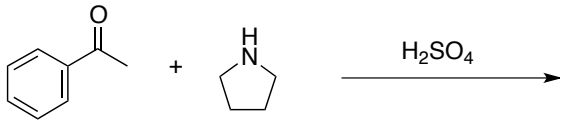
Exp 7 – Reductive Amination

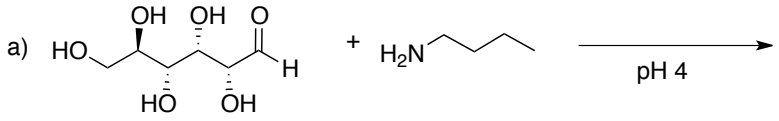
Problem Set - posted November 15, 2013

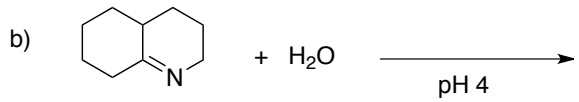
1. A secondary amine can react with a ketone to form an enamine instead of an imine. Give the mechanism for enamine formation in the following reaction. (**3 points**)



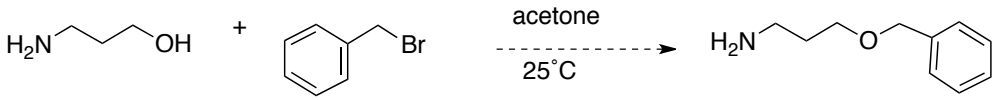
2. The synthesis of imines and enamines typically occurs under mildly acidic conditions, yet the reaction that you will perform in this experiment is successful without the need of such acid. Why? (**1 point**)

3. Provide the product(s) of the following reactions. (**2 points**)

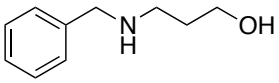
a) 

b) 

4. Your friend at another university attempted to perform the following S_N2 reaction



but obtained the following compound as the major product



a) Suggest a reason for the formation of this alternate product. (**1 point**)

b) Using your knowledge of imines, propose a modification to the protocol that would allow your friend to produce the ether as the only product. (*Hint: two additional steps, no mechanism needed*) (**3 points**)