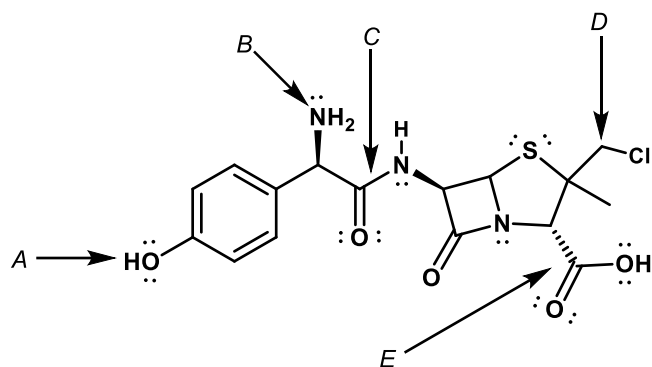
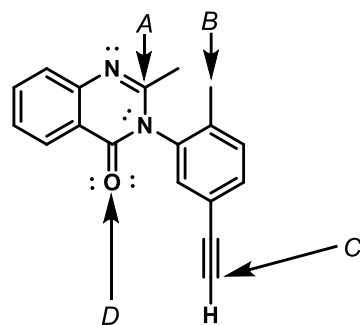


1. The molecule below is a derivative of amoxicillin. Identify the functional groups indicated by the letters and arrows.



- A alcohol
- B amine
- C amide
- D alkyl halide
- E carboxylic acid

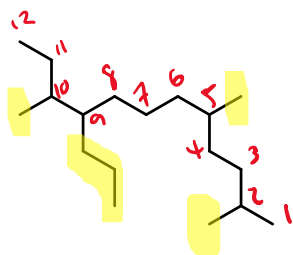
2. For each of the selected atoms below, provide the hybridization and expected electron geometry.



Methaqualone (Quaalude)

	Hybridization	Geometry
A	sp^2	trig. planar
B	sp^3	tetrahedral
C	sp	linear
D	sp^2	trig. planar

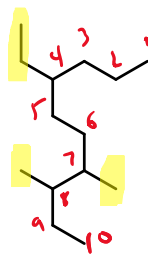
3. For the hydrocarbons given below, circle the **parent chain** and give the appropriate name for that chain. Then, give the names of each substituent attached to the parent chain.



Parent chain:

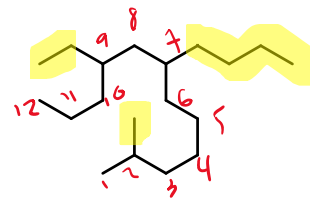
dodecane

trimethyl
propyl



decane

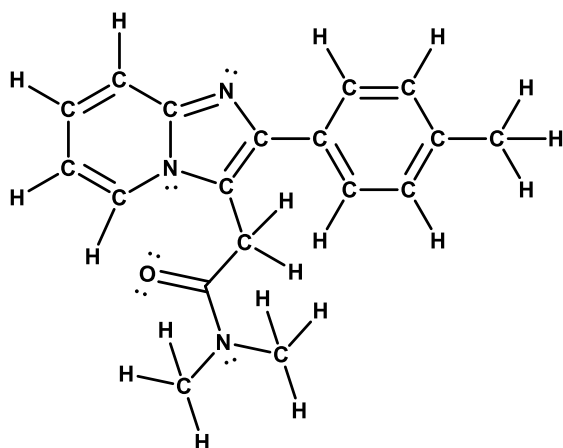
ethyl
dimethyl



dodecane

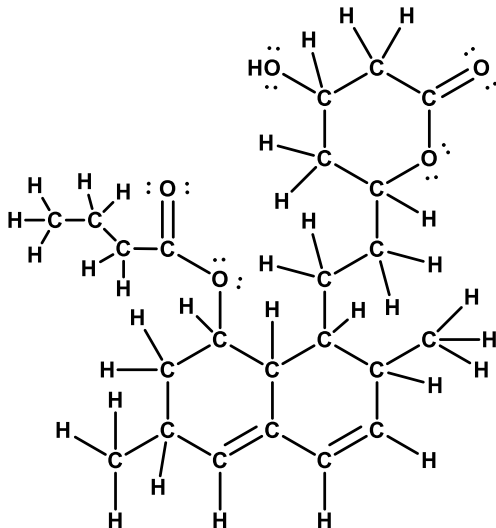
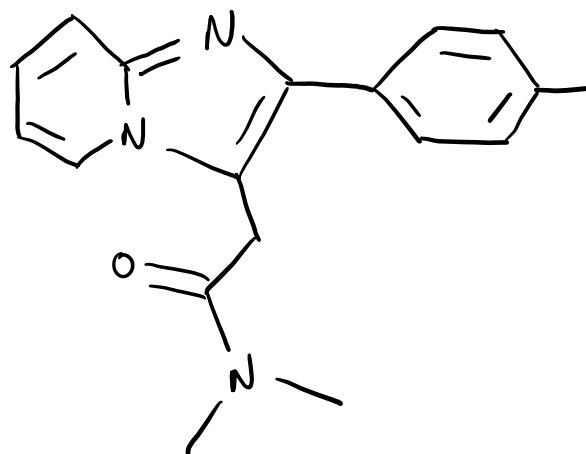
ethyl
methyl
butyl

3. Below are two of the most common drug molecules on the market: Ambien (insomnia) and Simvastatin (high cholesterol). Large, complex molecules such as these are not easy to write in Lewis structure format. Translate the following molecules into the correct bond line formula. **Ok if you showed lone pairs!**



Zolpidem (Ambien)

Bond-line Structure



Simvastatin

Bond-line Structure

