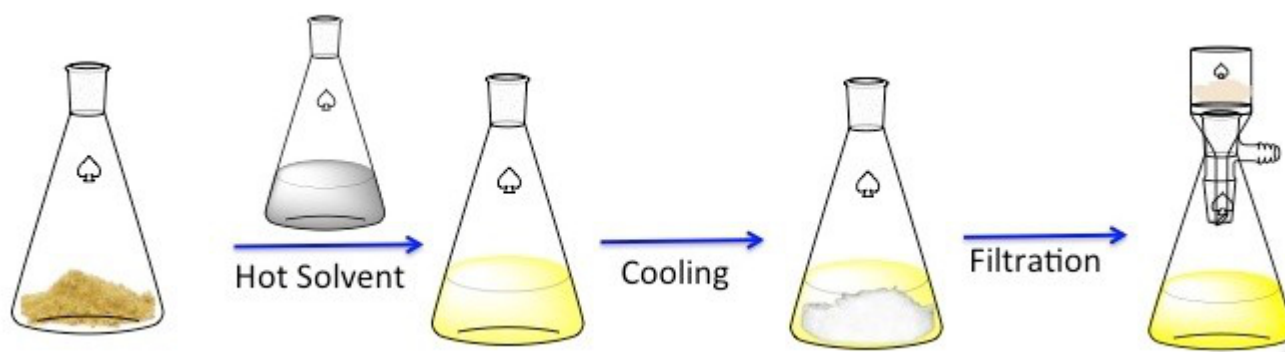


Source: Laboratory of Dr. Jimmy Franco - Merrimack College

Recrystallization is a technique used to purify solid compounds.¹ Solids tend to be more soluble in hot liquids than in cold liquids. During recrystallization, an impure solid compound is dissolved in a hot liquid until the solution is saturated, and then the liquid is allowed to cool.² The compound should then form relatively pure crystals. Ideally, any impurities that are present will remain in the solution and will not be incorporated into the growing crystals (**Figure 1**). The crystals can then be removed from the solution by filtration. Not all of the compound is recoverable — some will remain in the solution and will be lost.

Recrystallization is not generally thought of as a separation technique; rather, it is a purification technique in which a small amount of an impurity is removed from a compound. However, if the solubility properties of two compounds are sufficiently different, recrystallization can be used to separate them, even if they are present in nearly equal amounts. Recrystallization works best when most impurities have already been removed by another method, such as extraction or column chromatography.



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