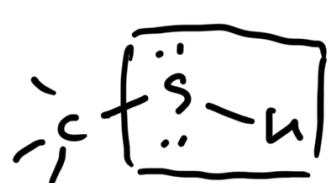


Thiols and sulfides: thiols

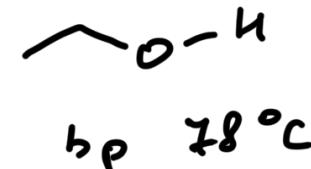
Nomenclature and synthesis



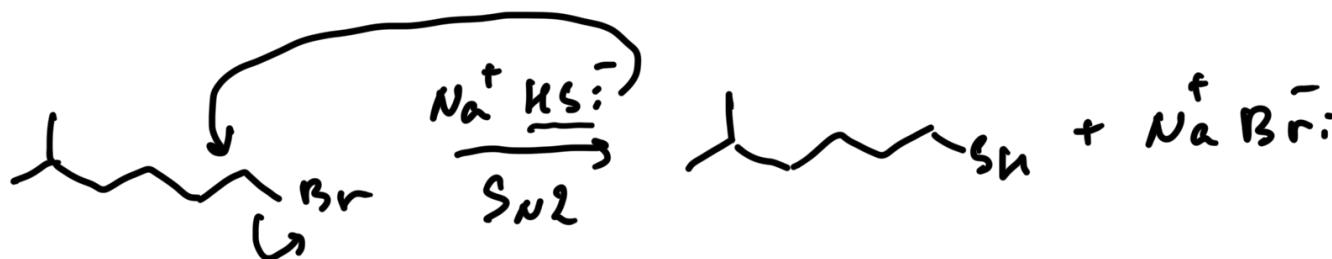
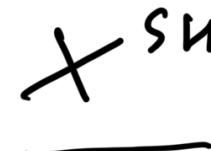
mercapto
group



ethane thiol



bp 35°C



Thiols and sulfides: sulfides

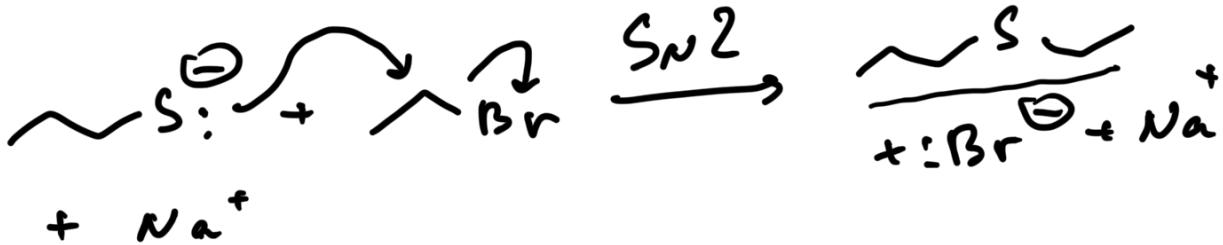
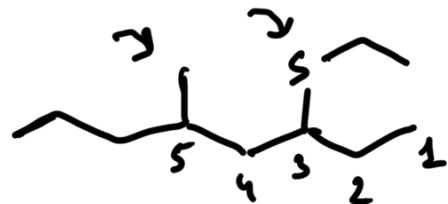
Nomenclature and synthesis



diethyl sulfide

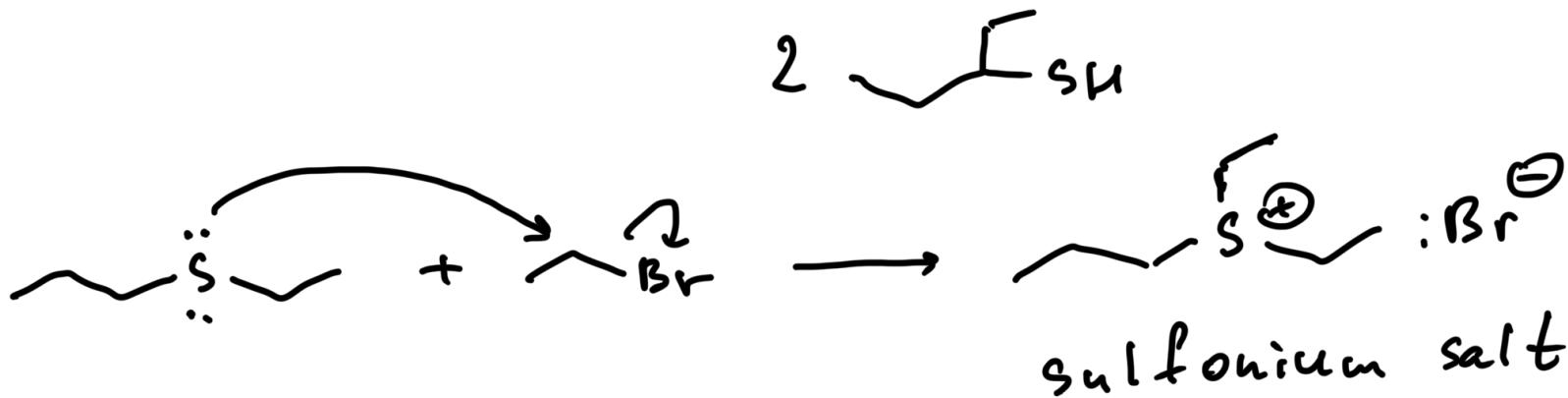
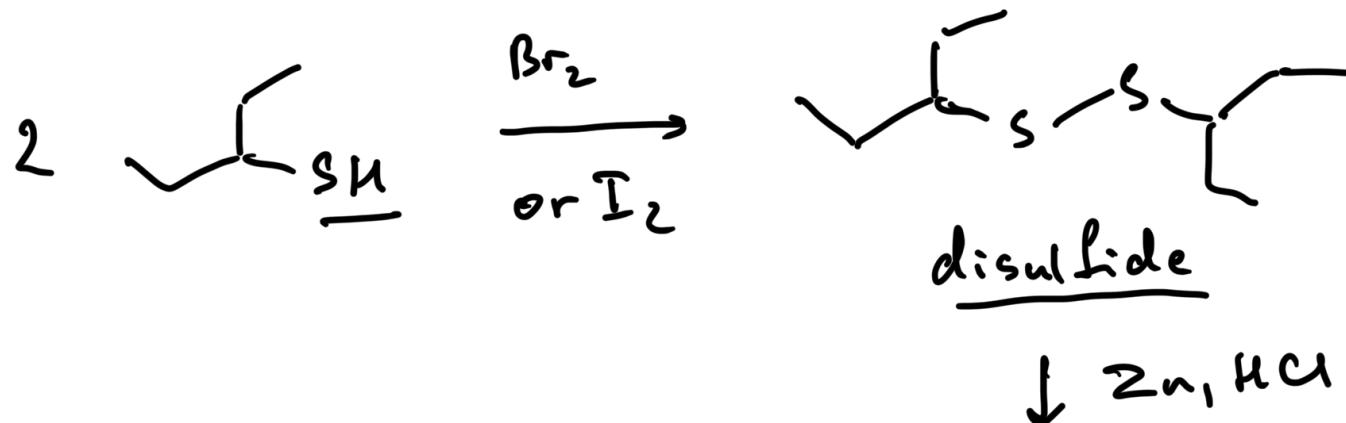


sec-butyl ethyl sulfide



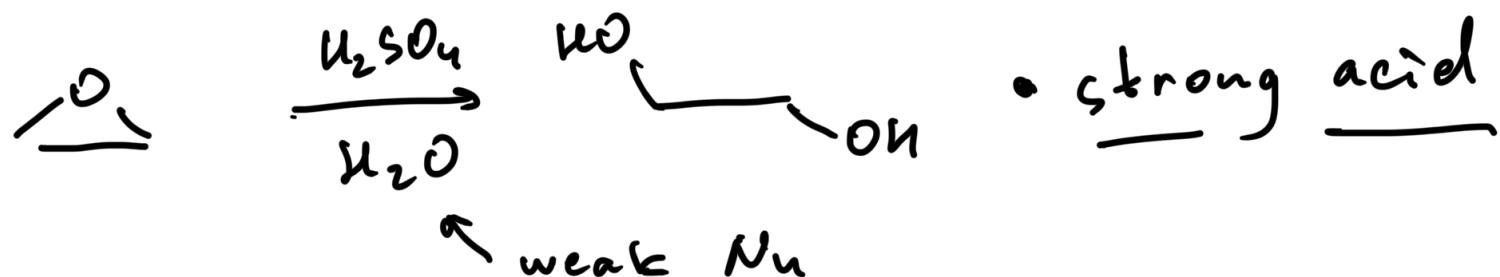
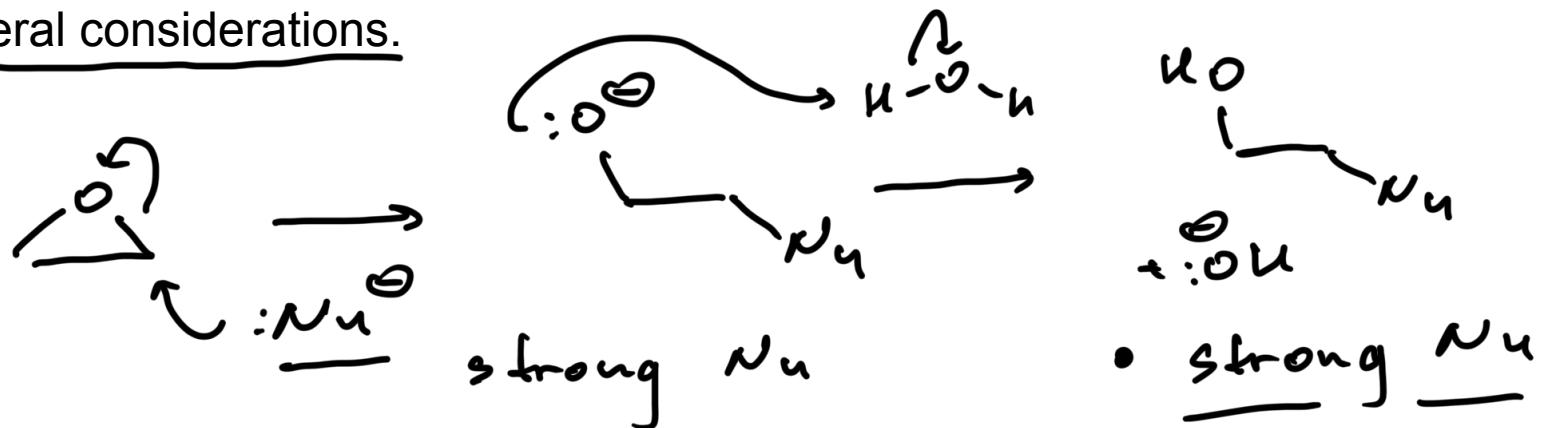
Thiols and sulfides

Reactions



Reactions of epoxides

General considerations.

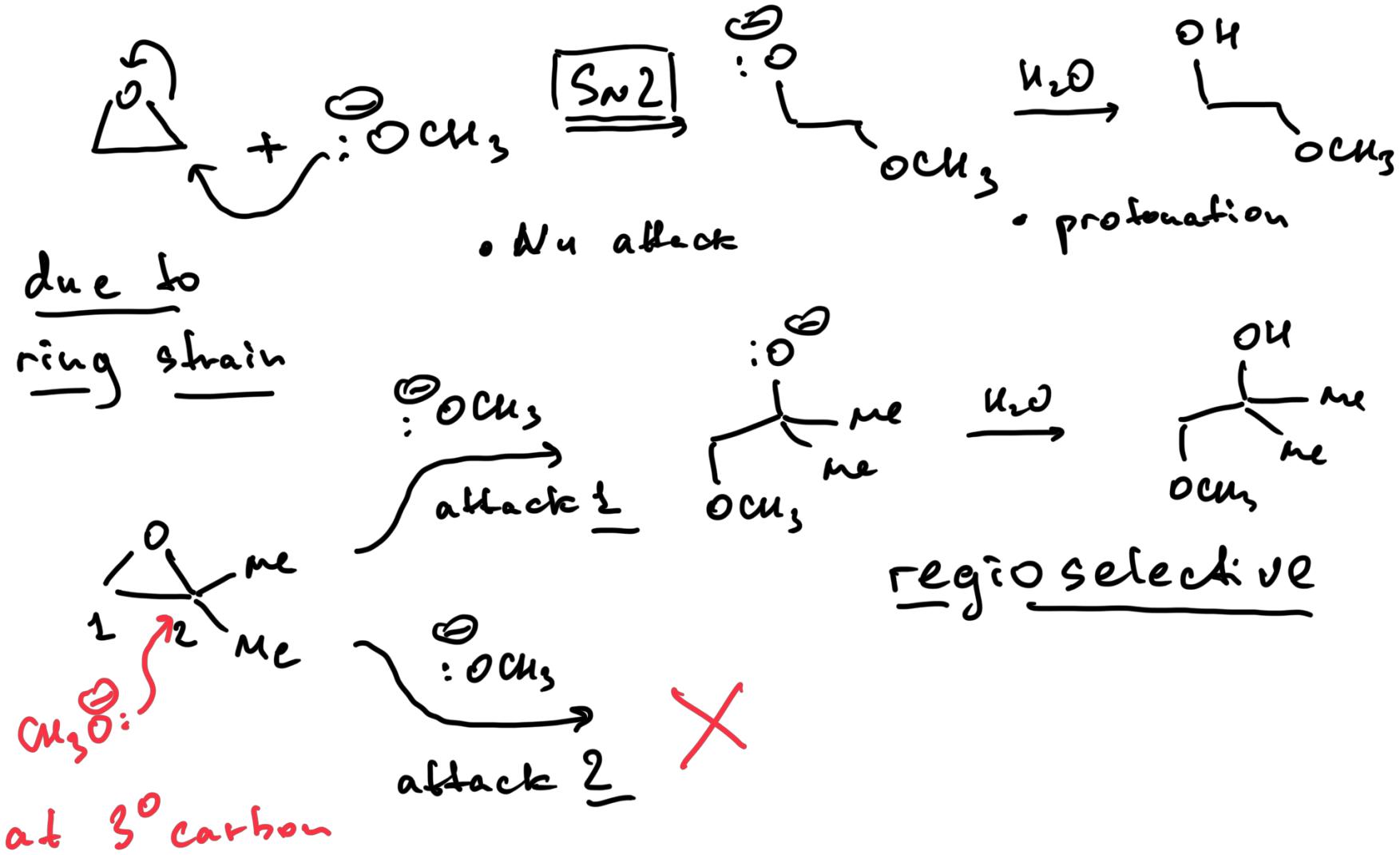


- strong Nu

- strong acid

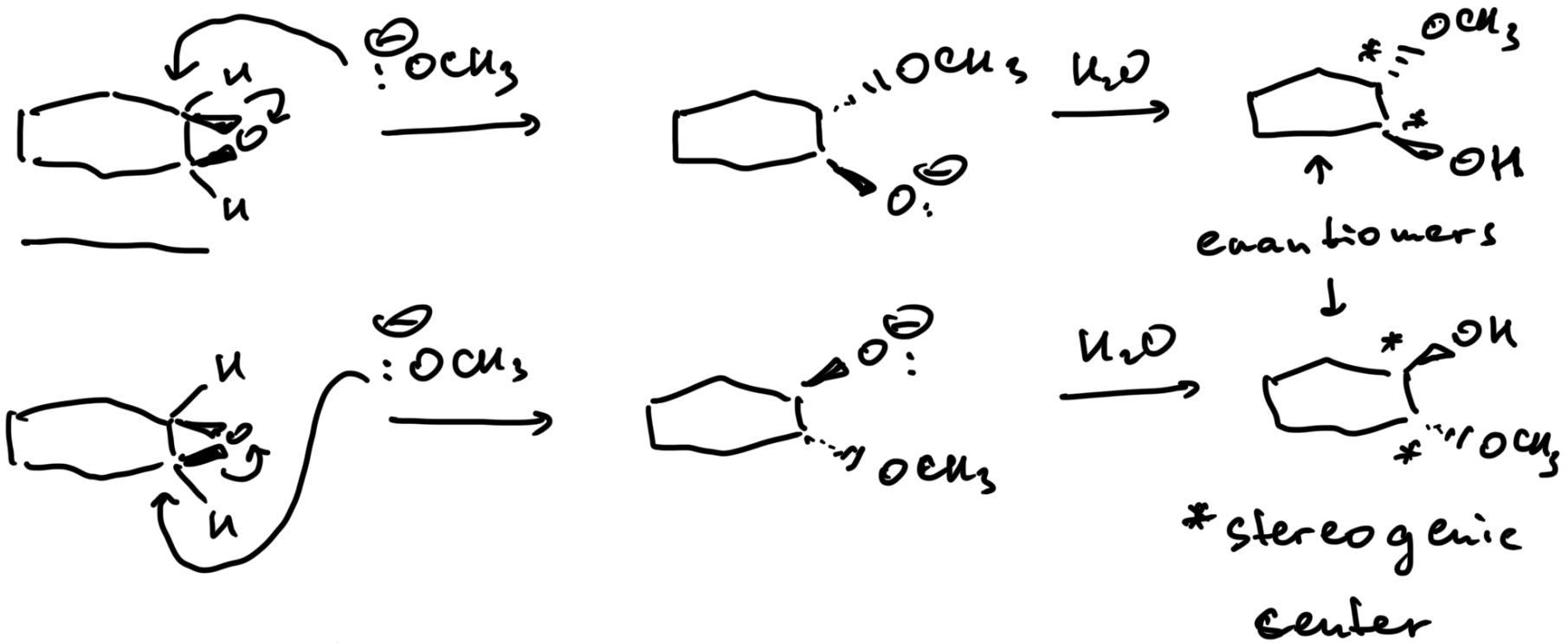
Reactions of epoxides

Reactions with strong nucleophiles. Direction of nucleophilic attack.



Reactions of epoxides

Reactions with strong nucleophiles. Direction of nucleophilic attack.



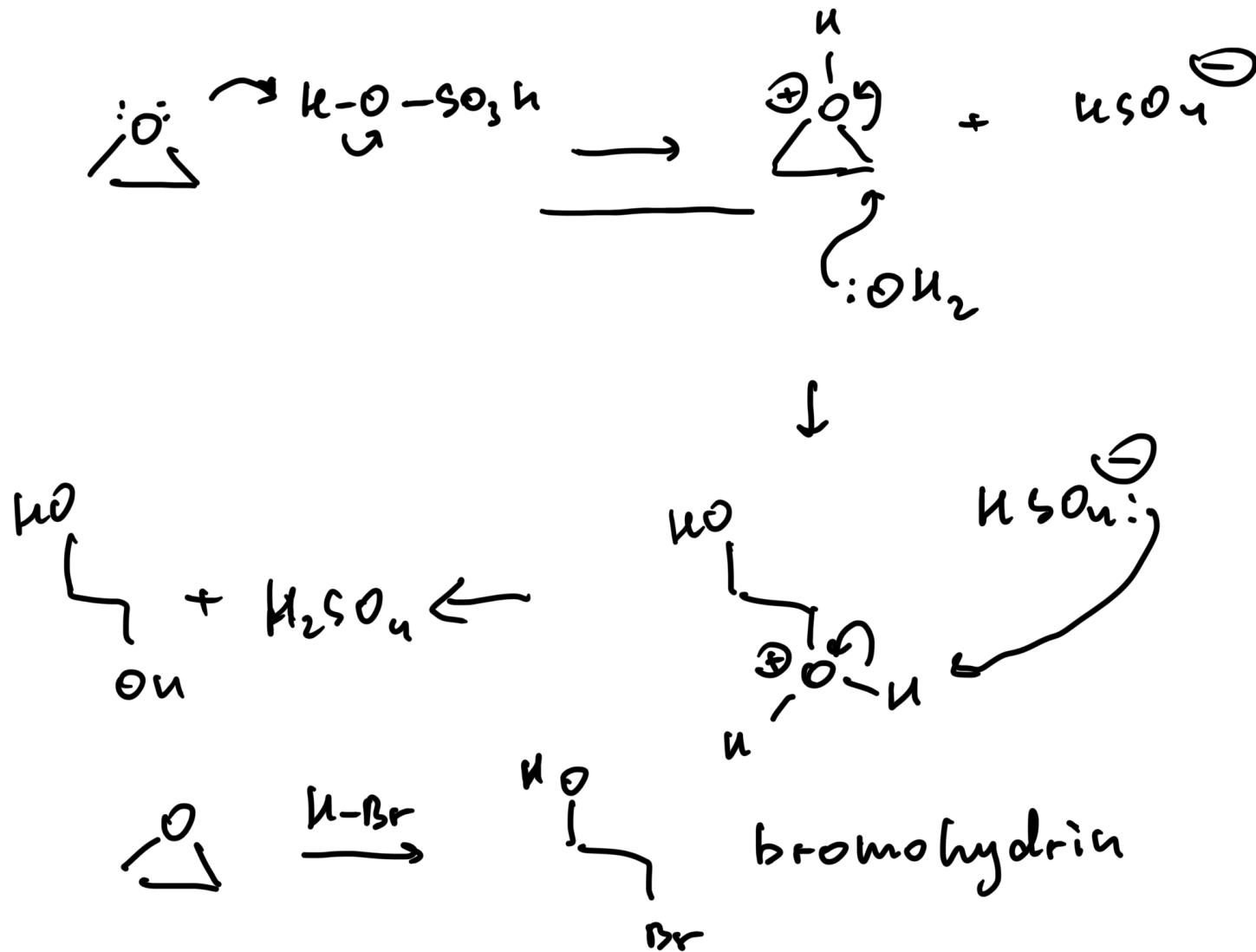
- achiral reactant \rightarrow racemic product, if stereo-centers are generated
- no optical activity in reactants and products

Reactions of epoxides

Reactions with strong nucleophiles. Direction of nucleophilic attack.

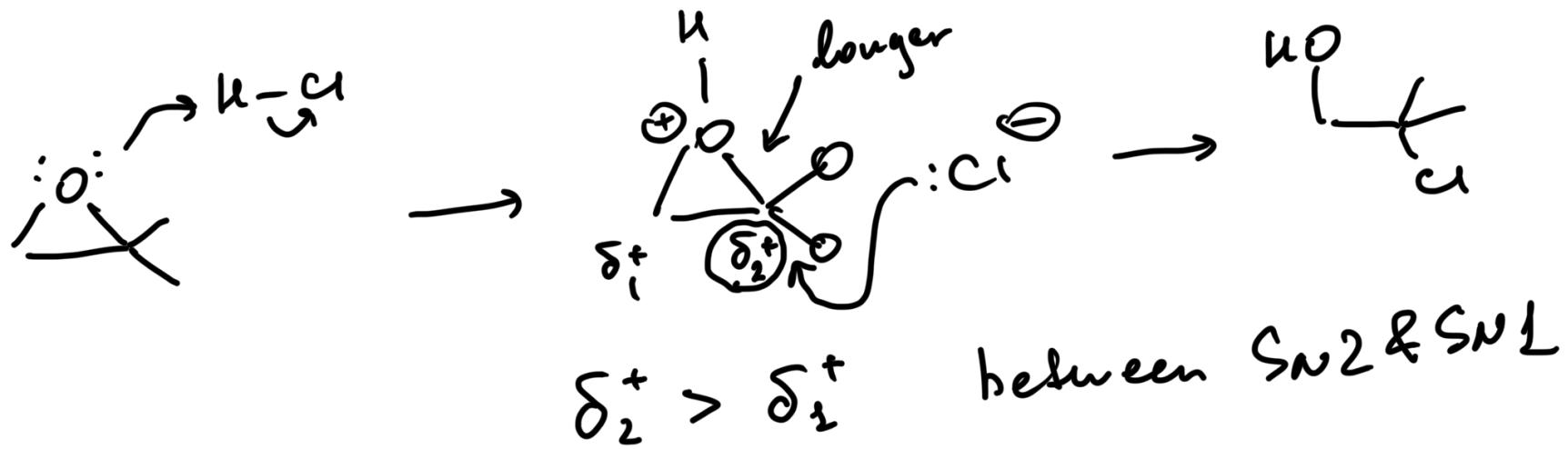
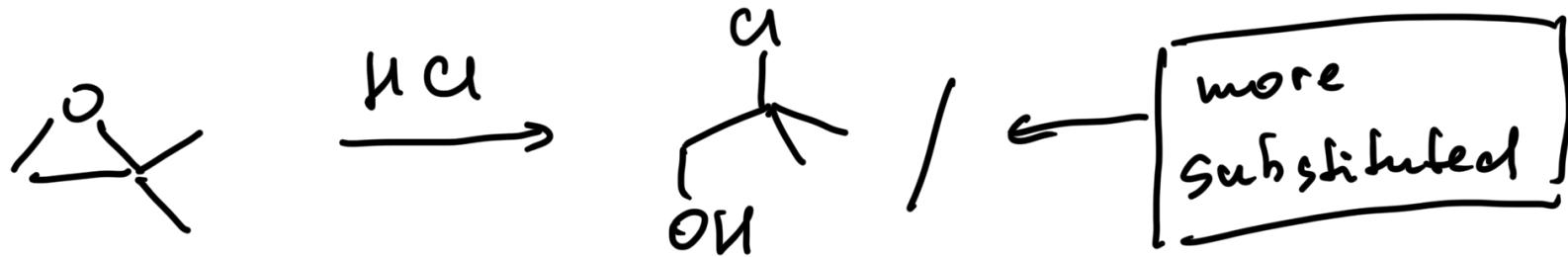
Reactions of epoxides

Reactions with acids. Mechanism.



Reactions of epoxides

Reactions with acids. Direction of nucleophilic attack.



Reactions of epoxides

Reactions with acids. Direction of nucleophilic attack.

Reactions of epoxides

Complementarity of reactions with strong nucleophiles and acids

Alkenes (again...)

The carbon-carbon double bond. (More) Types of alkenes

Alkenes

Degrees of unsaturation.

Alkenes

Calculating degrees of unsaturation.