Soap **Proposal 1**

Your name: Your email:

Your lab partner’s name(s): Your lab partner’s email(s):

Your lab instructor’s name: Your lab section:

*All work must be* ***very neat*** *and* ***organized****.* *If you need to collect your thoughts, please use a separate sheet of paper. Proposals are a* ***group******effort****. Please submit the completed document as a PDF to the* ***Soap Proposal 1*** *D2L DropBox before the scheduled end of lab.*

1. In a complete, well-written sentence, summarize in your own words the **overall goal(s)** for the *Soap Project*.

2. In your own words, the **goal for this first session** of the *Soap Project* is…

3. **Variable Under Study**. Clearly state the variable (reaction condition) or variables (reaction conditions) under study. This is your *independent variable*.

4. **Variable Isolation**. Briefly indicate how you will vary only one variable at a time – in other words, how will you hold the other variables constant?

5. **Dependent Variable**. Clearly state how you are going to evaluate the soap percent yield of each trial. Keep in mind you will have different starting masses of the oils and the soap quality may differ – how are you going to deal with these issues?

6. **Proposal 1**. Based on your exploration, propose a plan, and justify each step, to study at least one reaction condition with the objective of identifying a trend that will permit the prediction of an optimum in the reaction condition(s) to ***maximize the soap yield*** ***and quality*** (desired property selected by your group). Your procedure is restricted to the materials available in lab. Don’t forget to specify the volumes and masses of all reagents and solvents. Further, the specified amounts must be on the milli-scale level. ***Please NUMBER your procedural steps.***

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| Procedural Step | Justification based on data/observations, or technical instructions, or conceptual understanding |
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