

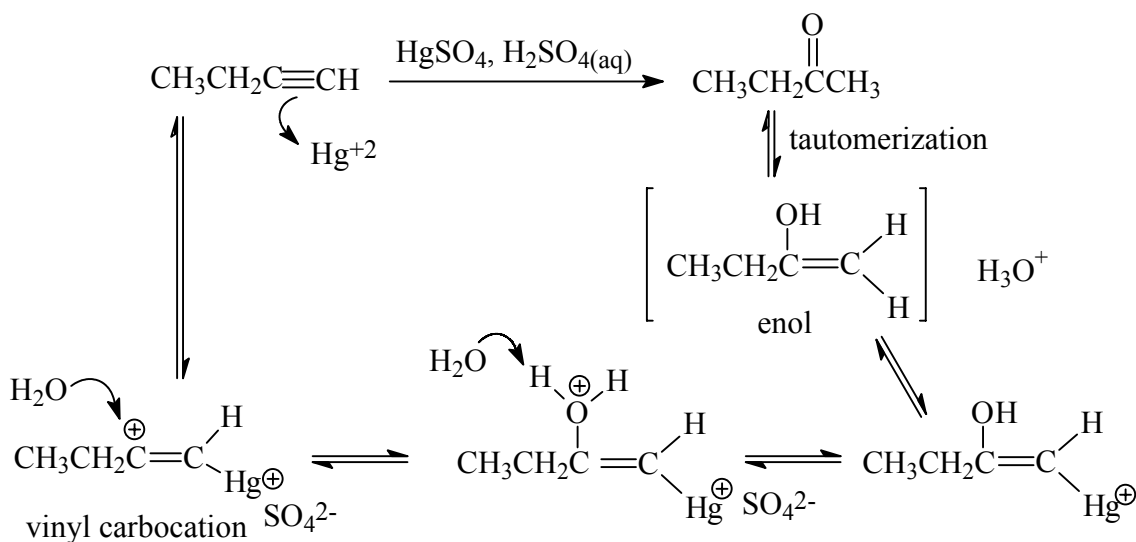
CHEM 241-601

Alkynes – How Things Work II

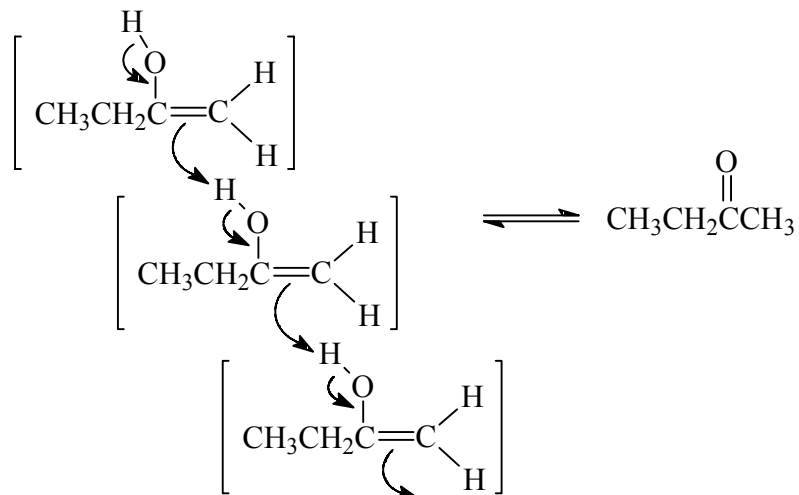
Hydration (addition of H₂O) of alkynes:

OXYMERCURATION HYDRATION

Markovnikov

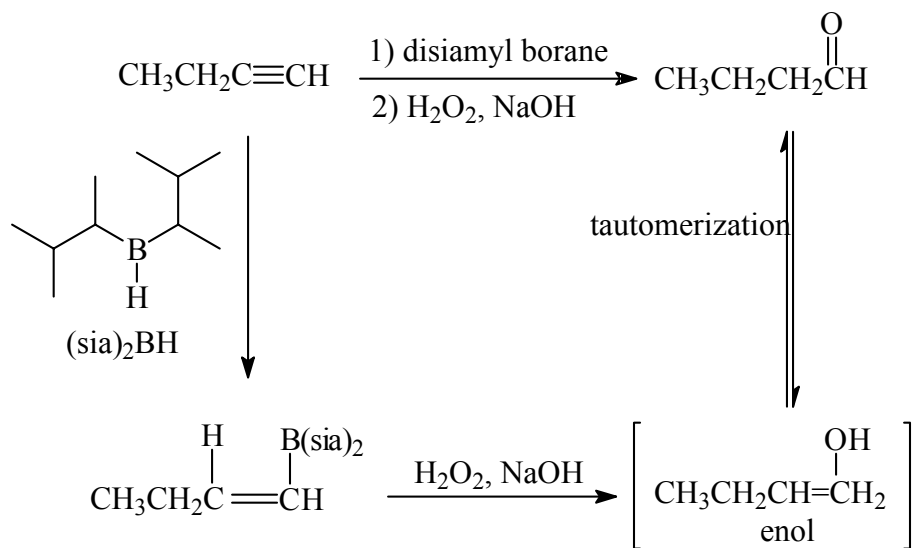


enol - keto tautomerization (intermolecular)

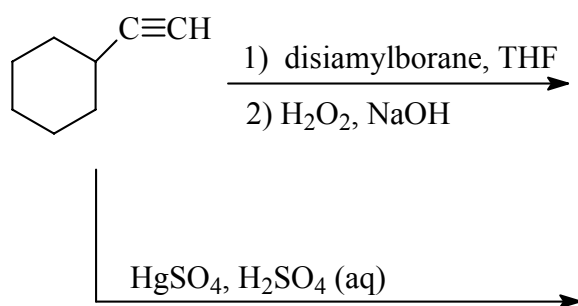


HYDROBORATION HYDRATION

Anti-Markovnikov

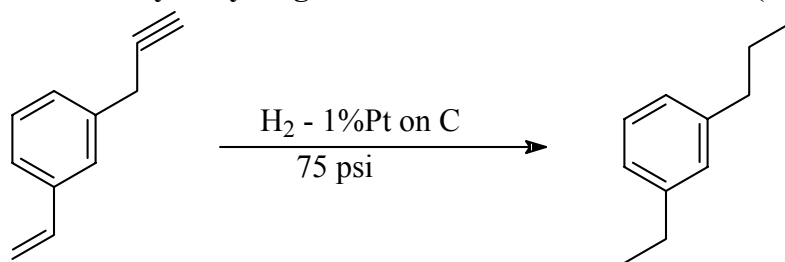


Some problems:

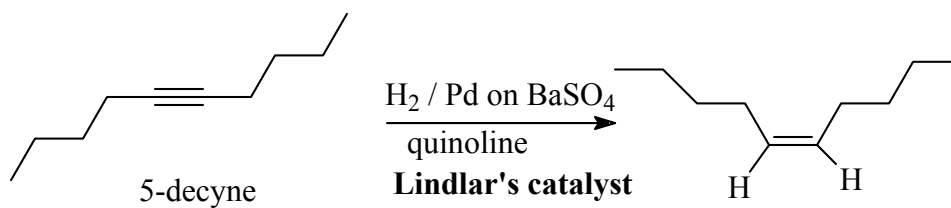


HYDROGENATION

Standard catalytic hydrogenation reduces all C-C π bonds (except aromatic):



"Poisoned" catalyst results in reduction of alkyne to alkene (syn addition)



Dissolved metal (Na or Li) - ammonia reduction of alkyne to trans alkene

