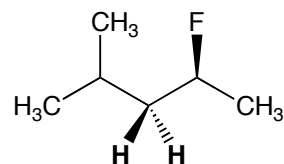
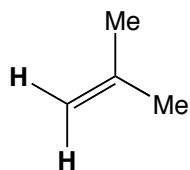
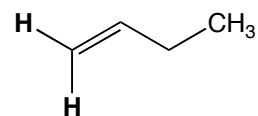


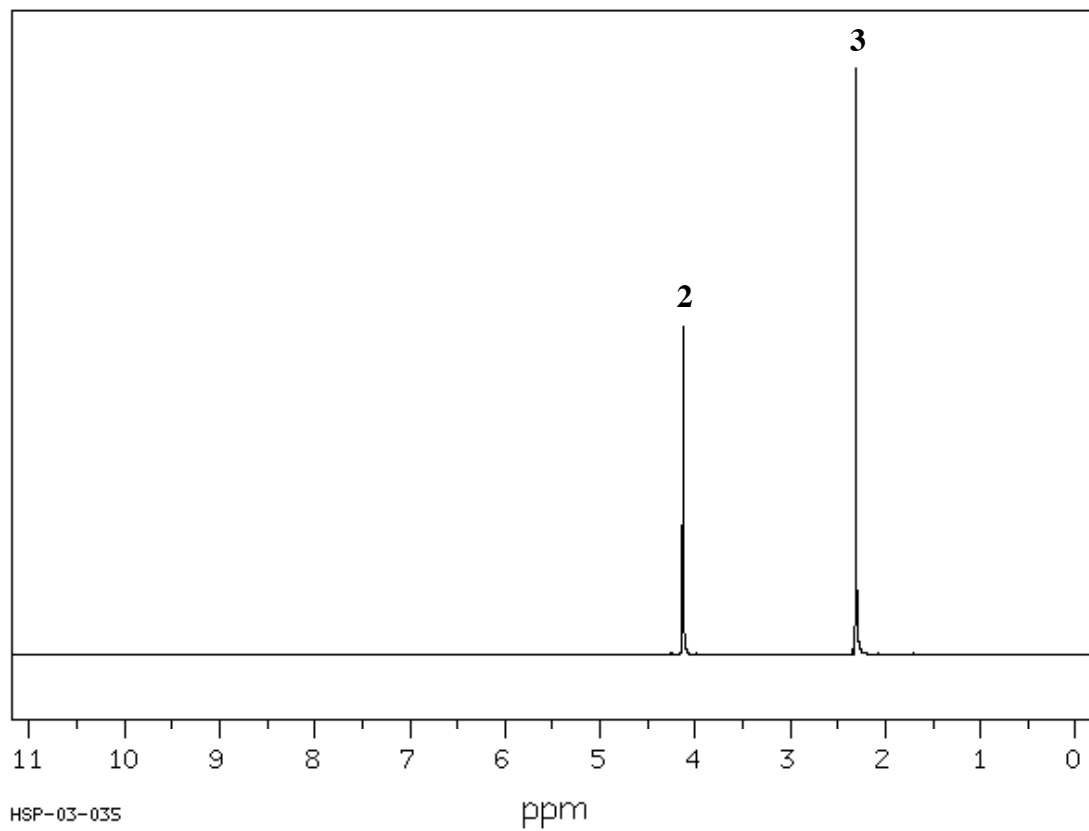
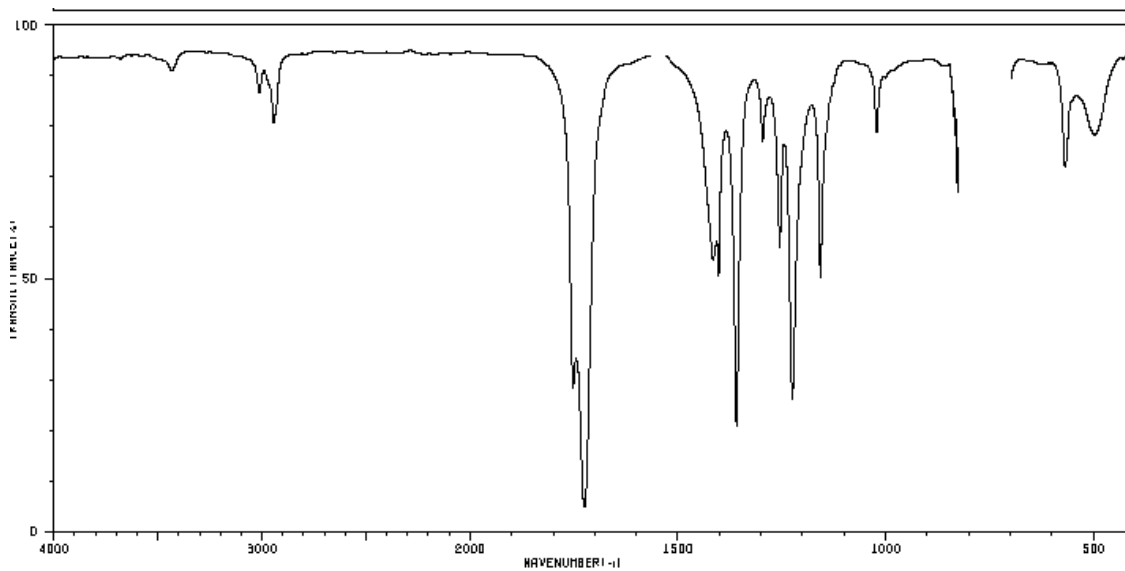
## Problem Set 9b

Question 1. Label the indicated hydrogen atoms as homotopic, enantiotopic, or diastereotopic.

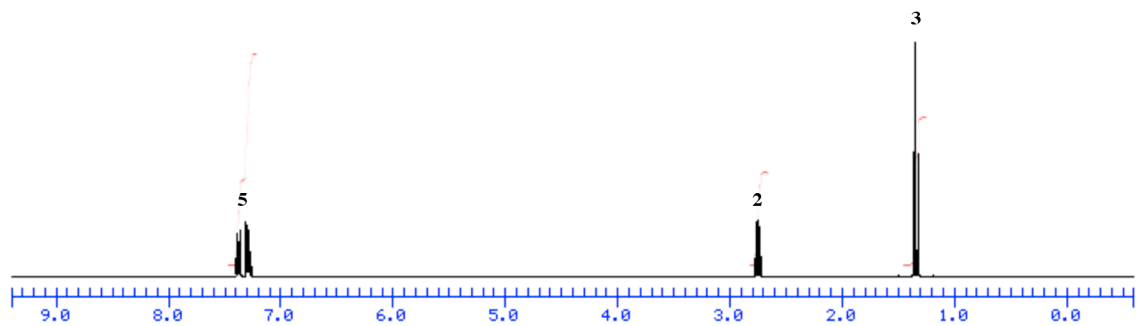
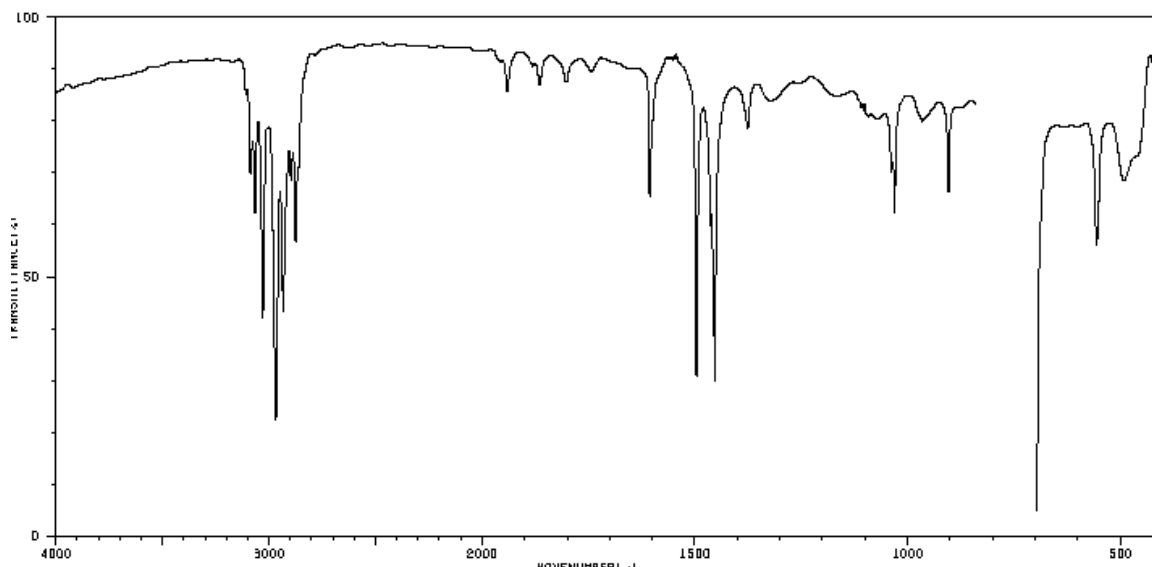


For each of the following, provide a molecule that is consistent with the given spectral data (the numbers in bold are integration ratios).

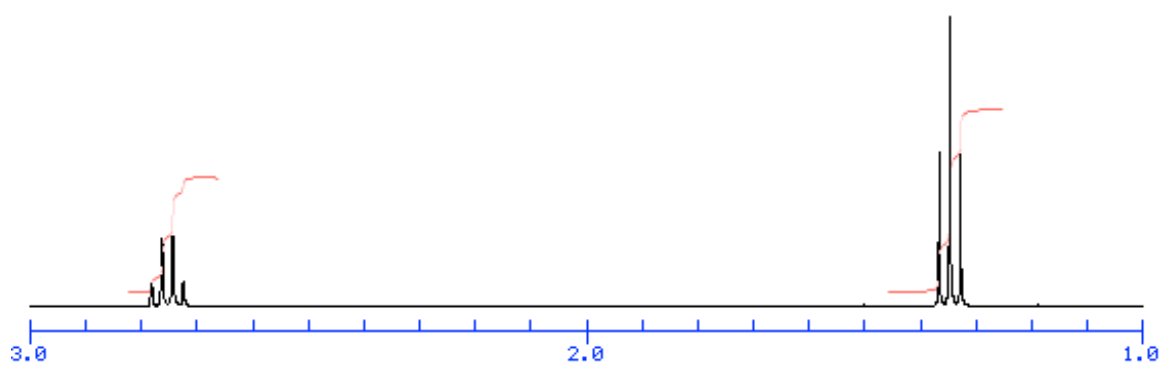
2. Molecular formula:  $C_3H_5ClO$ :



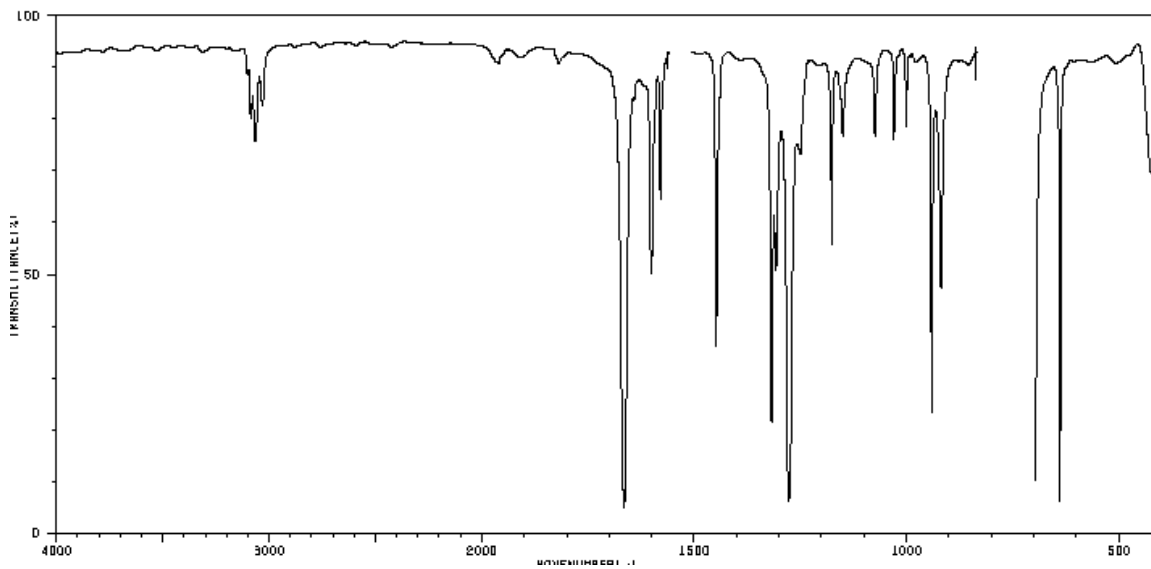
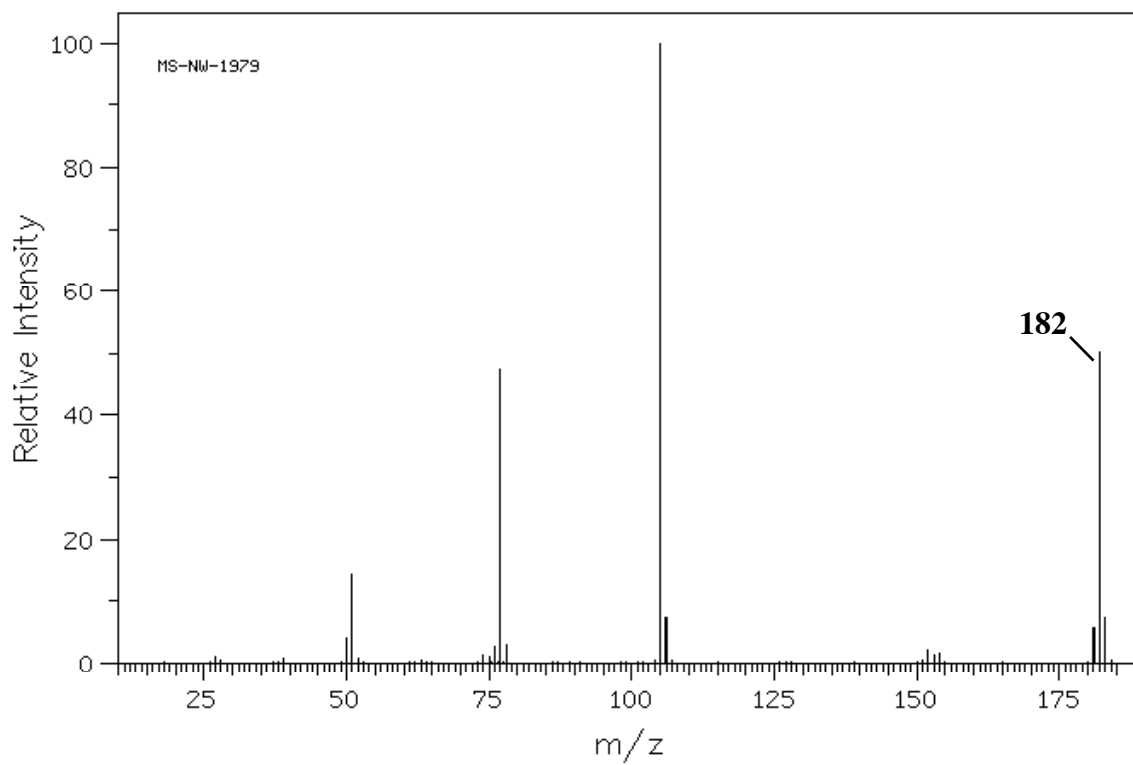
3. Molecular formula:  $C_8H_{10}$ :

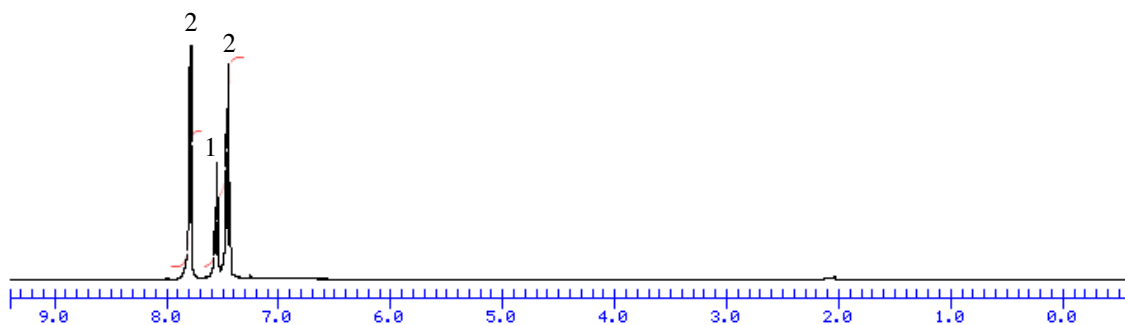


Enlarged 3.0-1.0 ppm region:

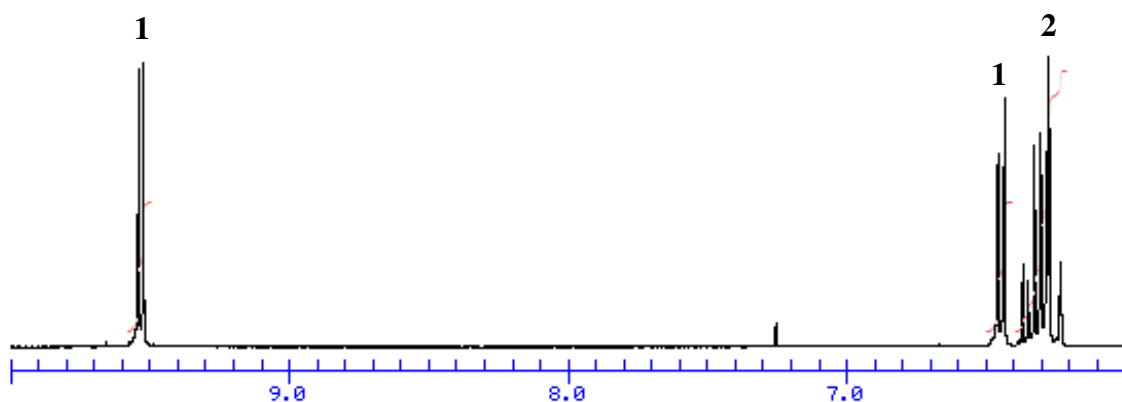
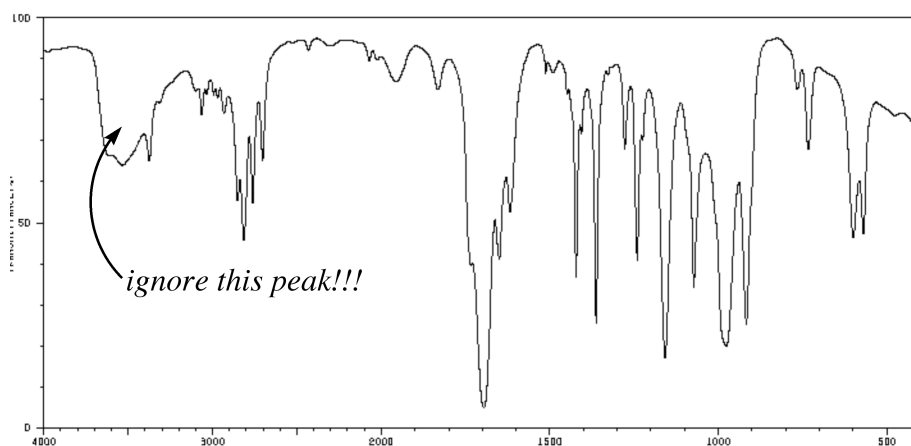


4.



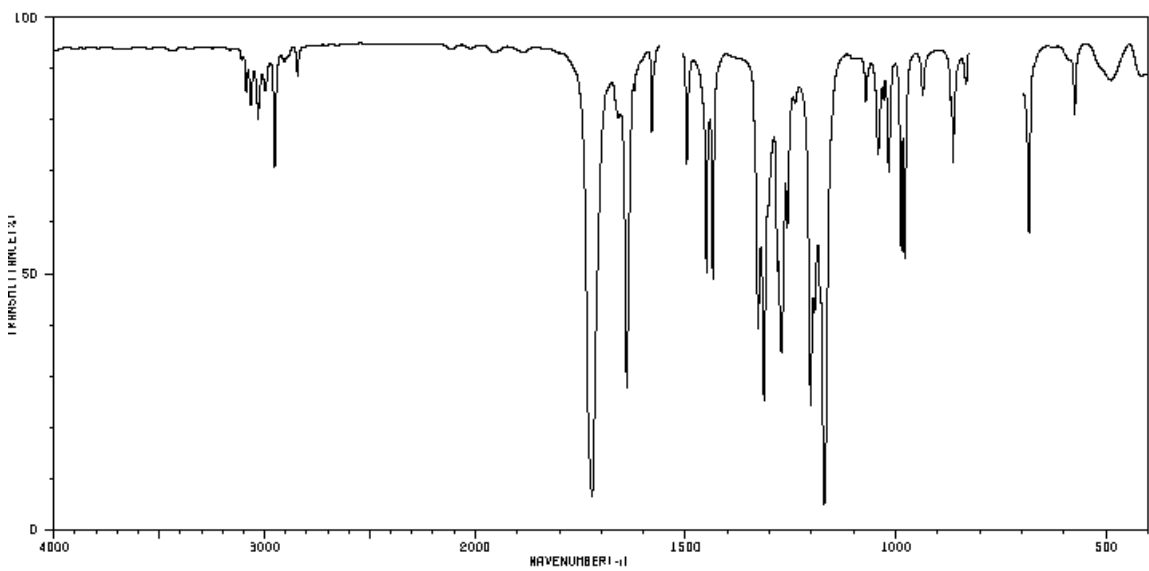
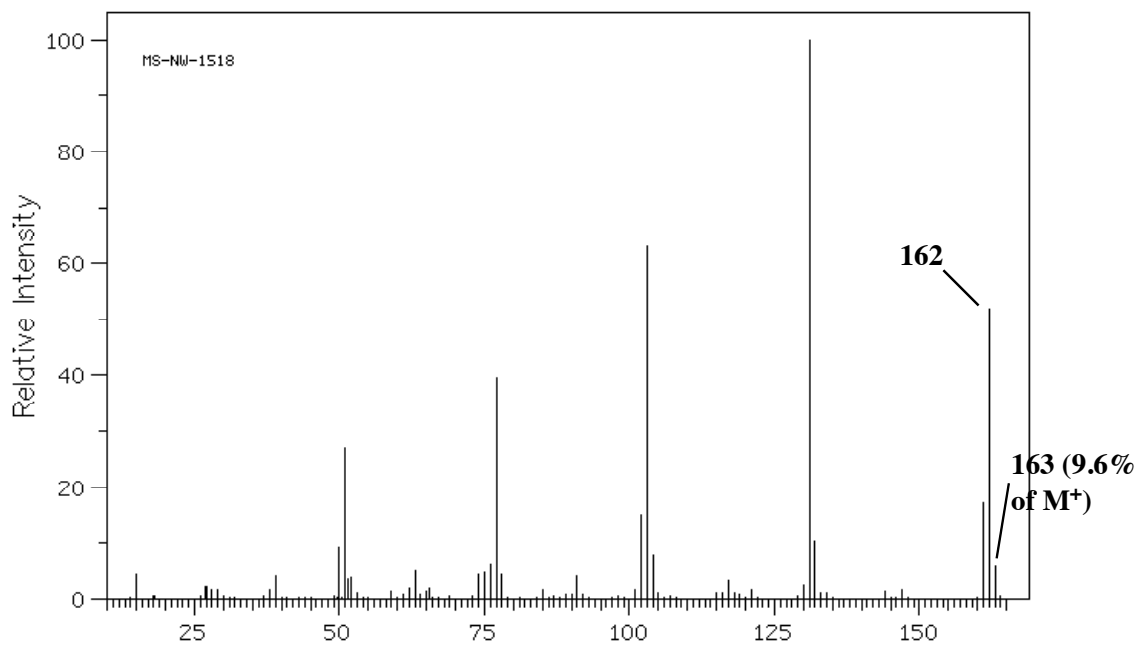


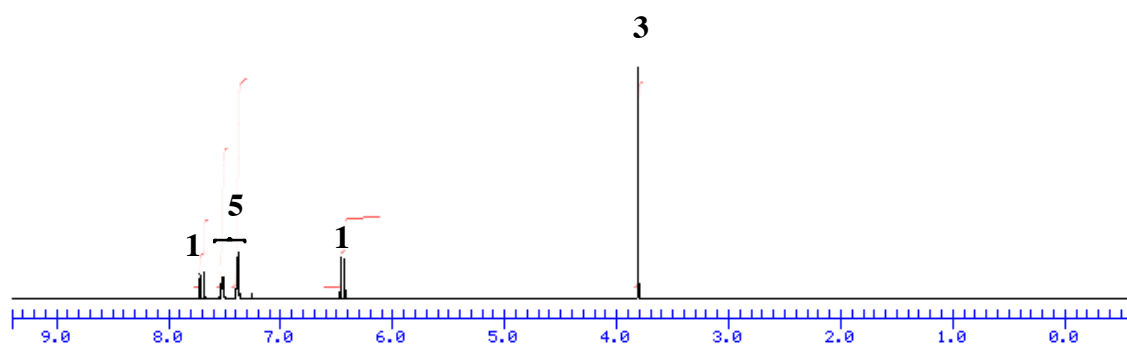
5. Molecular formula:  $C_3H_4O$ :



(Note: ignore the small peak at  $\delta$  7.26 [it's the solvent,  $CHCl_3$ ], and there are no other signals in the NMR other than those shown above.)

6.





Enlarged region:

