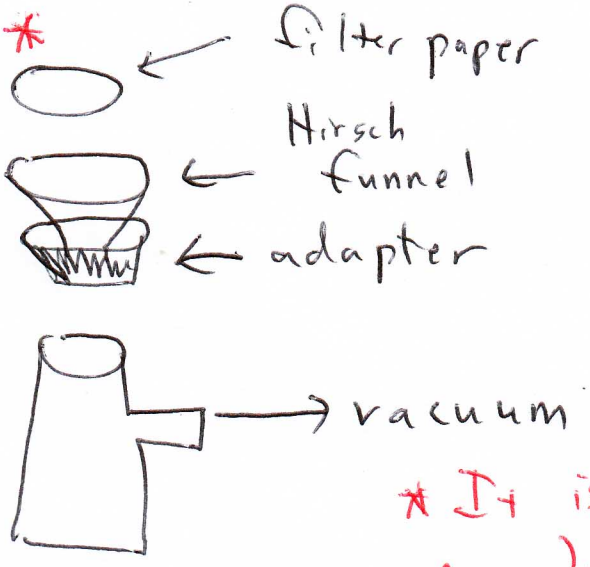
Part A Aqueous ($NaOH$) layer - acidify until a precipitate forms and the soln becomes acidic



B.A. has low - but non-zero - solubility in cold water, small quantities of ice-cold water can be used to transfer or wash benzoic acid.

* It is advisable to tare (measure mass) the filter paper before using so that an accurate mass of the product can be obtained.

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drying agent - usually dehydrated hydrates, such as $MgSO_4$, Na_2SO_4, $CaSO_4$, or $ZnSO_4$. Used to water (not just any liquid) from an organic soln

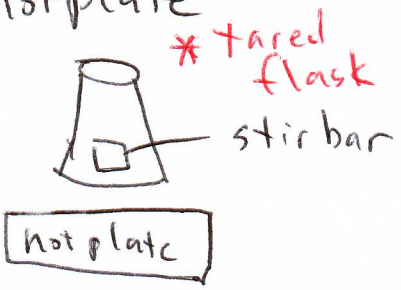
- usually, a powdered drying agent will clump together in an organic soln when exposed to water. If, after swirling the soln for a few minutes, clumps have formed and there is still powdered drying agent remaining, it means there had been enough drying agent to remove water. If only clumps are visible, more drying agent should be added to ensure complete dryness.

Ether - B.P. 34.5°C

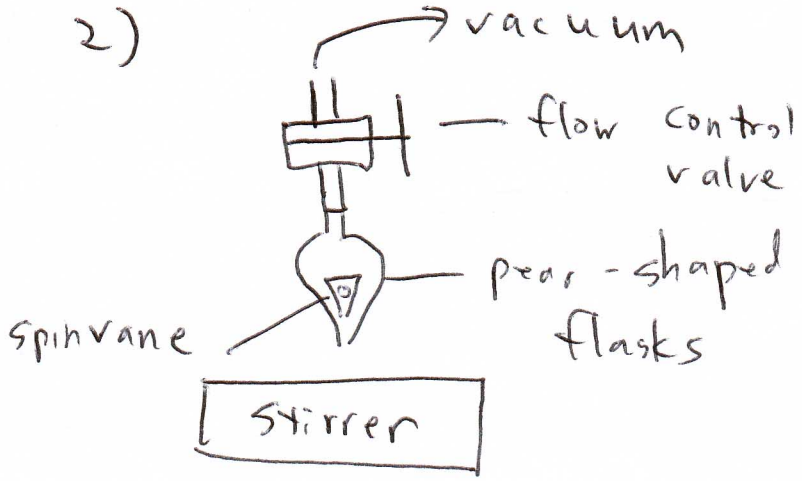
autoignition: 160°C

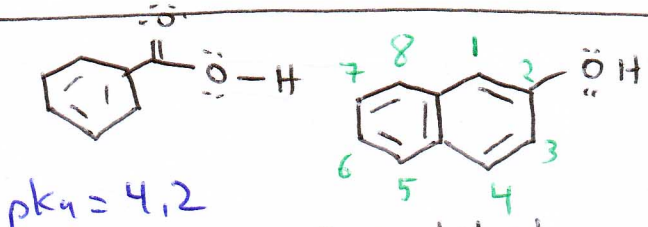
Evaporating ether

1) hotplate



2)

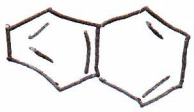




pka = 4.2

2-naphthol

pka = 9.51

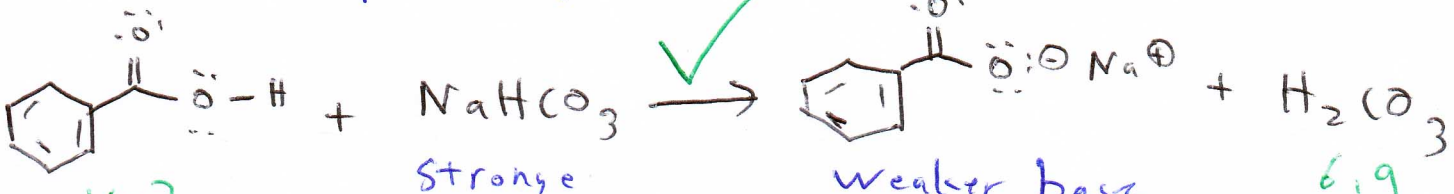


H_2O

pka = 15.7

H_2CO_3

pka = 6.9

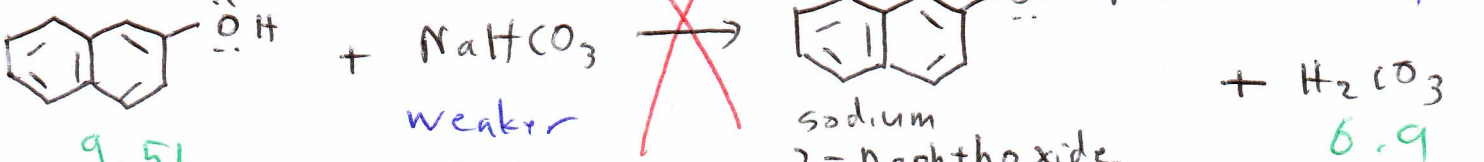


4.2 stronger acid

strong base

weaker base

6.9 weaker acid



9.51 weaker acid

weaker base

sodium 2-naphthoxide

stronger base

6.9 stronger acid

naphthalene
2-naphthol
B.A.

naphthalene, 2-naphthol in ether

sodium benzoate + water

NaHCO3

NaOH