

Today

Finish Day 2

Sections 1.4, 1.6

Different ways of representing molecules

An introduction to Molecular Orbital (MO)  
Theory

Next Class

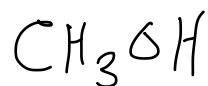
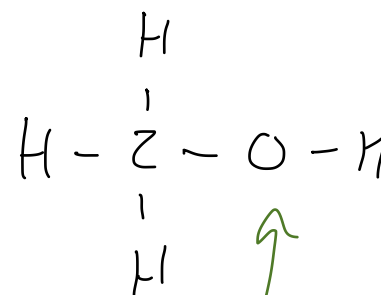
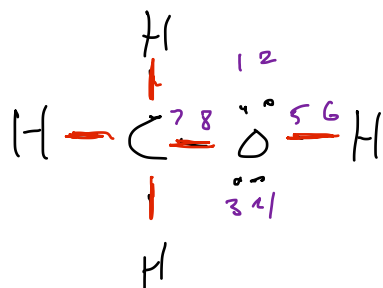
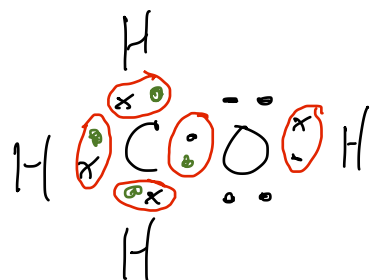
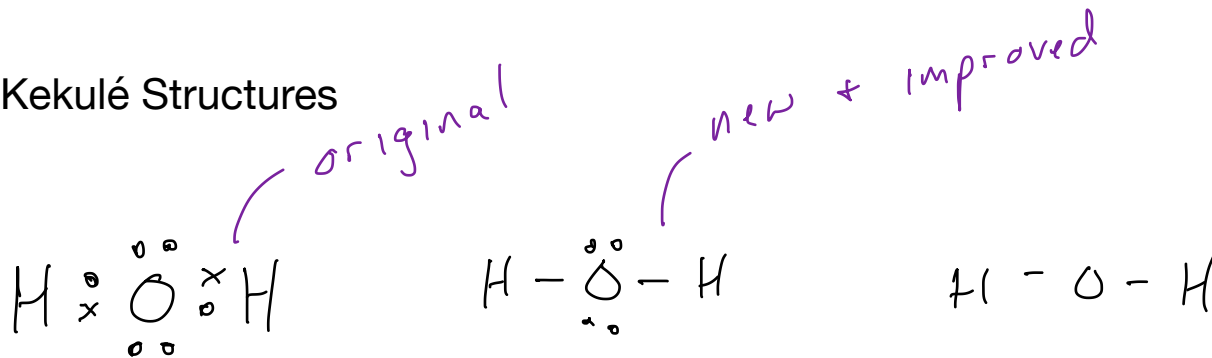
Sections 1.6 1.7-1.15

An Introduction to MO Theory

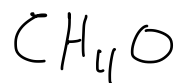
Valence Bond Theory

homework due dates will be extended by two days.

<https://www.westfield.ma.edu/cmaj>



or



Lewis

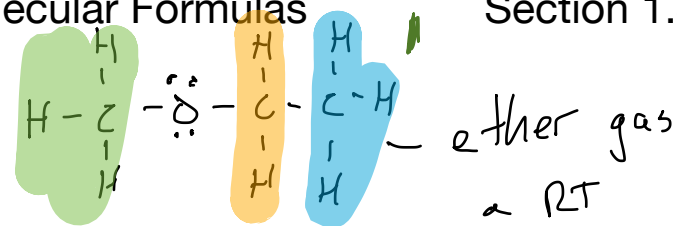
there are lone pair  
e<sup>-</sup> here... I just  
didn't want to draw  
them

Kekulé

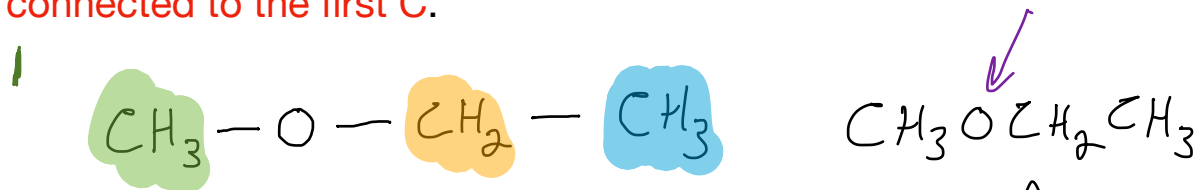
Remember the basics of Lewis Structure (we will practice drawing them as a lab activity)

a formula that contains structural information (Condensed Structures & Structural Formulas) as compared to Molecular Formulas just the ratios of atoms Section 1.4

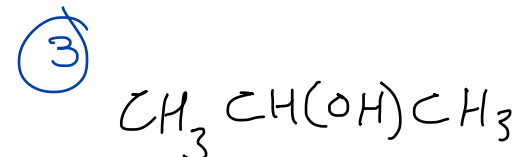
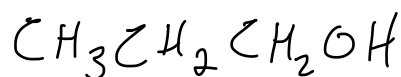
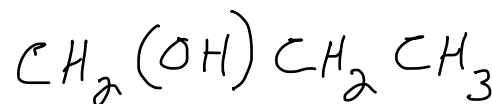
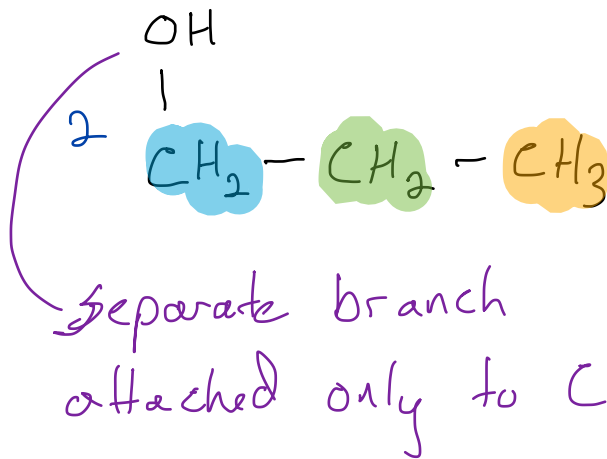
$C_3H_8O$  is a molecular formula



In organic, condensed structures typically start with a C, and everything immediately to the right of the C is connected to that first C. When the first C is finally connected to the second C, now that atoms right of the second C are connected to second C. In acyclic, molecules **atoms to the right of the second C are never connected to the first C.**

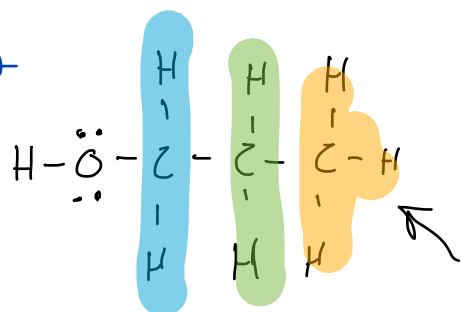


Parentheses ( ) in structures are typically used for two purposes: to **set off side chains** or to indicate a **repeating unit**.

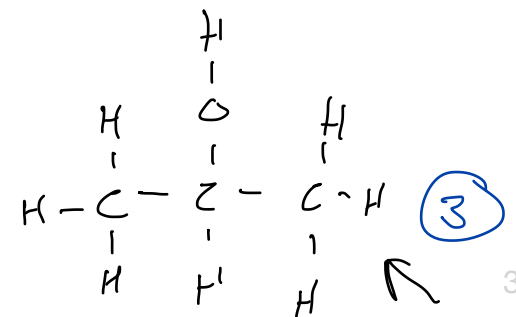


4 bonds to C

Because bonds are not drawn, condensed structures require the reader to bring some chemical knowledge to their interpretation.

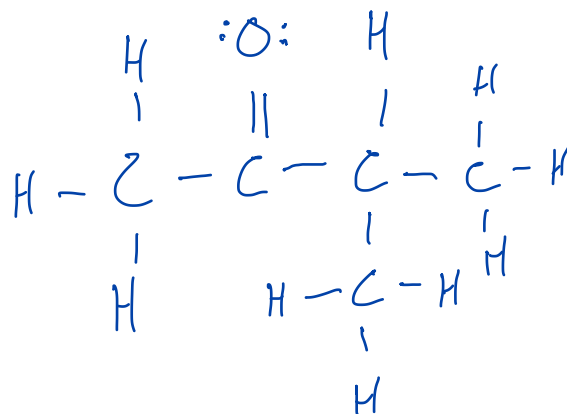
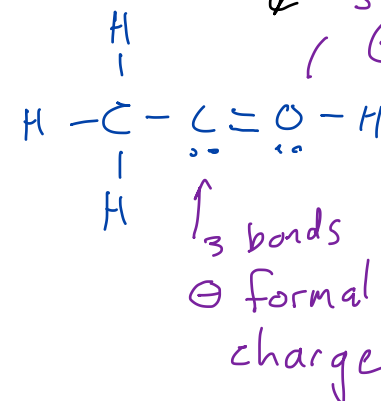
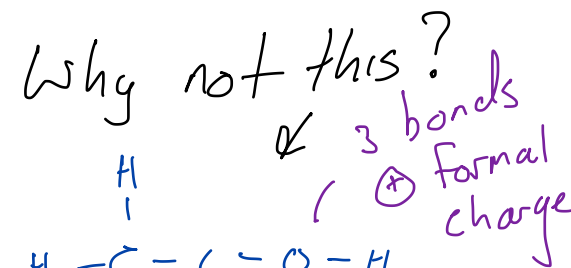
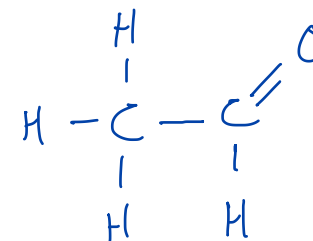
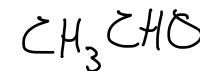
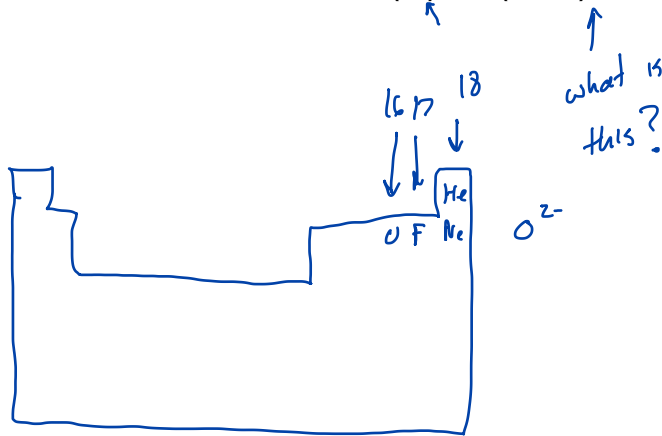
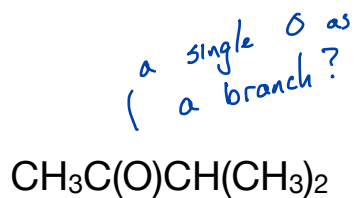
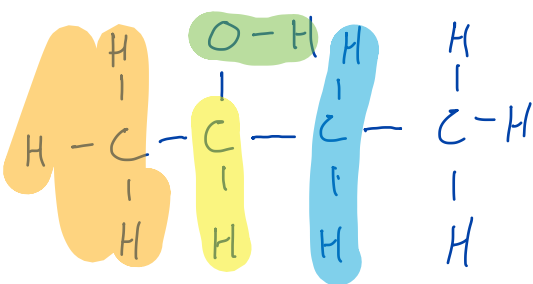
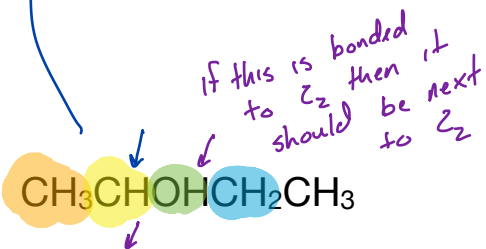


alcohol BP ~ 80°C



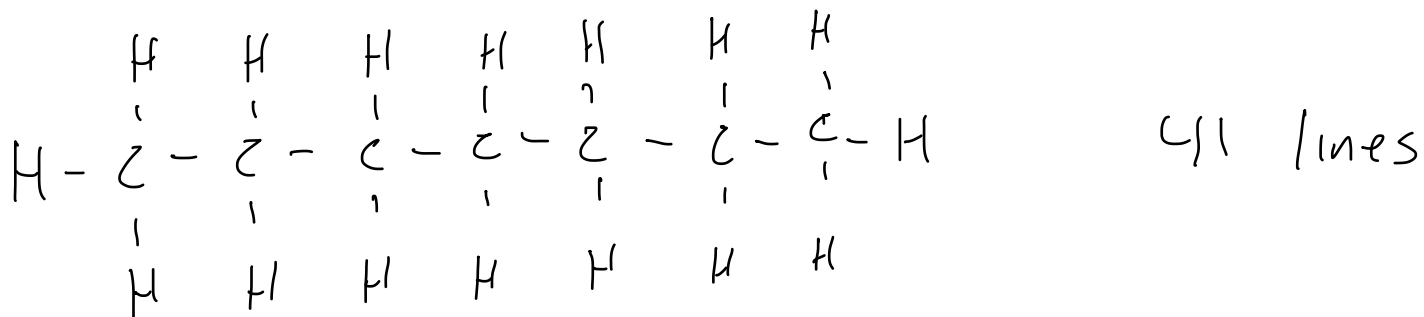
# Condensed Structures & Structural Formulas as compared to Molecular Formulas

being "mean" no ()

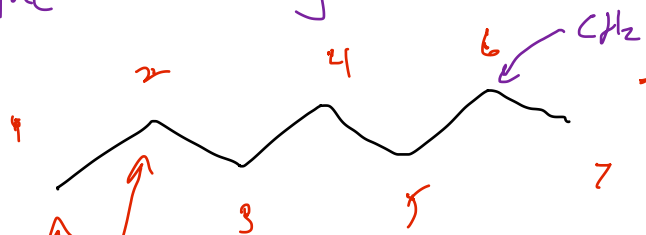


with the "strange" bonding and the "unusual" formal charges on the O & C this wouldn't be a stable molecule

Convert Lewis or Kekulé structures to Condensed Structures

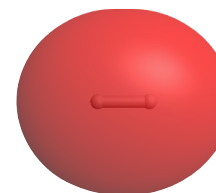
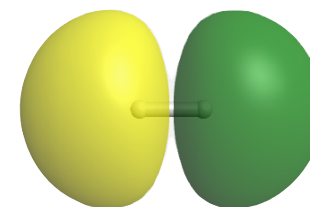
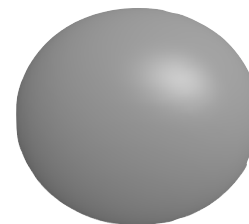
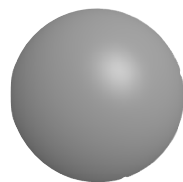
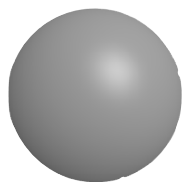


if the C atom doesn't have 4 bonds draw the "missing" bonds are bonds to H



When a bond ends + no element symbol is drawn we assume it is a C atom

Different structures serve different purposes, but they represent the same things



Molecules have orbitals just like atoms have orbitals

