WANT TO LEARN MORE ABOUT WHAT WE'RE ALL ABOUT AT CAMP KESEM?

UT STUDENTS!!

KESEM CALLS Y'ALL OUT TO INFO SESSION NUMBER SIX!

NOVEMBER 1ST
6-7PM
NHB 1.720

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

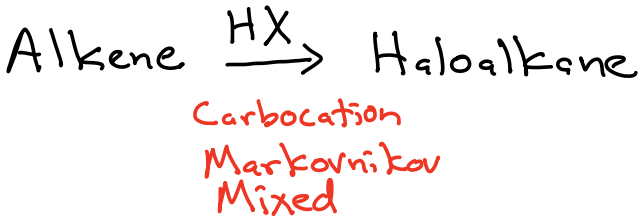
Nature of the reaction; what is the starting material/product? (i.e. alkene converted to an alcohol)

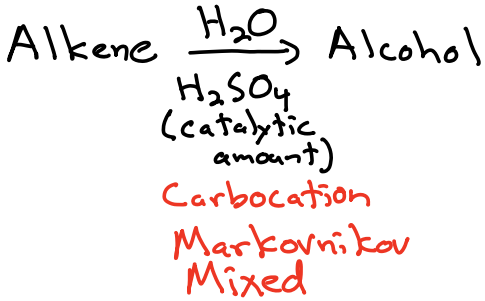
Intermediate (or "**I**mportant transition state" if applicable) of the reaction, the key to the mechanism (carbocation, halonium ion, etc.)

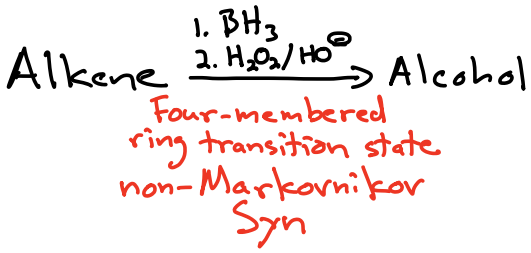
Reagents Learn the exact way to designate the reagents for each reaction

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

Stereochemistry of addition (anti, syn or mixed)

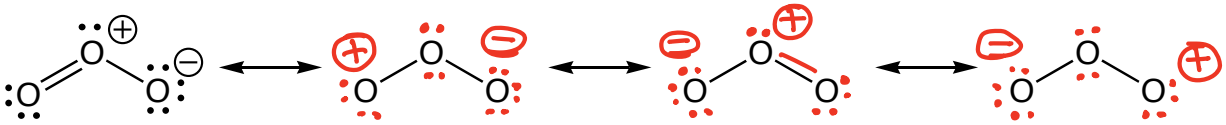




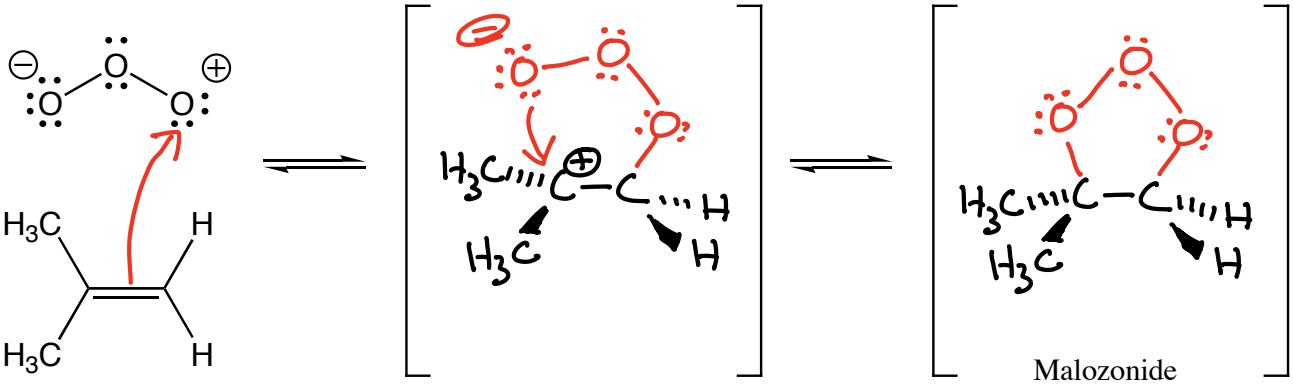


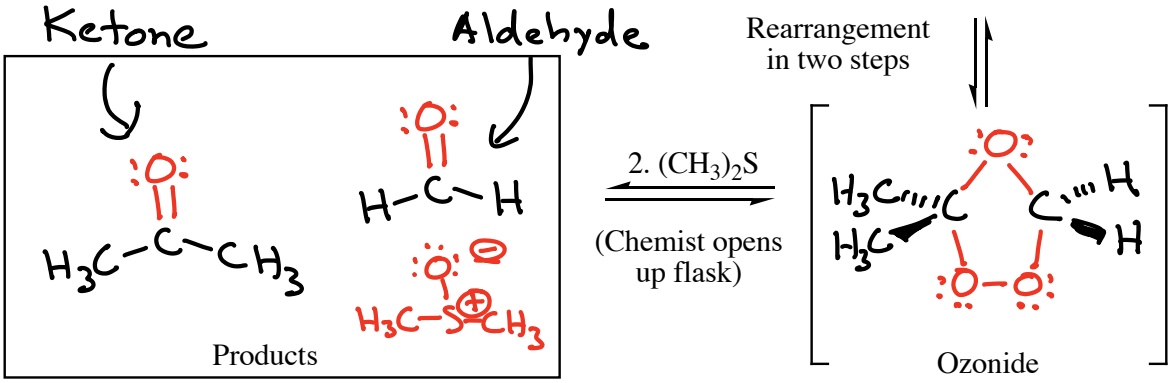
This breaks C=C bonds !!!

Ozonolysis Partial Mechanism



Ozone contributing structures



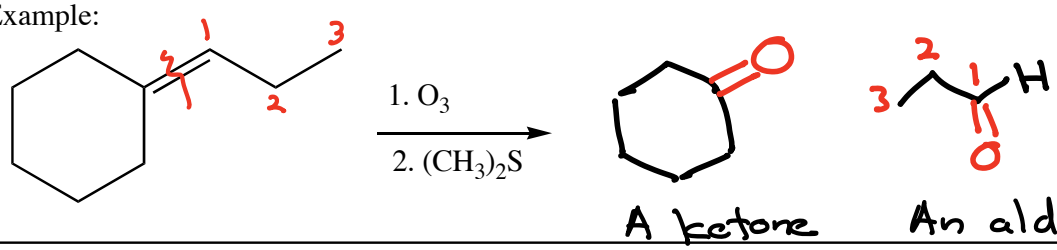


Summary: Reaction of an alkene with O_3 gives a malozonide than an ozonide intermediate (the C=C pi bond then C-C sigma bond is broken). Adding $(CH_3)_2S$ decomposes the ozonide into ketone and aldehyde products Breaks C=C bond!

Regiochemistry: N/A

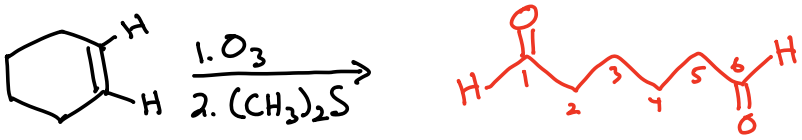
Stereochemistry: N/A

Example:



Ozonolysis is the only reaction that breaks C=C bonds!

1) 

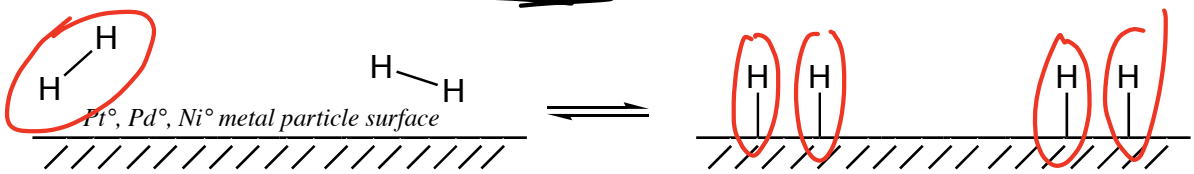
2) 

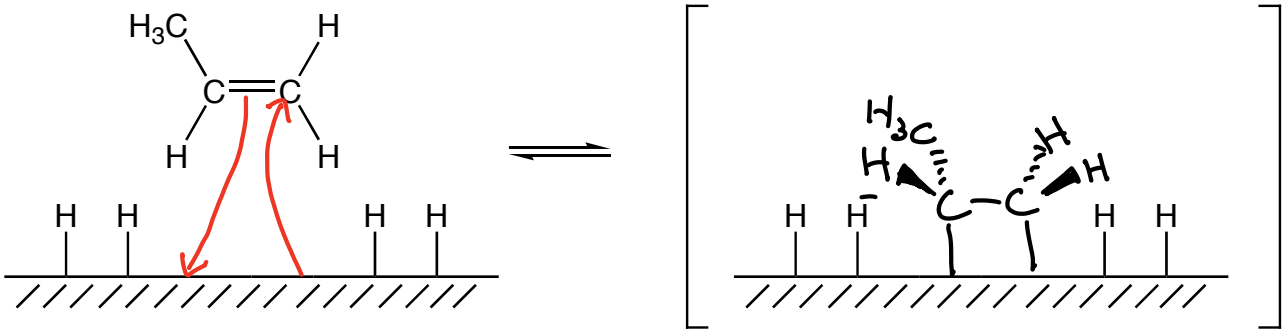
Notice the numbers!

No numbers ⟹ H_2O, H_2SO_4 (catalytic) } These reagents are added at the same time

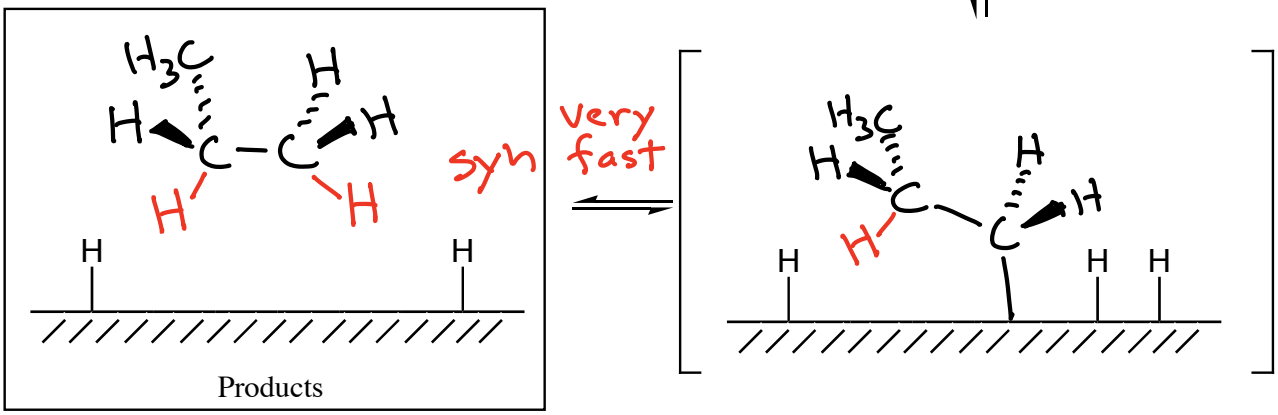
Numbers ⟹ 1. O_3 / 2. $(CH_3)_2S$ } These reagents are added in 2 separate steps

Hydrogenation: H_2 with Pt°, Pd°, Ni°





Very fast ⇌

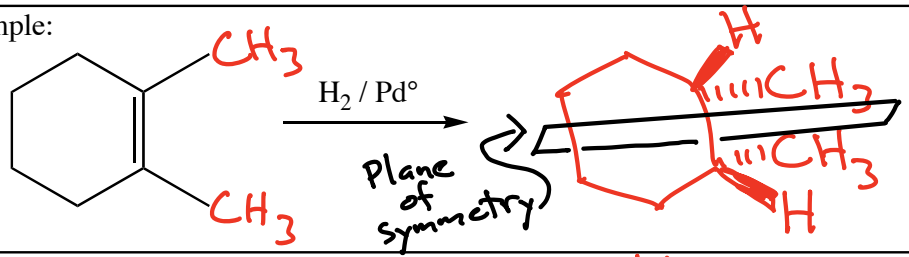


Summary: H_2 adsorbs onto the metal surface. The alkene adsorbs onto the metal surface. H atoms transfer to both C atoms → on the same face → before the C-C bond rotates

Regiochemistry: N/A

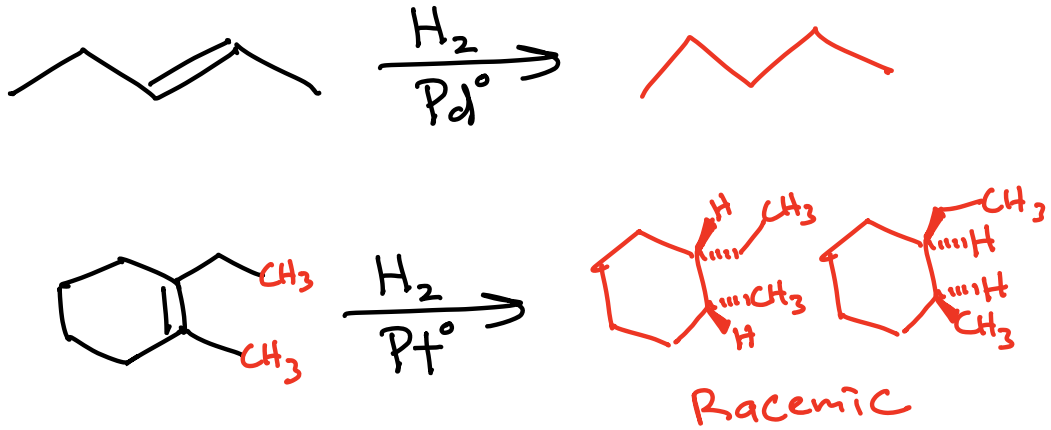
Stereochemistry: Syn

Example:



Alkene → Alkane

Examples:



Racemic

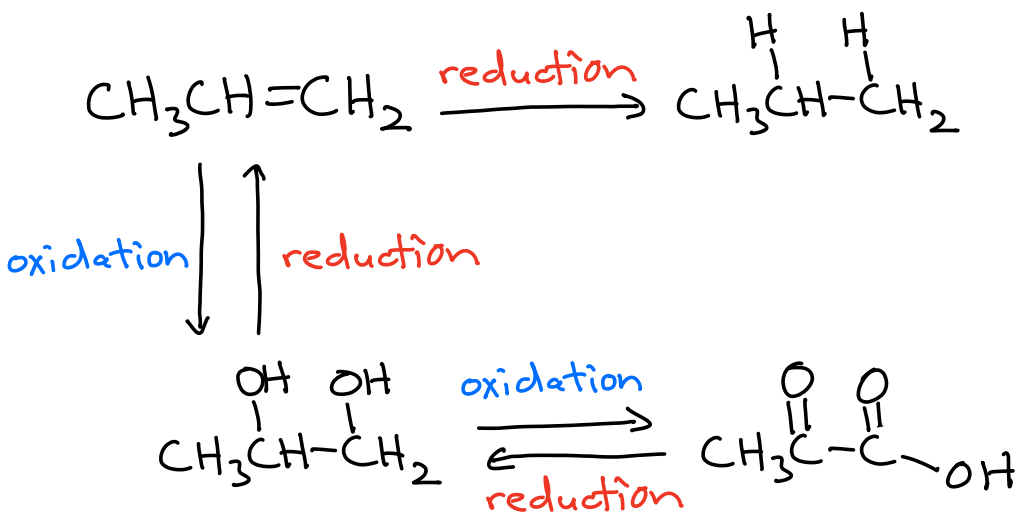
Important definitions for organic chemistry

Oxidation Reaction → Net loss of electrons

↳ A reaction involving loss of bonds to H atoms and/or increase in the number of π bonds or bonds to O atoms

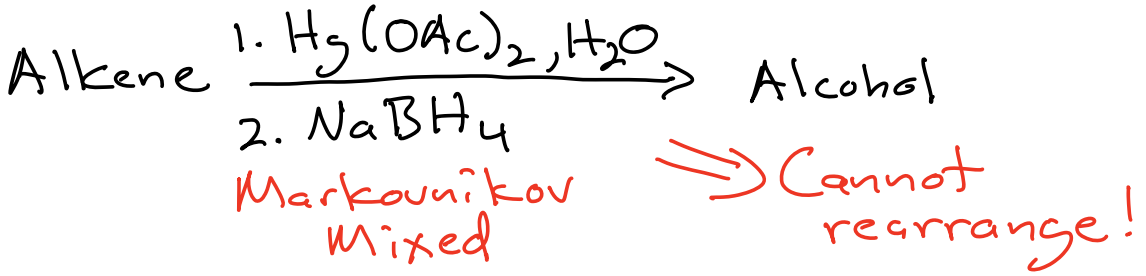
Reduction Reaction → Net gain of electrons

↳ A reaction involving an increase in bonds to H atoms and/or a decrease in the number of π bonds or bonds to O atoms

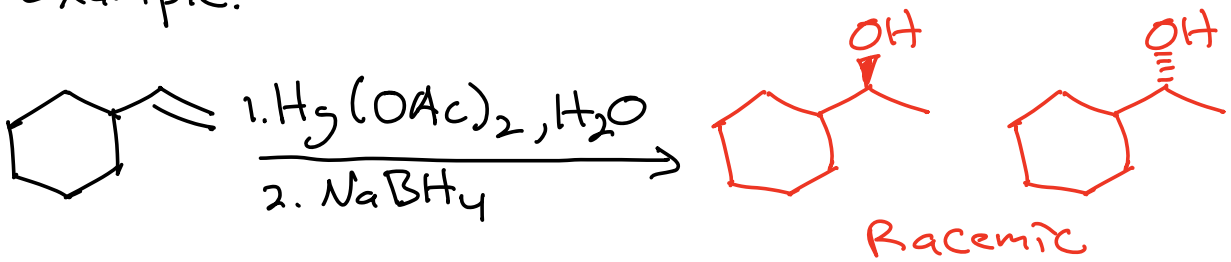


Exam 2 will not cover anything below the line

You do not need to know this next reaction, but I am going to show it to you for reference



Example:

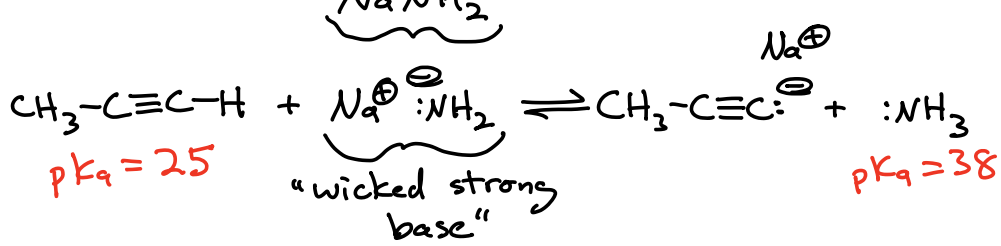


Alkynes → similar to alkenes because of the pi bonds.

→ One big difference

⇓

Terminal alkynes are relatively acidic



Epic New Reaction

A primary haloalkane

Time capsule: This is an S_N2 reaction. The haloalkane must be primary to avoid an E2 reaction.

Making C-C bonds allows us to construct larger molecules from smaller ones!

A major goal of organic synthesis

Example: