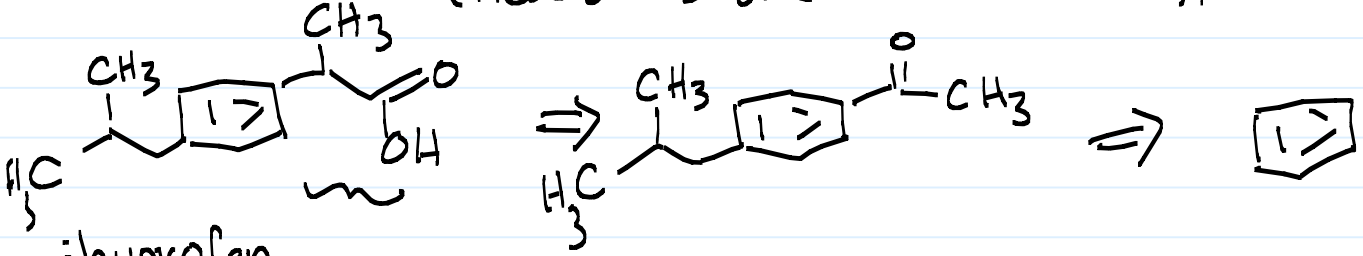
Aromatic Substitution (READ CHAPTER 14!!)

Note Title 2/25/2014

Goals: (1) How do you put 1 substituent on benzene?

 } All C's are equivalent.

(2) How do you put on 2 (or more) substituents?
(How does the 1st substh. affect the 2nd?)

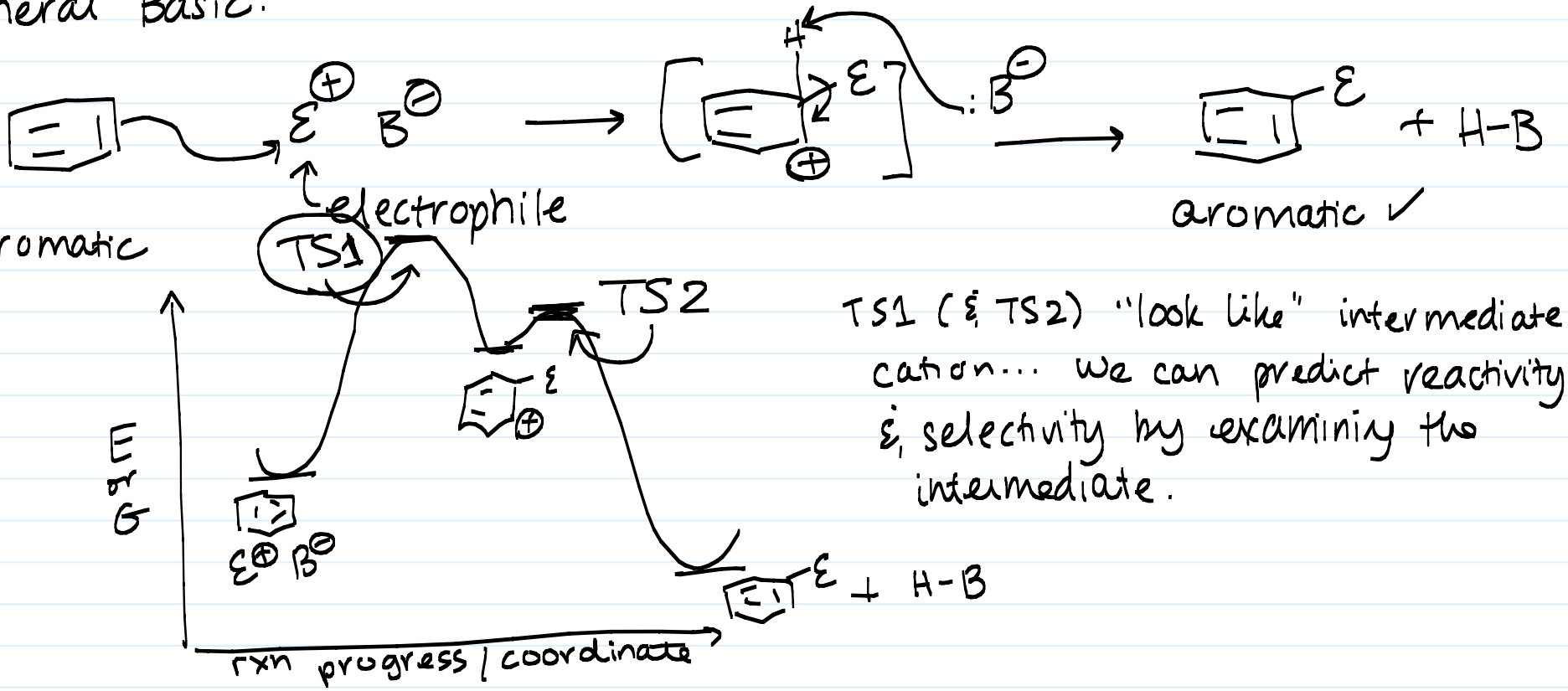


ibuprofen

Goal 1: 1 Substituent

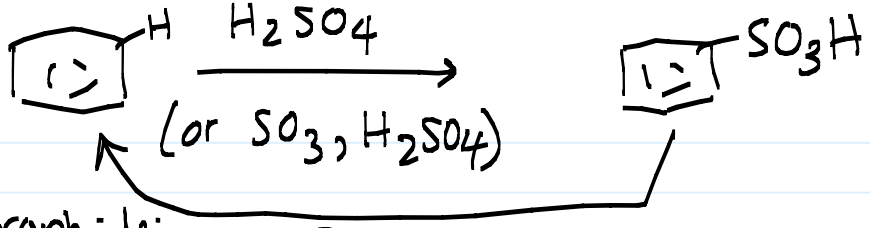
Electrophilic Aromatic Substitution (EAS)

General Basic:

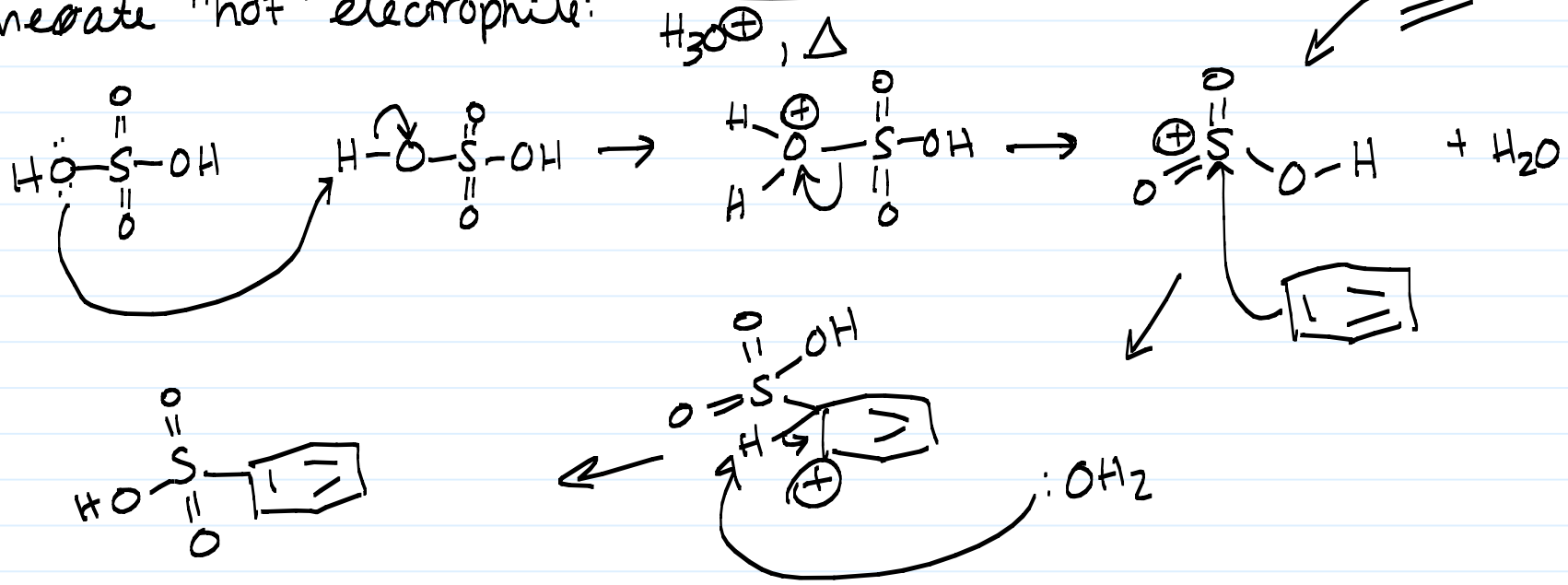


TS1 (& TS2) "look like" intermediate cation... We can predict reactivity & selectivity by examining the intermediate.

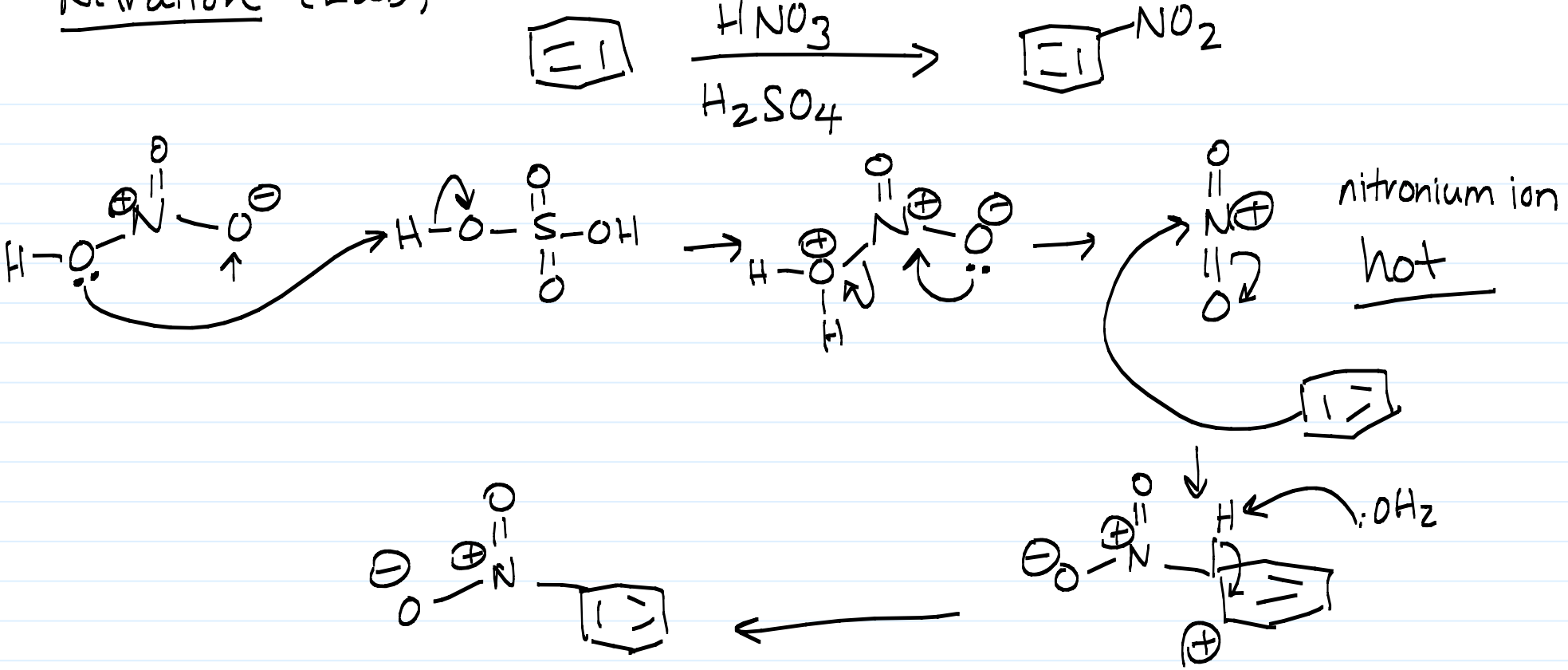
Sulfonation



Generate "hot" electrophile:

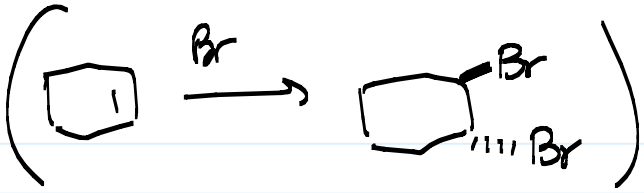


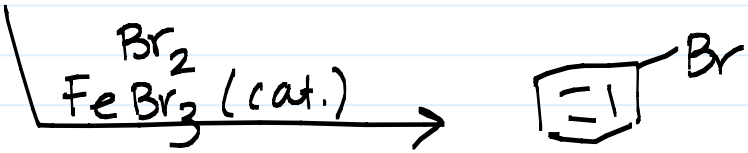
Nitration (Lab)

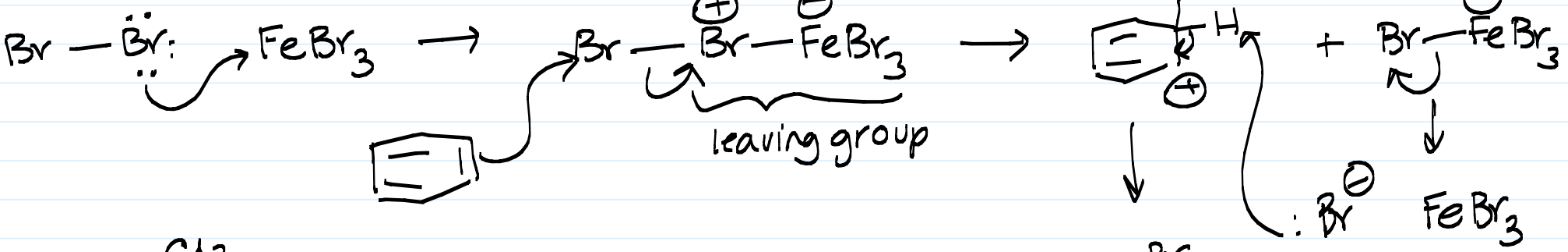


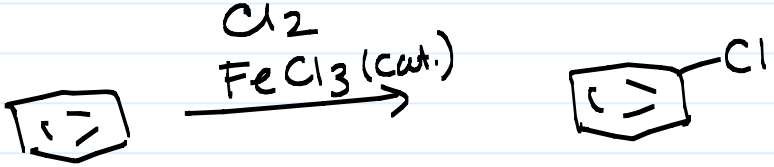
Halogenation

Recall:  Br_2 ✗ → No Rxn!

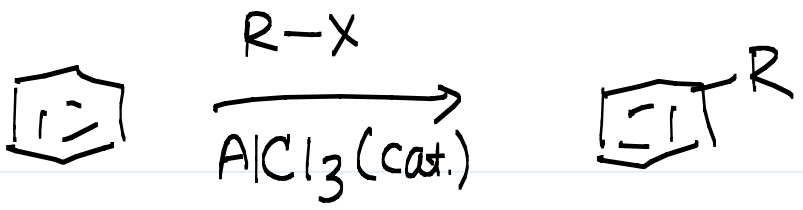






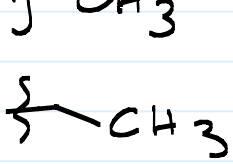


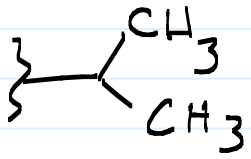
Friedel-Crafts Alkylation

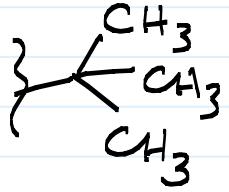


X = Cl, Br

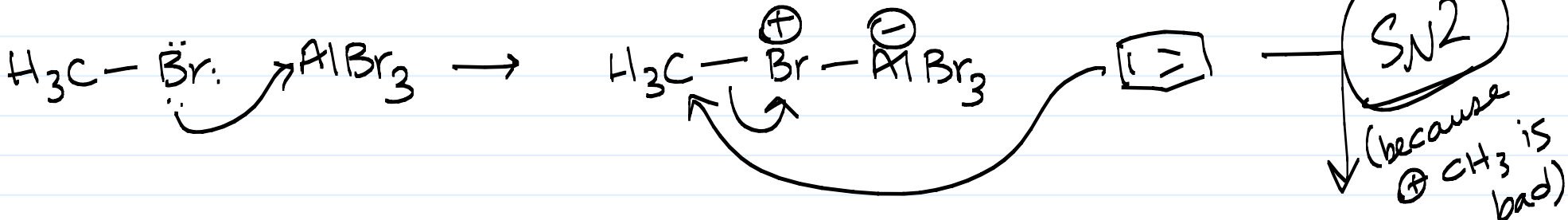
Alkyl Groups that work well:

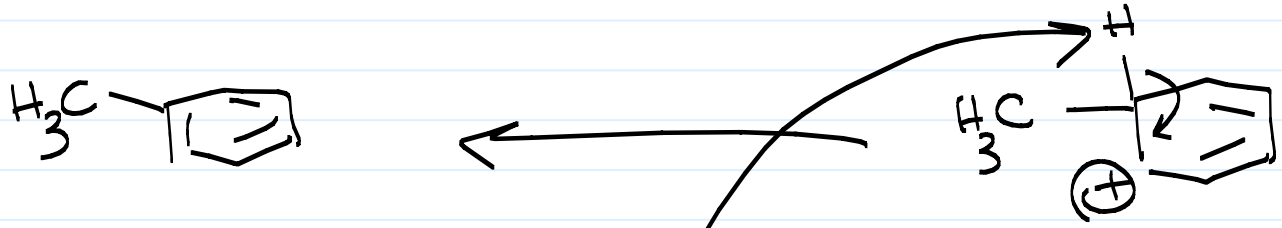
R = 



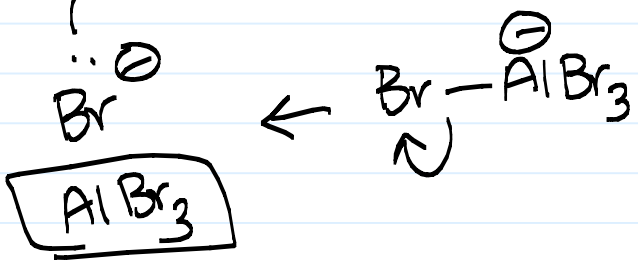


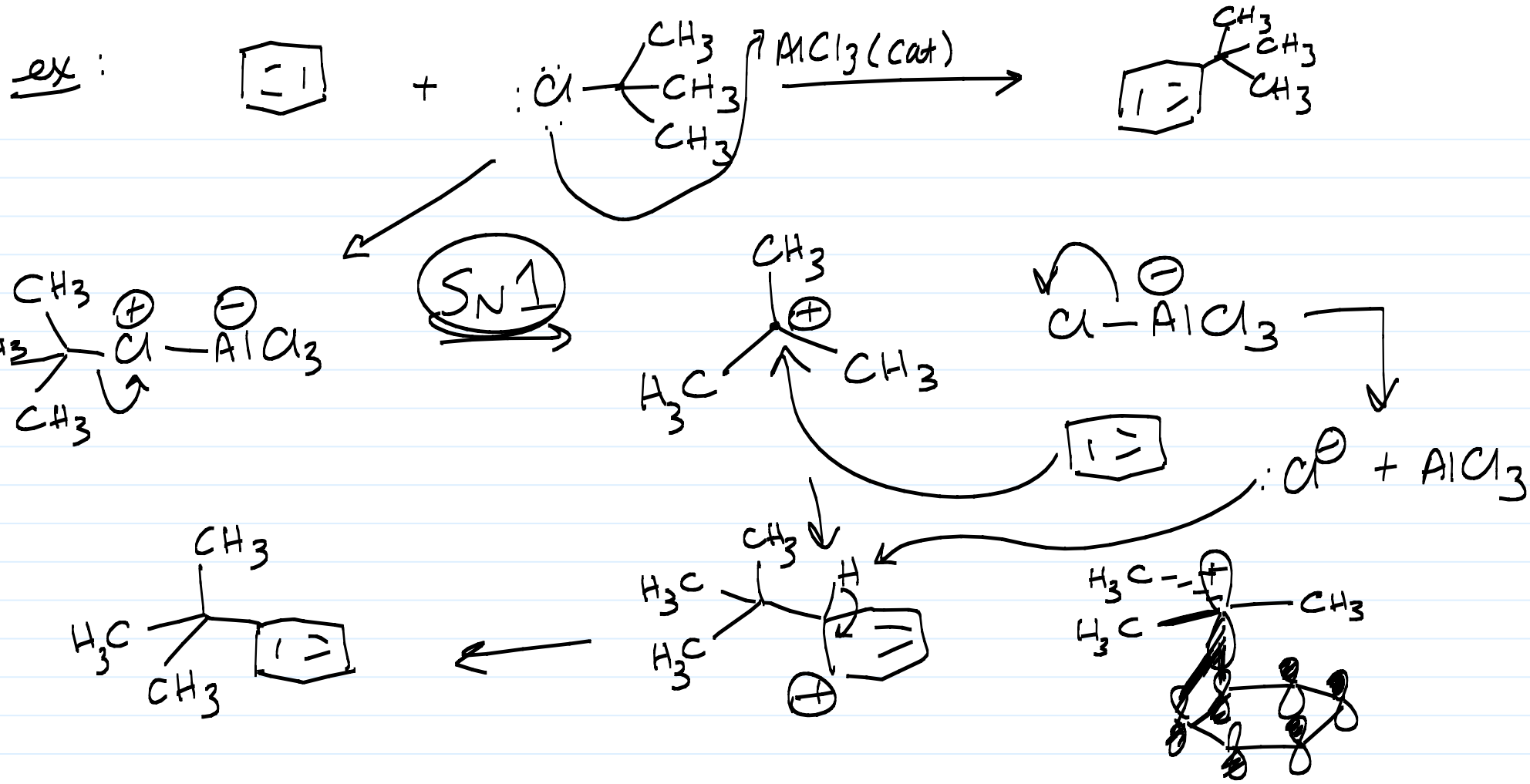
ex:





(Mech depends on what R is.)




ex :
AlCl3 (cat)
SN1
Cl – AlCl3
: Cl⊖ + AlCl3

ex: