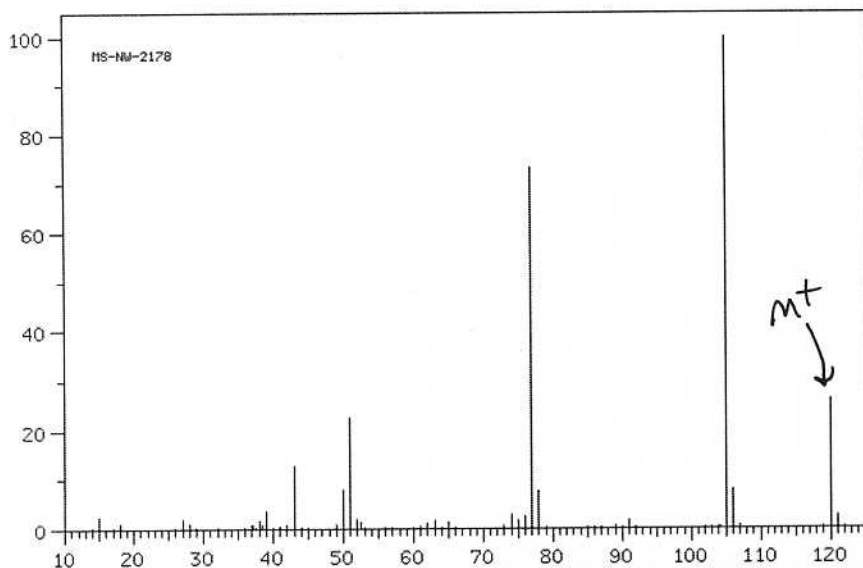
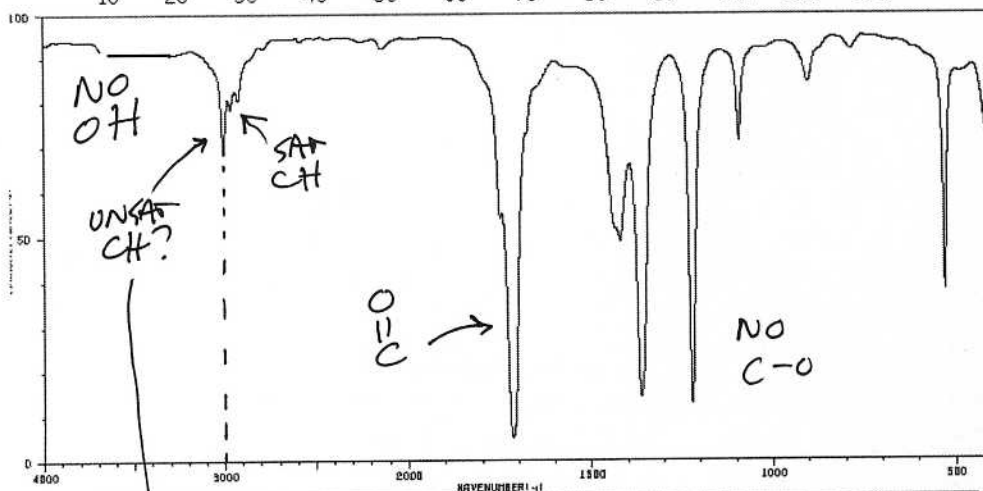


# Spectroscopy Problem 14



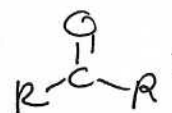
MASS = 120  
NO HALOGENS

$$\frac{120}{14} = 9 \text{ HEAVY ATOMS}$$

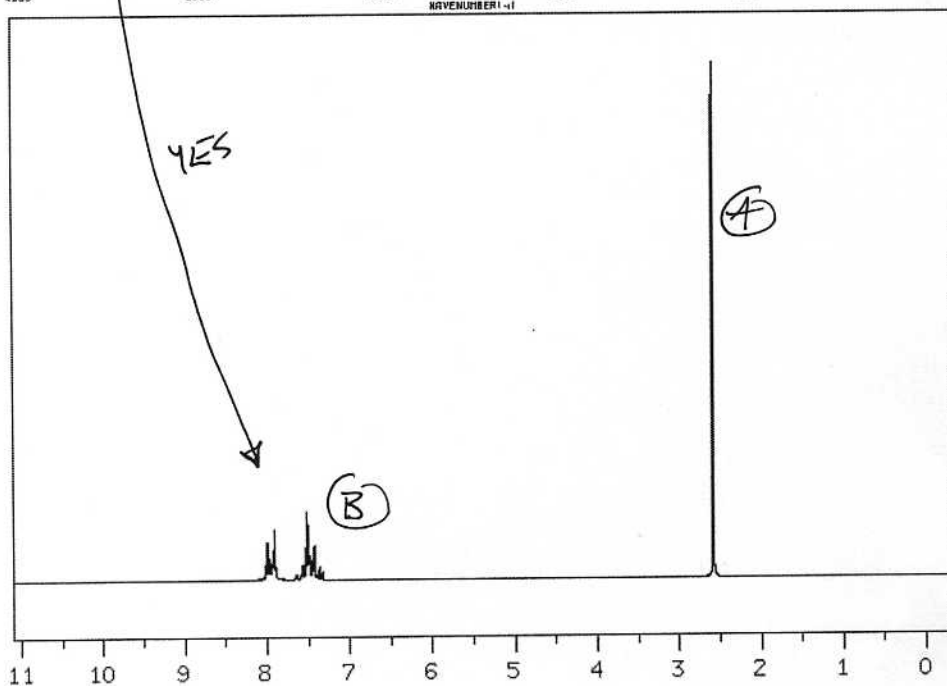


∴ KETONE OR ALDEHYDE  
- NO  $\text{C}-\text{H}$  IN NMR

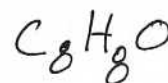
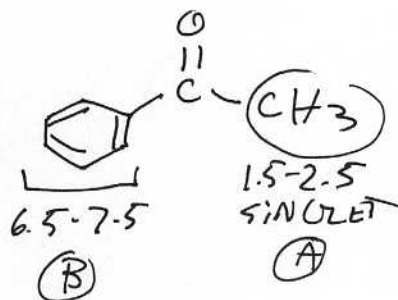
KETONE!



PLUS NMR INDICATES  
BENZENE RING



9 HEAVY ATOMS - 6 (FOR  
BENZENE) - 2 (FOR  $\overset{\text{O}}{\parallel}{\text{C}}$ )  
= 1 ADDITIONAL C



MW = 120 ✓