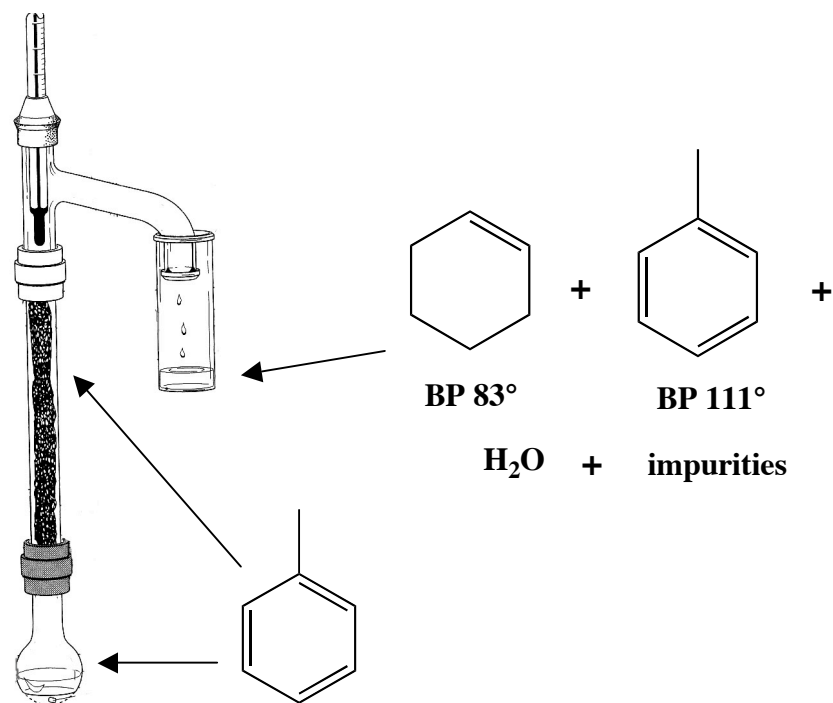


If we stop the distillation here, a significant amount of product would be left behind and lost.

To maximize yield, stop the distillation, add chaser (toluene) and continue the distillation. The higher-boiling toluene pushes over (chases) the product into the collection vial.



Once the toluene distills up the column and reaches the thermometer, most of the cyclohexene and water has been pushed over into the collection vial along with some toluene. The distilling flask contains phosphoric acid, toluene, and higher-boiling impurities. The column contains mostly toluene.

What has been accomplished by adding chaser? Almost all of the desired product, cyclohexene, has been collected in the vial. The downside is that another impurity (toluene) has been added to the product.