

4. Outline a procedure for separating a mixture of benzoic acid and naphthalene by exploiting their different solubilities.

- I dissolved benzoic acid and naphthalene in diethyl ether and put it in the separator funnel
- shake the funnel
- Put NaOH in sep. funnel
- Top layer: diethyl ether, naphthalene
Bottom layer: water, benzoic acid
- Take the bottom layer out the sep. funnel
- Add more NaOH to funnel and shake (TA said x3)
- Separate the two layers (keep both, don't throw away)
- Combine the two benzoic acid solutions and put back in sep. funnel
- Add HCl and diethyl ether and shake the sep. funnel. Make sure stopper is on and valve is shut (☺)
- Top layer: diethyl ether, benzoic acid.
Bottom layer: water
- separate two layers. → first one
- Evaporate diethyl ether of top layer to get naphthalene
- Evaporate the second fraction of diethyl ether to get benzoic acid.