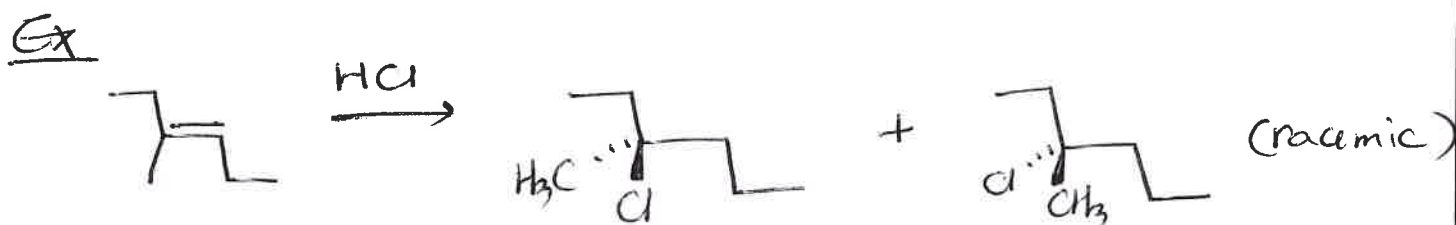


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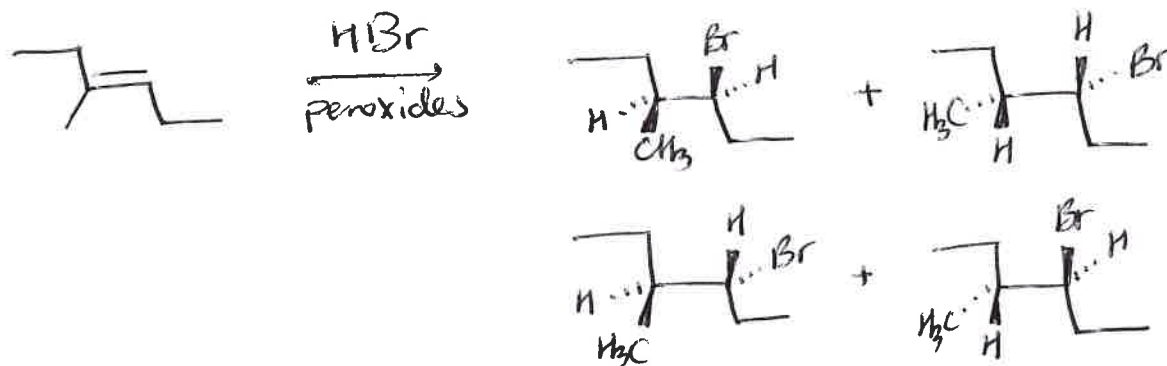
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Recall: Interplay between reactivity (mechanism)
 & stereochemistry

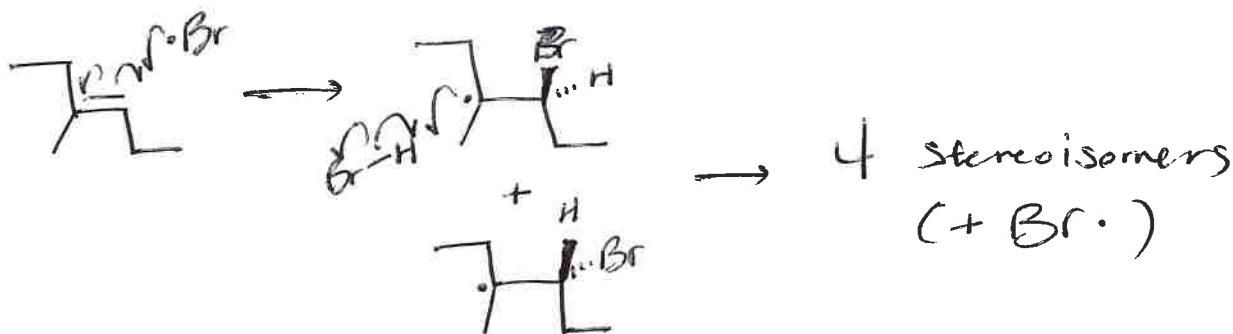


Stereochemistry determined by Cl^- attack on C^+
Planar

Ex 2: 2 stereo centers formed



Each chiral center formed in a separate step \rightarrow
 no correlation



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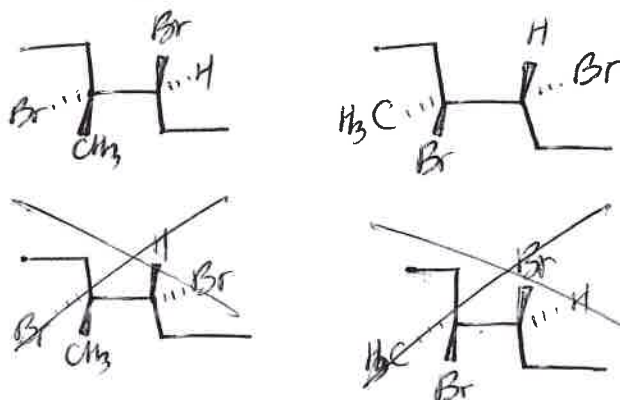
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Br₂ addn?



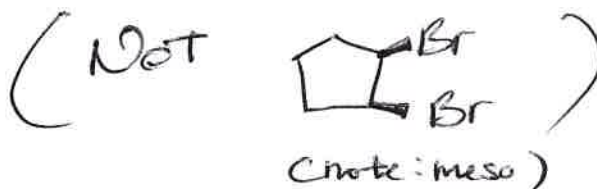
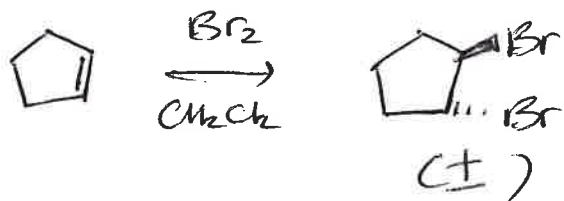
2 new chiral centers
→ 4 possible stereoisomers

Possibilities



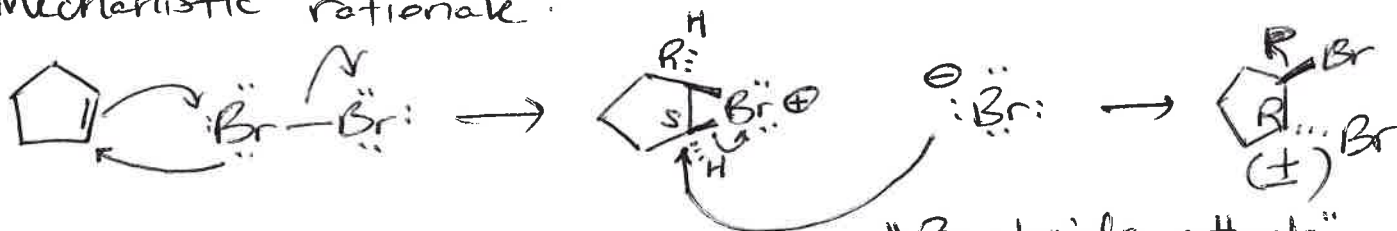
Only 2 stereoisomers formed!
(racemic pair)

Consider another example



"Anti addition"

Mechanistic rationale:



2nd step occurs with inversion of configuration.
(at carbon)

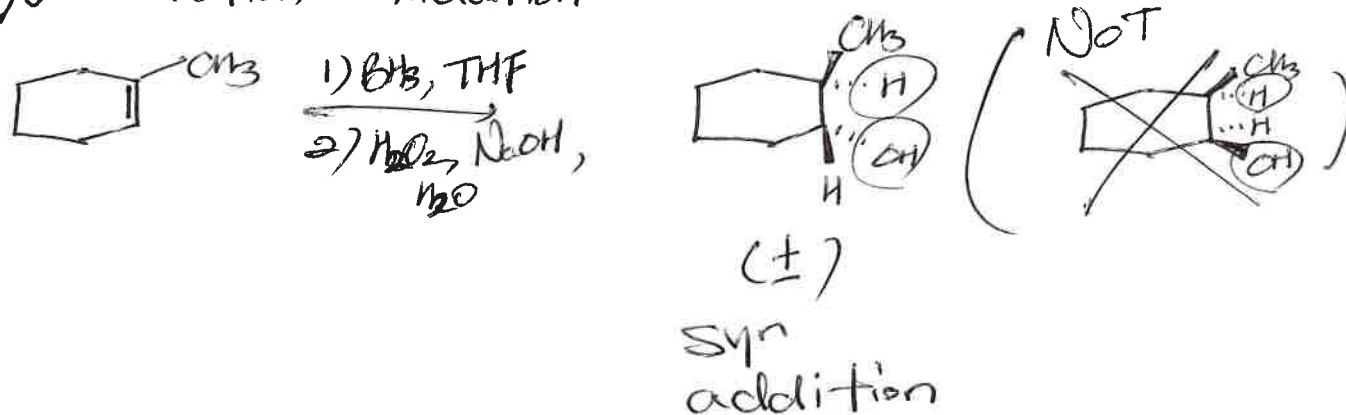
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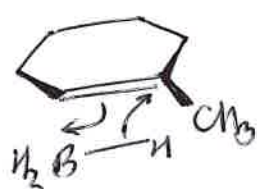
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Hydroboration-oxidation

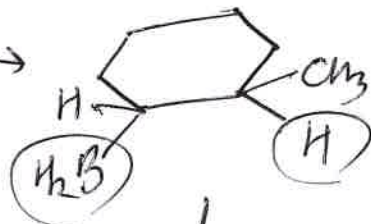


Mechanistic rationale

Step 1

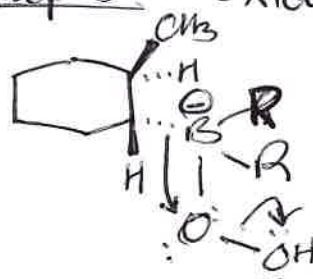


concerted



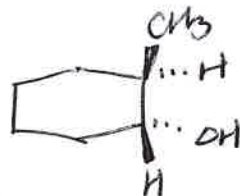
must end up on same side

Step 2: oxidation - stereochemistry - determining step in mechanism (2nd step)



(2nd step)

occurs w/ retention of configuration



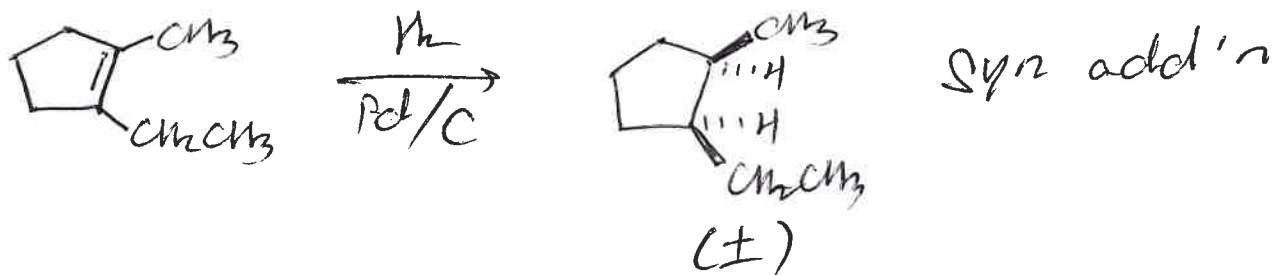
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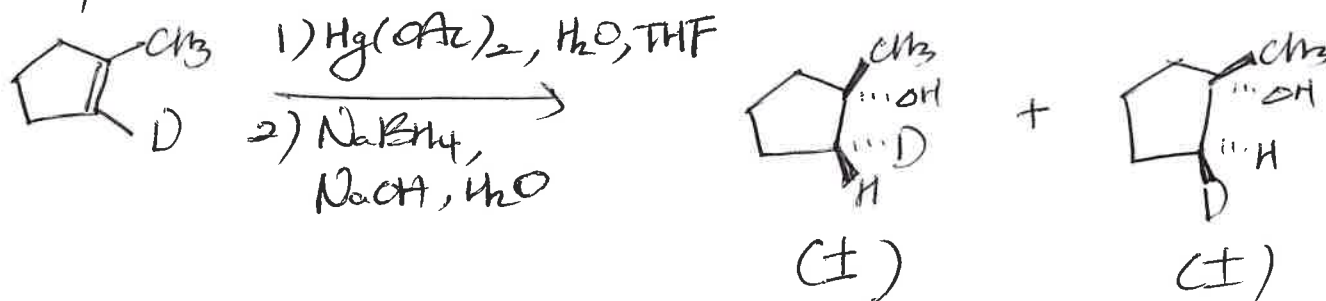
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Catalytic hydrogenation of alkenes

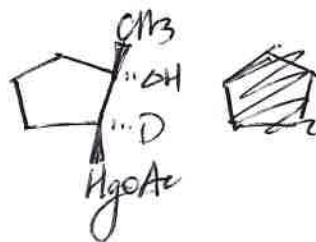


Oxymercuration - reduction



Mech. rationale:

Oxymercuration - anti addn
(H_2O "backside attack" on
mercurinium intermediate)



But... loss of stereochemical integrity at reduction step