

Lab 5: Caffeine extraction from Tea

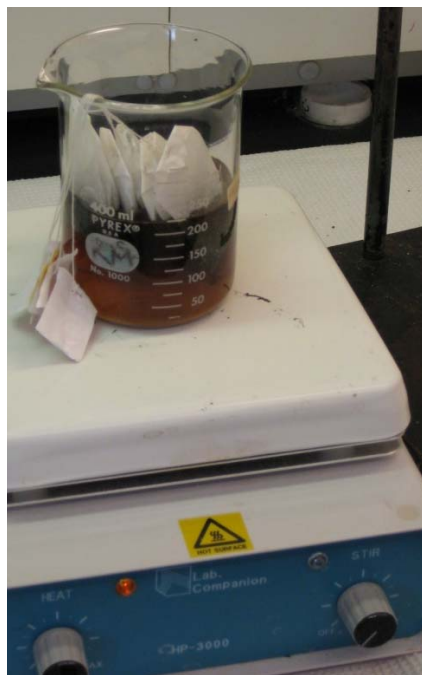


Figure 1: Source of Caffeine steeping

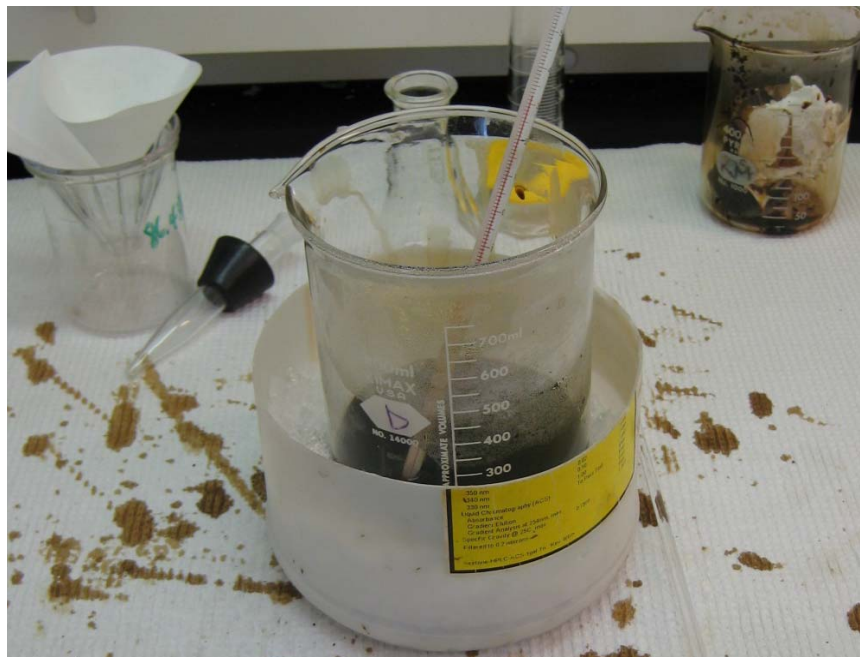


Figure 2: Tea cooling on ice. Note the tared flask on left, with filter, and used tea bags. The tube for sublimation is visible next to the flask.



Figure 3: Separatory funnel with 30mL Dichloromethane and filtered tea. Note the emulsion at the boundary.



Figure 4: Extract in Dichloromethane. Note the tea residue on side of beaker. The extract from the top layer formed floating globules (not visible in photo).



Figure 5: Dry with Na_2CO_3 (a desiccating agent on plate).



Figure 6: Water removed by Na_2CO_3 . Note the brown globules on the white surface.

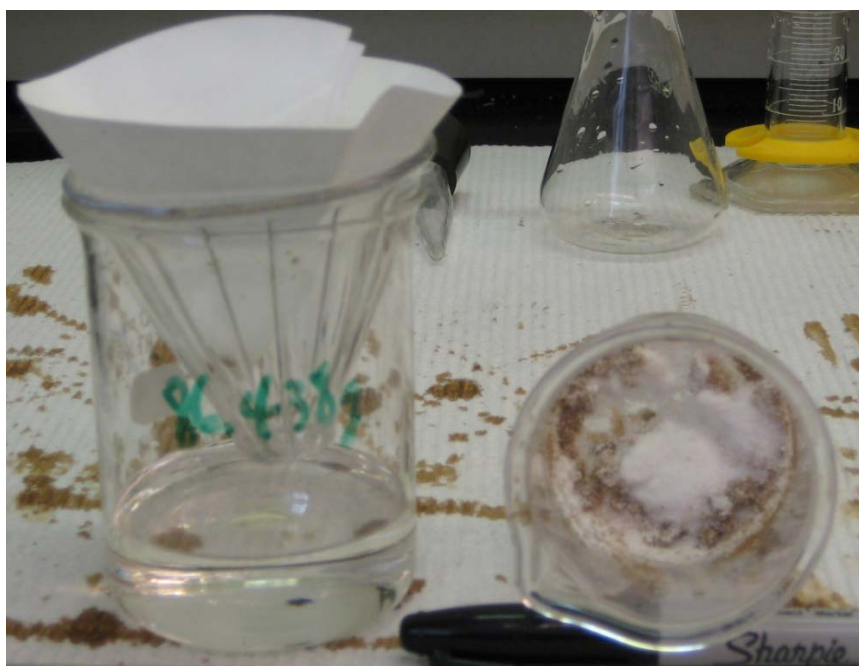


Figure 7: Tared beaker filled with filtered extract. The Na_2CO_3 contains the extract from the tea that was not soluble in dichloromethane.



Figure 8: Evaporate Dichloromethane in double boiler. Boiling stick keeps boiling even.



Figure 9: Extract sublimating in flask. Note the white vapor.



Figure 10: Extract on exterior of sublimation tube. The larger crystals have been scrapped into a beaker.



Figure 11: Sublimated caffeine with label.

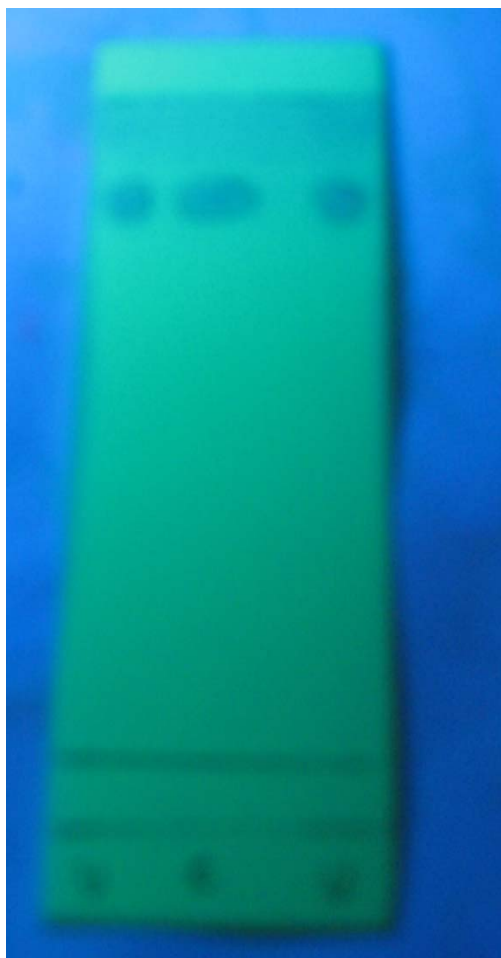


Figure 12: Image out of focus. TLC plate with unknown extract, columns 1 and 3, and caffeine standard, column 2.