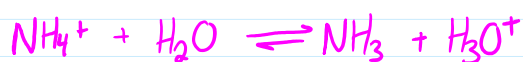


4.9 Ka & Kb in Conjugate Pairs

Acid Ionization



Ka =

Base Ionization



Kb =

Relationship

$$K_a \times K_b =$$

Ka expression
↓

$$\frac{[\text{NH}_3][\text{H}_3\text{O}^+]}{[\text{NH}_4^+]}$$

×

Kb expression
↓

$$\frac{[\text{NH}_4^+][\text{OH}^-]}{[\text{NH}_3]}$$

Try the Math

$$K_a \times K_b = K_w$$

This Eqn allows you to find Kb for weak bases using Ka in table

For a Conjugate Pair

$$K_a \times K_b = K_w$$

Example: Calculate Kb for H_2PO_4^-

Do 4.9 Pg 130 #35-37