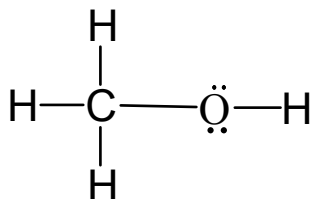
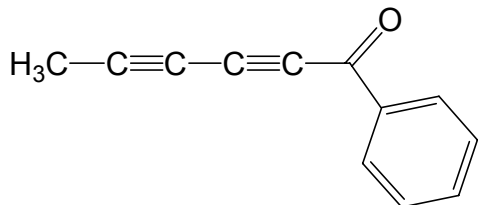


1. Draw Lewis structures for the following molecules.
E.g.,

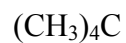


- (a) methylamine, H_3CNH_2
(b) acetamide, H_3CCONH_2
(c) methyl azide, H_3CN_3
2. Draw the principal resonance structures for:
- (a) acetamide
(b) methyl azide
(c) pentadienyl cation, $\text{CH}_2=\text{CH}-\text{CH}=\text{CH}-\text{CH}_2^+$
3. Identify the hybridization for the non-hydrogen atoms in:

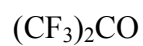
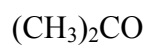
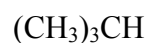
- (a) acetamide
(b) capillin (Wade, p. 370)



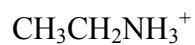
4. Order the following compounds by increasing boiling point.



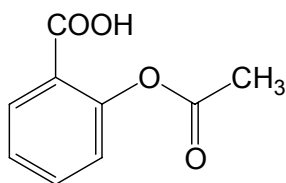
5. Order the following compounds by increasing dipole moment.



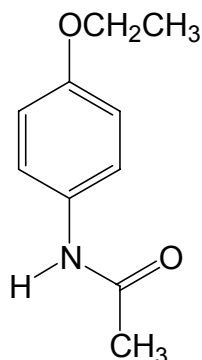
6. Order the following compounds by decreasing acidity (increasing pK_a).



7. Identify the functional groups that contain heteroatoms in:



aspirin



phenacetin