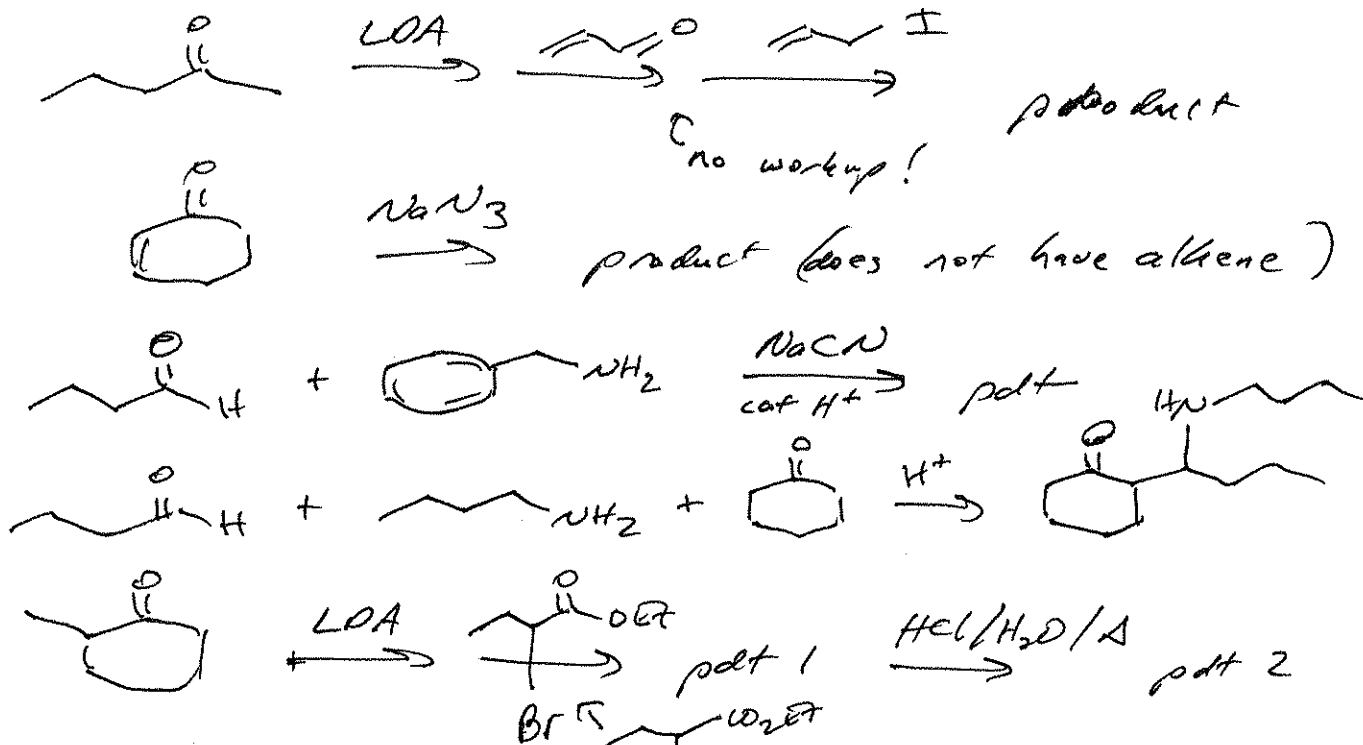


Problem Set 9

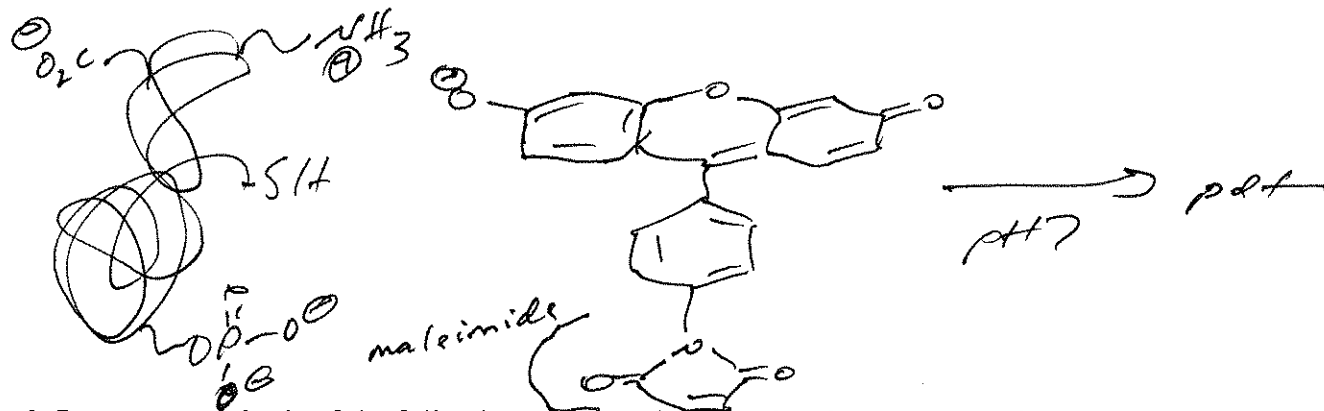
Five points. Due Friday, May 10, by the start of class.

Provide answers on a separate sheet(s) of paper, stapling together multiple pages.

1. Indicate the mechanisms to show product formation in the following reactions.



2. Maleimides react rapidly with cysteine residues on proteins to allow protein conjugation and labeling. Provide a mechanism and product of the following reaction at pH 7. Also indicate an additional product that is observed at pH 9. Explain why no reaction is observed at pH 3.



3. Propose a synthesis of the following compounds (from the given compounds).

