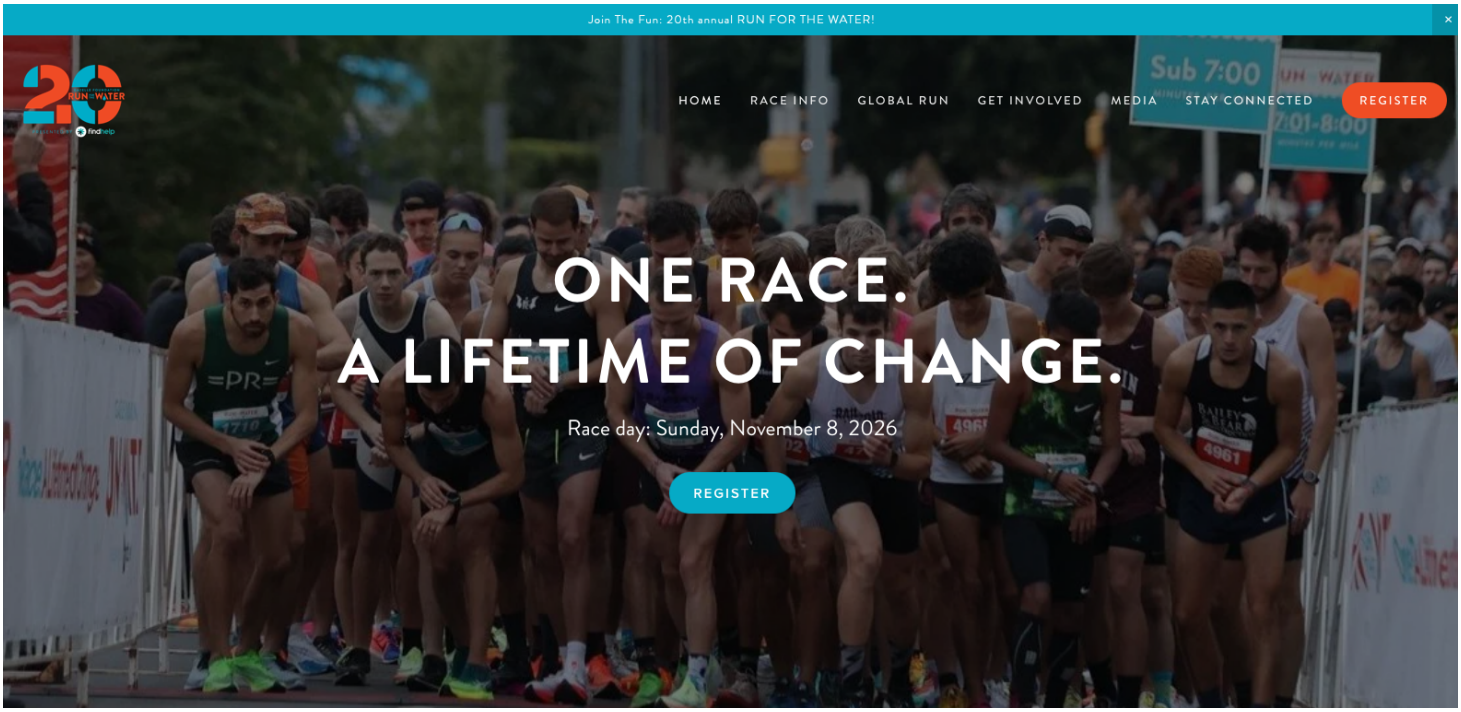
Commit to change your life today...

and if you have the resources you can help change the lives of others!



Race date is Sunday, November 8, 2026

Race website: https://www.runforthewater.com/

UT Student Registration — $30

Students can register for either the 5K or 10-Miler for $30 (this is amount it costs us to provide one person with clean water for life)

Code: **LONGHORNCHEMR4TW**

We've also created a **UT team** in registration. Students can select the team when they register so everyone is grouped together. If anyone forgets, no problem, we can track registrations using the code and move them onto your team.

Volunteer

There's volunteer opportunities specifically designated for UT students — they don't have to do that, but they can if they want!

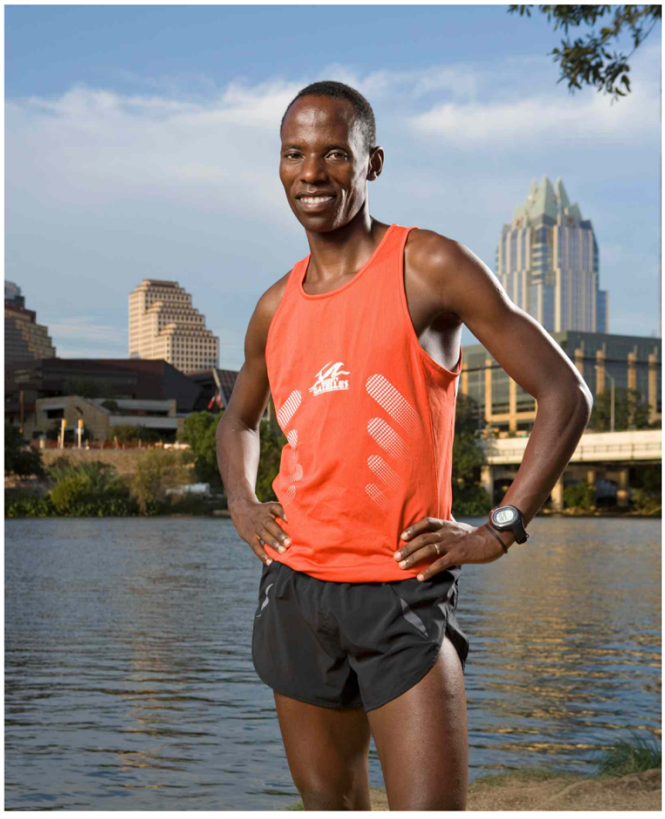
Link: https://www.runforthewater.com/volunteer

Coach Almost Died in Burundi Genocide — Now He Spreads Hope: 'Vengeance Isn't the Solution'

"You'd think he should be bitter and angry," says Jenna Bush Hager, one of Gilbert Tuhabonye's former runners. "But he channeled that through running and teaching. To me, he embodied pure love and grace."

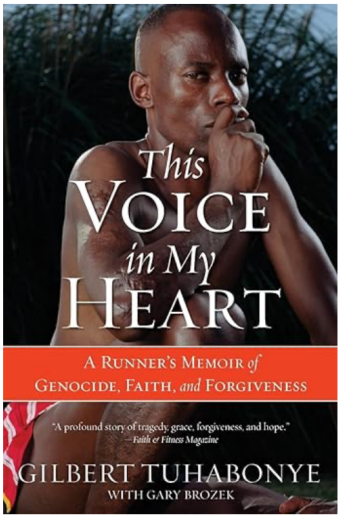
By Eileen Finan | Published on November 12, 2021 01:00PM EST

People ENTERTAINMENT CRIME HUMAN INTEREST LIFESTYLE ROYALS



Gilbert Tuhabonye. PHOTO: HOLLY REED PHOTOGRAPHY

Books › Literature & Fiction › Poetry



This Voice in My Heart: A Runner's Memoir of Genocide, Faith, and Forgiveness

Paperback – May 22, 2007

by Gilbert Tuhabonye (Author), Gary Brozek

4.7 ★★★★½ 171 ratings

See all formats and editions

Gilbert Tuhabonye is a survivor. More than ten years ago, he lay buried under a pile of burning bodies. The centuries–old battle between Hutu and Tutsi tribes had come to Gilbert's school. Fueled by hatred, the Hutus forced more than a hundred Tutsi children and teachers into a small room and used machetes to beat most of them to death. The unfortunate ones who survived the beating were doused with gasoline and set on fire. After hiding under burning bodies for over eight hours, Gilbert heard a voice inside saying, "You will be all right; you will survive." He knows it was God speaking to him. Gilbert was the lone survivor of the genocide, and thanks his enduring faith in God for his survival.

Today, having forgiven his enemies and moved forward with his life, he is a world–class athlete, running coach and celebrity in his new hometown of Austin, Texas. The road to this point has been a tough one, but Gilbert uses his survival instincts to spur him on to the goal of qualifying for the 2008 Olympic Summer Games. THIS VOICE IN MY HEART will portray not only the





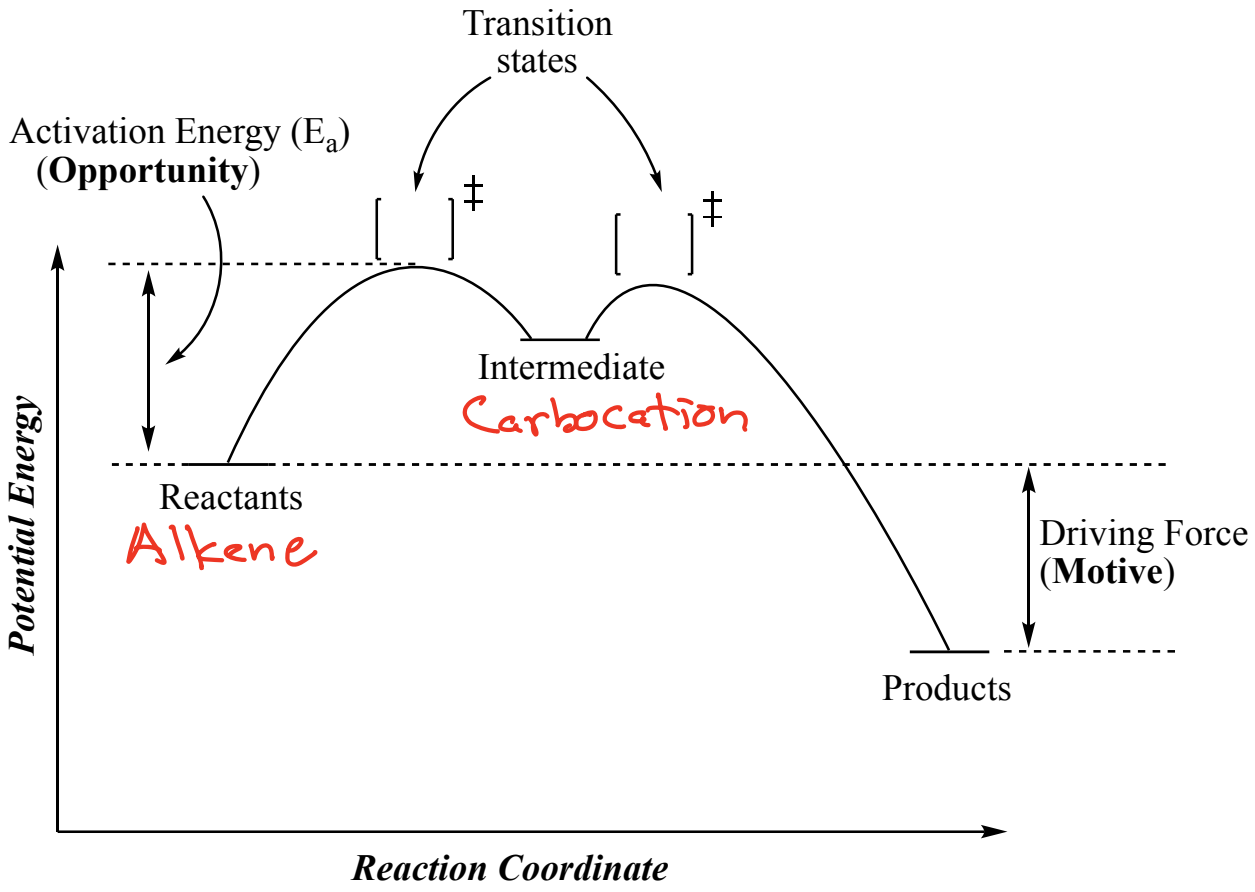

CANCER SUCKS
BURUNDI
10 MILE

12/11/2010

Dear Dr. Iverson,

I have a story you should tell to your class next year when trying to get them to run.

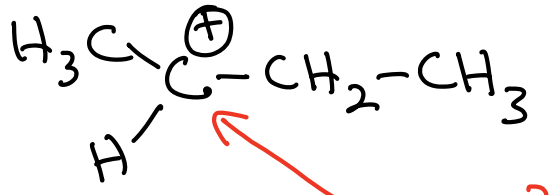
Today I wake up at 9:25. My Genetics final started at 9:00 and the professor has a no-entry policy after @ 30 minutes of the exam. Luckily I sprinted from my apt. over to the room in 3 minutes and got to take my final. Had I not trained for Run for The Water, I probably would have not made it on time and failed my class. So, thanks a million for inspiring me to run! It's already helped my future!!



During reactions we often encounter intermediates → relatively high energy species that are formed between reactants and products

When alkenes react with H-X → carbocation intermediate

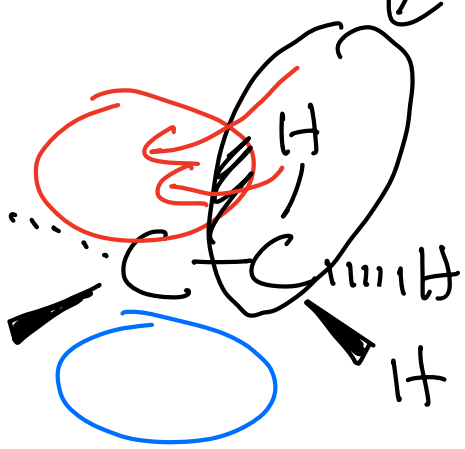
Carbocations → positive charge on a carbon atom



sp^2 hybridized with an empty 2p orbital

Alkyl groups stabilize carbocations by 2 different mechanisms

1) Hyperconjugation → overlap of adjacent σ bonding electron density with the empty 2p orbital of a carbocation



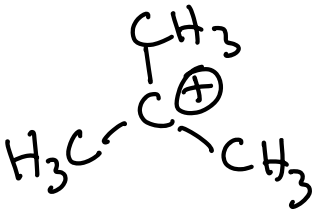
delocalizes the ⊕ charge

Some electron density of the C–H σ bond is pulled into the empty 2p orbital (red arrows in the figure)

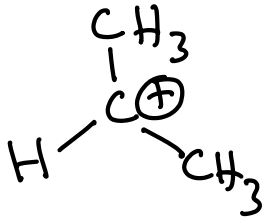
2) Inductive effect → the electron density is drawn through the σ bonds to the C⊕

↳ The C⊕ is very electronegative!

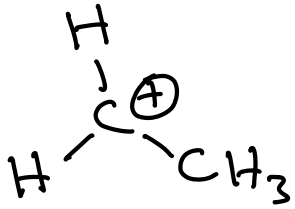
Carbocation stability → the more C atoms bonded to the C⊕ the more stable



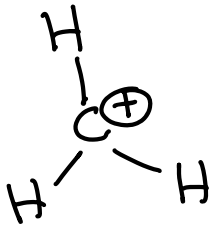
3° (tertiary)



2° (secondary)



1° (primary)



methyl

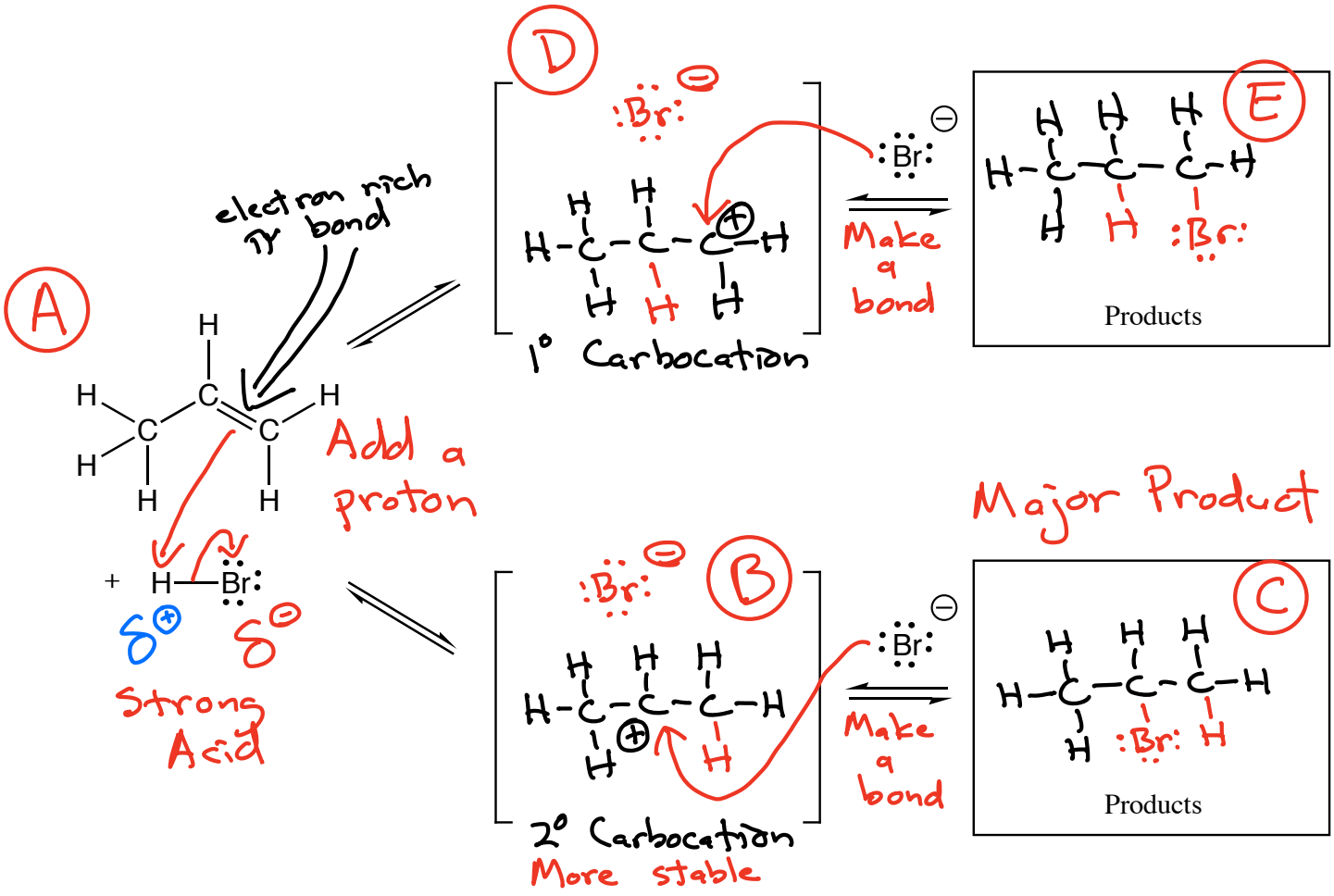
Hyperconjugation stabilization

Inductive effect stabilization

Carbocation Stability

Addition of H-X to an Alkene

X = Cl, Br, I but not F

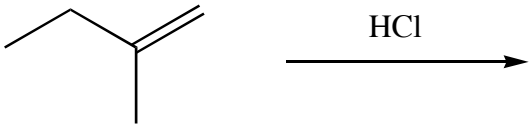


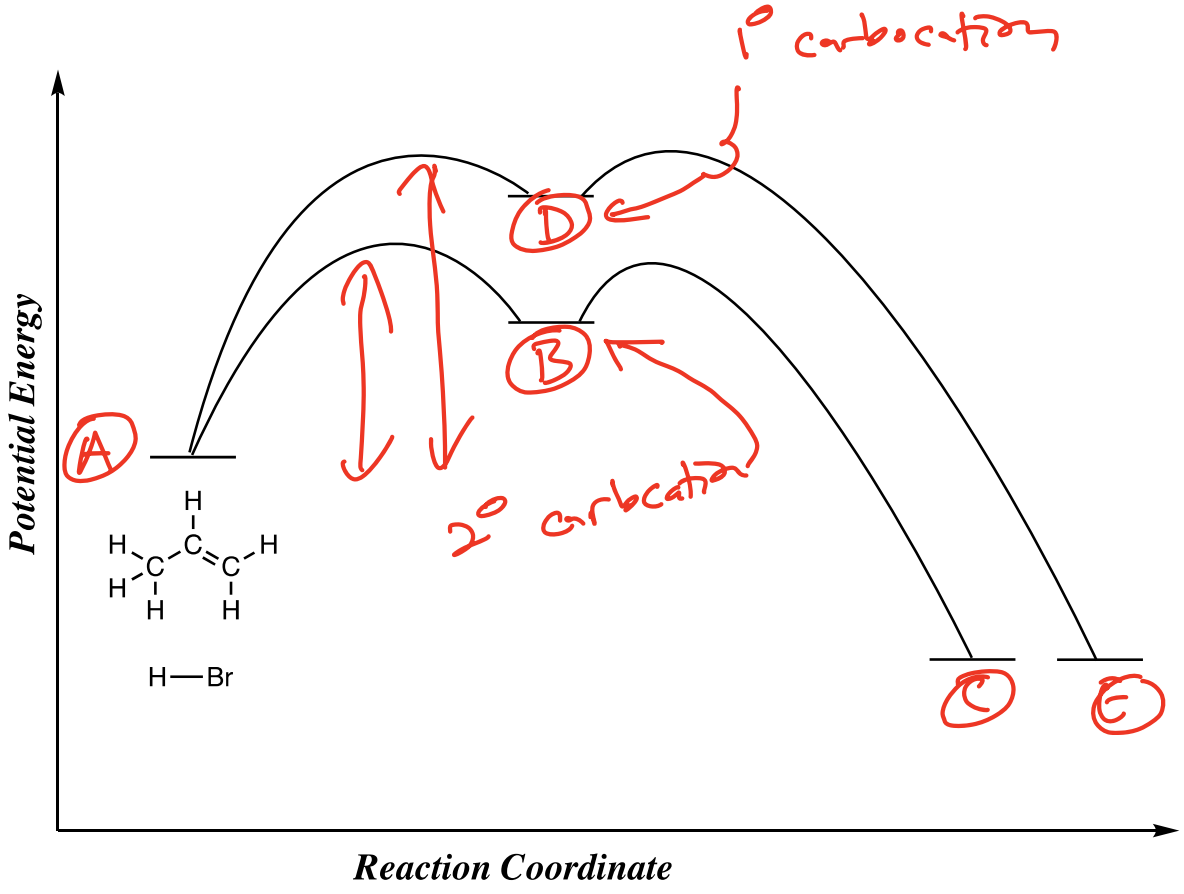
Summary:

Regiochemistry:

Stereochemistry:

Example:



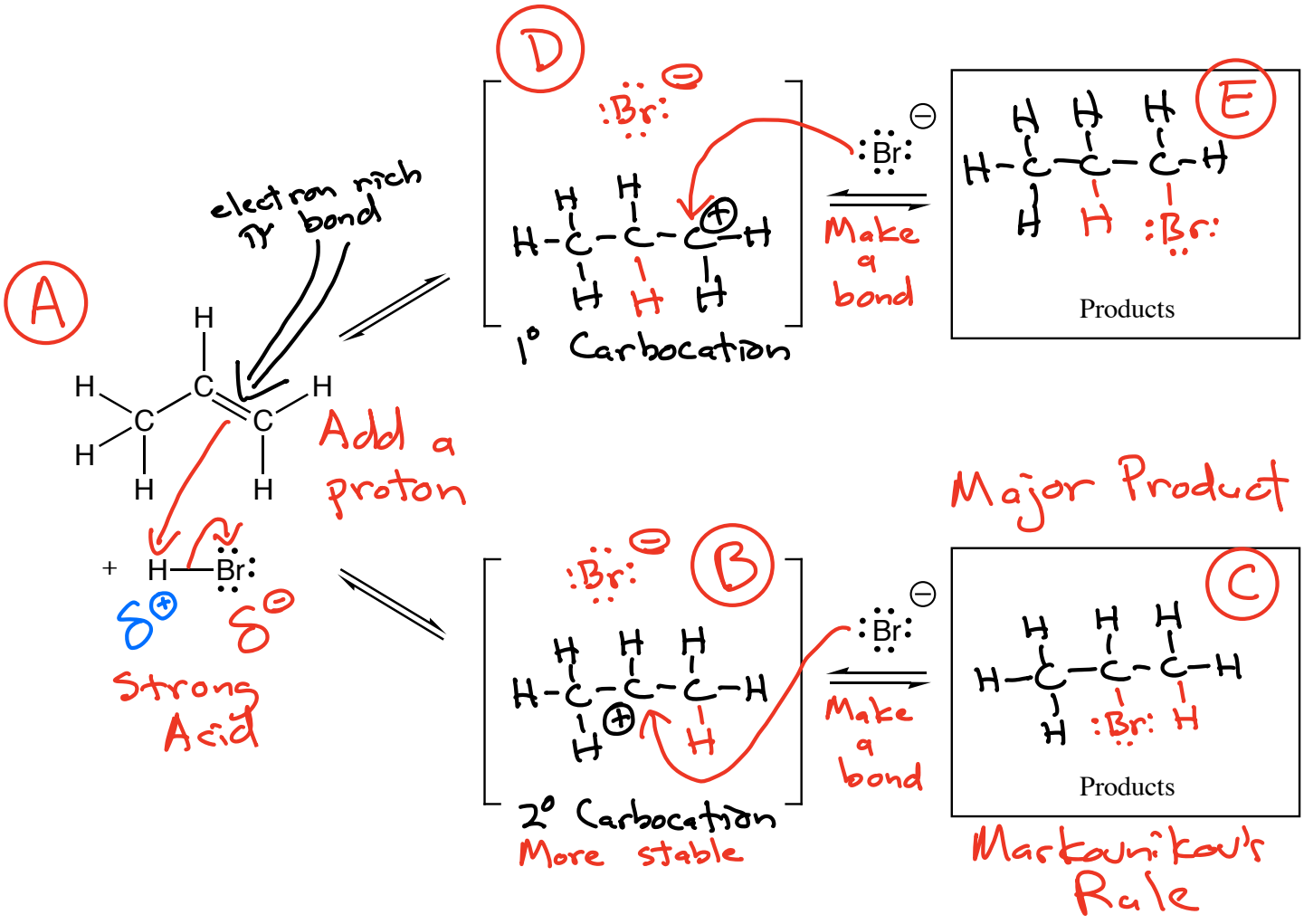


Creation of (B) has a lower energy barrier and it forms faster → We get more (C) product

Markovnikov's Rule → For alkene reactions involving a carbocation intermediate - The nucleophile (ex. $Br^{\ominus}$) will make a bond to more substituted C atom → derived from the more stable carbocation.

Addition of H-X to an Alkene

X = Cl, Br, I but not F

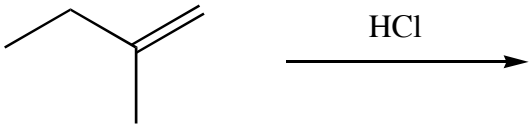


Summary:

Regiochemistry:

Stereochemistry:

Example:



Regiochemistry → Which constitutional isomer is made in largest amounts in a reaction

→ For H-X addition this is explained by Markovnikov's Rule



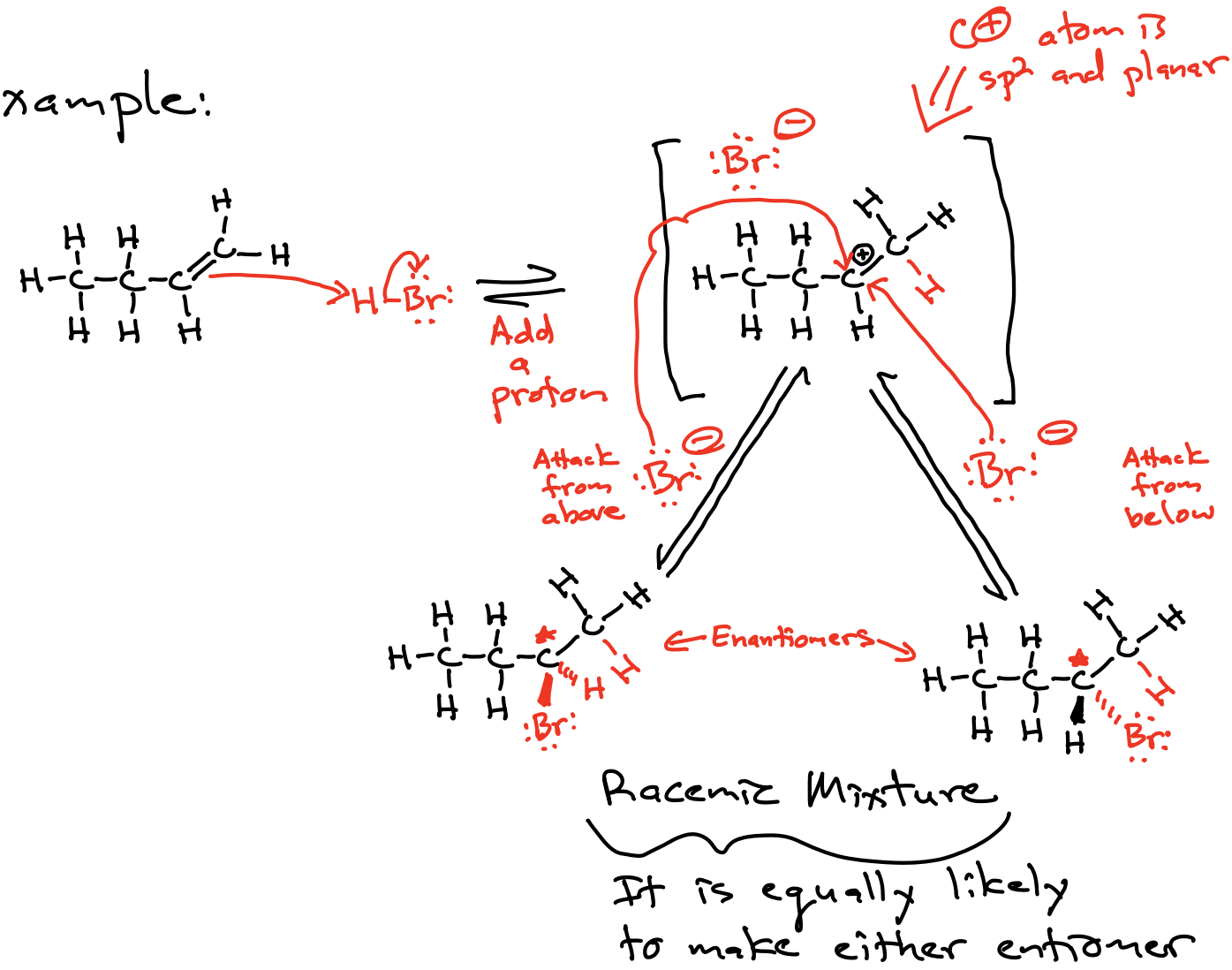
Stereochemistry → Which of the possible stereoisomers are formed?

→ If a new chiral center is made from a molecule (the alkene) that itself is NOT chiral → You end up with a racemic mixture.

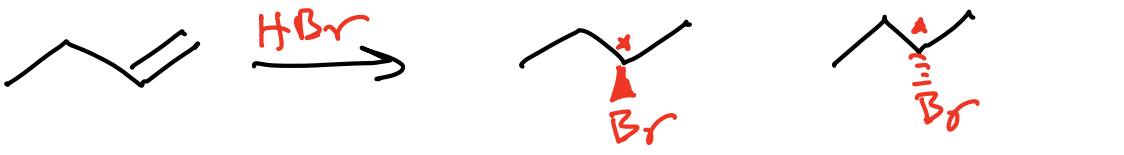


Time capsule → The stereochemistry of H-X addition to an alkene is MIXED as H and X can end up on both the same (cis, syn) and opposite (trans, anti) sides of the original double bond

Example:



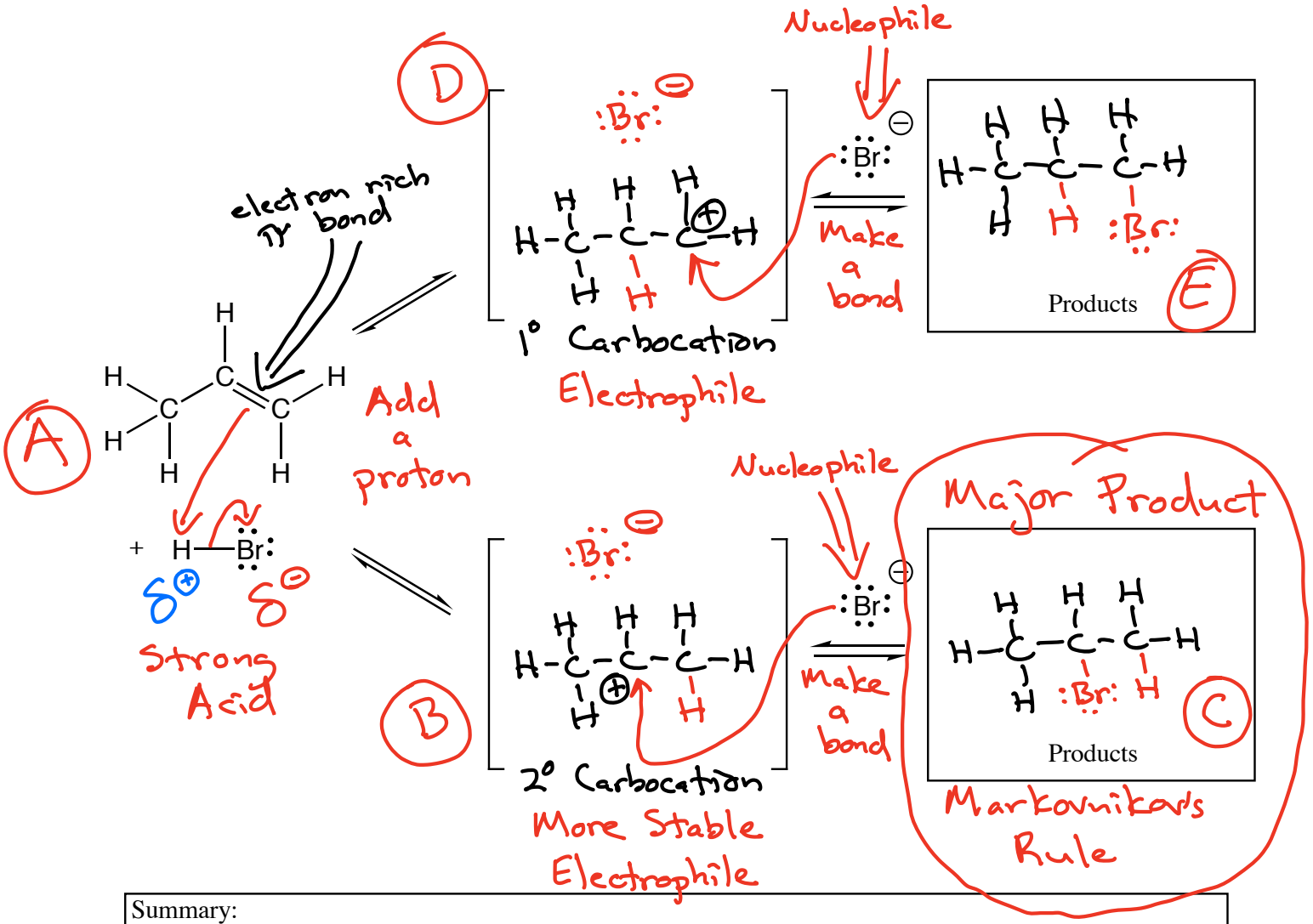
Also written as



Racemic Mixture

Addition of H-X to an Alkene

X = Cl, Br, I but not F



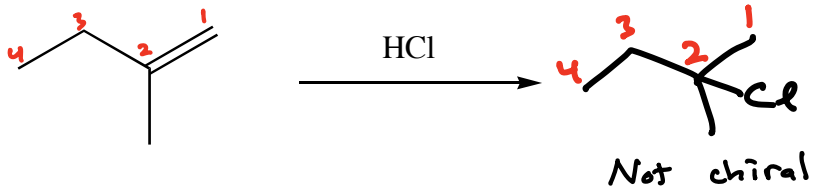
Summary:

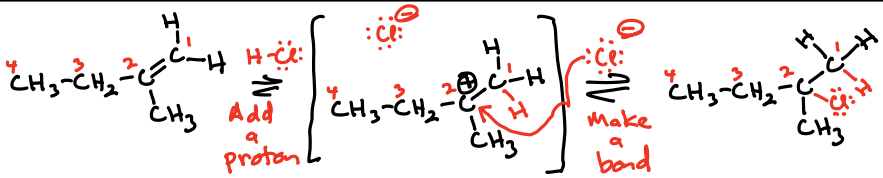
The alkene pi bond reacts with H-X to add a proton to create a carbocation intermediate that makes a bond with $X^{\ominus}$ to give the product

Regiochemistry: Markovnikov's Rule

Stereochemistry: Mixed (time capsule) → Racemic Product

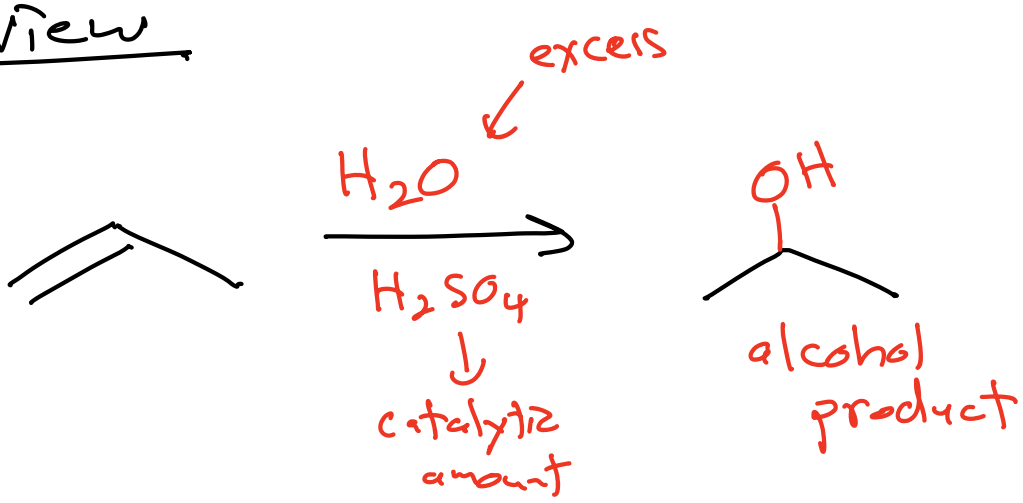
Example:





New Reaction: → "same song, different verse"

Overview



The 4 Most Important Mechanistic Elements

The following are expressed from the point of view of the carbon-containing molecule taking part in a reaction

1) **Make a bond** between a nucleophile and electrophile.
   ⇒ A nucleophile and electrophile are both present and a bond can be made.

2) **Break a bond** to give stable molecules or ions.
   ⇒ None of the other possibilities are likely and the fragments produced are relatively stable

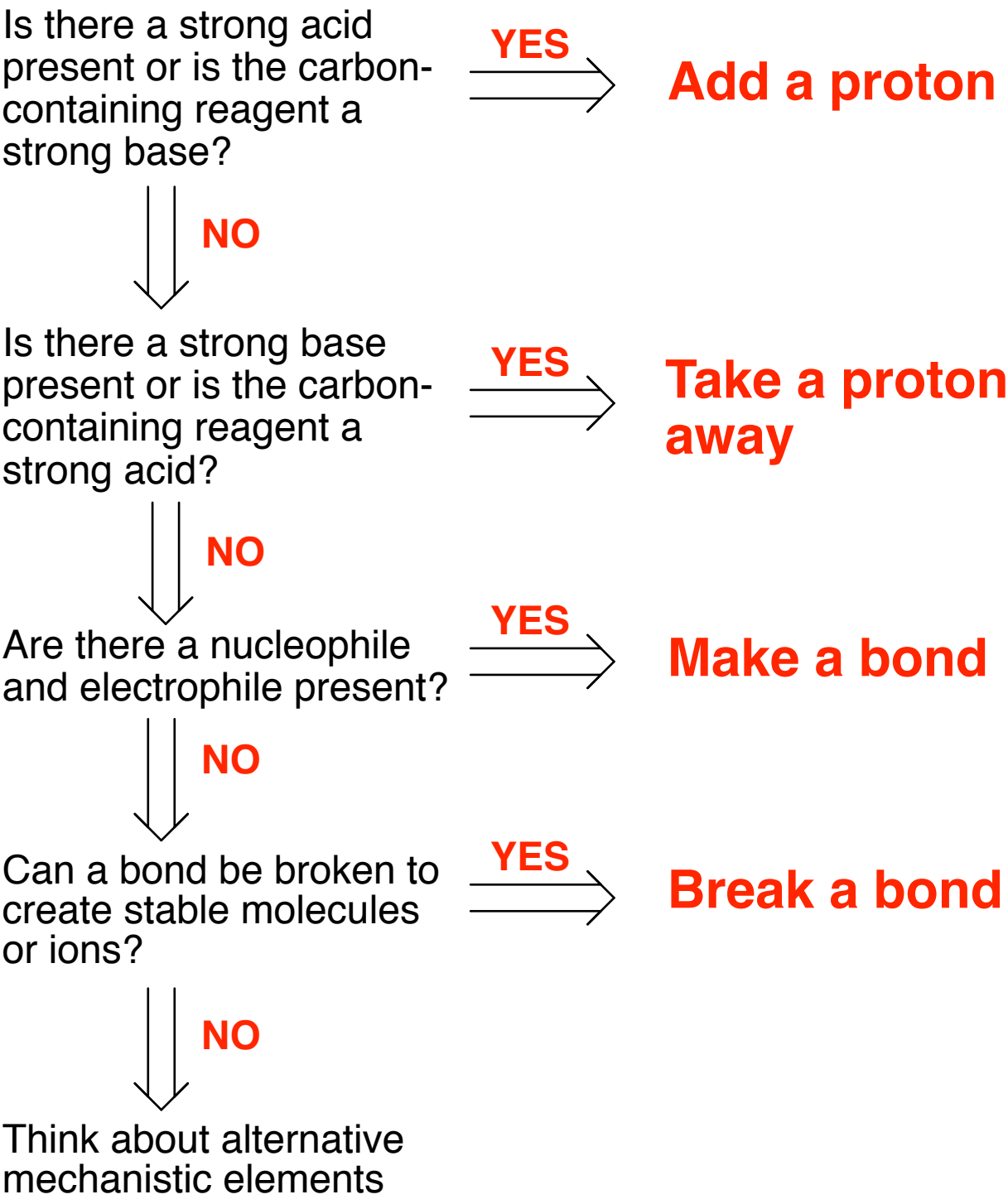
3) **Add a proton**
   ⇒ Acid is present or the molecule is a strong base.

4) **Take a proton away**
   ⇒ Base is present or the molecule is a strong acid.

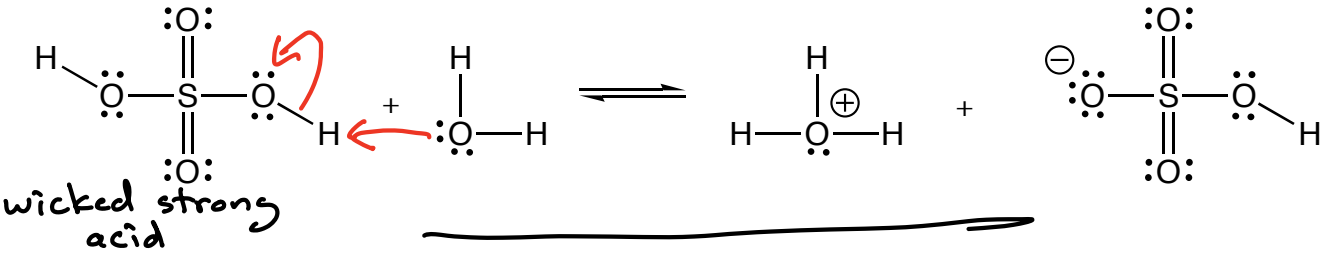
Notice → 1) is the reverse of 2) and 3) is the reverse of 4) .... and vice versa

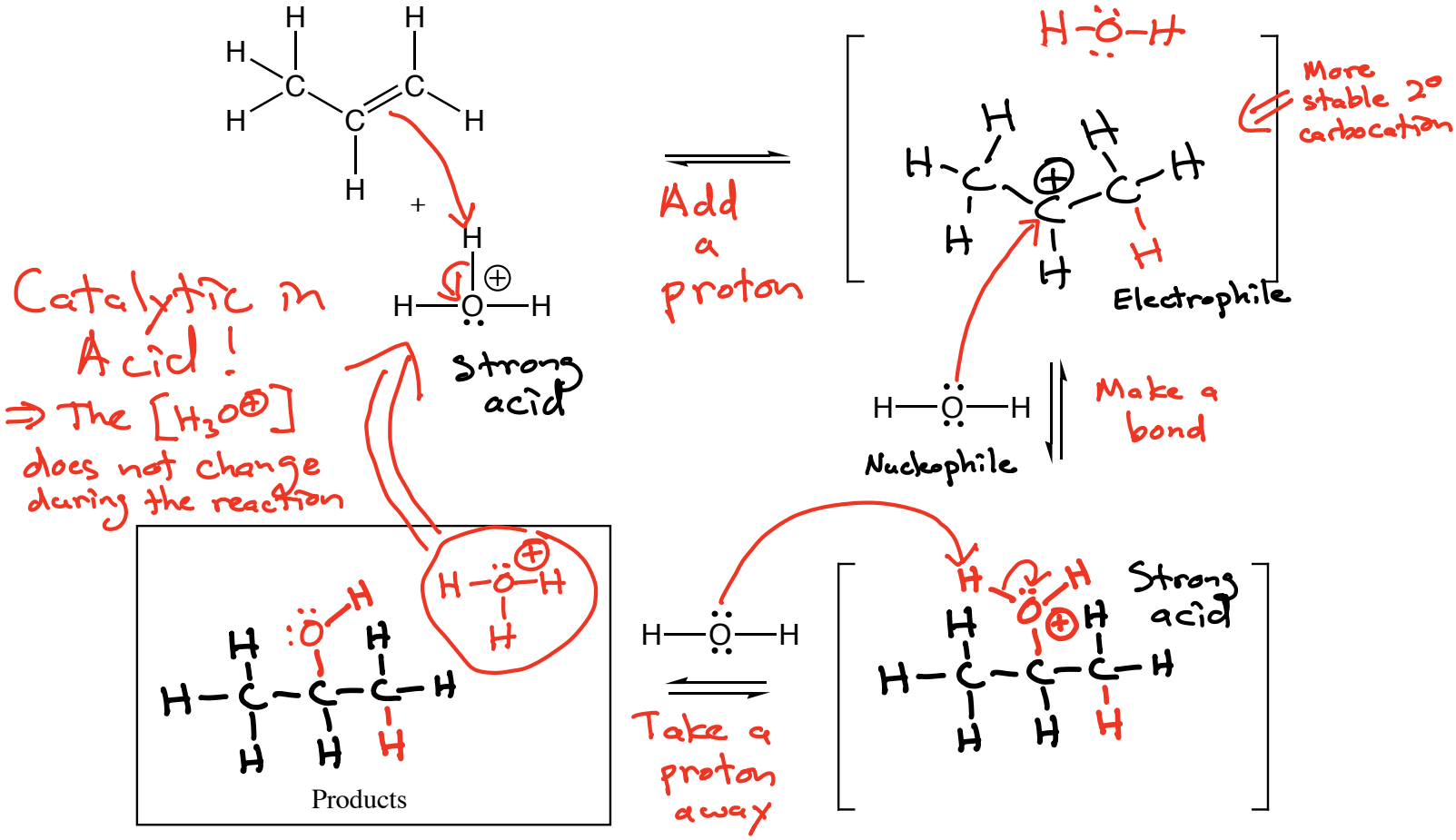
Mechanism Summary

The following questions and mechanistic elements are described from the point of view of the carbon-containing reagent, written in the form of a flowchart.



Acid-catalyzed Hydration of an Alkene



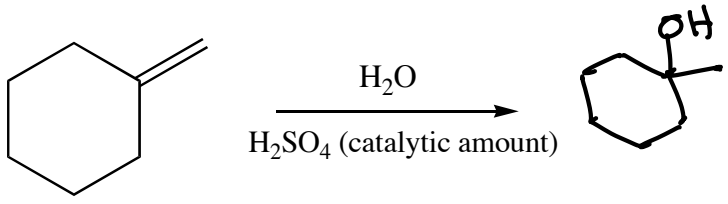


Summary: Proton adds to make a carbocation intermediate, water attacks to make a new bond, take a proton away to make the product alcohol. Catalytic in $H_3O^{\oplus}$

Regiochemistry: Markovnikov's Rule

Stereochemistry: Mixed (time capsule)

Example:



-OH on more substituted C atom ⇒ Markovnikov's Rule

<u>Organic Chemistry</u> is the study of carbon-containing molecules.

This class has two points.

The first point of the class is to understand the organic chemistry of living systems. We will teach you how to think about and understand the most amazing things on the planet!!

Water is essential for life, you will learn why water has such special properties. 8/25/26

You will learn the secret structural reason proteins, the most important molecular machines in our bodies, can support the chemistry of life. 9/9/26

You will learn why when you take Advil for pain, exactly half of what you take works, and the other half does nothing.

You will learn how toothpaste works. 9/21/26 9/30/26

You will learn how a single chlorofluorocarbon refrigerant molecule released into the atmosphere can destroy many, many ozone molecules, leading to an enlargement of the ozone hole.

You will learn how medicines like Benadryl, Seldane, and Lipitor work.

You will learn how Naloxone is an antidote for an opioid overdose.

You will learn why Magic Johnson is still alive, decades after contracting HIV.

You will learn how MRI scans work.

The second point of organic chemistry is the synthesis of complex molecules from simpler ones by making and breaking specific bonds.

You will learn how to understand movies of reaction mechanisms like alkene hydration. 10/5/26

You will learn reactions that once begun, will continue reacting such that each product molecule created starts a new reaction until all the starting material is used up.

You will learn reactions that can make antifreeze from vodka.

You will learn a reaction that can make nail polish remover from rubbing alcohol.

You will learn how to look at a molecule and accurately predict which atoms will react to make new bonds, and which bonds will break during reactions.

You will learn how to analyze a complex molecule's structure so that you can predict ways to make it via multiple reactions starting with less complex starting molecules.

Google Search: "Andre the Giant holding Willie Shoemaker"

Go to "Images"

Select a high resolution black & white photo of a tall man holding a smaller one, then Zoom in on the smaller one.

Sorry!

YOU CANNOT UNSEE THIS!