

11.15

Preparation of Alkenylbenzenes

dehydrogenation

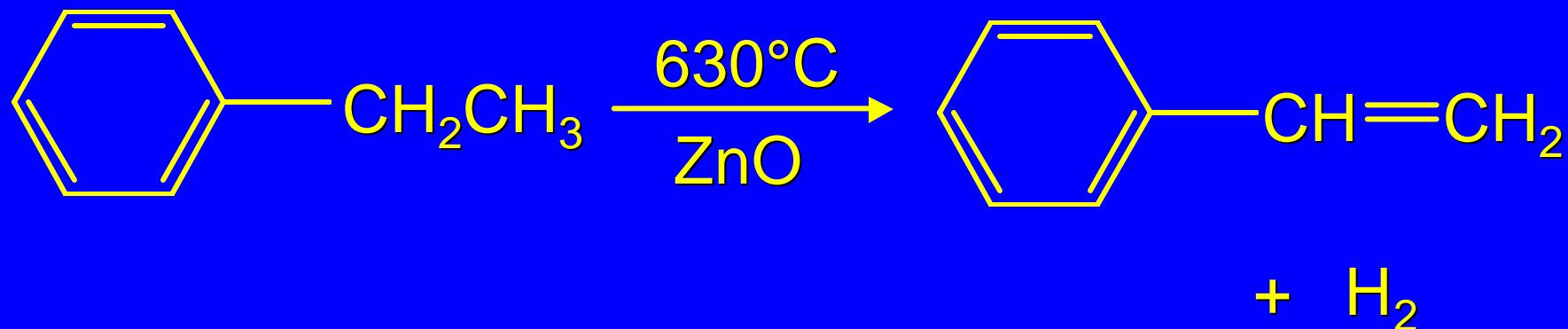
dehydration

dehydrohalogenation

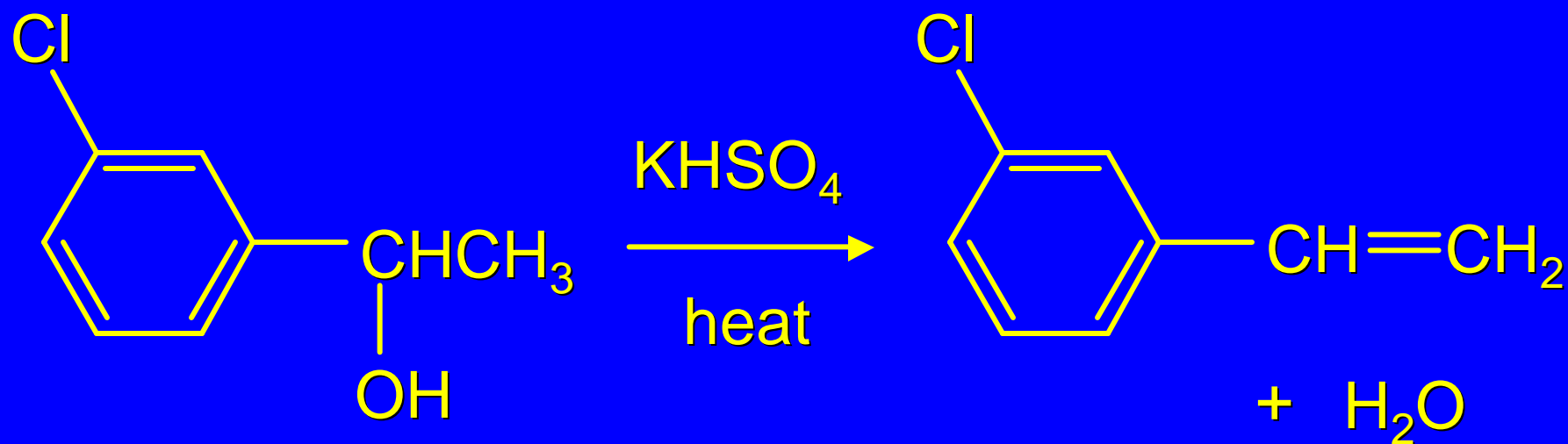
Dehydrogenation

industrial preparation of styrene

11,800,000,000 lbs. produced in U.S. in 1999.

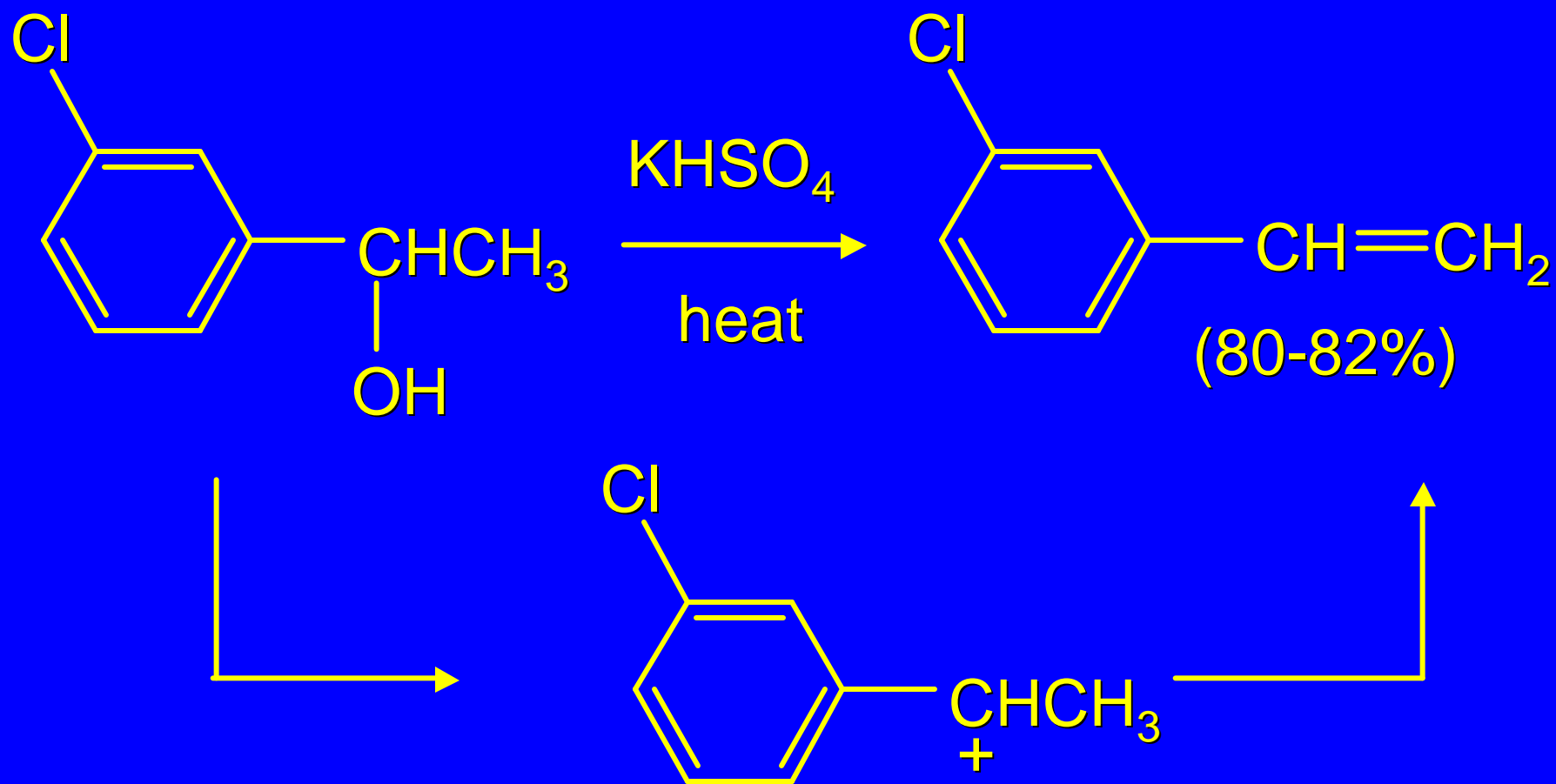


*Acid-Catalyzed Dehydration of
Benzylic Alcohols*

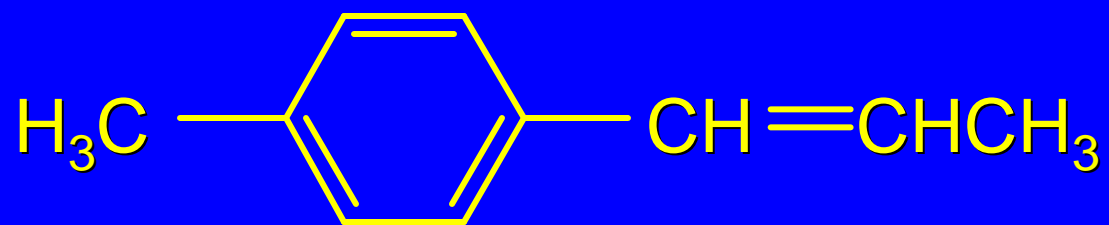
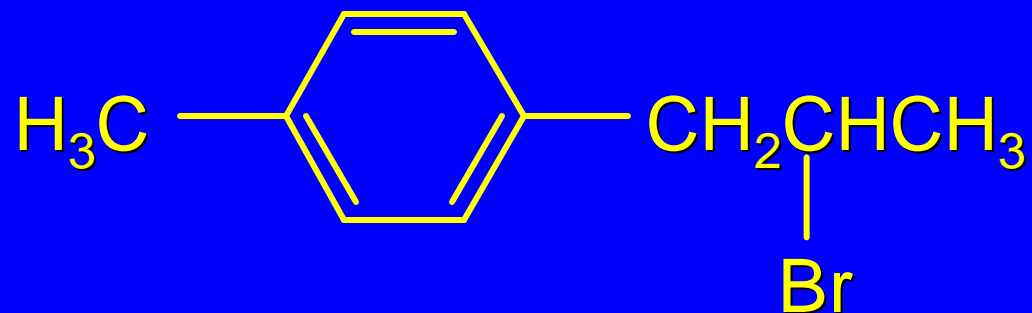


(80-82%)

Acid-Catalyzed Dehydration of Benzylic Alcohols



Dehydrohalogenation



(99%)

11.16

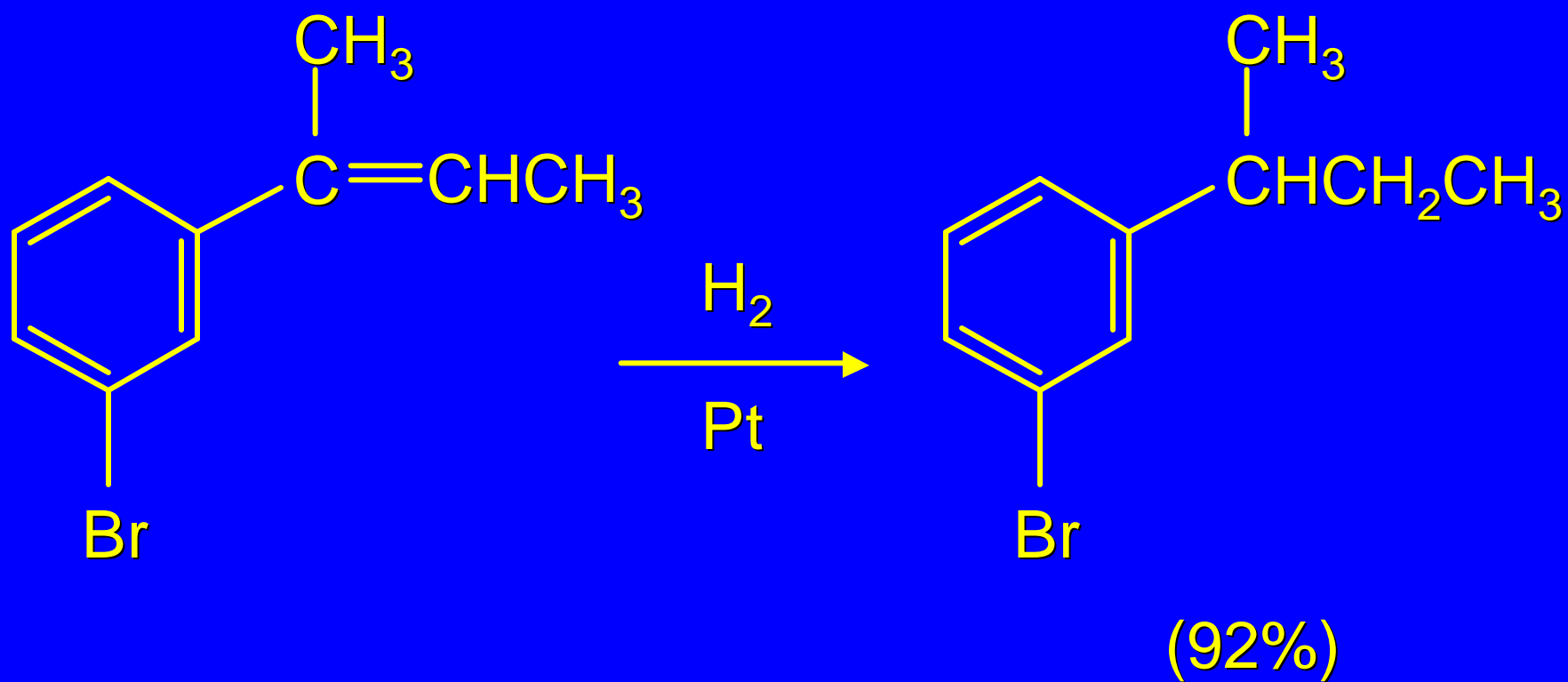
Addition Reactions of Alkenylbenzenes

hydrogenation

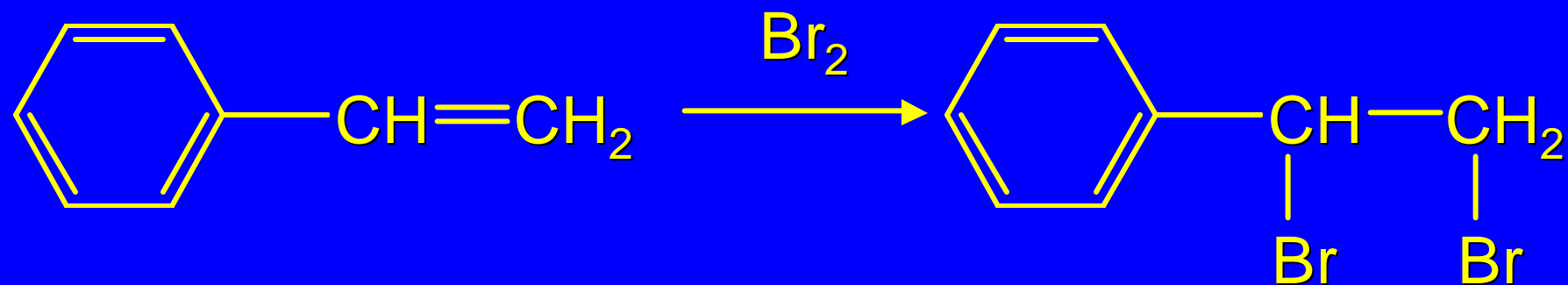
halogenation

addition of hydrogen halides

Hydrogenation

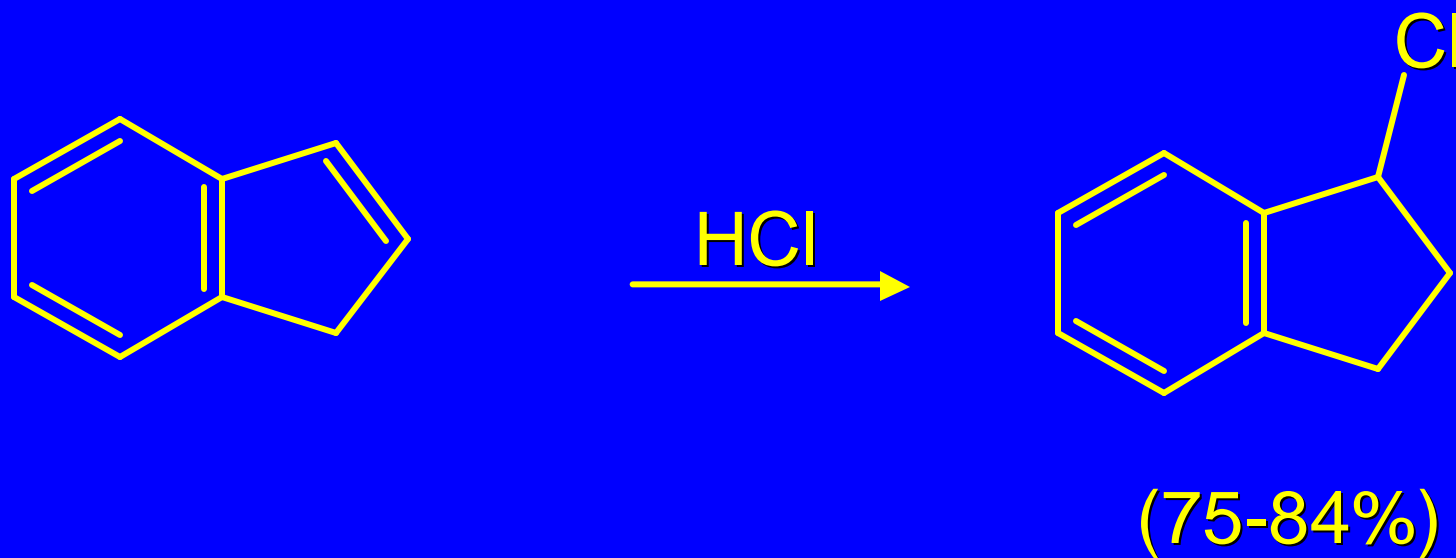


Halogenation

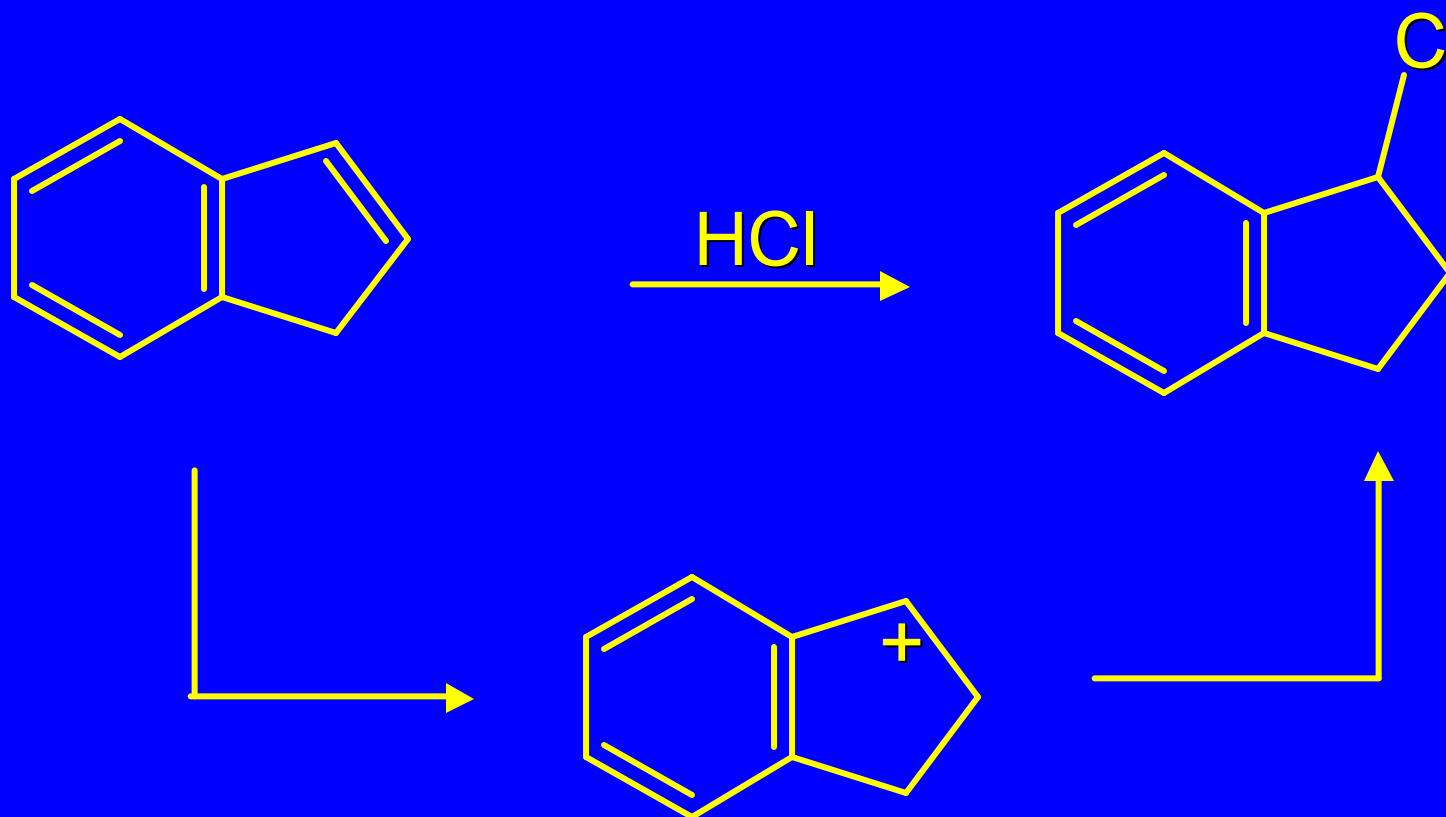


(82%)

Addition of Hydrogen Halides

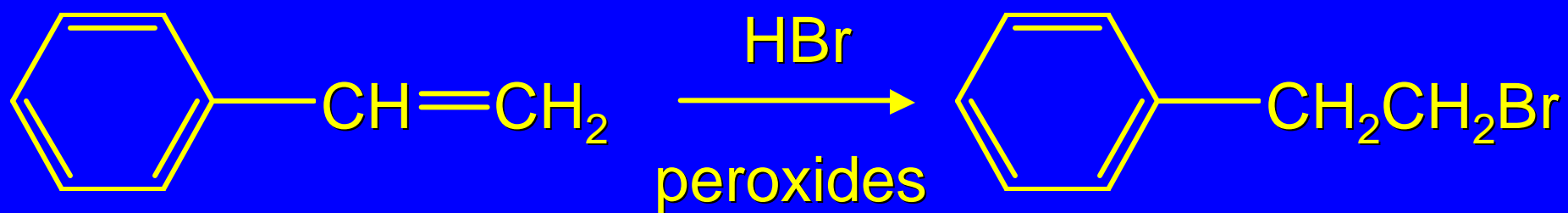


Addition of Hydrogen Halides

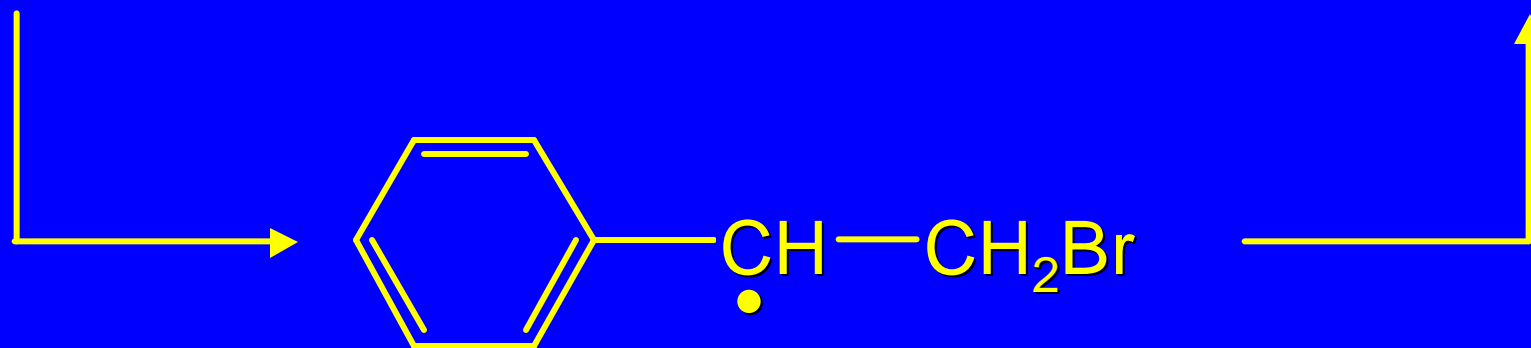
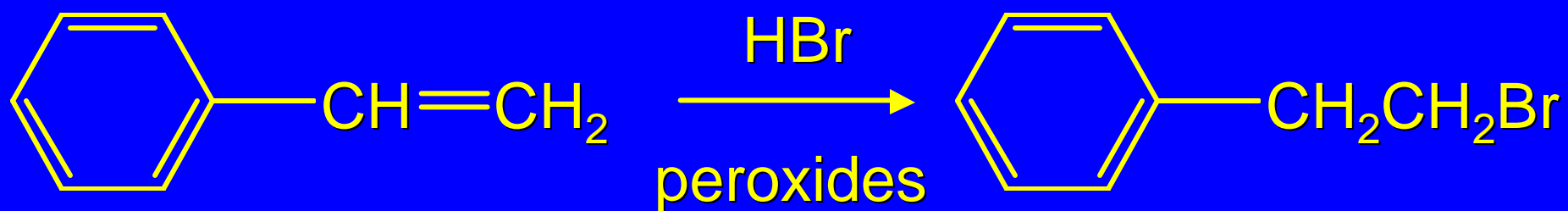


via benzylic carbocation

Free-Radical Addition of HBr



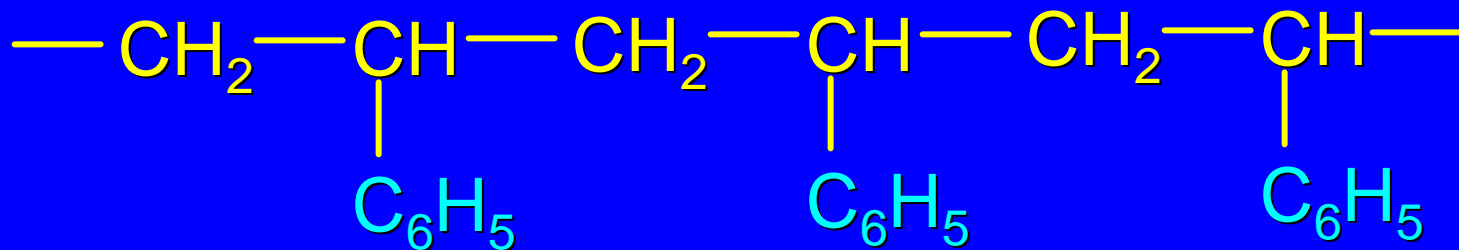
Free-Radical Addition of HBr



via benzylic radical

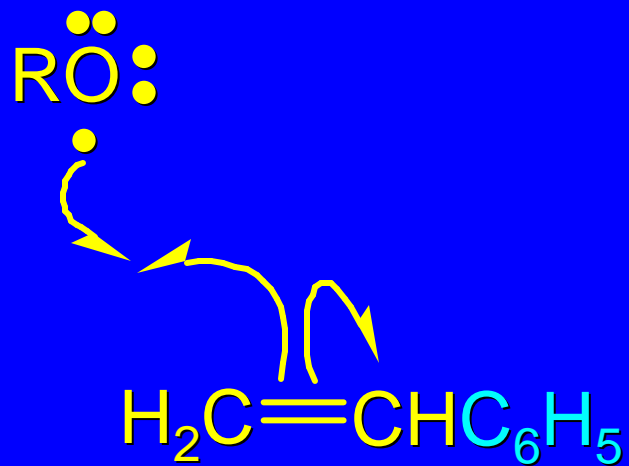
11.17
Polymerization of Styrene

Polymerization of Styrene

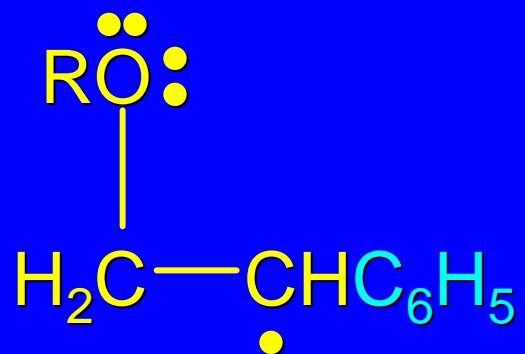


polystyrene

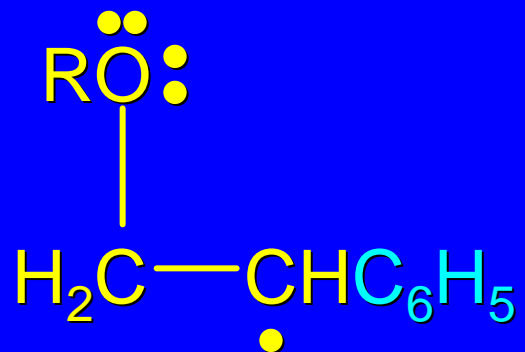
Mechanism



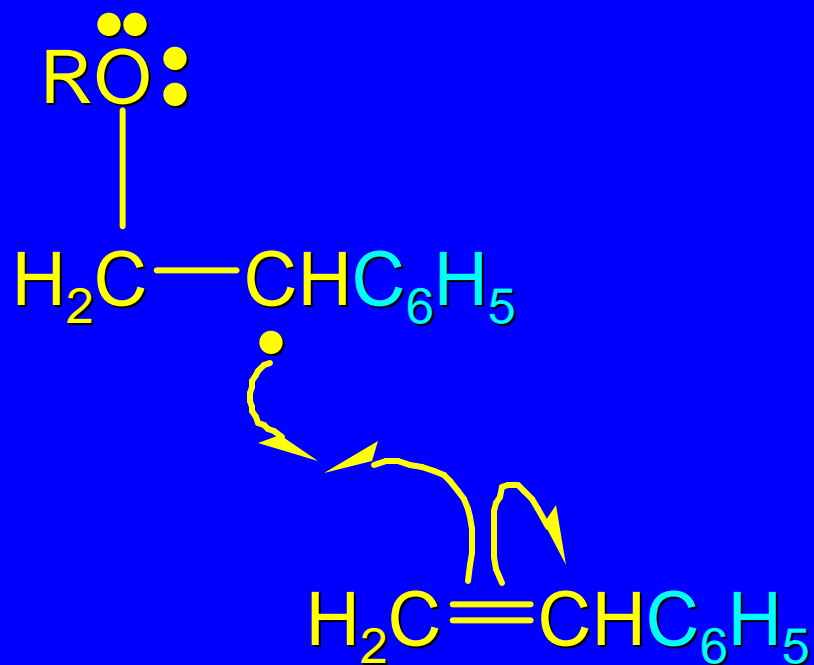
Mechanism



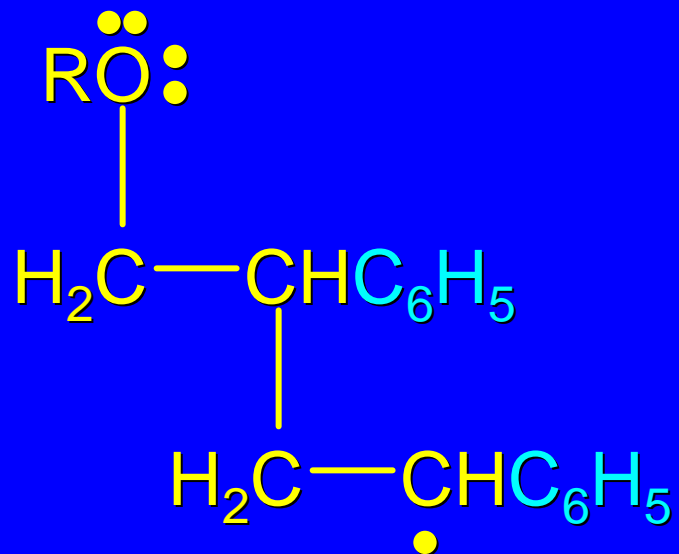
Mechanism



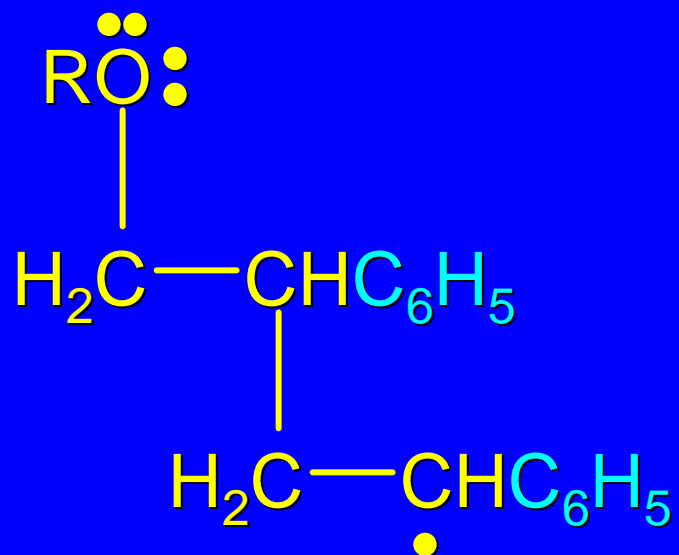
Mechanism



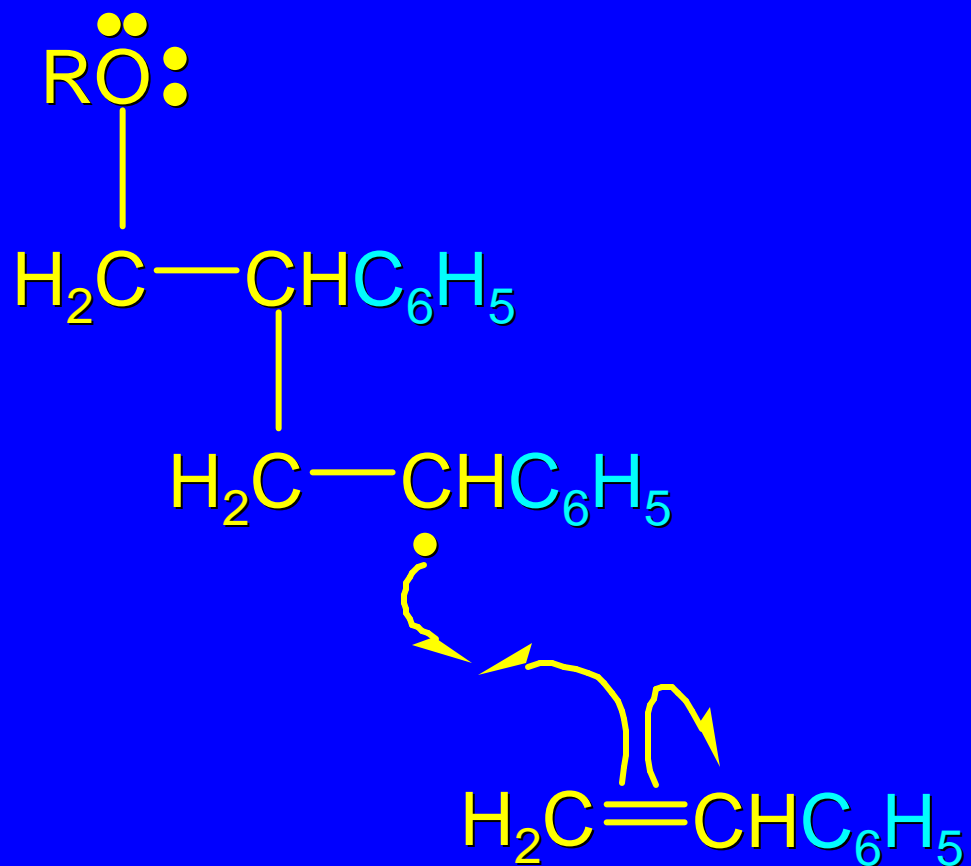
Mechanism



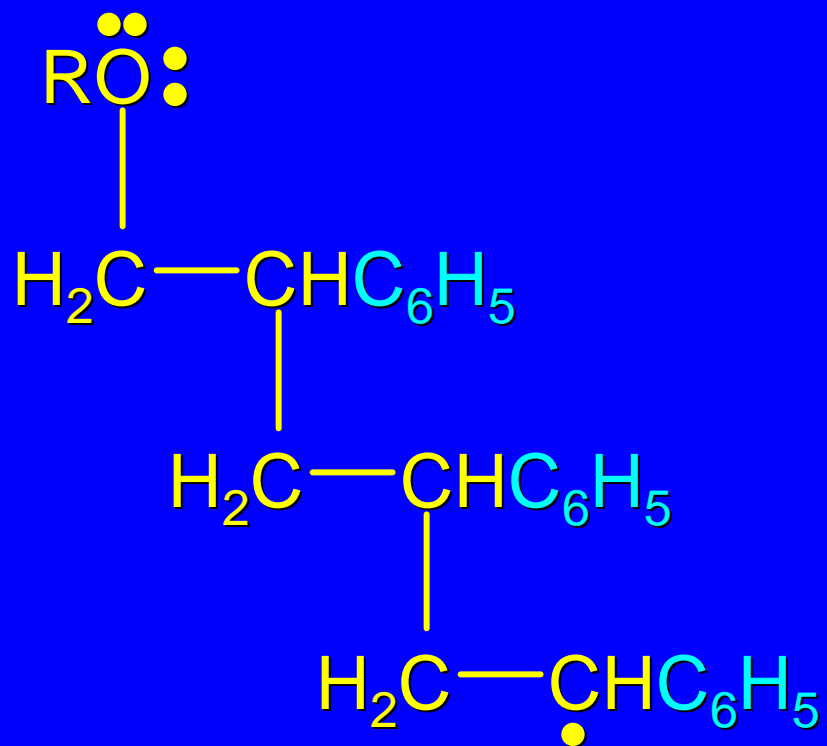
Mechanism



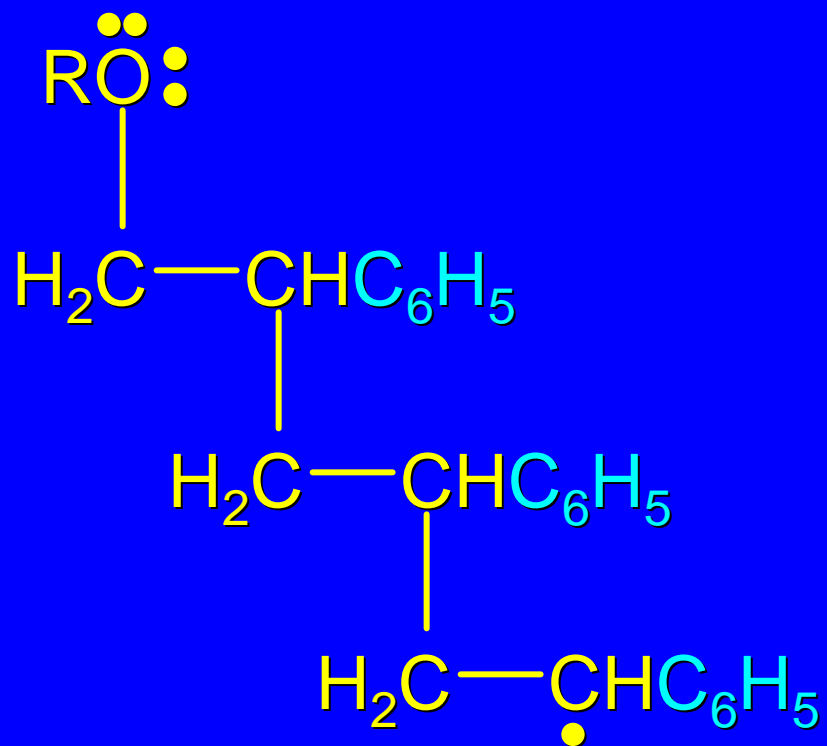
Mechanism



Mechanism



Mechanism



Mechanism

