

Proposed Plan:

1. Follow procedure from “Caffeine Extraction from Coffee” Article.
2. Once extracted, check purity via measuring boiling point and comparing to pure caffeine(or wait until step 7?)
3. Based of results, calculated amount needed to get 1 microgram/mL (1,000 nanogram/mL, which is what we used to get our results on the pure caffeine sample).
4. Make solution as before but with chloroform (should we use this since the extraction method used chloroform, or should we let evaporate then use DCM?).
5. Do a liquid injection on GC-MS using caffeine solution.
6. Compare chromatogram and mass spectrum with that from the pure caffeine injection.
7. Possibly try to do analytical techniques to calculate the concentration of caffeine(FW-HM, Full Width - Half Max method)

Later:

1. Compare coffee oil extraction (Look at ARPN Journal for Solvents and Bio-oil article/ find article on procedure if Bio-oil article not sufficient.
2. Follow/make procedure to extract oil from coffee.
3. Calculate amount of oil needed to make 1 microgram/mL solution.
4. Run a liquid injection on the GC-MS.
5. Try to identify compounds from chromatogram and mass spectra.
6. Confirm compounds by running standards.

Much Later:Holistic View:

1. Sample coffee oil from:
 - a. Unroasted coffee beans
 - b. Roasted coffee beans
 - c. Vent hood
 - d. Actual coffee?
 - e. Spent grounds

Do this to hopefully get a holistic view of the coffee oil processes(when certain oils show up and when they leave)