Substitution/Elimination Decision Map

Methyl Halide $\rightarrow$ $S_N2$

Primary Haloalkane $\rightarrow$ $tBuOK$ ? $\rightarrow$ Yes $\rightarrow$ E2

No $\rightarrow$ $S_N2$

Secondary Haloalkane or Allylic/Benzylic Halides $\rightarrow$ Very Weak Base ? $\rightarrow$ Yes $\rightarrow$ $S_N1/E1$

Very Strong Base ? $\rightarrow$ Yes $\rightarrow$ E2

No $\rightarrow$ $S_N2$

Tertiary Haloalkane $\rightarrow$ Very Weak Base ? $\rightarrow$ Yes $\rightarrow$ $S_N1/E1$

No $\rightarrow$ E2

Note: With Very Weak Bases, $S_N2$ can compete here, but for the purposes of this class, assume $S_N1$ / E1 predominate

Note: If $tBuOK$ is the very strong base, an appreciable amount of a non-Zaitsev product can be formed because the bulky $tBuOK$ will tend to react with the most accessible H atom.

For $S_N2$ Remember Chiral Center InVERSION
For E2 Remember anti-periplanar and Zaitsev
For $S_N1$ Remember Chiral Center Scrambling
For E1 Remember Zaitsev