Answer on Question #41600, Chemistry, Other

Task:

The equilibrium constant for the reaction below has the value $Ka=3.5\times10^{-4}$. In this reaction the Brønsted-Lowry acid is _____.

$HF(aq) + H_2O(l) \rightleftharpoons H_3O^+(aq) + F^-(aq)$

Express your answer as a chemical formula.

Answer:

A Bronsted-Lowry acid is defined as anything that releases H^+ ions. In this case a Fluorine acid dissociates to:

$HF=H^+ + F^-$

At the same time H_2O molecule accepts the H^+ proton.

$H_2O+ H^+= H_3O^+$

So if the HF releases the H^+, it is the Brønsted-Lowry acid in this reaction.