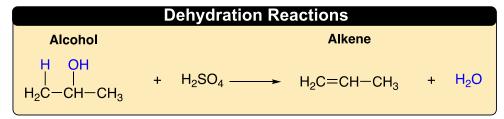
CONCEPT: ALCOHOL REACTIONS: DEHYDRATION REACTIONS

- Under this type of reaction _____ reacts with an alcohol to form an alkene through the loss water.
 - □ To form the double bond the alcohol carbon loses its _____ and its neighboring carbon loses an _____ atom.



EXAMPLE: Determine the elimination product formed in the following reaction.

Zaitsev's Rule

- Loss of H₂O follows Zaitsev's Rule.
 - □ Used when the neighboring carbons have _____ numbers of Hs.
 - □ Zaitsev's Rule: _____ atom is lost from alcohol C, _____ atom is lost from neighboring C with _____ Hs.

Dehydration Reactions

Alcohol

OH

$$H_3C-CH-CH_2CH_3$$
 + H_2SO_4 \longrightarrow $H_3C-CH=CHCH_3$ + H_2O

EXAMPLE: Determine the elimination product formed in the following reaction.

CONCEPT: ALCOHOL REACTIONS: DEHYDRATION REACTIONS

PRACTICE: Determine the name of the alkene product formed in the following dehydration reaction.

$$OH \longrightarrow H_2SO_4$$

- a) cis-1-heptene
- b) 2-heptene

c) 1-heptene

d) trans-1-heptene

PRACTICE: Determine the name of the alkene product formed in the following dehydration reaction.

- a) 1-methylcyclohexene
- b) 4-methylcyclohexene
- c) 2-methylcyclohexene
- d) 3-methylcyclohexene