

**Due this week: prelab preparations as outlined above.**

**Due next week: nothing there is no lab, unless you need to do a makeup**

**Due the week after Thanksgiving, this worksheet and prep for the last lab - oxidation of isoborneol.**

**Due the last week of lab - your worksheets for the conferences if you have not turned them in JUST for accounting purposes and the final quiz. The quiz will be distributed the last week and will be on the two conferences.**

**This is the whole deal no surprises.**

### **Worksheet for Total Synthesis of 7-Heptoxy-4-methylcoumarin (Heptylated Umbelliferone)**

#### **Part I - Synthesis of 4-Methylumbelliferone**

1. What is purpose and importance of this Reaction? (10 points)  
Read the paper for this one and discussed in class.
2. Write the Main Reaction for this Reaction (8 points)  
In paper and done in class.
3. Outline the steps (transesterification and Friedel-Crafts) involved in the reaction and write the mechanism for the Friedel Crafts step (the second step of the reaction). (20 points)  
In paper and discussed in class.

4. Observations (10 points)  
All scientists should make observations in their notebooks.

5. Yield of Product in grams and moles (6 points)



## **Part II. Study of Alkylation by TLC.**

1. Briefly state what the purpose and importance of this second synthetic step. (10 points) see paper, class notes.
2. Write the main reaction for this step. (10 points) See paper class notes.
3. Write a complete mechanism for this step (20 points) See class notes.
3. Observations. (10 points) All Scientists should record observations in their notebooks.
4. Diagram of Baseline TLC with R<sub>f</sub> values (10 points) see class notes, reading on TLC

