

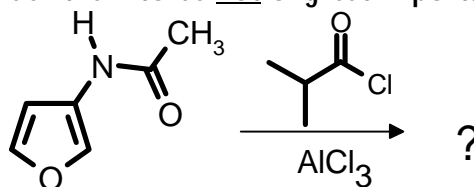
University of Windsor
Department of Chemistry and Biochemistry

Chemistry 59-235
 Second Test

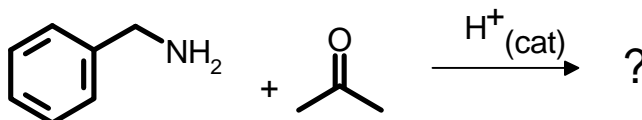
Nov. 12, 1996
 Time: 50 min

Please note Tests written in pencil will be marked, but cannot be returned for remarking

- 1.a) Show the product of acylation of the Friedel Crafts acylation of the following substituted furan. Rationalize, by way of resonance forms of the reaction intermediates, the regiochemistry which is observed (i.e., why the reaction goes where it does). Does this compound react slower or faster relative to benzene? P.S. Steric effects are likely present here, but consider them to be not of great importance. (10 marks)

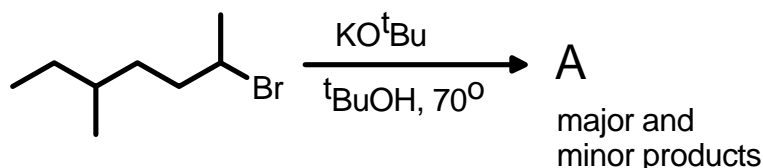


- b) Show the complete mechanistic steps for the following reaction between a primary amine and a ketone. (10 marks)

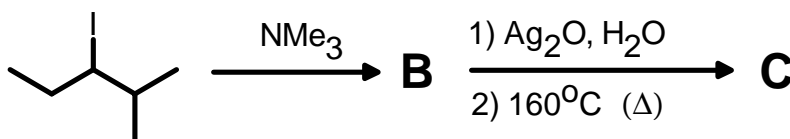


- 2) Predict the major product(s) of the following transformations. Mechanisms are not necessary, but showing your work may be useful. (5 marks for each letter, 25 total)

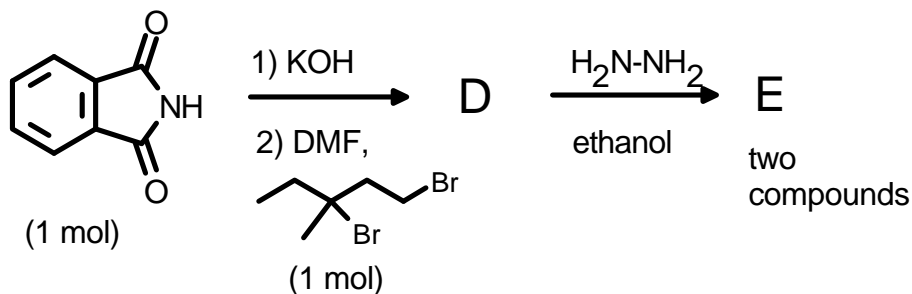
a)



b)

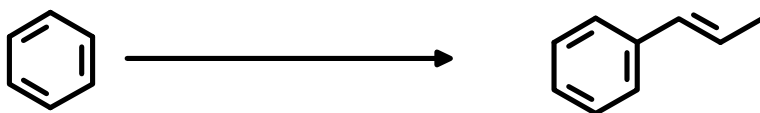


c)

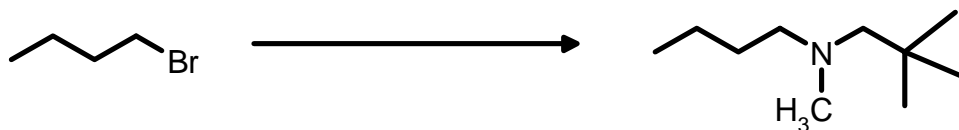


3) Show by equation how you would prepare the illustrated products from the indicated starting materials. You may use any other reagent which you deem fit. Show all reagents, conditions, and isolable intermediates. (10 marks for each, 30 total)

a)



b)



c)

