

Figures

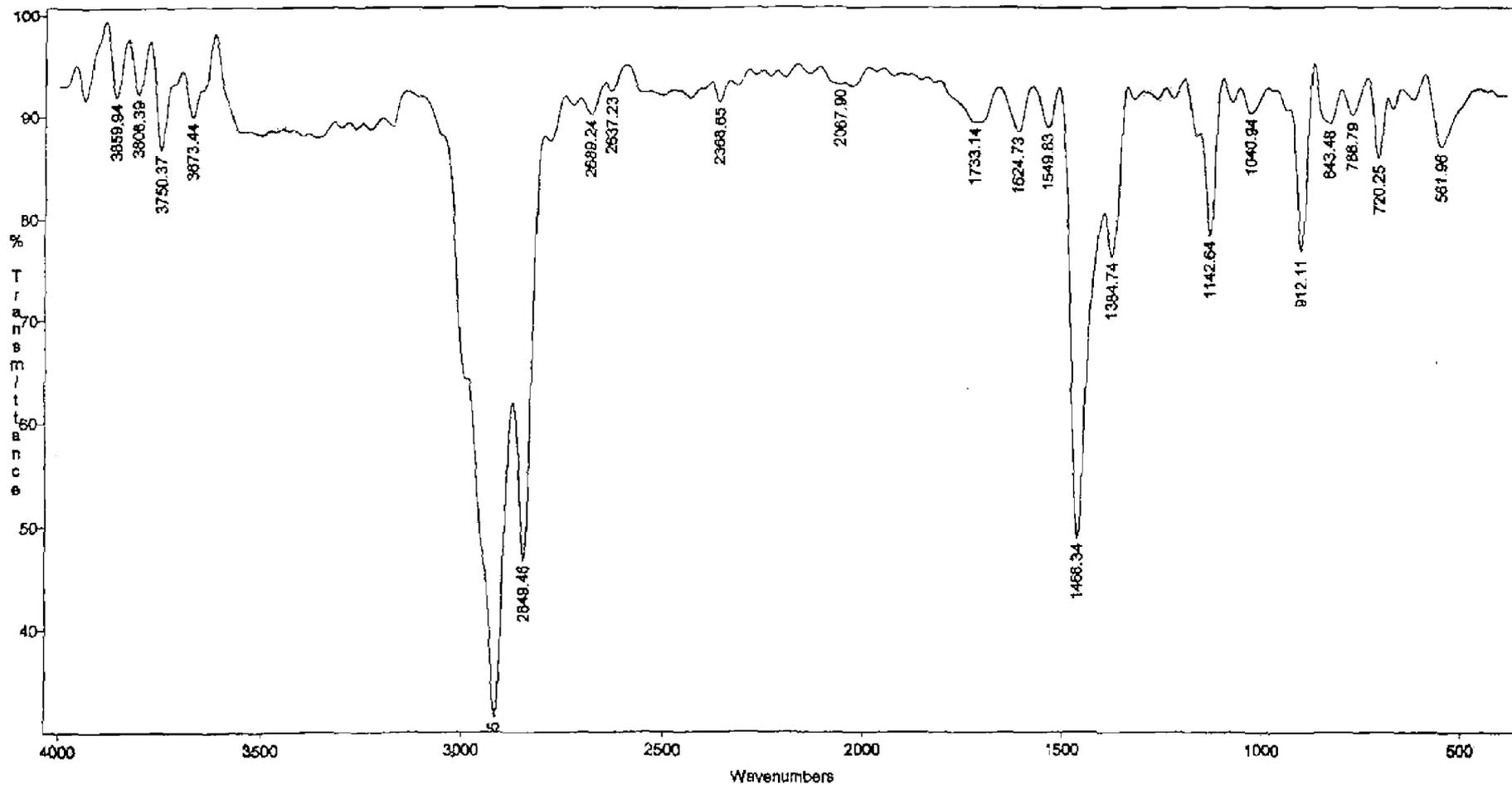


Fig. (17): FT-IR spectrum of N,N,N,N-decyldimethylisopropylammonium bromide.  
(DEDIABr)

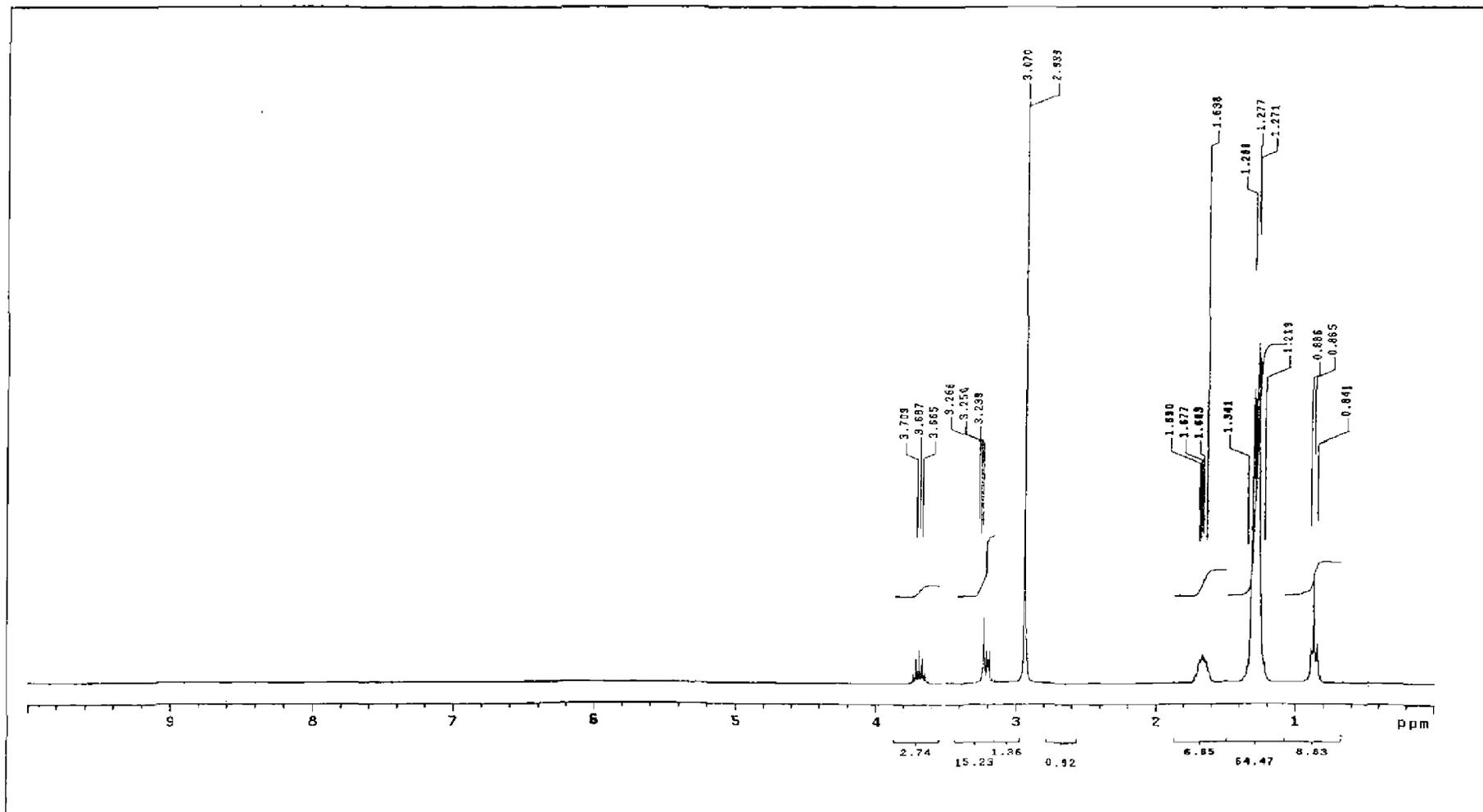
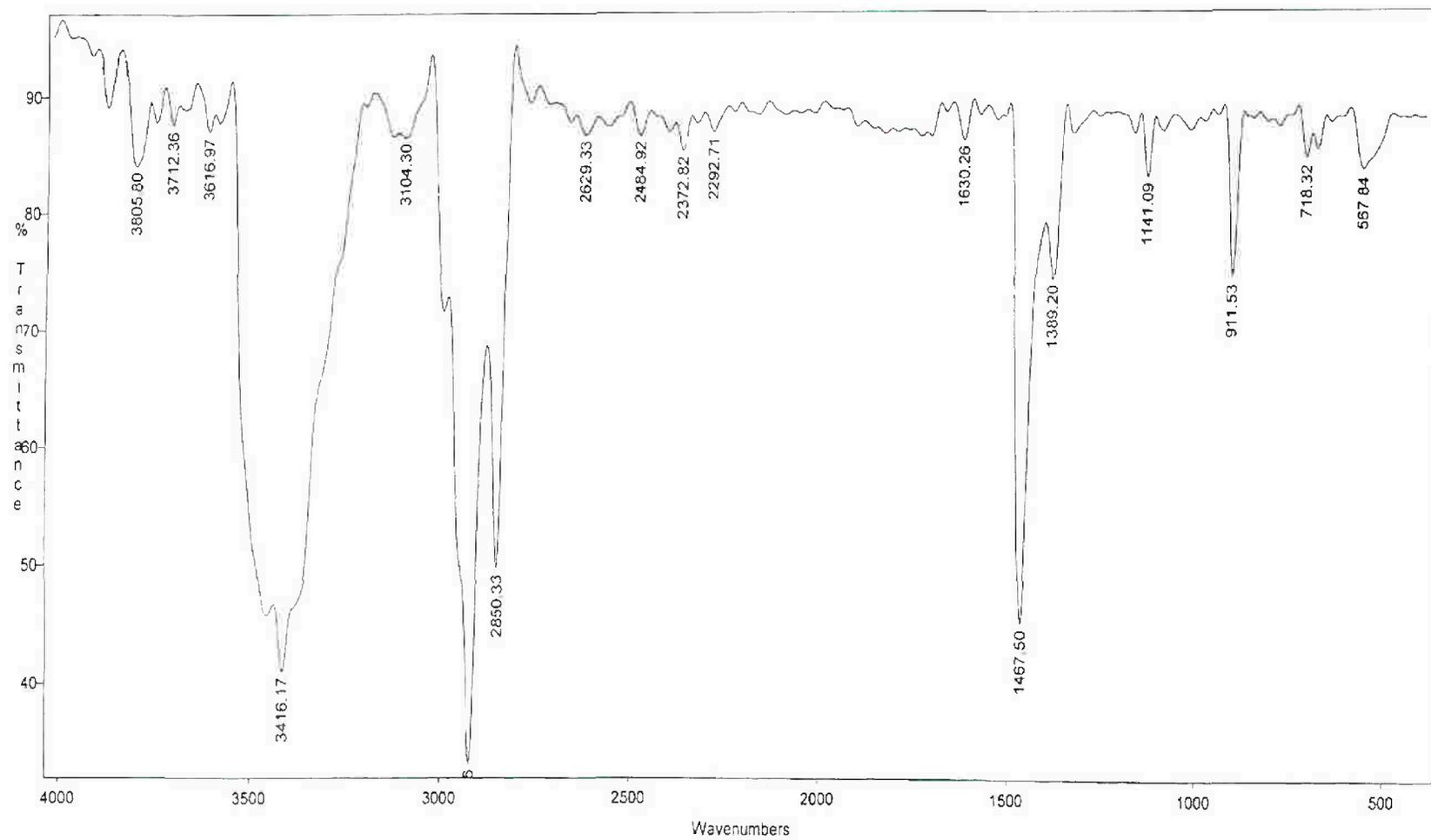


Fig. (18):  $^1\text{H}$ NMR spectrum of N,N,N,N-decyldimethylisopropylammonium bromide.  
(DEDIABr)



**Fig. (19):** FT-IR spectrum of N,N,N,N-decyldimethylisopropylammonium hydroxide.  
(DEDIAOH)



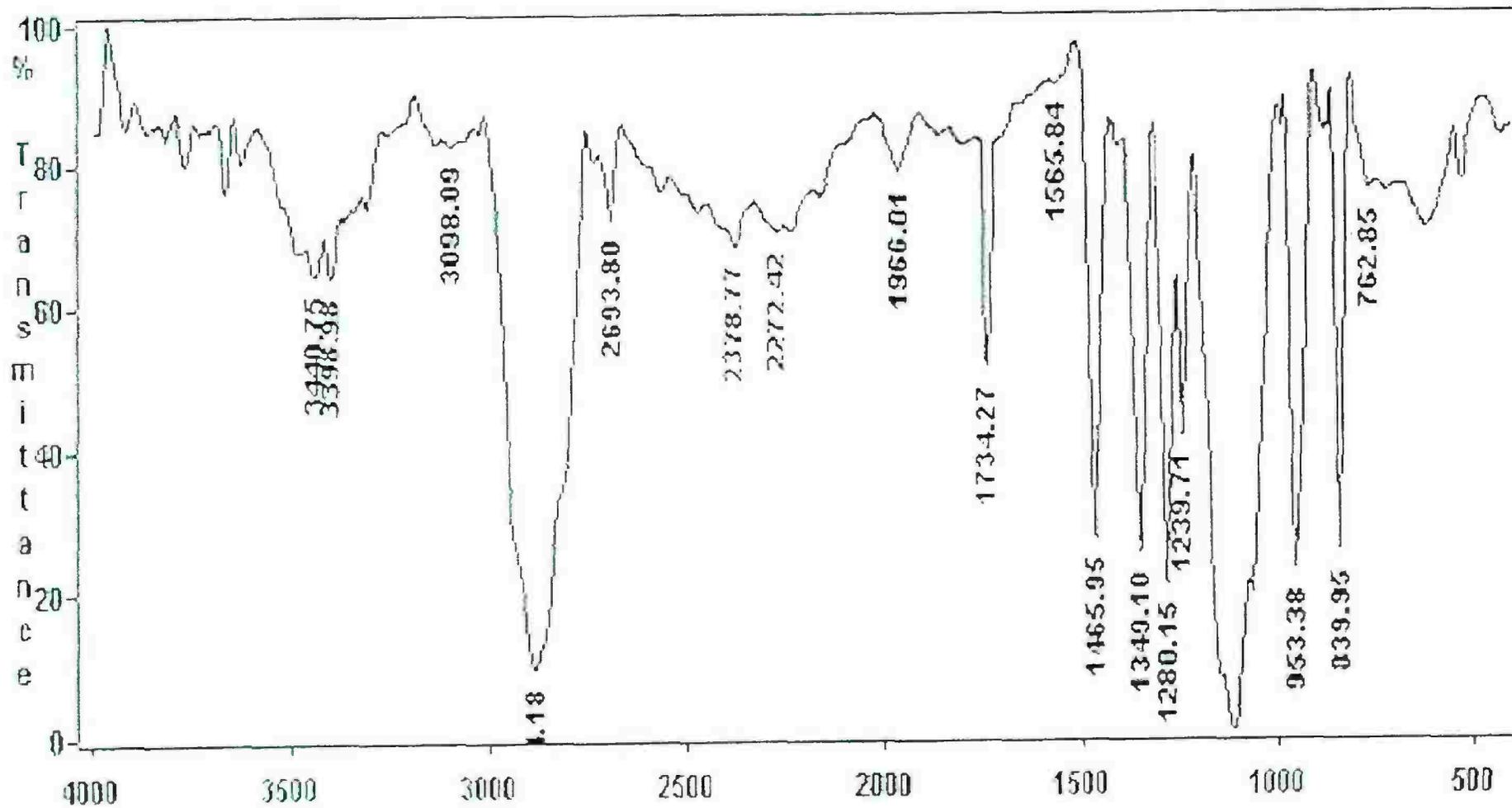


Fig. (21): FT-IR spectrum of ethoxylated N,N,N,N-dodecyldimethylammonium bromide benzoic acid.

E(54)

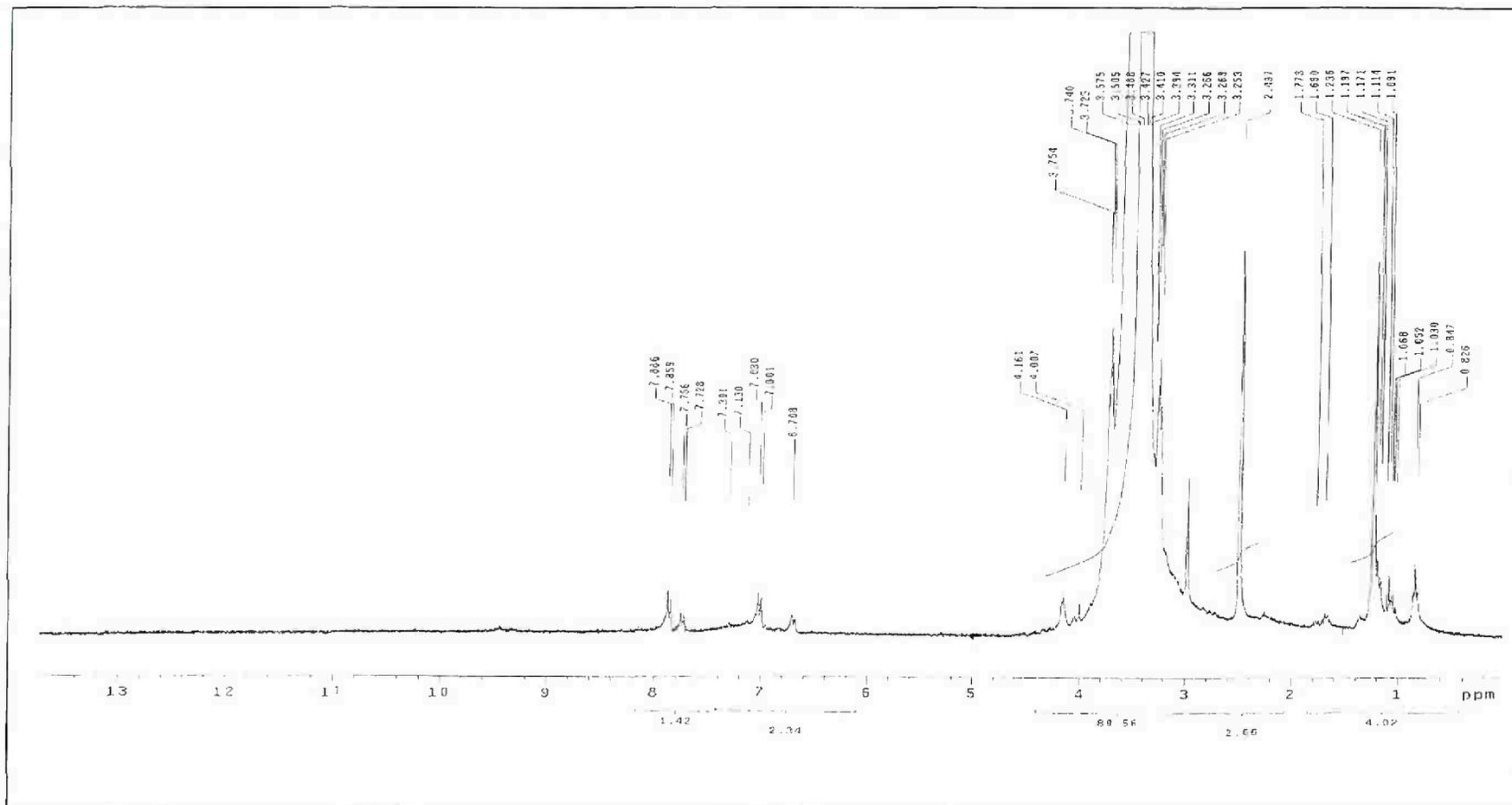


Fig. (22):  $^1\text{H}$ NMR spectrum of ethoxylated N,N,N,N-dodecyldimethylammonium benzoic acid.

E(54)