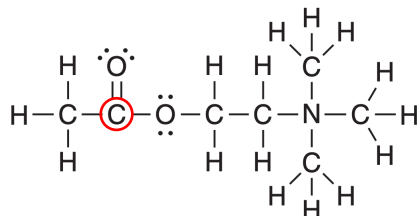


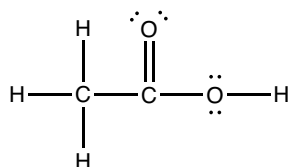
Quiz 1: Intro & Chem Principle Review

If you are having trouble paying attention during a long lecture, your levels of acetylcholine (a neurotransmitter) may be to blame.



Acetylcholine

1. Identify any formal charges in acetylcholine.
2. Identify any polar covalent bonds by drawing δ^+ and δ^- symbols in the appropriate locations.
3. Identify the hybridization state for the circled carbon atom.
4. What kind of intermolecular forces you predicted between acetylcholine molecules?
5. Acetylcholine can be hydrolyzed. One of the products is showing below:



- a) Is this compound a Brønsted-Lowry acid or base?
- b) Draw the conjugate acid / base for this compound.
- c) This compound can be burned. The products are CO_2 and H_2O . Identify the sign of ΔH , ΔS , and ΔG .