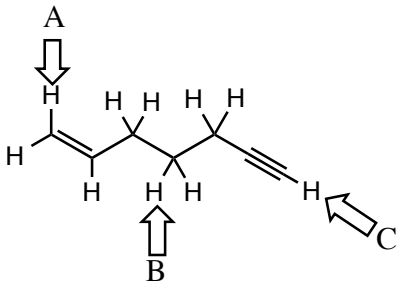
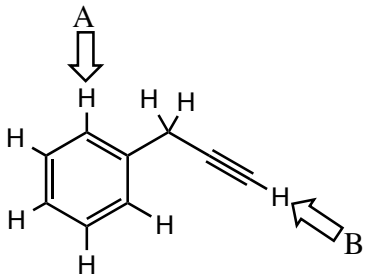
Organometallic Practice Problems
Solutions

1

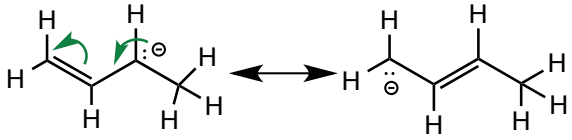


most acidic C > A > B least acidic



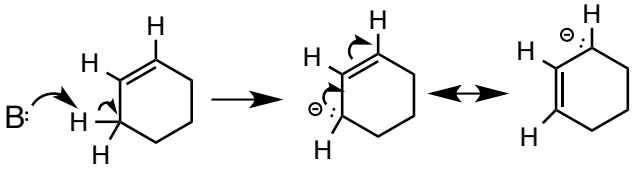
most acidic B > A least acidic

A.

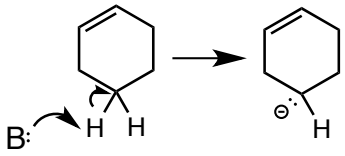


2 **B.**

- the lower pKa for protons A mean that they are more acidic than those marked B
- the greater acidity can be traced to a more stable conjugate base, which is stabilized by resonance, while the conjugate base from removal of protons B are not stabilized.

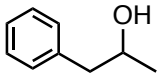
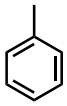
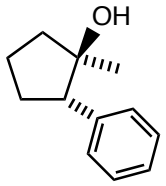


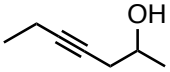
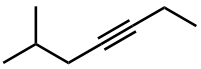
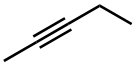
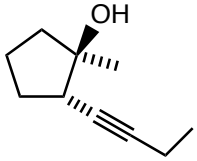
resonance stabilized

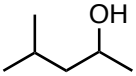
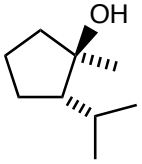


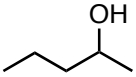
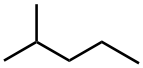
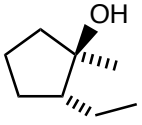
NOT resonance stabilized

3

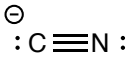
1A  **1B** no substitution **1C**  **1D** 

2A  **2B**  **2C**  **2D** 

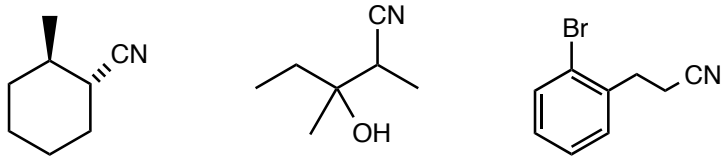
3A  **3B** no substitution **3C**  **3D** 

4A  **4B**  **4C**  **4D** 

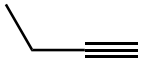
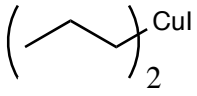
4

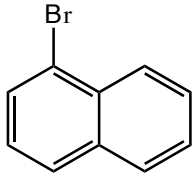
A. 

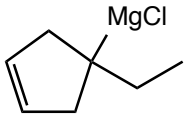
B. A carbon with a lone pair is inherently more nucleophilic than a nitrogen atom because of its lower electronegativity. Additionally, the C atom is rendered even more nucleophilic due to the presence of the negative charge. Hence, reaction will occur at the more nucleophilic C over the N.

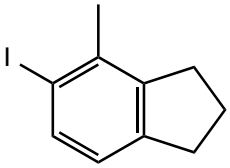
C. 

5

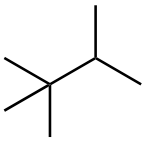
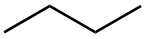
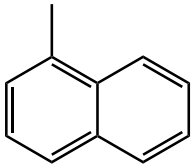
A. Mg°, ether B.  C. 

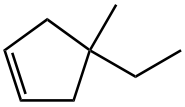
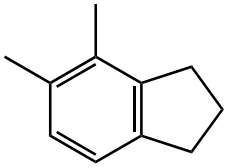
D. 

E. 

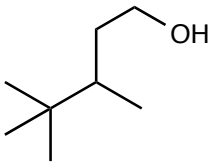
F. 

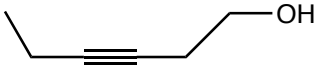
6

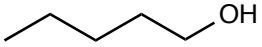
A.  B.  C.  D. 

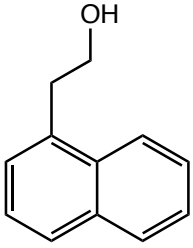
E.  F. 

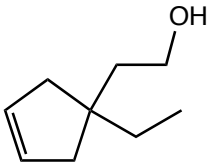
7

A. 

B. 

C. 

D. 

E. 

F.