

S_N1 Displacement At sp^3 Centers

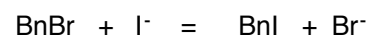
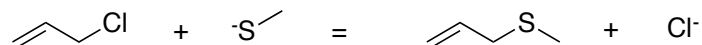
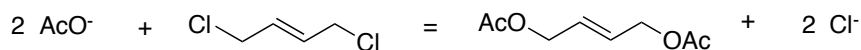
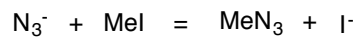
from chapter(s) _____ in the recommended text

A. Introduction

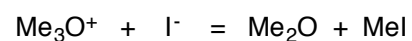
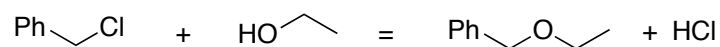
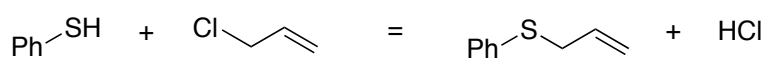
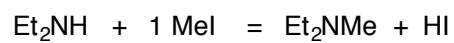
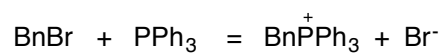
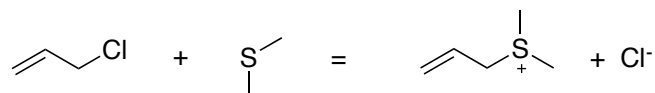
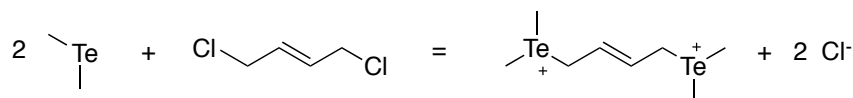
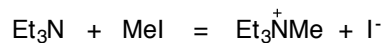
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B. Types Of Nucleophilic Substitutions

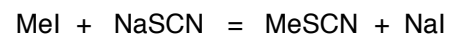
Negatively Charged Nucleophiles

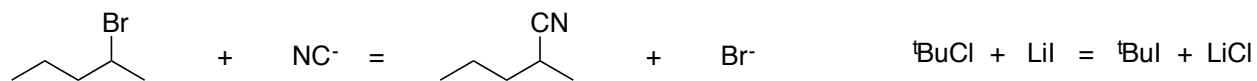


Neutral Nucleophiles

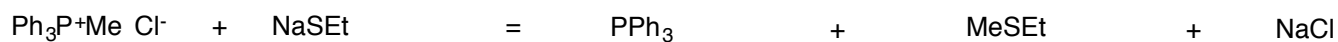


Charges On Leaving Groups





(intramolecular)



C. S_N1

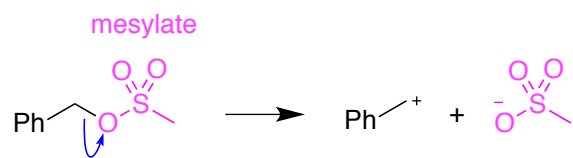
Introduction Into The Key Steps

group replaces another.

nucleophile with first order kinetics.



carbocation and bromide



*benzyl carbocation
and -OMs*

is the rate



allyl carbocation and O-Ts



allyl carbocation and hydrogen phosphate



an allyl carbocation and hydrogen phosphate

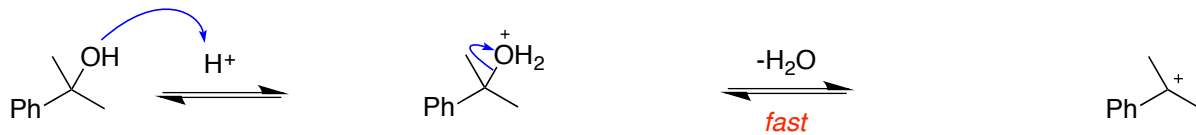


carbocation and hydroxide



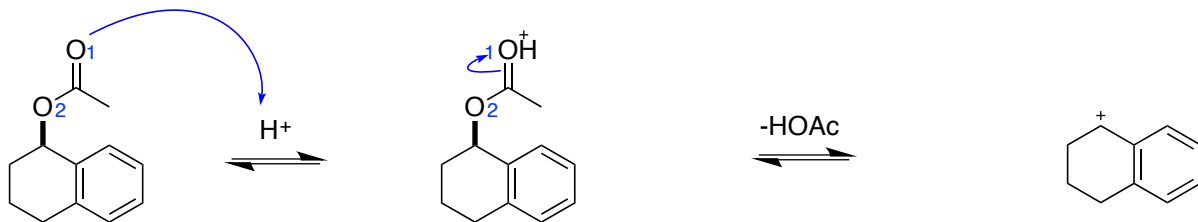
carbocation and water

better
right
left
true.



protonated intermediate

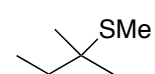
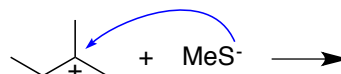
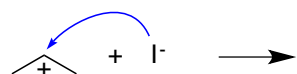
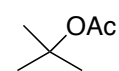
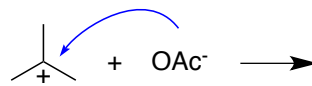
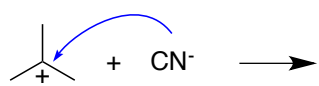
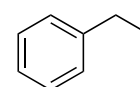
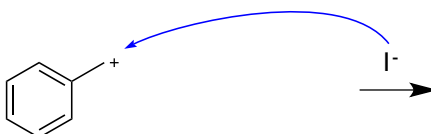
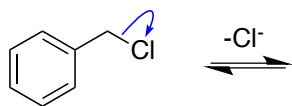
carbocation intermediate

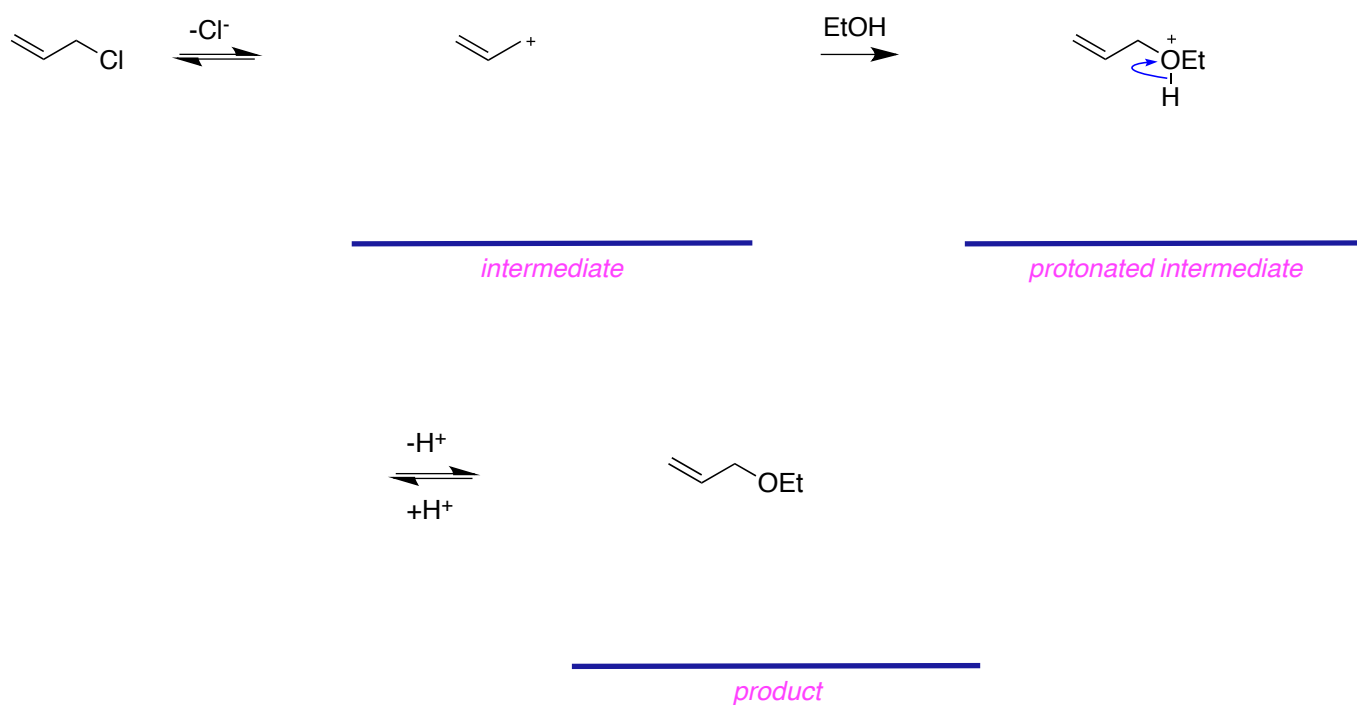
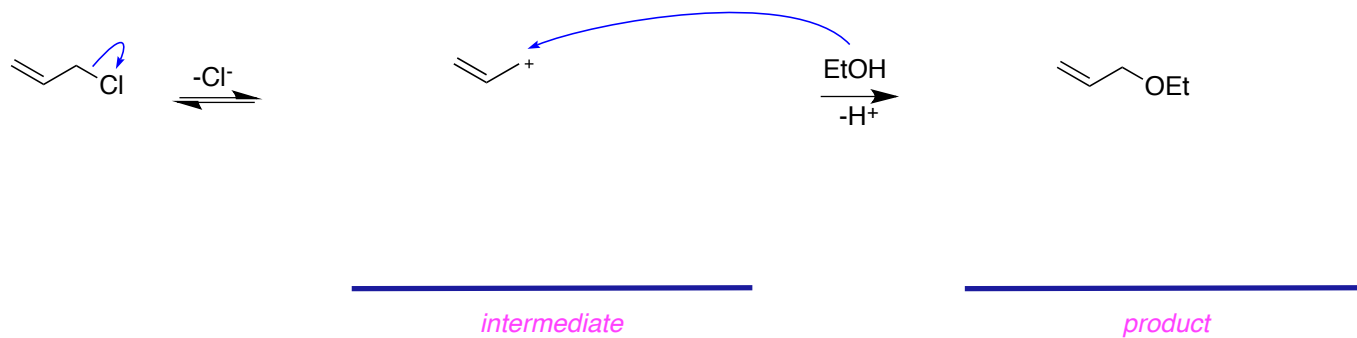


protonated intermediate

carbocation intermediate

O¹ is

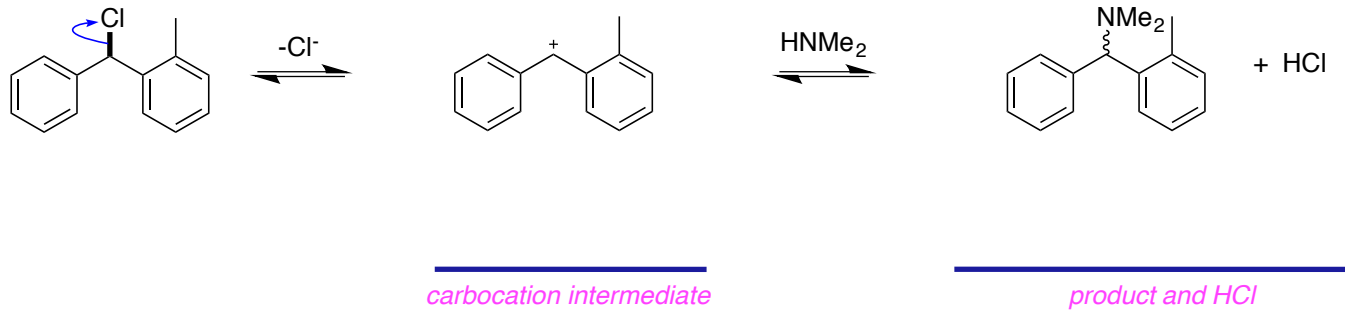
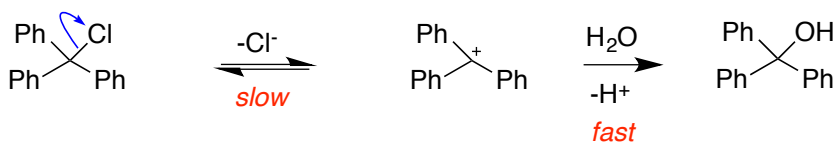
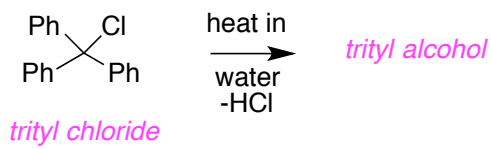
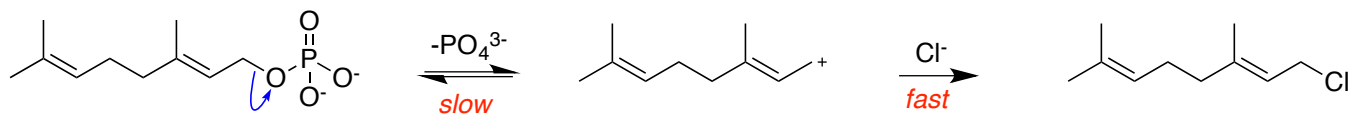
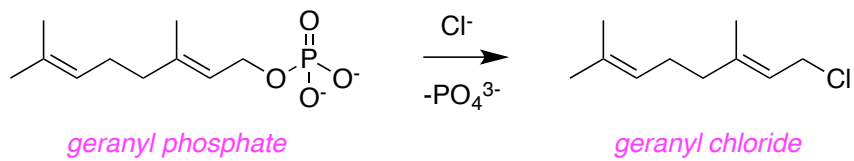
Carbocations cancationsracemic,sp²flat and the nucleophile can*intermediate**product*

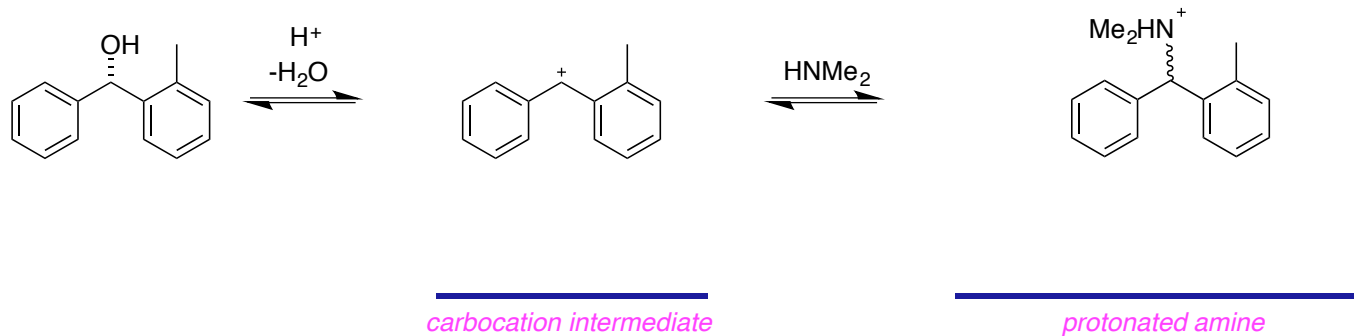


two intermediates.

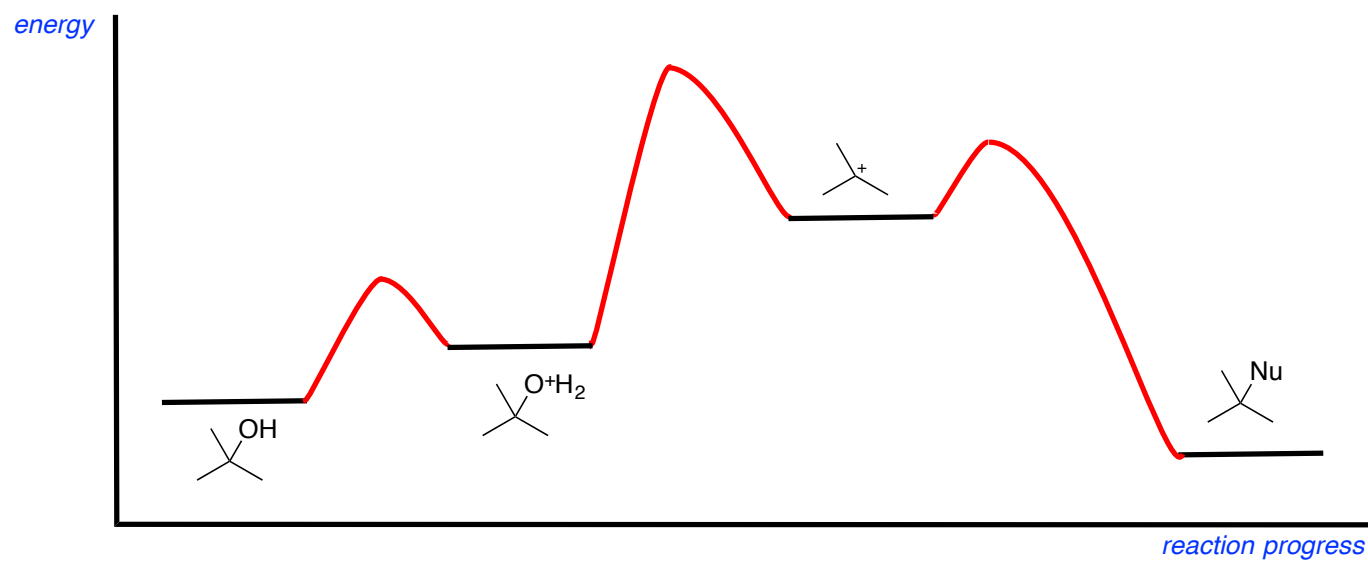
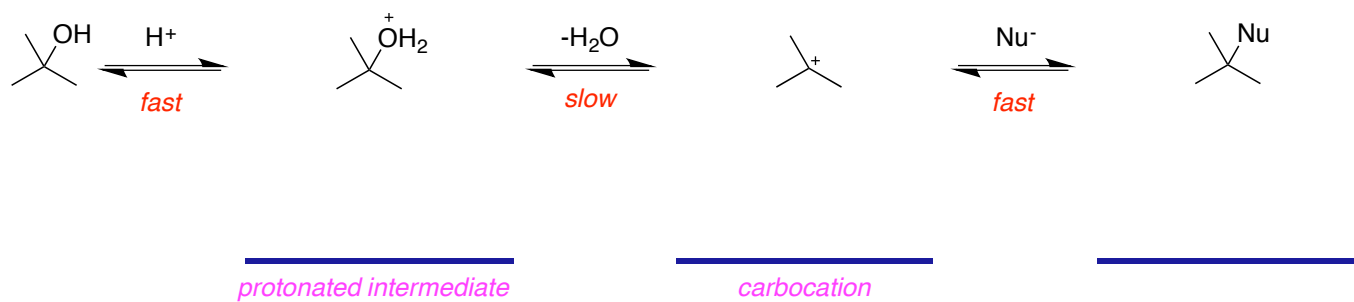
one intermediates.

S_N1 reaction of bromide with allyl chloride involves one

**a****b**



Kinetics Of S_N1



rate is proportional to

[^tBuOH]

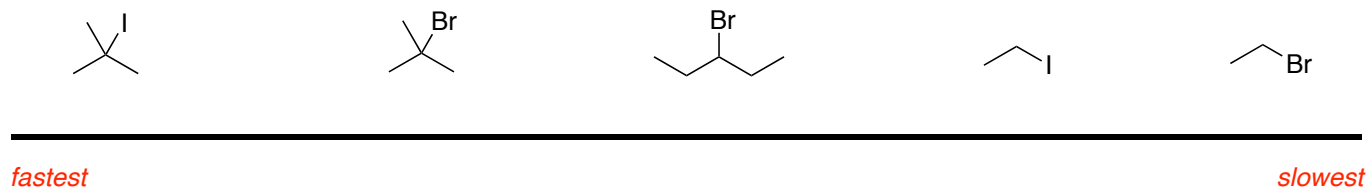
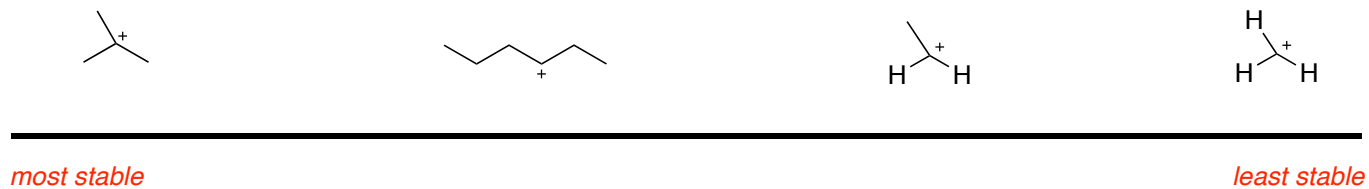
rate =

k [^tBuOH]

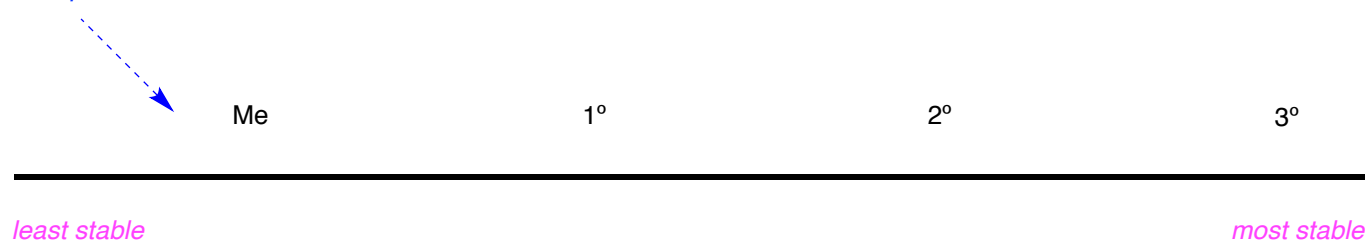
at the same rate the

Carbocation Stability

Rates of S_N1 reactions tend to increase

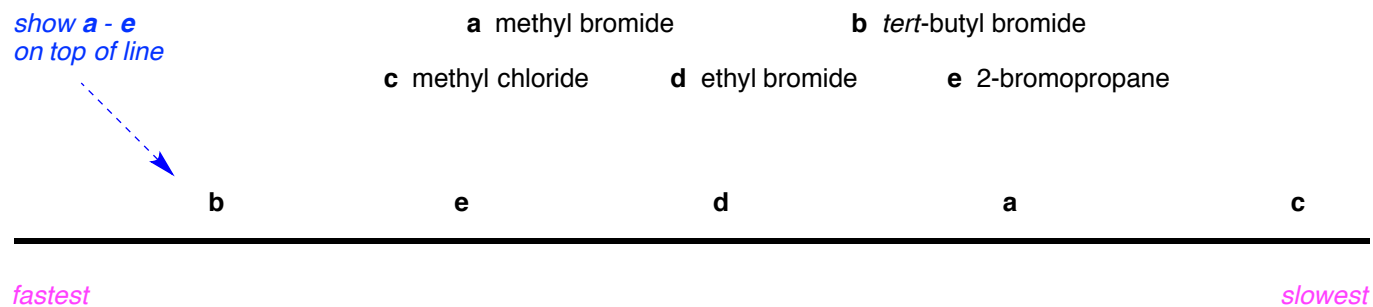


show 3°, 1°, 2°, Me
on top of line



on bottom of line
show number of p-to-σ interactions

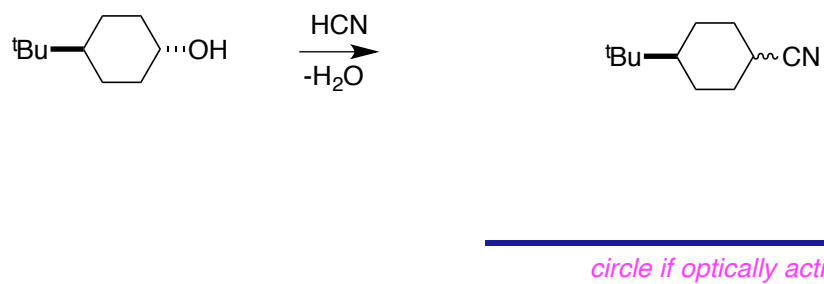
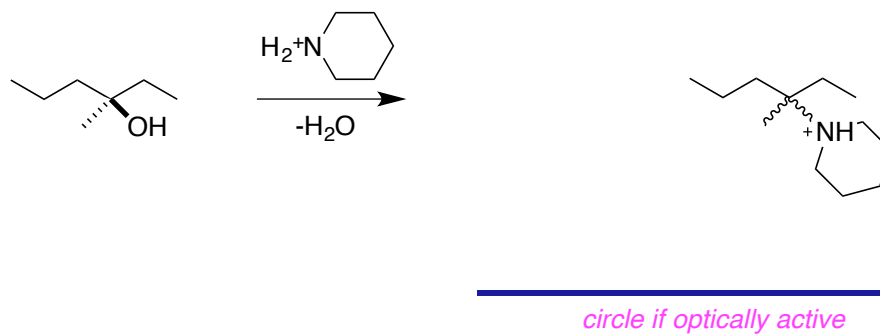
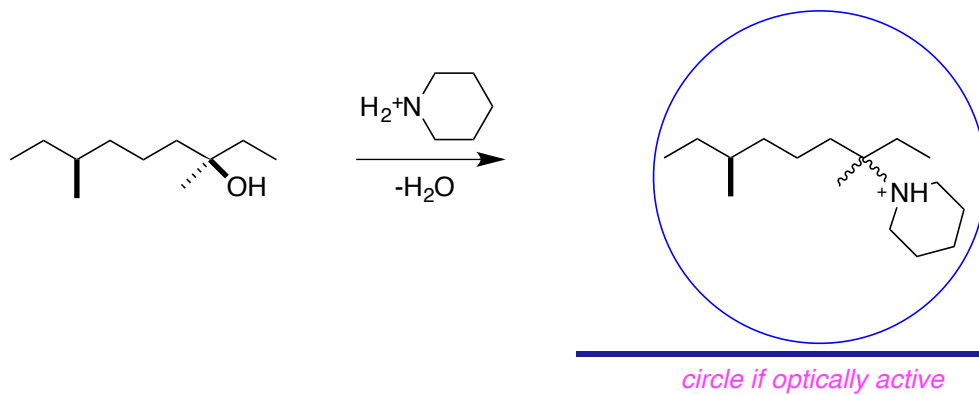
show a - e
on top of line

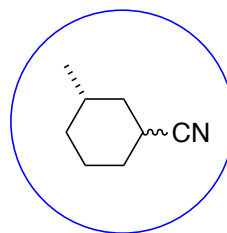
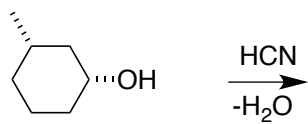


towards from the

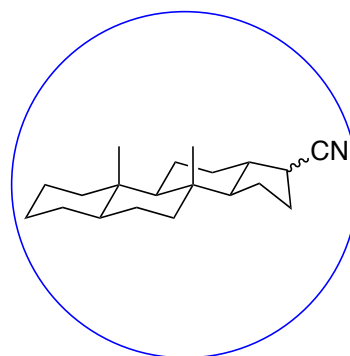
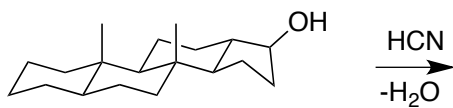
greater than that from hyperconjugation in Et⁺.

more stable than many other primary carbocations.

Stereochemistry And S_N1



circle if optically active



circle if optically active