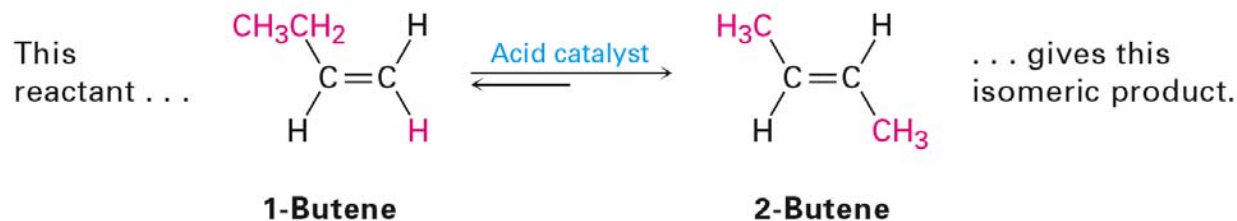
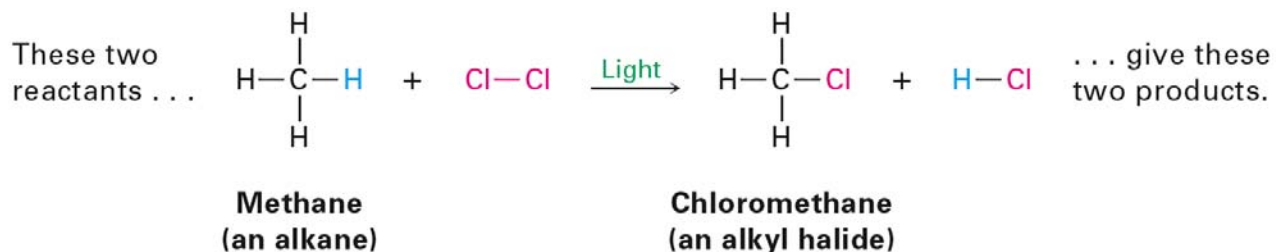
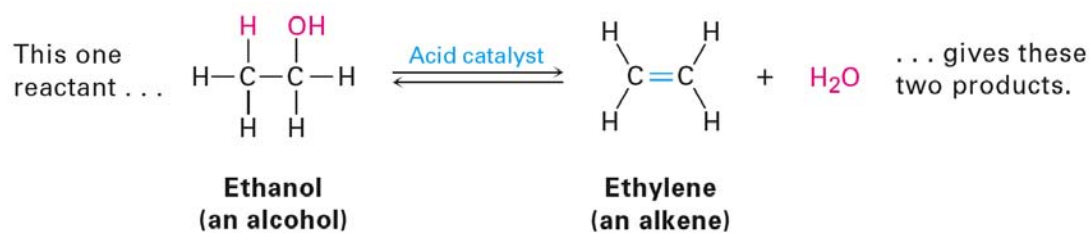
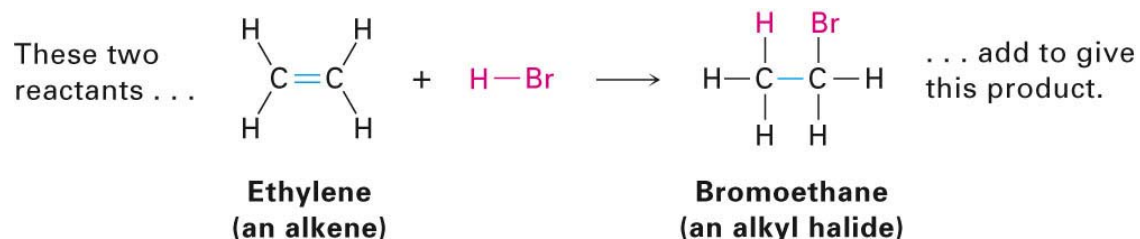


Chapter 6: Chemical Reactivity and Mechanisms

Today – Chapter 6: Mechanisms (6.7 - 6.10, 6.12)
(We'll come back to 6.11 later.)

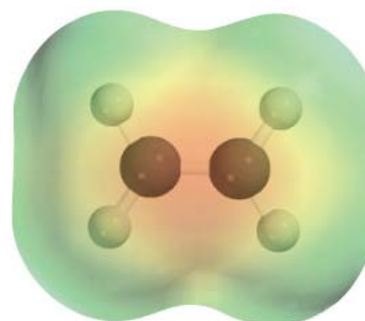
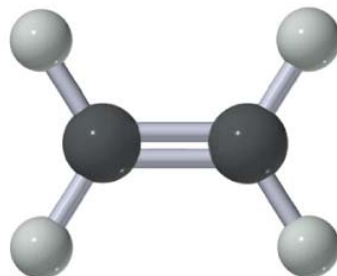
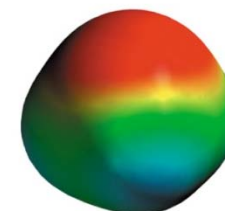
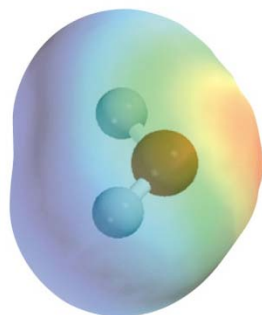
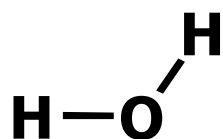
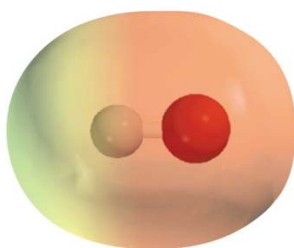
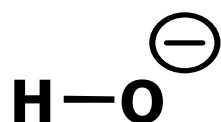
MONDAY – Chapter 7: Substitution Reactions (7.1-7.4)

Chapter 6 Part 2: Organic Reactions

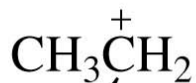


NUCLEOPHILES

Examples of Nucleophiles



ELECTROPHILES

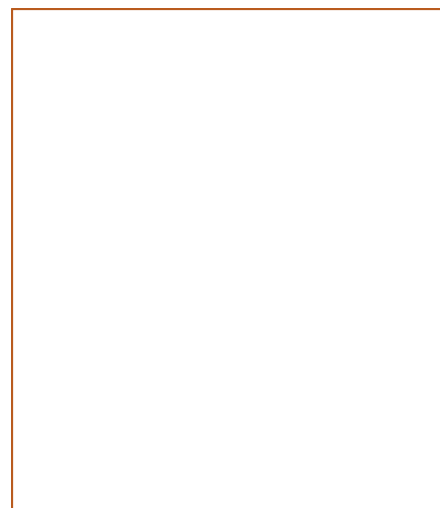
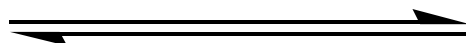
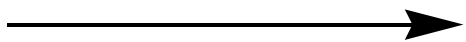


these are electrophiles because they
can accept a pair of electrons

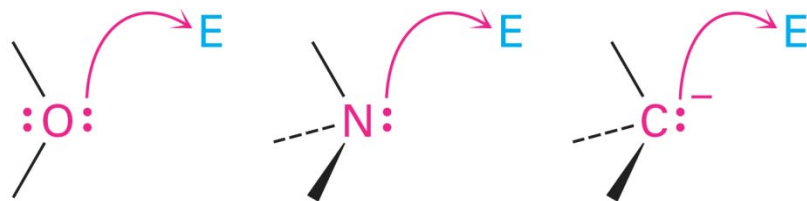


these are electrophiles because
they are seeking an electron

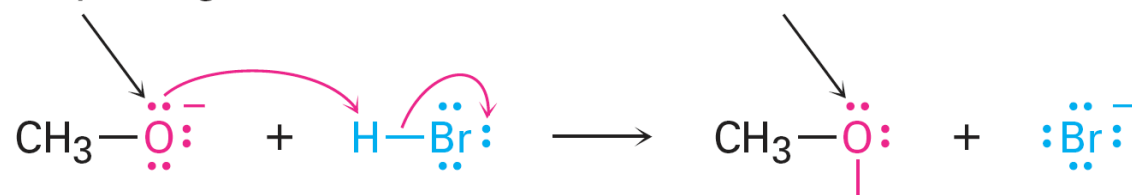
Arrows in Chemistry



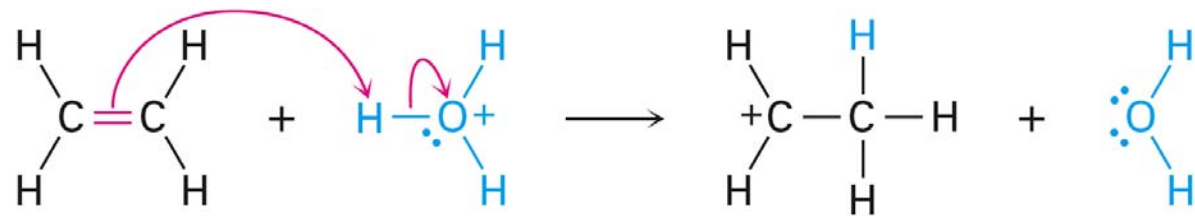
Rules for Using Curved Arrows



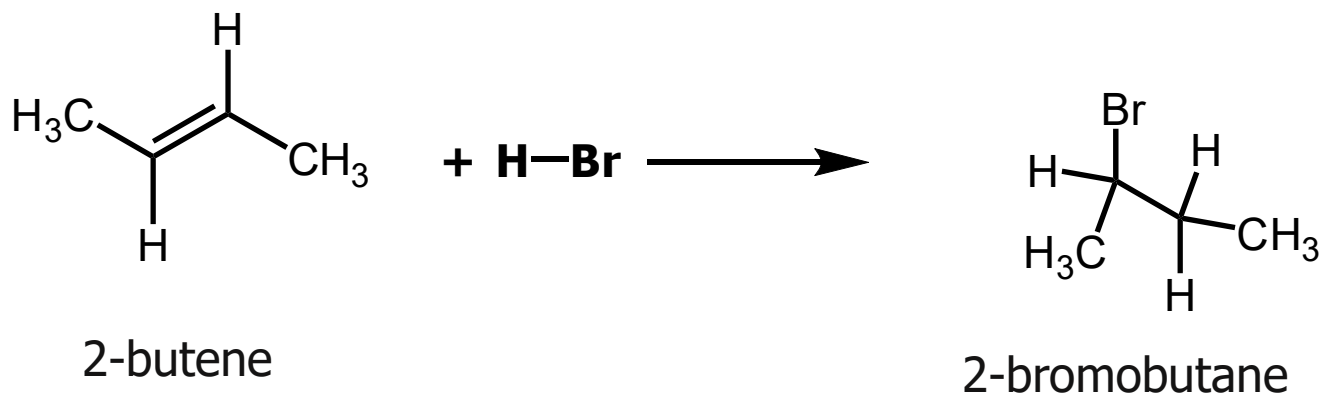
Negatively charged



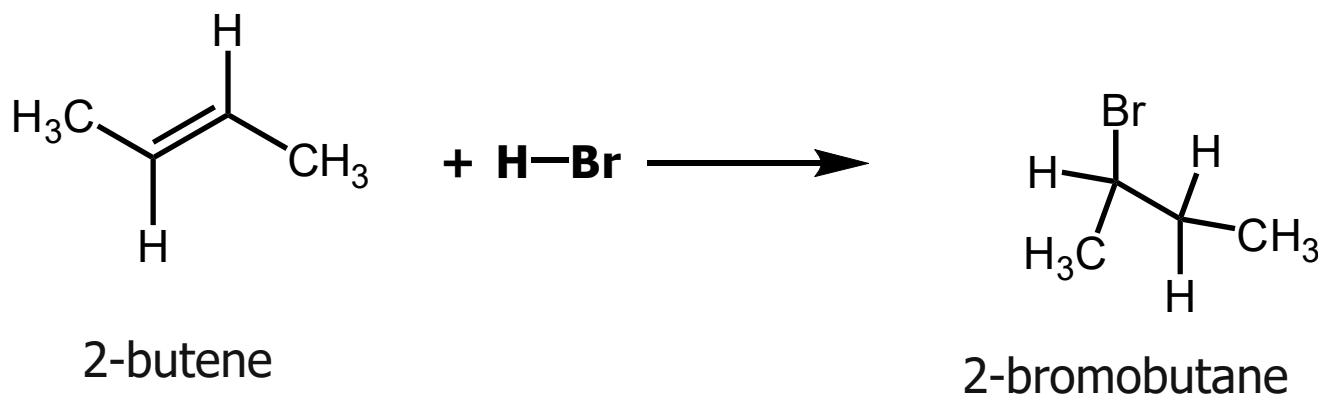
Neutral



Electrophilic Addition of HBr to Alkene



Electrophilic Addition of HBr to Alkene



Rules for Curved Arrows

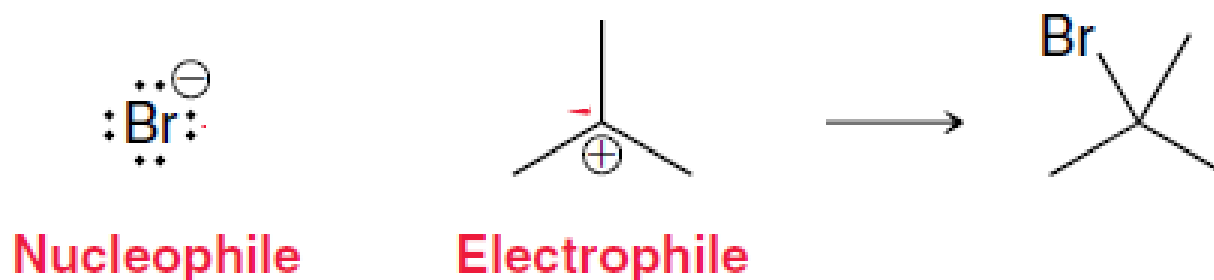
- ◆ One curved arrow corresponds to one step in a reaction mechanism
- ◆ Electrons always move in pairs
- ◆ Arrows Show Electron Flow

Mechanisms and Arrow Pushing

- We use arrows to show how electrons move when bonds break and form.
- It will be a HUGE benefit in this course to master the skill of arrow pushing.
- There are four main ways that electrons move in ionic reactions:

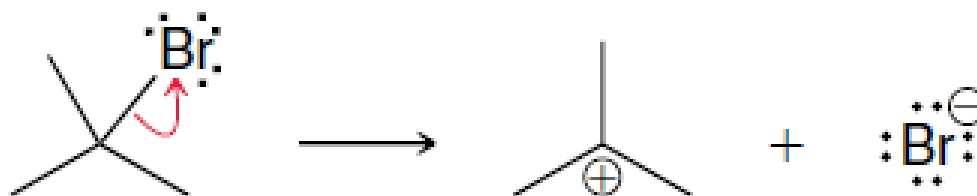
Mechanisms and Arrow Pushing – Nucleophilic Attack

- When you identify a nucleophilic site and an electrophilic site, the arrow shows the nucleophile attacking.

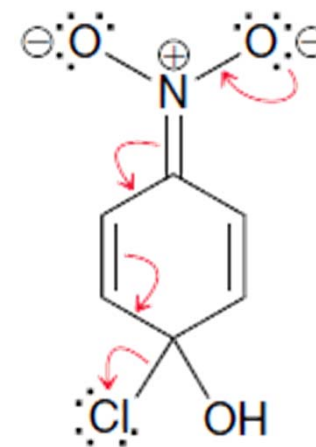


Mechanisms and Arrow Pushing – Loss of a Leaving Group

- Loss of a leaving group occurs when a bond breaks, and one atom from the bond takes BOTH electrons.

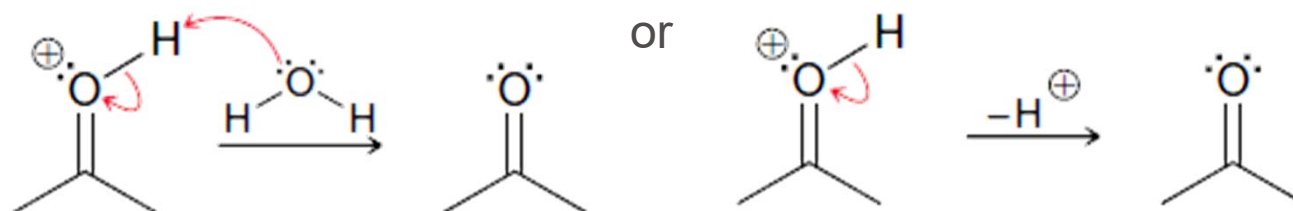
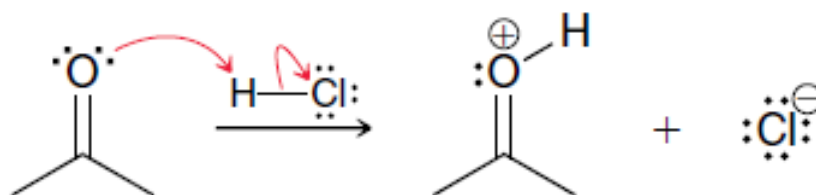


- For the molecule to the right, draw the structure that will result after the leaving group is gone.
 - Which arrow shows the loss of a leaving group?



Mechanisms and Arrow Pushing – Proton Transfers

- The acid retains its electron pair.



FOR NEXT TIME –

MONDAY Chapter 7: Substitution Reactions (7.1-7.4)

WEDNESDAY Chapter 7: Alkenes and Eliminations (7.5-7.8)

FRIDAY Chapter 7: Unimolecular Reactions (7.9-7.10)

NEXT MONDAY Chapter 7: Putting it all together 7.11

Suggested Homework Problems Chapter 6

#4, 7, 11, 17, 24, 26, 28, 34-36

Suggested Homework Problems Chapter 7

#1,3,5,16, 18, 21, 37, 41, 47, 48, 54, 56, 60, 62-65, 70, 76