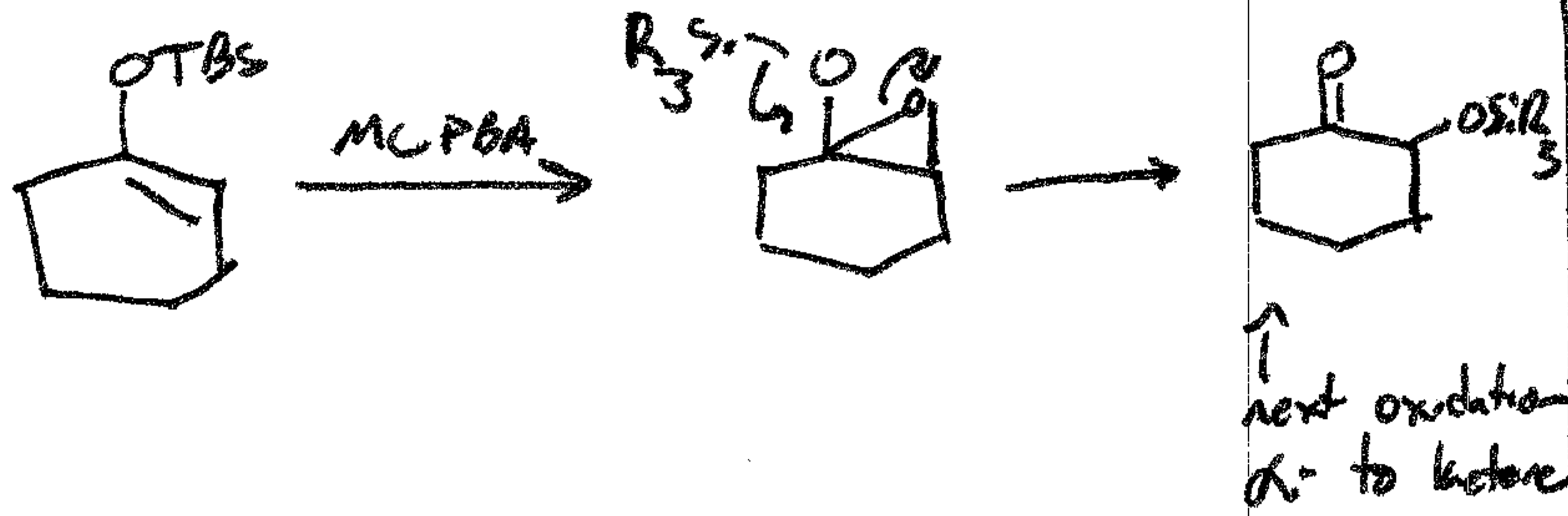
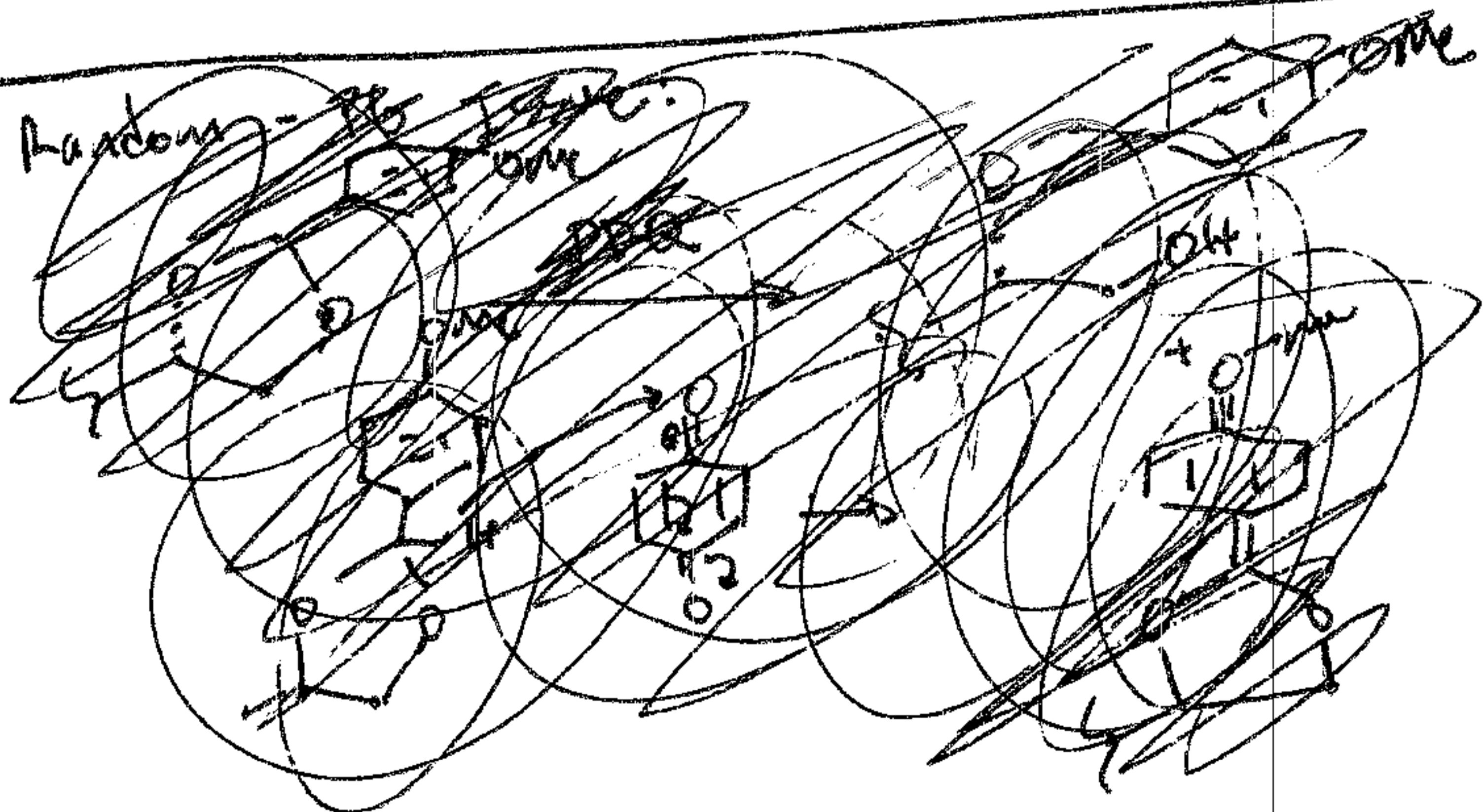
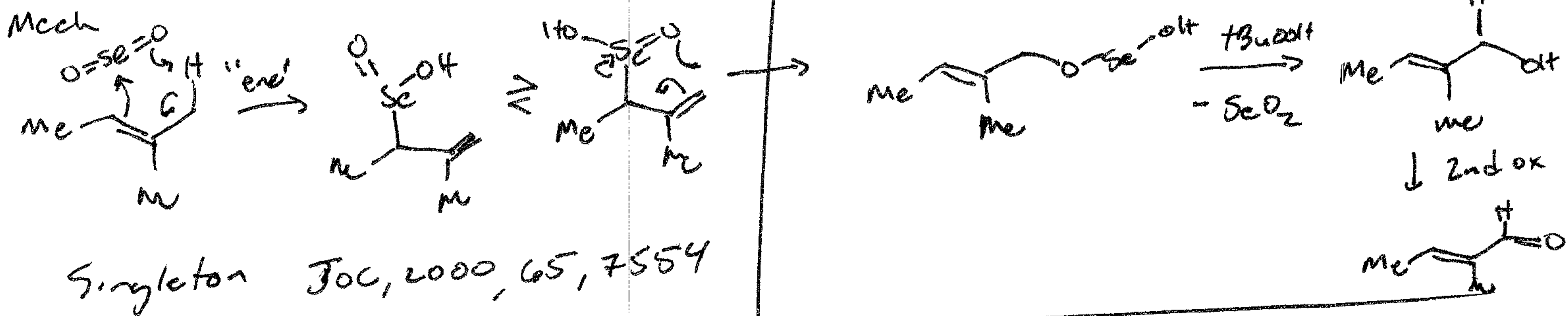
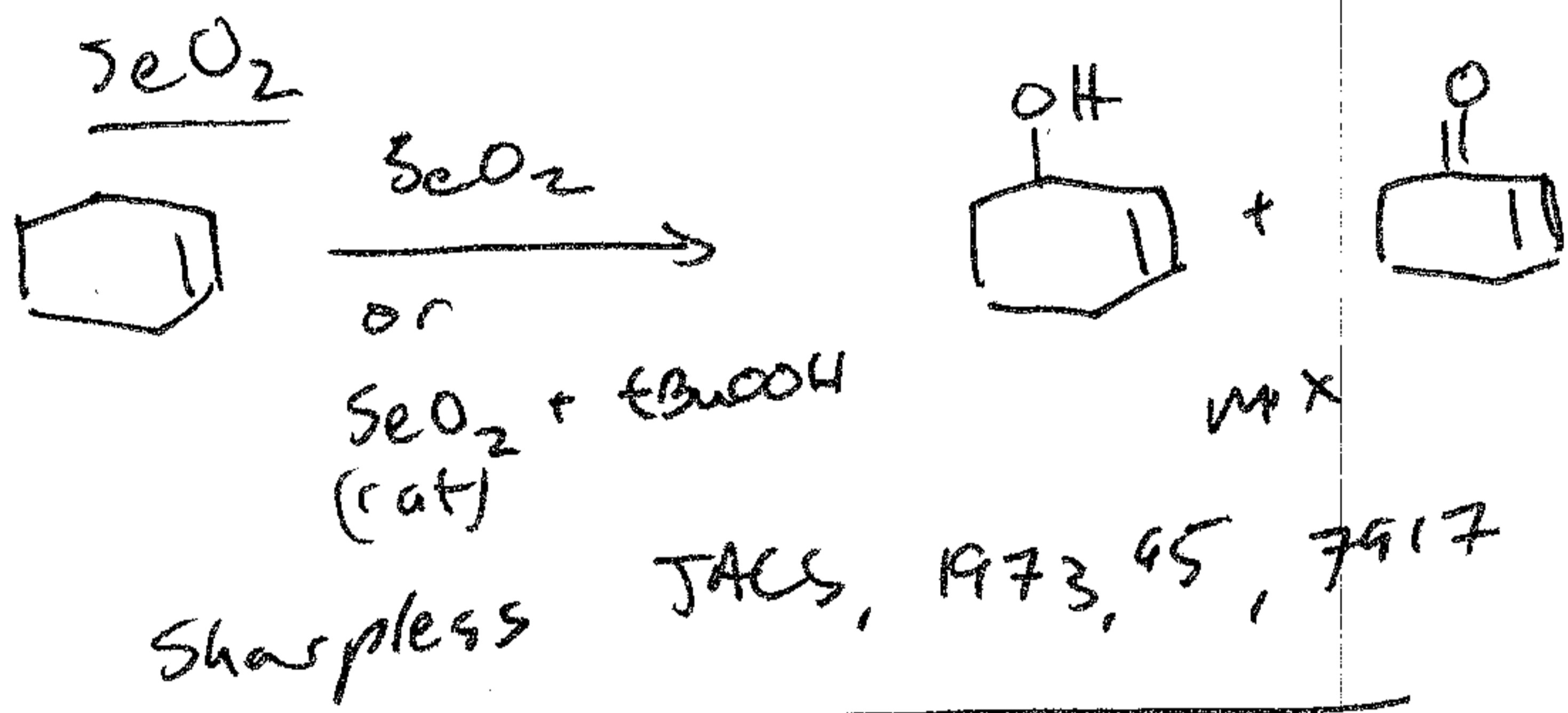
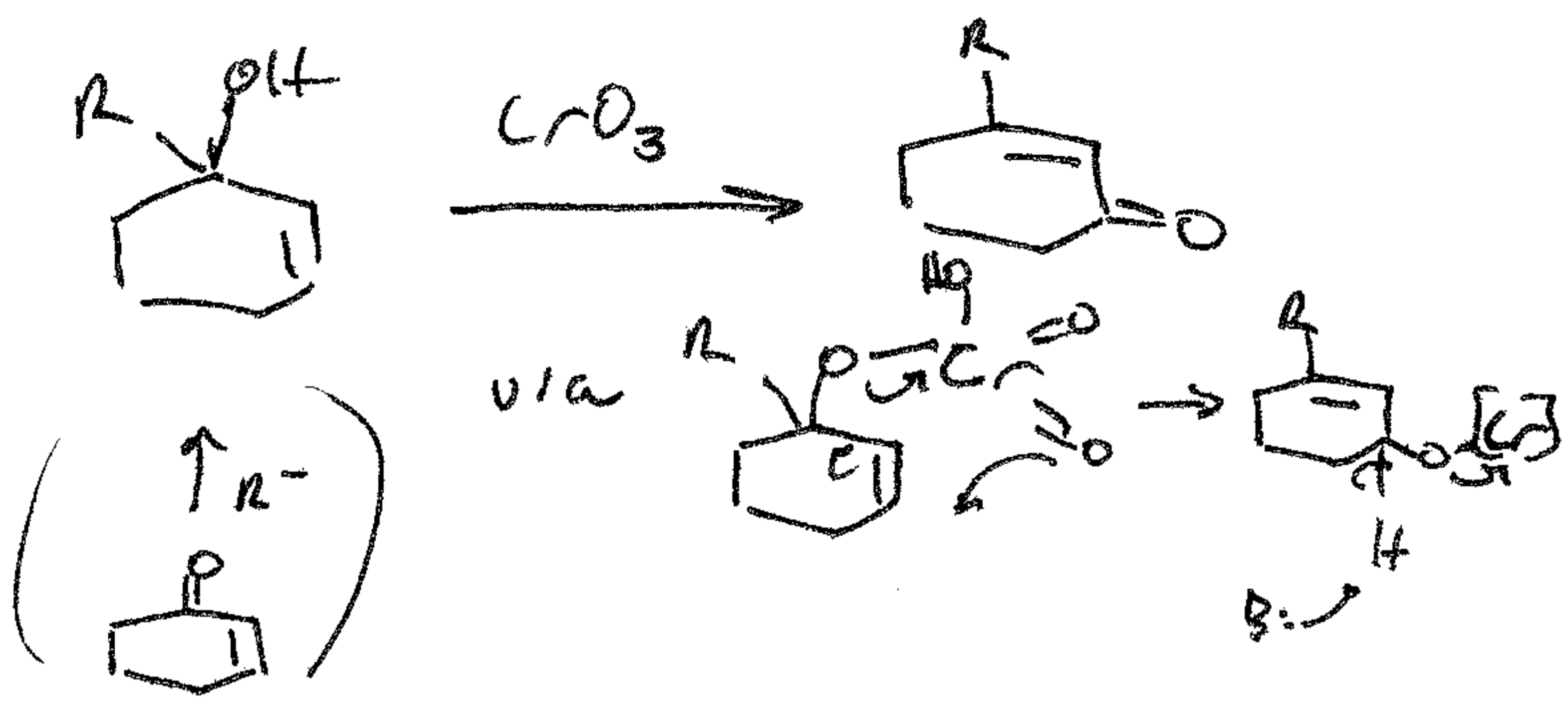


MISS other Oxidations

Rebottom:

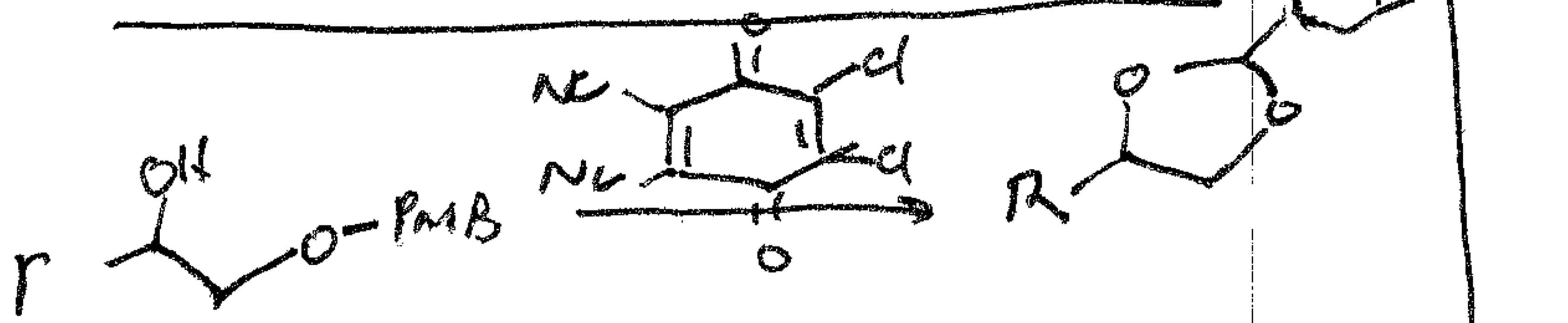


allylic oxidations

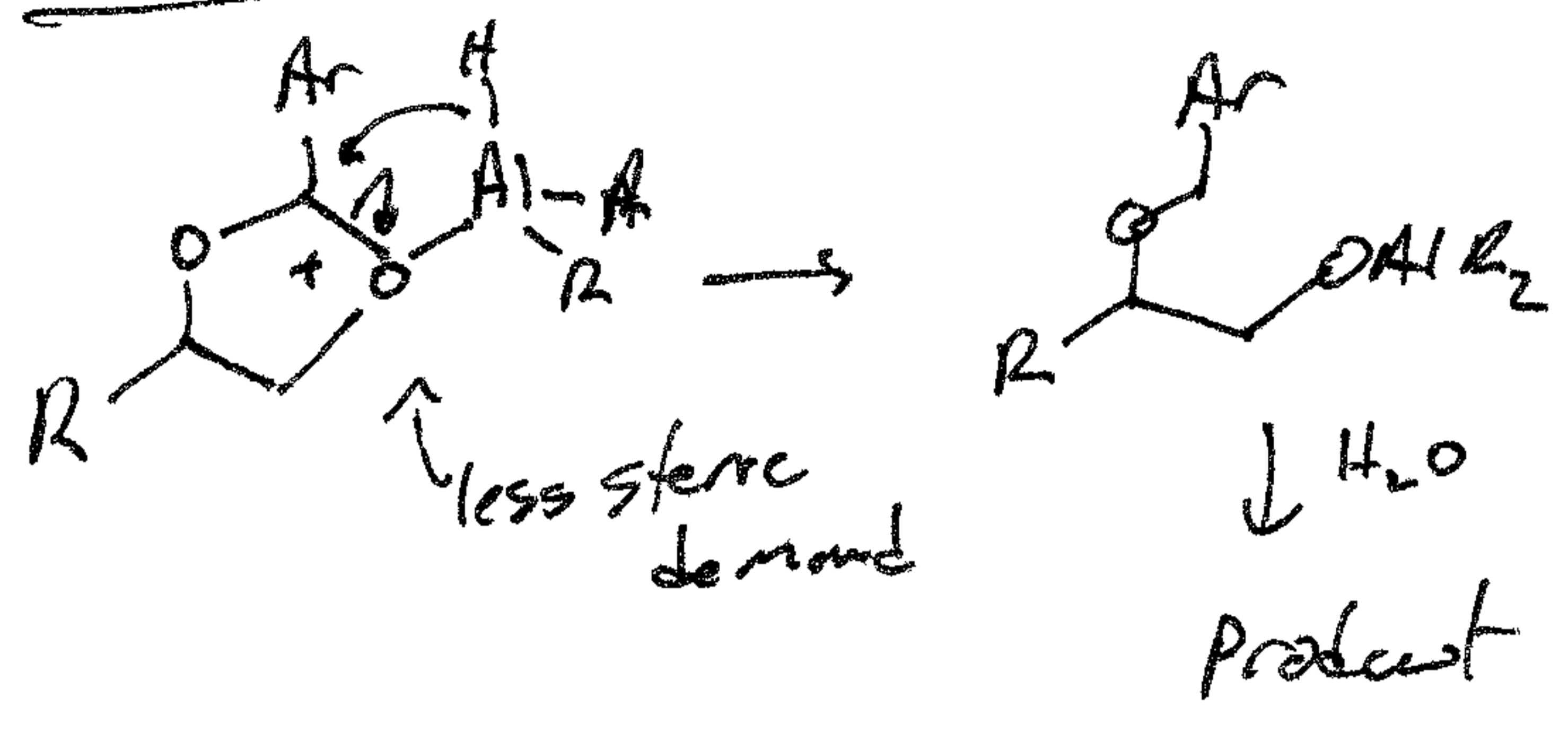
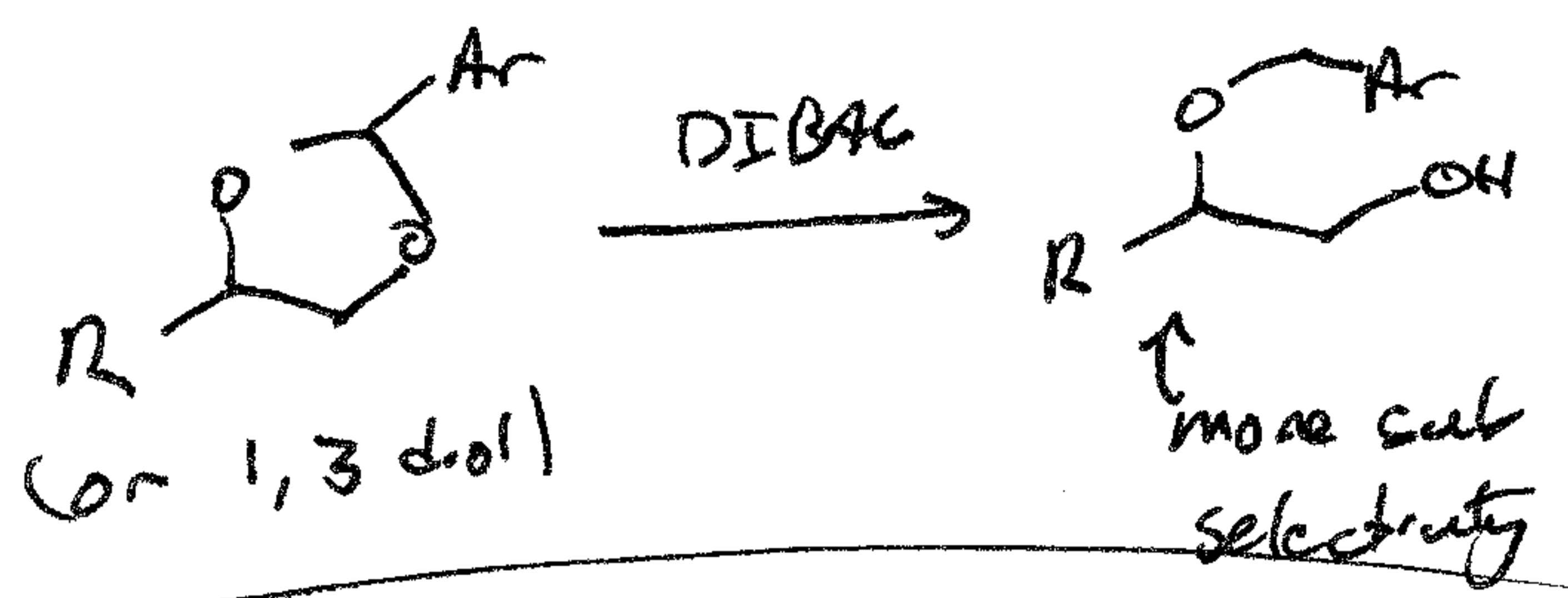
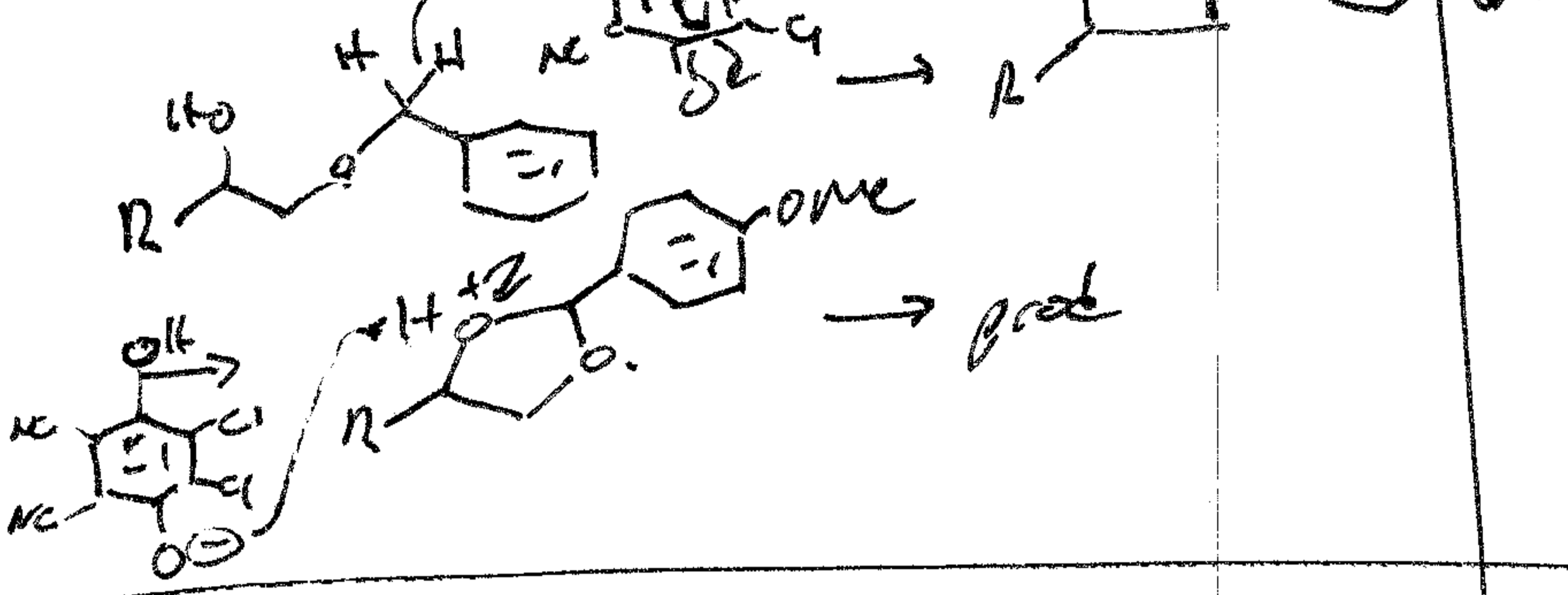


Reading for next week or two
 CESB - Chapter 6

Did Protection Revisited (tricks)



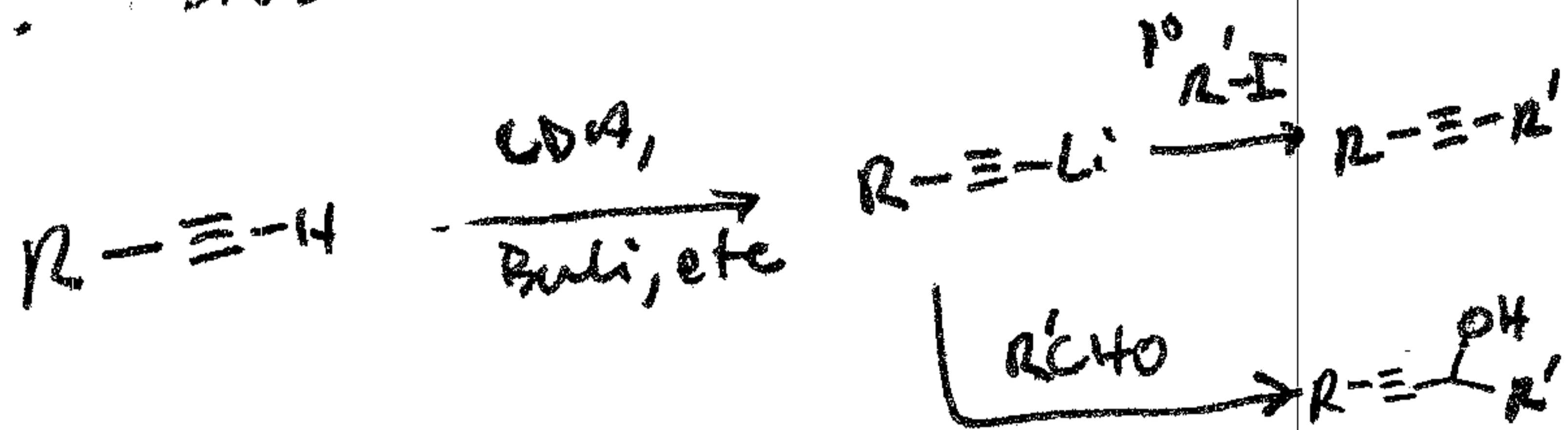
on 1,3 diol
mech



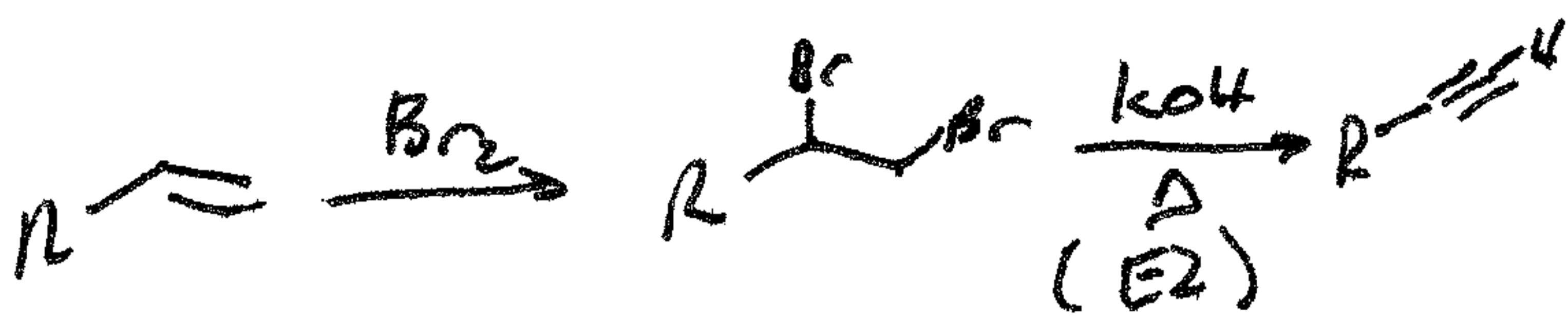
Alkyne synthesis

1) Recall Sonogashira rxn

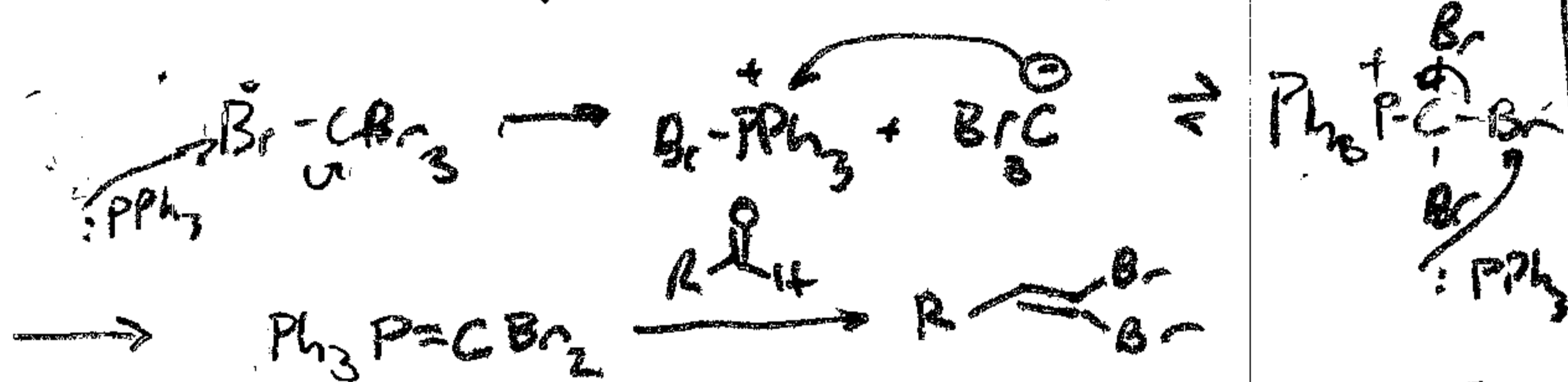
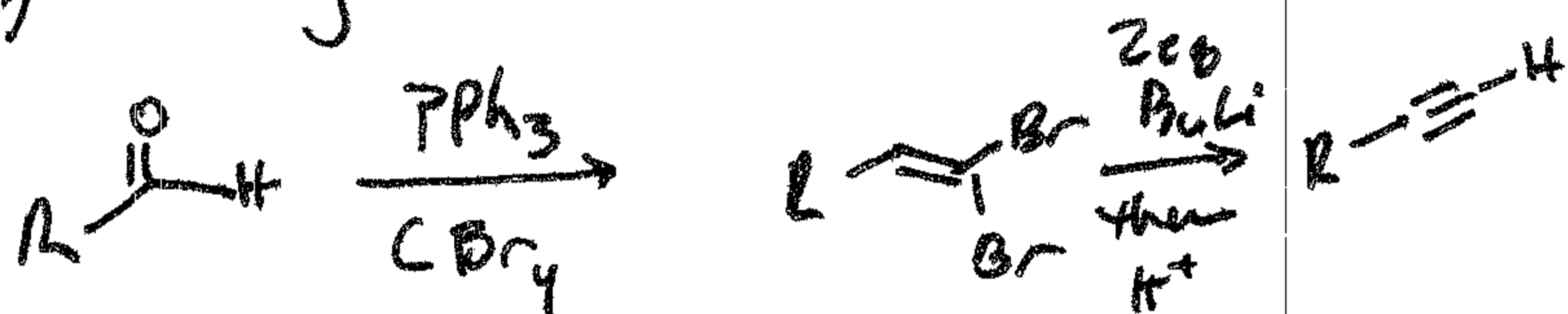
2. SN2



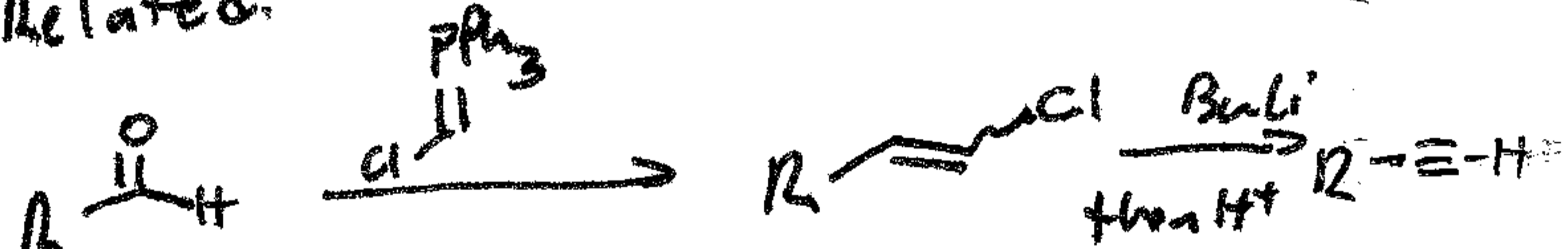
3) dehydrohalogenation



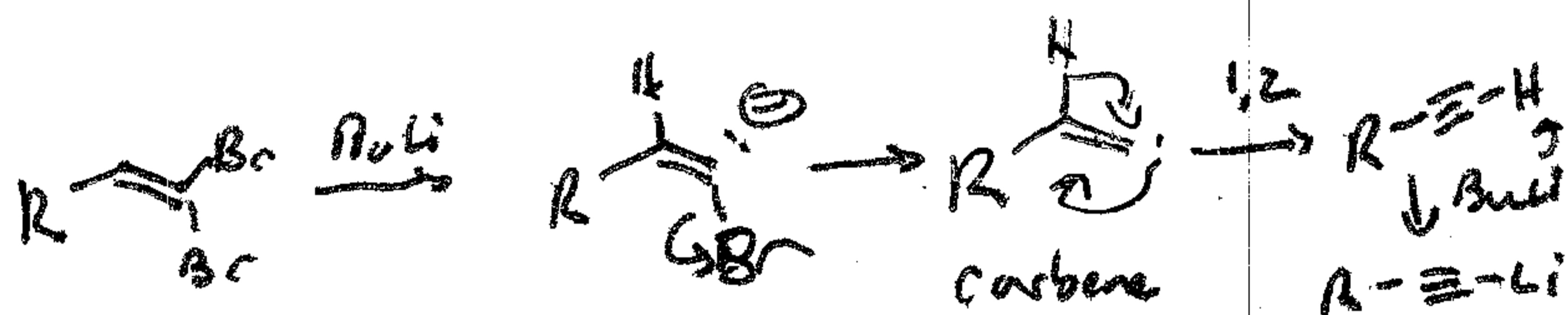
4) Corey Fuchs TL, 1972, 13, 3769



Related:

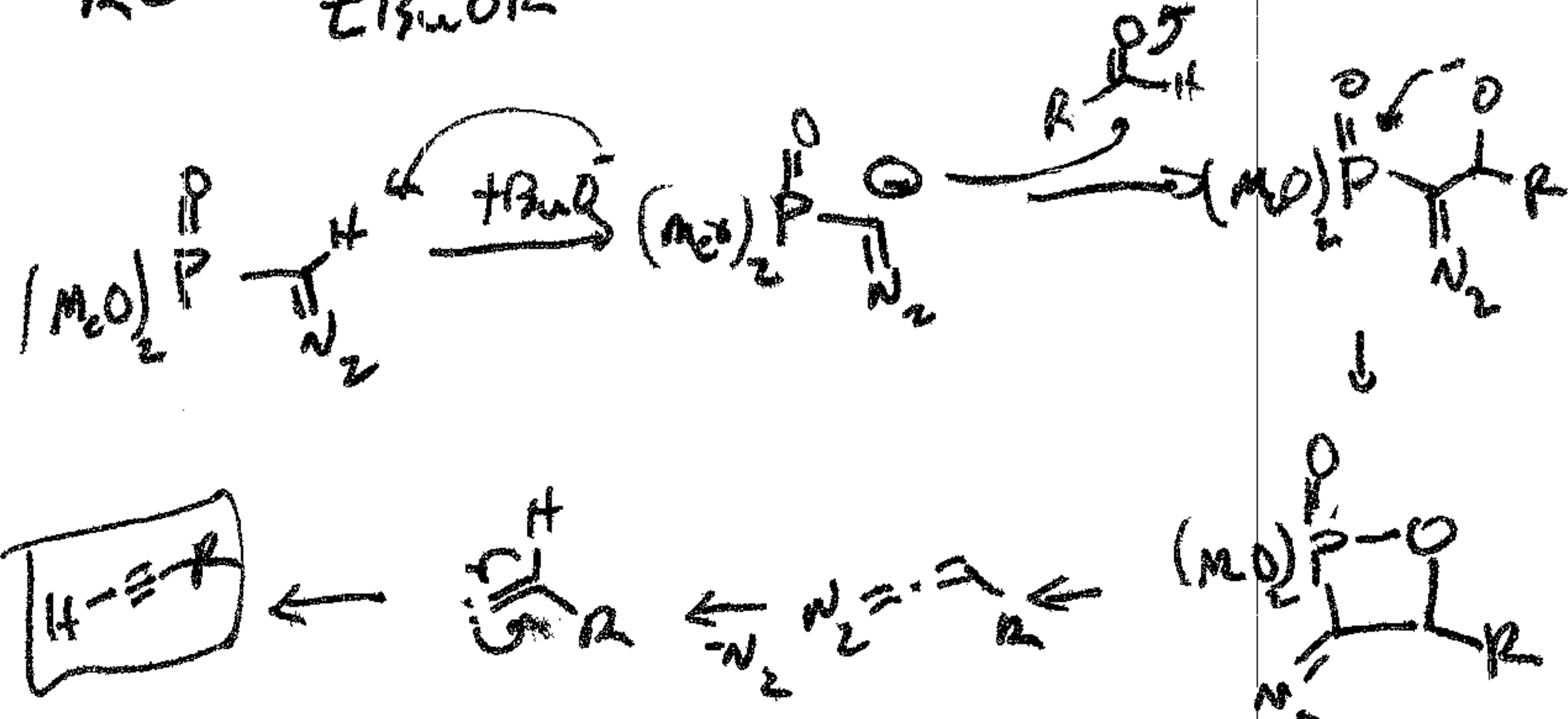
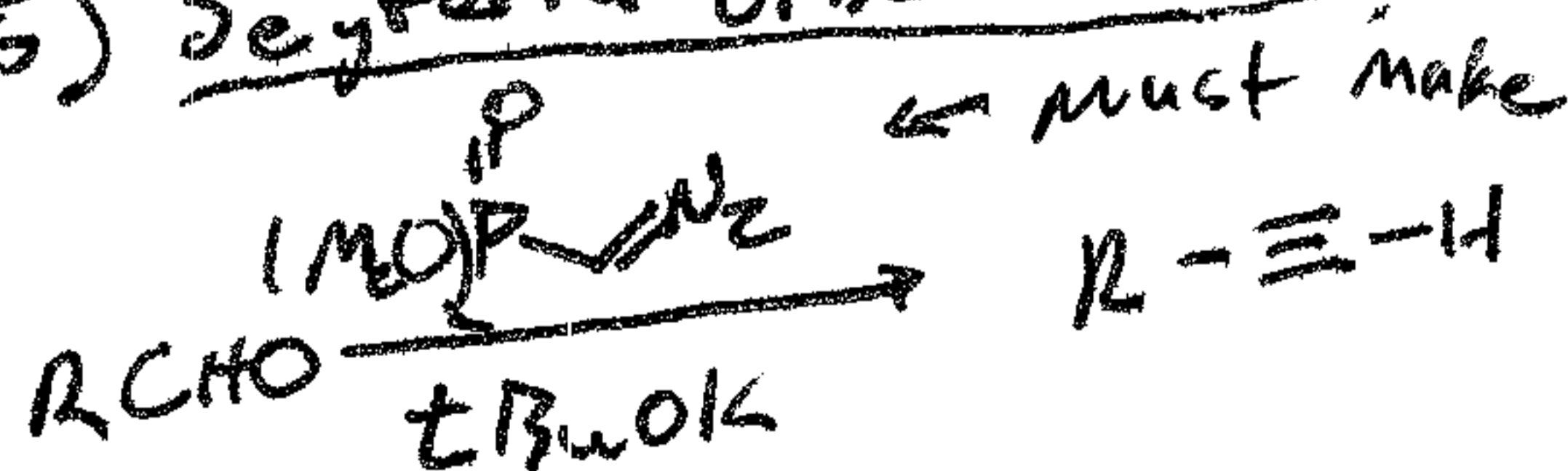


Corey TL, 1973, 14, 1495
Ruben

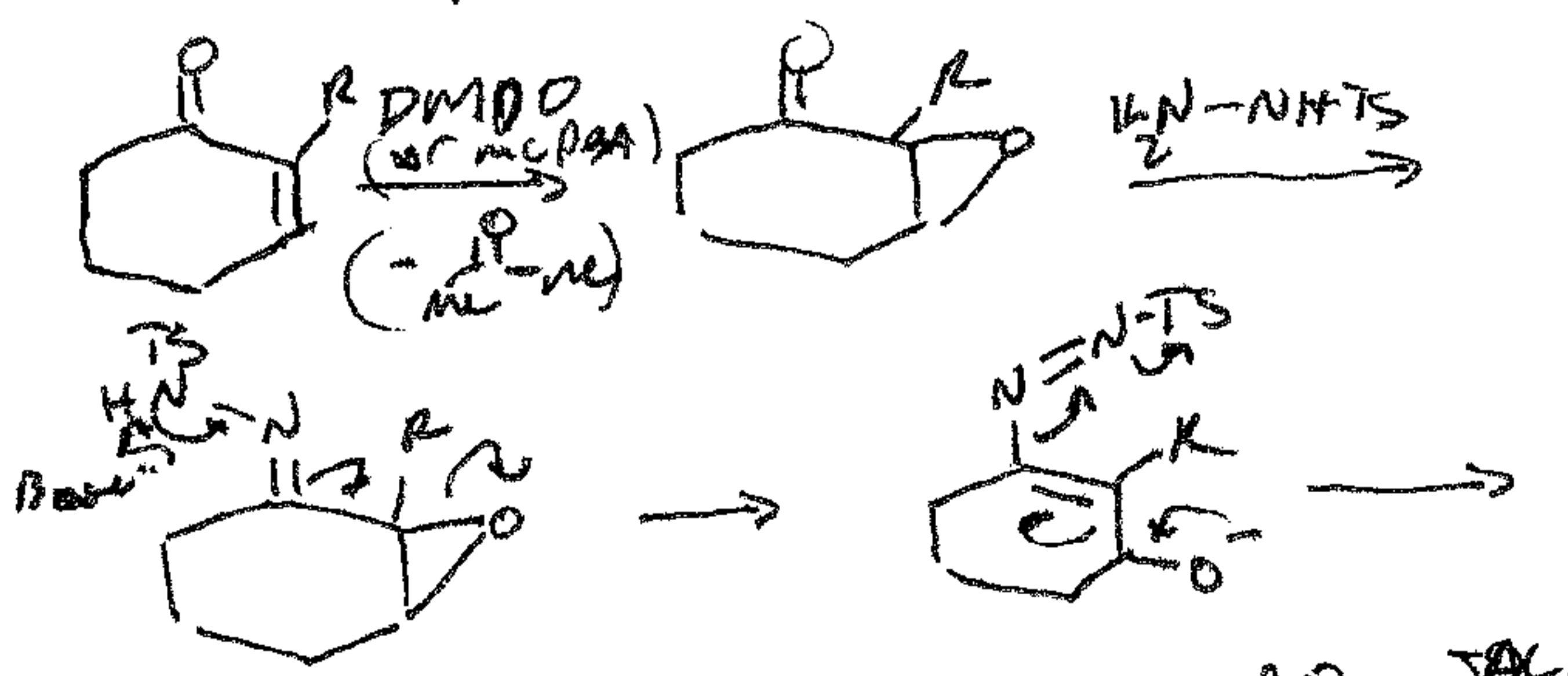


5) Seyferth-Gibbert Reagent

JOC, 1979, 44, 4997



Eschenmoser Fragmentation

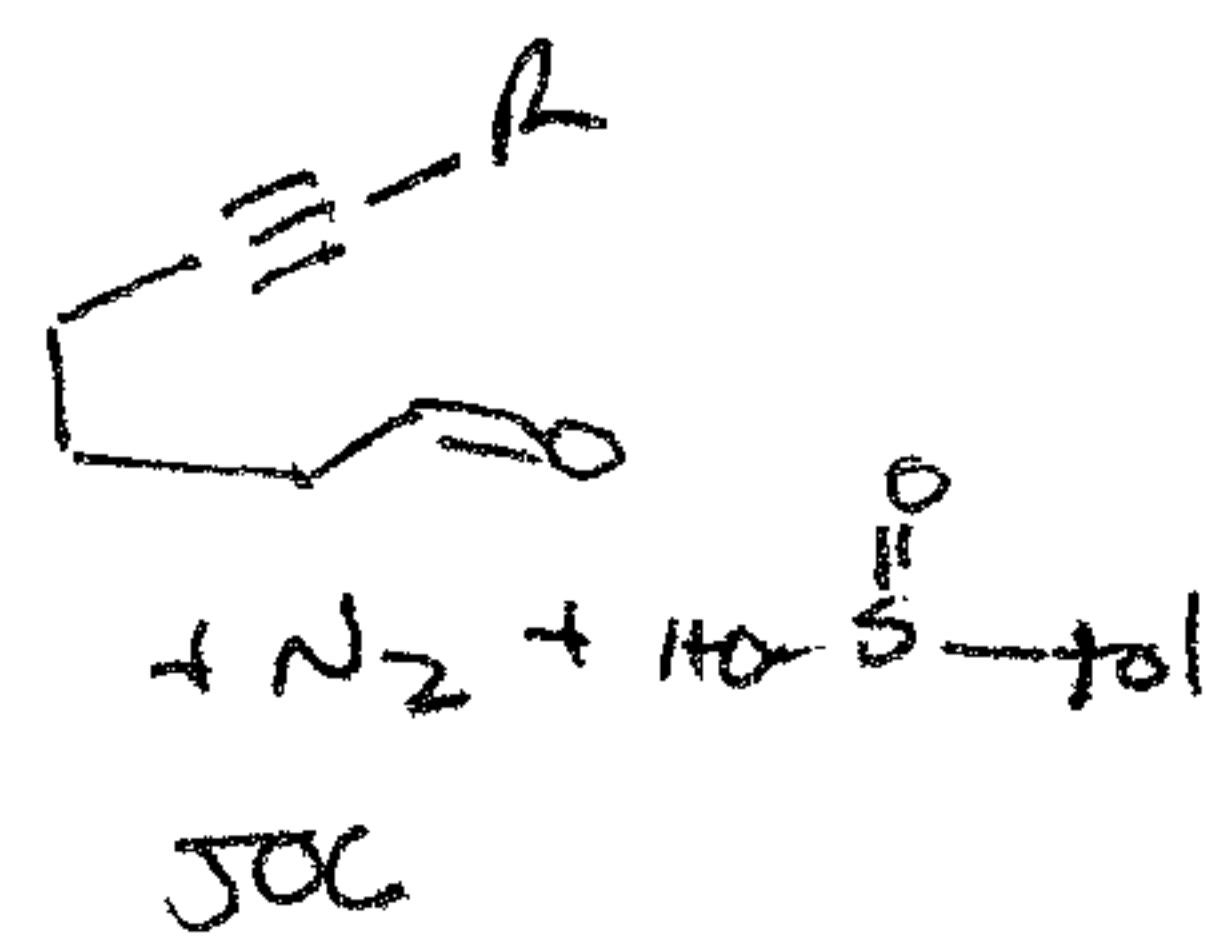


DMDO = C1OC1

DMDO JOC, 58, 1993, 7615

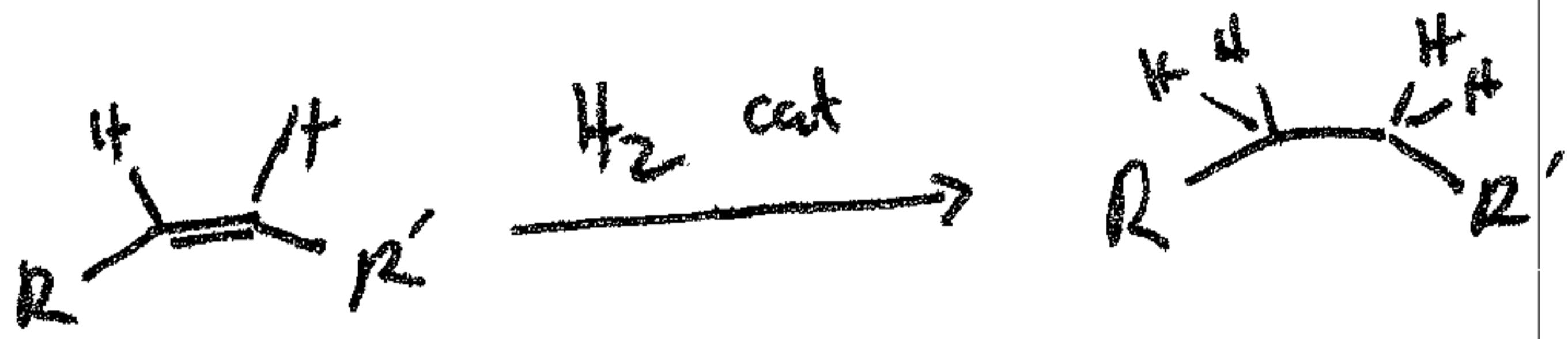
Helv. Chim. Acta 1967, 50, 708

TL, 1967, 40, 3445

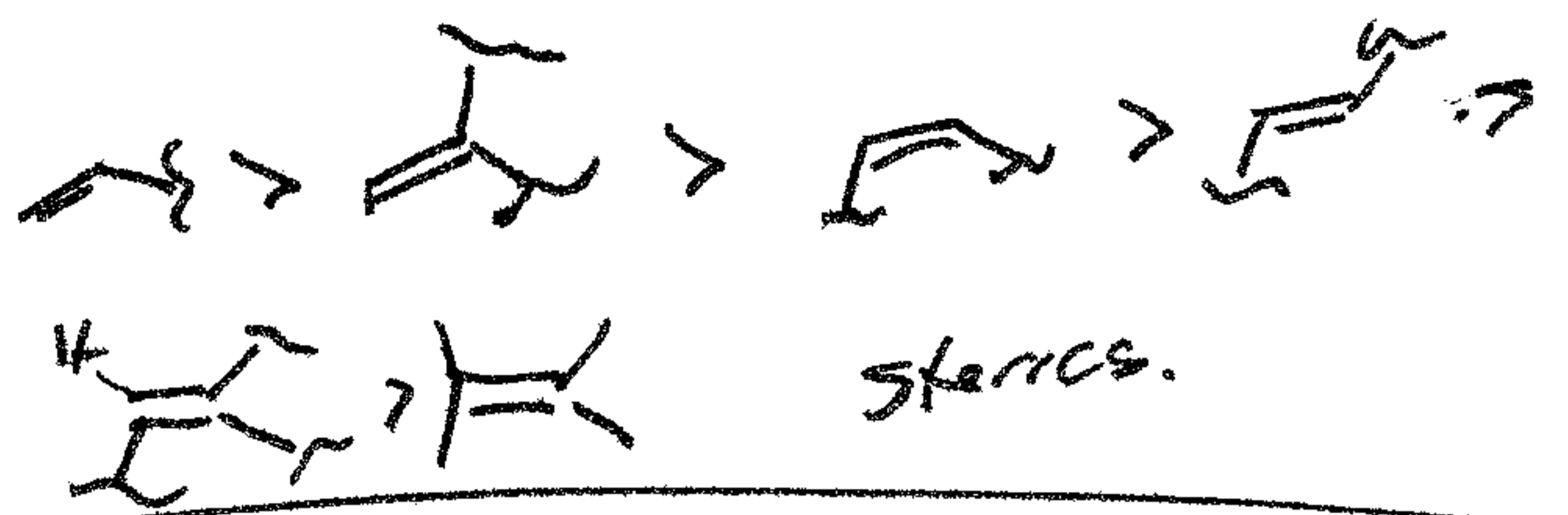


C=C / C≡C Reductions

Alkene hydrogenation



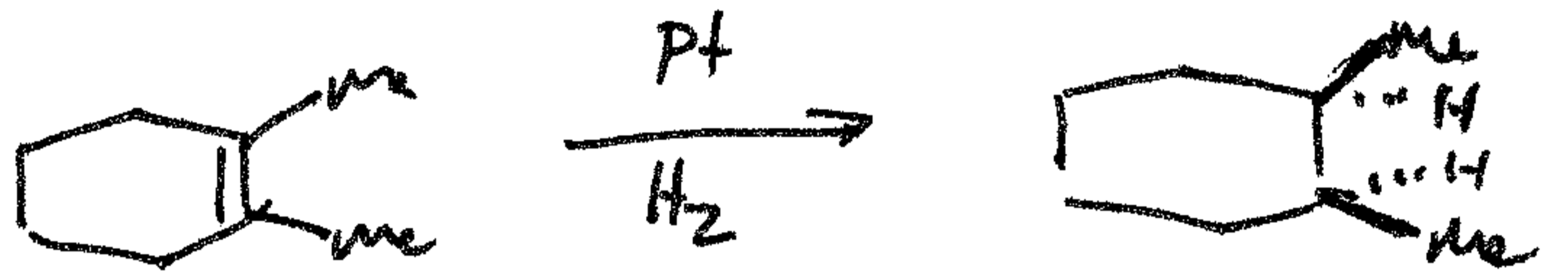
- Cat = Pd/C
 Pt(OH)₂/C Pearlman's cat } heterogeneous
 Pt/C
 PtO₂ Adams cat
 Rh/Al₂O₃ etc
 RhCl(PPh₃)₃ Wilkinson's cat homogeneous



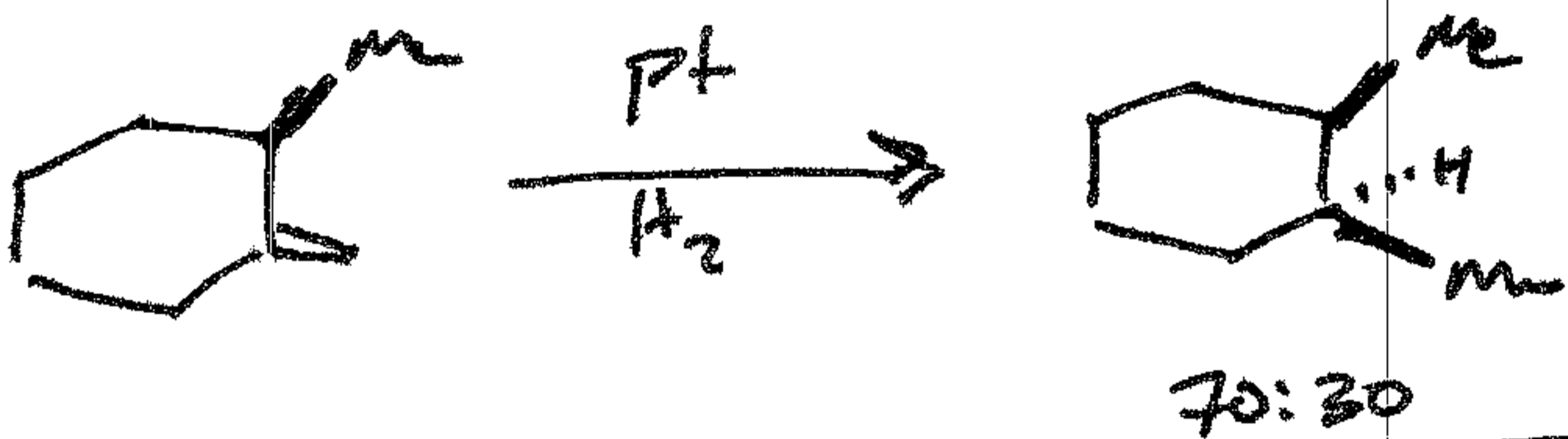
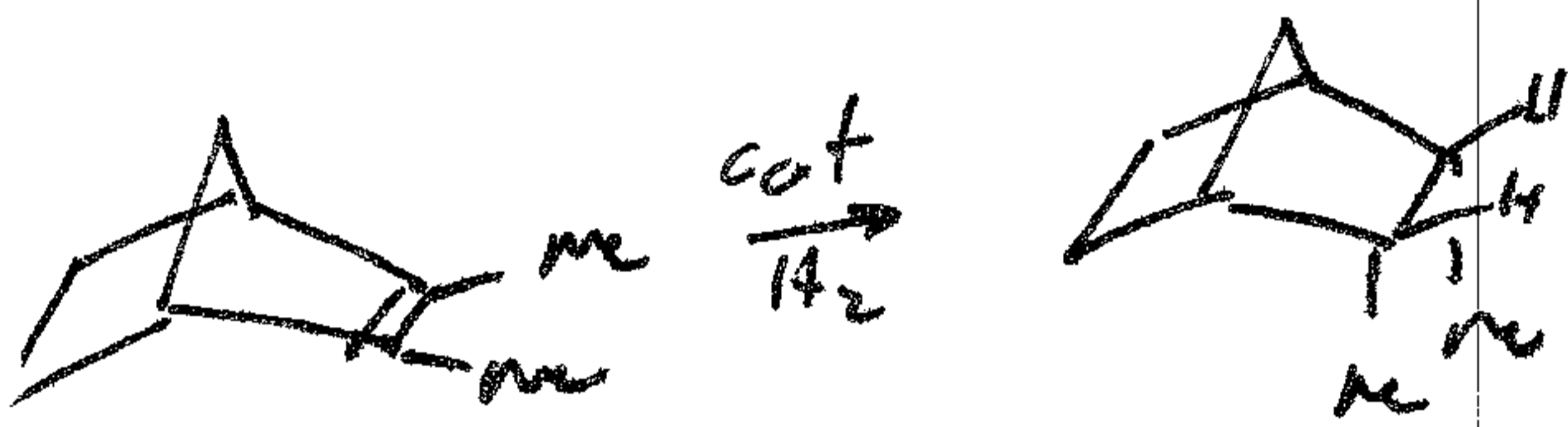
e⁻ Rich > e⁻ poor

H₂ pressure 1 ATM → 100 ATM

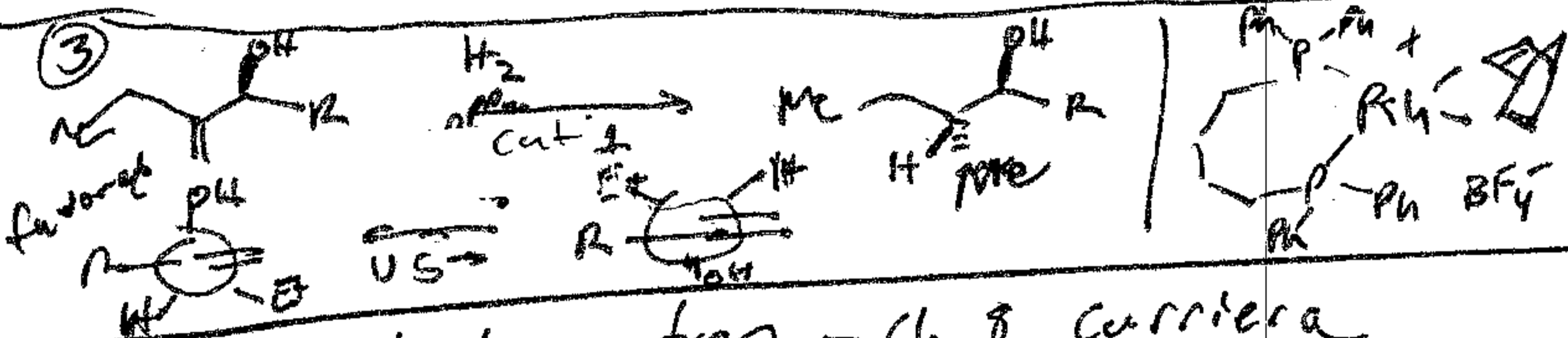
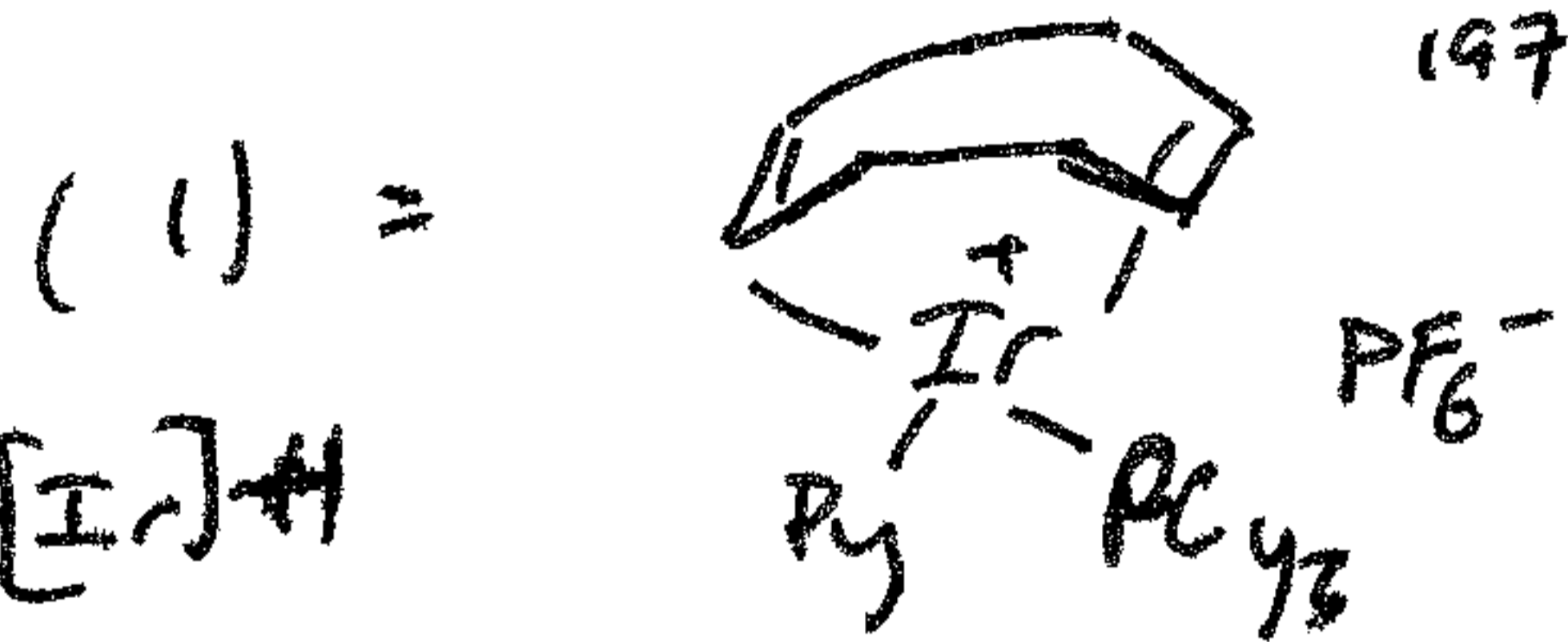
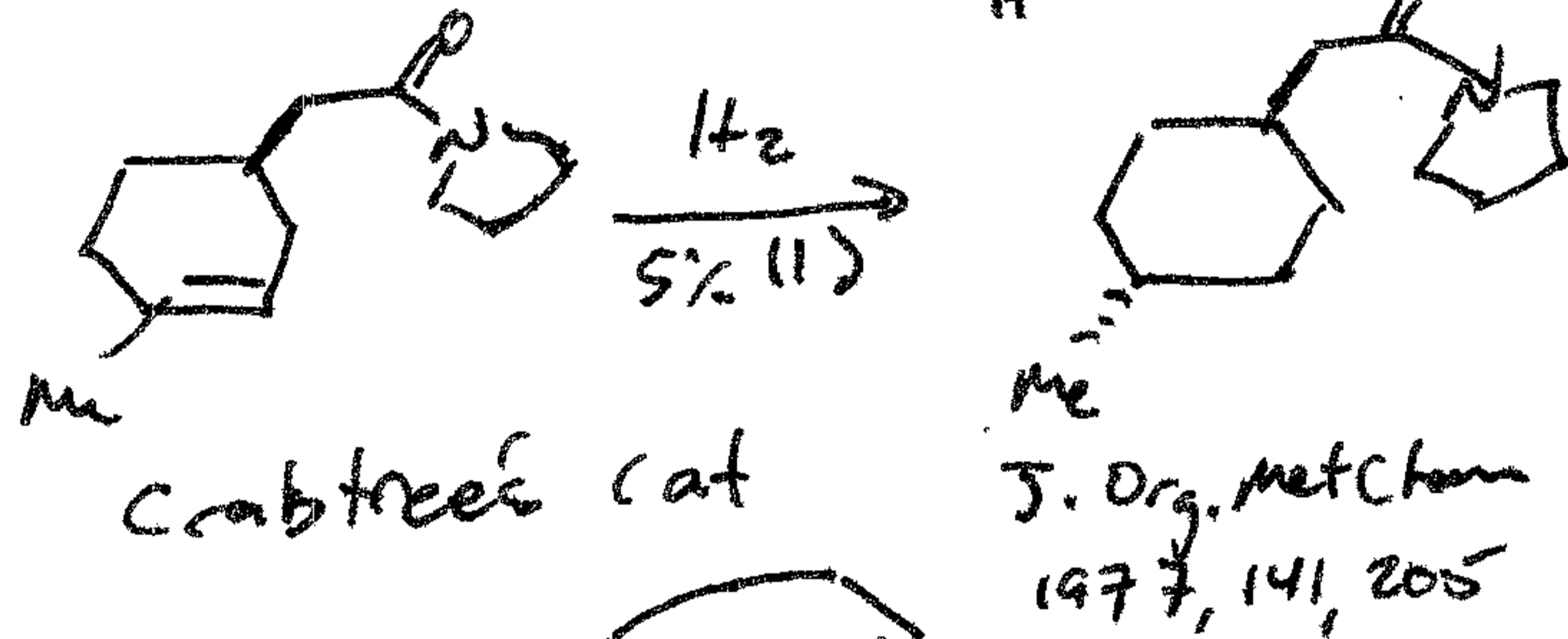
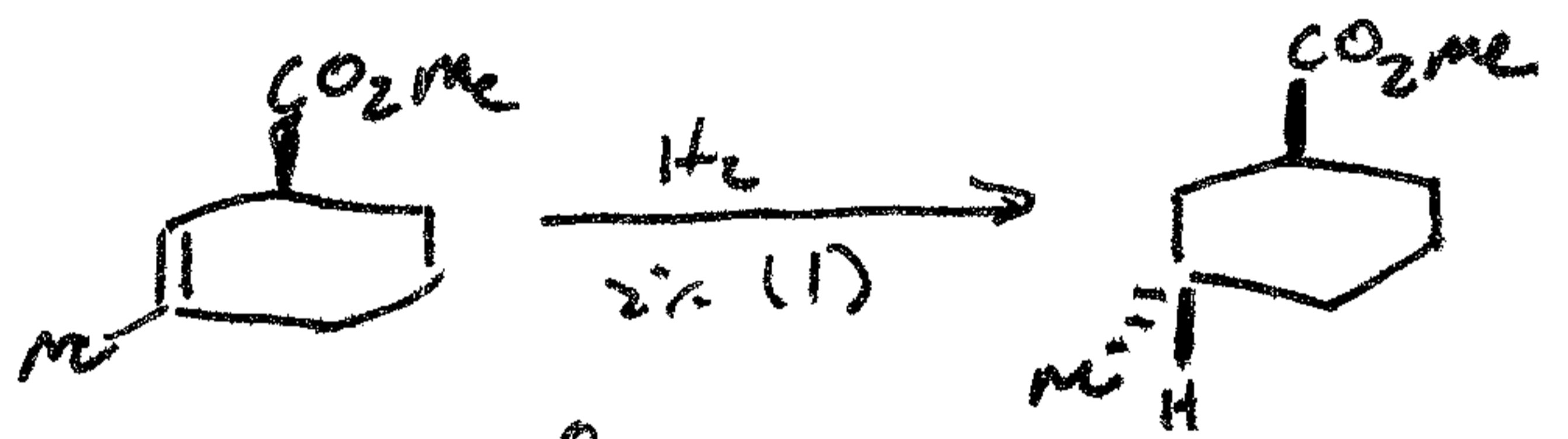
Diastereoselective



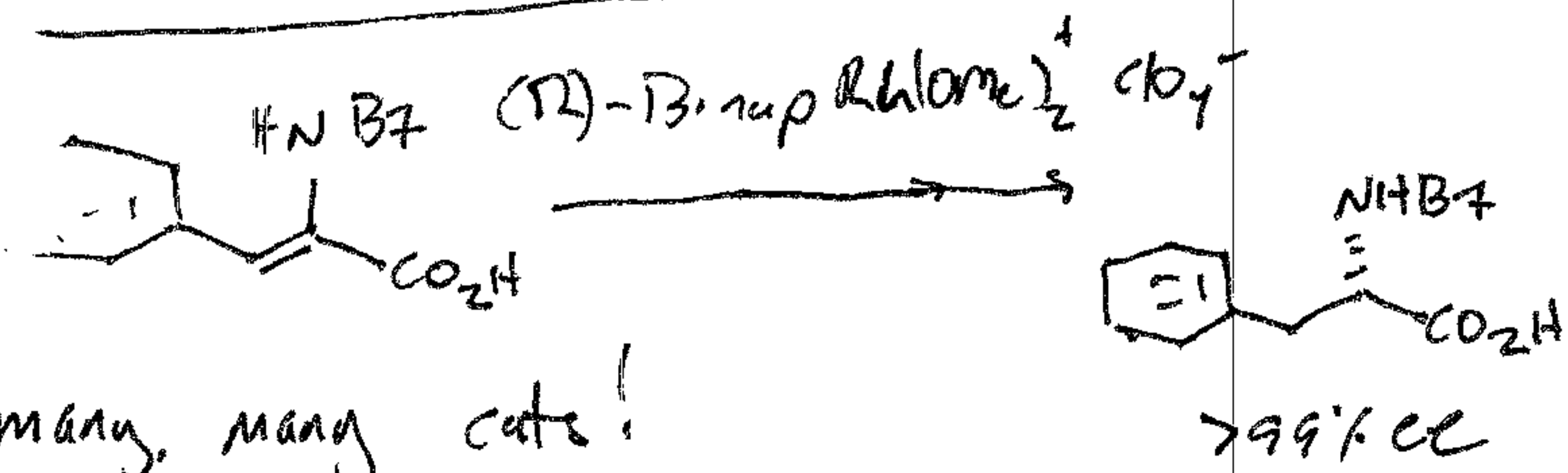
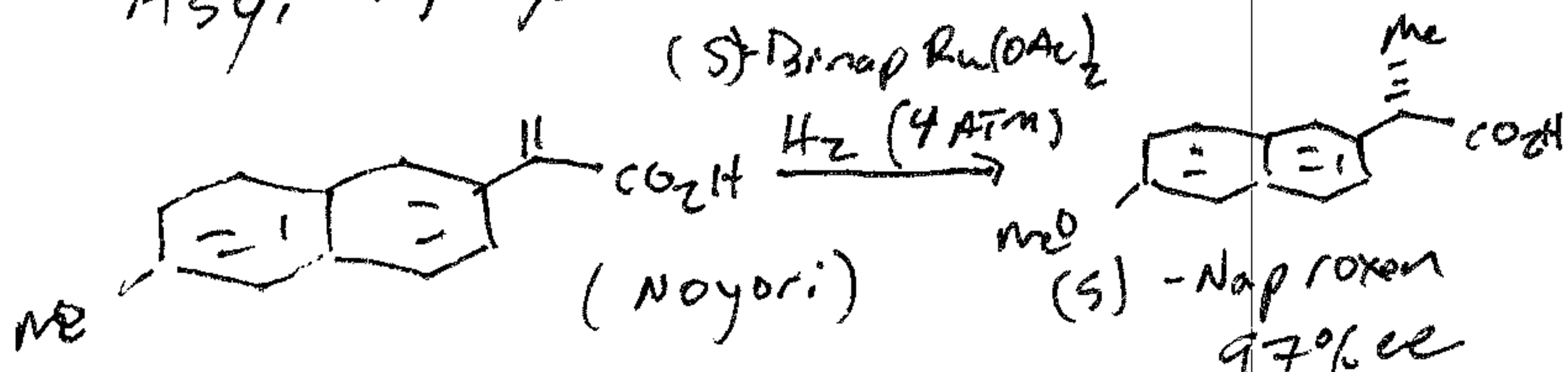
① Stereoselectivity often controlled by steric access. to H₂



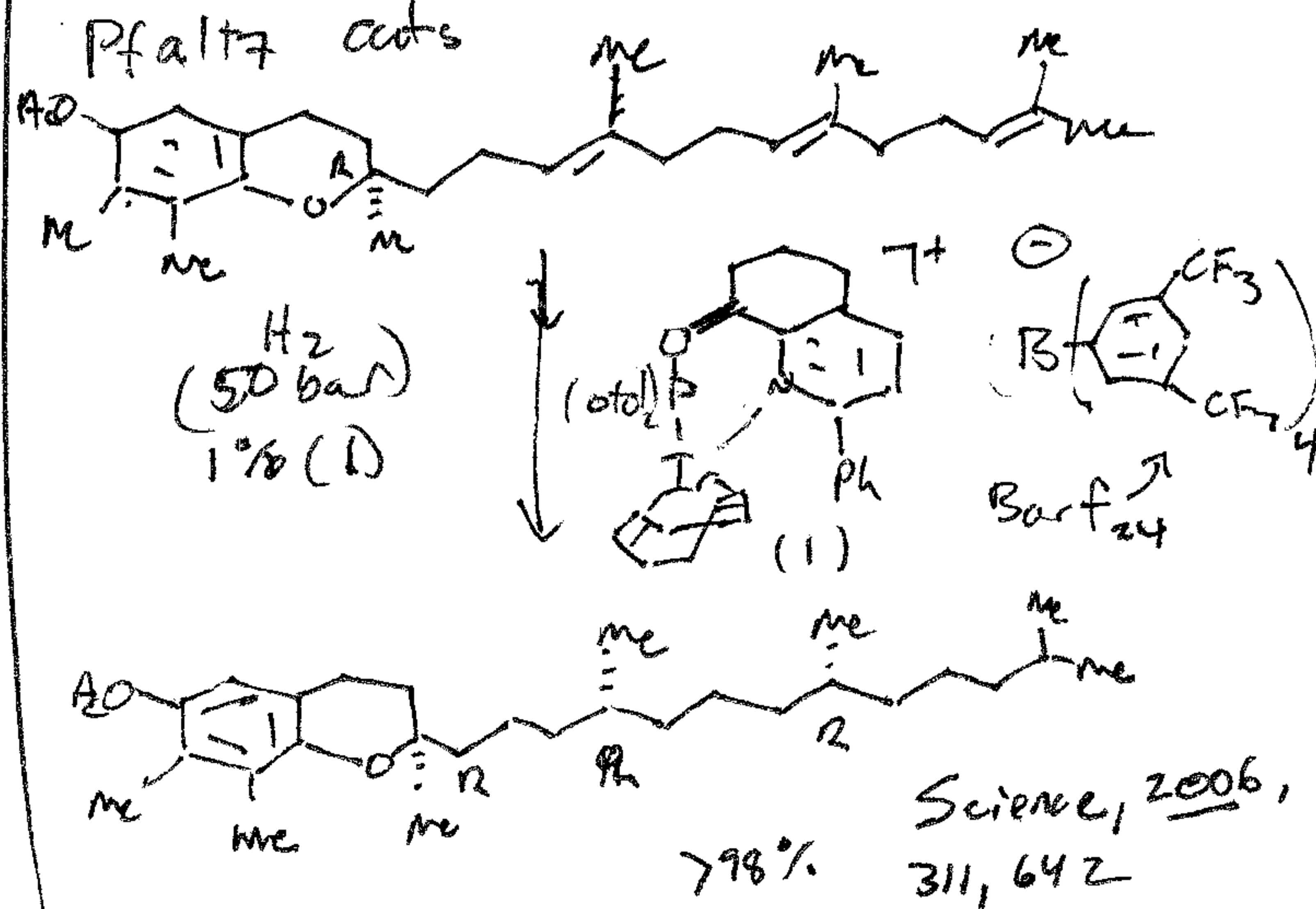
② Directed hydrogenation



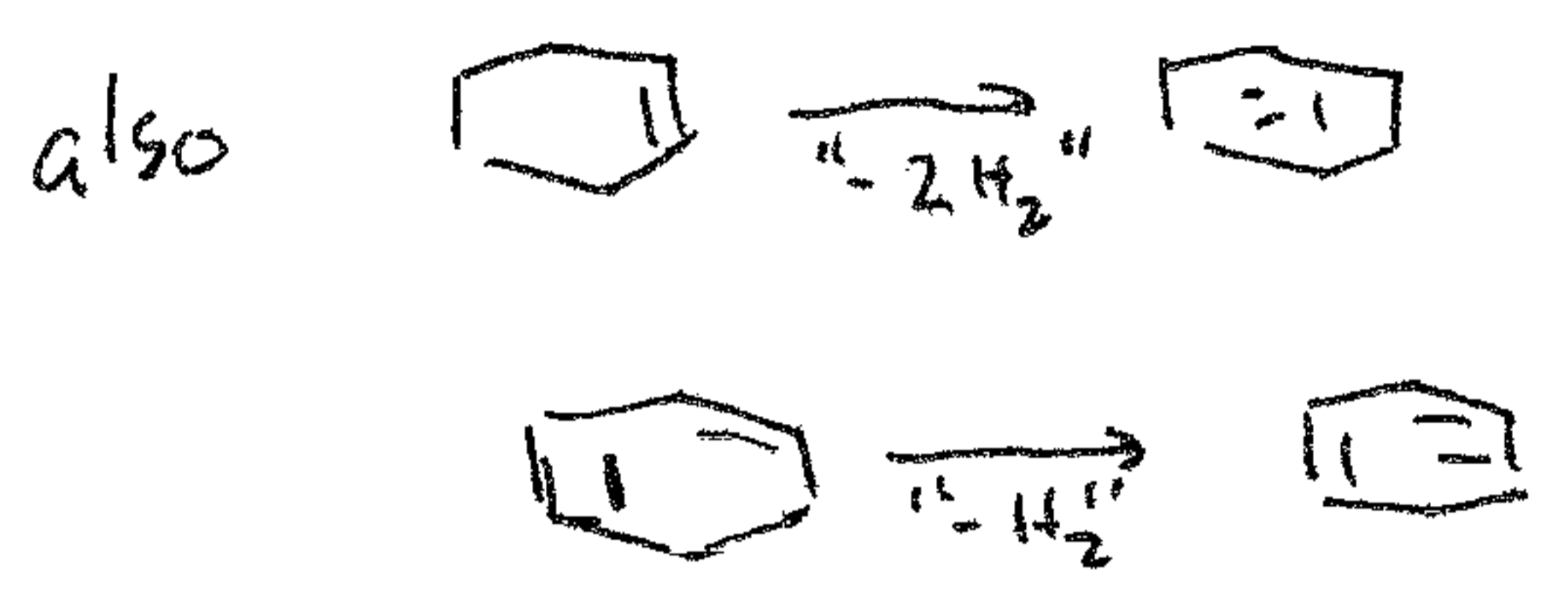
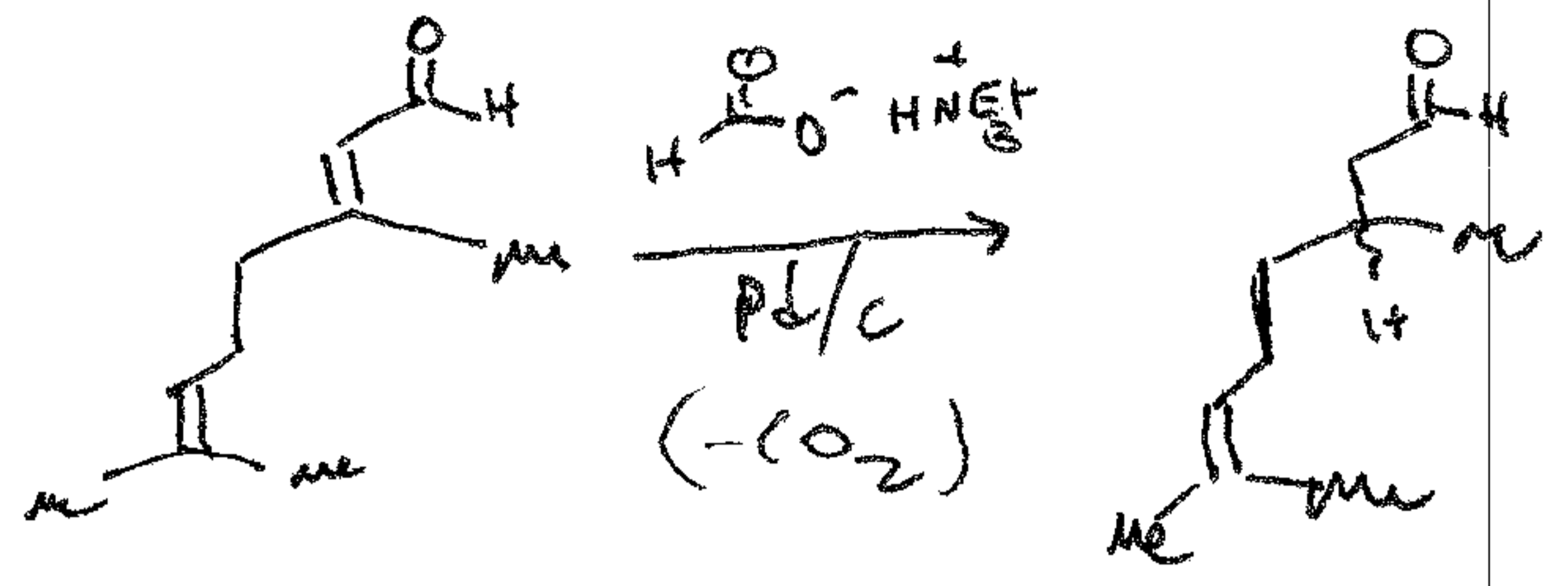
Asy. Hydrogenation - chiral carriers



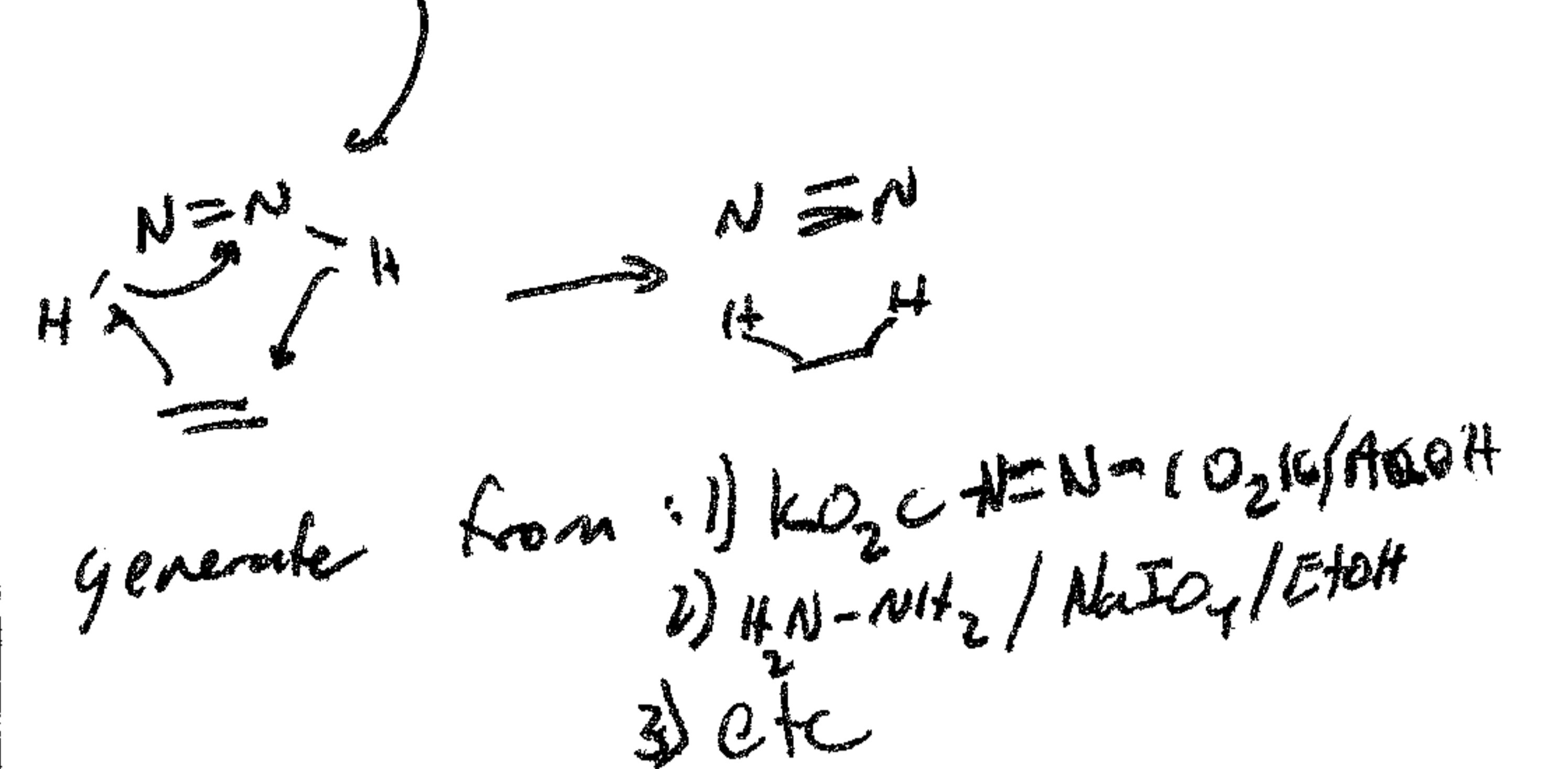
many, many cats!
 must read Lewis Basic groups!



Transfer hydrogenation (organic source of H₂)

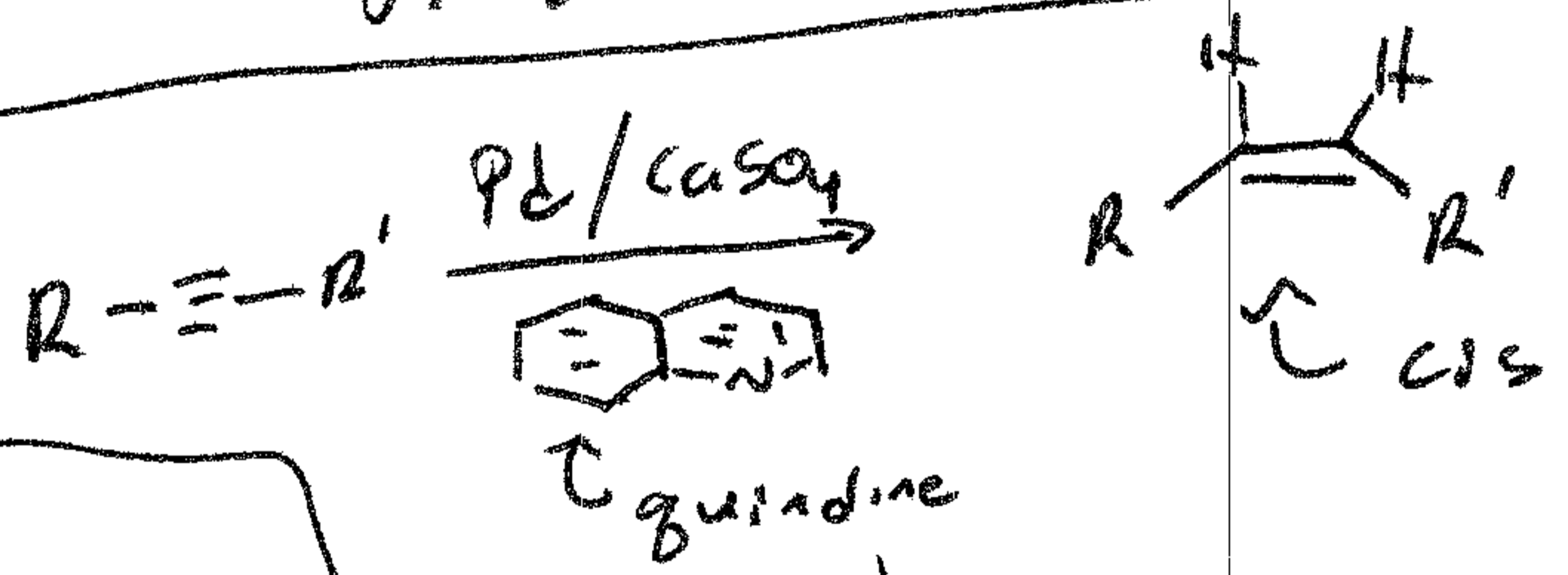
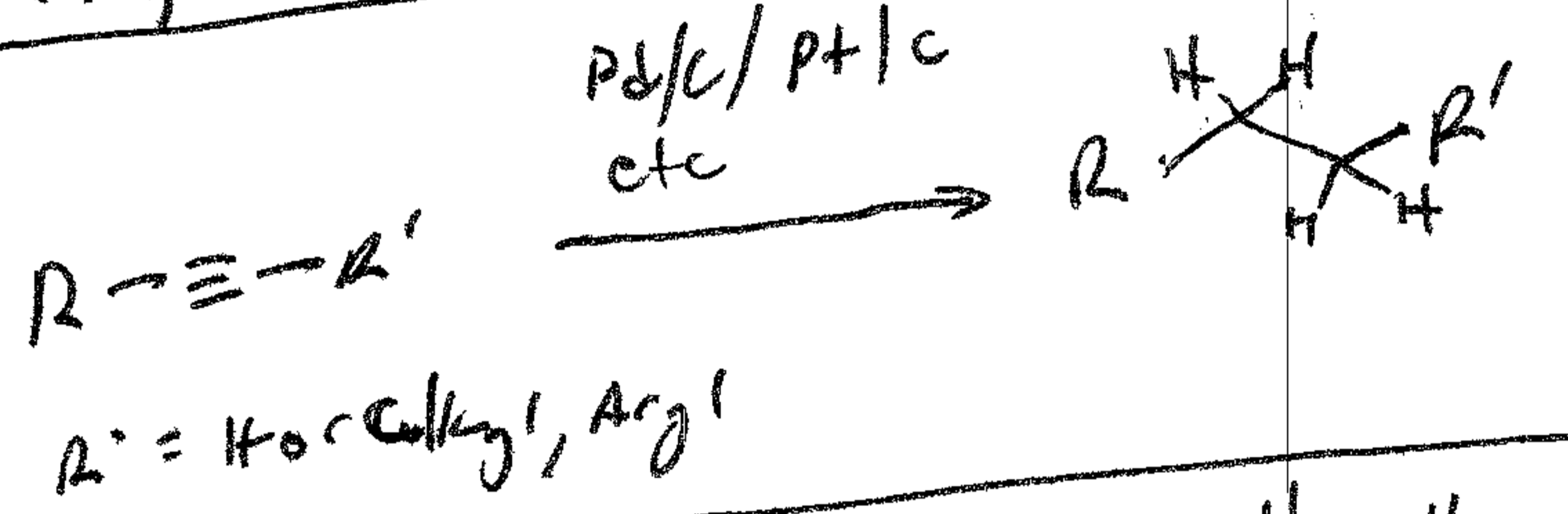


D. imide



Pros)
 cis > trans
 Strained > non-strained
 - tolerates NO₂, C=O, D, etc Br, Cl etc
 (cons) can cyclize - use w/ caution

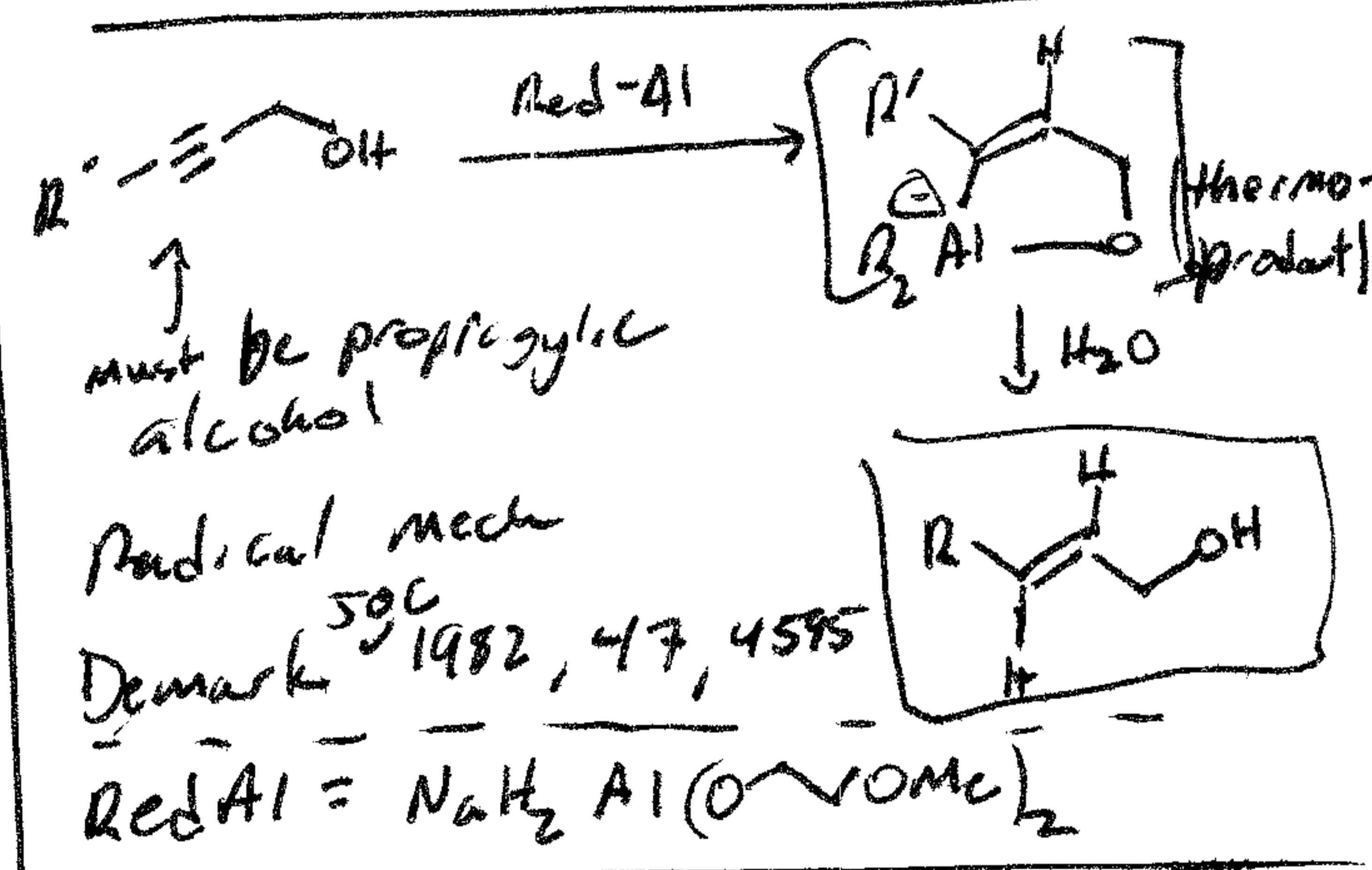
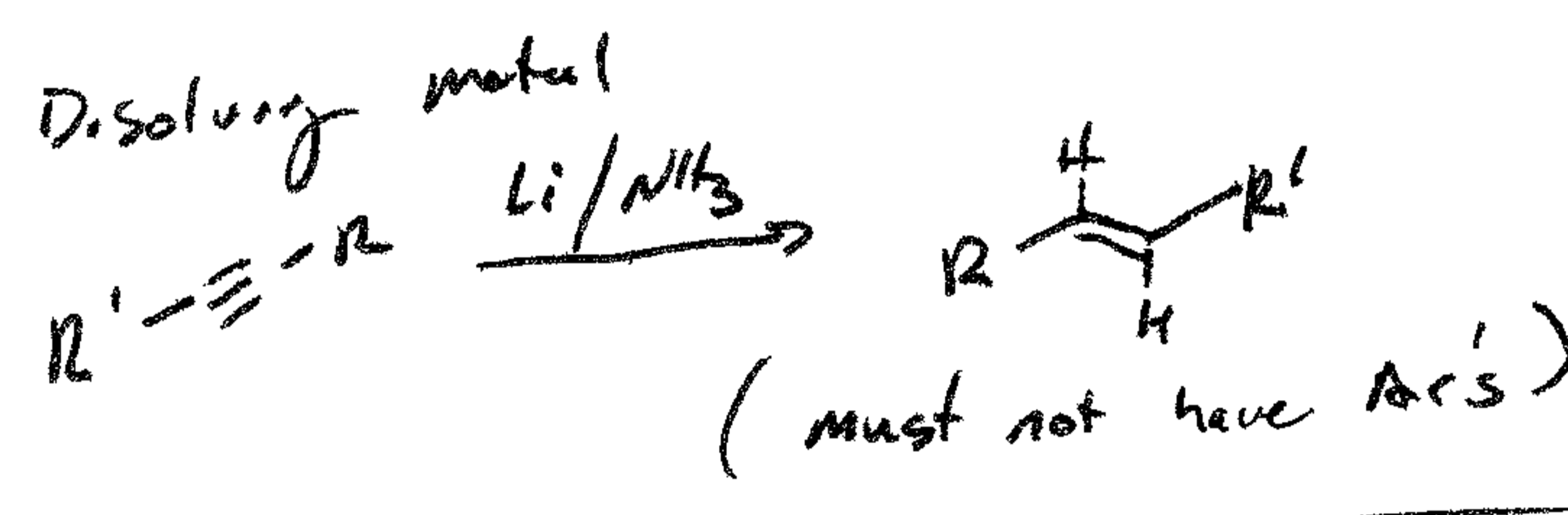
Alkyne Reductions



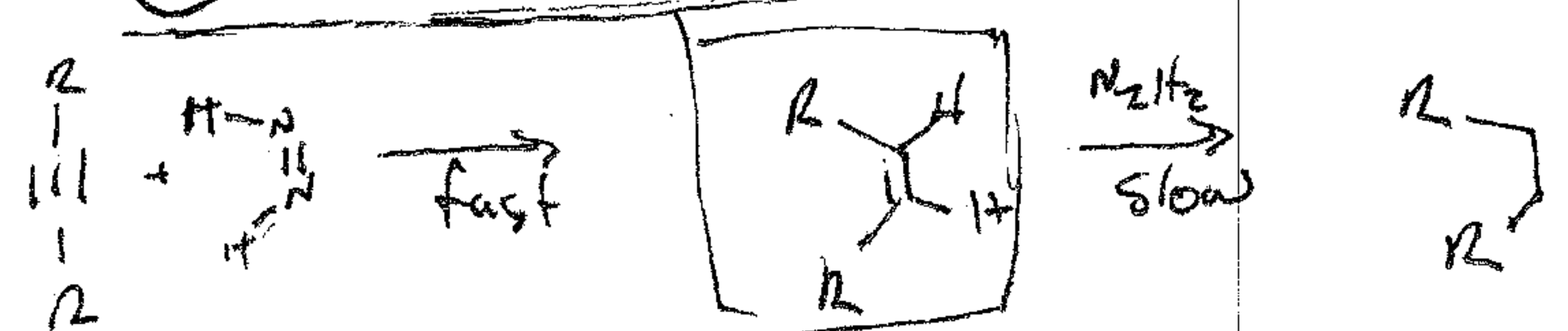
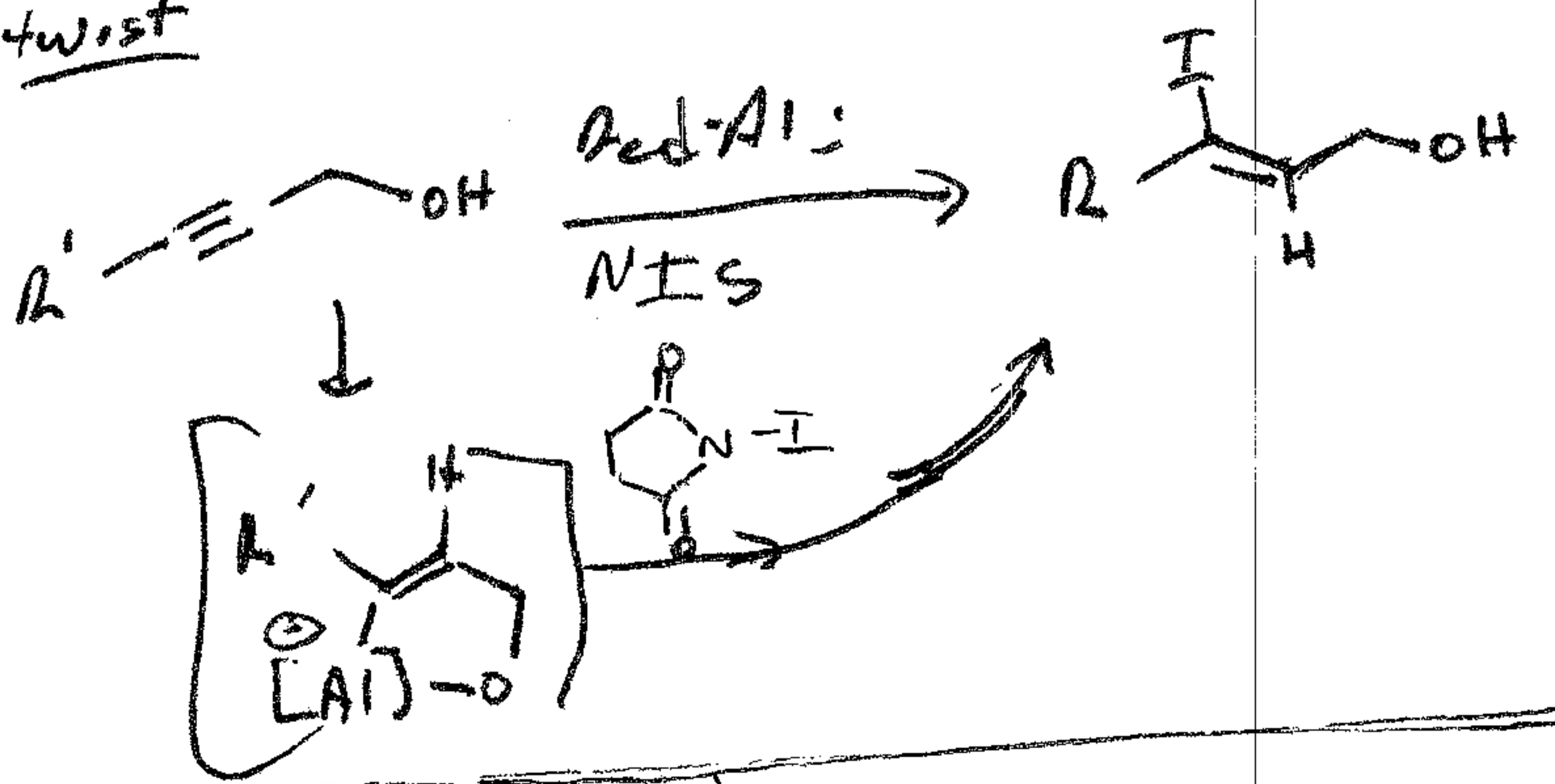
Works best with non-sterically demanding systems

Quinidine is a "poison". Also Pb can be used.

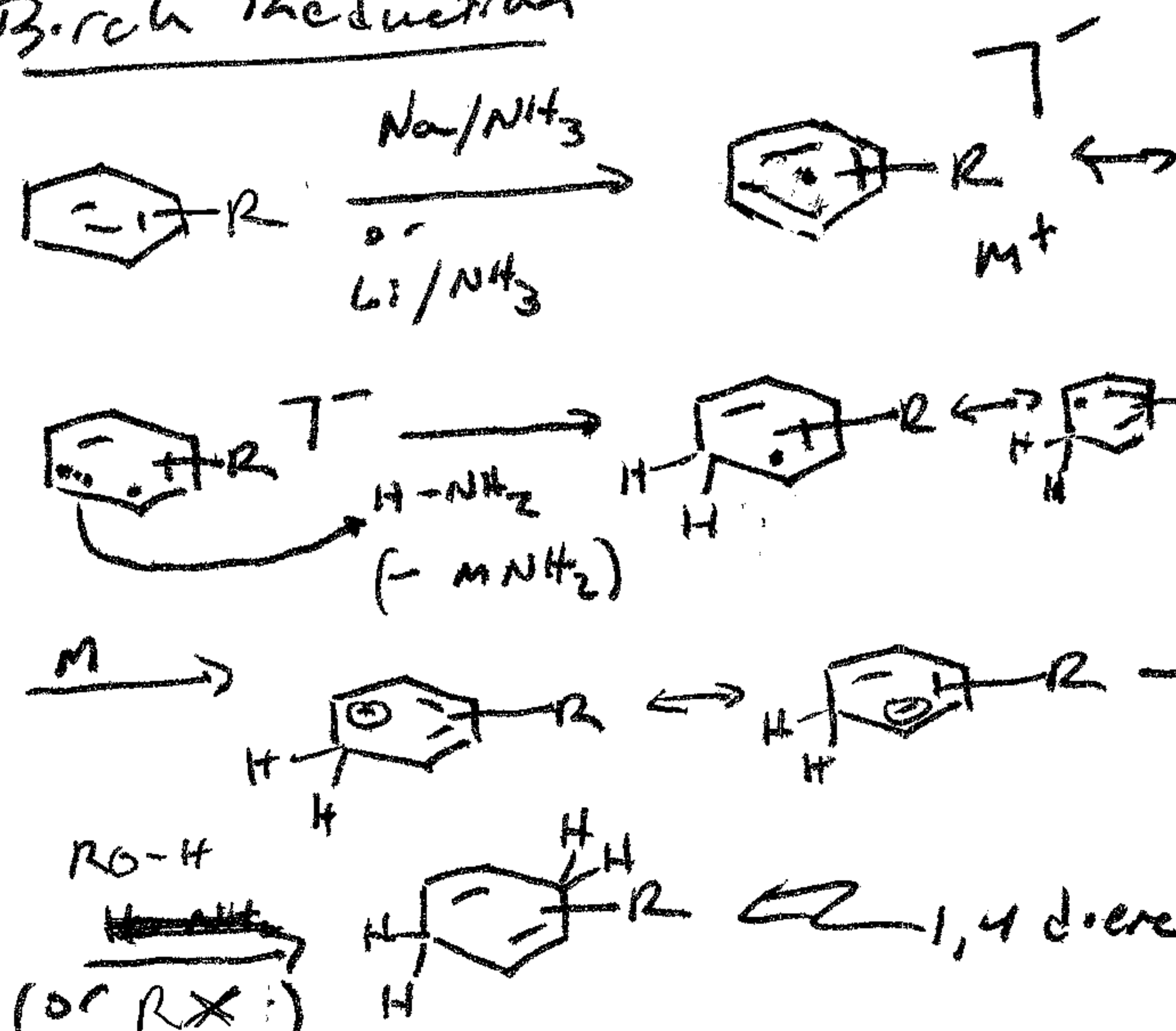
Anti Reductions



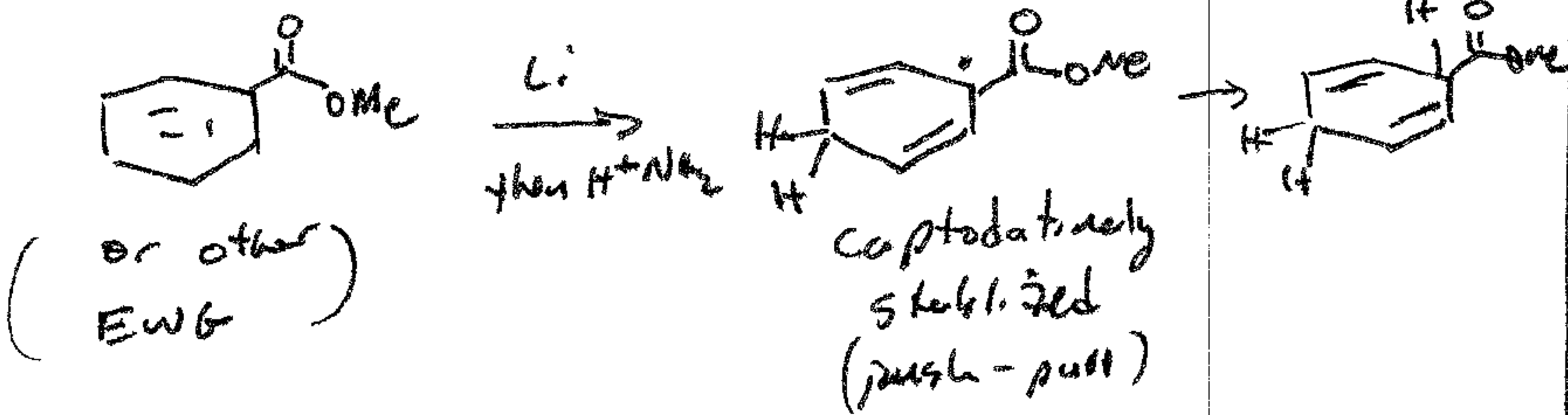
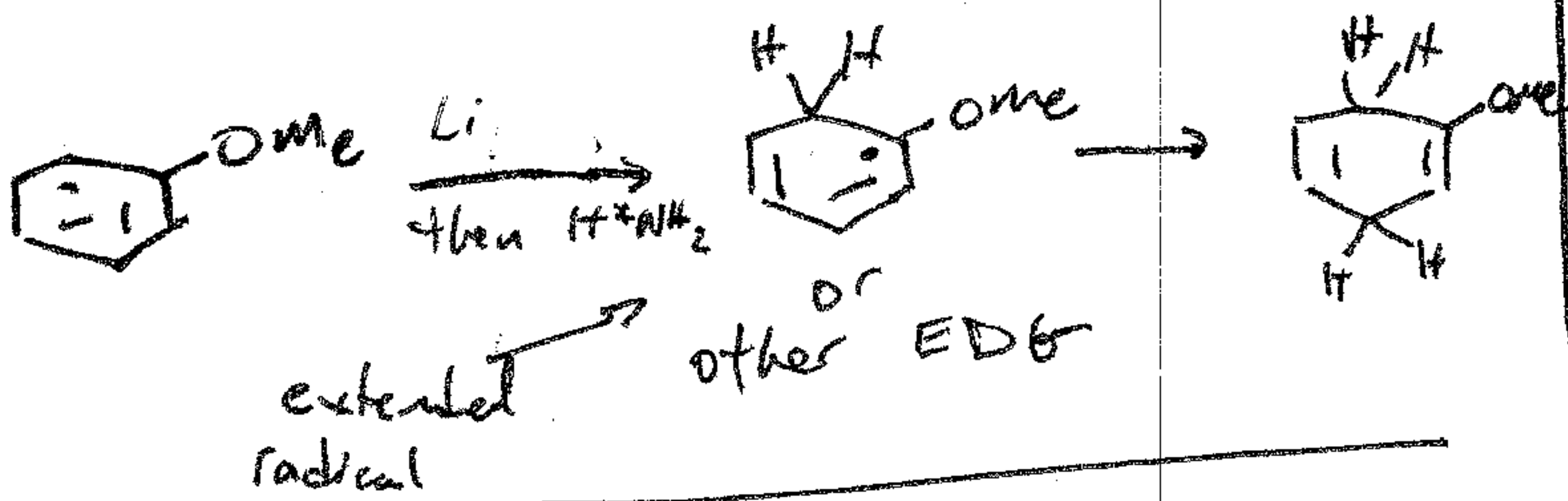
twist



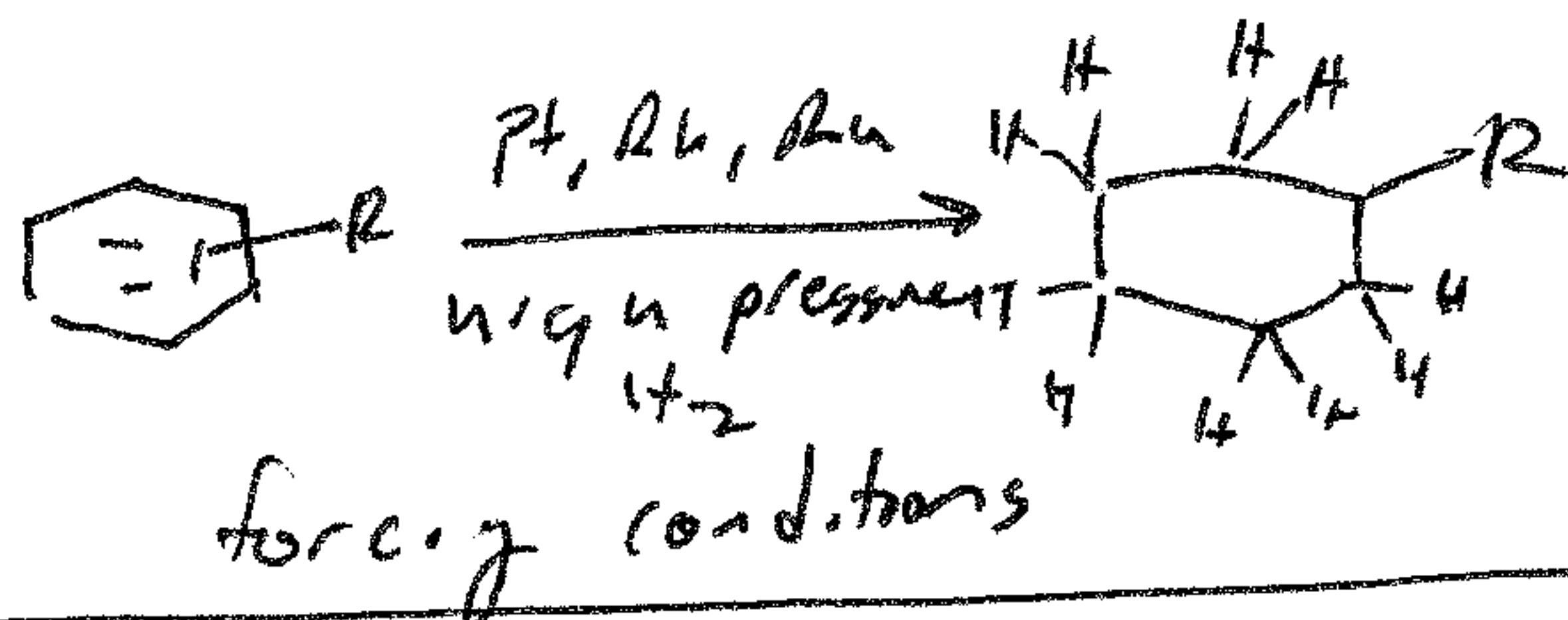
Borch Reduction



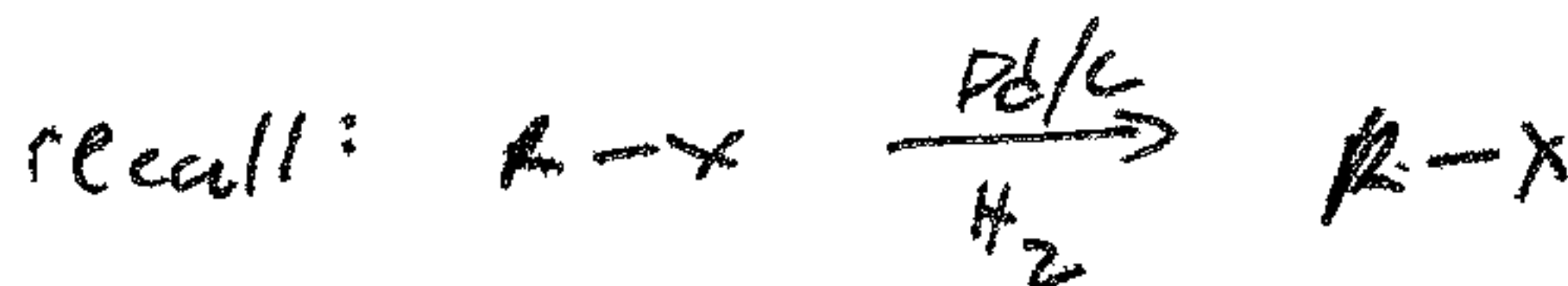
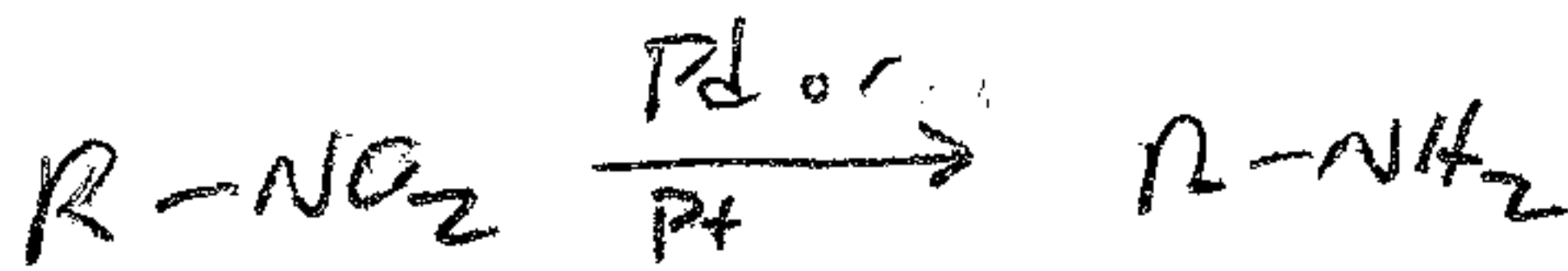
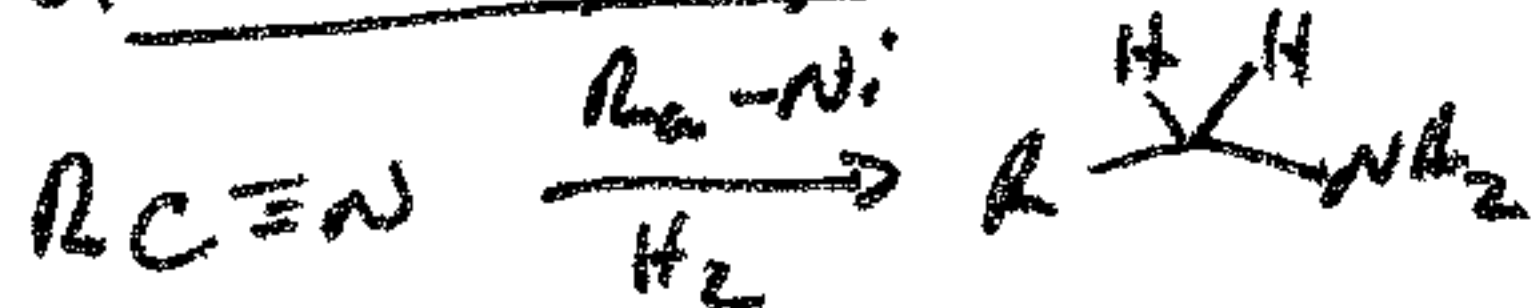
Regio Chem - Stability of First radical



Arene Hydrogenation

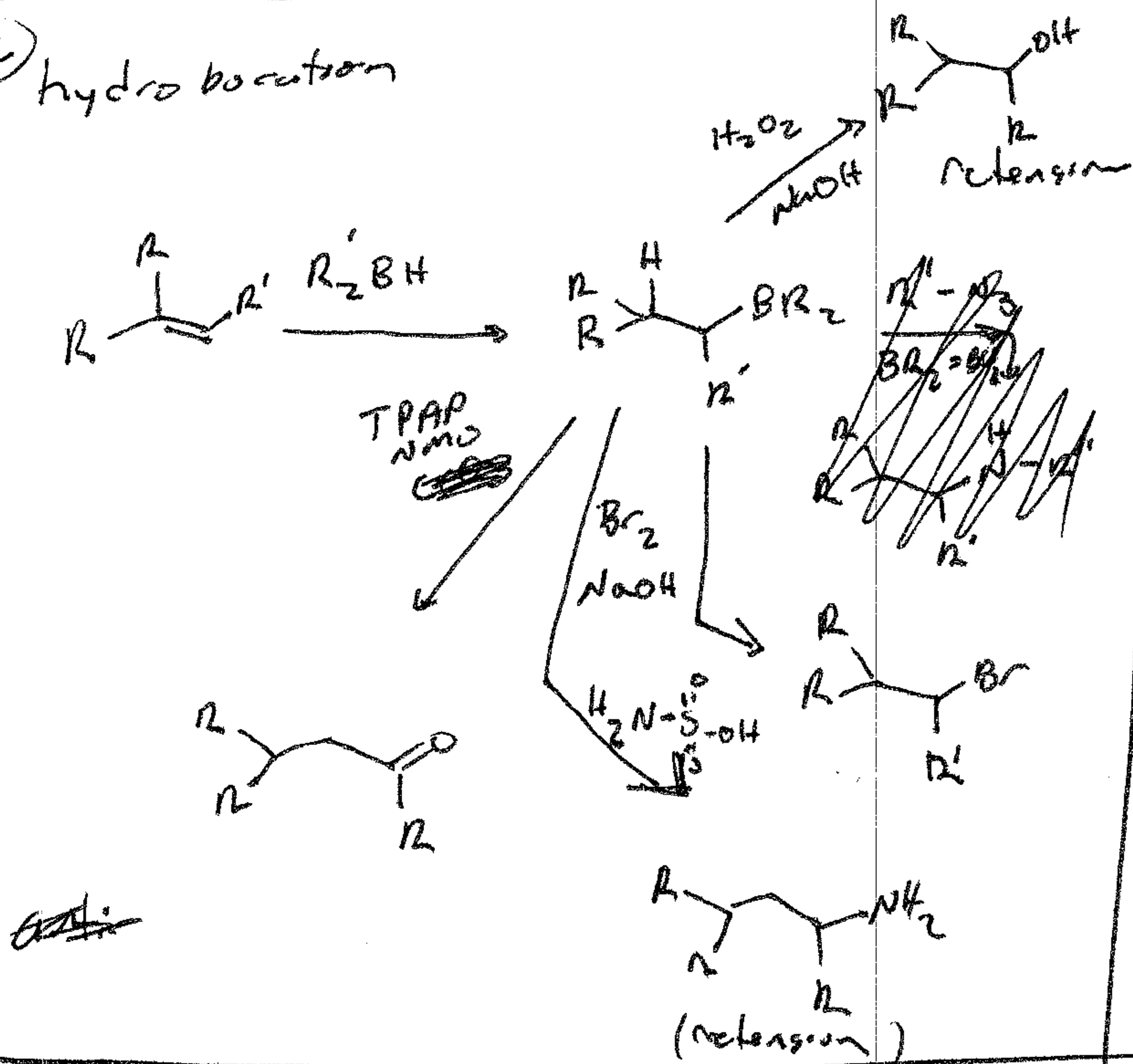


Other hydrogenations

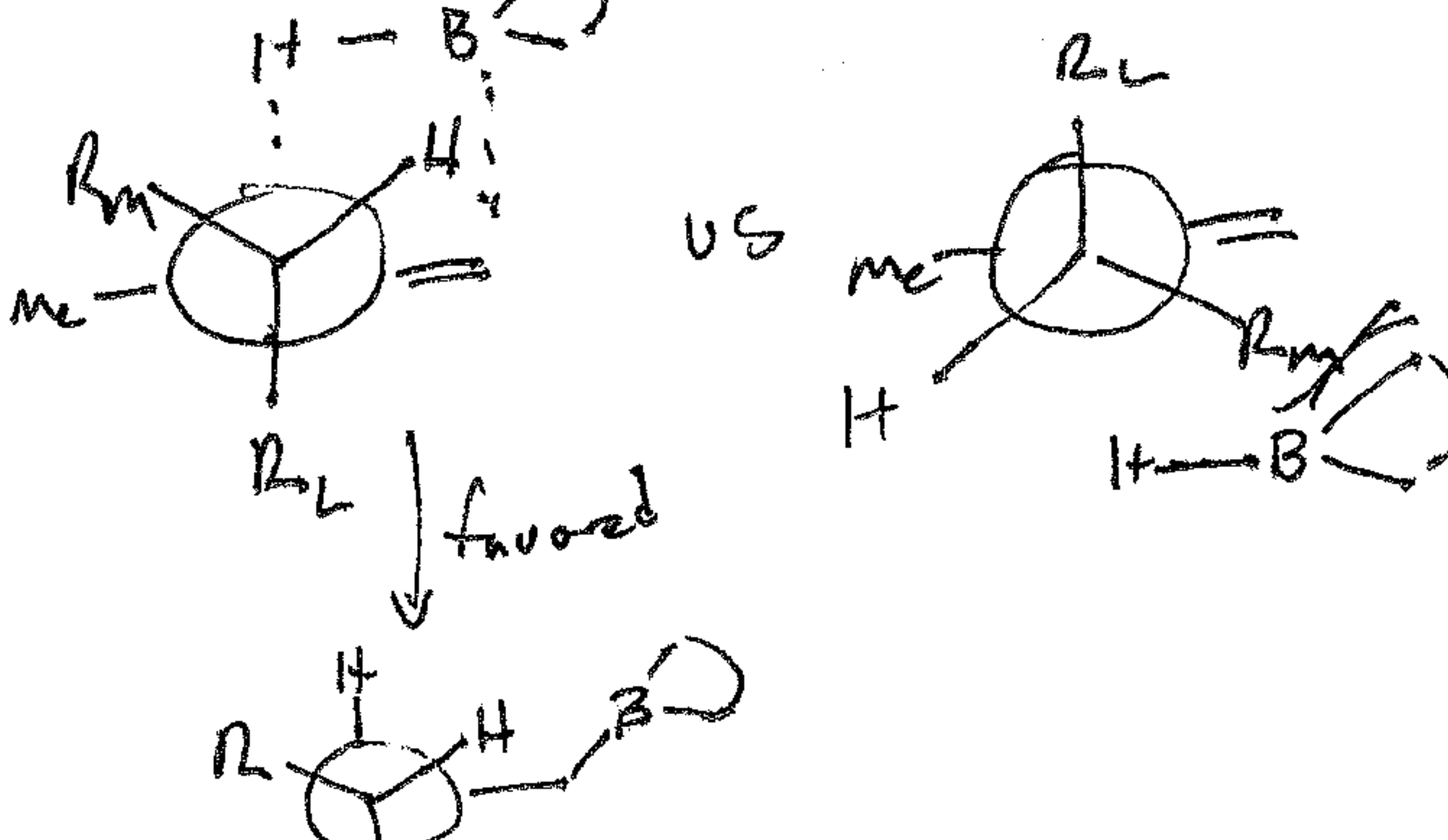
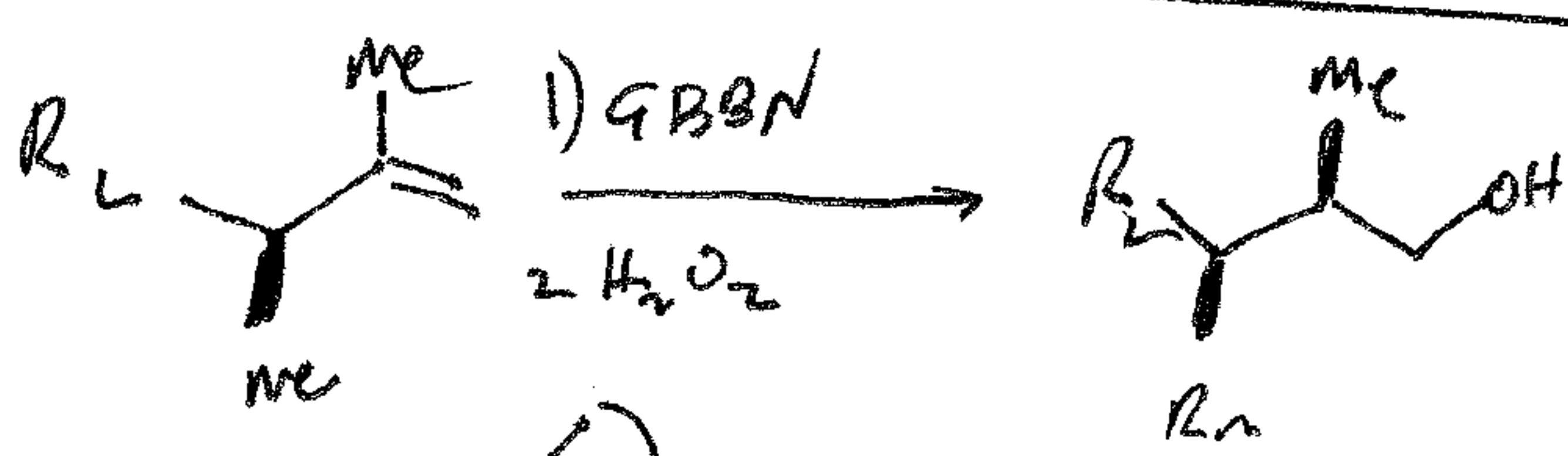
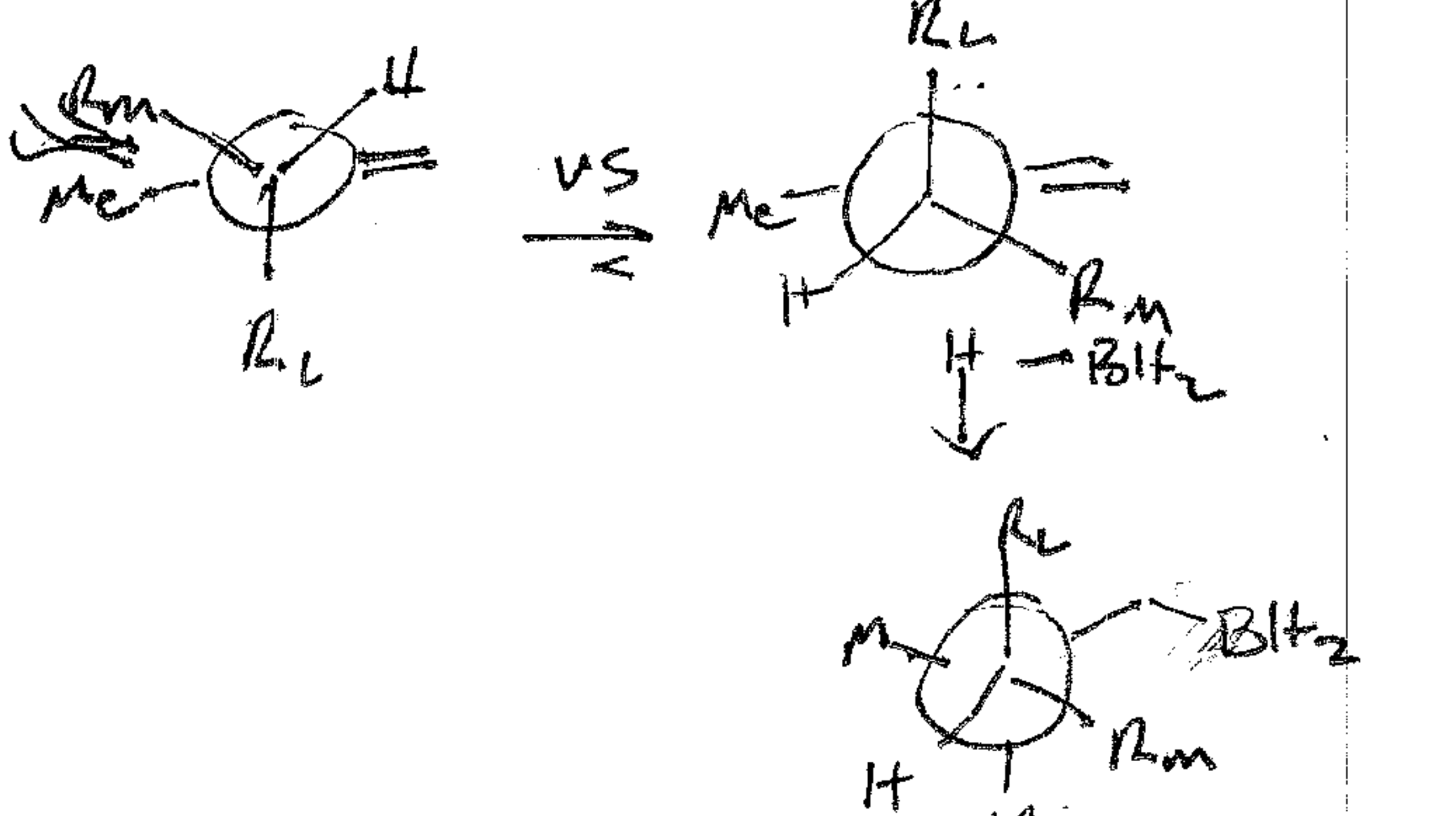
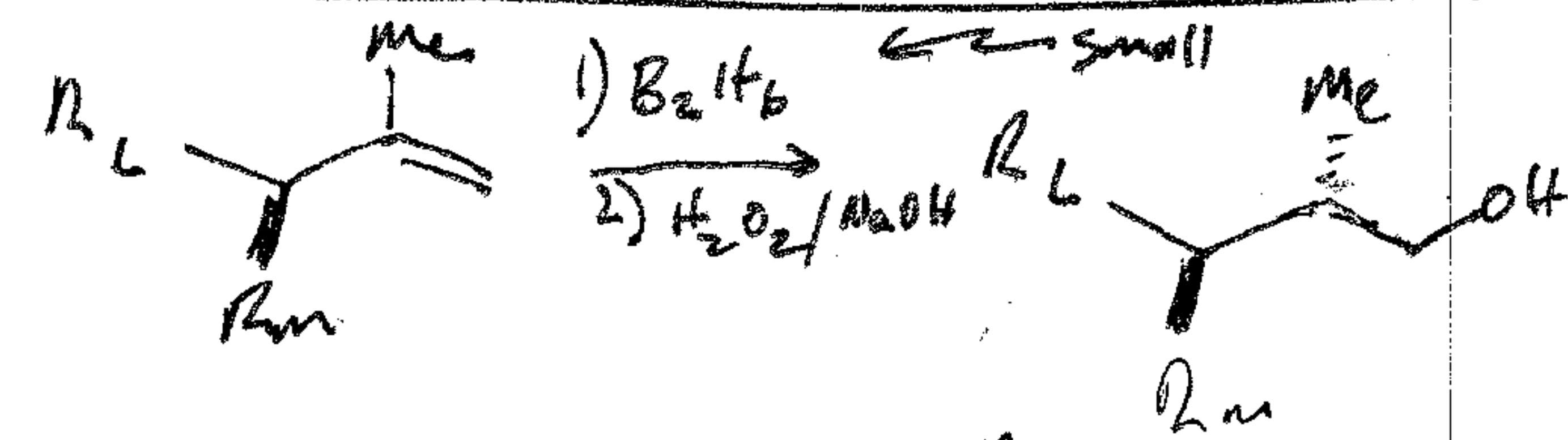
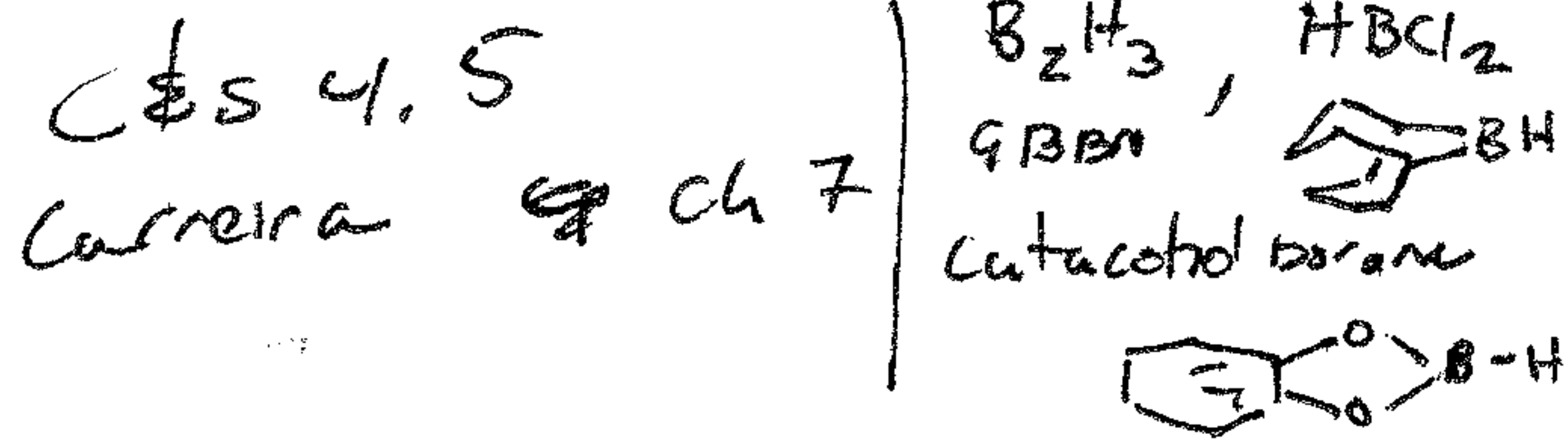
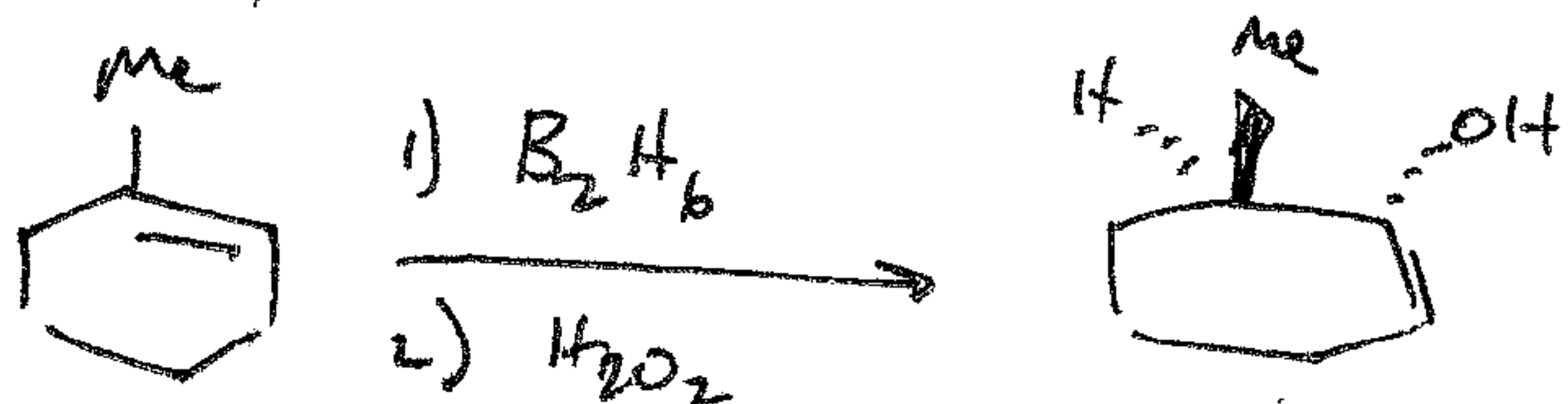
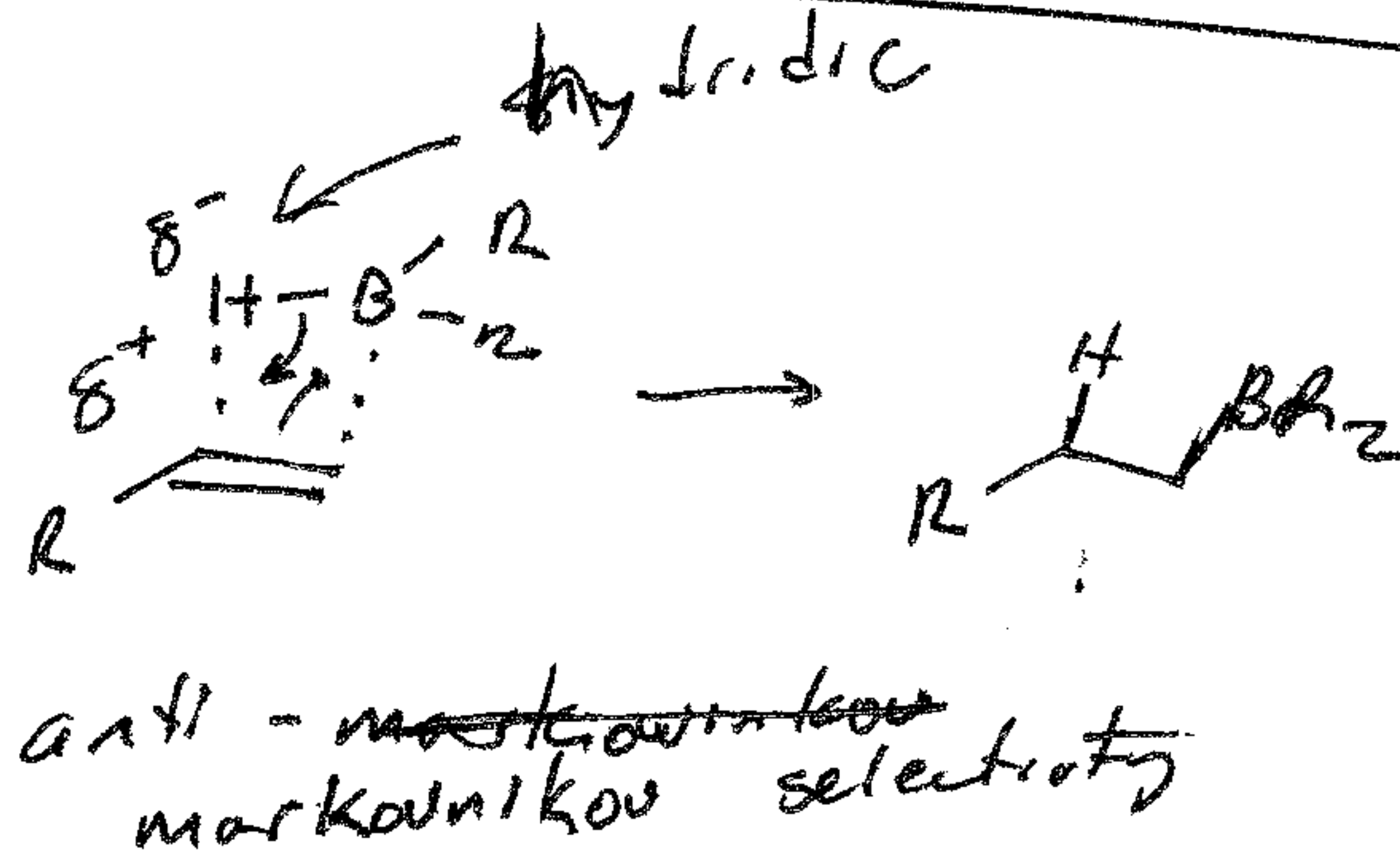


Other Reactions of Alkenes/Alkynes

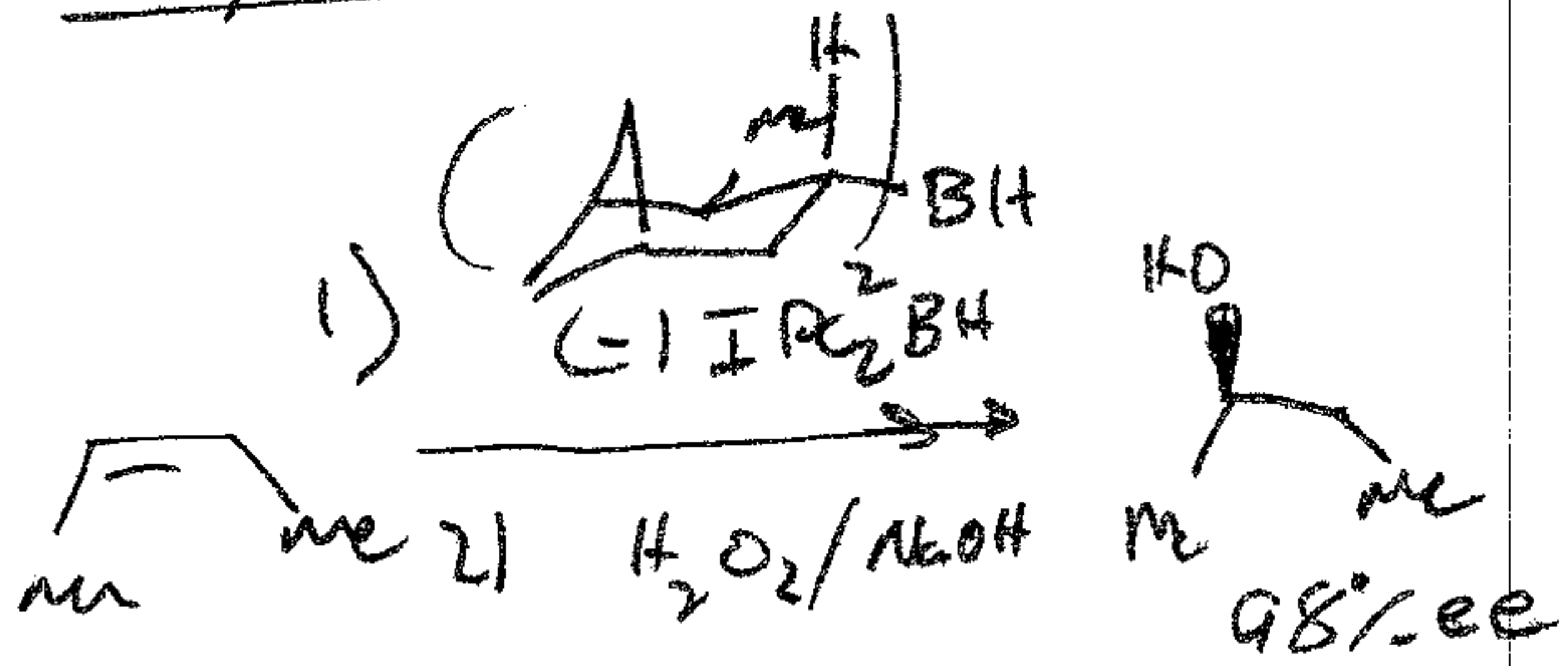
② hydroboration



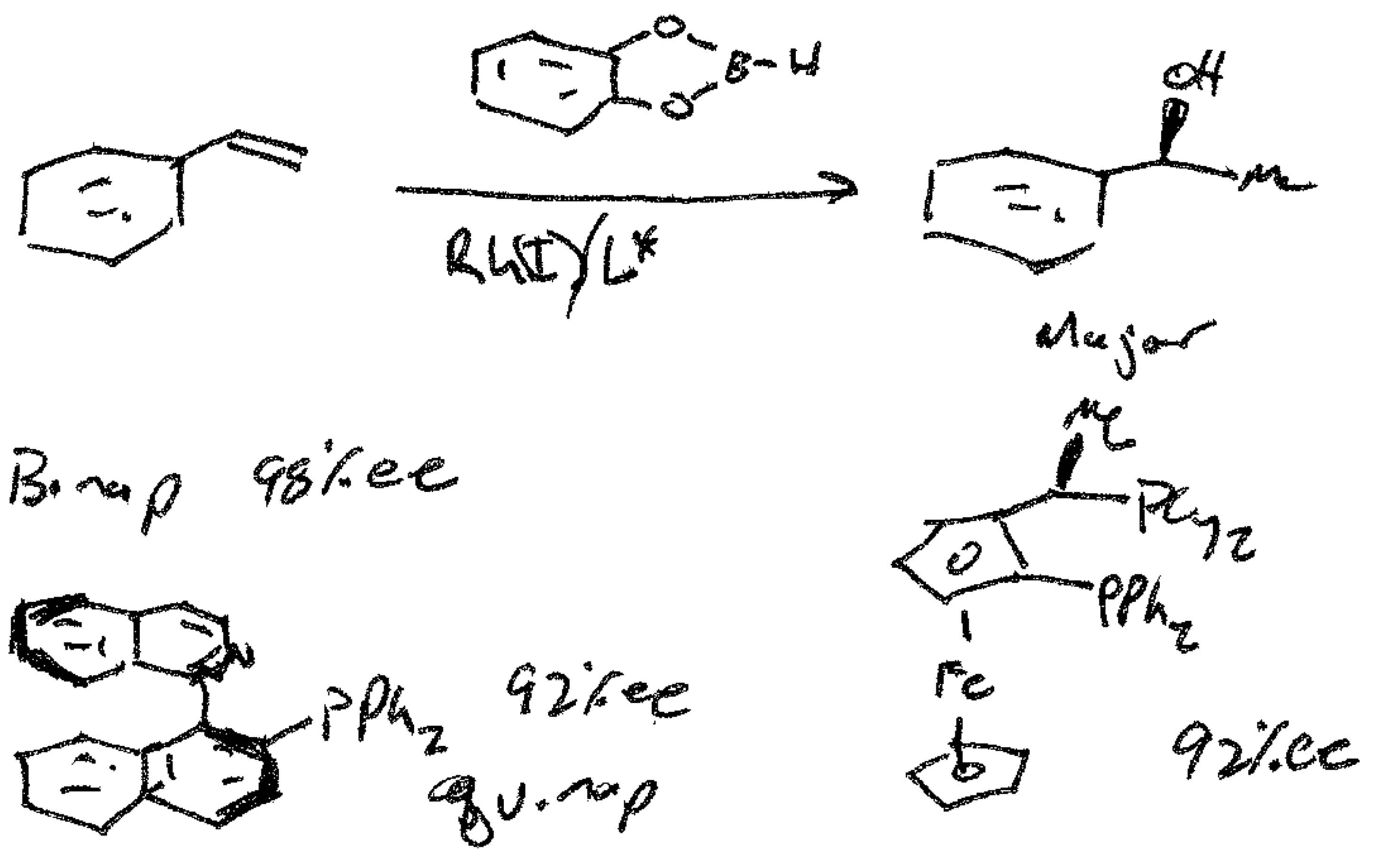
①



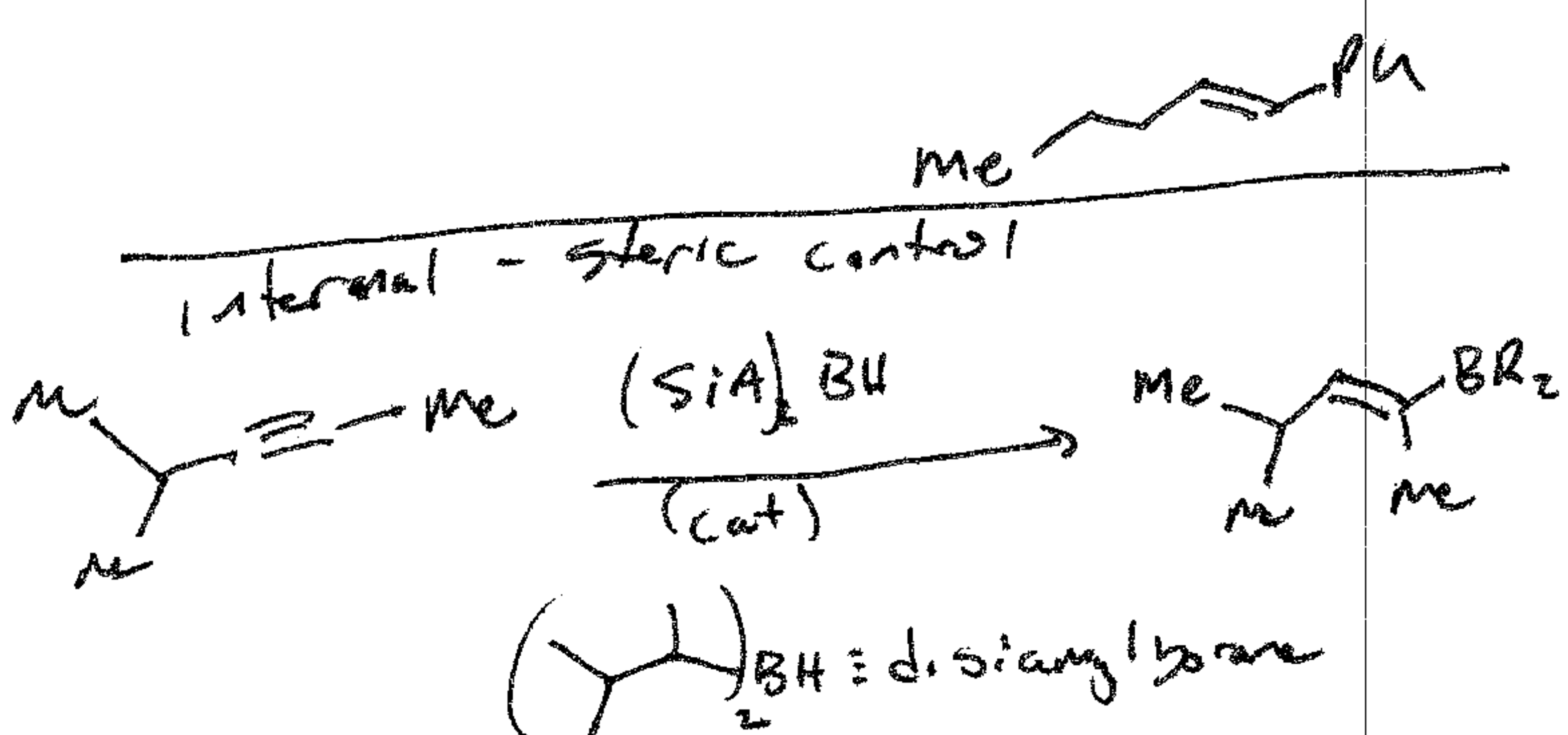
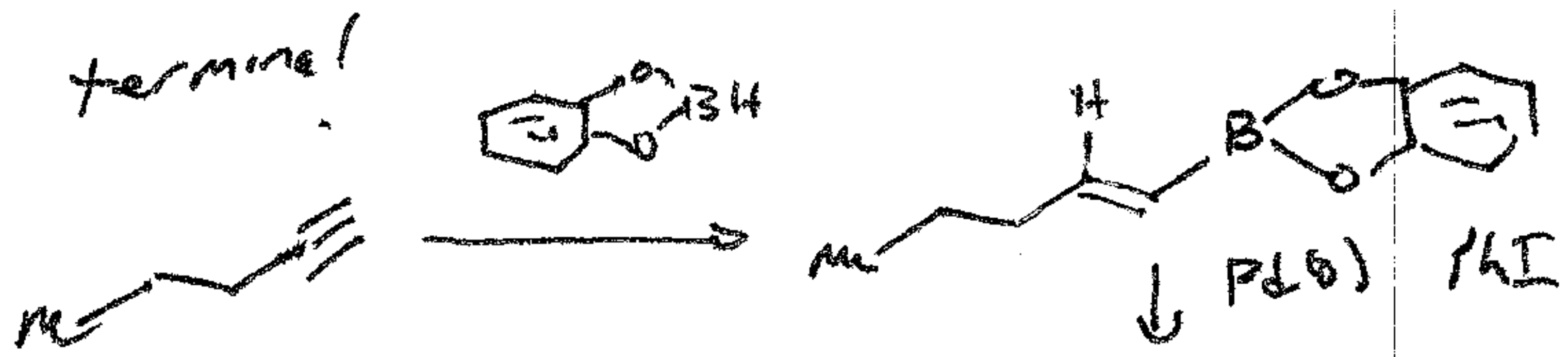
Asy. Hydroboration



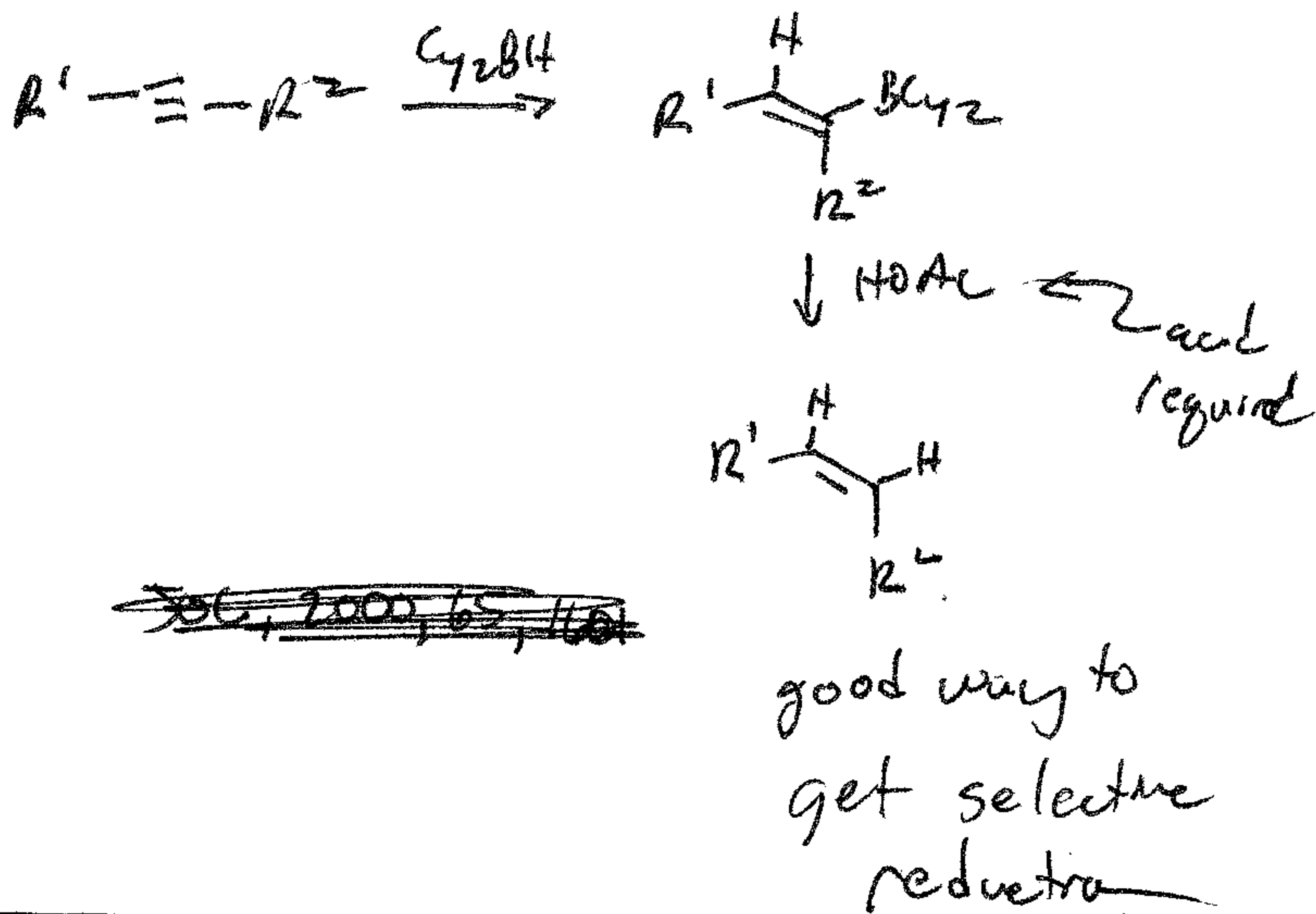
metal cat



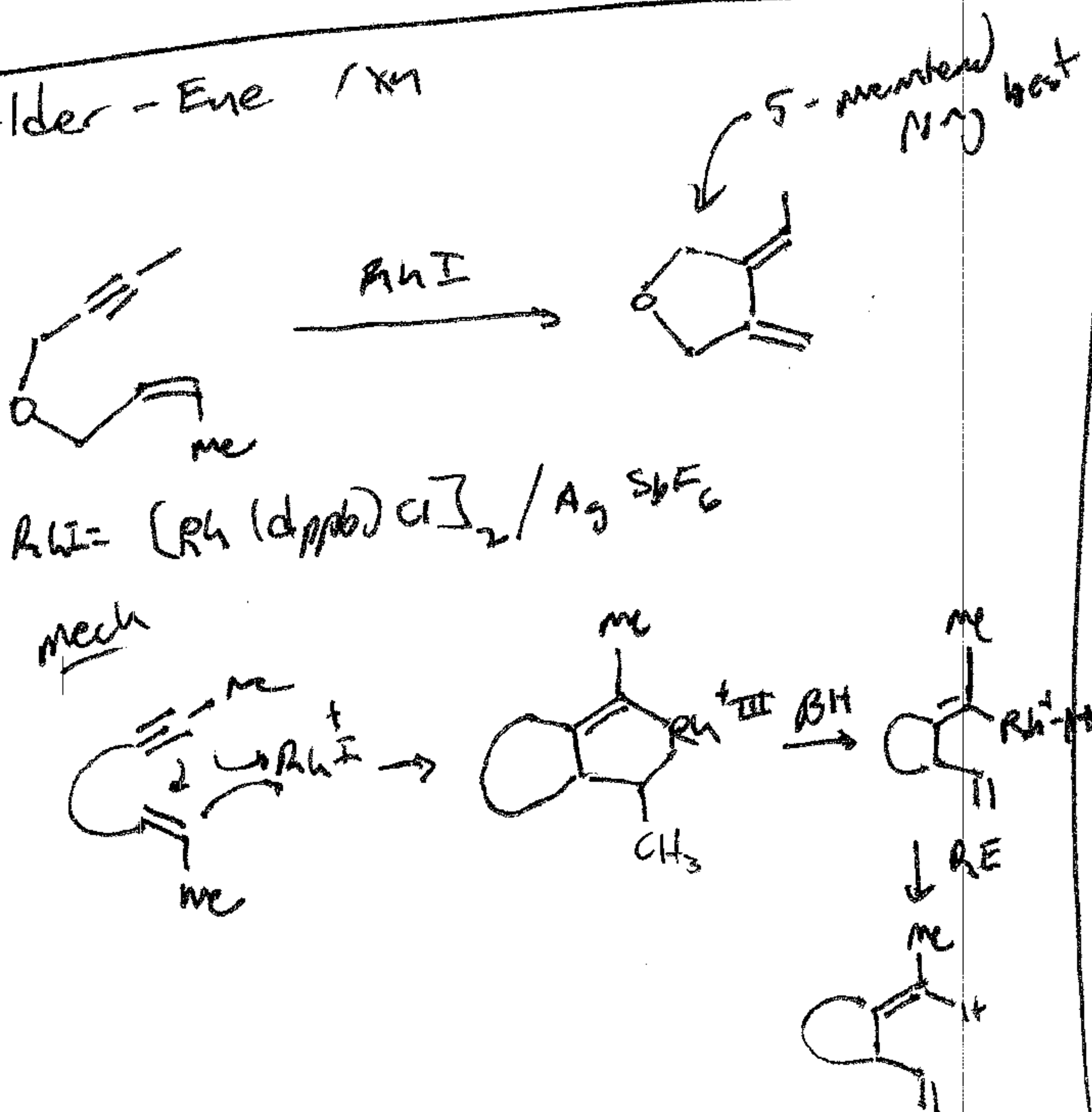
With Alkynes



note:



Alder-Ene rxn



Pauson-Khand rxn

