

Video Practice for Topic I.9-10:

Acids and Bases:

Definitions

Relating Structure to the Strength of an Acid or Base

Recommended reading for this topic:

Lesson I.9-10 in *Organic Chemistry 1 Primer 2018*,

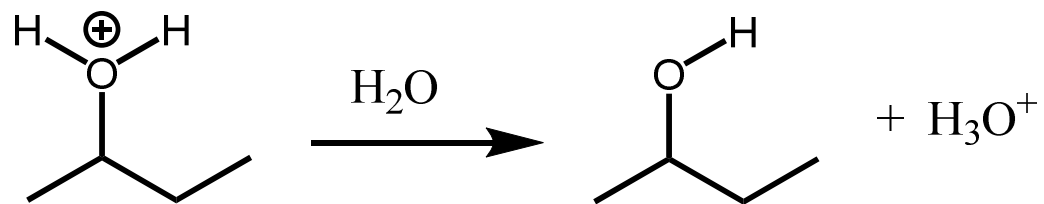
by Rhett C. Smith, Andrew G. Tennyson and Tania Houjeiry

Additional Videos and how to match videos to your course text book:

ProtonGuru.com

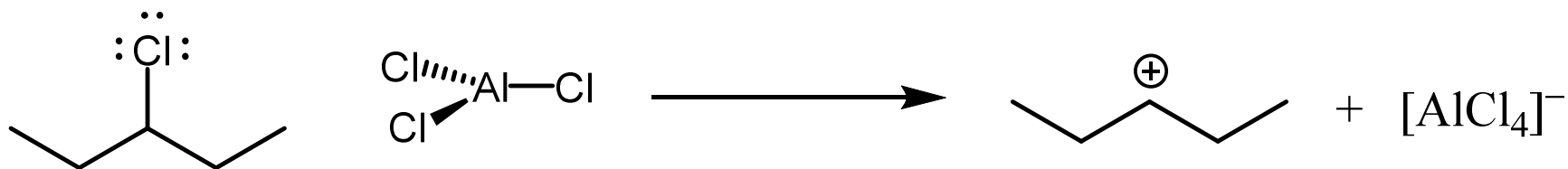
Acids and Bases

Identify the acid and the base in this reaction.



Acids and Bases

Identify the acid and the base in this reaction.



Acids and Bases

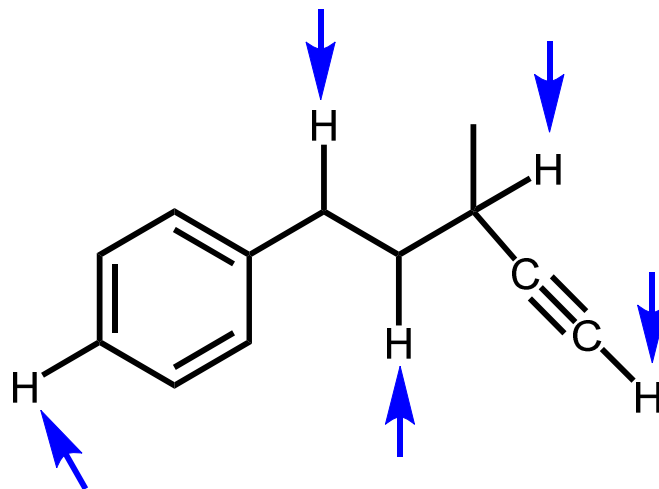


Which of these are Lewis acids and which are Lewis bases?



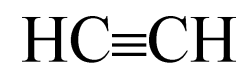
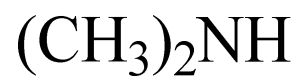
Acids and Bases

Identify the most acidic proton selected from those shown in the structure below:



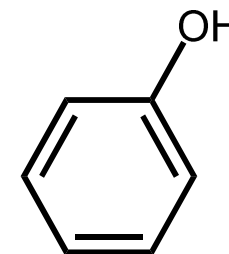
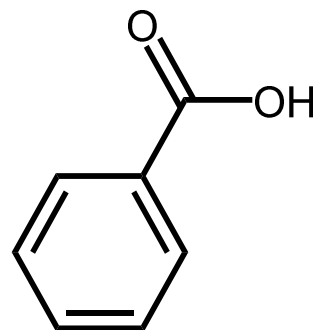
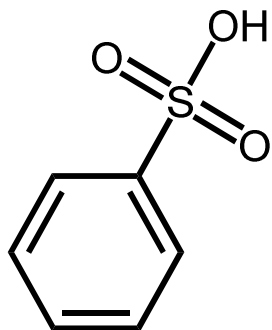
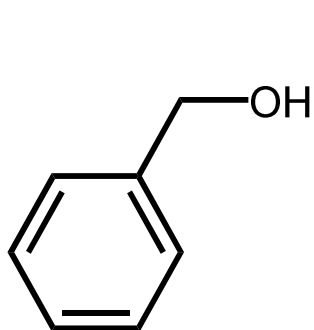
Acids and Bases

Rank these from strongest to weakest acid:



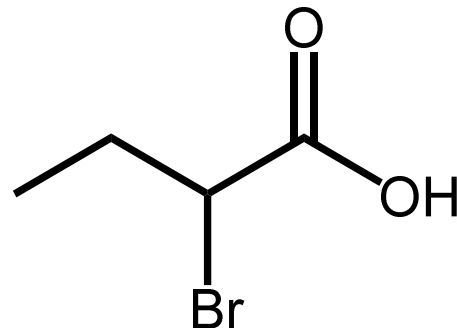
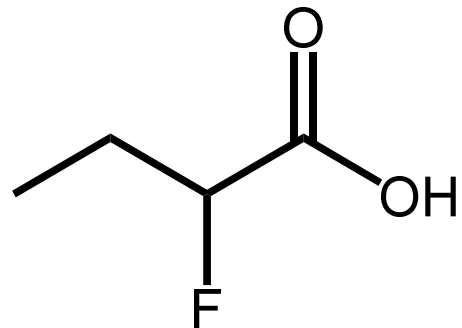
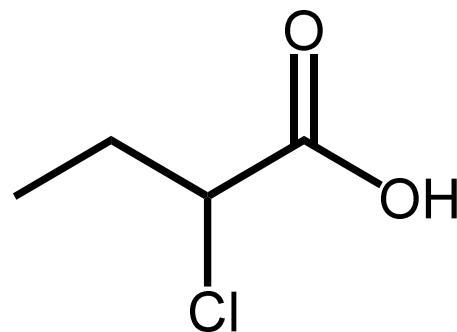
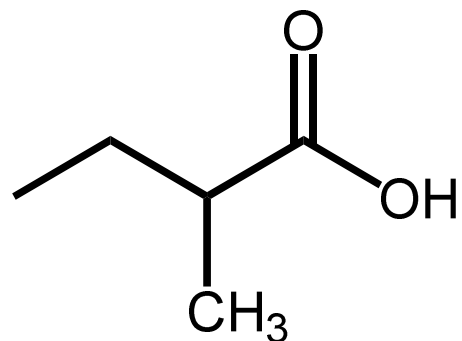
Acids and Bases

Rank these from strongest to weakest acid:



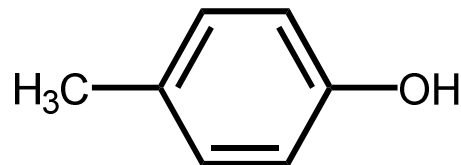
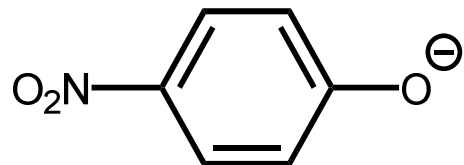
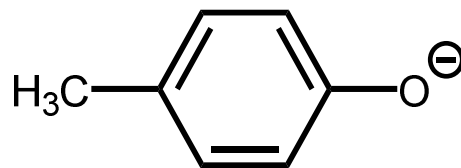
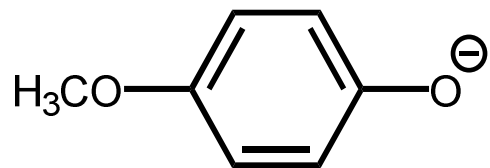
Acids and Bases

Rank these from strongest to weakest acid:



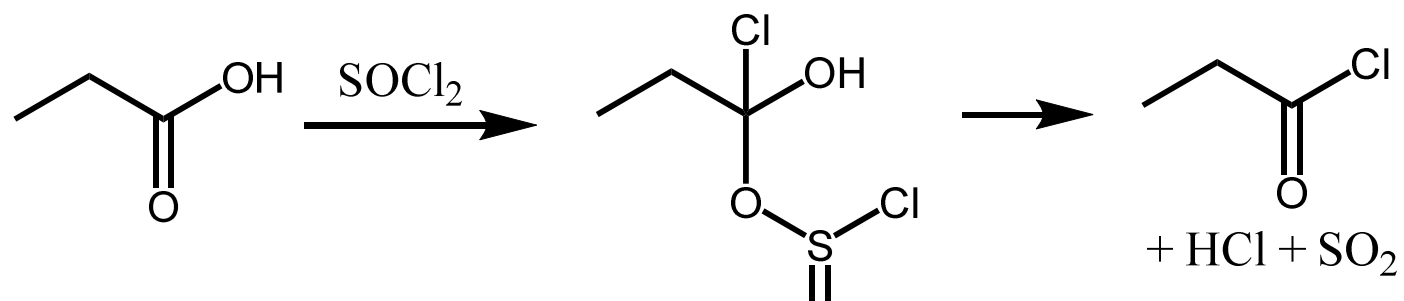
Acids and Bases

Rank these from strongest to weakest base:

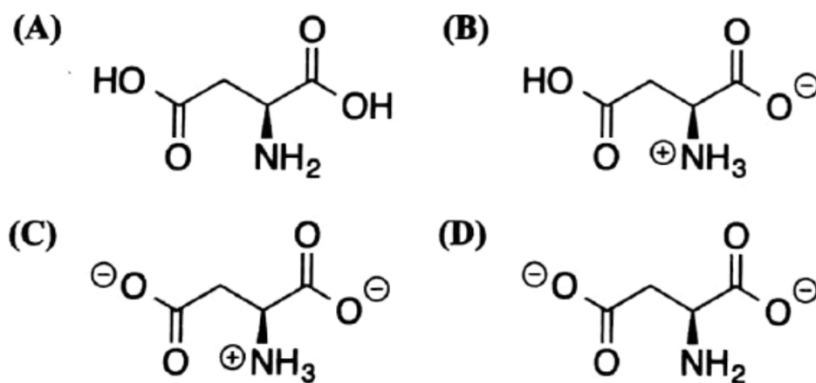


Acids and Bases

What is the predominant form of this species at pH = 7?

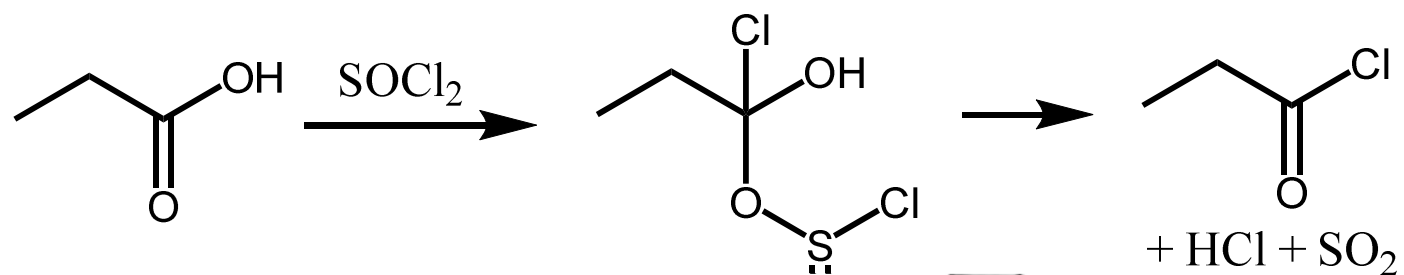


17. What form of aspartic acid predominates at pH = 11?



Acids and Bases

What is the predominant form of this species at pH = 7?



9. Which is the predominant form of the amino acid, serine, at pH = 1?

- (A) $\text{HOCH}_2\text{CH}(\text{NH}_3^+)\text{COO}^-$ (B) $^-\text{OCH}_2\text{CH}(\text{NH}_2)\text{COOH}$
- (C) $\text{HOCH}_2\text{CH}(\text{NH}_2)\text{COO}^-$ (D) $\text{HOCH}_2\text{CH}(\text{NH}_3^+)\text{COOH}$

What is the structure of ...