## **Condensation Reactions, Problem Set #8**

Due in lecture on 4/16/2002 No late homeworks accepted Only the additional problems need to be turned in.

❖ Read Chapter 23

## **Excercises:**

- **♦** McMurry 5<sup>th</sup> Ed Problems: 23.25, 23.26, 23.34, 23.37, 23.38, 23.40, 23.41, 23.44, 23.47, 23.48, 23.49.
- ❖ Additional Problems:
- 1. Show how you would use a Robinson Annelation to prepare the following.

2. What steps would you use to synthesize the following?

$$\begin{array}{c} \text{EtO}_2\text{C} \\ \text{EtO}_2\text{C} \end{array} \xrightarrow{\text{steps}} \begin{array}{c} \text{COOH} \\ \text{HOOC} \end{array}$$

3. Show the steps required to accomplish the following transformation.

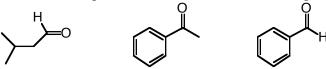
4. What is "A"? Write a stepwise mechanism for its formation.

5. What is "A"? Write a mechanism for the following reactions.

OEt OEt 
$$\frac{1. \text{ KOEt/EtOH}}{2. \text{ mild H}_3\text{O}^+}$$
 OEt  $\frac{H_3\text{O}^+, \Delta}{\text{OEt}}$  "A"

6. What is "A"? Write a mechanism for its formation and the formation of the quinoline.

7. Show the Aldol self-condensation products for each of the following molecules?



8. How would you prepare the following compounds from a mixed Aldol?

9. Write a stepwise mechanism that accounts for the following transformation.

10. What is "A"? Write a mechanism for each of the reactions.