Organic Chemistry c3444y

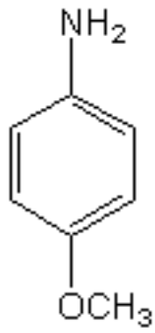
Problem Set 3 - Nucleophilic Aromatic Substitution, and Aldehydes and Ketones

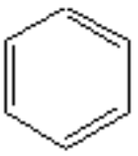
Due in Class Wed. Feb. 27

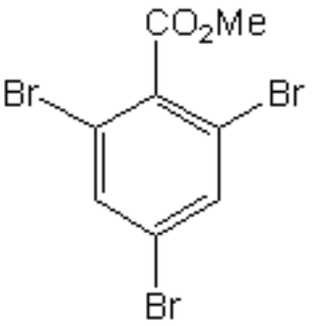
Relevant Reading: 18.6, 10.8, 17.5-17.8, pp.743-748, and 19.1-19.12

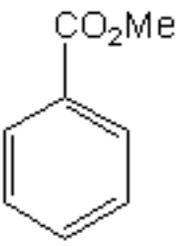
Relevant Book Problems: 19.32-19.37, 19.39, 19.40, 19.46-19.49, 19.51, 19.53-19.55

1. Propose syntheses for the following compounds:

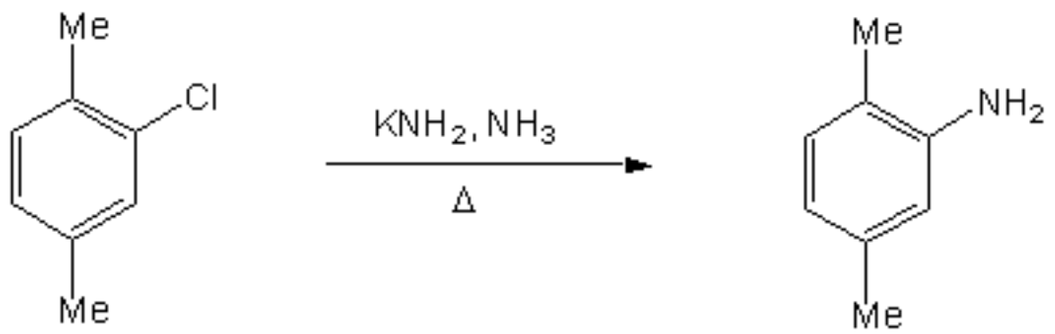
a. 

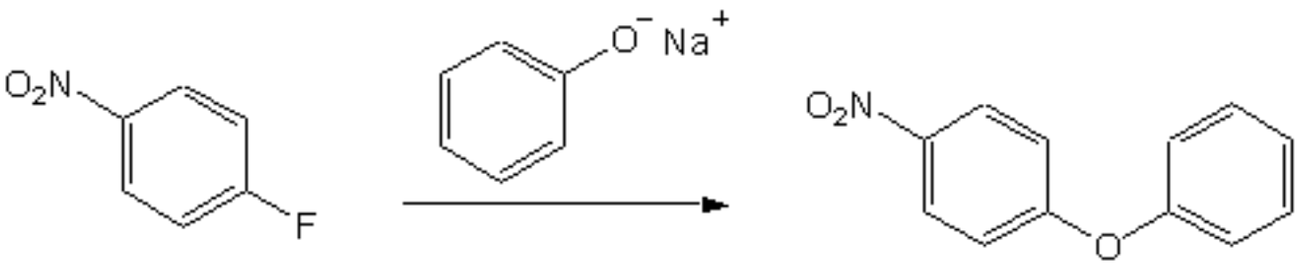
from 

b. 

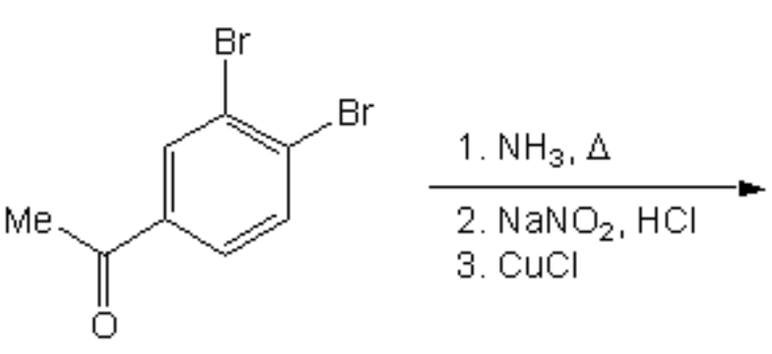
from 

2. Provide detailed mechanisms for the following transformations:

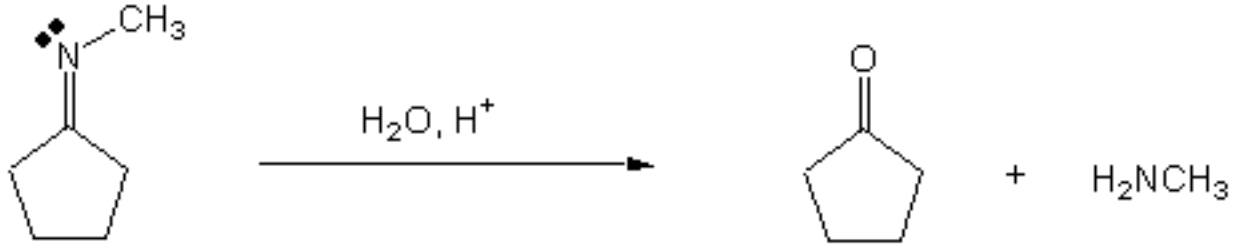
a. 

b. 

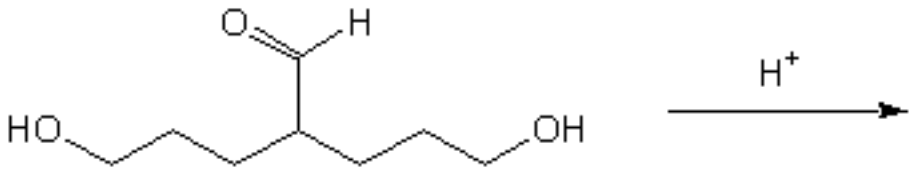
3. Predict the product of the following reaction sequence:



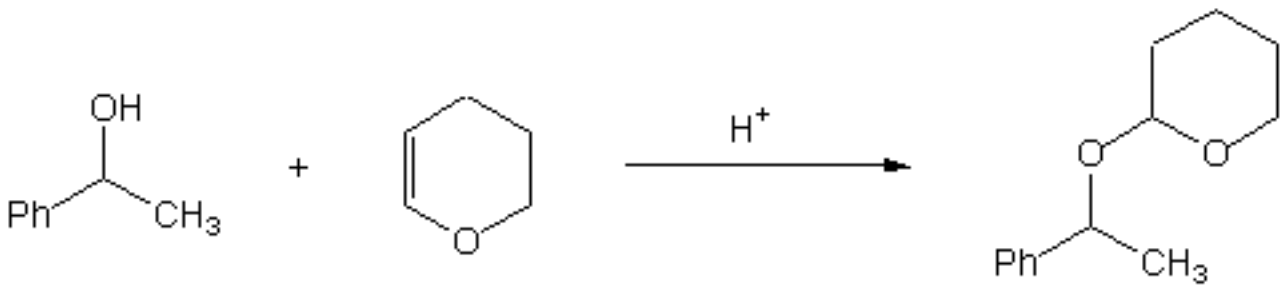
4. As we said in class, imine formation is reversible, and the reverse reaction is driven by using an excess of water as well as acid. Write a mechanism for the following transformation



5. Write out a mechanism for, and predict the product of the following reaction:



6. Write out a mechanism for the following transformation:
Hint: You must decide what will happen first with this combination of reagents. This problem illustrates that there are different ways to make acetals.



7. Propose a synthesis to achieve the following transformation:
(*It should prove helpful to think backwards from the product here. What is the product? How are they made? If you can figure out what is the starting material for the last step, it's relationship to the original starting material should be clearer.*)