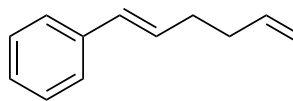
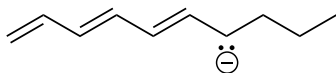
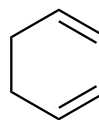
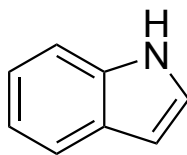
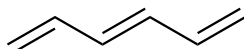
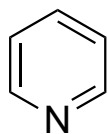


Chapter 14 HW – Conjugation and Aromaticity – Resonance City!

1. How many **pi electrons** in the *longest conjugated pi system* in each molecule? Write your answer (number) in the box provided.

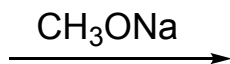
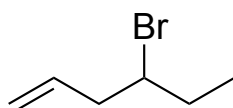


2. **Circle each compound that is aromatic.** Draw an X over the compounds that are NOT aromatic.

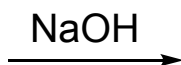
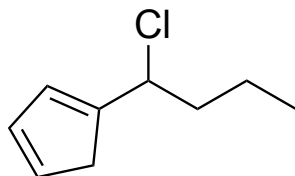


3. Draw the **major product** in each **elimination** reaction below. Ignore potential substitution products.

(a)



(b)

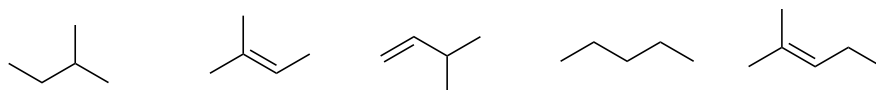


CHEM 8B Chapter 15 Homework – Mass Spectrometry (MS)

A compound's mass spectrum includes an " M^+ peak" that reveals the molecular weight of the compound!

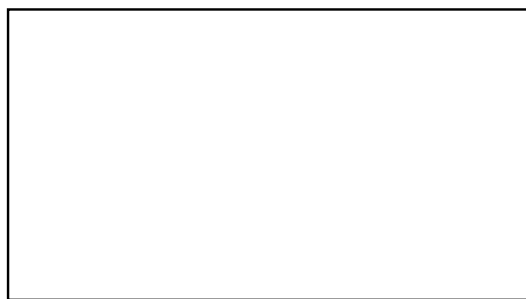
1. A hydrocarbon has 5 carbons and mass spectrum reveals an M^+ peak = 72.

- What is its molecular formula? _____
- Which TWO structures fit this data?



2. Propose the molecular formula and TWO structures of molecules with 6 carbons, 1 oxygen, and mass spectrum M^+ peak = 102.

- Molecular formula: _____
- Propose TWO structures that fit this data.



3. An organic compound has 3 carbons and mass spectrum M^+ peak = 59

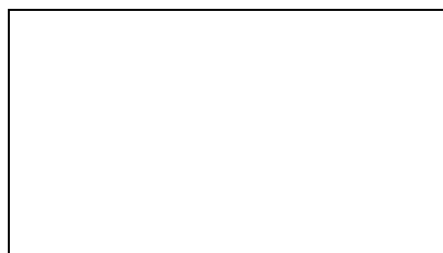
- What is its molecular formula? _____
- Propose TWO structures that fit this data.



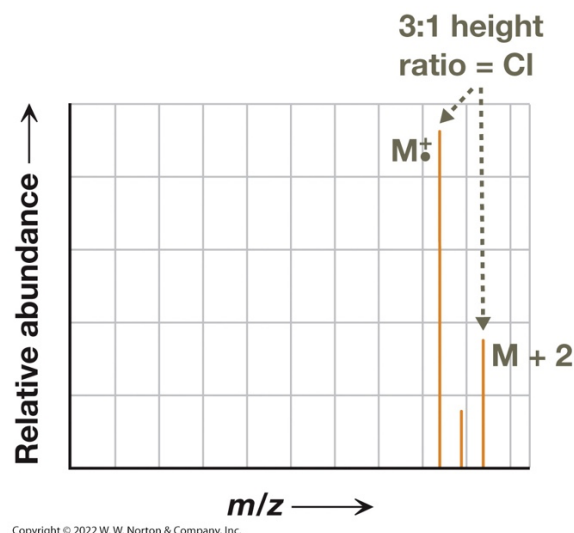
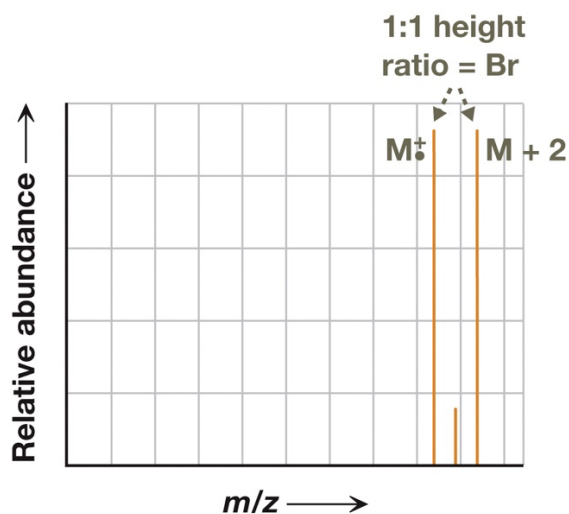
4. An organic compound has 6 carbons and mass spectrum M^+ peak = 99

a. What is its molecular formula? _____

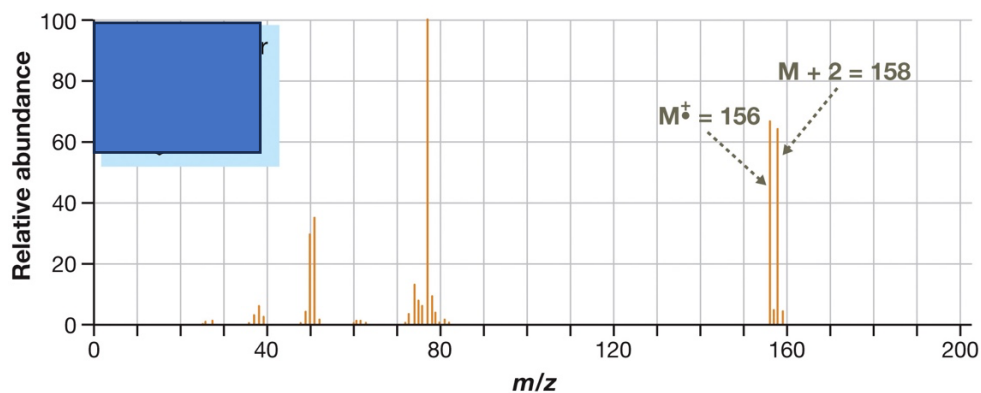
b. Propose TWO structures that fit this data.



5. Mass Spectrum Distinctive $M+2$ Peaks – Bromine and Chlorine Isotopes



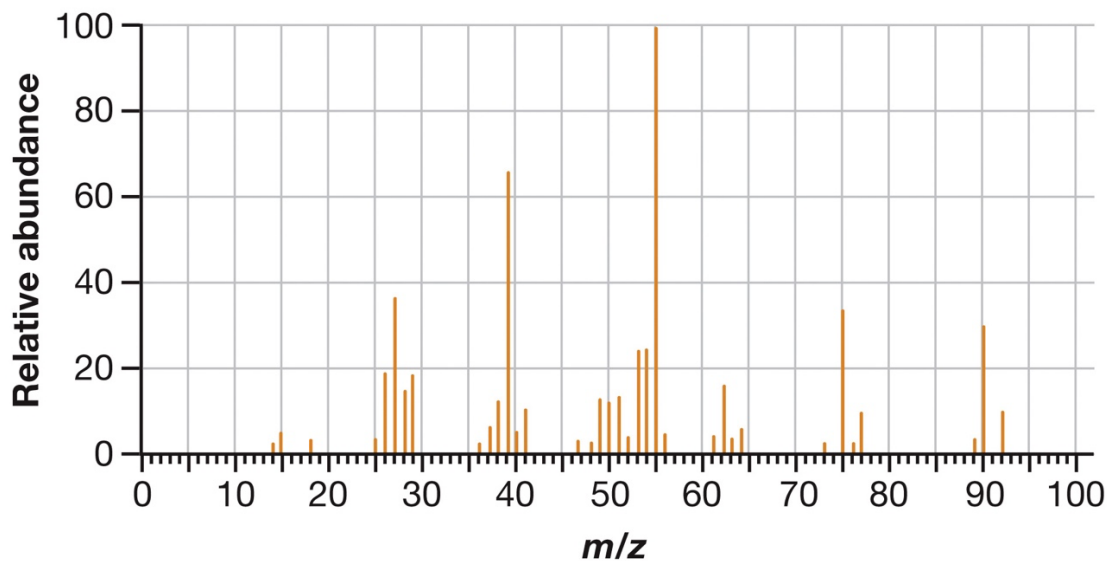
(a) **Propose a structure** for a molecule with **6 carbons** and the following mass spectrum.



Formula: _____



(b) **Propose the molecular formula and structure** for a molecule with **4 carbons** and the **mass spectrum** below. Note the peak intensities (height) of the **M⁺ peak = 92** and **M+2 peak = 94**.



Molecular Formula _____

Propose TWO structures that fit this data

