

5/ recrystallization of an unknown

procedure

- 1 Obtain an unknown solid. Test the solubility at room temperature of a small amount of solid (perhaps 50 mg) in a flask or vial by adding about 0.5 mL of each of the solvents (toluene, ethyl acetate, ethanol, water or hexane) to individual samples.

- 2 For any solvent in which your unknown is essentially insoluble at room temperature, add a boiling stone and heat the mixture on the hot plate. Be careful to avoid boiling away the solvent.

- 3 A solvent in which the unknown is soluble at higher temperatures but insoluble (or slightly soluble) at room temperature is a potential solvent for recrystallization. Allow these solutions to cool to room temperature. Then compare the quantity, size, and color of this solid with the original solid.

- 4 Once a recrystallization solvent has been chosen, recrystallize a 100 mg sample of your unknown, decolorize it with charcoal if the solution appears colored, isolate the purified unknown, record the mass and melting point of the dry unknown.

health & safety notes

Hexane and ethanol are flammable liquids.