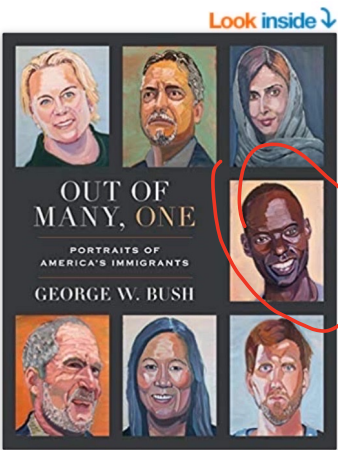


"I believe God gave me another chance to live," Tuhabonye tells PEOPLE in this week's issue. "That's why I'm dedicated to making a difference and preaching peace."



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by George W. Bush (Author)
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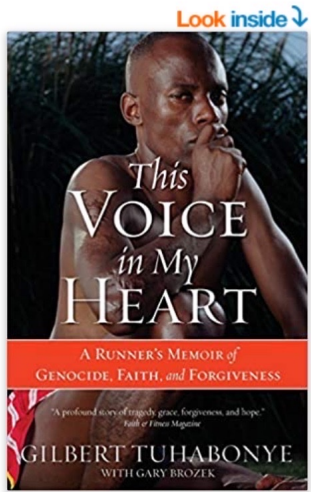
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This Voice in My Heart: A Runner's Memoir of Genocide, Faith, and Forgiveness Paperback – May 22, 2007

by Gilbert Tuhabonye (Author), Gary Brozek (Author)
 ★★★★★ 125 ratings

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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



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When studying OChem → Call a NIRRS
Learn each of these things for every
reaction → then you will be able to
predict mechanisms and therefore products

Nature of the reaction; what is the starting material/product? (i.e. alkene converted to an alcohol)

Intermediate (or "Important transition state" if applicable) of the reaction, the key to the mechanism (carbocation, halonium ion, etc.)

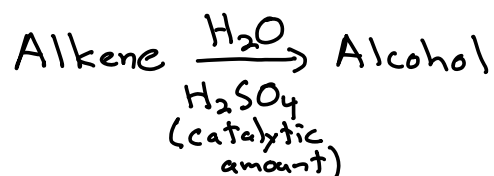
Reagents Learn the exact way to designate the reagents for each reaction

Regiochemistry What is the regiochemistry of addition? (Markovnikov, non-Markovnikov, etc.)

Stereochemistry of addition (anti, syn or mixed)

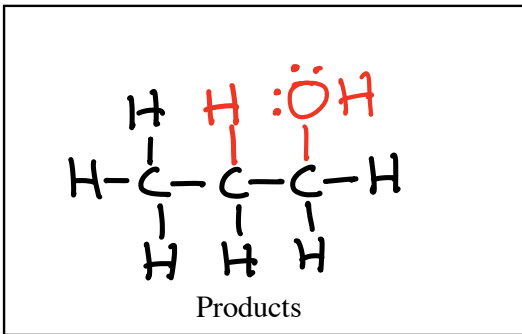
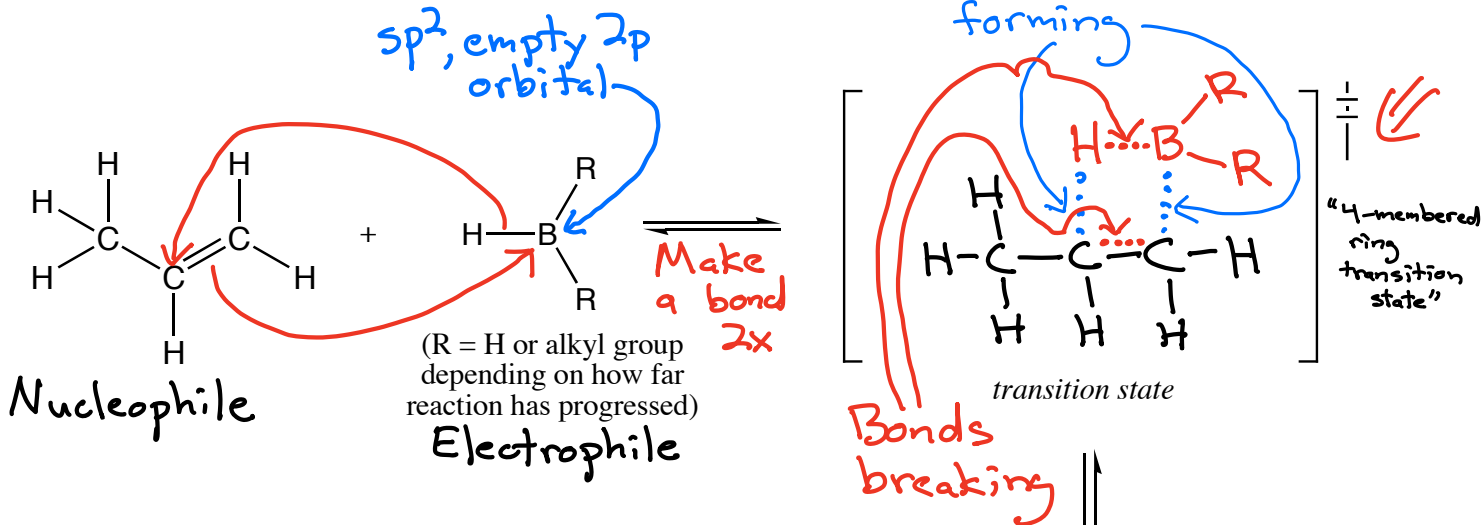


Carbocation
Markovnikov
Mixed

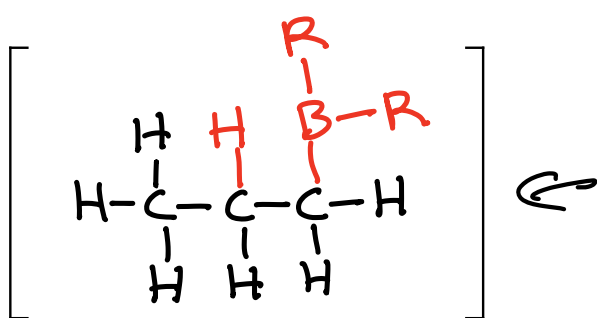


Carbocation
Markovnikov
Mixed

Hydroboration-Oxidation



Not responsible for this mechanism
 2. $\text{H}_2\text{O}_2 / \text{HO}^-$
 (Chemist opens flask and adds new reagent)



H → More substituted C atom
OH → Less substituted C atom

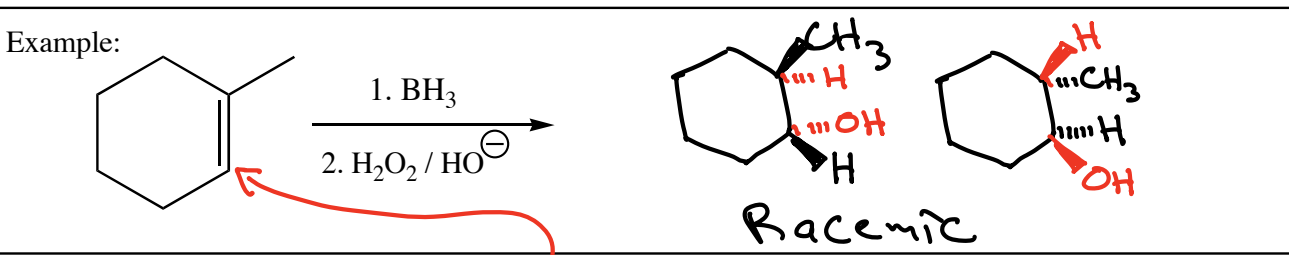
Steric strain in the first transition state

H and OH are syn

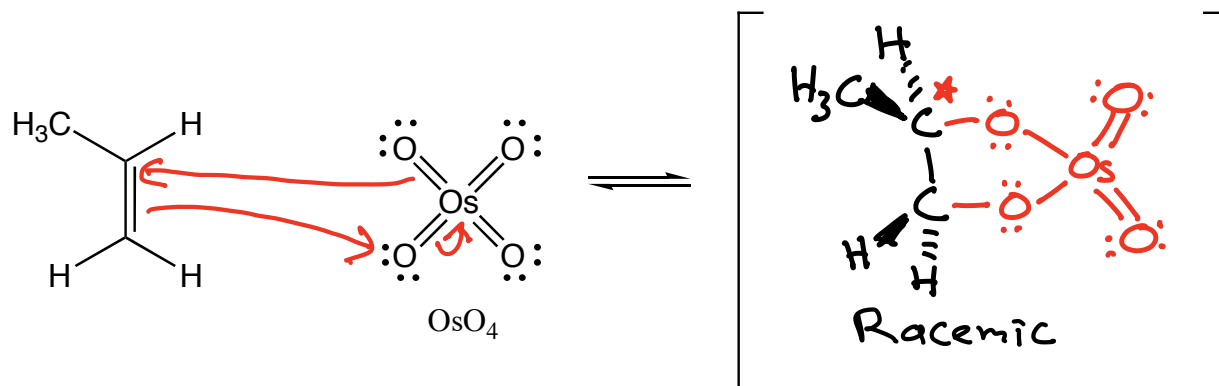
Summary: The pi bond of the alkene attacks the Lewis acid (electrophile) B atom at the same time a new bond forms between C and H. In 2nd step OH replaces B(R)₂. "4-membered ring transition state"

Regiochemistry: *Non-Markovnikov*

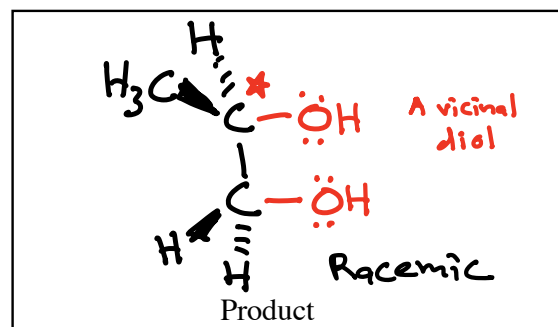
Stereochemistry: *Syn*



OsO_4 Partial Mechanism



2. $NaHSO_3 / H_2O$
(Chemist opens up flask) \Downarrow Not responsible for mechanism

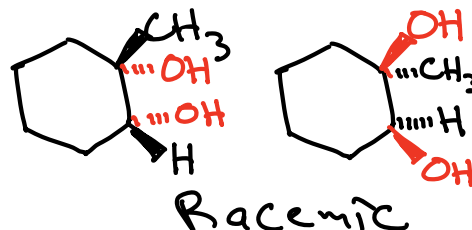
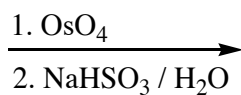
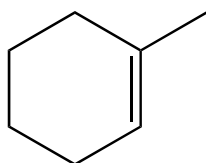


Summary: The mechanism involves a cyclic osmate ester, explaining the syn stereochemistry of addition.

Regiochemistry: N/A

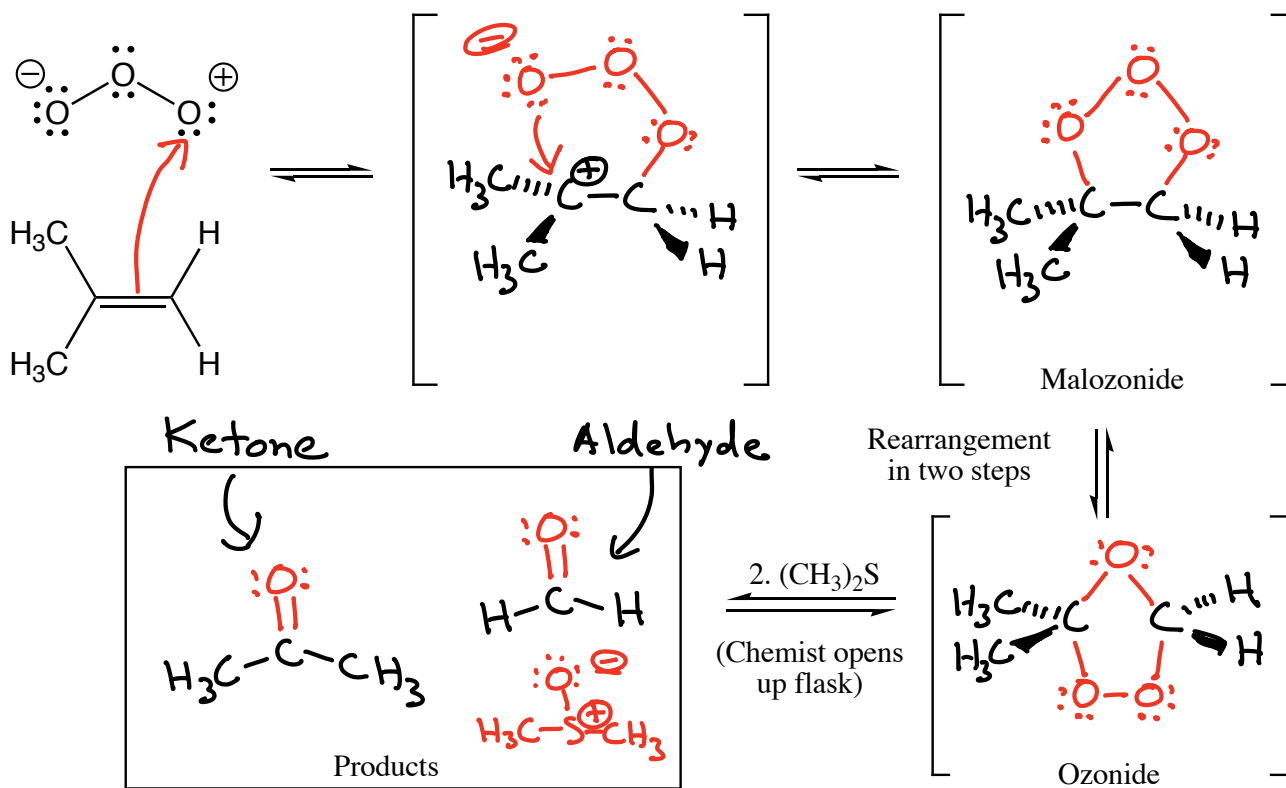
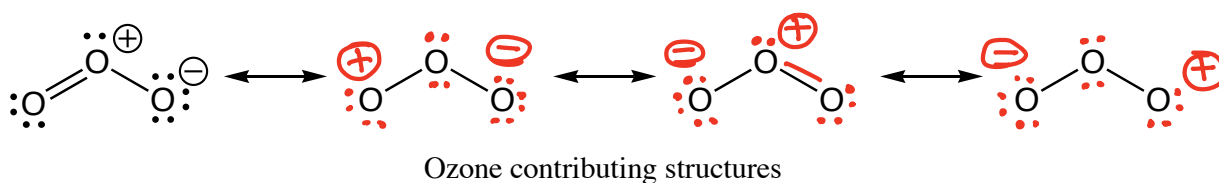
Stereochemistry: Syn

Example:



This breaks C=C bonds !!!

Ozonolysis Partial Mechanism

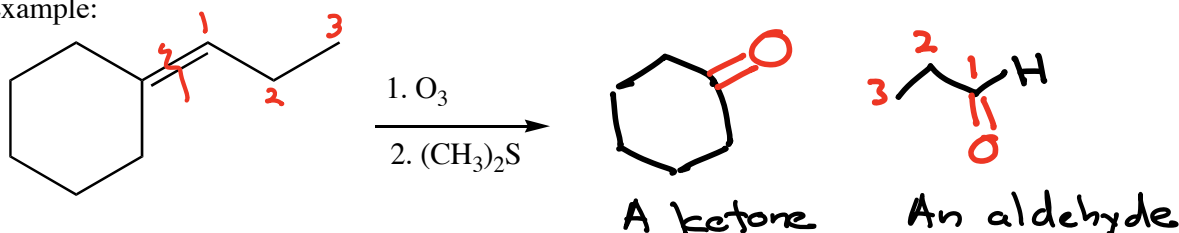


Summary: Reaction of an alkene with O₃ gives a malozonide than an ozonide intermediate (the C=C pi bond then C-C sigma bond is broken). Adding (CH₃)₂S decomposes the ozonide into ketone and aldehyde products **Breaks C=C bond!**

Regiochemistry: N/A

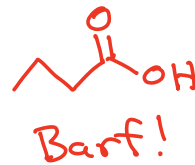
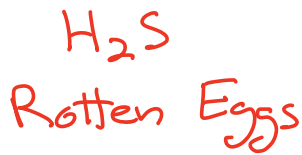
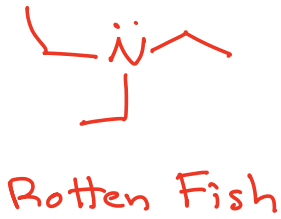
Stereochemistry: N/A

Example:



Stinking Molecules! → We have evolved to avoid spoiled food that would make us sick

↗
products of bacterial breakdown



↖
Neutralize with a base → ammonia or baking soda to remove the smell!