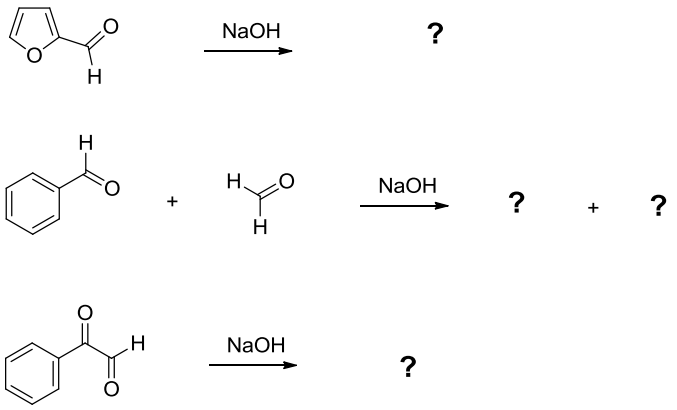
## Problems – Set 7: Carbonyl compounds (Part II)

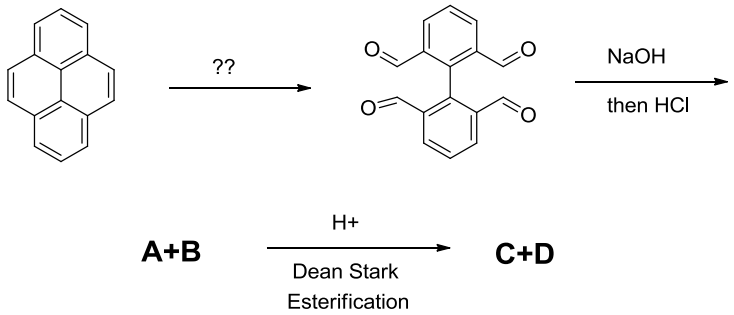
### Problem 1

Predict the product structures of the following Cannizzaro reactions and suggest the mechanism for each.



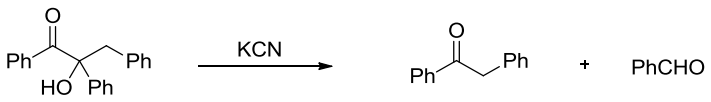

### Problem 2

Give the structures of compounds **A, B, C, D** and the reaction conditions for the first transformation as well the detailed mechanism for each transformation.



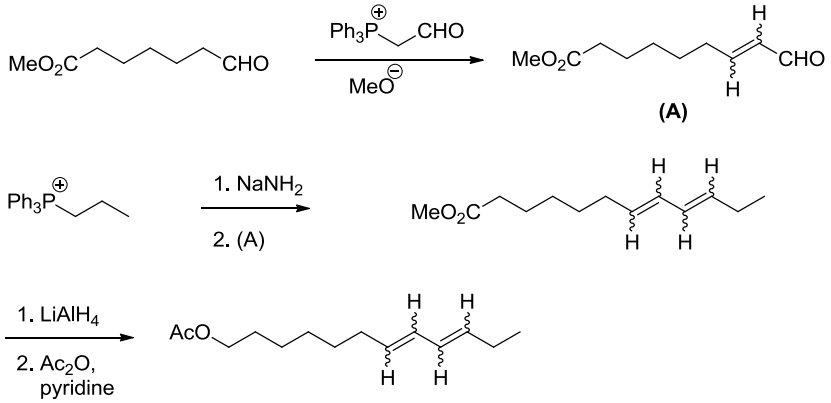

### Problem 3

Give the mechanism of the following transformation (think about the Benzoin reaction).



## Problem 4

A single diastereoisomer of an insect pheromone was prepared in the following way. Which isomer is formed and why? Outline a synthesis of one other isomer.




## Problem 5

Find the missing compounds. Give the mechanism of the following reactions. Define the double bond geometries (if available) and explain.