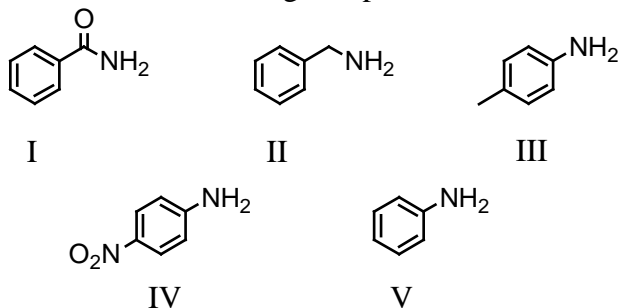
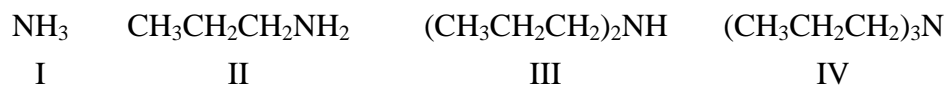


Homework/Problem Set
Chapter 20 (Amines)

1. Which of the following compounds would be the strongest base?



2. Arrange the following amines in order of decreasing basicity (most to least) in aqueous solution:

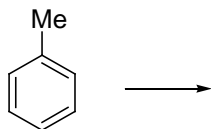


3. The overall conversion: $\text{RBr} \longrightarrow \text{RCH}_2\text{NH}_2$

can be accomplished by successive application of which of these sets of reagents

- A) Mg, ether; then NH_3
- B) NaN_3 ; then LiAlH_4 , ether
- C) NaCN ; then LiAlH_4 , ether
- D) $\text{H}_2\text{C}=\text{O}$; then NH_3
- E) H_2NOH ; then LiAlH_4 , ether

4. Show how you might prepare *para*-fluorotoluene from toluene.



5. Outline preparation of the 2-methyl-1-propanamine using the Gabriel synthesis.