

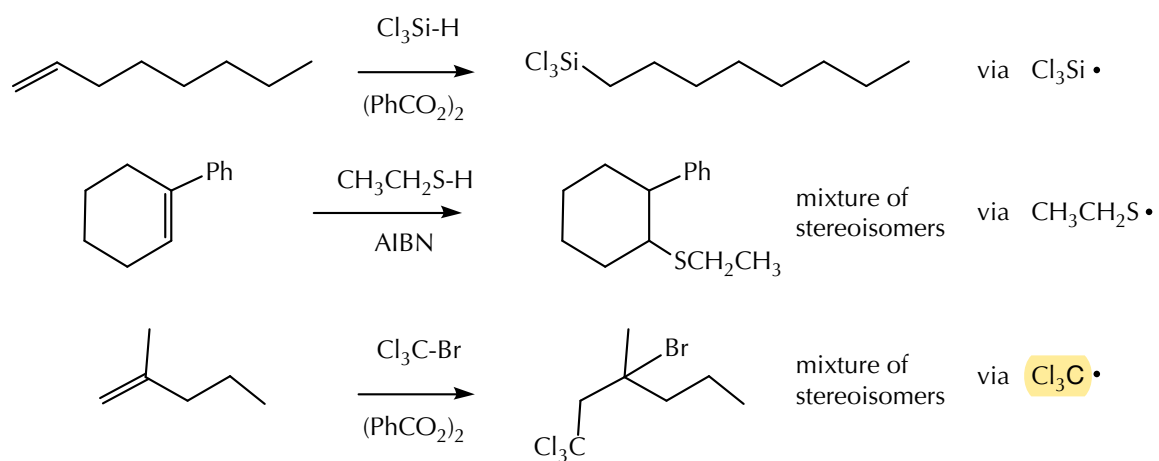
The electrophilic addition reaction of strong acids is the familiar, two-step mechanism: protonation of the pi bond to give the faster formation of the more stable carbocation intermediate, followed by the capture of the intermediate.

Radical initiators react with Brønsted acids to remove the hydrogen atom. The combination of benzoyl peroxide and hydrobromic acid results in a relatively high concentration of bromine atom radicals. Addition of the bromine radical to the pi bond shows the same regioselectivity as the protonation reaction, because the more substituted atom provides the more stable intermediate. Adding a bromine atom to a pi bond, then, results in the forming of the more substituted carbon radical as the intermediate. The concentration of HBr is high, as it is a reagent in the reaction mixture, and formation of a new C-H bond releases a bromine atom to continue the chain.

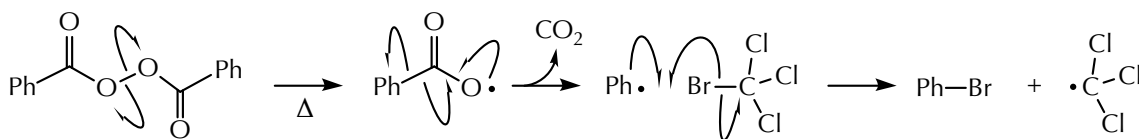
Molecules other than Brønsted acids can also add to pi bonds (Figure 1982).

Figure 1982

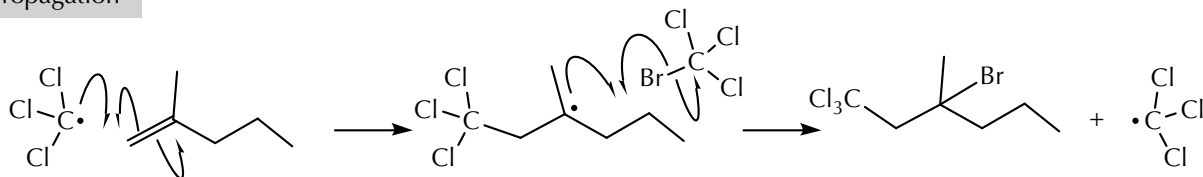
Radical addition reactions of compounds other than Brønsted acids.



Initiation



Propagation



Termination

