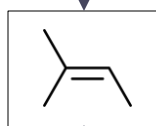


Electrophilic addition Start

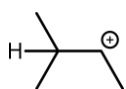


Reagents

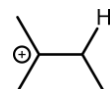
HCl HBr
HI H₂O/H⁺

H adds first

H ends up on less substituted end.



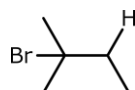
Less stable
carbocation
NOT FORMED



More stable
carbocation
FORMED

Nucleophile attacks more substituted end

Nucleophile ends up on more substituted end.



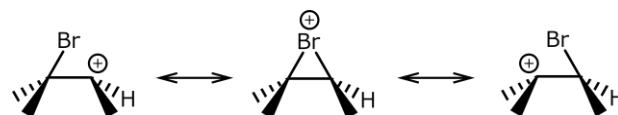
Markovnikov product

Reagents

Cl₂
Br₂

1 Halogen atom added

Reaction intermediate has 3 possible structures



NEGLIGIBLE

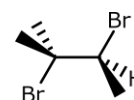
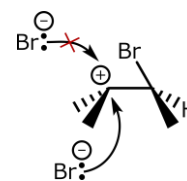
Halonium ion
MAJOR

MINOR

Negligible contributor is ignored.

Top face of intermediate is blocked by halogen atom.

- 2nd halogen atom added to bottom face (anti addition).
- Halogen attacks more stable carbocation end.



Product