## Year 12 Chemistry Quick Quiz: Organic Chemistry

1. Consider the compound below:

- (a) Circle and name the functional groups on the compound above.
- (b) Write the molecular formula for the compound above.  $C_{12}H_{18}O_3$
- (c) Draw an isomer for the compound above. (This is one of many possible answers, as long as the molecular formula is the same.)

2. The table below shows the first four members of a homologous series of alcohols:

СН <sub>3</sub> -ОН
CH <sub>3</sub> -CH <sub>2</sub> -OH
CH <sub>3</sub> -CH <sub>2</sub> -CH <sub>2</sub> -OH
CH <sub>3</sub> -CH <sub>2</sub> -CH <sub>2</sub> -CH <sub>2</sub> -OH

Write a general formula for the homologous series above.

$$C_XH_{2X+2}O$$
 (or  $C_XH_{2X+1}OH$ , not preferred)

3. Write an annotated structural formula equation for the formation of propyl ethanoate.

$$HO-CH_2-CH_2-CH_3 + \begin{array}{c} O \\ \downarrow \\ HO-C \\ \end{array} - \begin{array}{c} H^+ \text{/ reflux} \\ \longleftarrow \\ CH_3 - CH_2 - CH_2 - O-C \\ \end{array} - \begin{array}{c} O \\ \downarrow \\ \end{array} - \begin{array}{c} O \\ \downarrow \\ \end{array} - CH_3 + H_2O \\ \end{array}$$

4. Write an equation for the fermentation of glucose.

$$C_6H_{12}O_6 \rightarrow 2CO_2 + 2CH_3CH_2OH$$