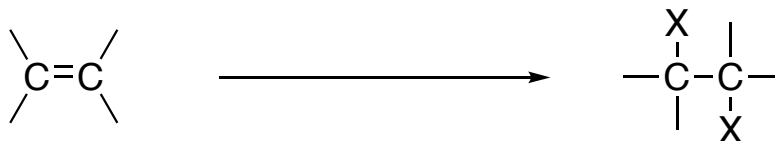


**Halogenation:** Addition of halogens across a double bond

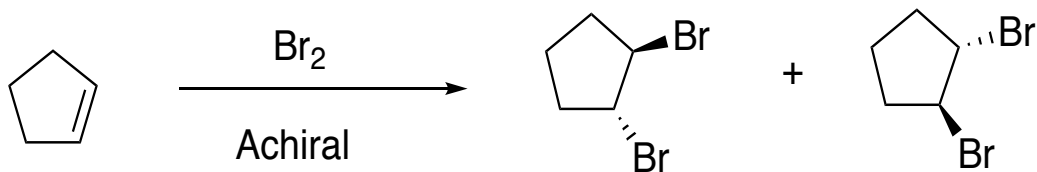


X = F, Cl, Br, (I)

Anti Addition  
Trans Addition

Ex #1) Cyclopentene

Stereospecific Reaction

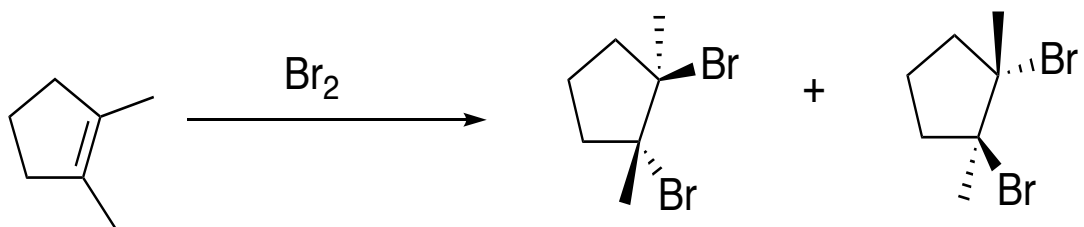


Achiral

*trans*-1,2-Dibromocyclopentane

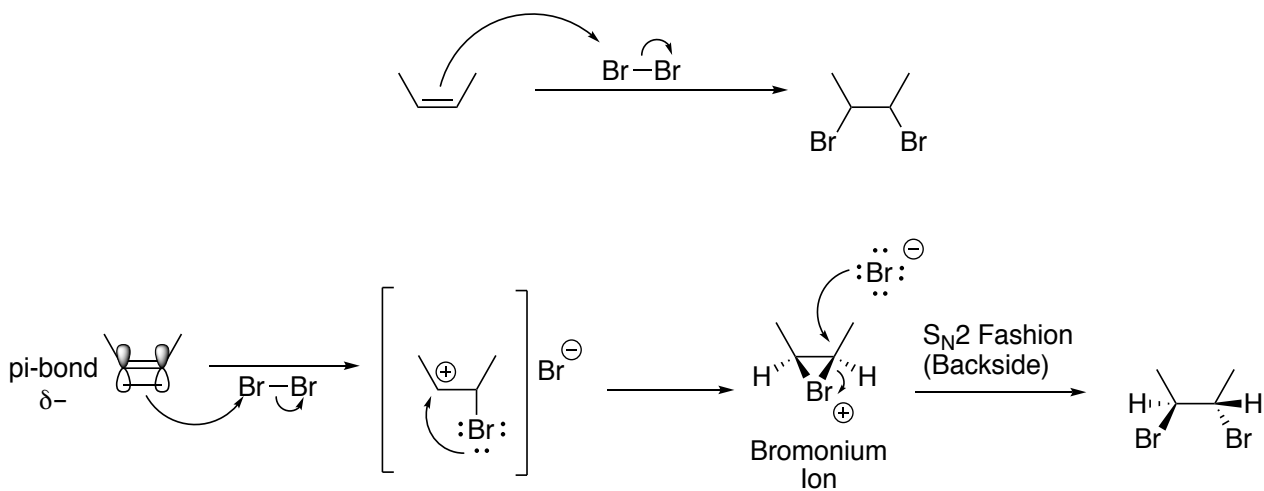
Both enantiomers formed (1:1 racemate)

**Ex #2) 1,2-dimethylcyclopentene**

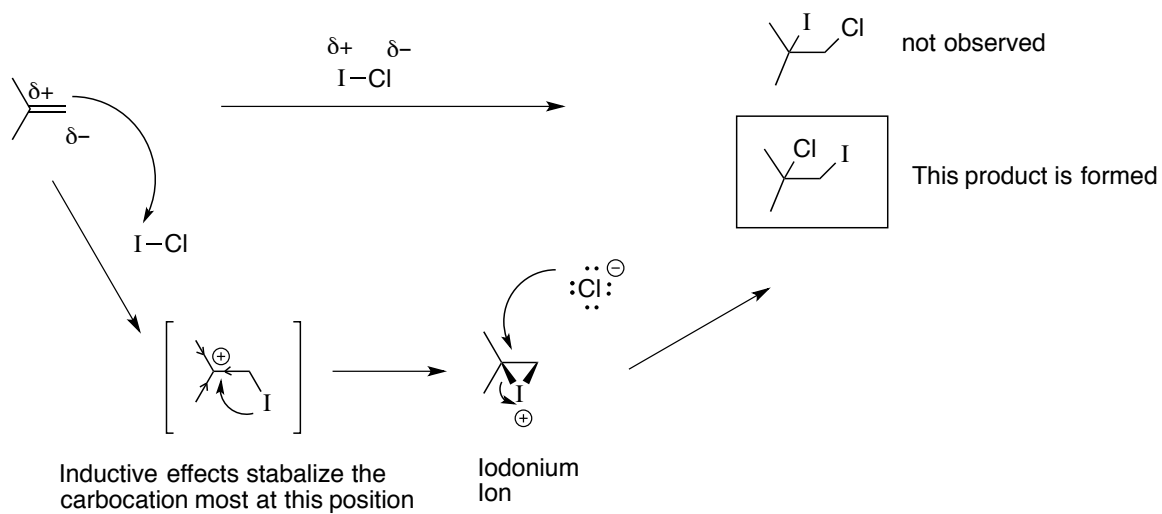


*trans*-1,2-Dibromo-1,2-dimethylcyclopentane

**Mechanism:**



**Ex #3) 2-Methylpropene**



**Markovnikov's Rule:** In an addition reaction, the positive end of an A–B system (e.g.  $\text{I-Cl}$ ) adds to the least substituted end of the double bond to make the more stable carbocation.