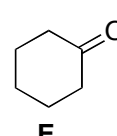
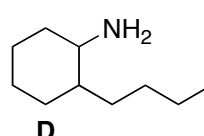
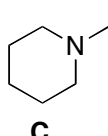
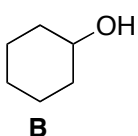
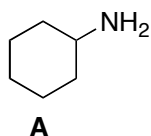
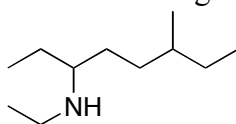


1. Solubility/Boiling point problem. Which of the following statements is **false**?

- The water solubility of **A** is greater than for **B**, because amines are more basic and thus hydrogen bond better with water.
- The boiling point of **B** is greater than for **A**, because alcohols are more acidic and thus hydrogen bond better with themselves.
- The relative boiling points should be **D** > **A** > **C**
- The relative water solubilities should be **D** > **A** > **C**
- Structures **C** and **E** can hydrogen bond to water, but neither can hydrogen-bond to itself

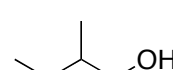
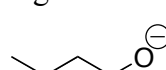
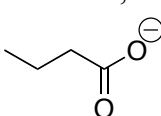
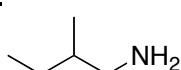
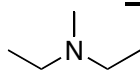


2. Name the following:



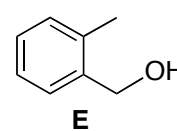
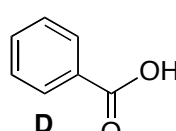
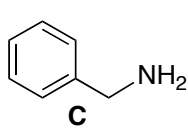
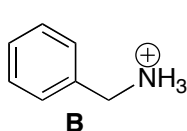
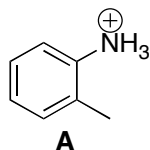
3. Draw the structure for 3-aminocyclohexanone

4. Rank the **basicity** of the following from 1 to 5, 1 being highest.

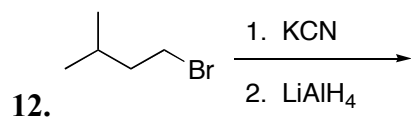
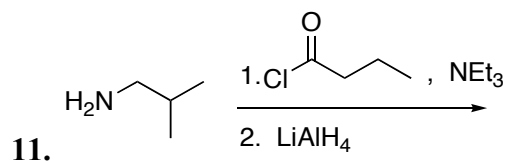
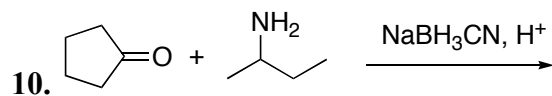
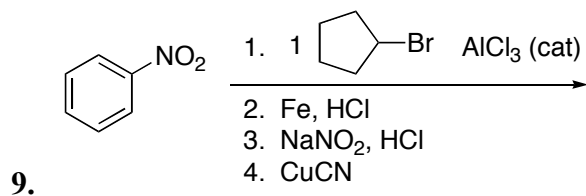
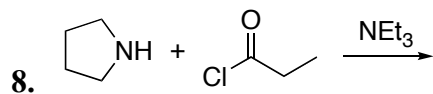
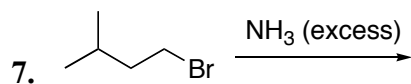
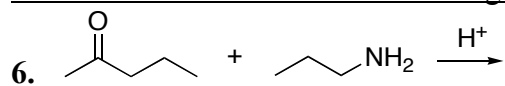


5. Which of the following statements is **false** regarding the acidities of structures **A-E**:

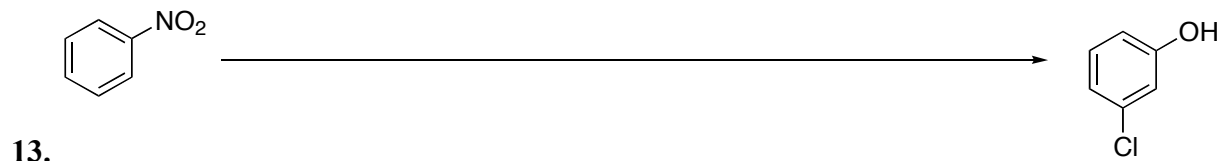
- In terms of acidity, **A** > **B** > **C**
- In terms of acidity, **D** > **B** > **E**
- In terms of acidity, **E** > **B**

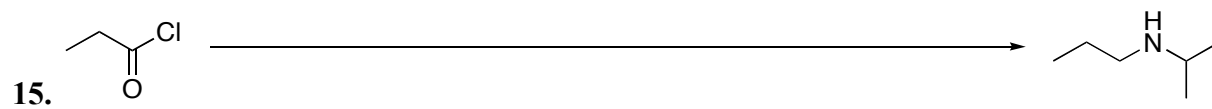
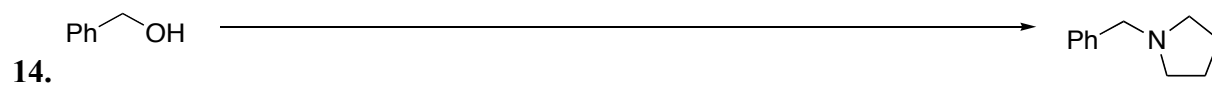


Predict the Products for the Following Reactions



Design Syntheses for the Following





Draw the mechanism for the following reactions.

