Prelab 7a: week of November 10

1. Draw arrow mechanisms for each of the following steps of the reaction:
   A. The aldol reaction of step 1
   B. The dehydration of step 2
   C. The Dieckmann annulation of step 3
   D. The ester hydrolysis/decarboxylation of steps 3-4

2. What is p-toluenesulphonic acid? Why is it used as an acid rather than aqueous HCl in the second step?

3. Why was the Dieckmann annulation performed with sodium ethoxide rather than sodium hydroxide?

4. After the acid reflux of step 4, you add sodium bicarb until the reaction reached pH 4. Why take so much care with this step? Why not just quench the acid solution until it is basic, and then extract with methylene chloride?