

CHM 1321 DGD #1 – Naming Organic Molecules

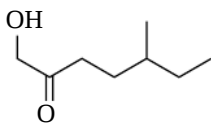
1. Fill in the following table with the appropriate Greek prefixes for the given carbon chain lengths.

Chain length	Prefix
1	meth-
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
4, in a ring	

2. Fill in the following table with the appropriate prefix and/or suffix for the given functional groups.

Group	Prefix	Suffix
R-Br		-
R-NH ₂		
$ \begin{array}{c} \text{R} \quad \text{R} \\ \diagdown \quad \diagup \\ \text{C} = \text{C} \\ \diagup \quad \diagdown \\ \text{R} \quad \text{R} \end{array} $	-	
R-OH		
$ \begin{array}{c} \text{O} \\ \\ \text{R} - \text{C} - \text{R}' \end{array} $		
$ \begin{array}{c} \text{O} \\ \\ \text{R} - \text{C} - \text{H} \end{array} $	-	
	-	-oic acid

3. Let's walk through how to name a compound together.



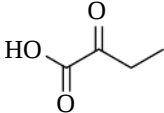
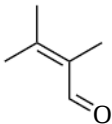
- a. **Step 1:** Identify the longest carbon chain in the molecule. Number this chain in the direction that assigns the lowest possible numbers to all functional groups. What's the prefix (meth-, eth-, prop-, etc.) and suffix (-ane, -ene, -yne) associated with this chain? Write this down:
- b. **Step 2:** Identify the highest priority functional group in the molecule (tip: this is usually the group with the most oxygens). What's the number and suffix associated with this group? Write this down:
- c. **Step 3:** Put a circle around everything we have already named. This will leave us with the substituents. What are the numbers and prefixes associated with these remaining substituents? Write these down:
- d. **Step 4:** Let's put this all together! Organize the pieces you listed above in terms of the following:

Step 3

Step 1

Step 2

4. Use the process we went through above to fill in the empty spaces with either the name or line structure of the given compound.

Name	Structure
ethanol	
	
1-bromo-pentan-3-amine	
	

5. The Moderna COVID-19 vaccine relies on mRNA to give our immune cells the genetic instructions to generate an immune response to COVID-19, thus preparing and protecting our bodies from future infections.

mRNA is a macromolecule (*i.e.*, a really big molecule) composed of smaller individual units. One of these units is **ribose**, shown below. What are the names of each of the labelled functional groups on ribose?

