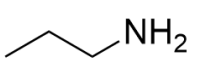
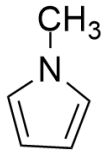
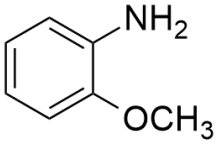
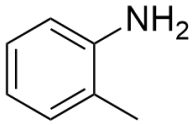
Write out the answers on separate sheets of paper.

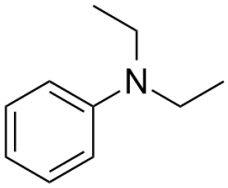
1. Write the structure for the following compounds.
    a. Triisopropylamine
    b. Benzylmethylamine
    c. 3-aminopropan-1-ol
    d. Tetrapropylammonium chloride
    e. 4-methoxyaniline
    f. P-aminobenzoic acid
    g. N-methylaniline
2. Give the IUPAC name for the compound.

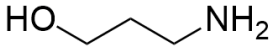




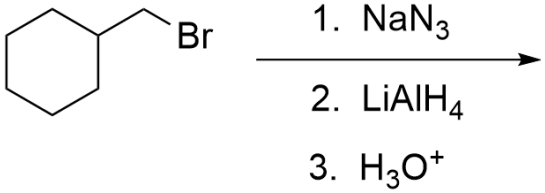


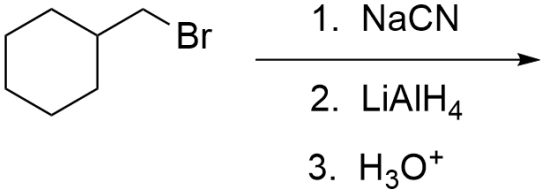


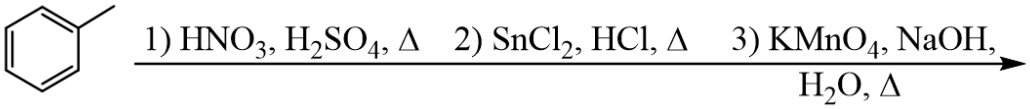


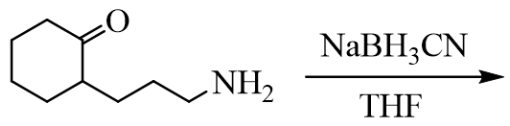


3. Predict the major organic product.

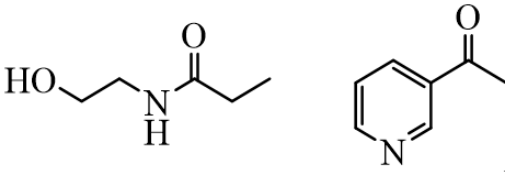








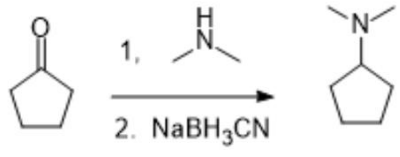
4. Circle the most basic site within each of the following molecules.

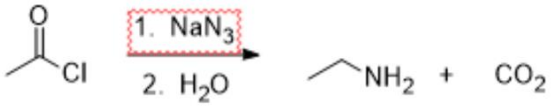


5. Show how you might prepare aniline from each of the following compounds:
   a. Benzene
   b. Bromobenzene
   c. Benzamide

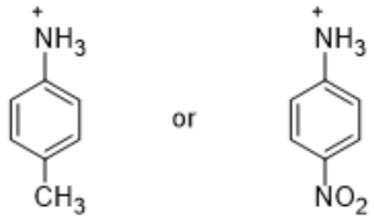
6. Show how you might convert aniline into each of the following compounds:
   a. Fluorobenzene
   b. Benzoic acid
   c. Chlorobenzene
   d. Phenol
   e. Benzene
   f. N,N-Dimethylaniline

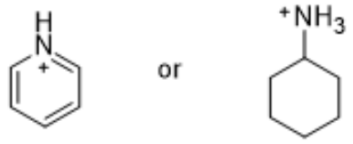
7. On a separate sheet of paper, write out the mechanism for reductive amination and Curtius rearrangement.





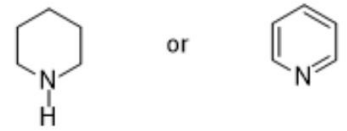
8. Select the stronger acid and describe why it is the stronger acid.

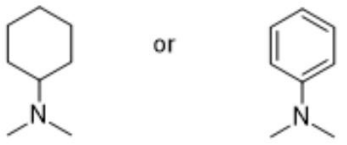


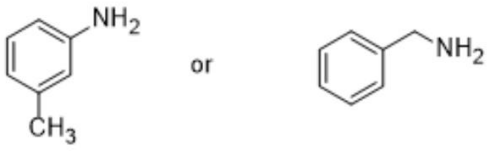


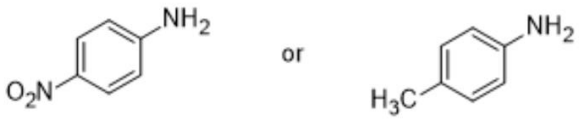
9. Draw the structures of diethylamine and diethyl ether. Which has a higher boiling point and why?

10. Select the stronger base and describe why it is the stronger base.









11. Account for the fact that 1-butylamine has a lower boiling point than 1-butanol.