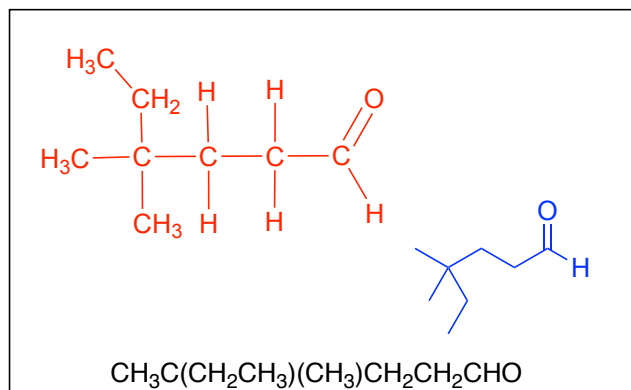
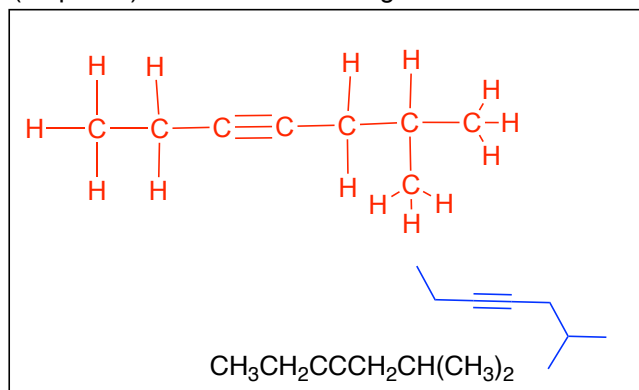
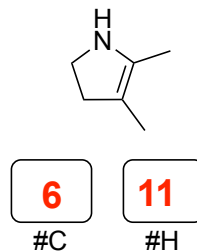
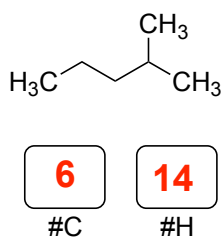
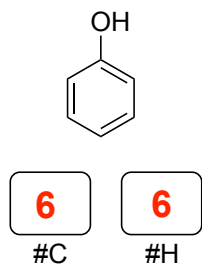


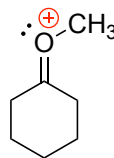
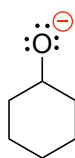
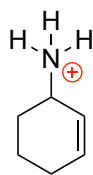
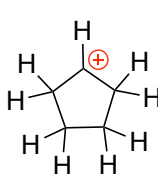
1. (10 points) Convert the following condensed structures into lewis structures or bond-line structures.



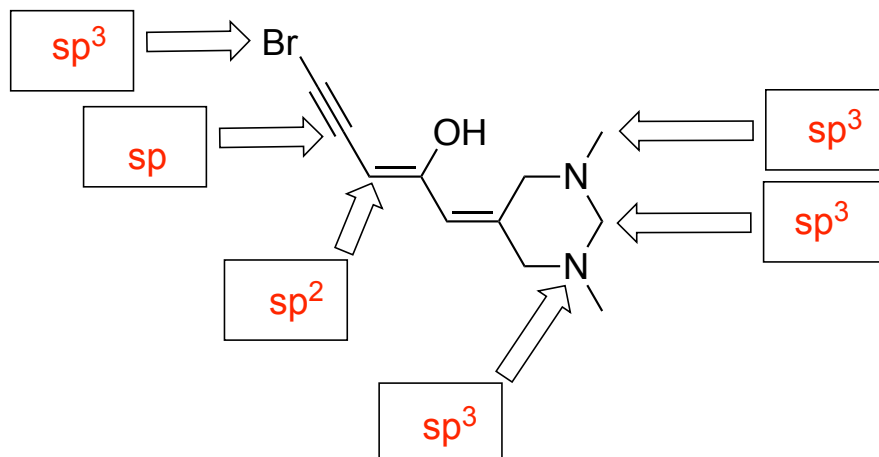
2. (6 points) Indicate the number of carbons and hydrogens in each of the structures below.



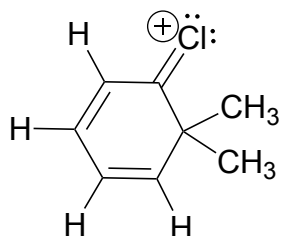
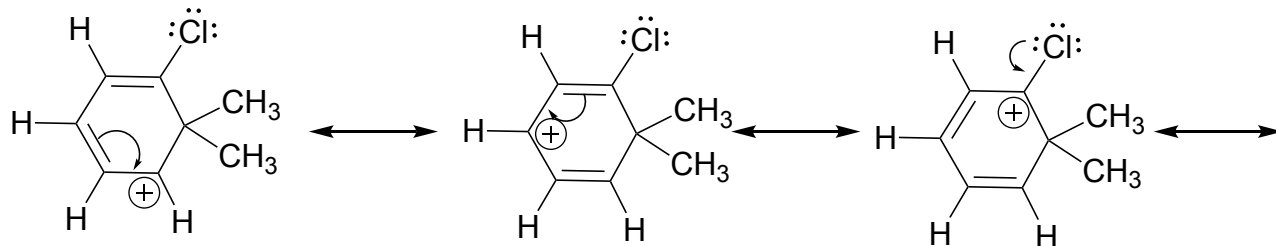
3. (4 points) Each of the following compounds is charged, indicate the charge on the specific atom that is charged (i.e. complete the incorrect structures). Note all lone pairs are drawn



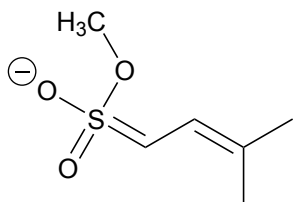
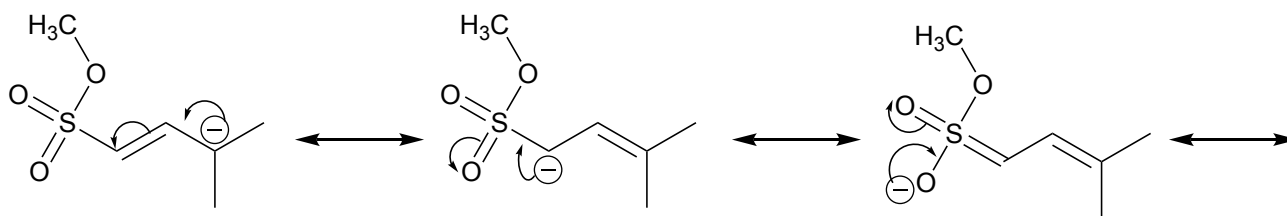
4. (6 points) For the indicated locations on the following compound, give the atom's hybridization.



5. (12 points) Complete the additional resonance structures for the following charged organic molecules. Show how **the charge can be distributed onto other atoms**. Be sure to include non-bonding electrons and charges. Partial drawings are provided for your convenience. Moving from left to right, use curly arrows to show the movement of electrons between resonance structures. You may not need to use all the templates.



Look closely at the arrows
Draw those first then draw
the result of the arrows



6. (11 points) Below is the structure of mirabegron, which had \$1.16 billion dollars in sales in 2024, give the names of the indicated functional groups. Be sure to indicate 1°, 2°, 3°, 4° where necessary

