CONCEPT: HYDRATION REACTIONS

Acid-catalyzed addition of water to an alkene produces an _______

$$\square$$
 _ H and _ OH are added to _ π bond.

Hydration Reaction

Alkene

Alcohol

$$H_3C - C = C - CH_3 + H_2O \xrightarrow{H_2SO_4} H_3C - C - C - CH_3$$

EXAMPLE: Complete the following hydration reaction.

Markovnikov's Rule

• Addition of H₂O in asymmetric alkenes follows *Markovnikov's rule*.

Hydration Reaction

Alkene

$$H_3C \longrightarrow C \longrightarrow CH_2$$
 H_2SO_4
 $H_3C \longrightarrow CH_2$
 $H_3C \longrightarrow CH_2$

EXAMPLE: Complete the following hydration reaction.

CONCEPT: HYDRATION REACTIONS

PRACTICE: Draw and name an alkene that would be used to produce the following alcohol through a hydration reaction.

PRACTICE: Provide major and minor products for the hydration of 4-chloro-3-ethyl-1-hexene.