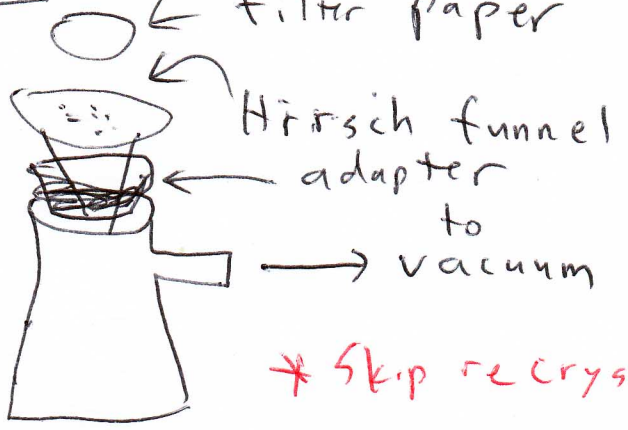
10/3/11

aqueous (NaOH) layer – acidify until precipitate forms

Part A



Benzoic acid can be washed w/ small quantities of ice cold water, B.A. has lower solubility in cold water, but not zero solubility,

* Skip recrystallization for now.

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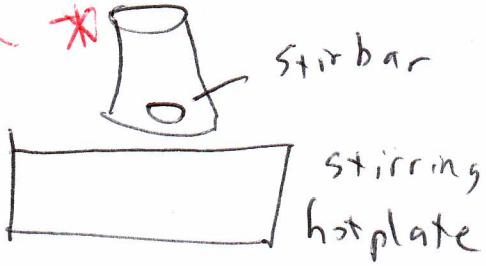
drying agent – usually a dehydrated hydrate, such as $MgSO_4$, $CaSO_4$, $ZnSO_4$, used to remove water (not just any liquid) from an organic solution.

– usually, a dry agent will clump together in organic solution in the presence of water. If, after drying has occurred, there is still powderized drying agent left over (in addition to the clumped material), enough drying agent was added.

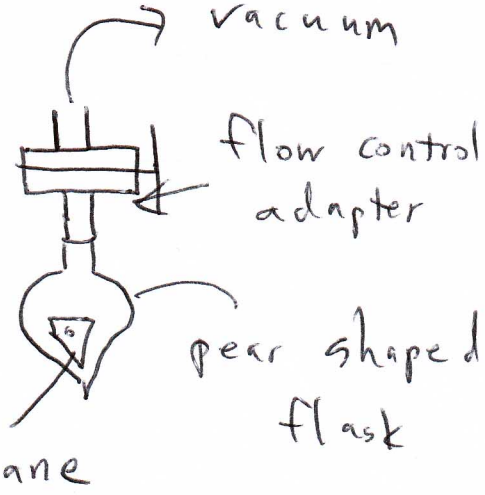
Evaporating ether – B.P. 34.5°C
auto ignition : 160°C

1) recommendation: use tared flask

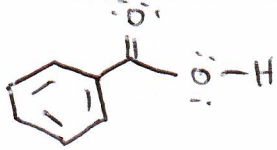


heat gently while stirring

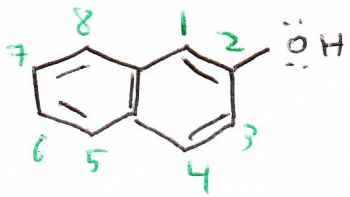
2)



Part B

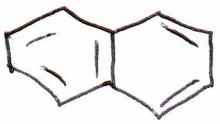


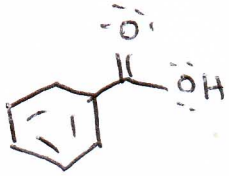
pka = 4.2



2-naphthol

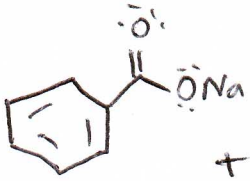
pka = 9.51





4.2
stronger acid

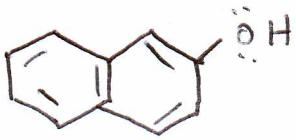
+ $NaHCO_3$
stronger base



weaker base

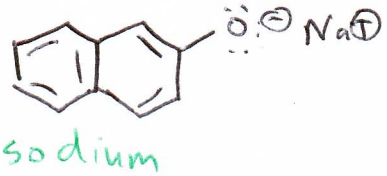
+ H_2CO_3
6.9
weaker acid

H_2CO_3
carbonic acid
pka = 6.9



9.51
weaker acid

+ $NaHCO_3$
weaker base



sodium 2-naphthoxide
stronger base

+ H_2CO_3
6.9
stronger acid

In a mixture of acids with distinct pka values, the acids can be individually isolated by extracting first with a weak base, then using a stronger base for each subsequent extraction.