

class B.Sc semester 1st (MJC T)

Subject - organic Chemistry

Topic Name: $\rightarrow$ Alkenes: (Saytzeff's Rule):

is a chemical principle that predicts the major product in elimination reactions. It states that the most substituted alkene is ~~or~~ ~~for~~ formed as the major product because it is the most stable, resulting from the removal of a hydrogen from the beta-carbon with fewer hydrogens.

How it works: $\rightarrow$ most substituted alkene wins! During an elimination reaction, if multiple alkenes are possible the one ~~of~~ with the most alkyl groups attached to the double bond is the major product.

Stability is Key! — This rule holds true because more substituted alkenes are more stable due to increased electron distribution from the alkyl groups via inductive and hyperconjugation effects.

Hydrogen removal: This means the hydrogen atom is removed from the beta-carbon that has fewer hydrogen substituents, leading to a more substituted double bond.

Example: $\rightarrow$ Dehydration of 2-butanol.
Reaction: $\rightarrow$ The dehydration of 2-butanol can lead to two products: 1-butene and 2-butene.

page ②: $\rightarrow$ Reaction: The dehydration of

2-butanol can lead to two products.
product distributions: $\rightarrow$ According to the Saytzeff

rule - 2-butene is the major product
because it is more substituted
compared to 1-butene.

important concept behind Saytzeff's
Rule: $\rightarrow$ Saytzeff's rule predicts
the regioselectivity of the alkene
formed by the elimination reaction
of 2° or 3° alkyl halides. —

