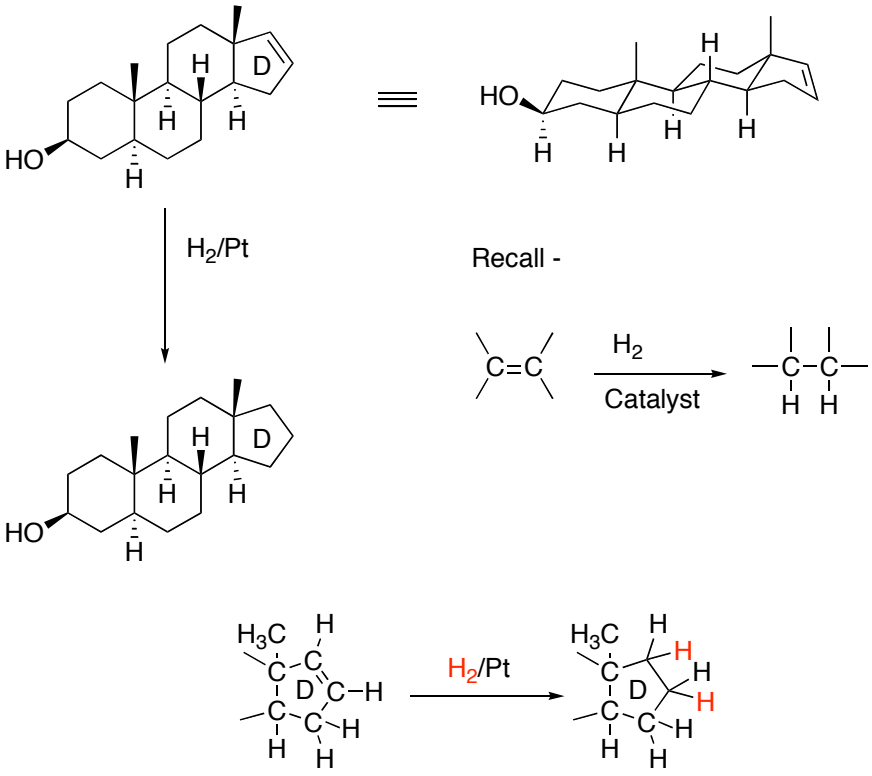
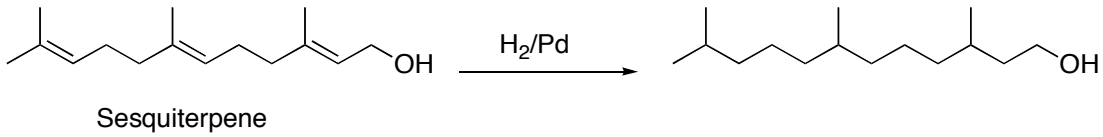
Eg.1



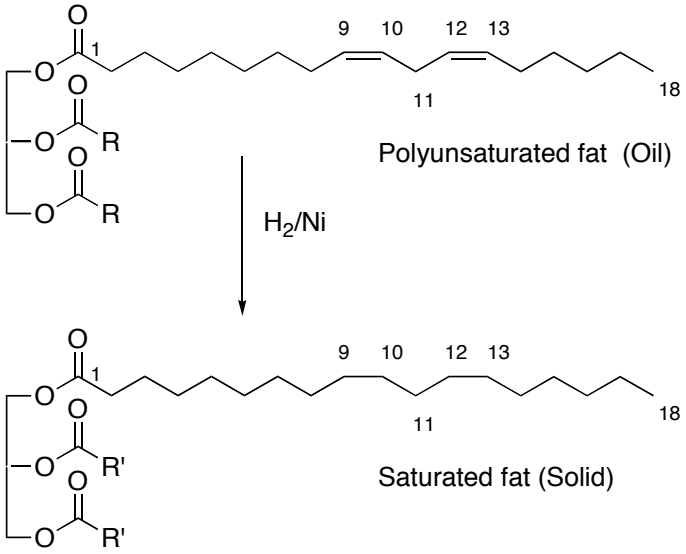
Eg. 2



Sesquiterpene

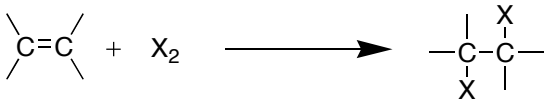
Eg.3

Saturated fats have long chains that interact with each other through London forces. These forces increase melting points and cause these saturated fats to become solid.



Addition of X_2 to alkenes (Halogenation)

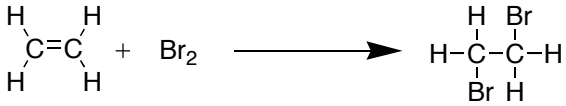
General reaction



X= Cl or Br

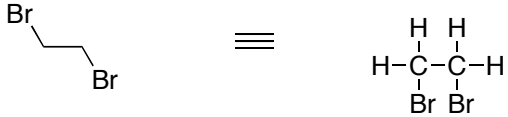
Anti or trans addition

Eg.1

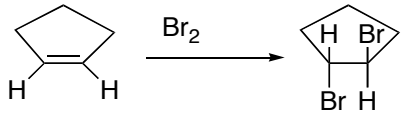


Anti or trans addition

free rotaion about C-C bond

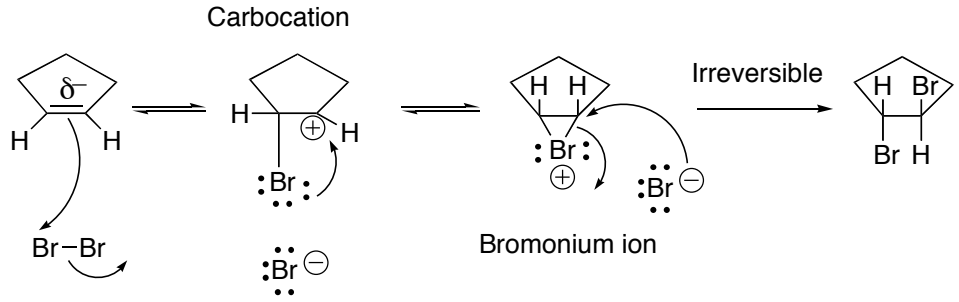


Eg. 2

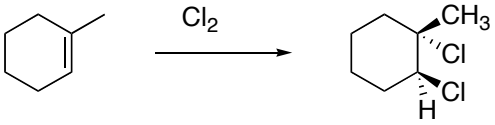


Trans = Anti

Mechanism:



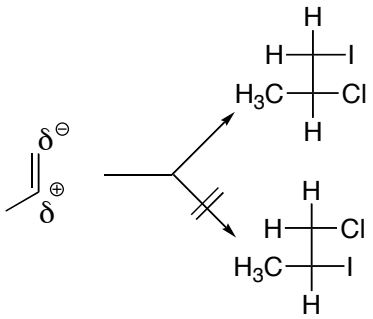
Eg. 3

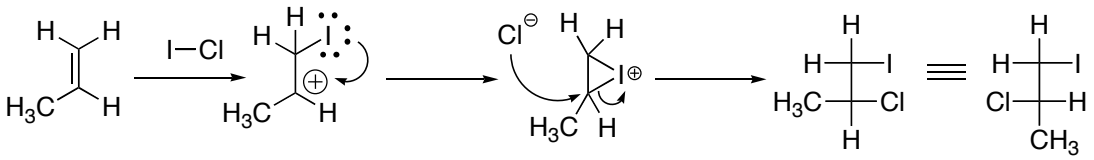


Anti-Addition

Eg. 4

Iodine monochloride - adds to alkenes, but gives only top product shown below





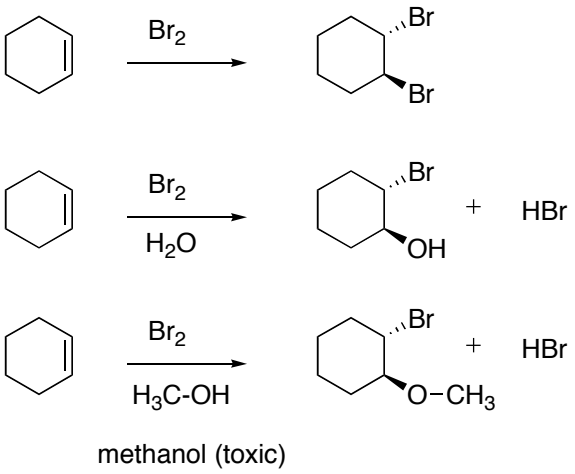
Alkyl groups donate electrons and stabilize positive charge.

- The more substituents, the more stable the alkene.

Markovnikov rule in Addition reactions

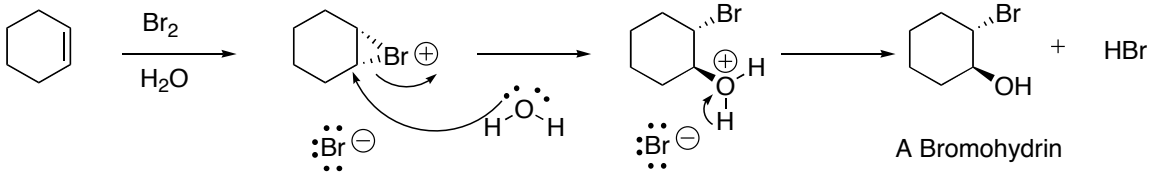
- positive species adds to the least substituted end of C=C
- negative species adds to the more substituted end of C=C (stabilized positive charge)

Further halogenation reactions

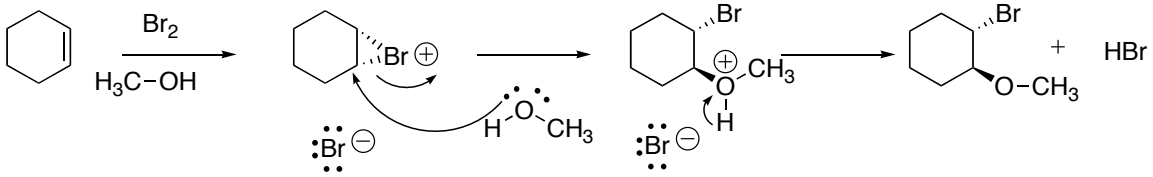


Mechanisms

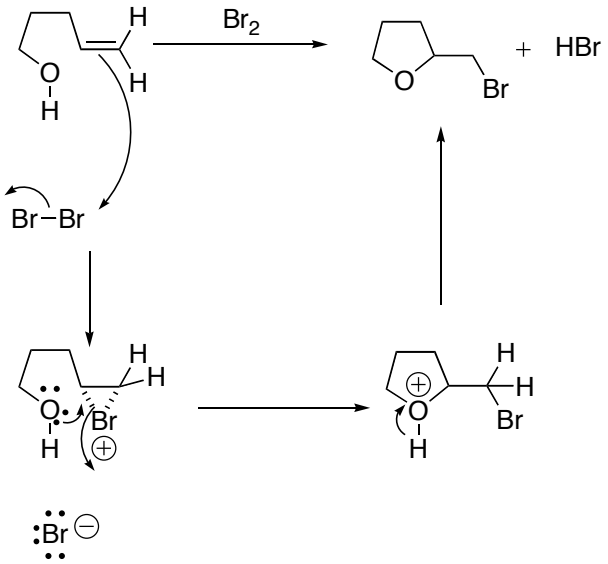
Rxn. 2



Rxn. 3

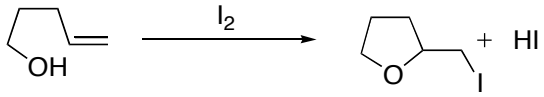


Intramolecular reaction

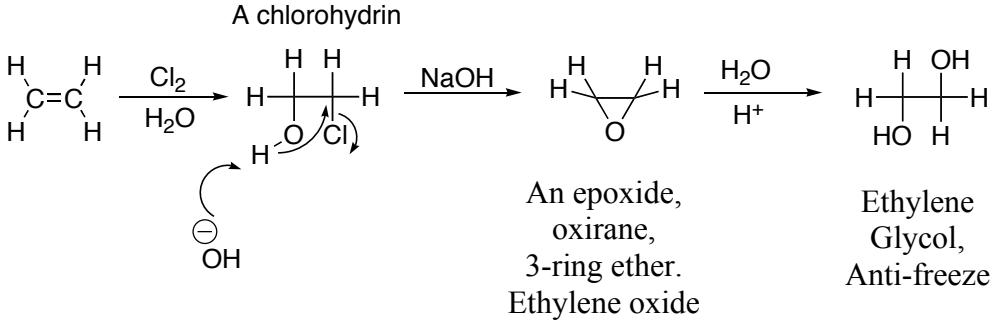


Note- five membered rings form more readily than six membered rings

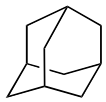
Eg. 2



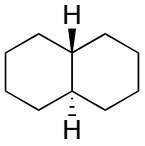
One final example



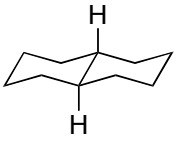
Review Questions

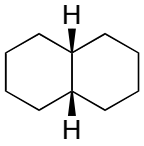


Adamantane

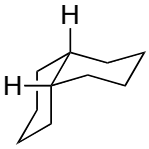


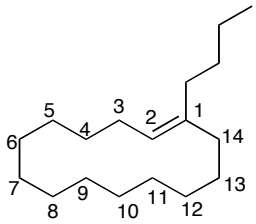
trans-decalin



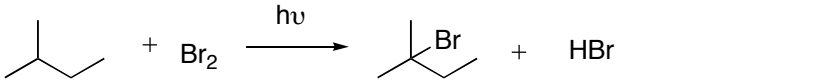


cis-decalin

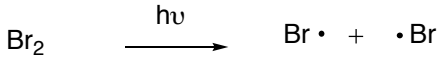




E-1-butyl-1-cyclotetradecene



Initiation



Propagation