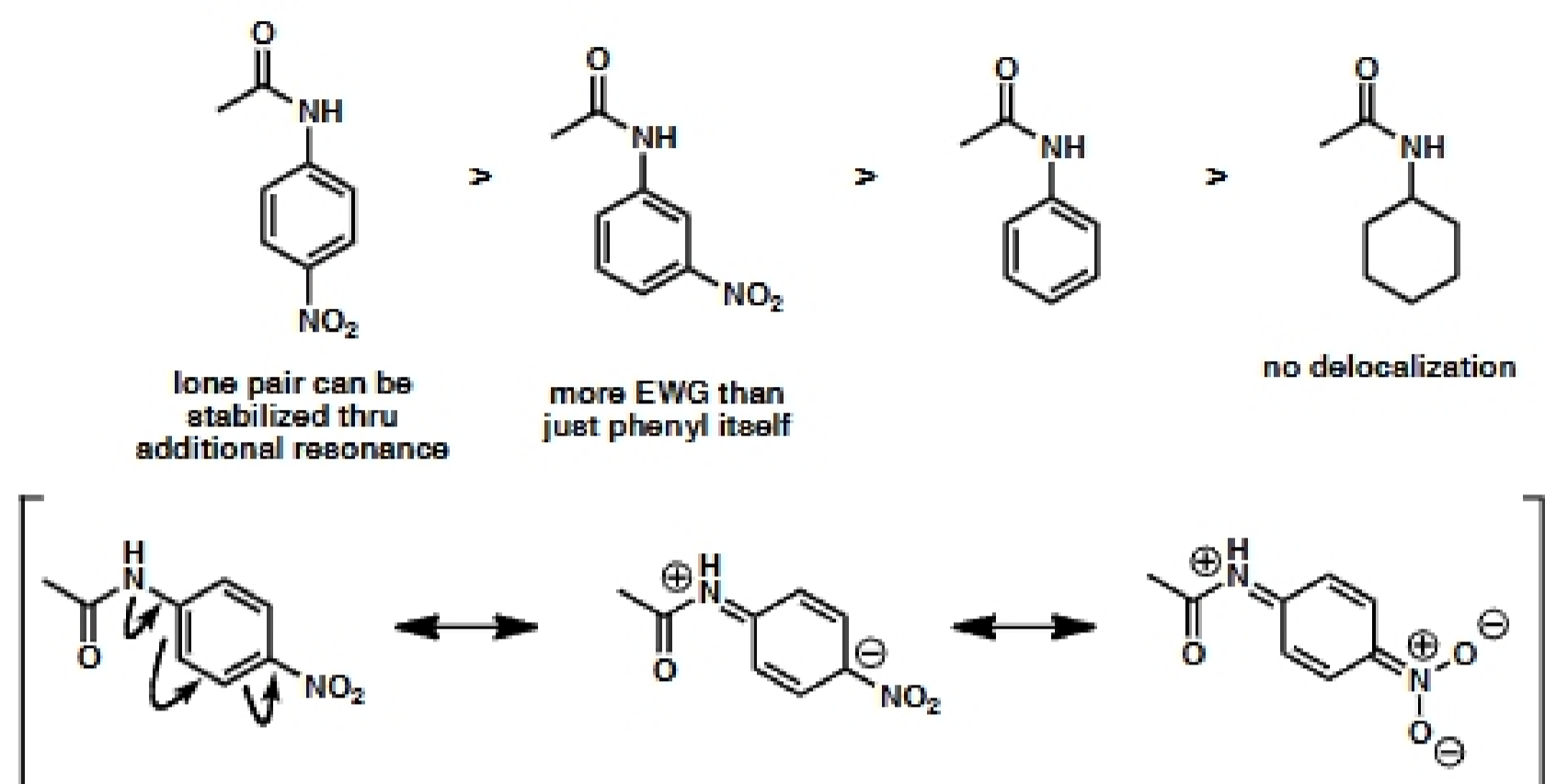


CHEM 346 – PROBLEM SET 4 ANSWER KEY

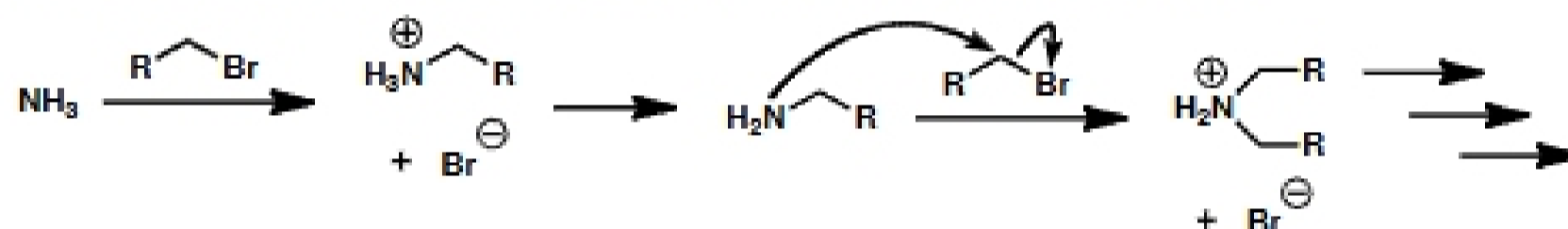
1. Ch. 17, #39

Amides are less reactive to hydrolysis if the lone pair on nitrogen can fully donate into the carbonyl group. The more electrons can delocalize into the substituent, therefore, the more reactive the amide will be toward hydrolysis.

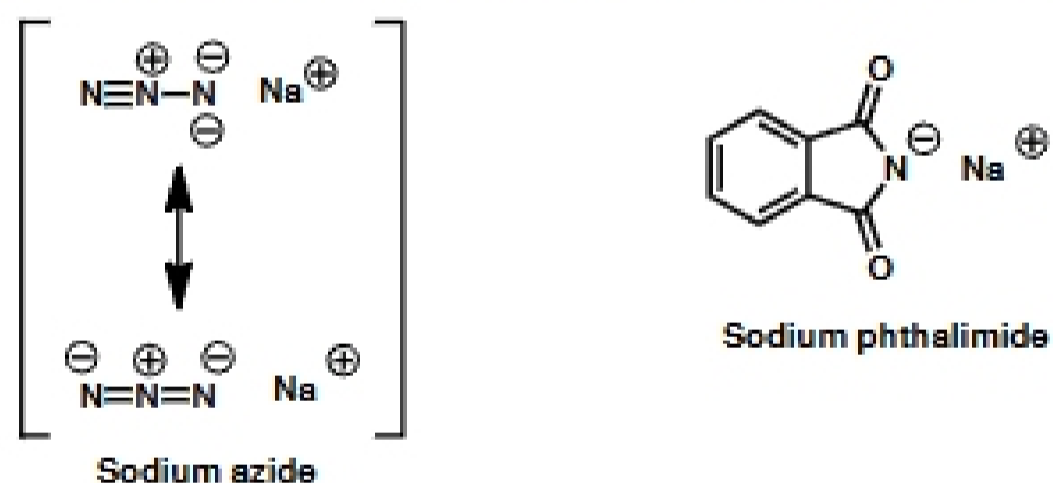


Ch. 17, #41

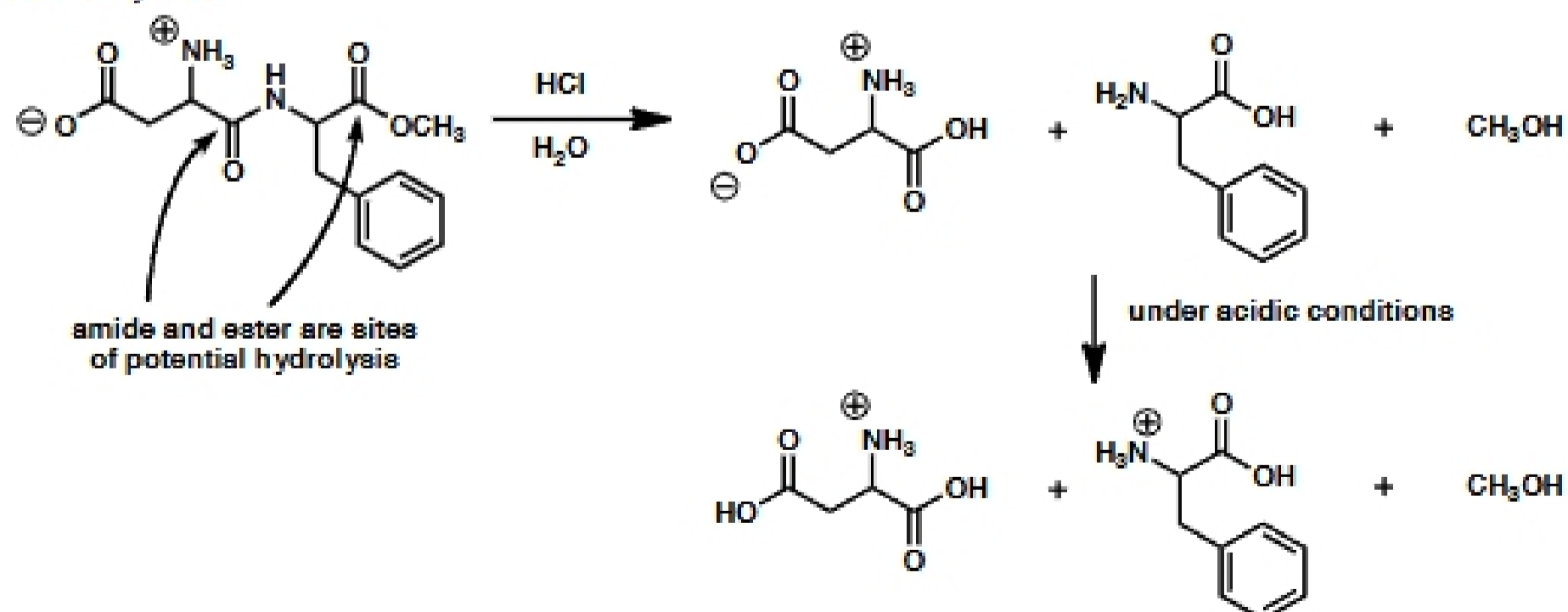
Using an alkyl halide and ammonia can be tricky because of possible polyalkylation.



Azides and phthalimides are both capable of monoalkylation only, so you get a better yield of the desired amine.



Ch. 17, #61

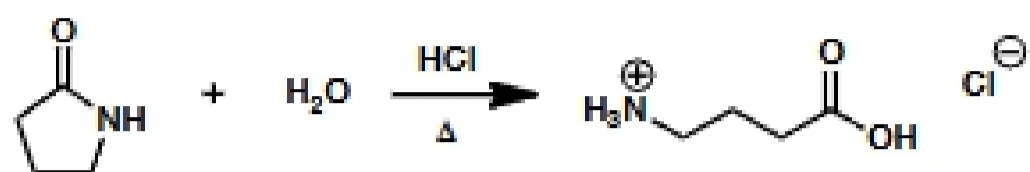


Ch. 17, #68

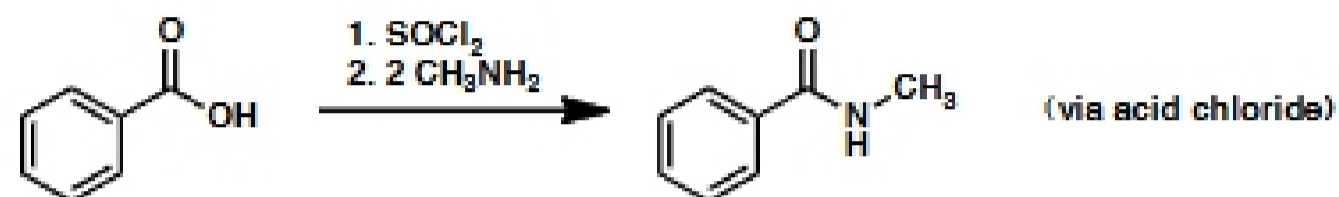
a.



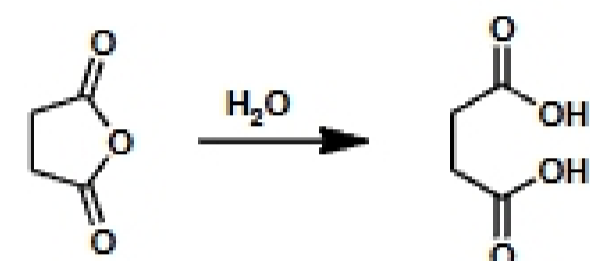
b.



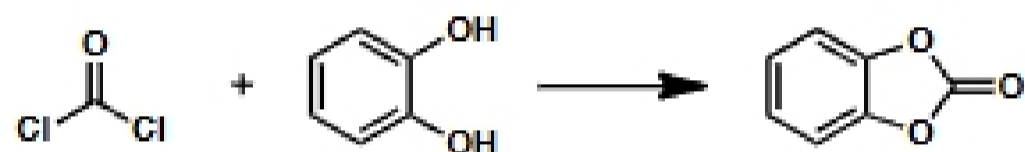
c.



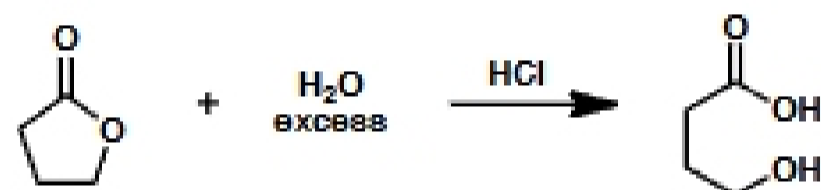
d.



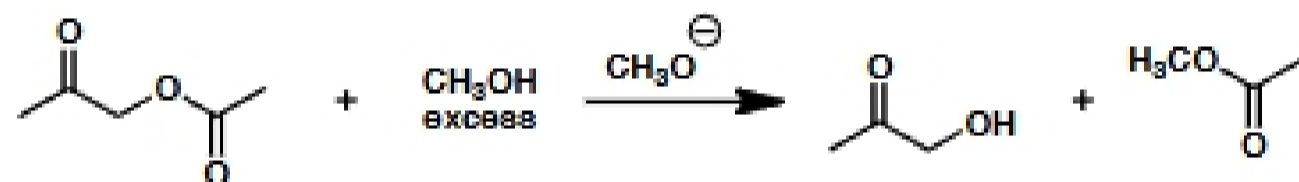
e.



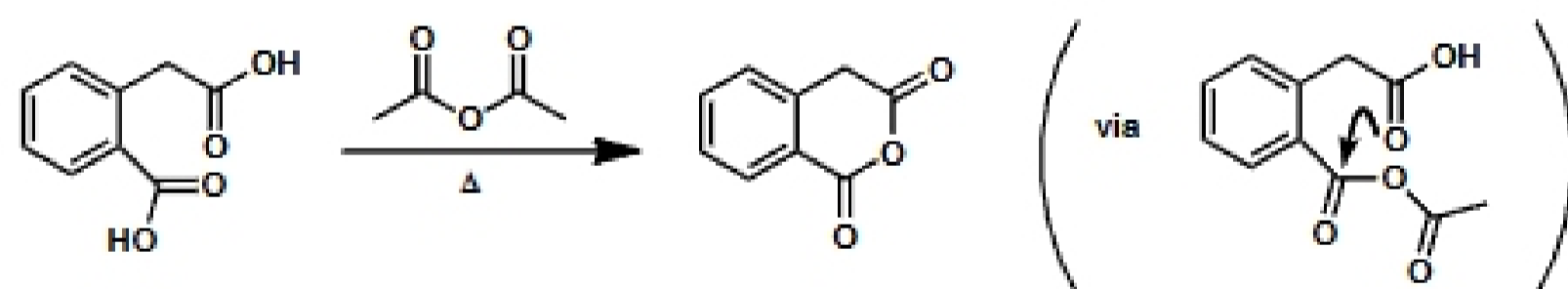
f.



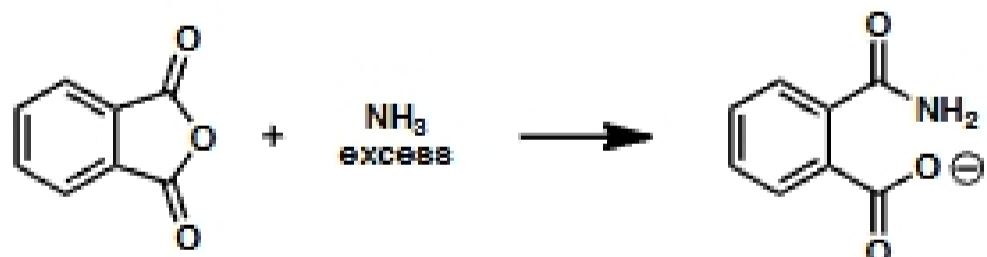
g.



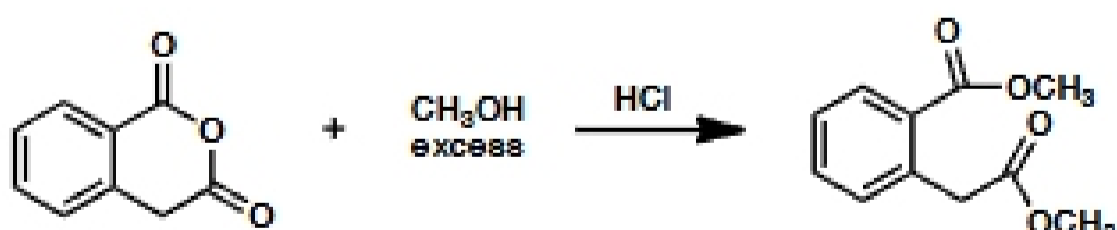
h.



i.

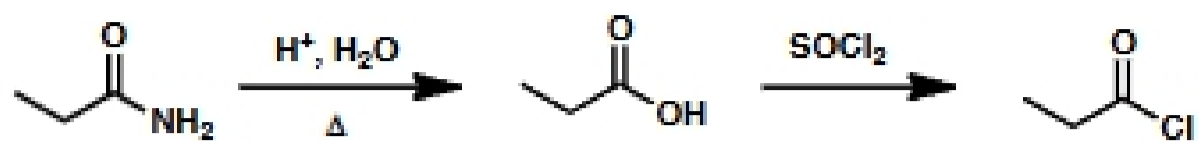


j.

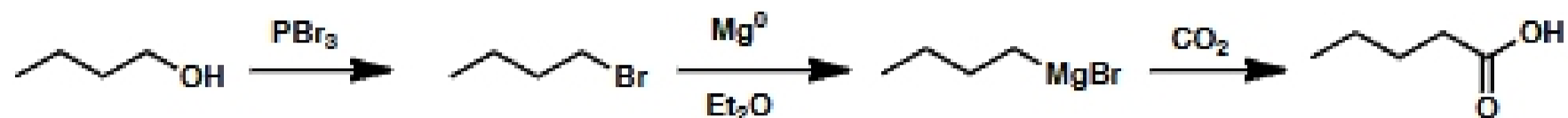


Ch. 17, #80

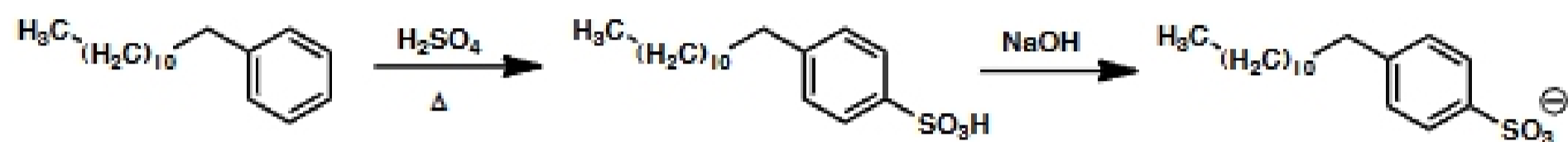
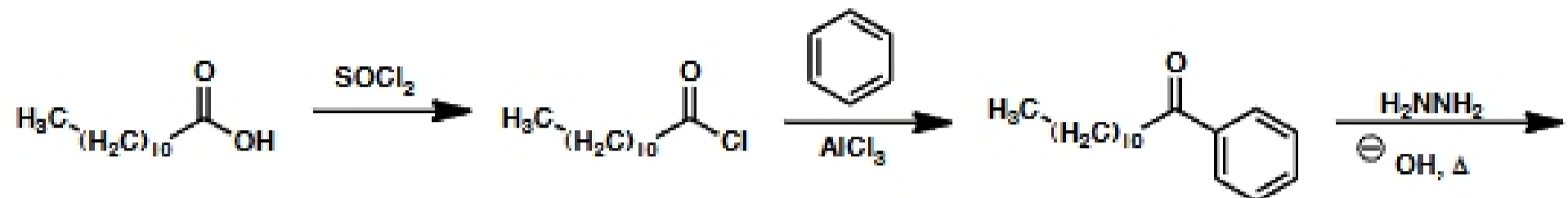
a.



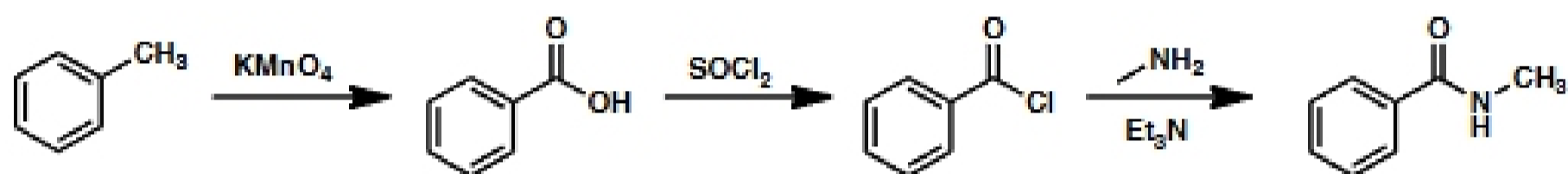
b.



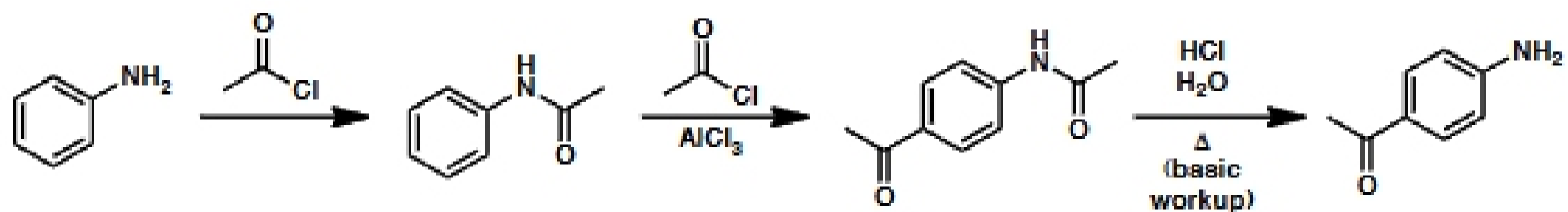
c.



d.



e.



f.

