

## Analyte Papers and Critical Review

For this assignment, you will need to select a chemical or biochemical substance (an analyte) that interests you and prepare a critical review on how instrumental methods may be used to identify and quantify your substance. Your chosen analyte could be a specific compound, a class of related compounds, or even a microbial organism. The only constraint is that there must be literature on how they can be measured using modern instrumental analytical methods. Once you've selected an analyte, please tell me what it is (email is OK).

Please find at least 5 refereed journal publications that either focus on instrumental methods for your analyte or include detailed methodologies that are not in prior publications. These five should be substantially different and detailed enough to be clear about the differences.

Summarize the five methods and include key details such as:

- Sample preservation
- Sample preparation
- Analytical Instrumentation Used
- Operation Settings for the Analytical Instrumentation
- Interferences (or resolution)
- Method Detection Limits and "Machine Detection Limits"
- Cost and ease of use

After summarizing the methods, present a critical comparison. As you end your critical analysis, make sure you answer the question, "if you needed to measure this analyte for your own MS or PhD work, which method would you choose and why?" Don't feel constrained by the equipment we happen to have in EWRE or on campus. You could always propose to use some equipment at another institution.

### **Due Dates**

1. Notify Aarthi Mohan of analyte selection: before Sep 8th
2. Prepare and deliver 5 minute presentation to class: Sept 30th
3. Hand in written assignment: Oct 9th