

- know how to extract acids/bases/ neutrals (solids or liquids)

↳ recrystallization is a lot of product, small impurities

↳ detailed separation schemes

↳ don't forget last step: measure mass + bp/mp?

- start with adding organic solvent

Neutral +

carb. + phenol + amine

organic solvent

only  
reacts  
w/ strong  
acids!

Add  $\text{NaHCO}_3$  (weak base) Add  $\text{NaOH}$  (strong base)  
to two acids → to one acid

phenol + amine + neutral

neutral carb. org

| separate  
layers

phenol + amine + neutral

Add  $\text{NaOH}$

amine + neutral

phenol org

amine aq

✓ → phenol add HCl filter or distill mass/bp/mp

amine + neutral

Add HCl

R org

amine aq

wash w/ water +

Dry w/  $\text{Na}_2\text{SO}_4$  +

evaporate solvent

add NaOH

(w/ + filter)

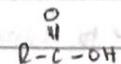
mass /

bp / mp

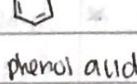
\* add drop of water to test aqueous layer!

COMMON:

\* acidic groups =



(stronger)  
carb acid



phenol acid

\* base functional groups =

amines (usually)

soluble in  
organics,  
not in  
water

neutrals

R (carboxylic, aromatics,  
hydrocarbons)

solid: cool on ice + filter  
liquid: distillation

mass +  
bp + mp

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