

Structure & Acidity

More stable anion = more acidic acid

5 Ways to Stabilize an Anion

1)

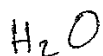
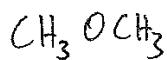
4)

2)

5)

3)

Identify the following as either a Lewis Acid (electrophile) or Lewis Base (nucleophile)

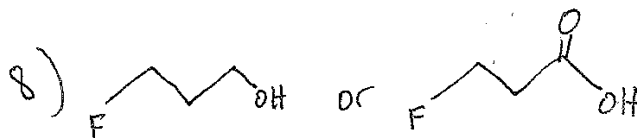
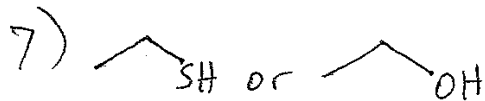
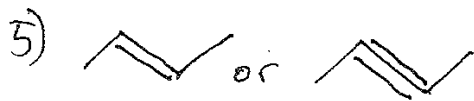
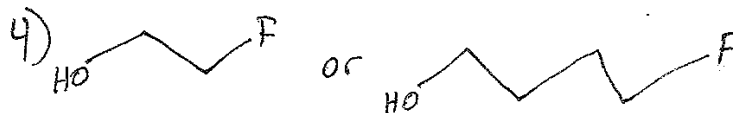
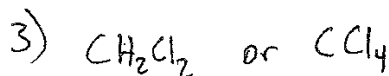
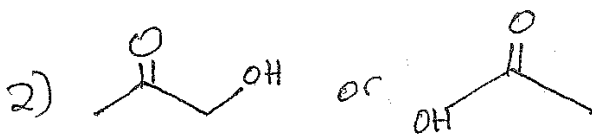
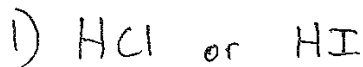


Generalizations

-

-

Identify the better acid in each pair:



CH 235 SI
Acids + Bases

Session 4

Bliss Chang

Definition

Acid

Base

Arrhenius

Bronsted-Lowry

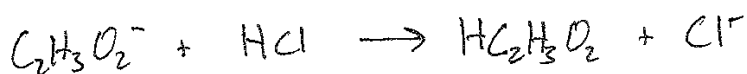
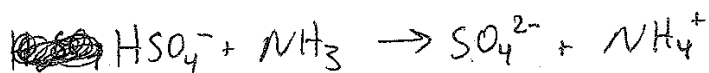
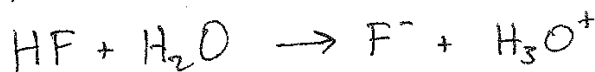
Lewis

Identifying Acid-Base Conjugate Pairs

Conjugate Acid formed from _____ + _____

Conjugate Base formed from _____ + _____

Identify the species in each rxn as conjugate pairs:



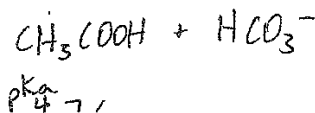
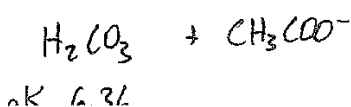
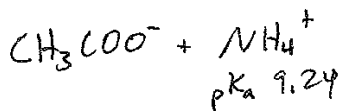
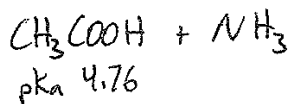
K_a Acidity Constant

$$K_a = \frac{[\text{H}_3\text{O}^+][\text{A}^-]}{[\text{HA}]}$$

* Larger K_a = stronger acid

$\text{p}K_a = -\log K_a$ * Smaller $\text{p}K_a$ = stronger acid

** Equilibrium favors the weaker acid/base!



Draw appropriate arrows to show direction of equilibrium