

## STUDY GUIDE FOR QUIZ ON CHEMICAL STRUCTURES

On the quiz, you will be asked to draw structures, name structures, recognize errors in drawn structures (ie. wrong number of bonds to C, N, O, etc.), and distinguish between salts and free acids (ie. Acetate and acetic acid). Expect 20 questions. Deductions will be made for misspellings, incorrect structures, etc. The quiz should only take about 10 minutes.

### **Know the structures of the following compounds:**

#### C1 to C6 aliphatic alcohols

- Methanol
- Ethanol
- Propanol
- Butanol
- Pentanol
- Hexanol
- Iso-propanol
- Iso-amyl alcohol
- 3-methylbutanol
- 2-methylbutanol

#### C1 to C6 volatile fatty acids

- Formic
- Acetic
- Propionic
- Butyric
- Pentanoic (valeric)
- Hexanoic (caproic)
- Acrylic
- Iso-butyric
- Crotonic

#### C2 to C5 $\alpha$ -ketoacids

- Glyoxylic
- Pyruvic
- $\alpha$ -ketobutyric
- $\alpha$ -ketovaleric
- $\alpha$ -ketoisovaleric

#### **hydroxy acids**

- lactic
- hydroxybutyric ( $\alpha, \beta, \gamma$ )
- malic

**dicarboxylic acids**

oxalic  
malonic  
succinic  
glutaric  
adipic

**other compounds**

maleic  
fumaric  
oxaloacetic  
aspartic  
glutamic  
citric  
acetone  
glycerol  
phosphoenolpyruvate  
phenol

**sugars (know ring and Fisher projections)**

glucose  
fructose  
xylose  
ribose  
lactose

**amino acids (proteins are composed of translationally inserted 22 amino acids, know them all, ie. including selenocysteine and pyrrolysine)**