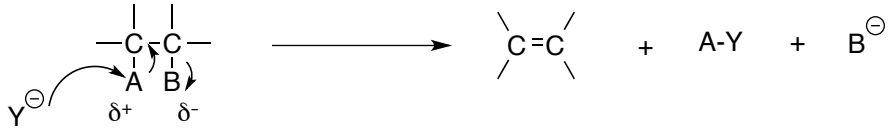
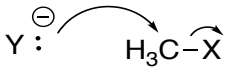
Elimination Reactions:

2 Types of Mechanisms: E_1 and E_2



Base vs. Nucleophile:

vs.



Base

Elimination (E_1 and E_2)

Nucleophile

Substitution (S_N1 and S_N2)

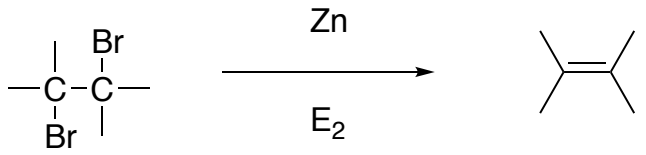
Addition Reaction	reverse is	Elimination Reaction
X_2 Halogenation		- X_2 Dehalogenation with Zn – always E_2
HX Hydrogen Halide		- HX Dehydrohalogenation E_1 or E_2 Steric effects control
ROH H^+ Water/Alcohol		- HOR Dehydration or Ether Cleavage E_1 or E_2 usually requires acid, e.g. H^+

Dehydrogenation, De-Hydroboration, removal of Oxygen not discussed or not possible

E_2 Reaction (E=Elimination)**:**

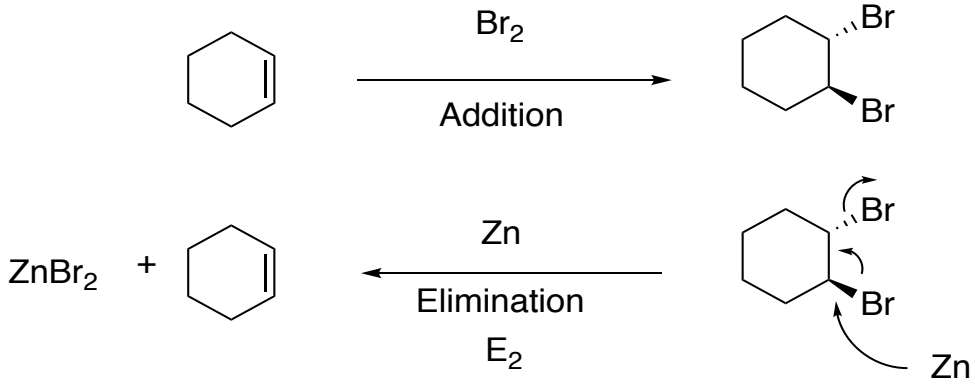
- Rate depends on two concentrations
- Stereospecific
- Concerted (bonds being formed and broken at the same time)
  - No intermediate
- Anti-periplanar geometry

1) Dehalogenation

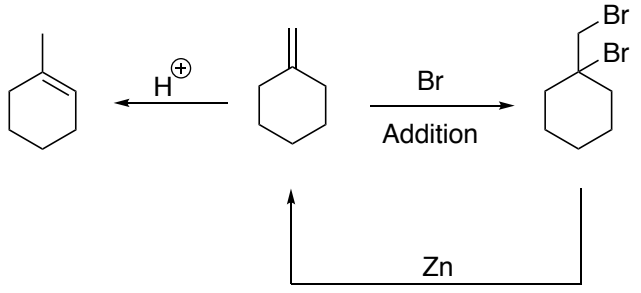


Example #1:

- Zinc mechanism always proceeds via E_2



Example #2:



Due to mechanism of Zn, the double bond is stuck at less substituted end.

Double bond can go to more substituted if it is left in aced