Course CH 343 Lecturer Sam Hellman

Day Wednesday 1:20 Date 10/26/11

Notes Taken By Alicia Phelps Total # of Pages 3

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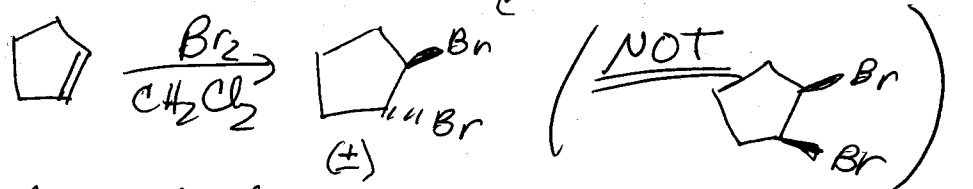
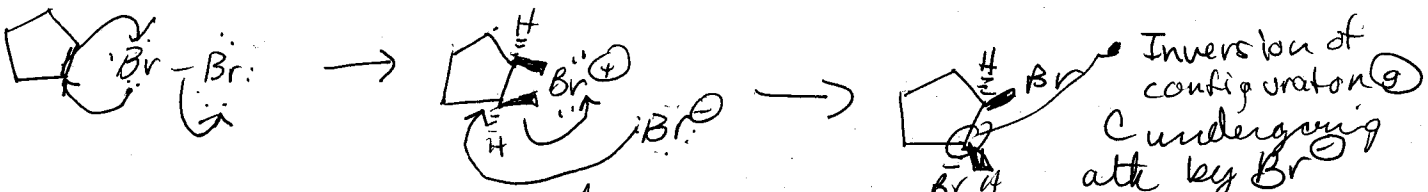
Recall: Interplay between stereochemistry & reactivity...

4) Achiral substrates (SM) → product w/ ≥ 2 stereocenters
∴ Diastereomers possible...

Ex:

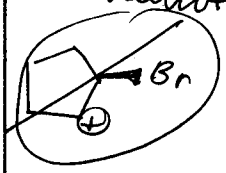


Mech. rationale



• Must attack from "back side" rel. to bromonium ion → $Br^{\ominus}$ attacks from back side, relative to other Br atom

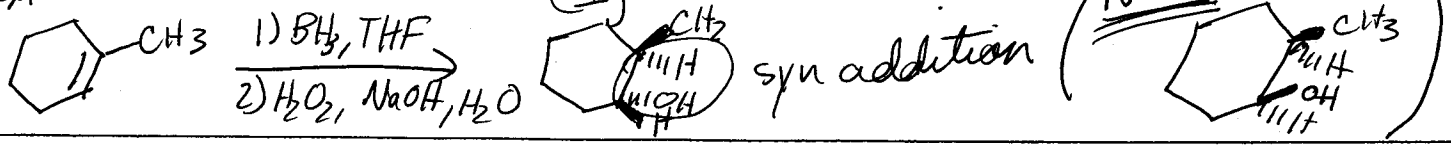
Note: Stereospecificity relevant alternative mechanism (i.e. alternative ~~mechan~~ intermediate



Hydroboration-Oxidation

Overall: Syn addition of H + OH

Ex:



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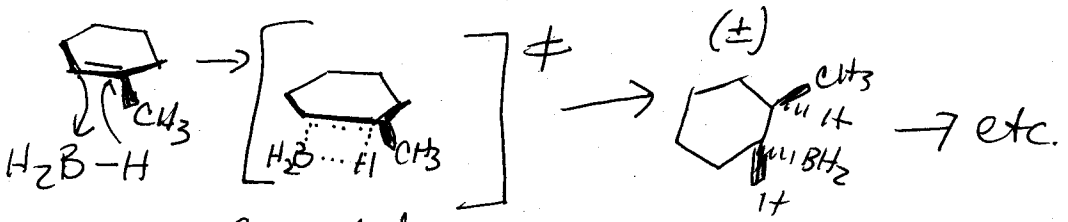
Mechanistic Rationale:

(2 steps)

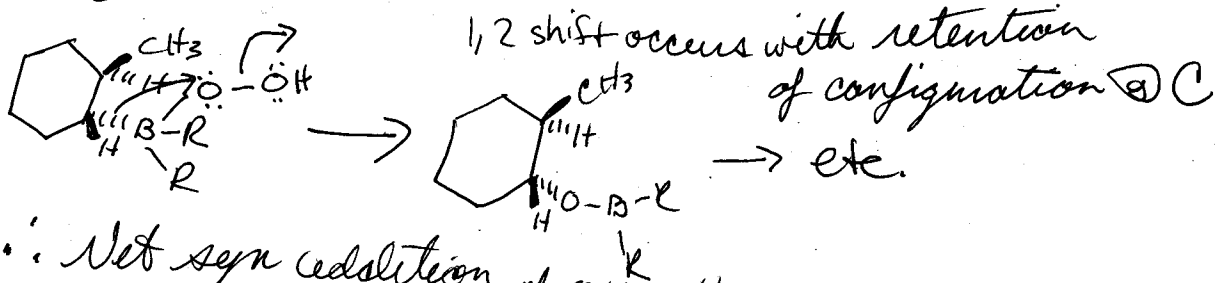
(i) Hydroboration step

"concerted"



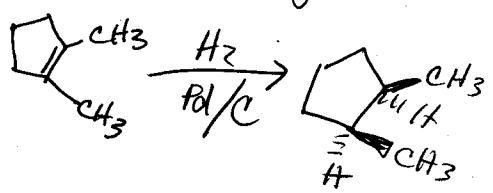
• Concerted requires syn addn.

(ii) Oxidation



∴ Net syn addition of OH + H

Catalytic hydrogenation



Syn addition of H + H

Epimerization - Reduction

⇒ No stereospecificity

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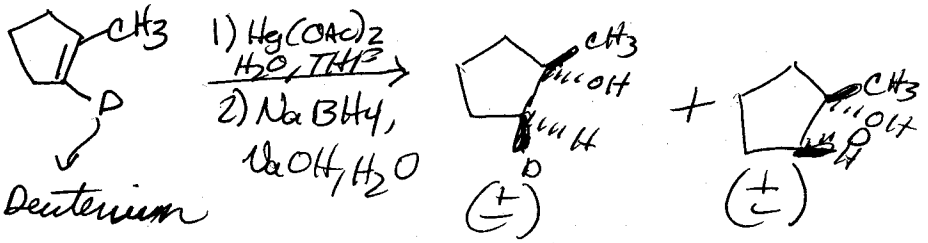
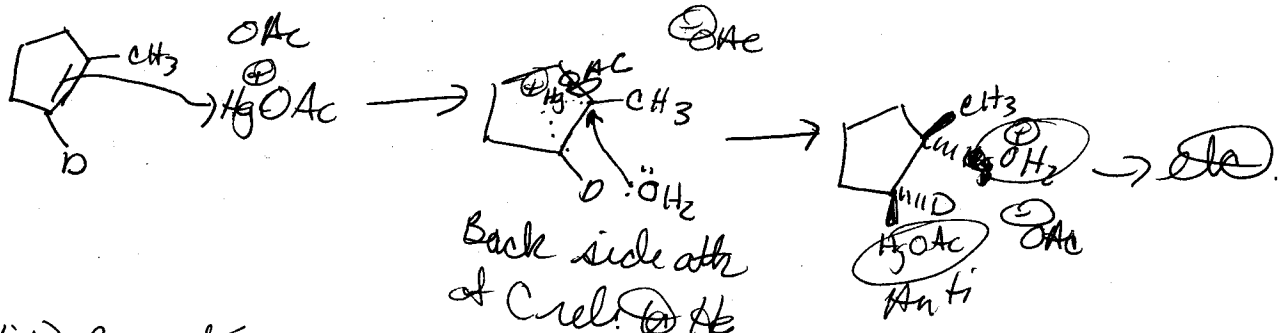


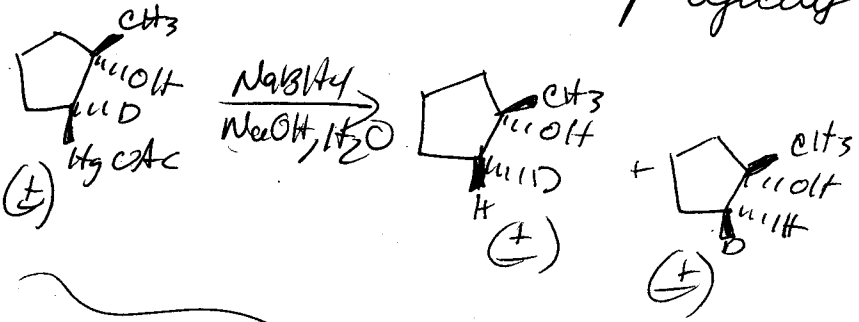
• All 4 possible stereoisomers form

(i) Oxymercuration

- occurs w/ anti addn



(ii) Reduction - no ~~stereospecificity~~



End of Exam Material

- Be able to extend logic from cyclic alkenes to acyclic alkenes

Chap 8

(X = electronegative)