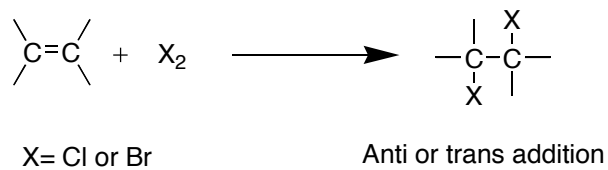


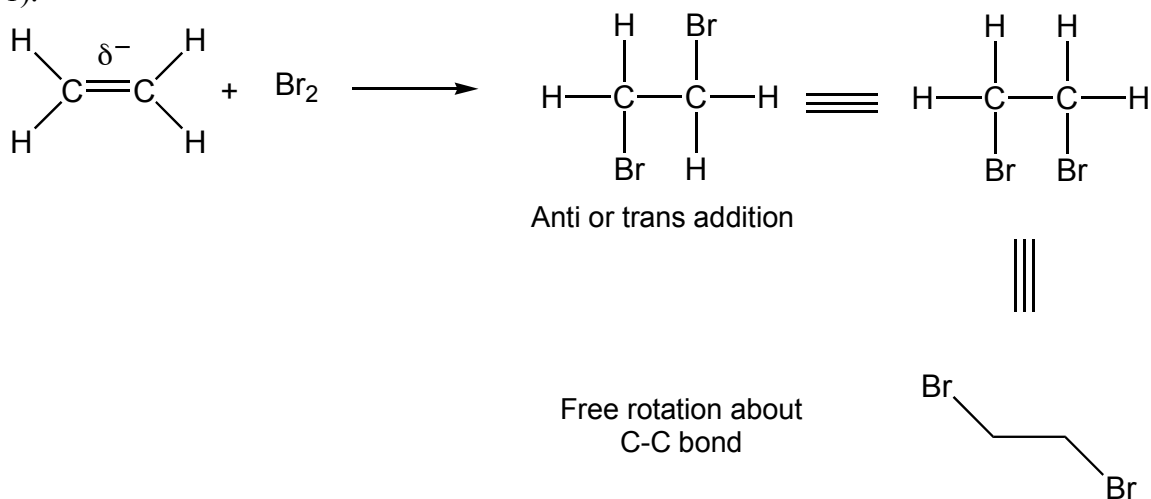
Addition of X_2 to alkenes (Halogenation)

General reaction:

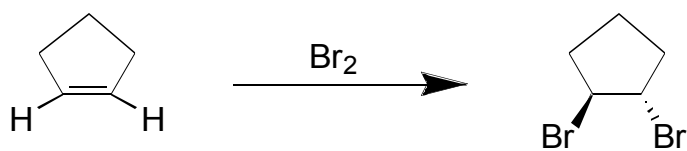


Examples:

1).

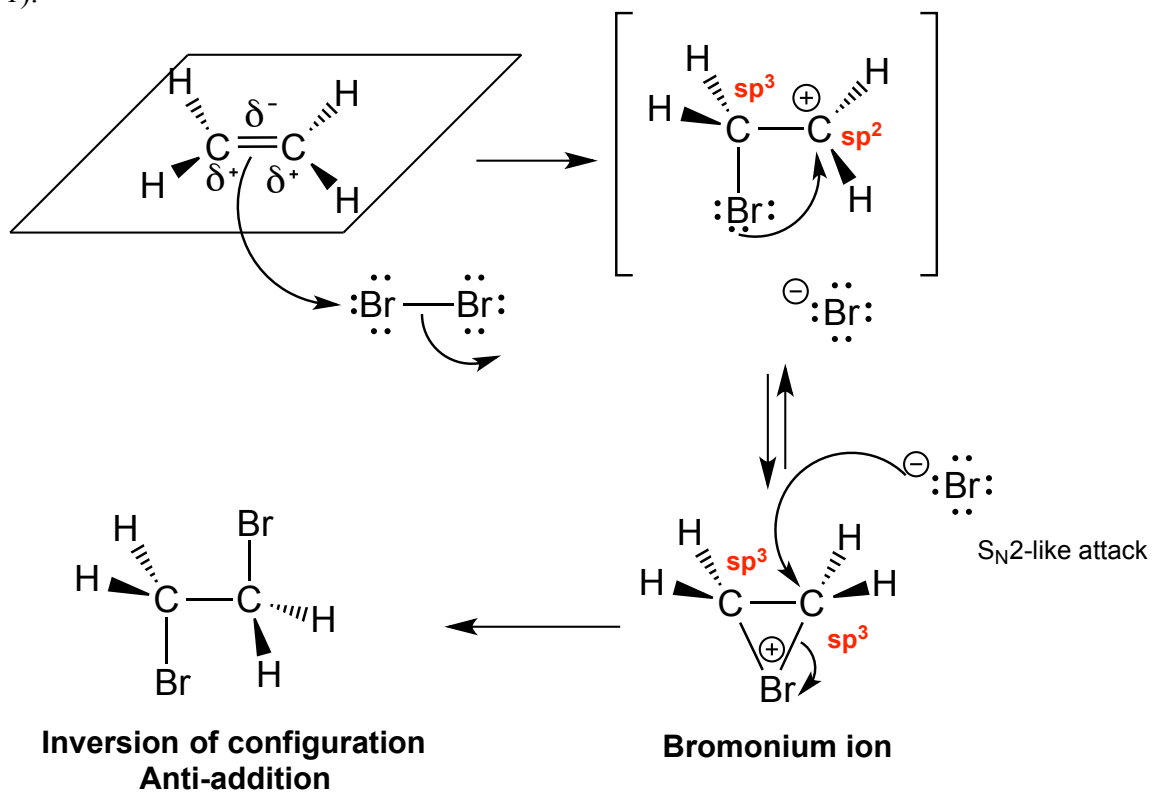


2).

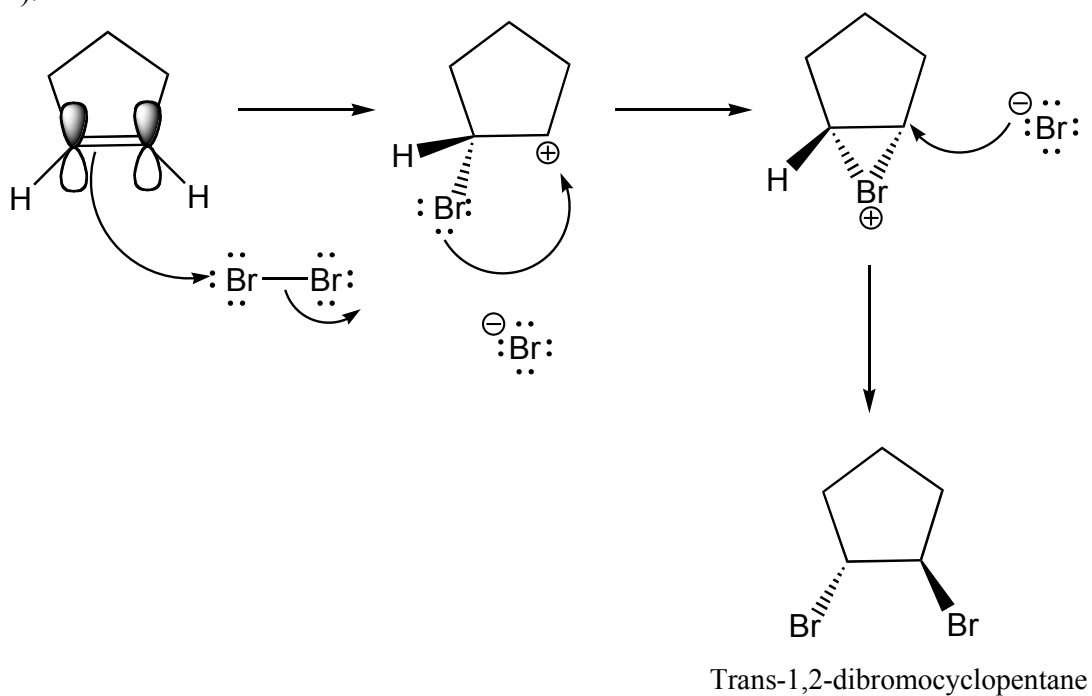


Mechanisms:

1).

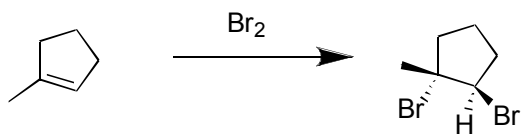


2).

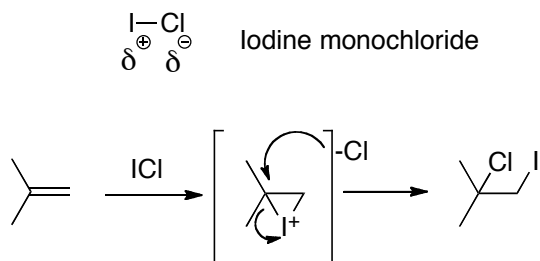


Other Examples:

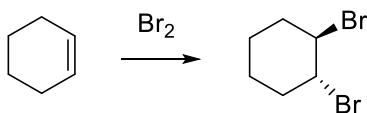
3).



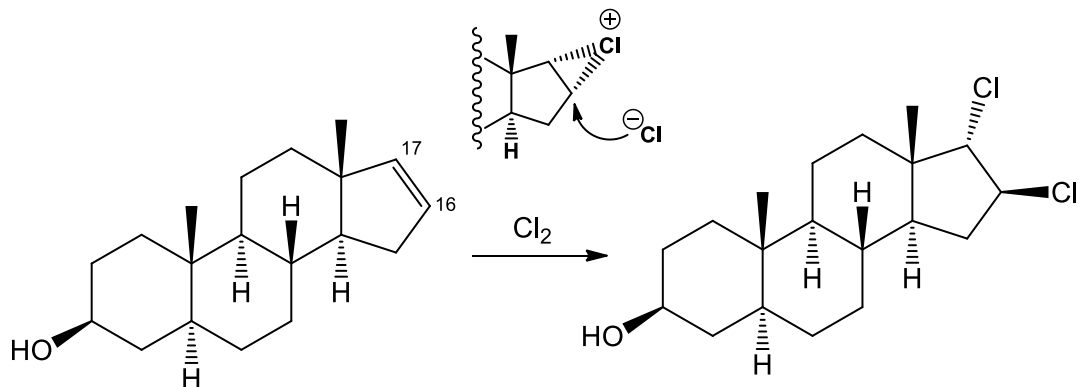
4).



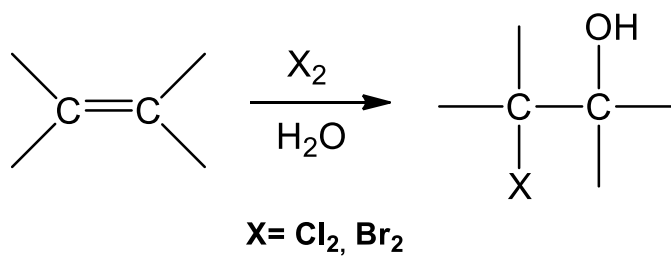
5).



6).

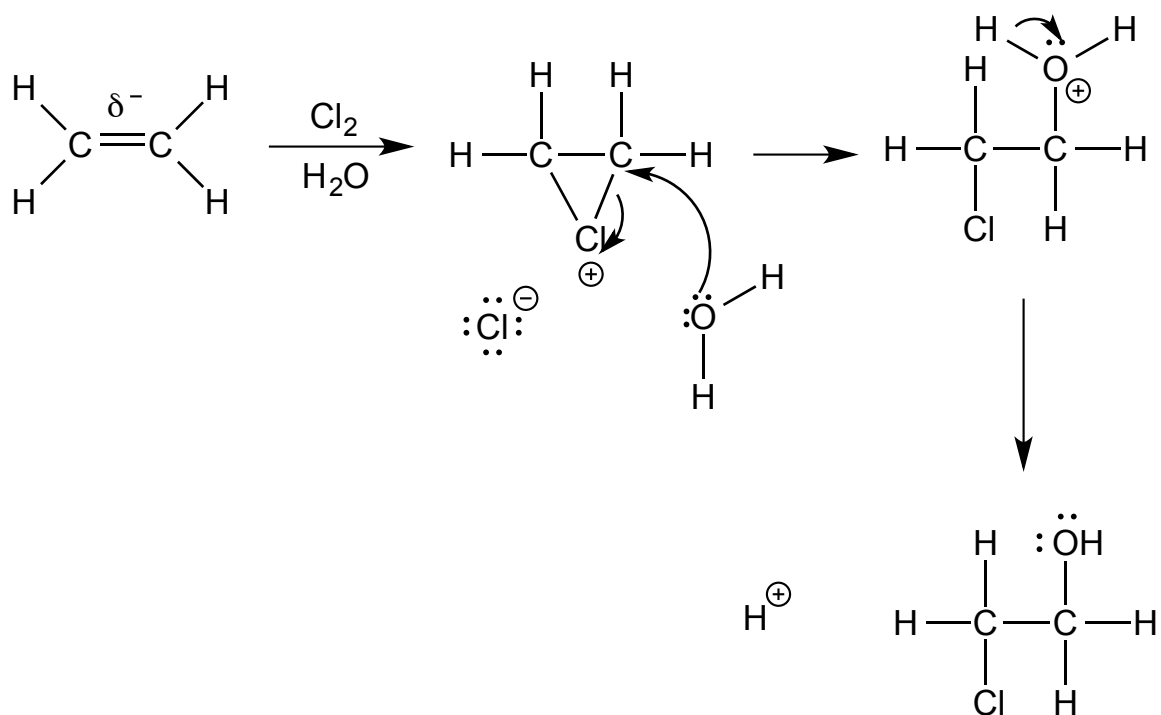


Halohydrin formation

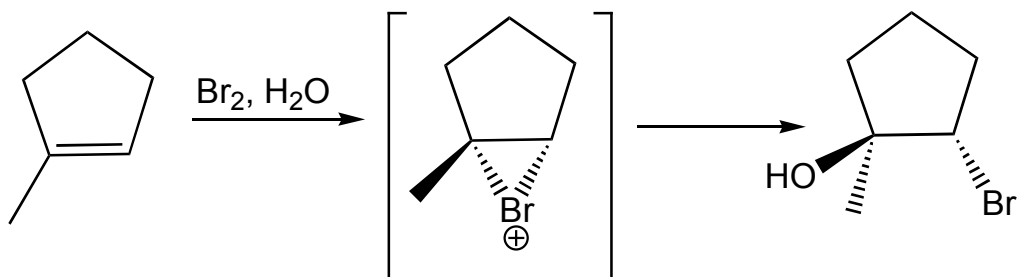


Examples:

1).

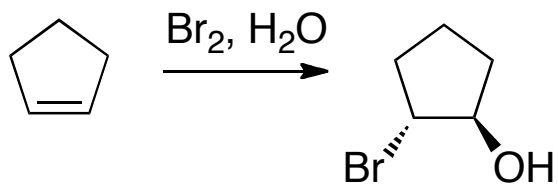


2). Product: 2-bromo-1-methylcyclopenta-1-ol

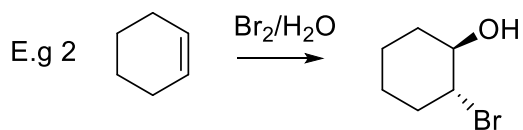


Other examples

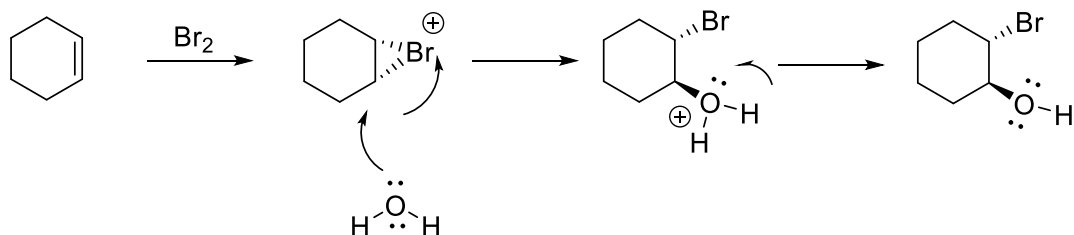
3).



4).

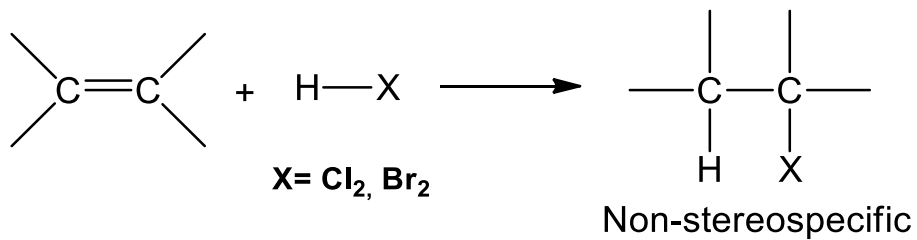


Mechanism:



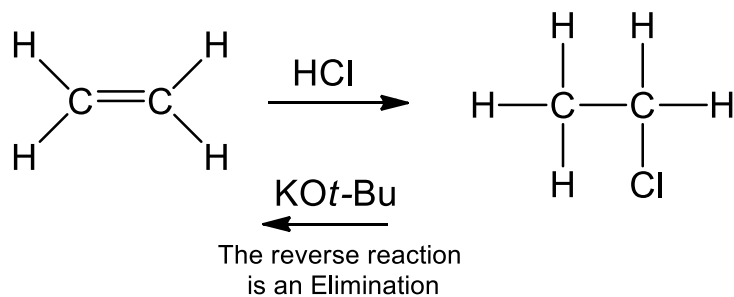
Hydrogen Halide Addition (HX)

General reaction

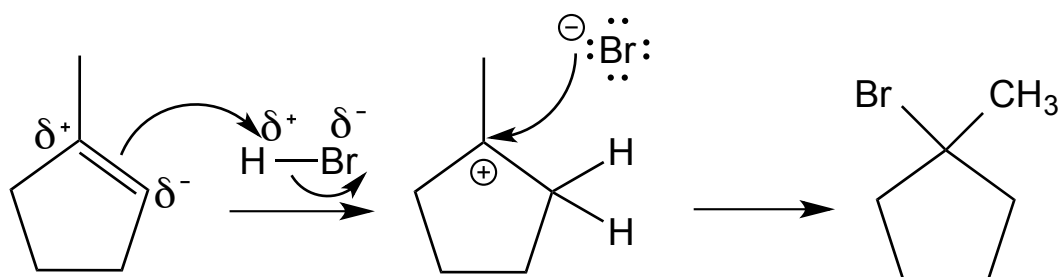


Examples:

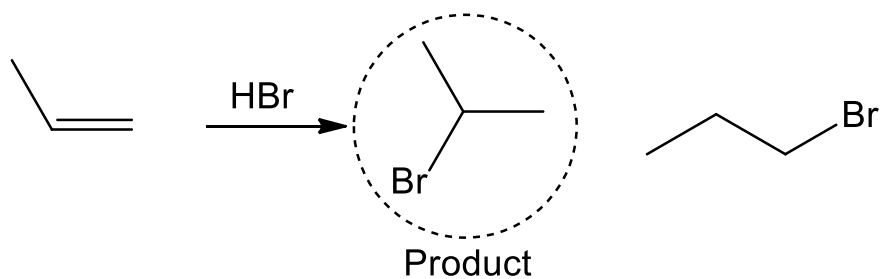
1).



2).

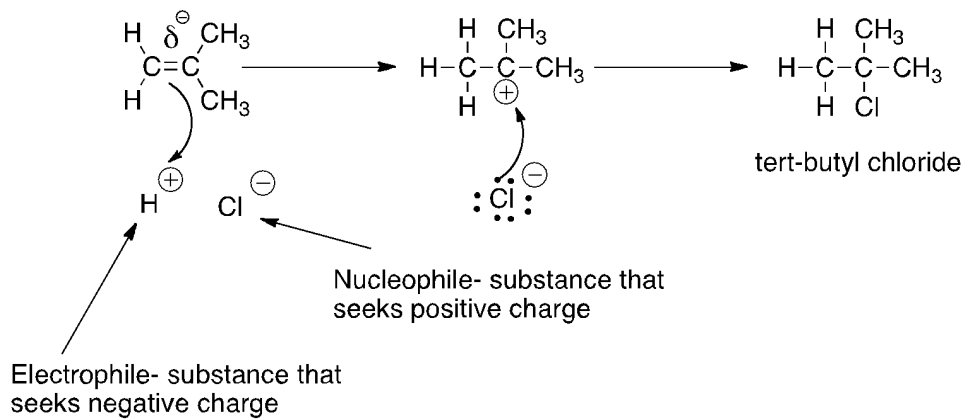


3).

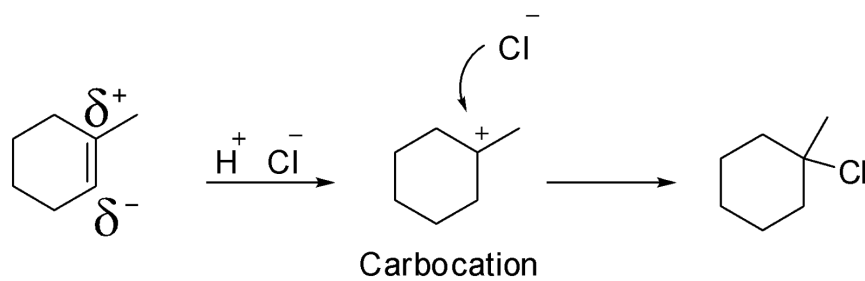


Other examples:

4).



5).



Markovnikov rule in Addition reactions

- positive species adds to the least substituted end of $C=C$
- negative species adds to the more substituted end of $C=C$ (stabilized positive charge)