

A Base

source

- A base is a chemical that **takes a hydrogen ion** from another chemical and absorbs it.
- In an aqueous solution, a strong base **ionizes entirely**.
- A weak base **ionizes just minimally** in a water solution.

SIGNIFICANCE OF VALUE OF K_b:

- The numerical value of K_b reflects the **strength of the base**.
- Weaker bases have lower K_b values and vice versa also holds true (stronger bases have high K_b).

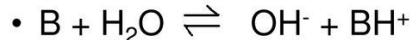
Base Ionization Constant K_b

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- The base ionization constant K_b can be determined **experimentally** and each base has its own **unique value**.

Base Ionization Constant

- **Base Ionization Constant (K_b)**: the equilibrium constant for the ionization reaction of a base with water



$$K_b = \frac{[\text{BH}^+][\text{OH}^-]}{[\text{B}]}$$

- Large K_b = Strong base
- Small K_b = Weak base