(13) **Today**

Sections 2.7 – 2.11
Acids and Bases

Next Class (14)

Test 1
Chap 1 and Chap 2.1 - 2.3

(15) **Second Class from Today**

Sections 2.7 – 2.11
Acids and Bases

Section 2.12
Noncovalent Interactions Between Molecules

Third Class from Today (16)

Sections 2.7 – 2.11
Acids and Bases

Section 2.12
Noncovalent Interactions Between Molecules

Review Session Thursday at 7:30 in Wilson 304 and on Zoom

In aqueous solutions, the solution is considered **acidic** if the concentration of **H^+** is **greater than** the concentration of **OH^-**. At 25 °C, this occurs when the pH is less than 7.

In every day language, we might say that the solution is an acid. More precisely, there is a molecule **in the solution that acing as an acid and is causing the solution to be acidic**.

We will call molecules or ions **acids or bases based on how they react** (or could react).

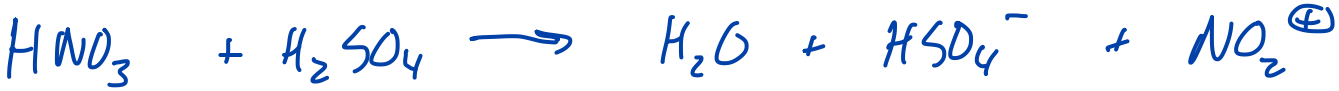
There are **many molecules** that can **act as a base** in some circumstances **or an acid** in other circumstances.

Molecules or compounds that are very likely to react as an acid are often called acids, but technically, the molecule or compound is not an acid until it behaves like an acid.

HNO_3, for example... nitric acid

Again, we will call molecules or ions **acids or bases based on how they react** (or could react).

On the other hand, we will still use the looser meaning where molecules and compounds that we expect to react like an acid or a base will be referred to as acids and bases.



A Brønsted-Lowry acid is an H^+ donor

they give an H^+ to another molecule

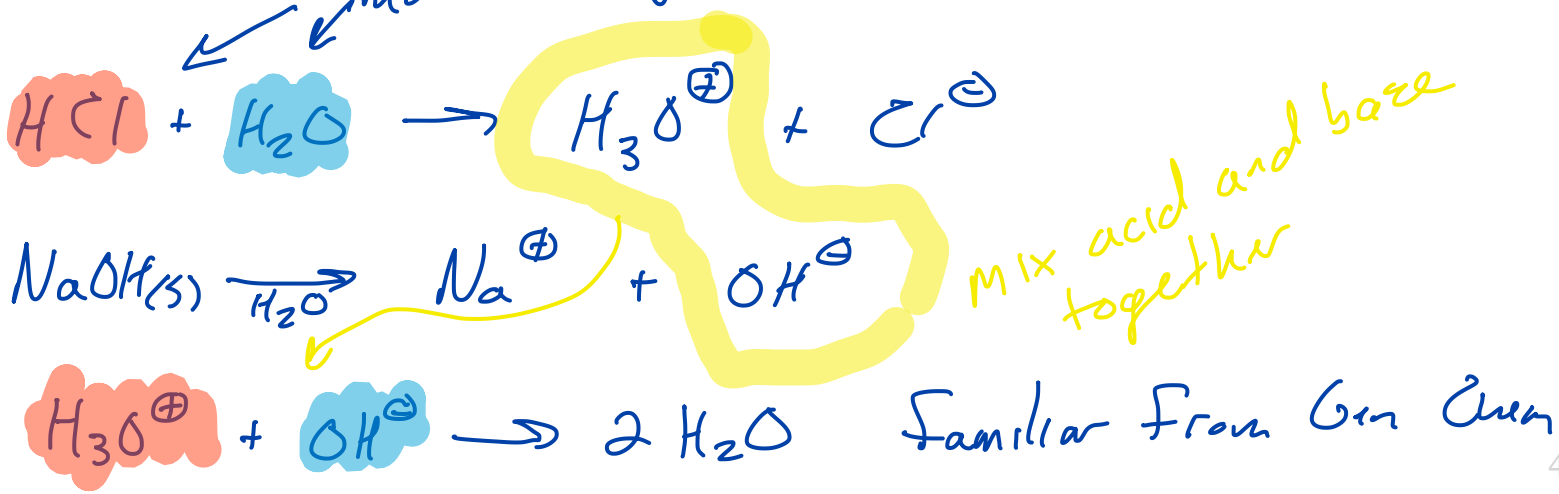
Hydrogen cation donors or proton donors

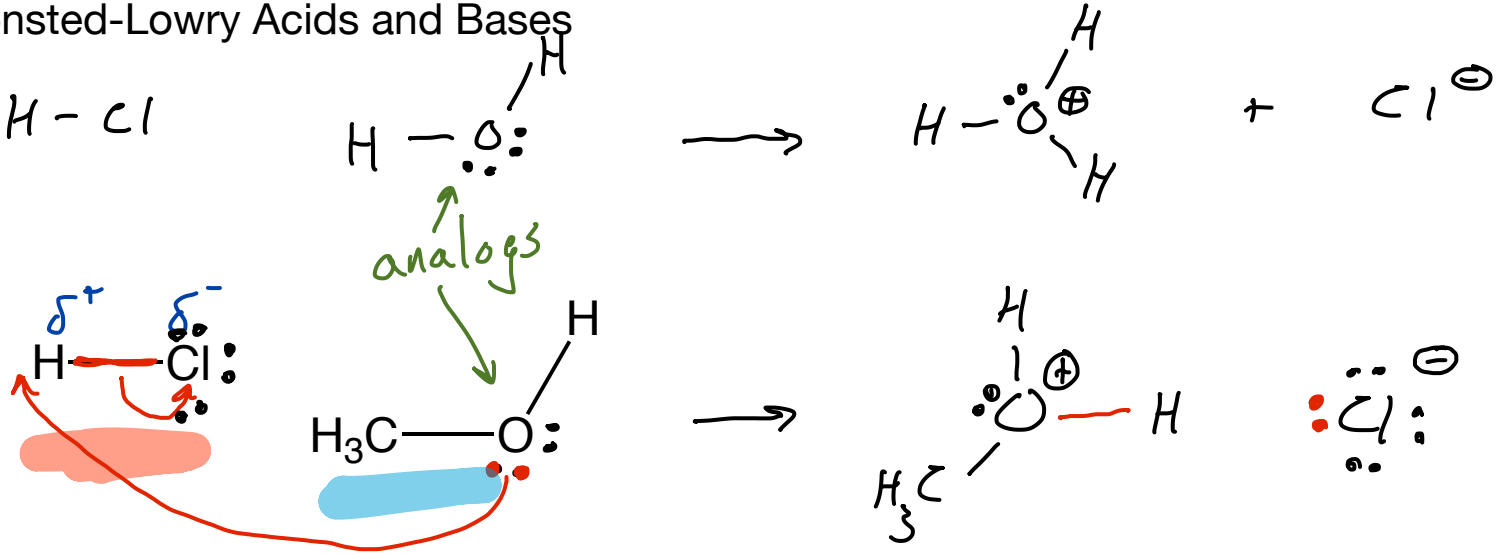
H atom = $1e^-$ + 'p' H^+ ion = 'p'

A Brønsted-Lowry base is an H^+ acceptor

proton acceptors

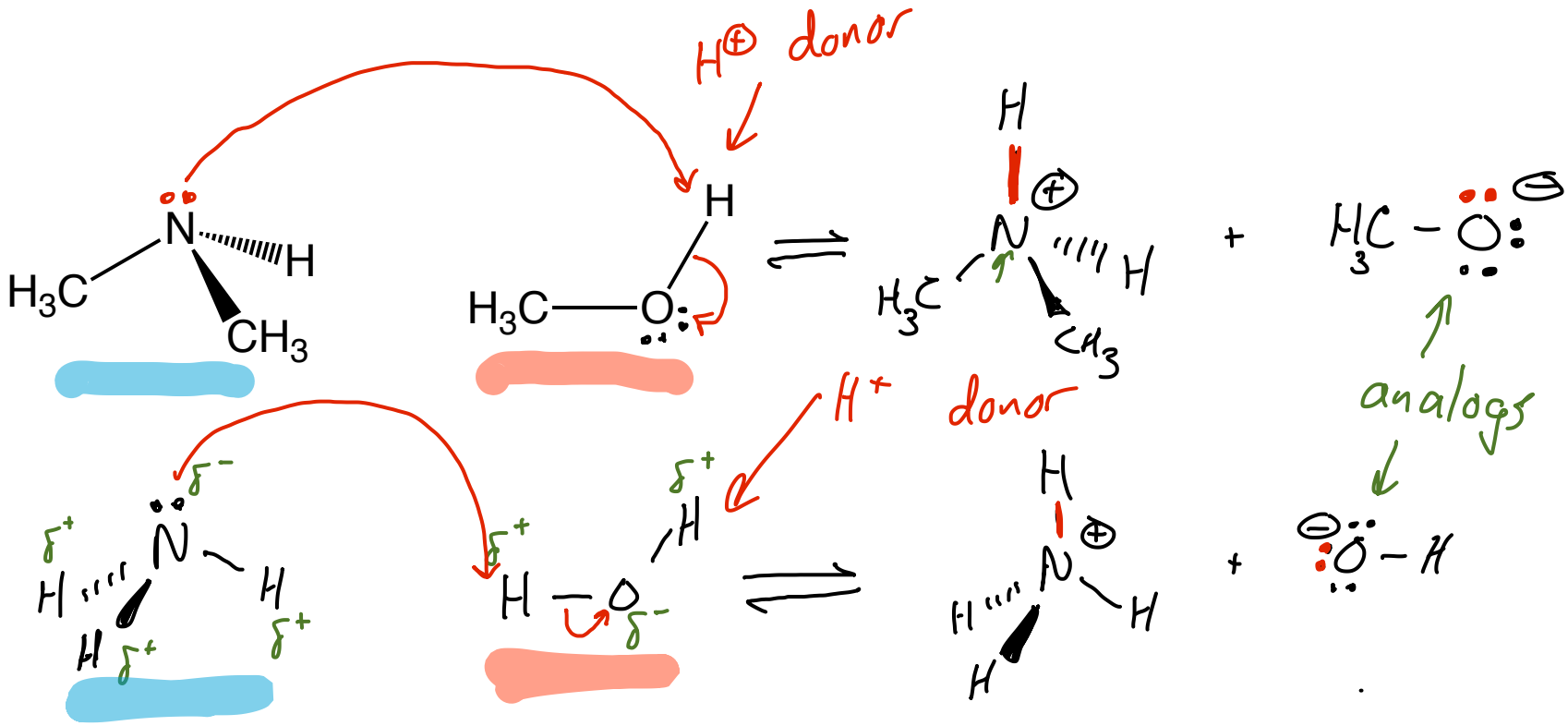
new? for organic

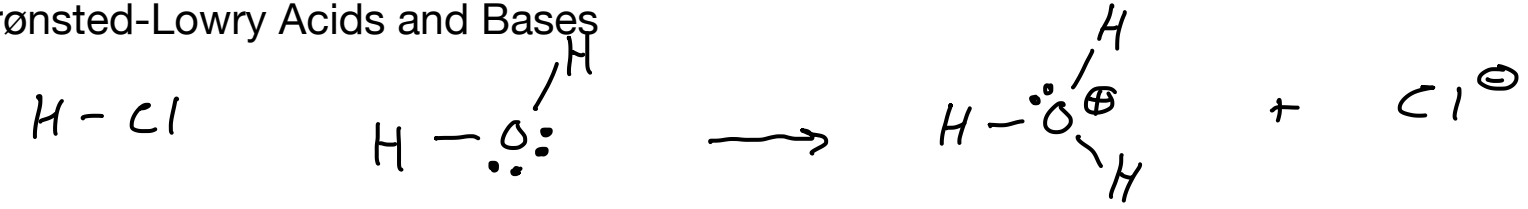


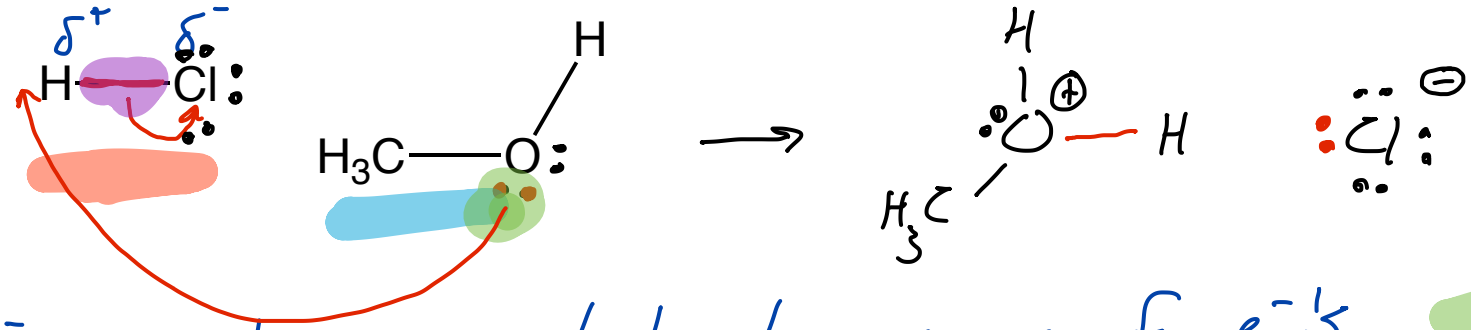


e⁻ movement arrow

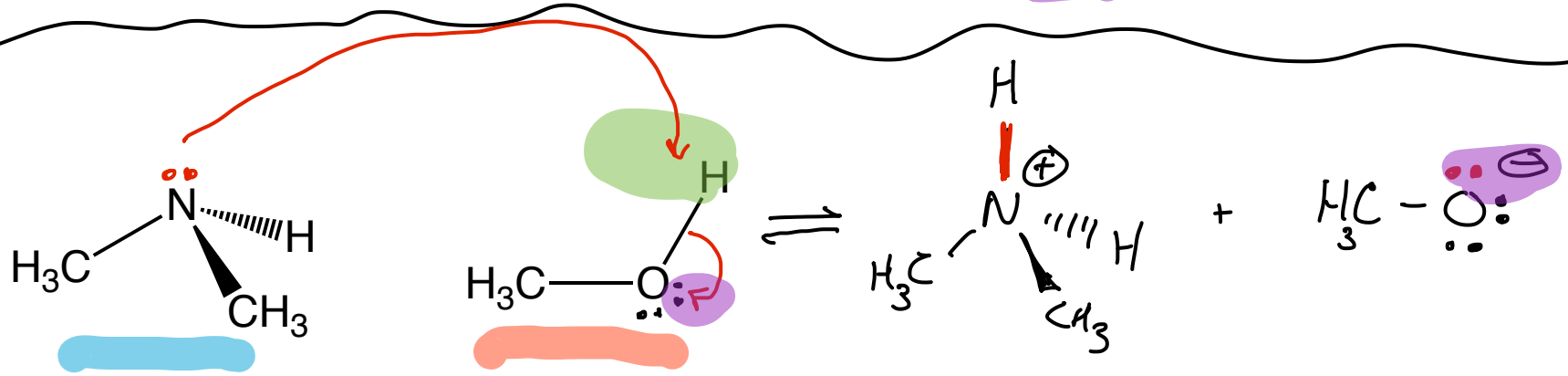
$FC_N = 5 - (0 + 4) = 1$



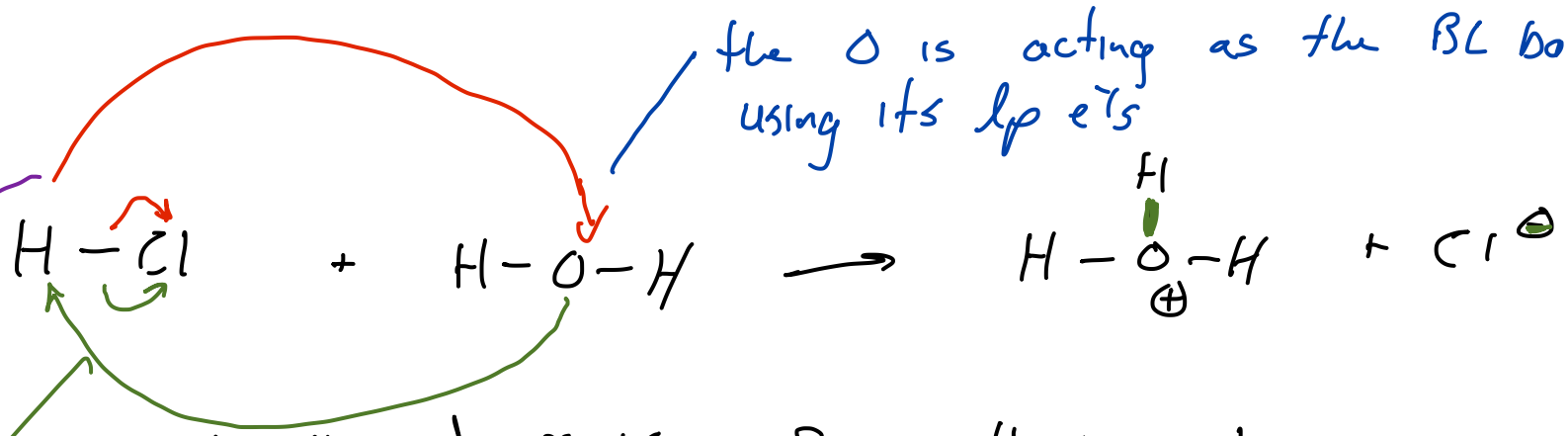




e⁻ movement arrows start at a source of e⁻'s lp e⁻'s
or at e⁻'s that are part of a bond



e⁻ movement arrows end next to an atom when making a bond
or at an atom when charge builds up on the atom



Are the red arrows OK? no, they're not.

still not OK

the problem is that this arrow is starting from an H atom ... not a bond ... and H atoms don't have lp e⁻'s, also we would be donating e⁻'s to O which already has a complete octet.

remember arrows move e⁻'s not atoms

oxygen's lp e⁻'s are being used to form the bond to the H. Now, the green arrows are OK