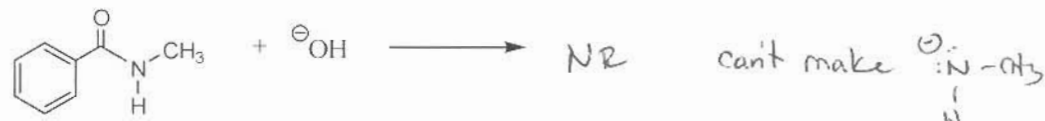
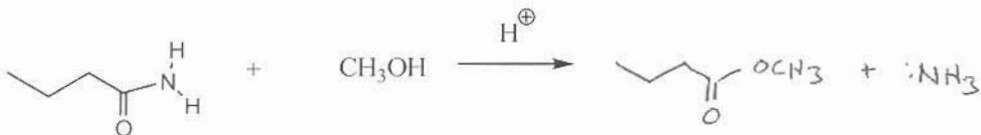
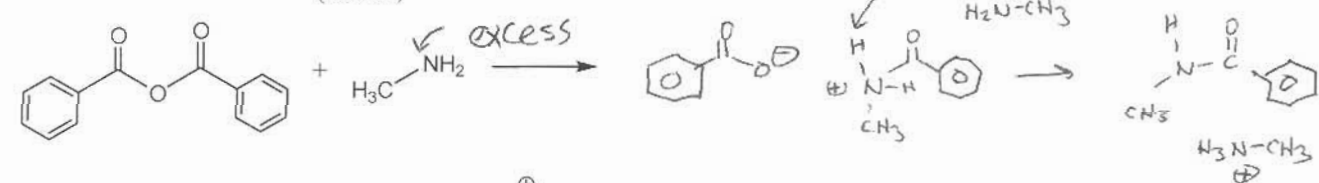
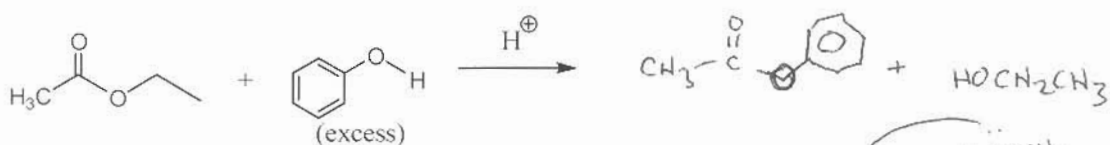
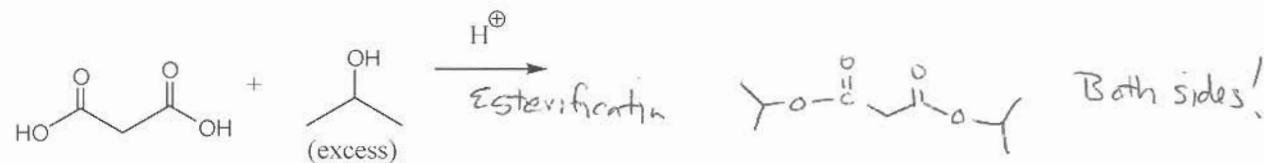
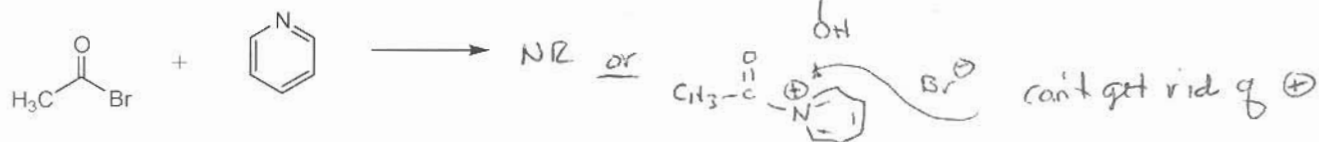
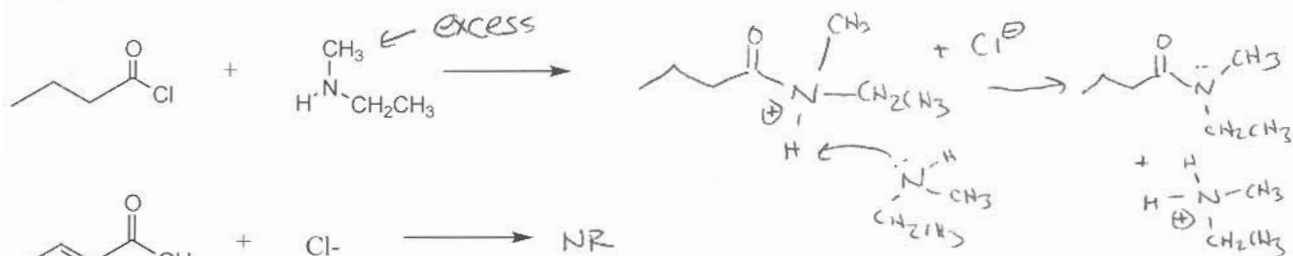
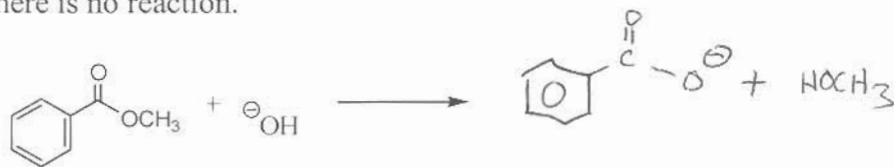
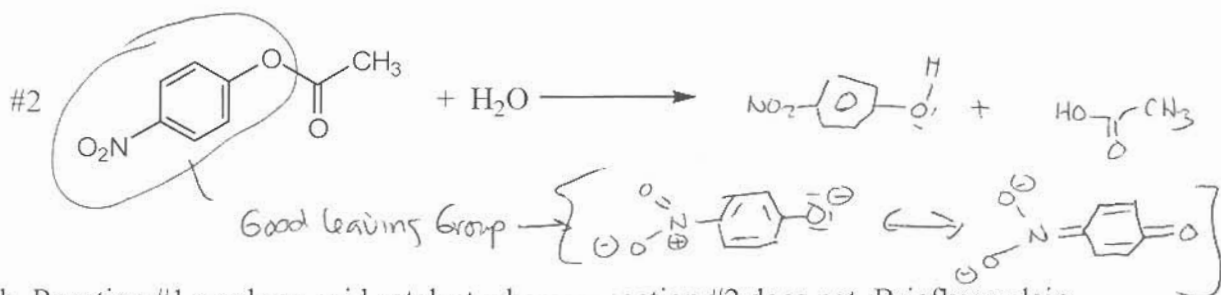
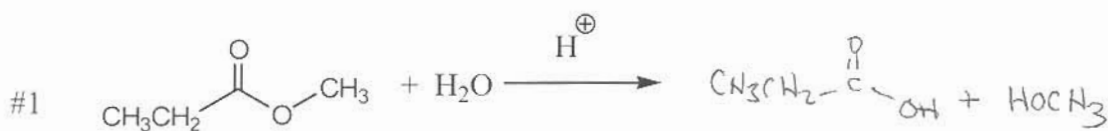


1 Draw the products (both organic and inorganic) of the following reaction. Write NR if there is no reaction.



2. a. Fill in the products of both reactions below



b. Reaction #1 needs an acid catalyst whereas reaction #2 does not. Briefly explain.

#2 has stable leaving Group - stable base as it has good resonance structure.

3. The ester below undergoes 2 different reaction mechanisms when it is refluxed with ethanol under acidic conditions. Carefully draw the mechanism for both reactions (use another piece of paper)

