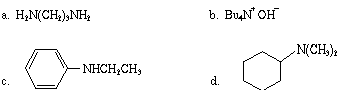
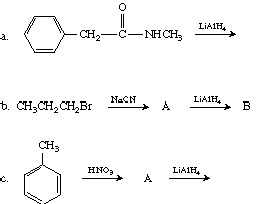
1. Write a structural formula for each of the following compounds:
   1. N,N-diethylaminocyclopentane
   2. ethylpropylamine
   3. tetramethylammonium hydroxide
   4. 1,3-diaminobutane
2. Write a correct name for each of the following compounds:



1. Draw the structures for and name and classify as primary, secondary, or tertiary all the isomeric amines with the molecular formula C5H13N.
2. Give equations for the preparation of the following amines from the indicated precursor.
   1. 1-aminohexane from 1-bromopentane
   2. N-butylaniline from aniline
3. Complete the following equations.



1. Tell which is the stronger base and why.
   1. aniline or o-bromoaniline
   2. aniline or cyclohexylamine
2. Write an equation for the reaction of
   1. trimethylamine with HBr
   2. cyclopentylamine with HCl
3. Illustrate the amphoteric nature of amino acids by writing an equation for the reaction of proline in its dipolar ion form with an equivalent of
   1. hydrochloric acid, HCl
   2. sodium hydroxide, NaOH
4. Write the formula for each of the following in its dipolar ion form.
   1. leucine
   2. threonine
   3. methionine
   4. tyrosine
5. Write equations for the reaction of phenylalanine with
   1. CH3CH2OH and H+
   2. C6H5COCl and base
   3. acetic anhydride