Name(s)_____

Chapter 23.2 - Ester Lab

Part I

Procedure A

1. Obtain and label a micro-tube A. Make sure the tube is clean and dry.
2. Using a clean pipet, ***place 10 drops*** of ***isopentyl alcohol*** into the micro-tube.
3. Using a clean pipet, ***place 10 drops*** of ***glacial acetic acid*** into the micro-tube.
4. Add ***one drop*** of concentrated ***sulfuric acid*** into the micro-tube.
5. Close the micro-tube and set aside.

Procedure B

1. Obtain and label a micro-tube B. Make sure the tube is clean and dry.
2. Using a clean pipet, ***place 10 drops*** of ***octanol alcohol*** into the micro-tube.
3. Using a clean pipet, ***place 10 drops*** of ***glacial acetic acid*** into the micro-tube.
4. Add ***one drop*** of concentrated ***sulfuric acid*** into the micro-tube.
5. Close the micro-tube and set aside.

Procedure C

1. Obtain and label a micro-tube C. Make sure the tube is clean and dry.
2. Using a scale, measure ***0.15 grams*** of ***salicylic acid*** and add it to the micro-tube.
3. Using a clean pipet, place ***12 drops*** of ***methyl alcohol*** to the micro-tube.
4. Add ***three drops*** of concentrated ***sulfuric acid*** into the micro-tube.
5. Close the micro-tube and set aside.

Procedure D

1. Obtain and label a micro-tube D. Make sure the tube is clean and dry.
2. Using a clean pipet, place ***10 drops*** of ***propanol alcohol (n-Propyl)*** into the micro-tube.
3. Using a clean pipet, place ***10 drops*** of ***glacial acetic acid*** to the micro-tube.
4. Add ***one drop*** of concentrated ***sulfuric acid*** into the micro-tube.
5. Close the micro-tube and set aside.

Part II

1. Heat ***50 ml of water*** in a beaker, using a hot plate, to ***80 degrees Celsius***.
2. Using tongs pour the hot water into a Styrofoam cup.
3. Place all four micro-tubes (#A – D) with the top lid closed into cup of hot water.
4. After ten minutes, open micro-tubes ***A, B and D ONLY*** and carefully waft the odor.
5. For micro-tube ***C***, open and add ***3 drops of water*** to the tube and carefully waft the odor.

23.2 – Ester Lab Report

Micro-tube Letter	Name of Alcohol	Name of Acid	Odor of Ester

Questions

1.) Esters are named for the Alcohol and Acid that is used to produce it with the ending of the acid being changed to -ate. For example, ester ethyl benzoate is made from the alcohol ethyl and the acid benzoic. What are the names of the four esters that you produced?

a.)

b.)

c.)

d.)

2.) What substituted hydrocarbon is found in all alcohols?

3.) Organic acids, like the glacial acetic acid used in this lab contain what hydrocarbon substitution?

4.) All esters contain what hydrocarbon substituted group?

5.) Give two examples of how esters are used in our everyday lives.

a.)

b.)