Course 343-2 Lecturer Gellman

Day Friday Date 10/26/12

Notes Taken By Marlies Hager Total # of Pages 3

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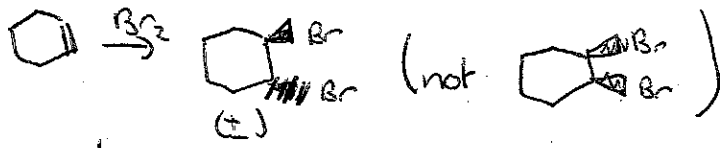
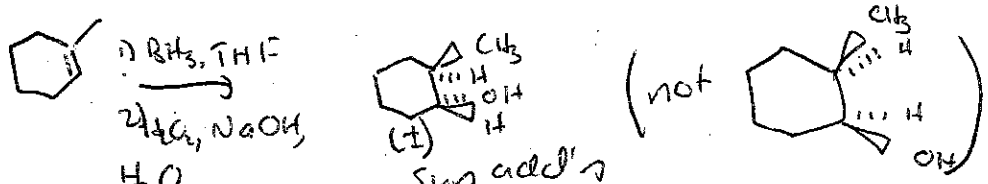
Recall: stereochemical consequences of rxns:

ex

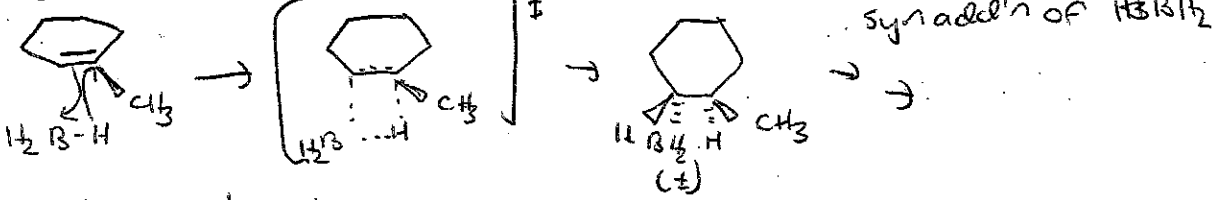


anti add'n

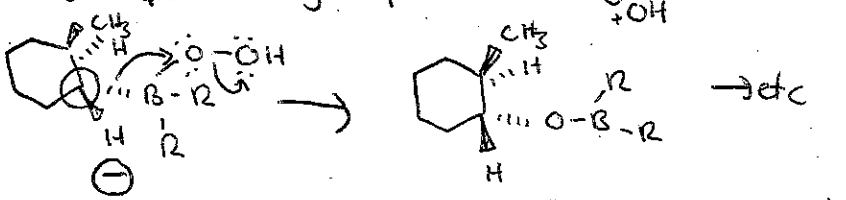


Mechanistic rationale:

(i) hydroboration



(ii) oxidation - key step

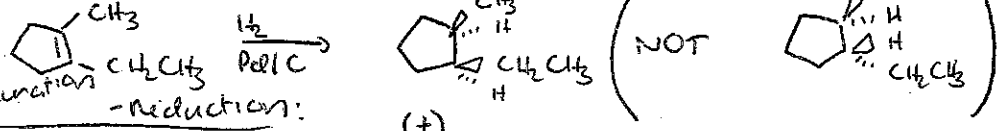


" retention of configuration" (at the C circled)

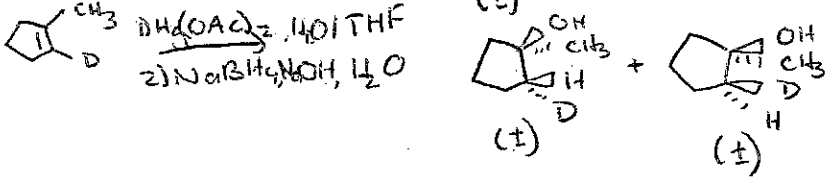
Thus, HBOH add in syn fashion

Hydrogenation - syn addition of H_2

ex



Oxymercuration - reduction:



both syn & anti addition products
⇒ not stereoselective

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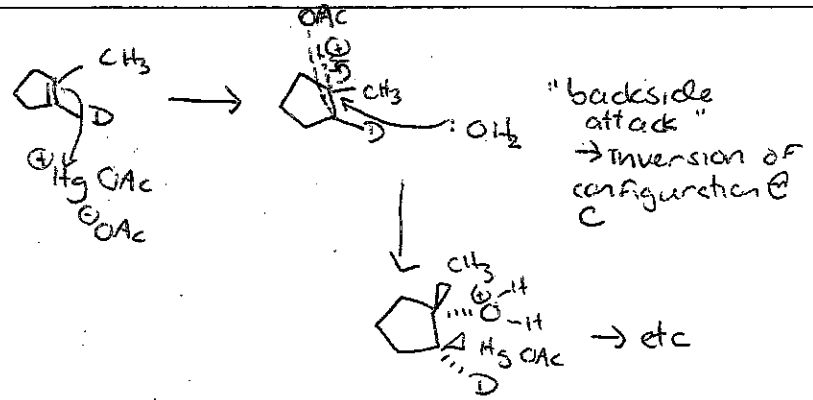
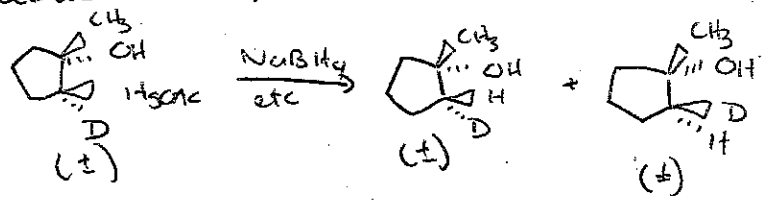
Mechanistic Rationale:

Oxymercuration - anti selectivity



Reduction - non-stereoselective



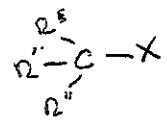
(±) (±) (±)

Chapter 8 - Alkyl Halides, alcohols, ethers, thiols & thioethers

Rec. Problems: 2, 4, 6, 12, 14-20, 23, 24, 26-32, 33, 34, 39-44, 46, 48, 49, 52, 53, 55-62

33, 34 not pt C

Common theme:



X=electronegative (halogen, O, S)

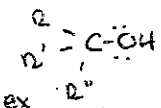
R's: H, alkyl

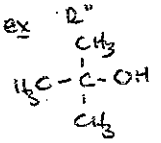
Alkyl halides-

F, Cl, Br, I

ex $CH_3CH_2CH_2Br$ - "ethyl bromide"

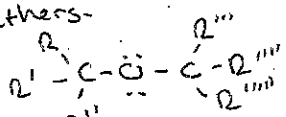
Alcohols-

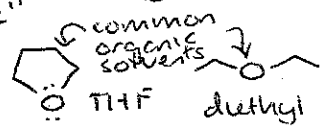


ex 

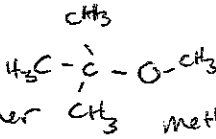
"t-butanol"

Ethers-



ex 

diethyl ether



methyl, t-butyl ether

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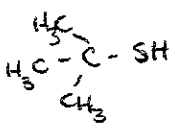
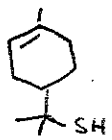
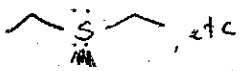
Thiols - S analogues of alcohols





Thioethers



Because alkyl halides, alcohols & ethers are common organic solvents, we must understand their physical properties

key distinction

non-polar vs polar
"apolar"