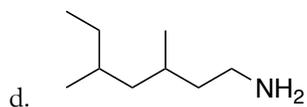
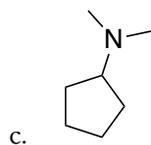
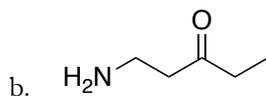
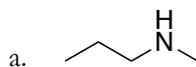


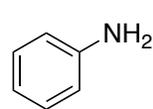
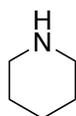
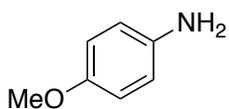
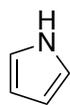
Chem 202 Chapter 24 Amines and Heterocycles

Nomenclature, Basicity of Amines, Synthesis & Reactions of Amines

1. Name the following molecules using IUPAC rules. Indicate whether the amine is 1°, 2°, 3° or 4°.

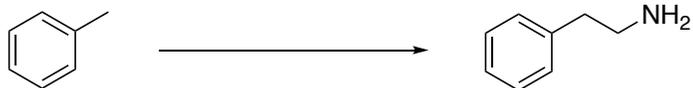


2. Rank the following compounds in terms of their basicity. (1=most basic and 5=least basic).

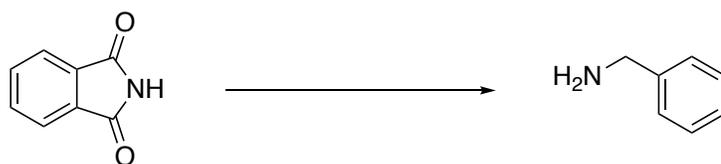


Propose a synthesis for the following transformations.

3.

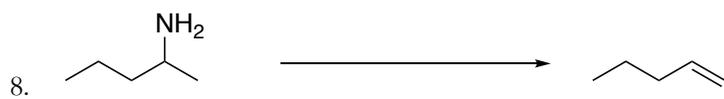
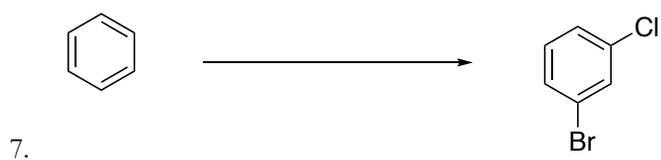
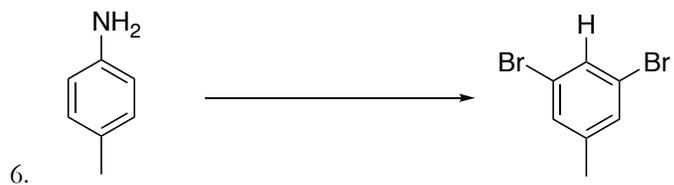


4.

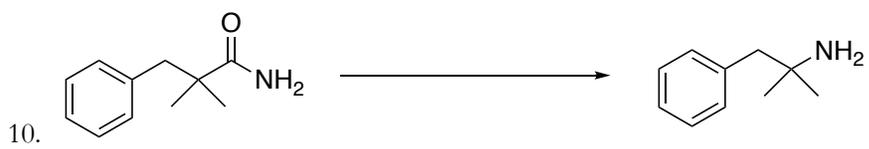
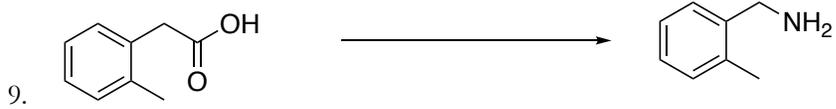


5.





Propose a synthesis and mechanism for the reactions below.



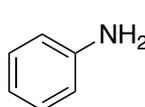
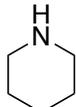
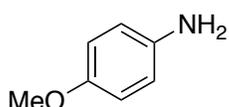
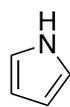
Chem 202 Chapter 20 Carboxylic Acids and Nitriles

Naming, Substituent Effects on Acidity & Preparing Carboxylic Acids Worksheet

1. Name the following molecules using IUPAC rules. Indicate whether the amine is 1°, 2°, 3° or 4°.



2. Rank the following compounds in terms of their basicity. (1=most basic and 4=least basic).



4

2

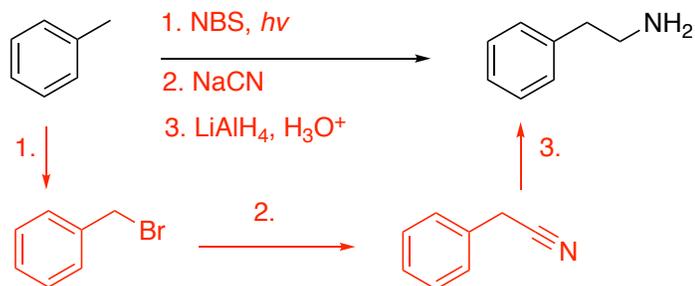
1

3

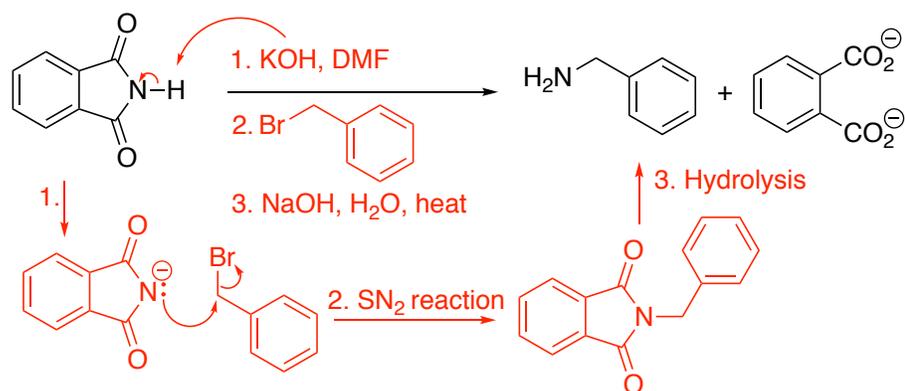
The most basic is the amine group that has the electrons localized on the amine, in this case it is the third molecule. For 2, the electrons from the ether group are donated into the ring system and pushed towards the amine group. The electrons from the amine in 4 participate in the resonance of the ring system; therefore, are not readily available due to being delocalized.

Propose a synthesis for the following transformation using any reagents you have learned.

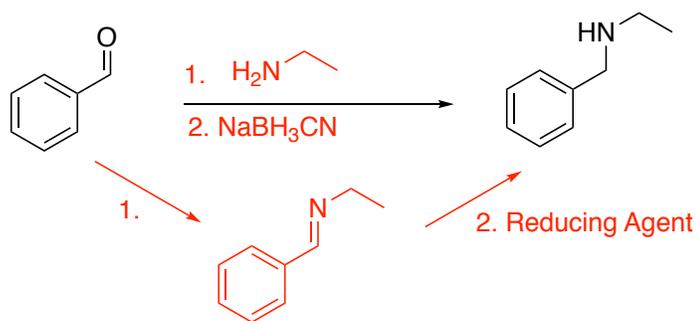
3.



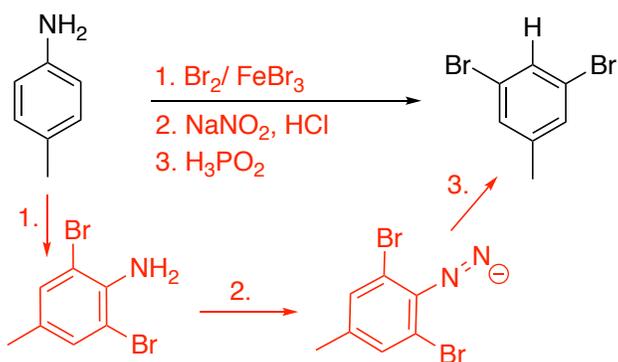
4.



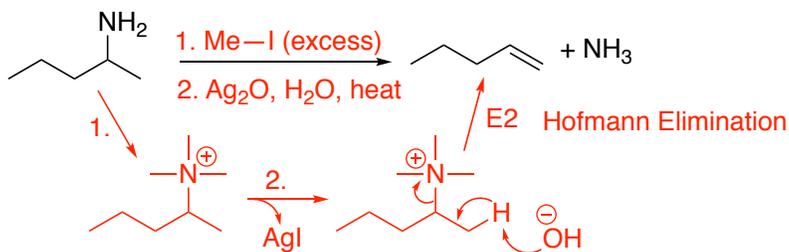
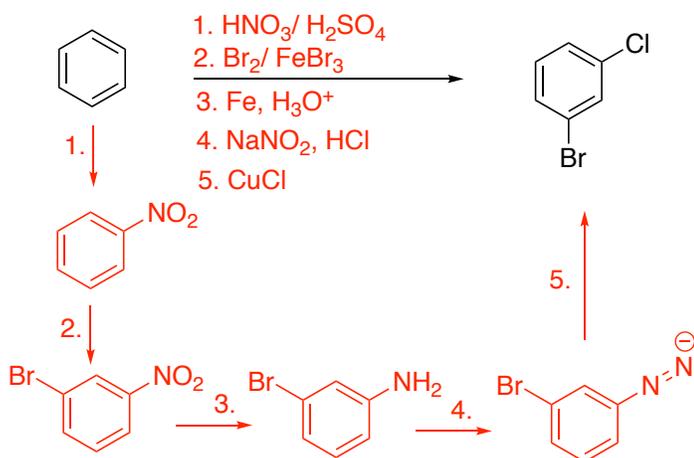
5.



6.



7.



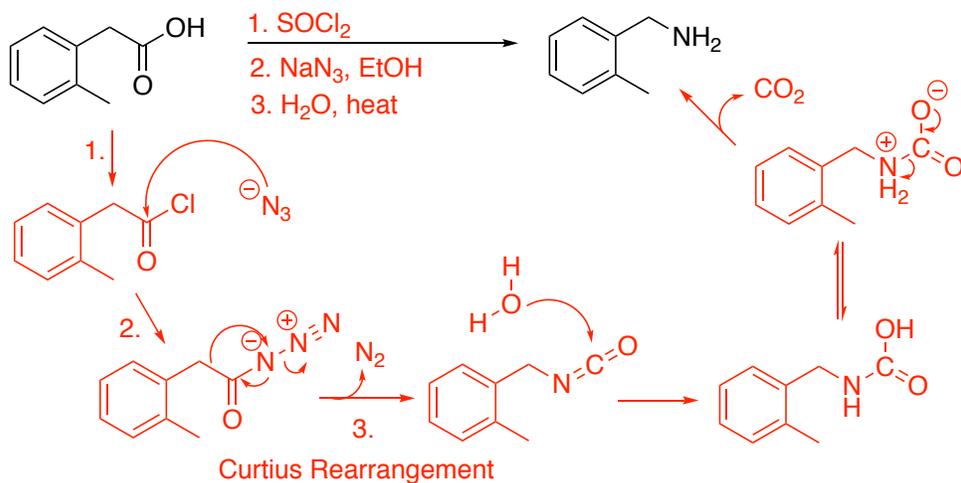
8.



A negative charge on a 1° carbon is more stable than on a 2° or 3°. The opposite is true for a positive charge.

Propose a synthesis and mechanism for the reactions below.

9.



10.

