Substitution/Elimination #1: Acid-Base Review, Sub/Elim Introduction

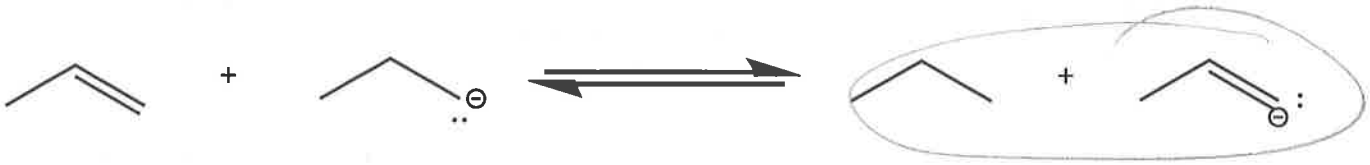
1.) Hey, gang! Time to kick it up a notch: We're about to get into the thick of organic chemistry. But don't be scared—this is where the cool, fun stuff starts. But first, and trust me that this is helpful, let's do some acid-base review.

Pick the favored side of the acid-base equilibrium, while also identifying the specified weak/strong acids/bases listed in each problem.

Weakest Acid: H_2O **Strongest Base:** $OH^{\ominus}$

Weakest Acid: NH_3 **Strongest Base:** $NH_2^{\ominus}$

Strongest Acid: H_3As **Weakest Base:** $H_2As^{\ominus}$



Weakest Acid:  **Strongest Base:** 

Weakest Acid: $H_3O^{\oplus}$ **Strongest Base:** H_2O

Way to go: That was old hat for you all I bet. Okay, so in the next worksheet, we're going to get into the new reactions more, but I feel that nailing down the terminology that is used in these reactions is ***so*** important. So these last few problems to finish out this worksheet is to accomplish just that and put us on our way to speaking organic lingo with no problems at all.

2.) So in the last video lesson, we discussed nucleophiles (lovers of positive charge, so think negative molecules, right?) and electrophiles (lovers of negative charge, so think positive molecules, right?).

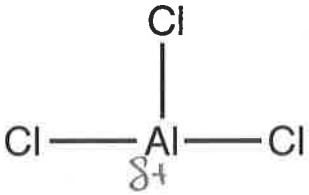
These terms are used extensively in o chem moving forward, so given the molecule below, classify it as either a nucleophile or an electrophile.

Nucleophile

Electrophile

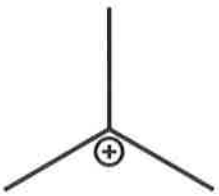
Nucleophile

Nucleophile

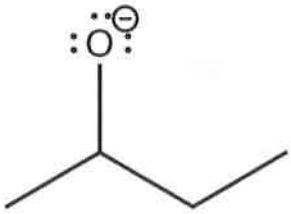


Electrophile

Nucleophile



Electrophile



Nucleophile

Electrophile

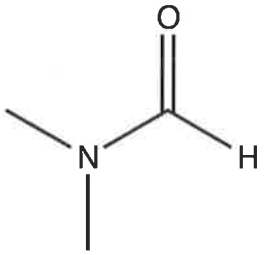
3.) Okay, good job. Also, in the last video, we discussed different types of solvents. Being able to classify solvents into various categories is also key, seeing as it can help you identify the type of reaction you are dealing with (this will be more apparent when we really get into different substitution and elimination reactions).

For the following structures below, identify the solvent to be either: **polar protic, polar aprotic, or non-polar**.

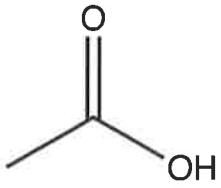
Non-polar

polar protic

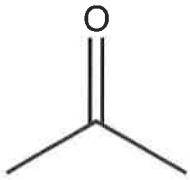
Dimethylformamide (DMF)



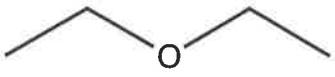
polar aprotic



polar protic

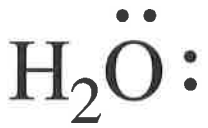


polar aprotic

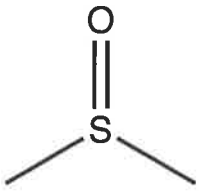


non-polar

Dimethyl Sulfoxide (DMSO)

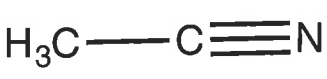


polar protic



polar aprotic

Acetonitrile (MeCN)



polar aprotic