

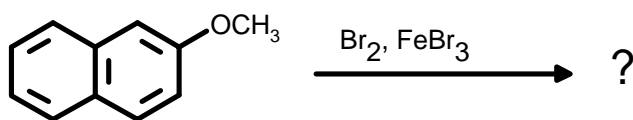
University of Windsor
School of Physical Sciences
Chemistry and Biochemistry

Chemistry 59-235
Second Test

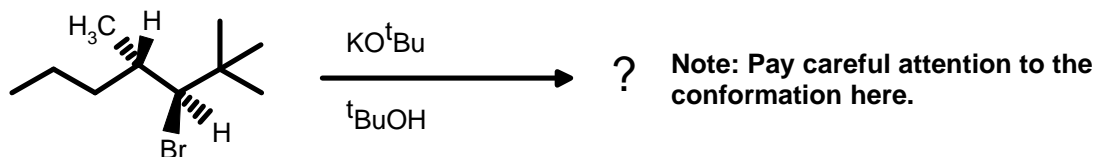
Mar. 17, 1998
Time: 50 minutes

Answer all questions in the test booklet(s). Questions answered in pencil will be marked, but cannot be returned for remarking.

- 1a. Show the result of the electrophilic bromination of 2-methoxynaphthalene. Show by way of the resonance forms of the possible carbocationic intermediates why the predicted regiochemistry is observed. Assume that steric effects of the methoxy group are of minimal importance. (9 marks)

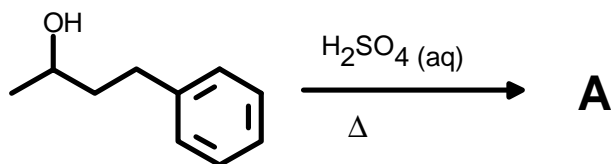


- b. Show the transition state for the following reaction, including the relative orientation of the relevant groups. The complete answer will include the correct product, including the stereochemistry. (9 marks)



2. Predict the major product of the following transformations. Include stereochemistry where it is relevant. Mechanisms are *not* necessary, but showing your work may be a help. (5 marks for each letter, 32 marks total)

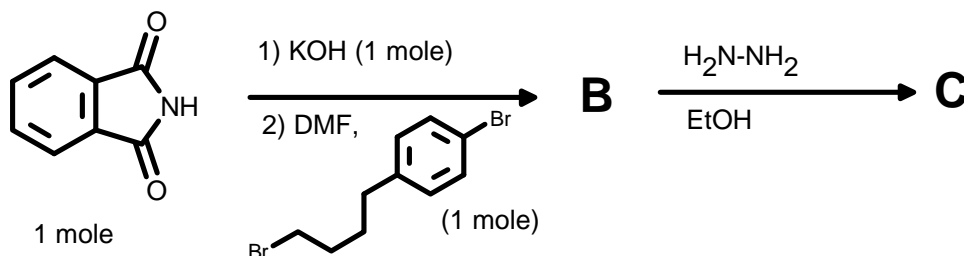
a.



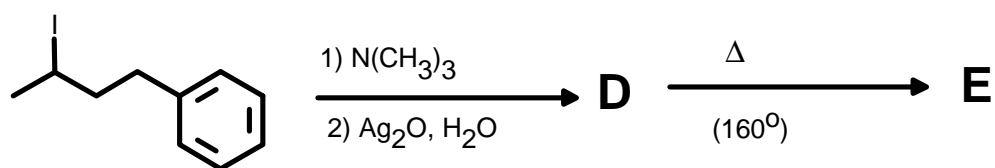
Name the mechanism occurring here. (1 mark)

What rule regarding regiochemistry is being followed here? (1 mark)

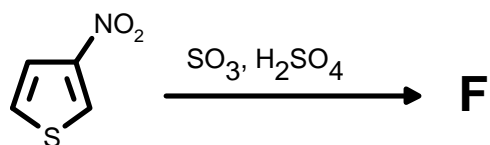
b.



c.

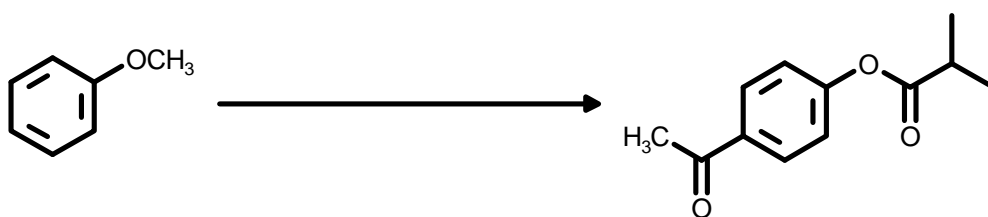


d.

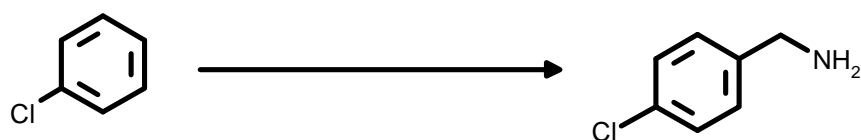


3. Propose a reasonable route to accomplish the following transformations. Show all reagents and isolable intermediates. Mechanisms are *not* necessary, but may be a help. (10 marks each, 30 marks total)

a.



b.



c.

