

## Lab 08: Synthesis of Banana Oil (yummy!)

### Reading

- Pavia, et al. 3<sup>rd</sup> edition, Expt. 12A pp 131-133

### Prelab Assignmet

Your prelab should include the following: Date, Introduction, Haz-Mat, Apparatus, Reactant Table, Chemical Equation, Separation scheme, and Procedures.

### Notes

- Do not discard any layers until you are done with the experiment.
- We will take the IR using the AgCl plates.

### Postlab Questions

*Answer these questions in your lab notebook after your conclusion is a section titled "Post-lab Questions"*

1. What is the limiting reactant in the reaction?
2. Suppose that 1.20 mL of isopentyl alcohol was reacted with excess acetic acid, and that 1.00 grams of isopentyl acetate was obtained as your product. Calculate the percent yield.
3. Write the complete mechanism for the acid-catalyzed esterification of acetic acid with isopentyl alcohol.
4. One method for favoring the formation of an ester is to add excess acetic acid. Suggest another method, involving the right-hand side of the equation, that will favor the formation of the ester.
5. Why is it easier to remove excess acetic acid from the products than excess isopentyl alcohol?
6. Write an equation showing the reaction that occurs upon the addition of sodium bicarbonate to the reaction.