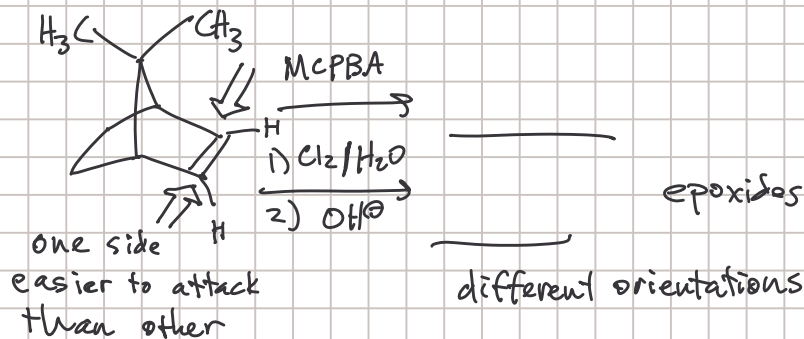
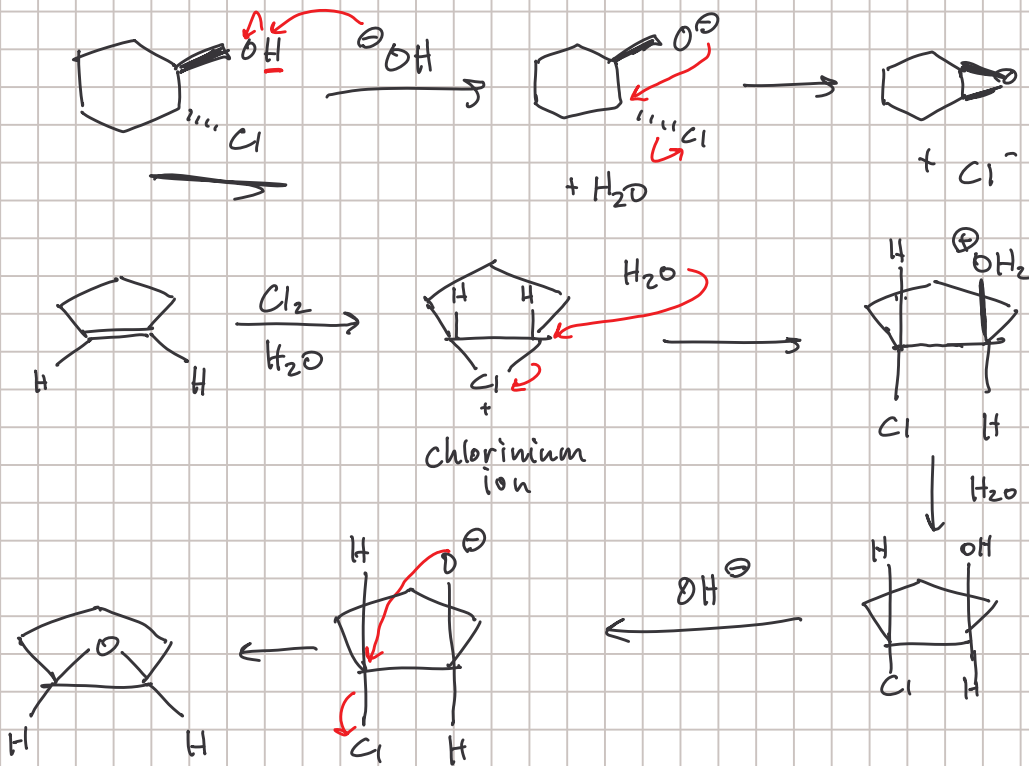


Formal lab report due tomorrow

Quiz Friday

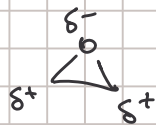
Base-promoted halohydrin cyclization



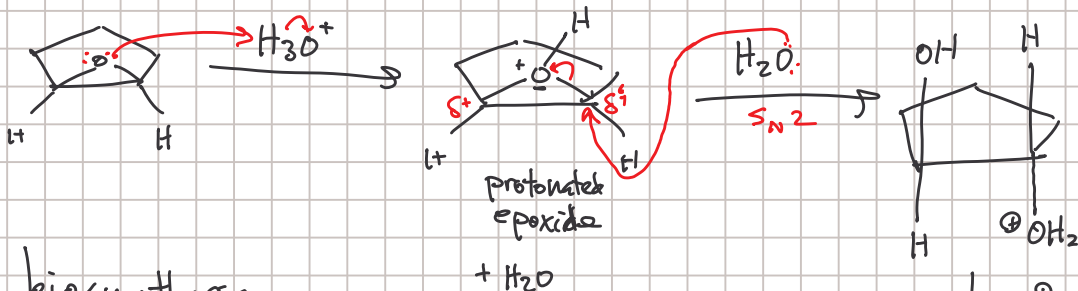
# Opening of epoxides

epoxides are electrophilic

driving force to open = release of ring strain



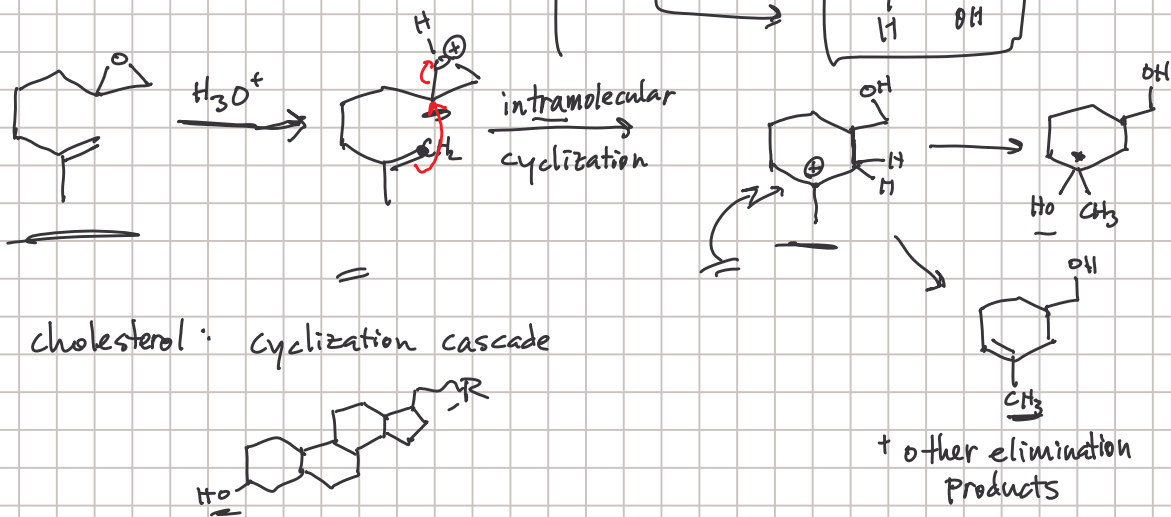
## Acid-catalyzed or Base catalyzed



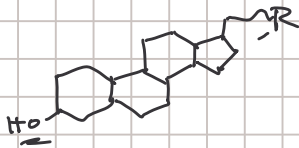
## biosynthesis

steroid biosynthesis:

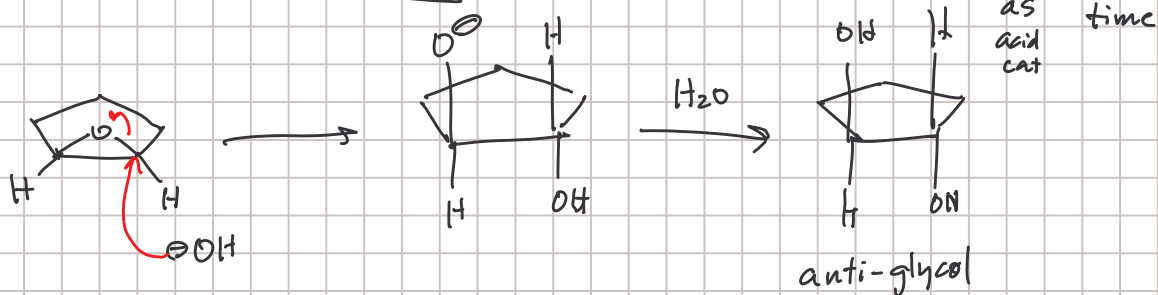
acid-cat epoxide-opening cyclizations

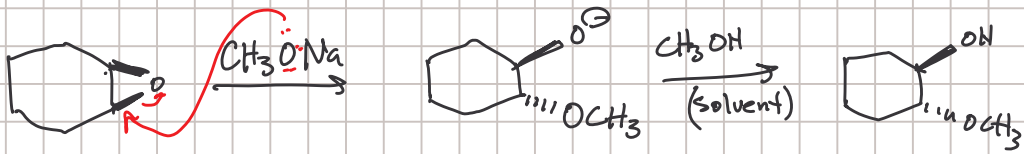


cholesterol: cyclization cascade

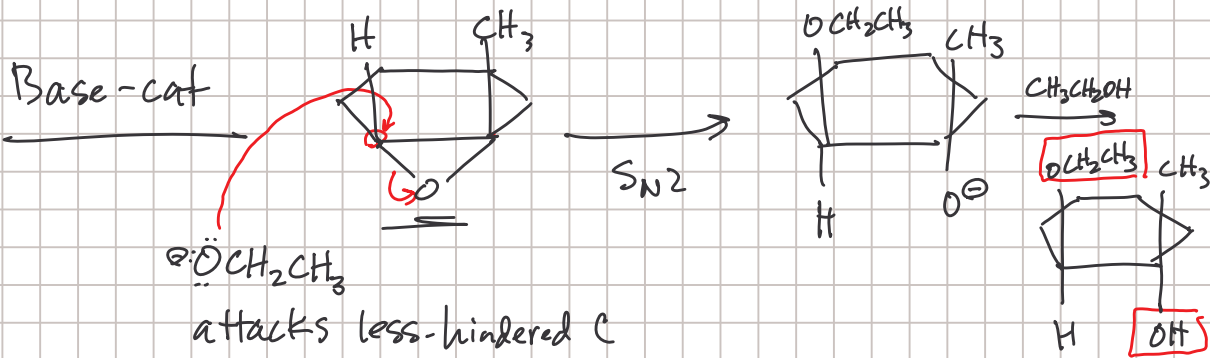
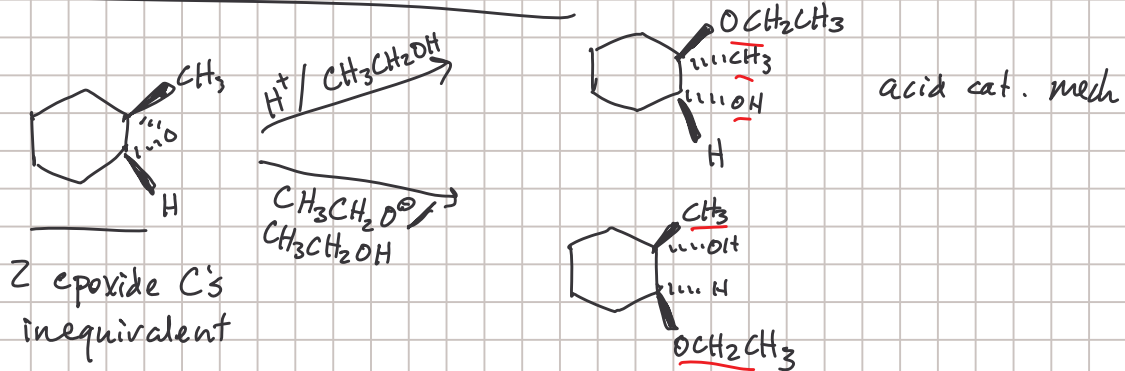


## Base-catalyzed opening

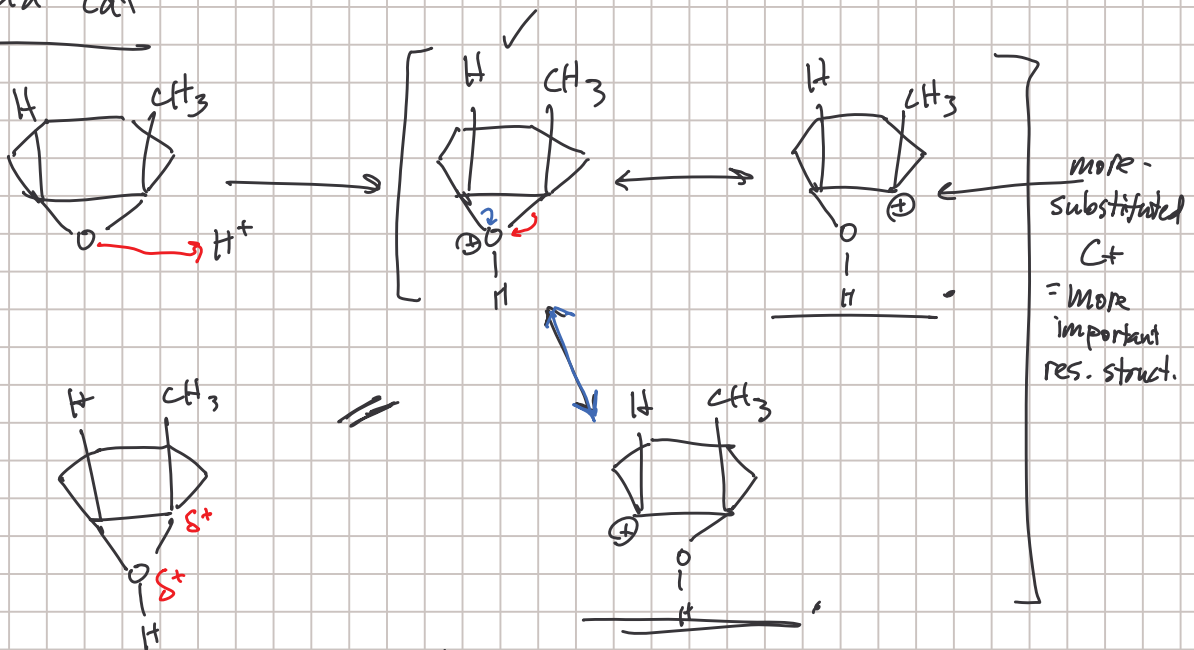




## Orientation of ring opening



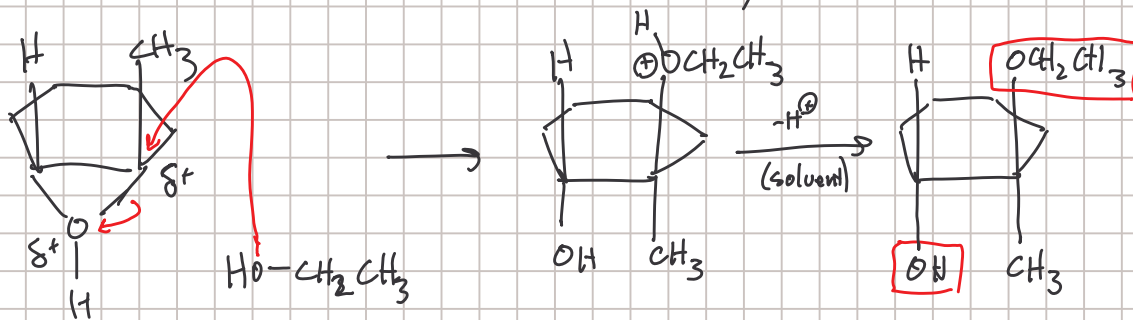
## Acid-cat



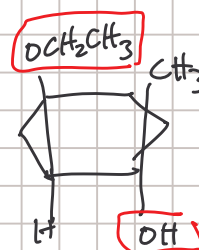
more-sub C<sup>+</sup> is more electrophilic

Very weak nucleophile =  $\text{CH}_3\text{CH}_2\text{OH}$

Much more sensitive to electrophilicity



base cat  $\text{pH} =$



acidic: nuc attacks more substituted C  
(more  $\delta^+$ )

basic: nuc attacks less hindered C