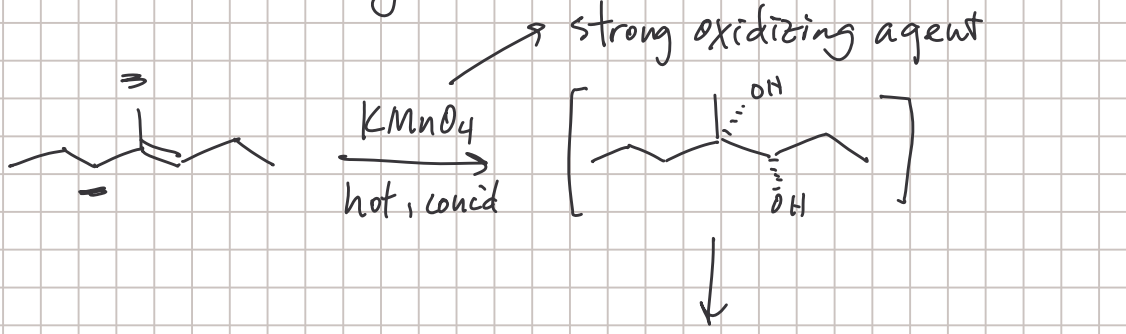
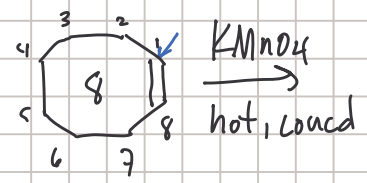
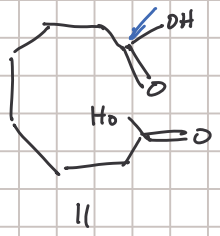
# Ch 8

Note Title 11/29/2005

## Oxidative cleavage

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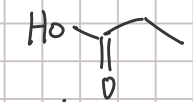
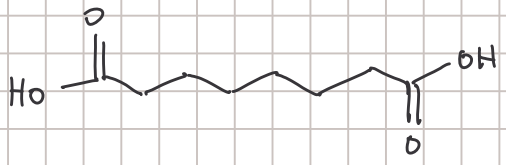
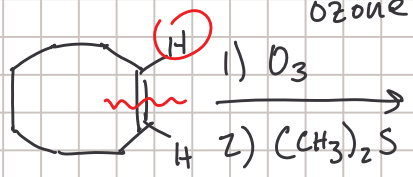



Carboxylic acid

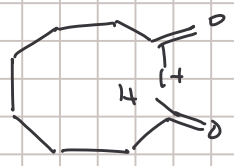



di-carboxylic acid

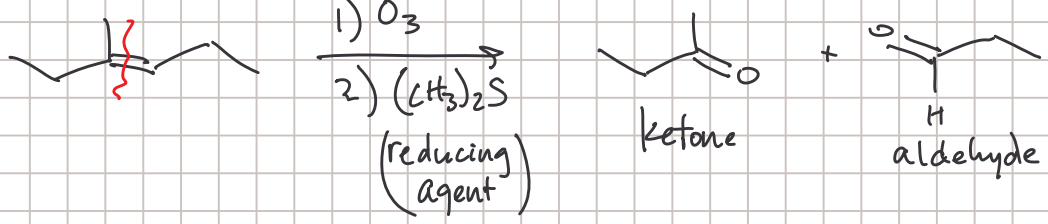
## Ozonolysis




dimethyl sulfide

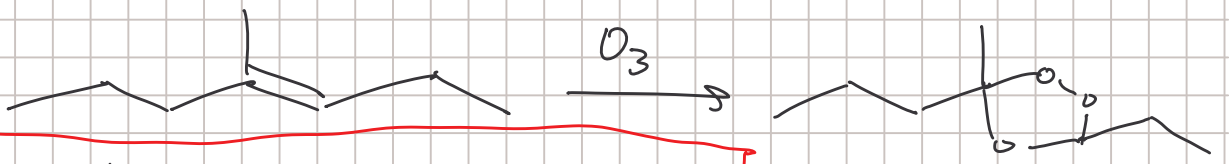


Stops at aldehyde




aldehyde

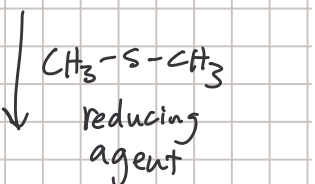
carboxylic acid



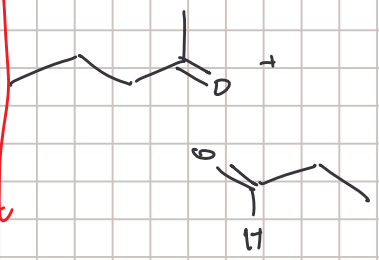

molozonide intermediate

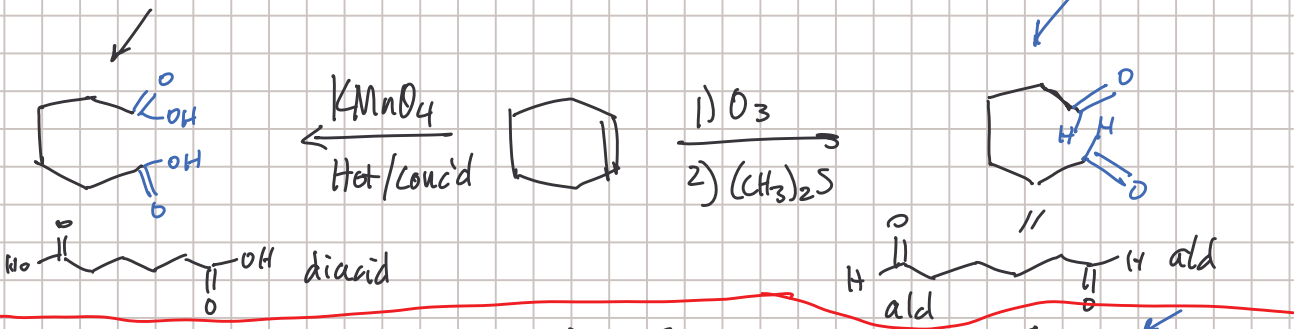
**reaction** | **products**

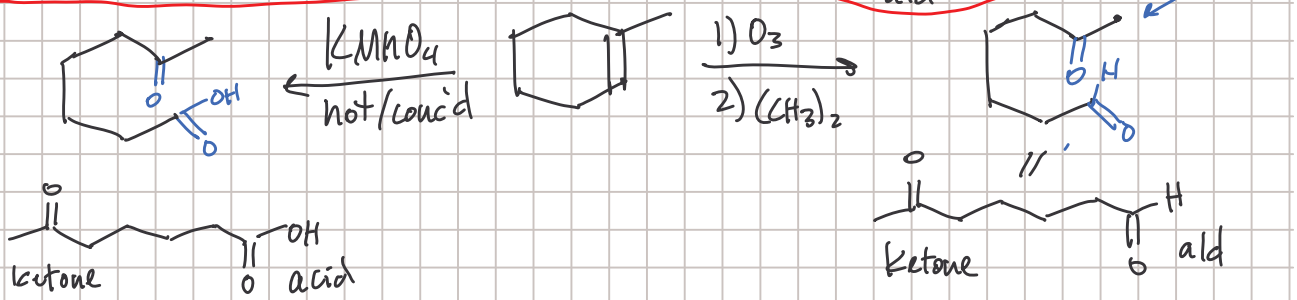
- Oxidative cleavage ($KMnO_4$, hot/concd) — ketones + carboxylic acids




- Ozonolysis (1) $O_3$, 2) $(CH_3)_2S$) — ketones + aldehydes

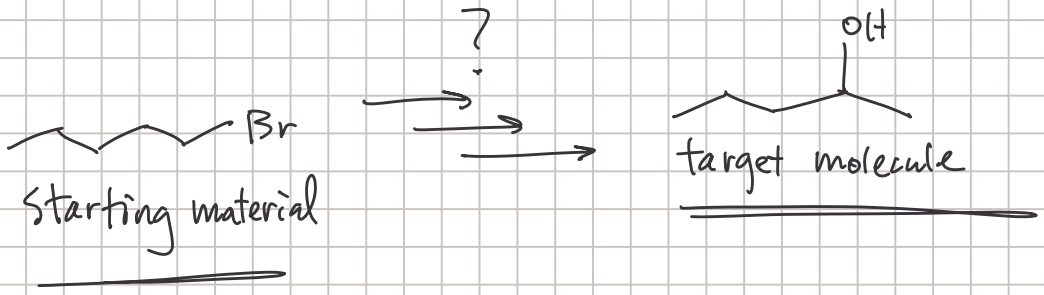




# Synthesis problems

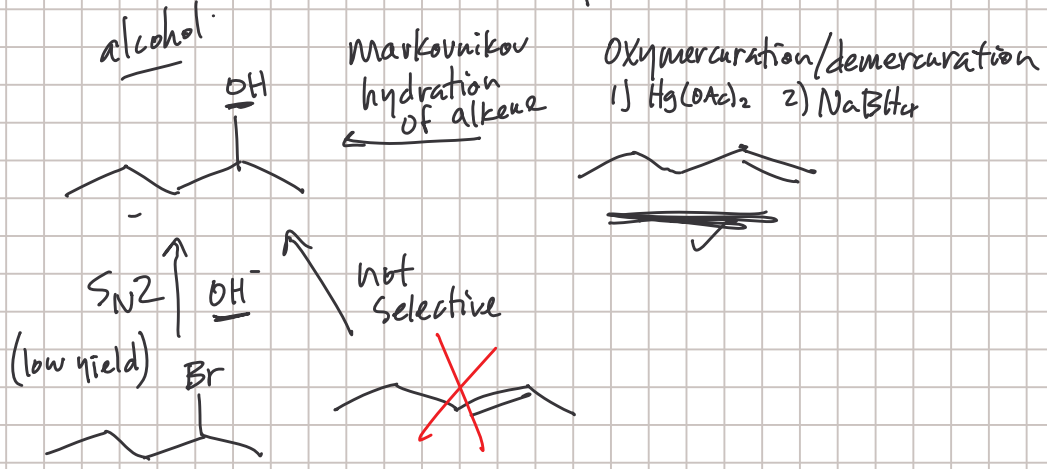
usu. involve multiple successive reactions

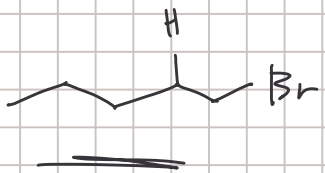


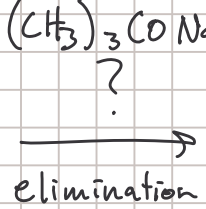

starting material

target molecule

**Work backwards** start by determining which reaction(s) can create the target molecule



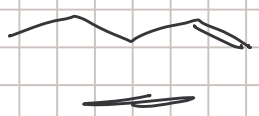



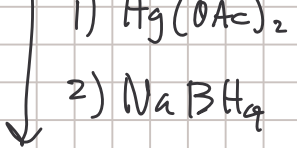



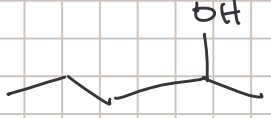

elimination

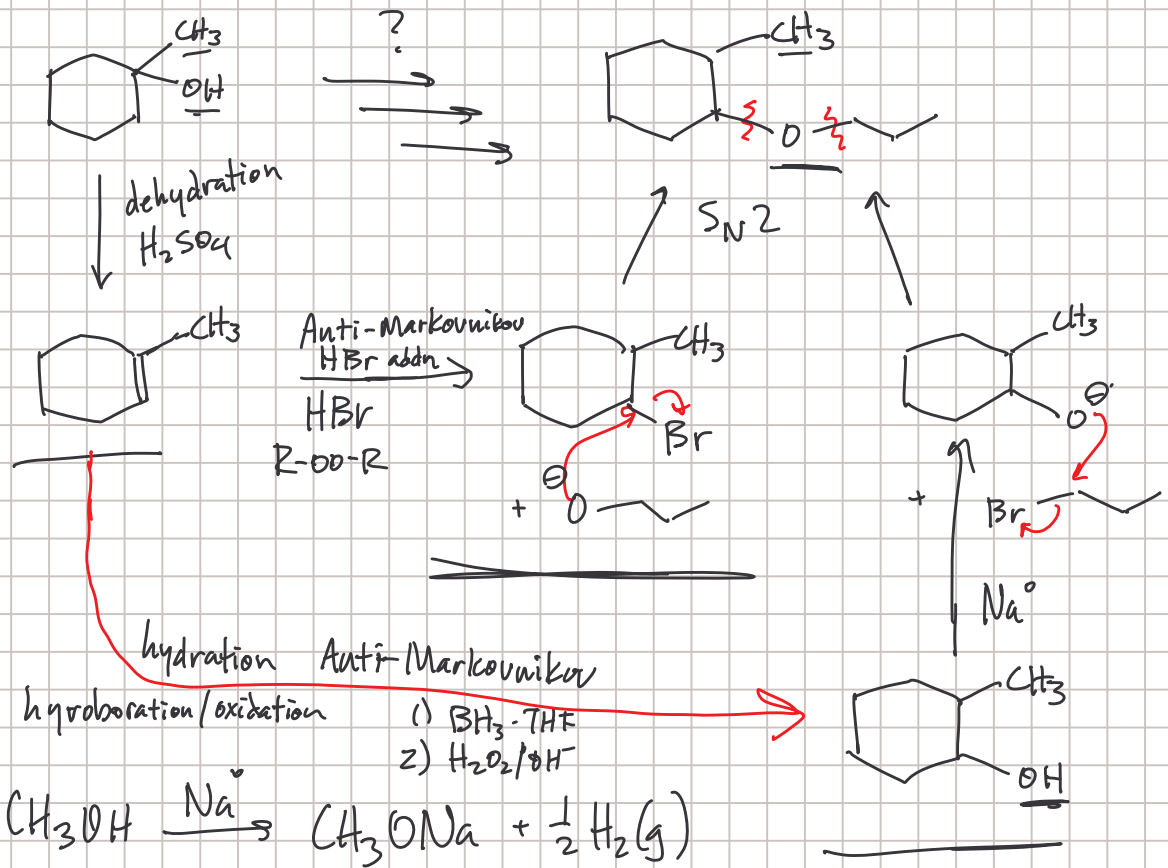
E2

bulky base








$$CH_3OH \xrightarrow{Na^\circ} CH_3ONa + \frac{1}{2}H_2(g)$$