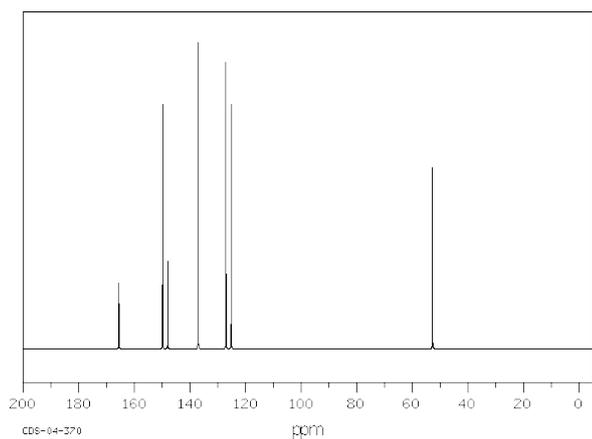


(32) 次のスペクトルを与える化合物の構造式を示せ。

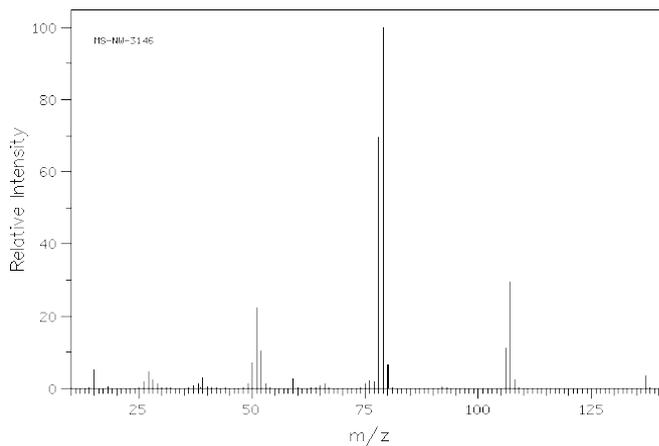
^1H NMR (90 MHz, CDCl_3)



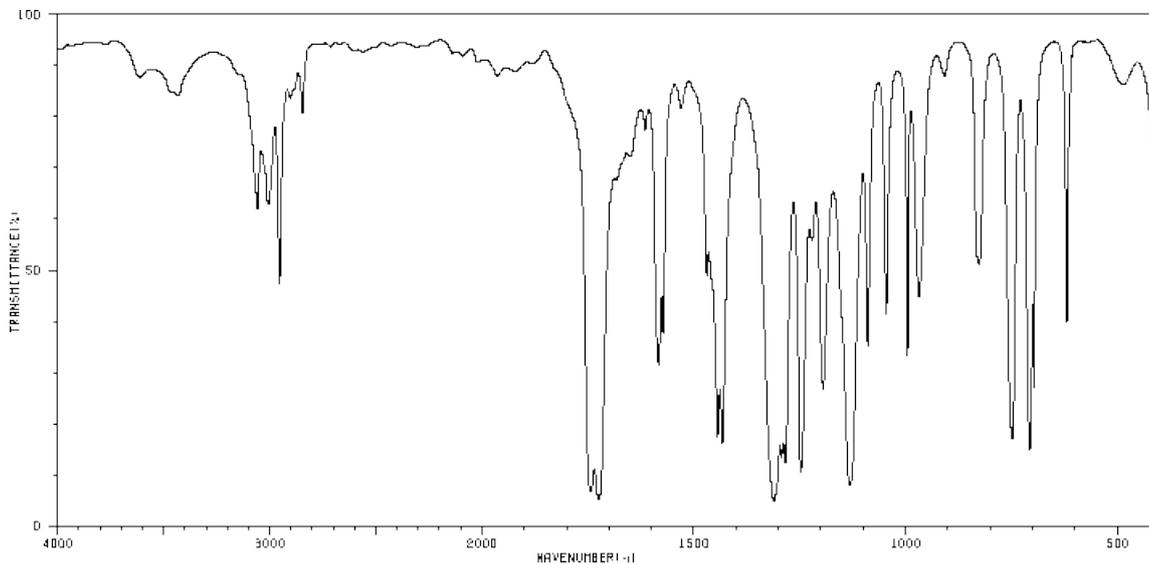
^{13}C $\{^1\text{H}\}$ NMR (25 MHz, CDCl_3)



MS (EI)

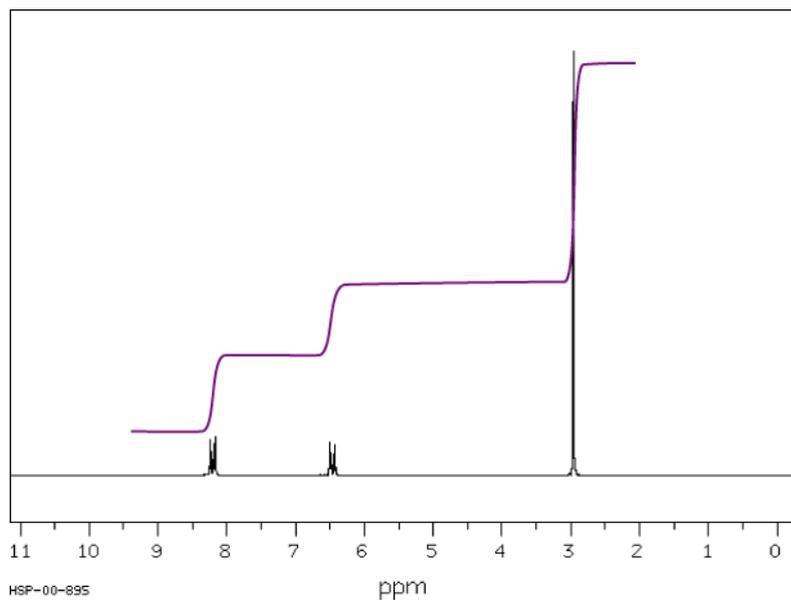


IR (liquid film)

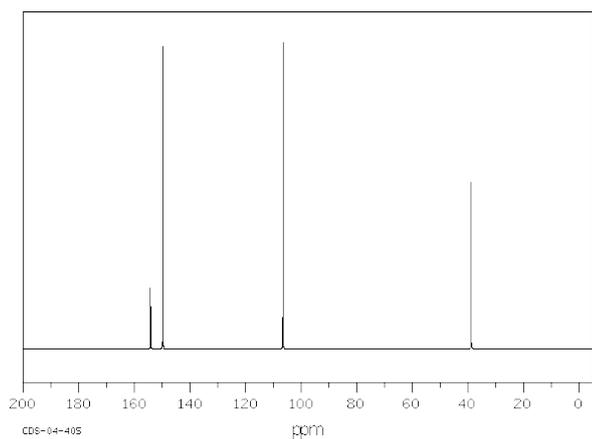


(33) 次のスペクトルを与える化合物の構造式を示せ。

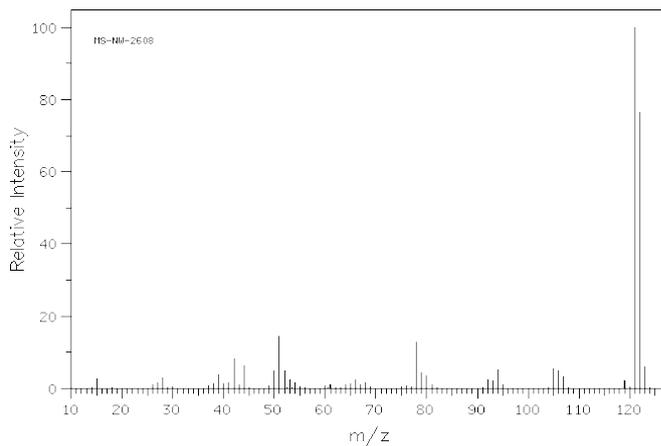
^1H NMR (90 MHz, CDCl_3)



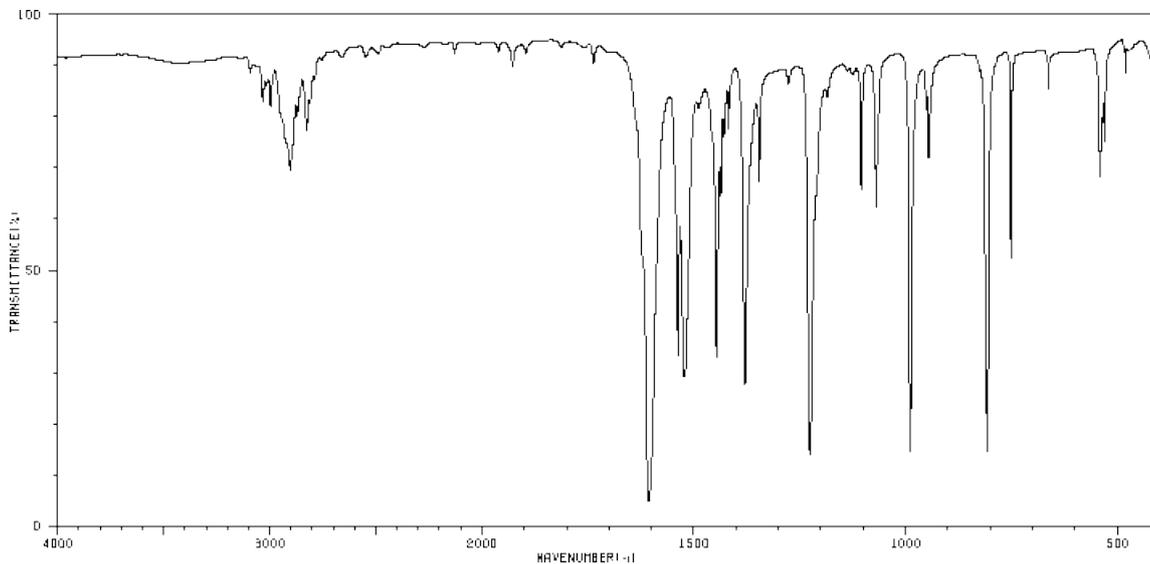
^{13}C $\{^1\text{H}\}$ NMR (25 MHz, CDCl_3)



MS (EI)

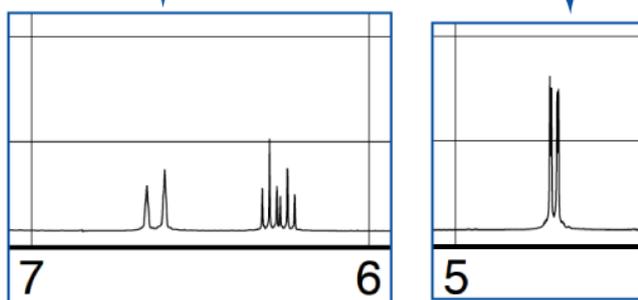
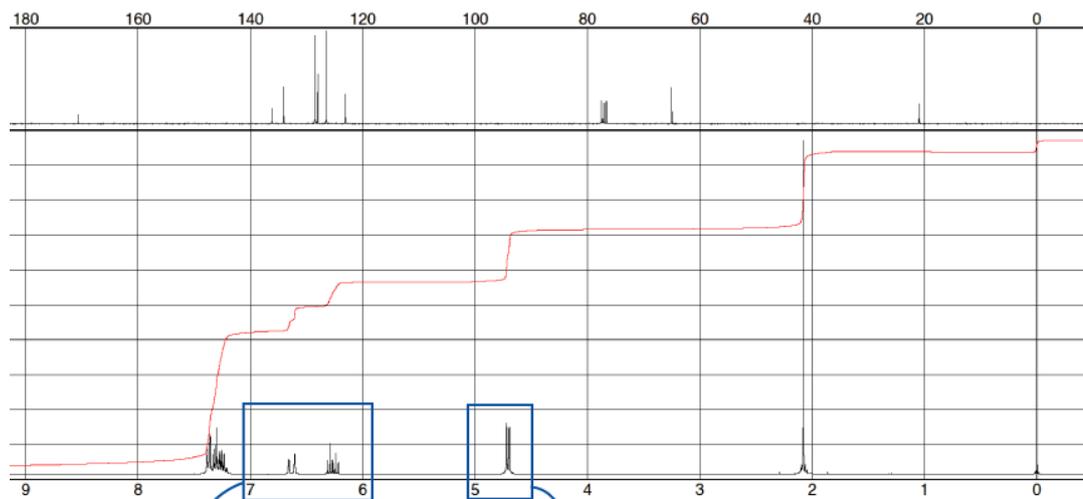


IR (KBr)

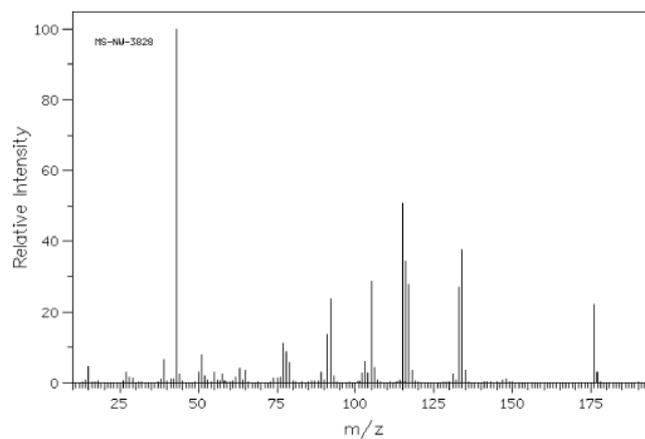


(34) 次のスペクトルを与える化合物の構造式を示せ。

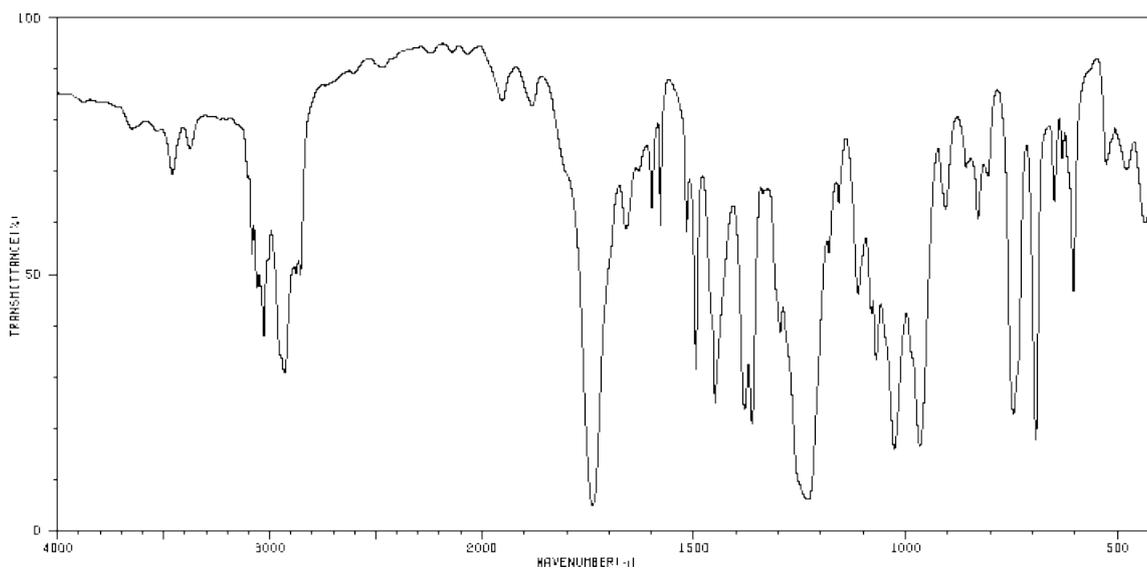
^1H NMR (300 MHz, CDCl_3), ^{13}C NMR (75 MHz, CDCl_3)



MS (EI)

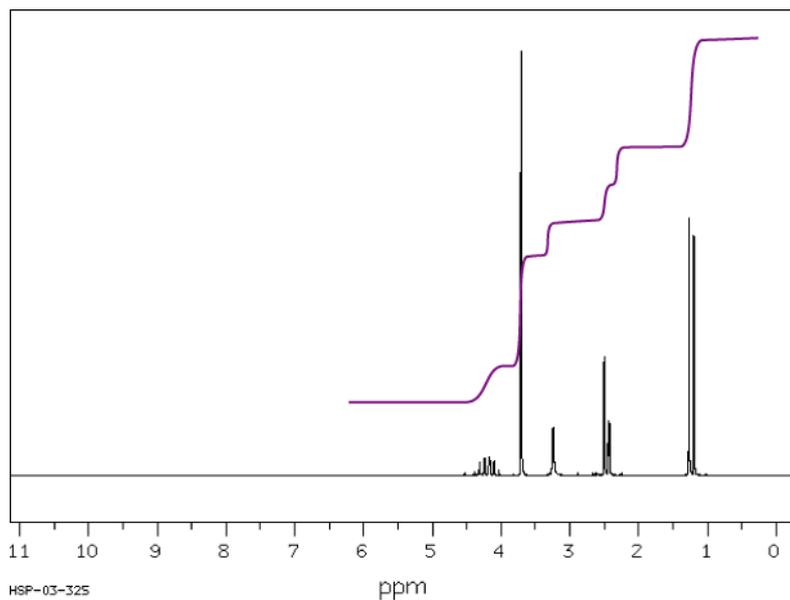


IR (liquid film)



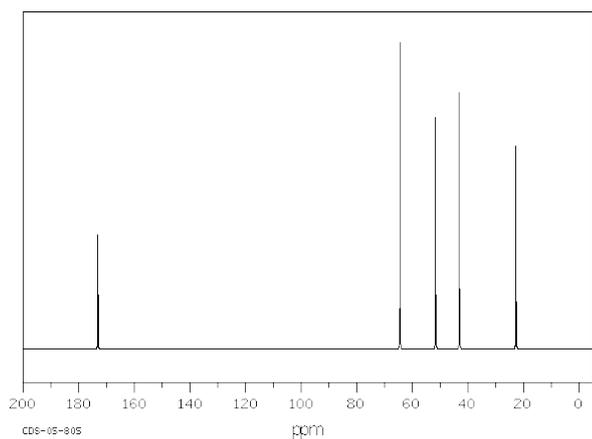
(35) 次のスペクトルを与える化合物の構造式を示せ。

^1H NMR (400 MHz, CDCl_3)



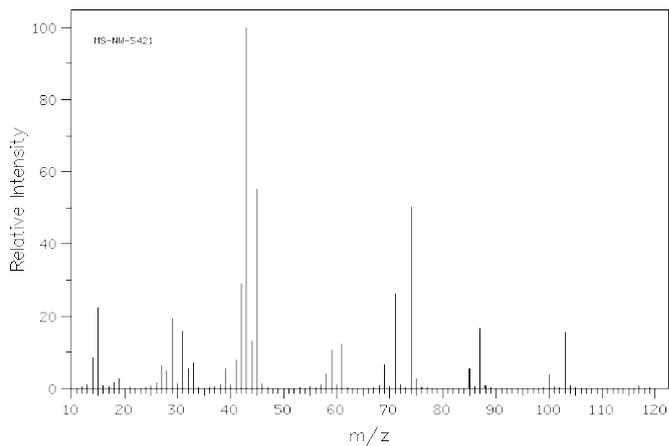
HSP-03-325

^{13}C $\{^1\text{H}\}$ NMR (25 MHz, CDCl_3)

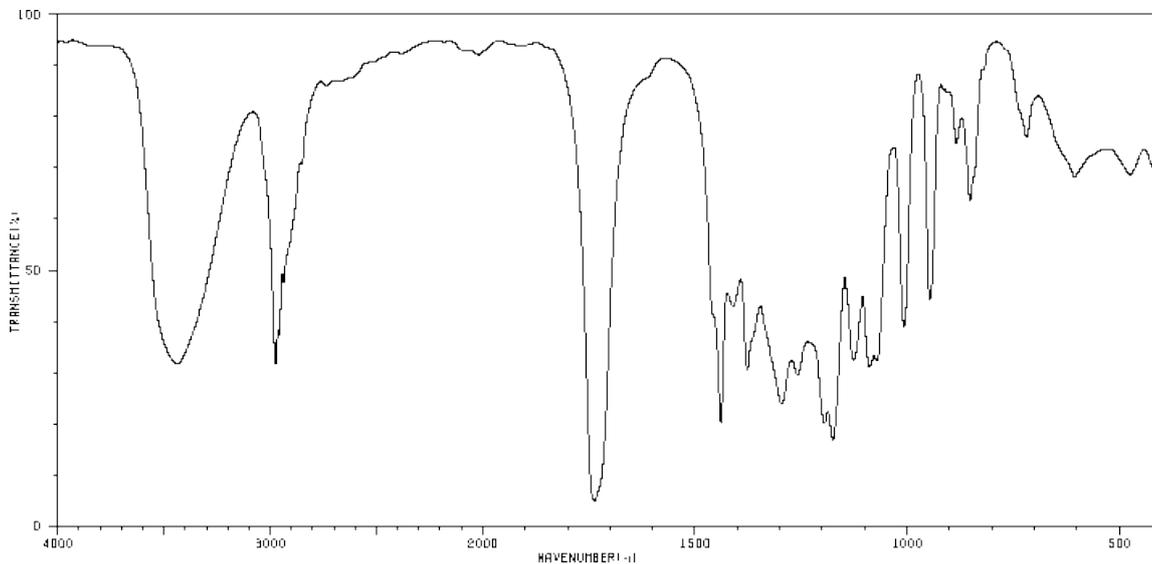


C05-05-805

MS (EI) ($M = 118$)

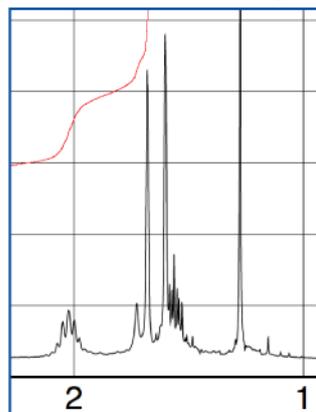
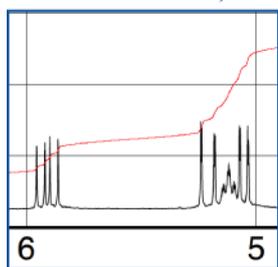
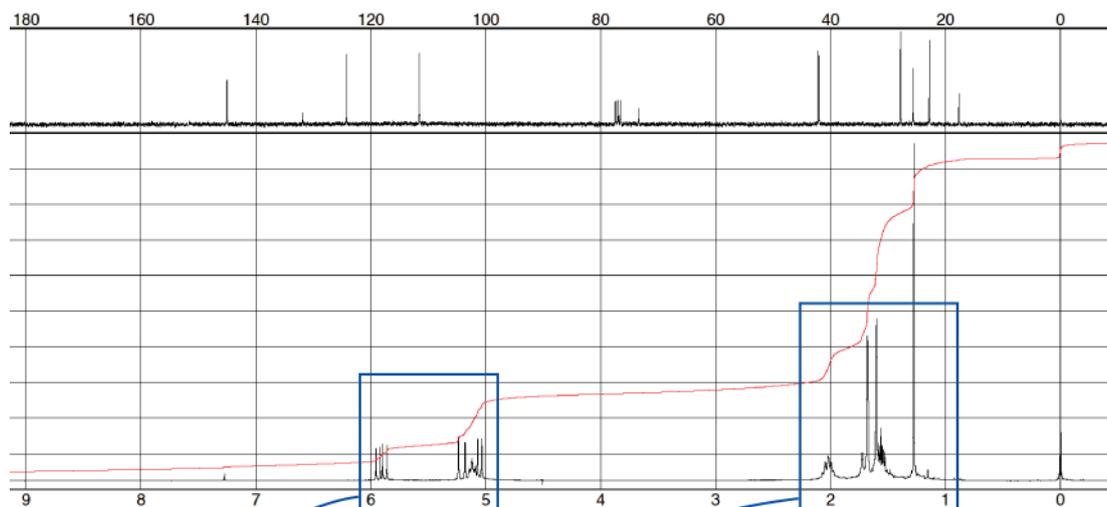


IR (liquid film)

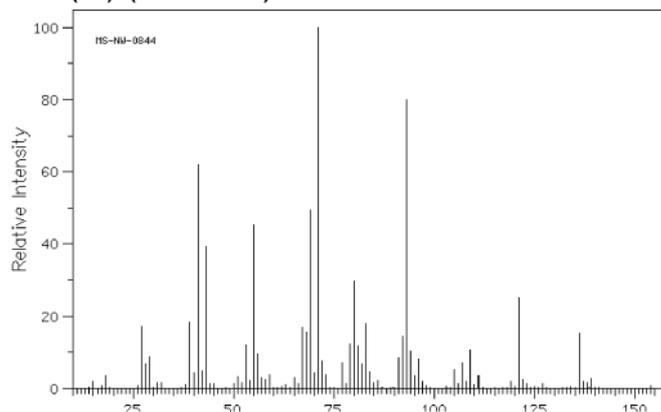


(36) 次のスペクトルを与える化合物の構造式を示せ。

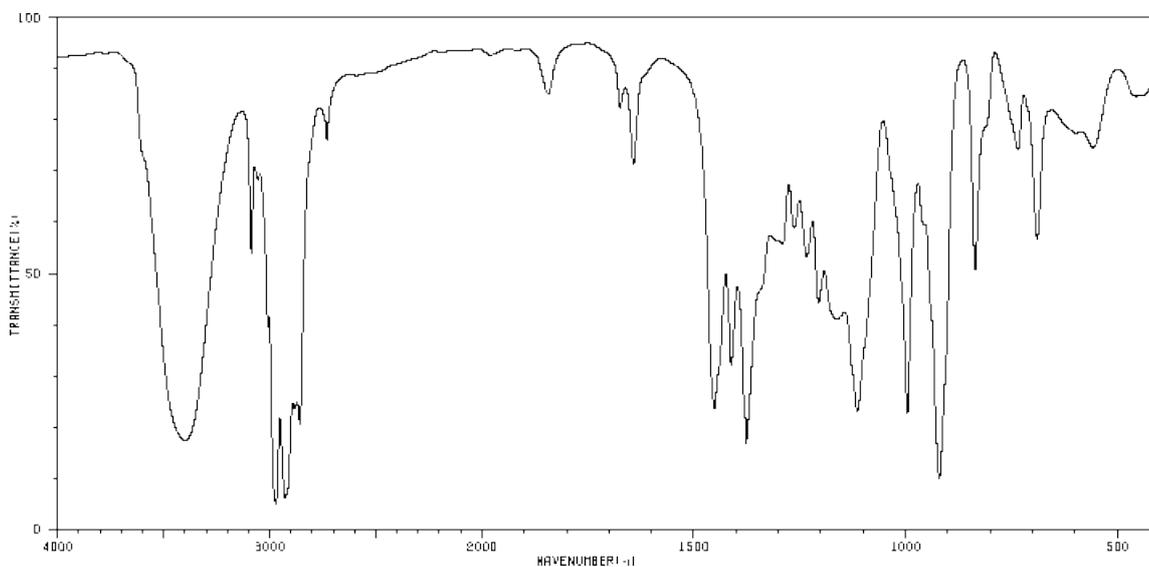
$^1\text{H NMR}$ (400 MHz, CDCl_3)



MS (EI) ($M = 154$)

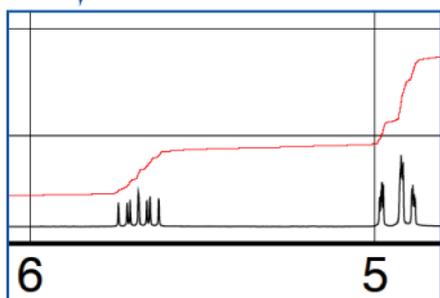
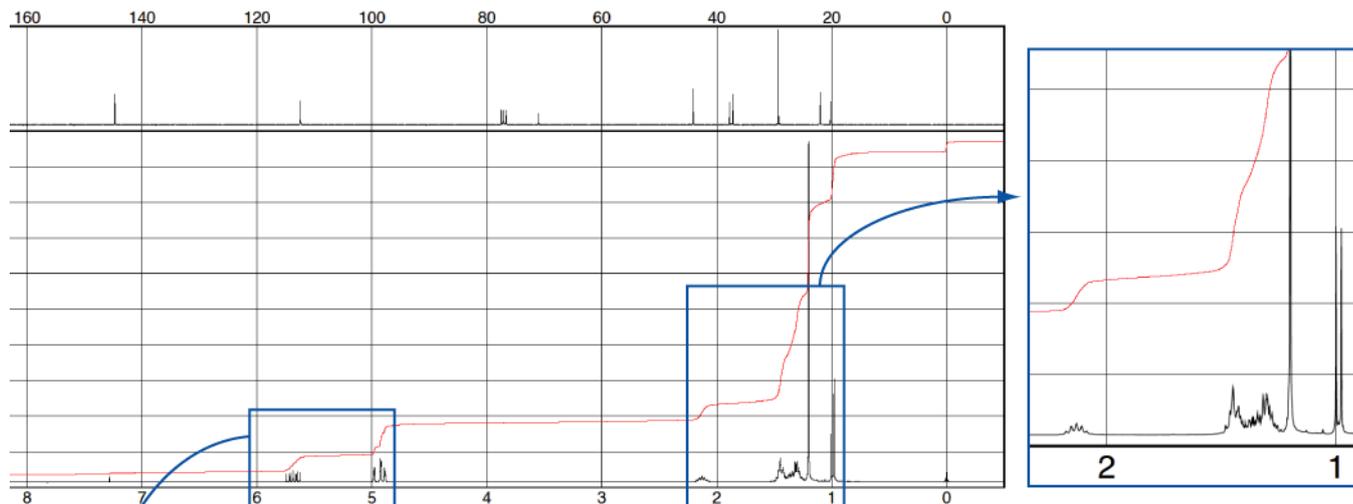


IR (liquid film)

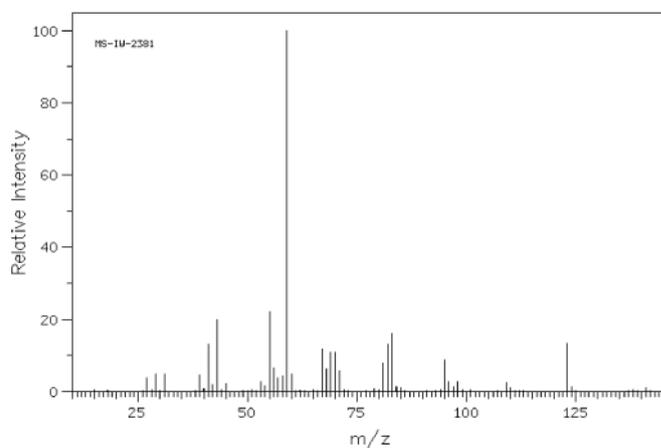


(37) 次のスペクトルを与える化合物の構造式を示せ。

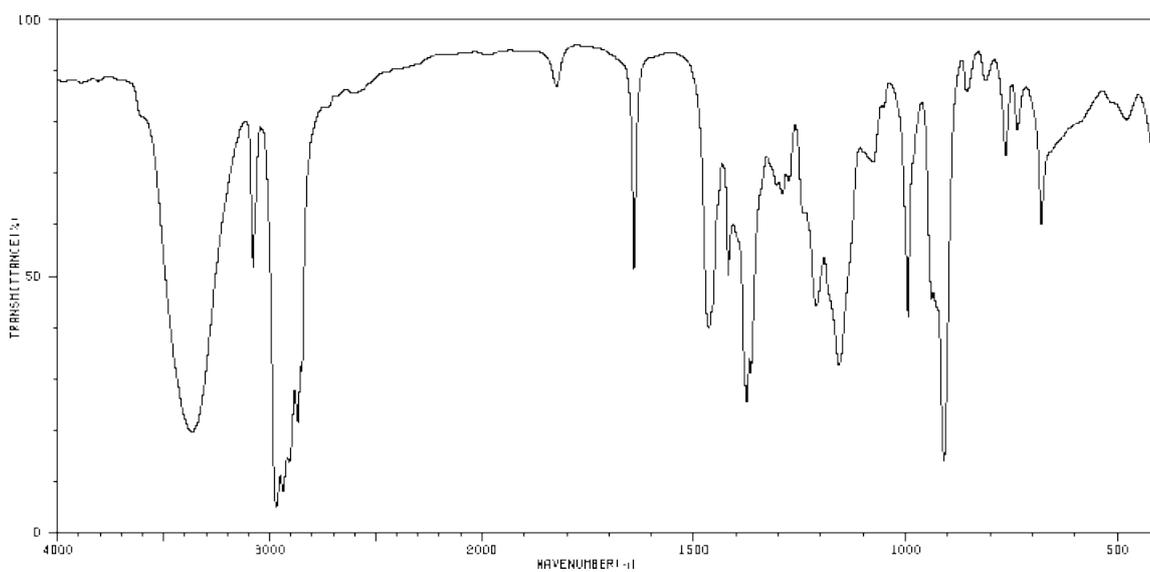
^1H NMR (300 MHz, CDCl_3), ^{13}C $\{^1\text{H}\}$ NMR (75 MHz, CDCl_3)



MS (EI) (M = 156)

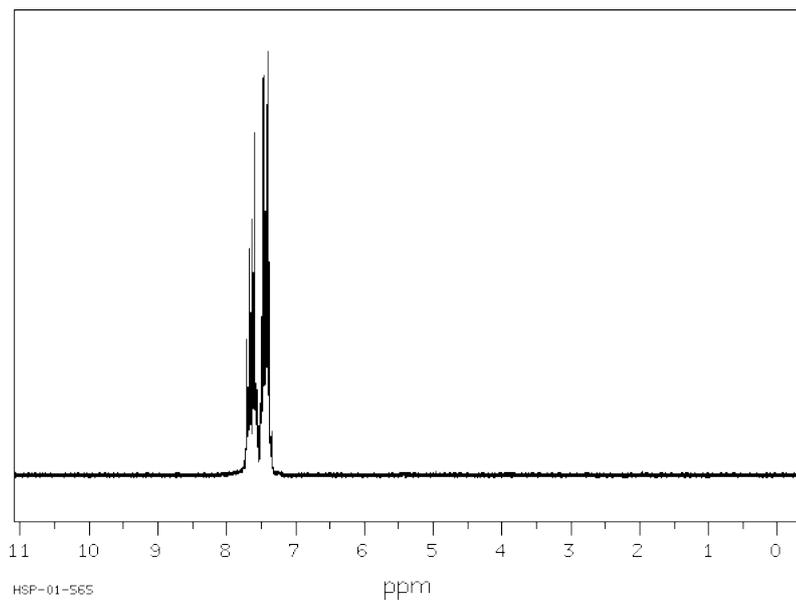


IR (liquid film)

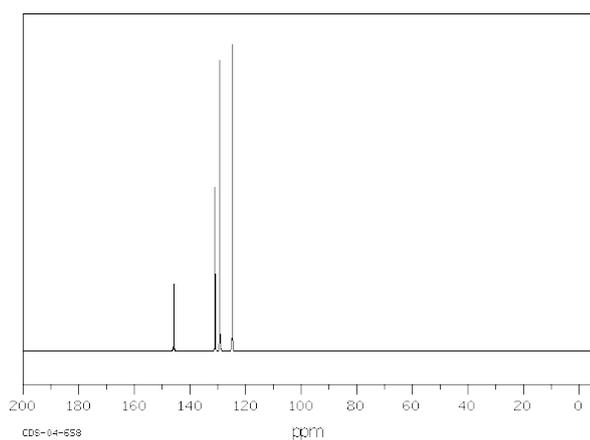


(38) 次のスペクトルを与える化合物の構造式を示せ。

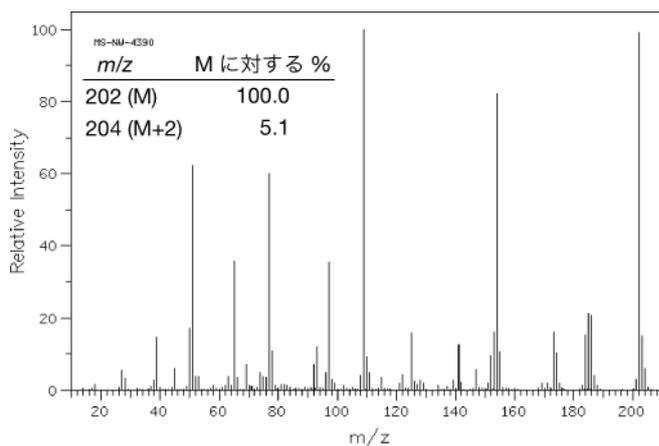
^1H NMR (400 MHz, CDCl_3)



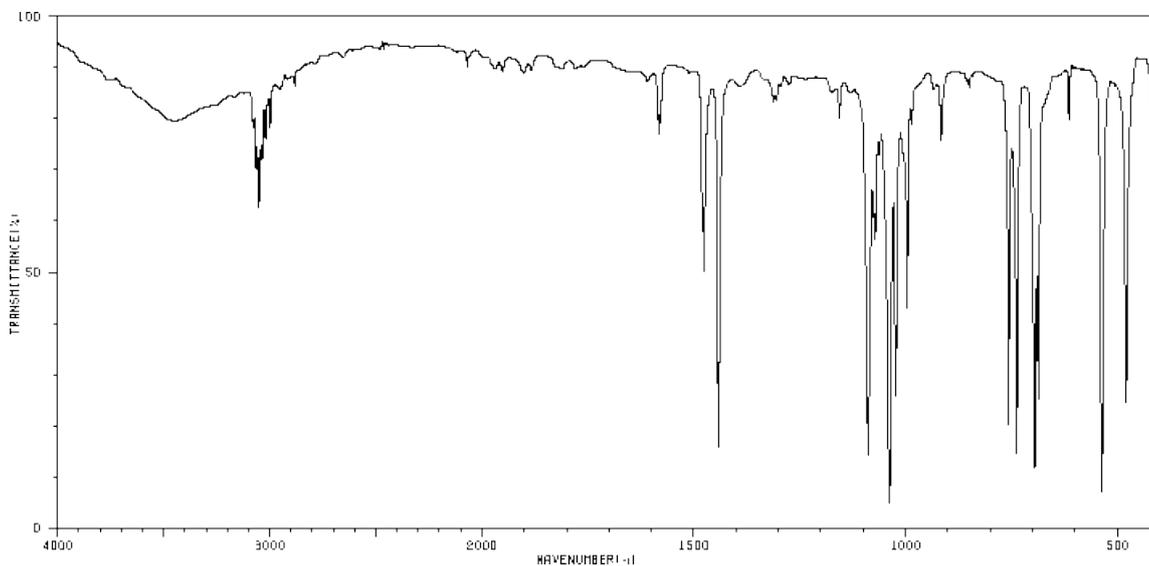
^{13}C $\{^1\text{H}\}$ NMR (25 MHz, CDCl_3)



MS (EI)

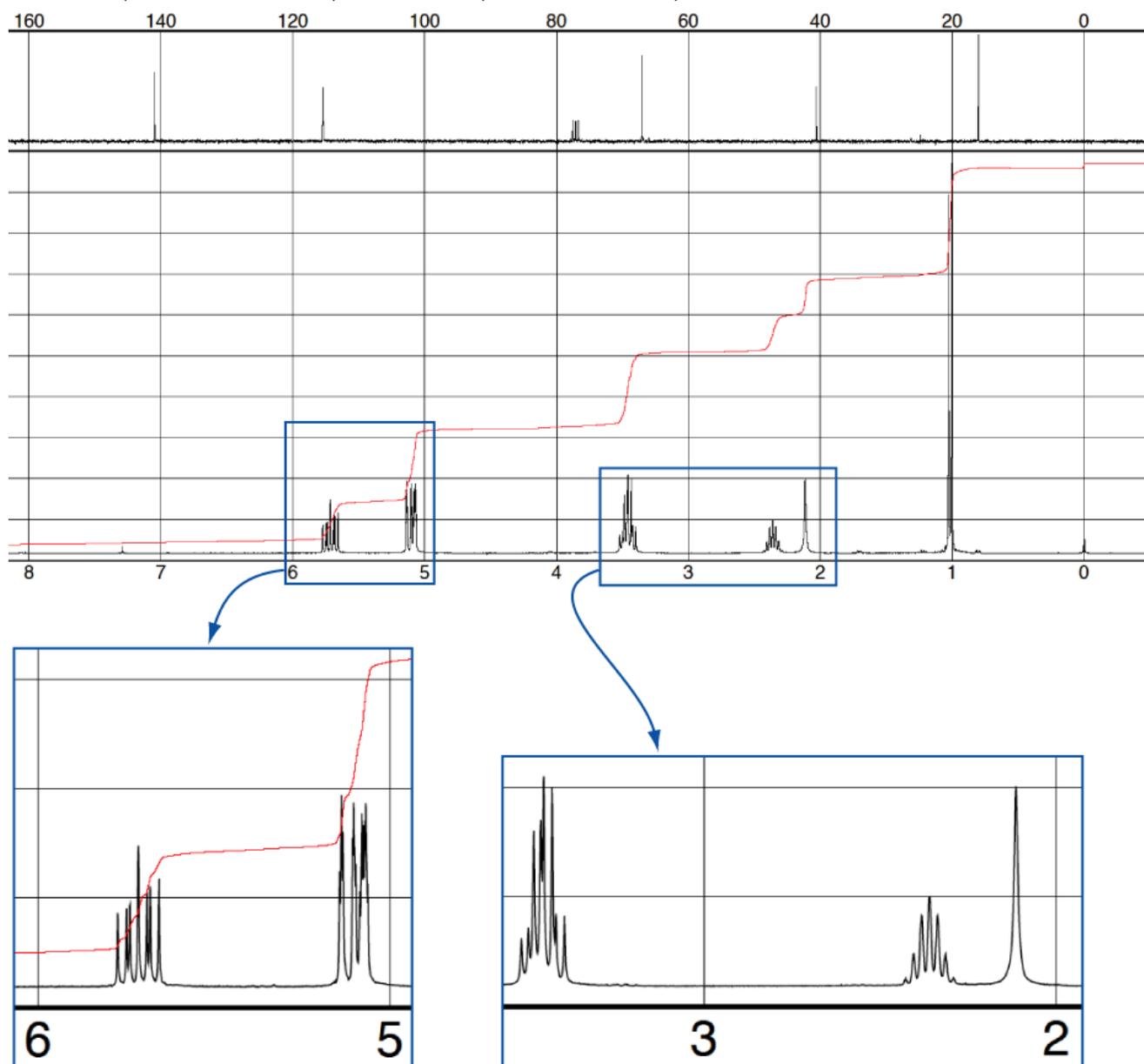


IR (liquid film)

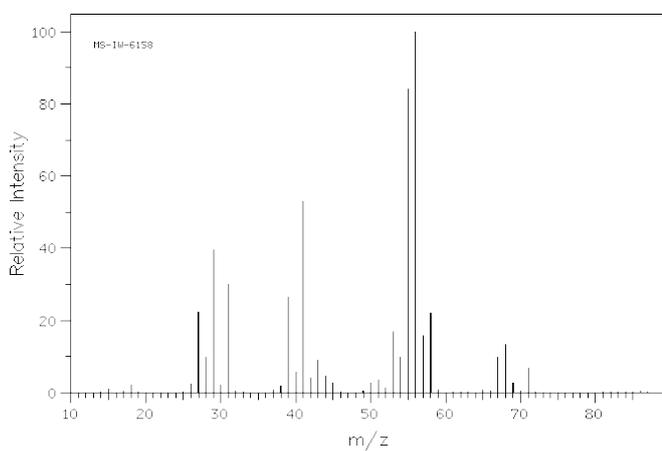


(39) 次のスペクトルを与える化合物は IR スペクトルにおいて約 3300 cm^{-1} に幅広く強い吸収を示す。この化合物の構造式を示せ。

$^1\text{H NMR}$ (300 MHz, CDCl_3), $^{13}\text{C NMR}$ (75 MHz, CDCl_3)

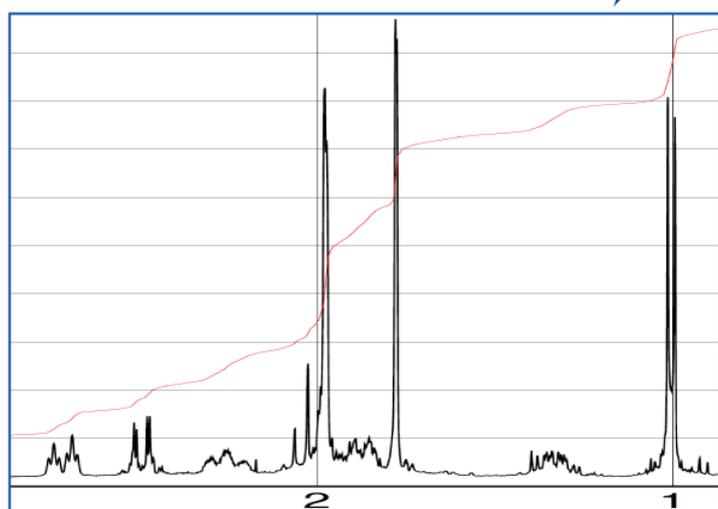
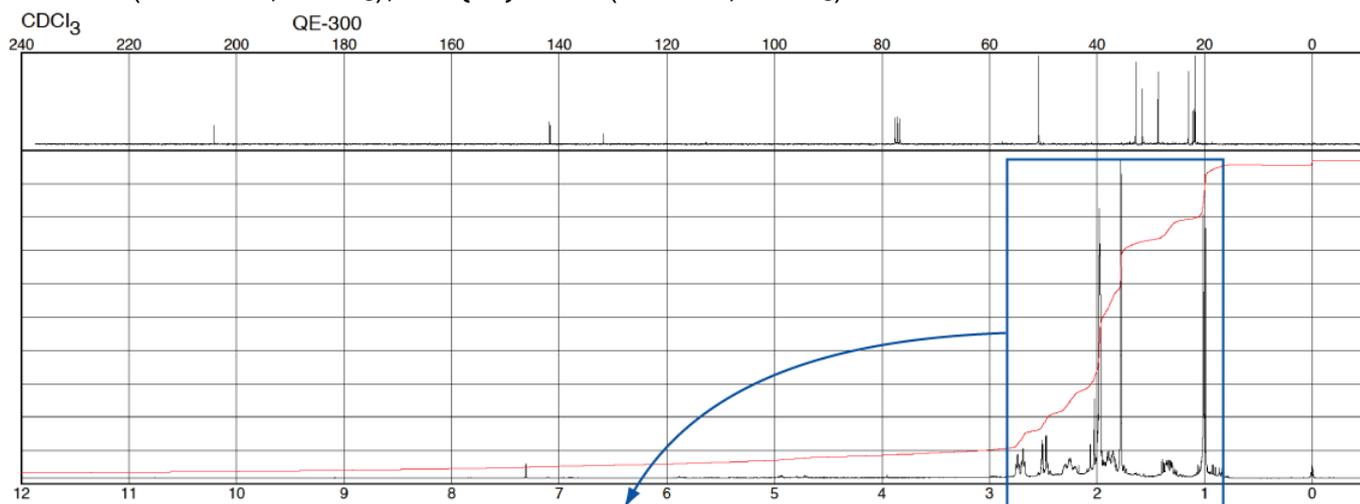


MS (EI) ($M = 86$)

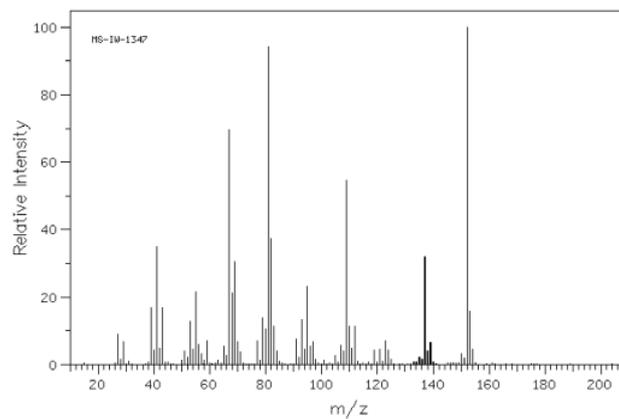


(40) 次のスペクトルを与える化合物の構造式を示せ。

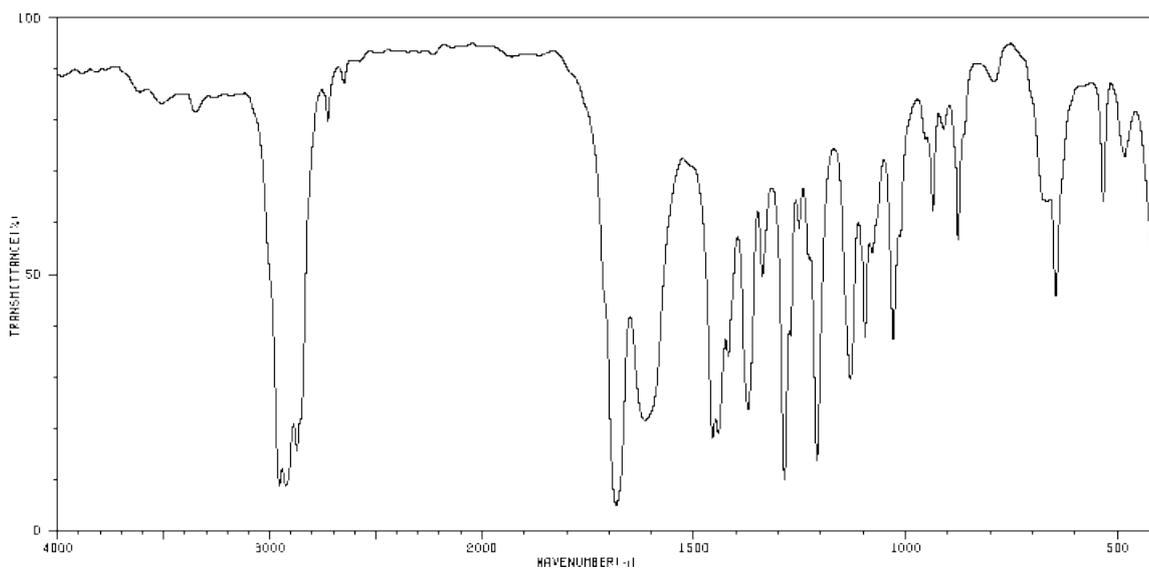
^1H NMR (300 MHz, CDCl_3), ^{13}C $\{^1\text{H}\}$ NMR (75 MHz, CDCl_3)



MS (EI)

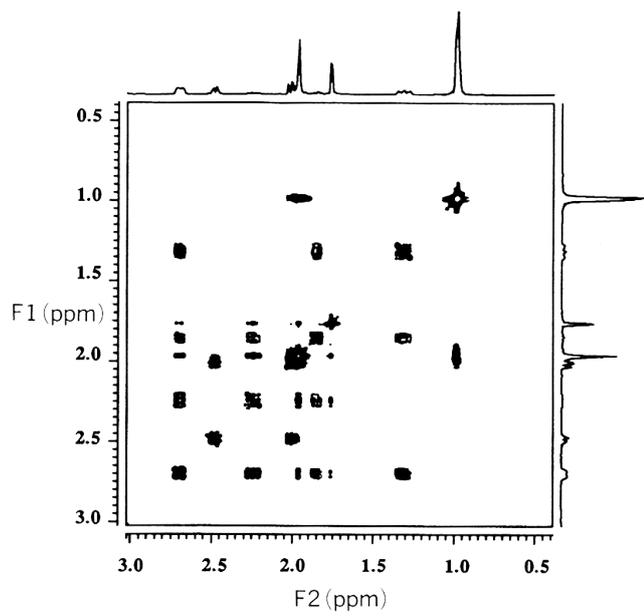


IR (liquid film)



(次ページへ続く)

^1H - ^1H COSY (500 MHz)



^{13}C - ^1H COSY (126.0 MHz)

