More Reaction Mechanisms

Step 1:
$$(CH_3)_3CBr \rightarrow (CH_3)_3C^+ + Br^-$$
 slow

Step 2: $(CH_3)_3C^+ + H_2O \rightarrow (CH_3)_3COH_2^+$ fast

Step 3:
$$(CH_3)_3COH_2^+ \rightarrow (CH_3)_3COH + fast$$

H⁺

a)What is the overall reaction corresponding to the above mechanism?

$(CH_3)_3CBr + H_2O \rightarrow (CH_3)_3COH + HBr$

b)What is the rate expression for this reaction?

Rate=k[(CH₃)₃CBr].....note it is *uni*molecular



$OH^- + CH_3CHBrCH_2CH_3 \rightarrow Br^- + CH_3CH(OH)CH_2CH_3$

b)What is the rate expression for this reaction?

Rate = k[OH⁻][CH₃CHBrCH₂CH₃]...note it is bimolecular

The Plant Cell



The Inside of a Chloroplast







