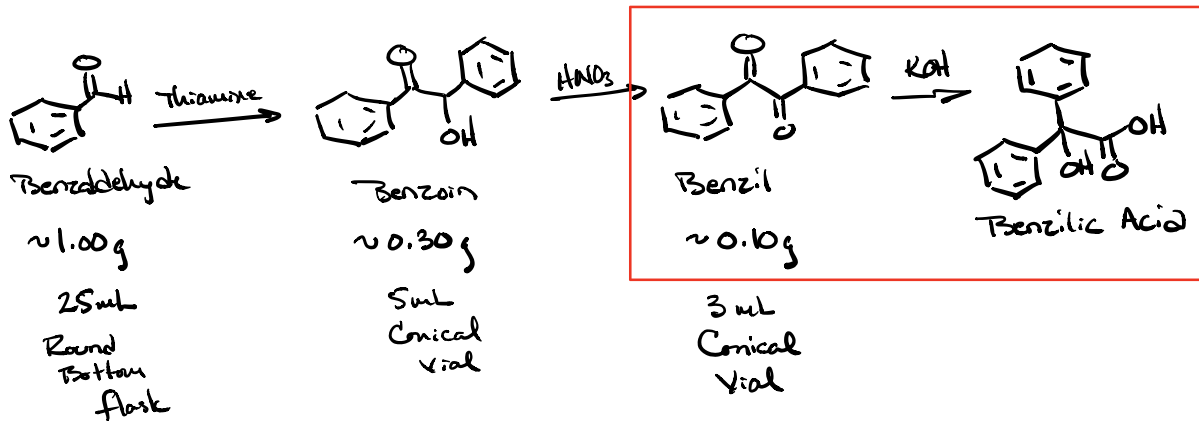
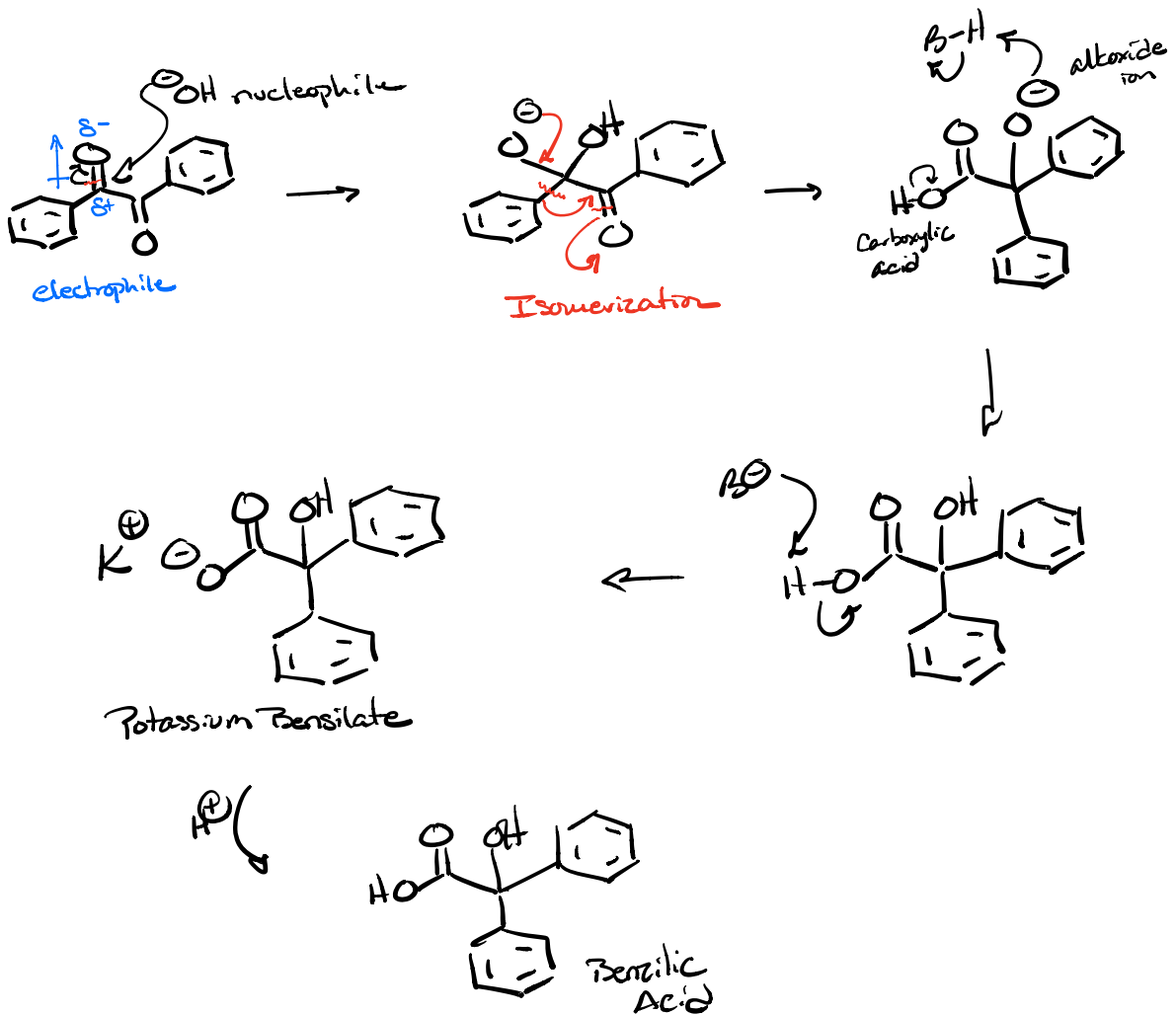
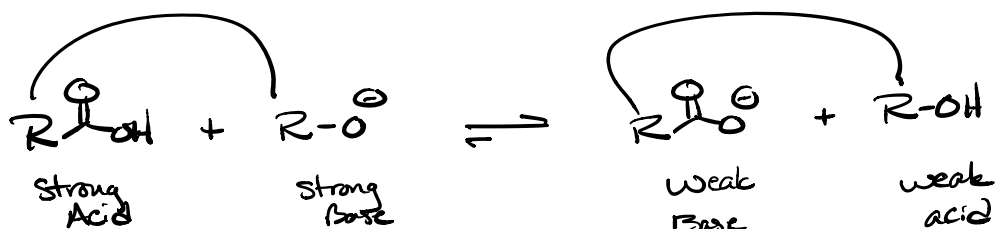
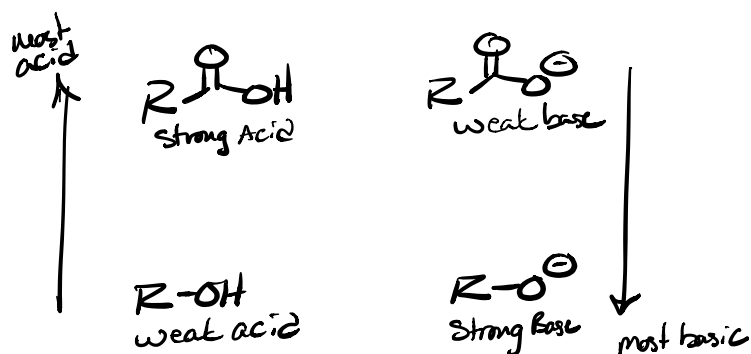
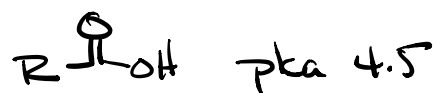
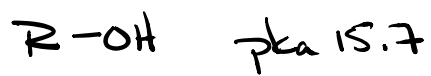


# Multistep 3<sup>rd</sup> Rxn



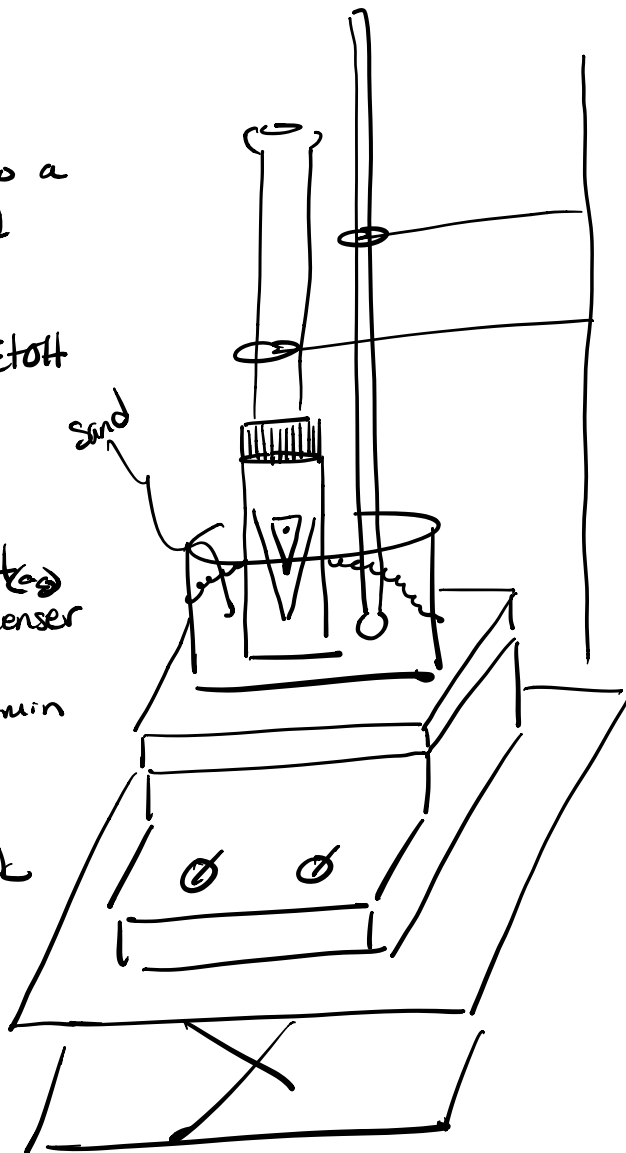
Base Catalyzed oxidation & isomerization





## Rxn

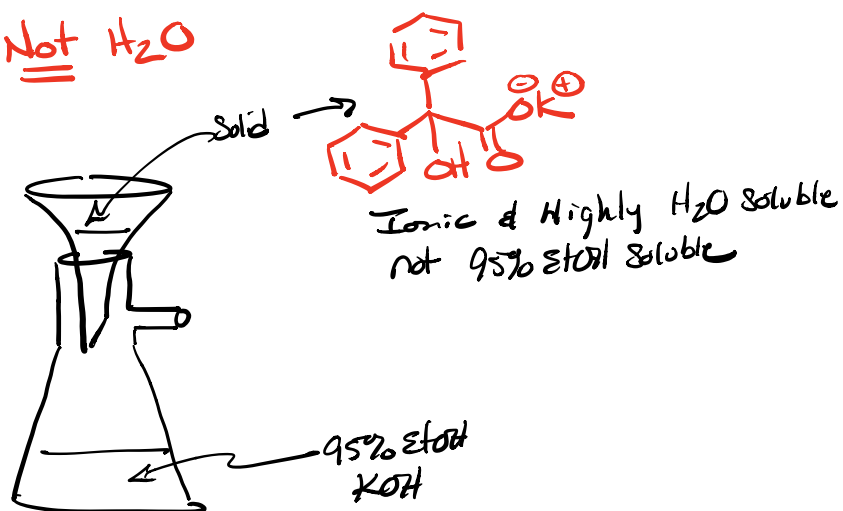
- Add  $\sim 0.10$  g benzil into a 3 mL Conical vial. Add Spin van & Condenser
- Add  $\sim 0.30$  mL 95% EtOH & Heat  $\sim 100^\circ\text{C}$  until dissolved
- Add 0.25 mL 8 M KOH dropwise through the condenser
- Boil w/ stirring for 15 min  $\sim 115^\circ\text{C}$
- Turn deep Blue/Black
- Stop & Cool to RT



## Workup

- Transfer Contents of Rxn to 10-ml Beaker
- Ice bath for 15 min → Induce crystallization w/ scratching Rod if need.
- Filter on hirsch funnel & Rinse w/ 3 x 1ml of 95% EtOH 0°C

⇒ Not H<sub>2</sub>O

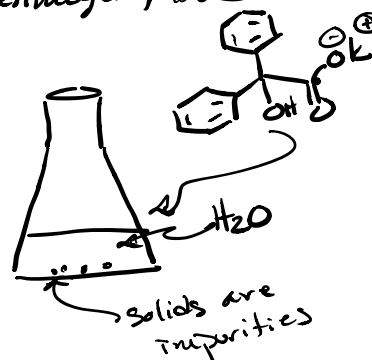


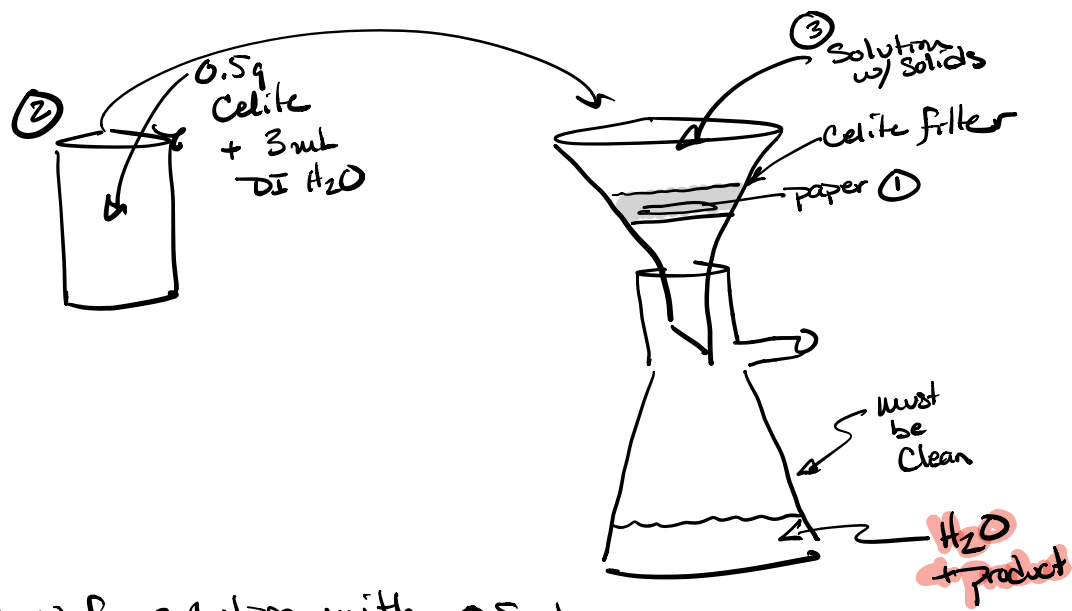
- Transfer Solid to Small 10ml Erlenmeyer flask with 3ml hot DI H<sub>2</sub>O

- Stir to dissolve the solid

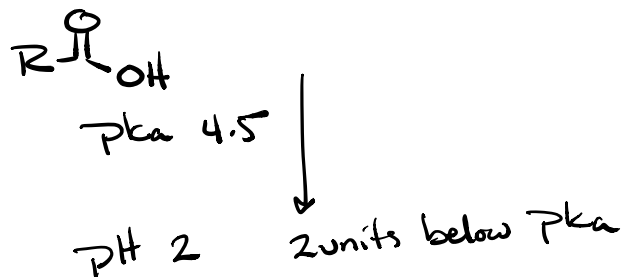
⇒ Check to see if there are solids

⇒ if there are solids filter out on hirsch funnel w/ Celite.



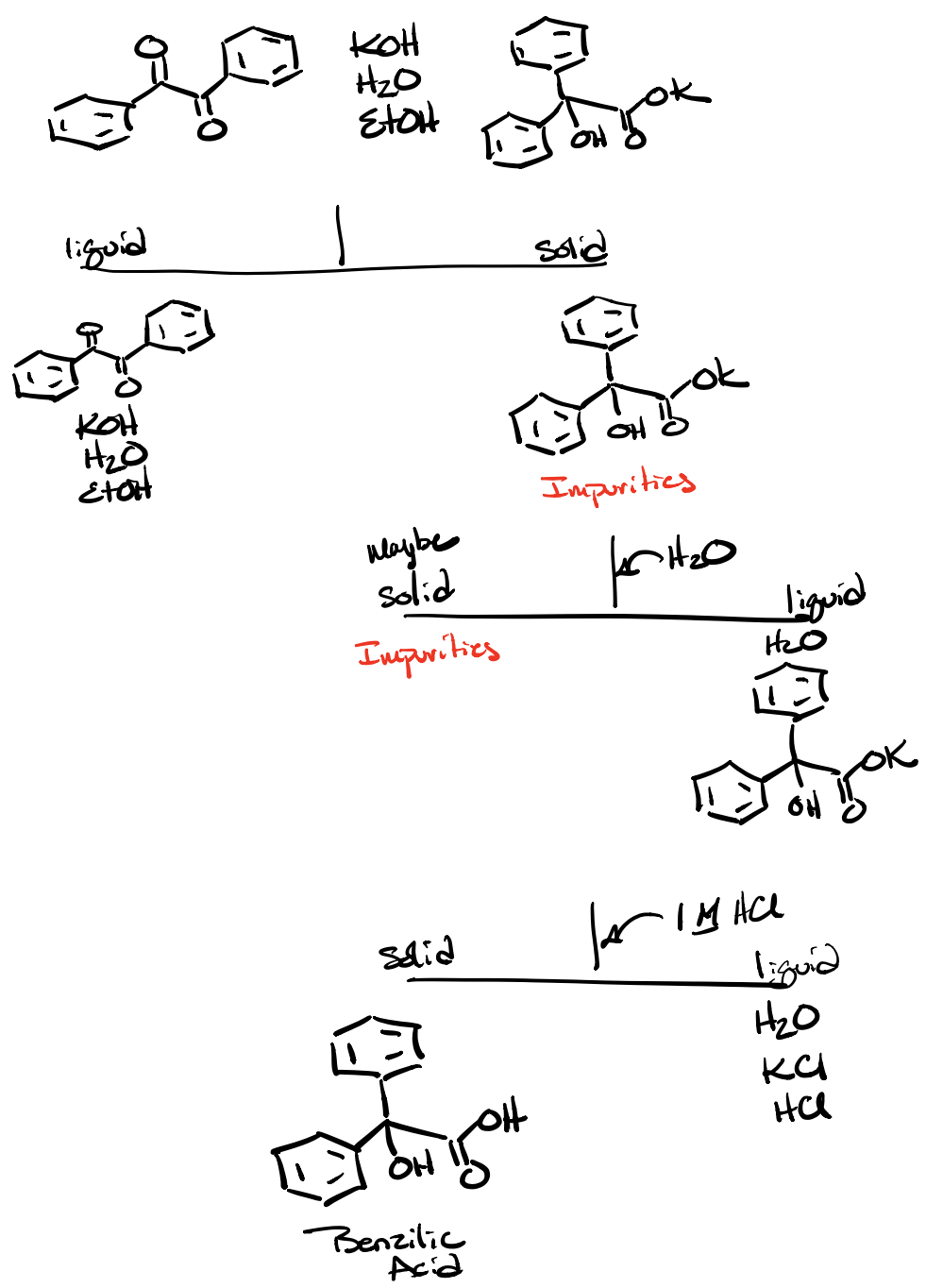


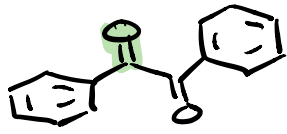
- Acidify solution with 0.5ml 1M HCl. Take down to a pH  $\approx$  2



- Benzoic acid should ppt ↓
- Ice for 5-10 min
- Filter on Hirsch
- mass
- melting point
- IR

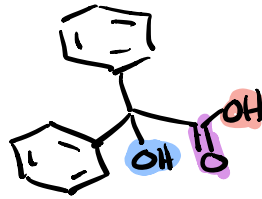
# Separation Scheme





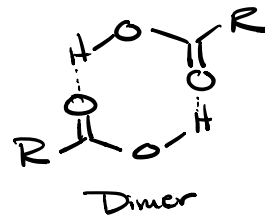
MP

95°C



H-Bonding

150°C



FTIR

