

**REPORT GUIDE Report Due:** Weds May 27

**For this lab you will write a 'Formal report'**

**This lab is a Synthesis lab.**

**This report will be done individually.**

Be sure your report has these sections (in order on the lab report): Purpose, Theory, Data, analysis, conclusion and questions to be answered.

### **Finer points**

The Purpose should be the reaction equation for this experiment.

The Theory is simply the mechanism for the reaction

For the Data section. Be sure to attach NMR and IR spectra and the amount of ester synthesized.

For the analysis section Show calculation for % yield. Comment on data in regards to the success of the reaction and to the purity of your product. Comment of presence or absence of impurities—what is your most likely impurities? If you received low yields speculate on what could have caused this.

Analyze the NMR with the appropriate interpretation (as you did for the NMR day unknown). Identify the main absorptions in the IR

For the conclusion, surmise all the data and state if you succeeded in synthesizing the Ester and with high purity.

### Additional questions

1. In this reaction what did you do in order to shift the equilibrium to the right (ester product.)
2. This was an acid catalyzed reaction. Is it possible to carry this reaction out using base (HO-) as the catalyst instead of acid? If not, why?
3. What was the purpose of the sodium bicarbonate extractions?
4. Describe the smell of you ester/what name would you market it under if you were selling it as a flavoring or perfume?