**Steps in recrystallization**

1. **Solvent Selection**
   - grind sample to powder, examine at RT and BP of solvent, “like dissolves like”
   - want low solubility of compound at RT, high solubility of compound at BP of solvent, also want BP of solvent < MP of compound, to avoid oiling out

2. **Preparation of hot, saturated solution**
   - decolorize with activated carbon if solution has color,
   - add ~5% excess hot solvent, then gravity filter hot through fluted paper
   - skip this step if solution is colorless and no insolubles are present

3. **Slow cooling, crystal formation**
   - slowly cool filtrate to RT, then cool in ice to minimize solubility of compound

4. **Separation of crystals, washing**
   - vacuum filter, disconnect vac. to rinse crystals, reconnect to remove rinse solvent

5. **Drying of crystals**
   - air dry in vac funnel. press crystals with shell vial or weighing paper
   - high BP solvents may require overnight drying in desk
   - determine MP, % recovery

**Excess losses of product due to**

1. **Too much solvent added**
   - compound can be recovered by evaporating excess solvent and refiltering

2. **Too much charcoal added**
   - compound also adsorbed on carbon, may be hard to recover

3. **Crystallization in funnel during filtration**
   - heat funnel, rinse with hot solvent, evaporate excess solvent afterwards

4. **Filtration before crystallization is complete**
   - some compounds form crystals very slowly, eg. cane sugar
   - stirring and scratching of container with glass rod may induce crystallization
   - allow covered solution to stand in desk to see if crystals eventually form