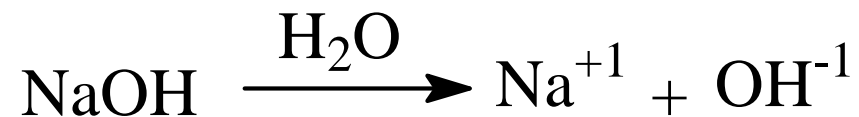
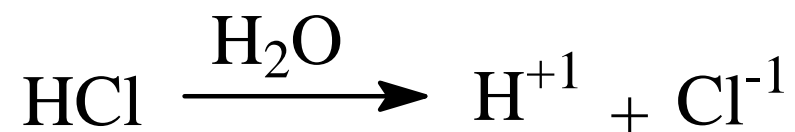


Acid Base Theory

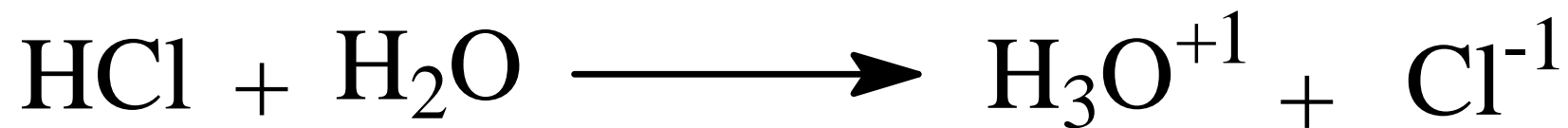
Arrhenius definition based on ionization



Bronsted Lowry Definition

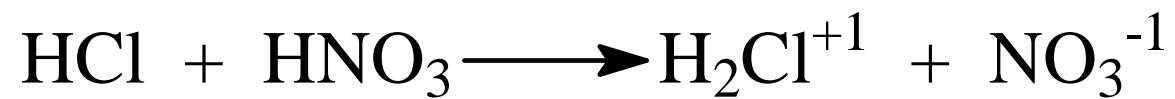
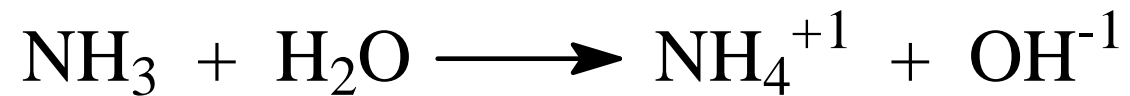
acid- H^{+1} donor

base- H^{+1} acceptor

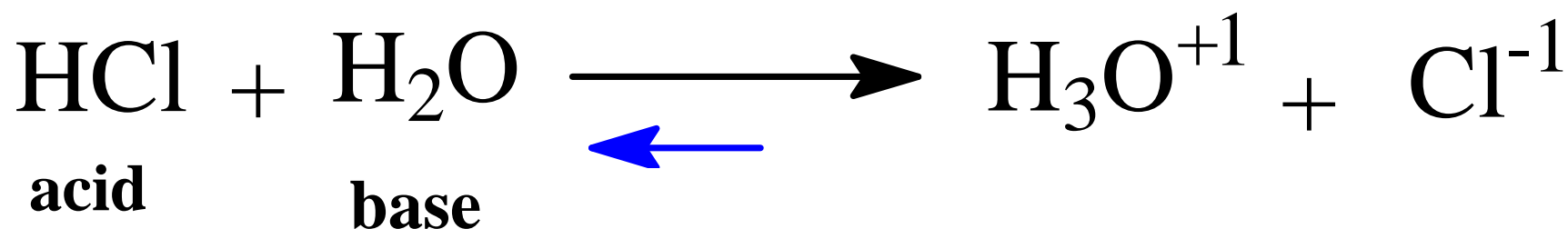
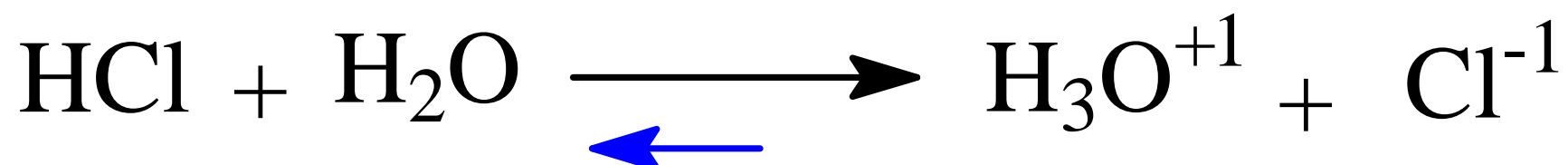


Q1

Label the acid and base:

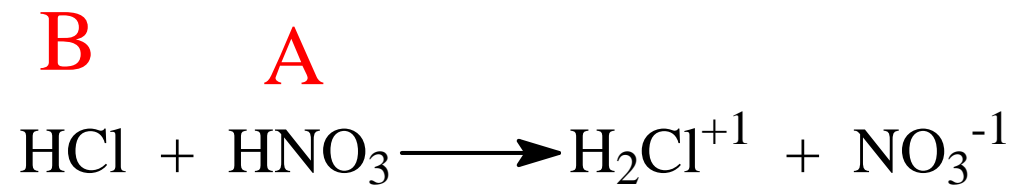
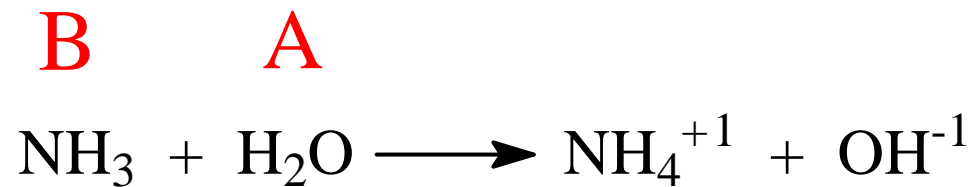


Reactions are Reversible



Q2

Label the conjugate acid and conjugate base:



Notice

acid $\xrightarrow{\text{becomes}}$ conjugate base

base $\xrightarrow{\text{becomes}}$ conjugate acid

$\text{HCl}/\text{Cl}^{-1}$ are "conjugate pairs"

$\text{H}_2\text{O}/\text{H}_3\text{O}^{+1}$ are "conjugate pairs"

Another point of View: Conjugate Acids

What's the conjugate acid of HNO_3 ?

Since a base becomes a conjugate acid
treat HNO_3 as a base (add H^{+1})

Q3

What are the conjugate acids of:



Conjugate Bases

What's the conjugate base of H_2O ?

Since an acid becomes a conjugate base,
treat H_2O as an acid (remove H^{+1})

Q4

What are the conjugate bases of:

