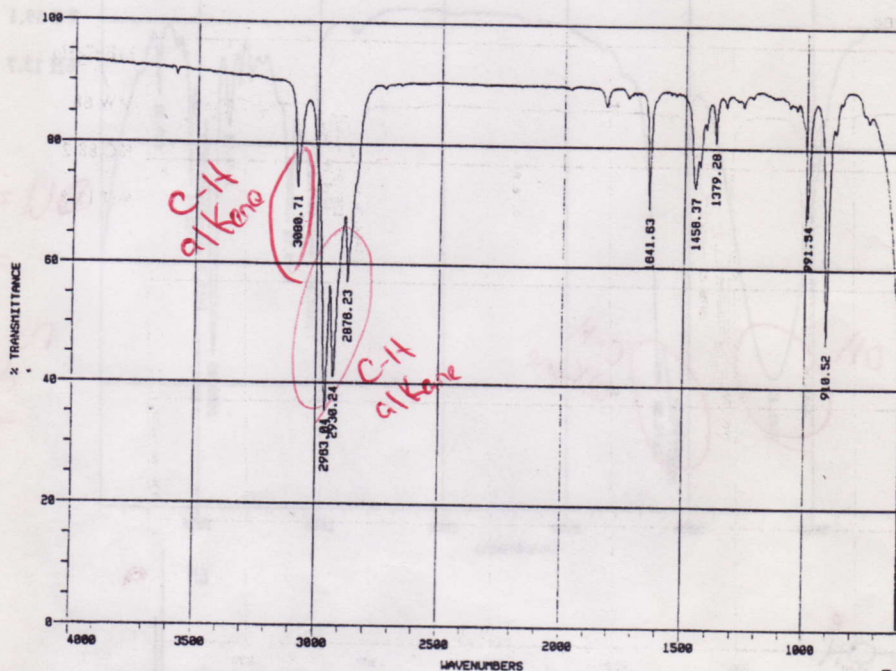


1. Provide and justify a structure for a compound consistent with the following spectral data.



MF C₅H₁₀

MW 70

%C 85.6

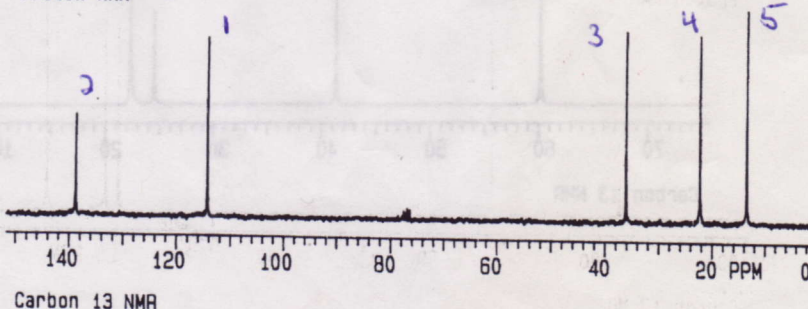
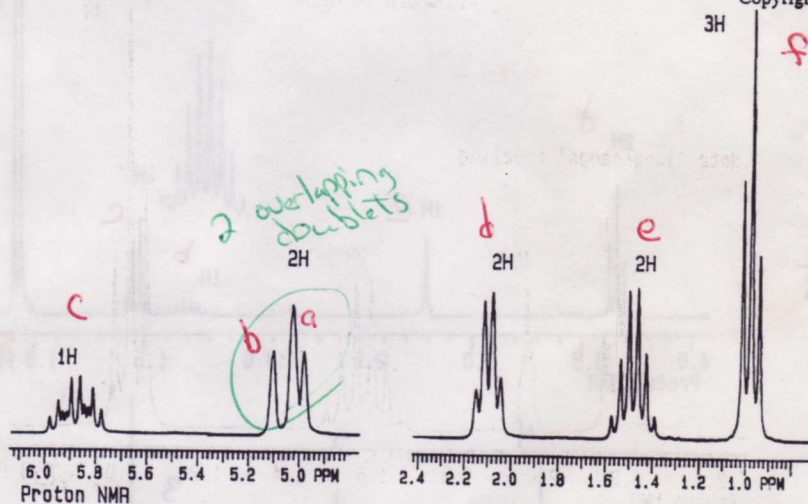
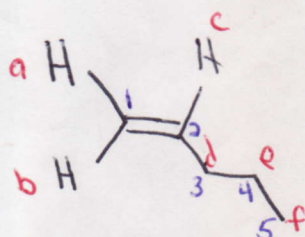
%H 14.4

degrees of unsat.

$$= 5 - \frac{10}{2} + 1$$

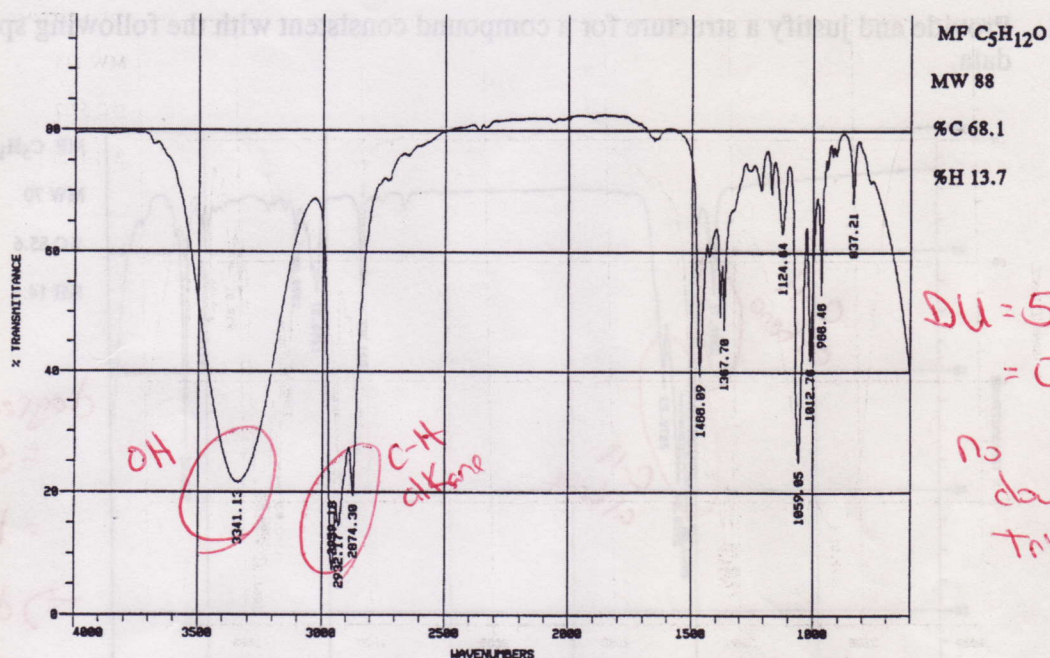
$$= 1$$

⇒ double bond
or ring



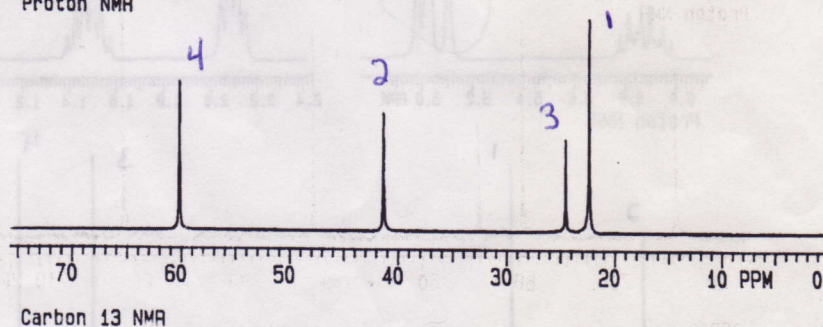
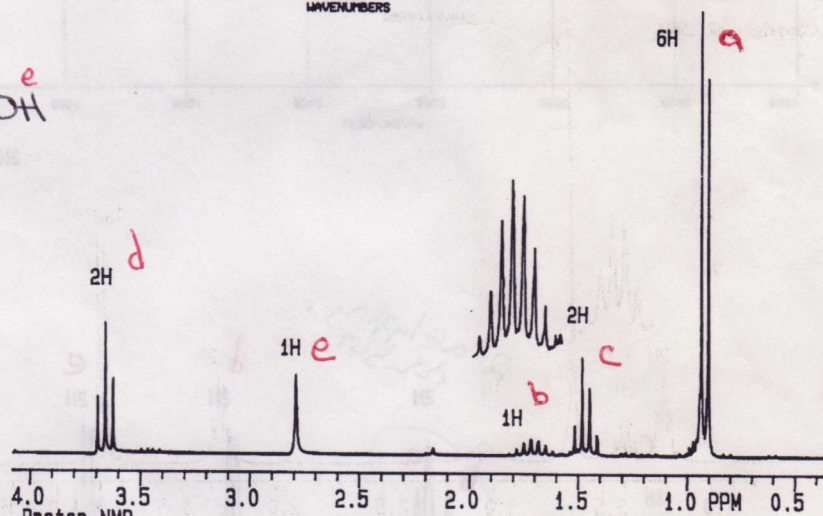
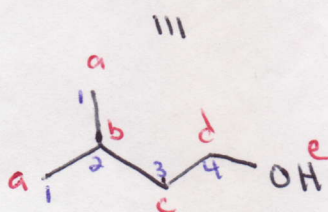
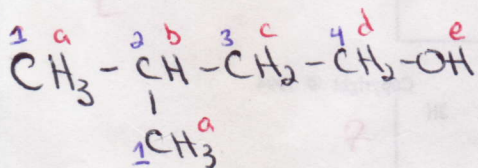
5 carbons ⇒
no symmetry

2. Provide and justify a structure for a compound consistent with the following spectral data.



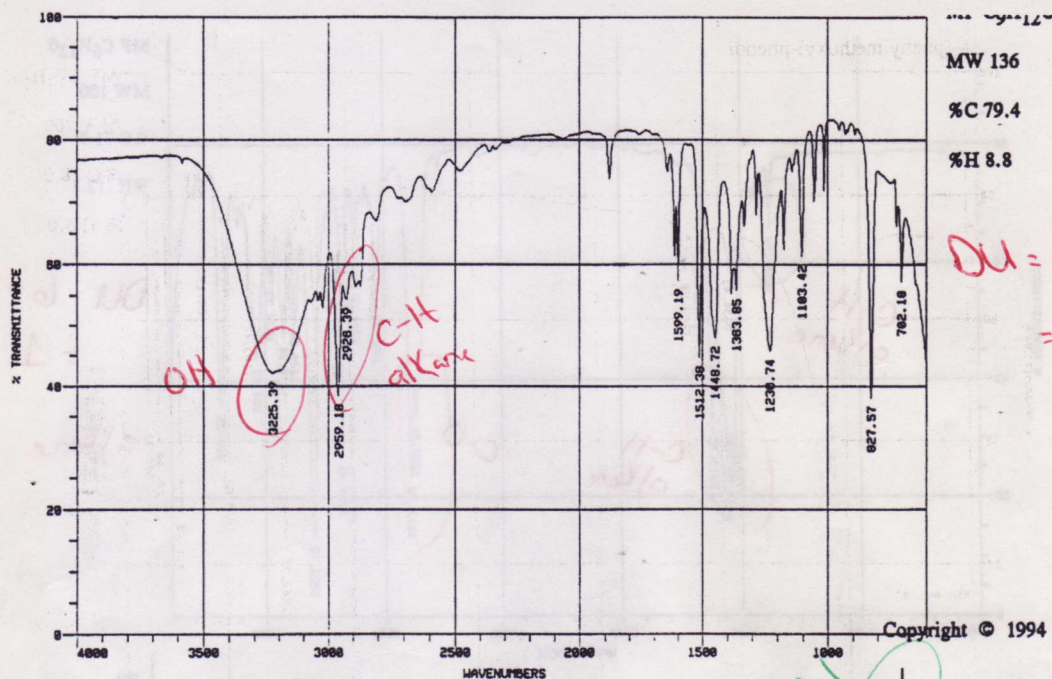
$$DU = 5 - \frac{12}{2} + 1 = 0$$

No rings,
double bonds,
triple bonds

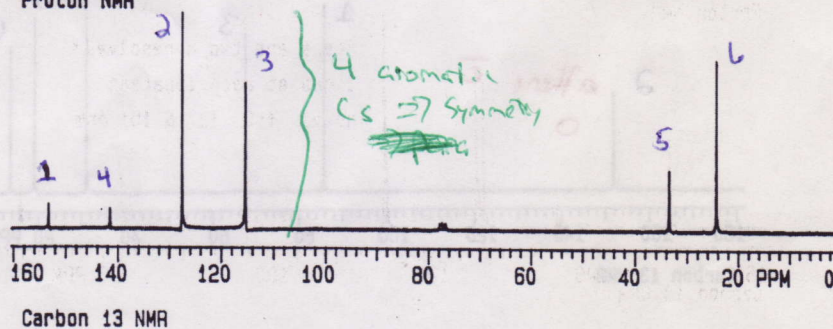
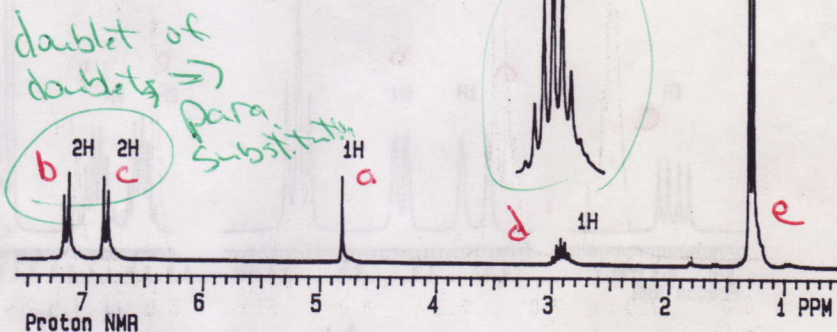
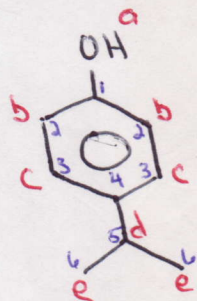


4 different
carbons
 $\Rightarrow$ some
symmetry

3. Provide and justify a structure for a compound with MF $C_9H_{12}O$ consistent with the following spectral data.

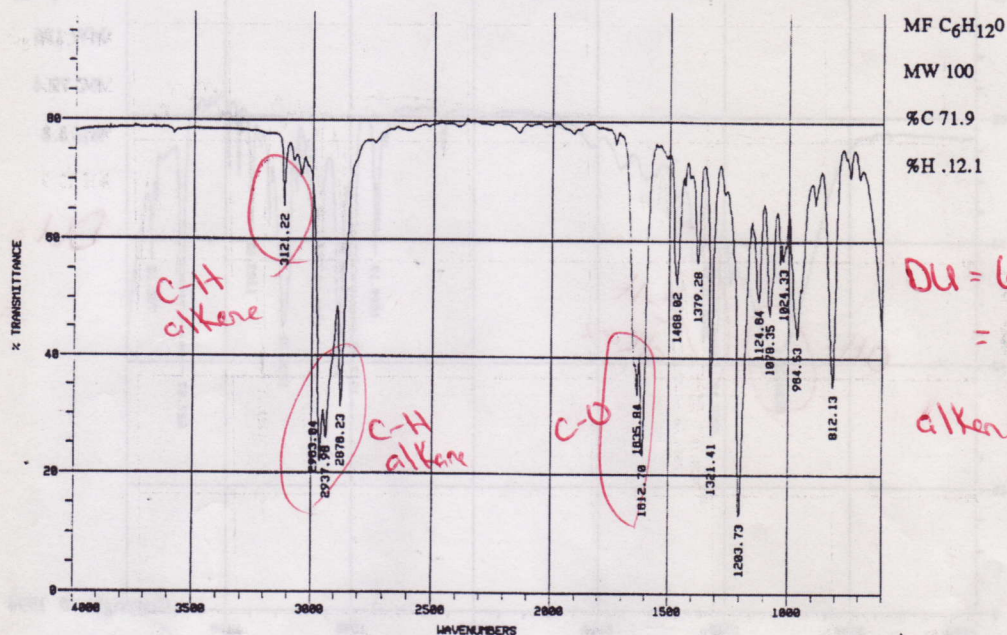


$$DU = 9 - \frac{12}{2} + 1 = 4$$



6 different carbons $\Rightarrow$ symmetry

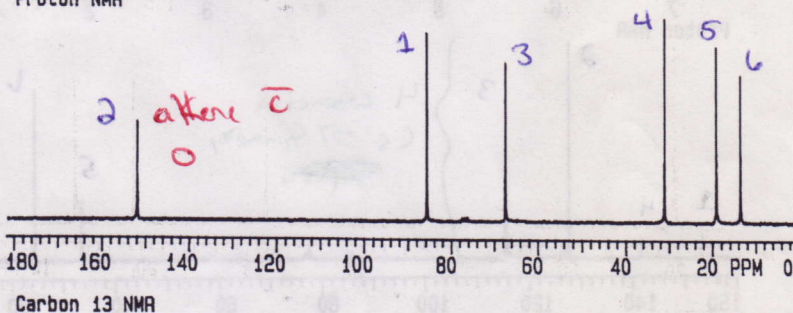
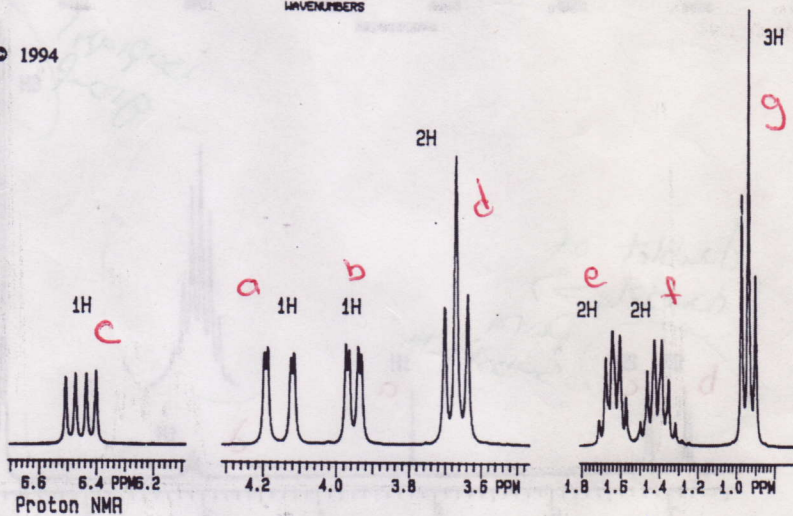
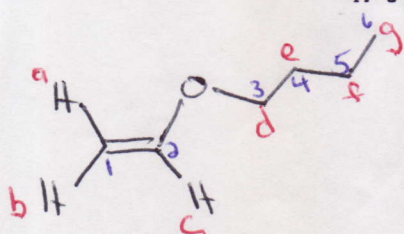
4. Provide and justify a structure for a compound consistent with the following spectral data.



$$DU = 6 - \frac{12}{2} + 1 = 1$$

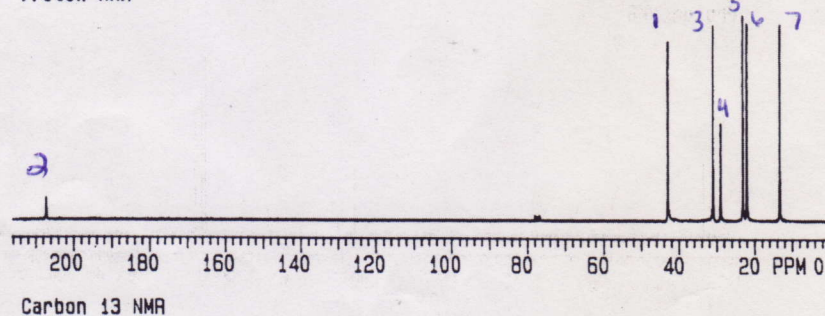
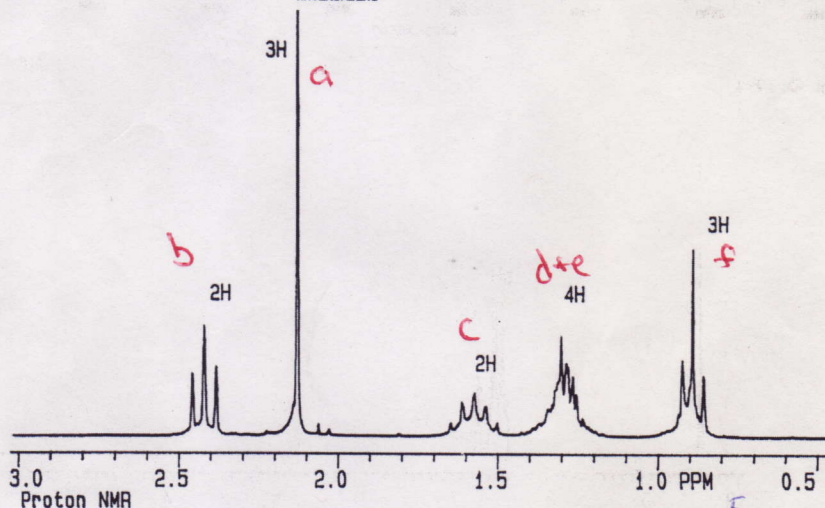
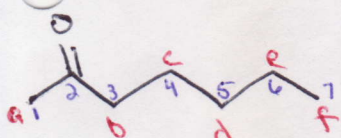
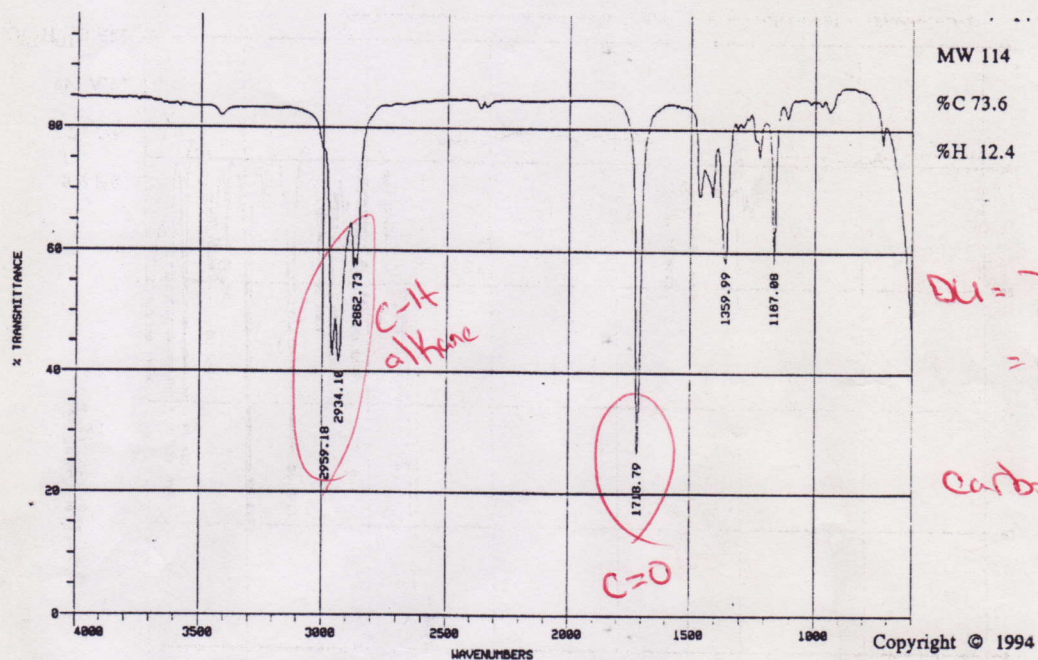
alkene or ring

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All 6 carbons are different

5. Provide and justify a structure for a compound with MF $C_7H_{14}O$ consistent with the following spectral data.



All 7 carbons are different