

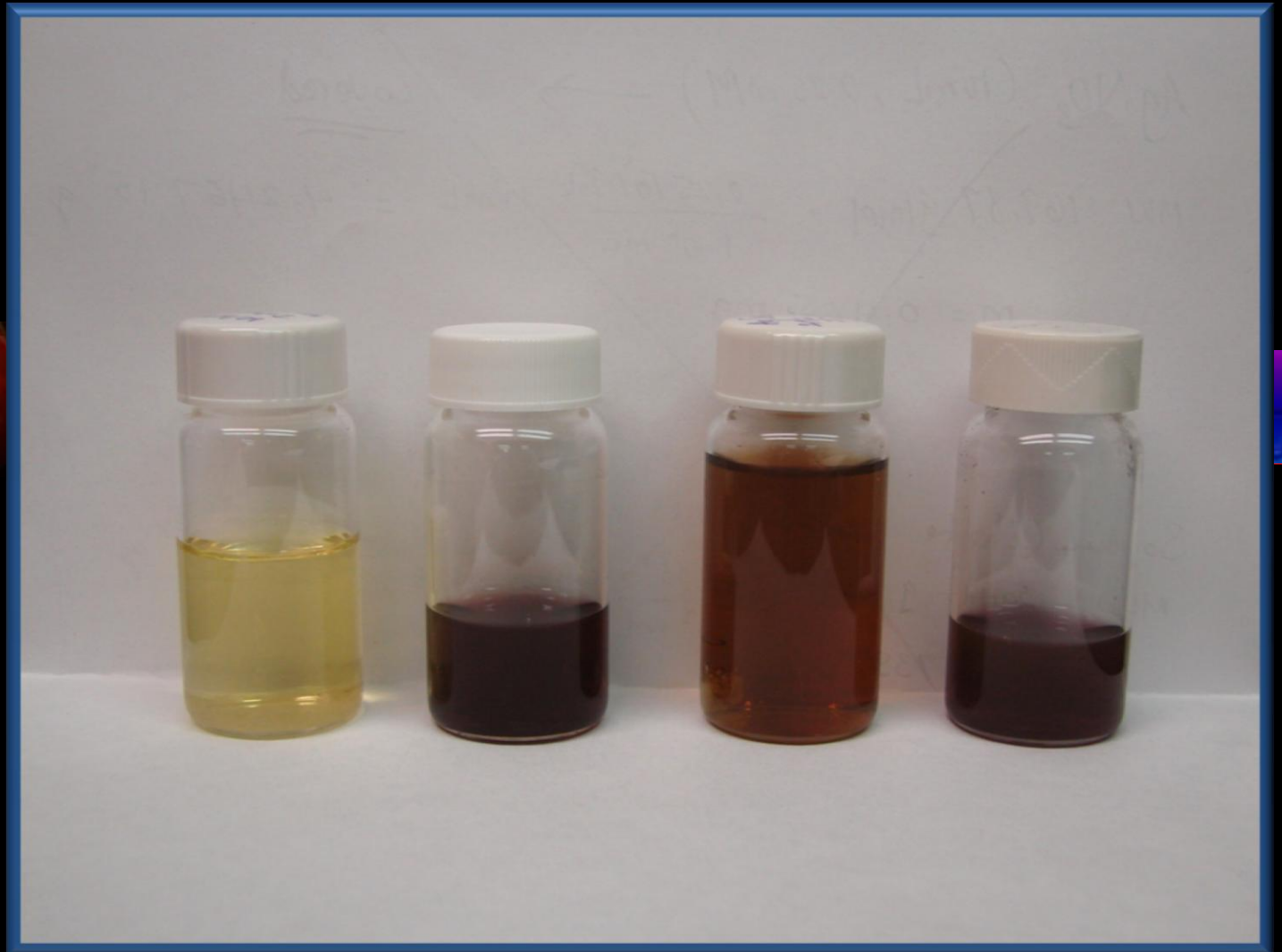
Quick Silver 47

Hi Ho Silver!

I PRO 317



Background

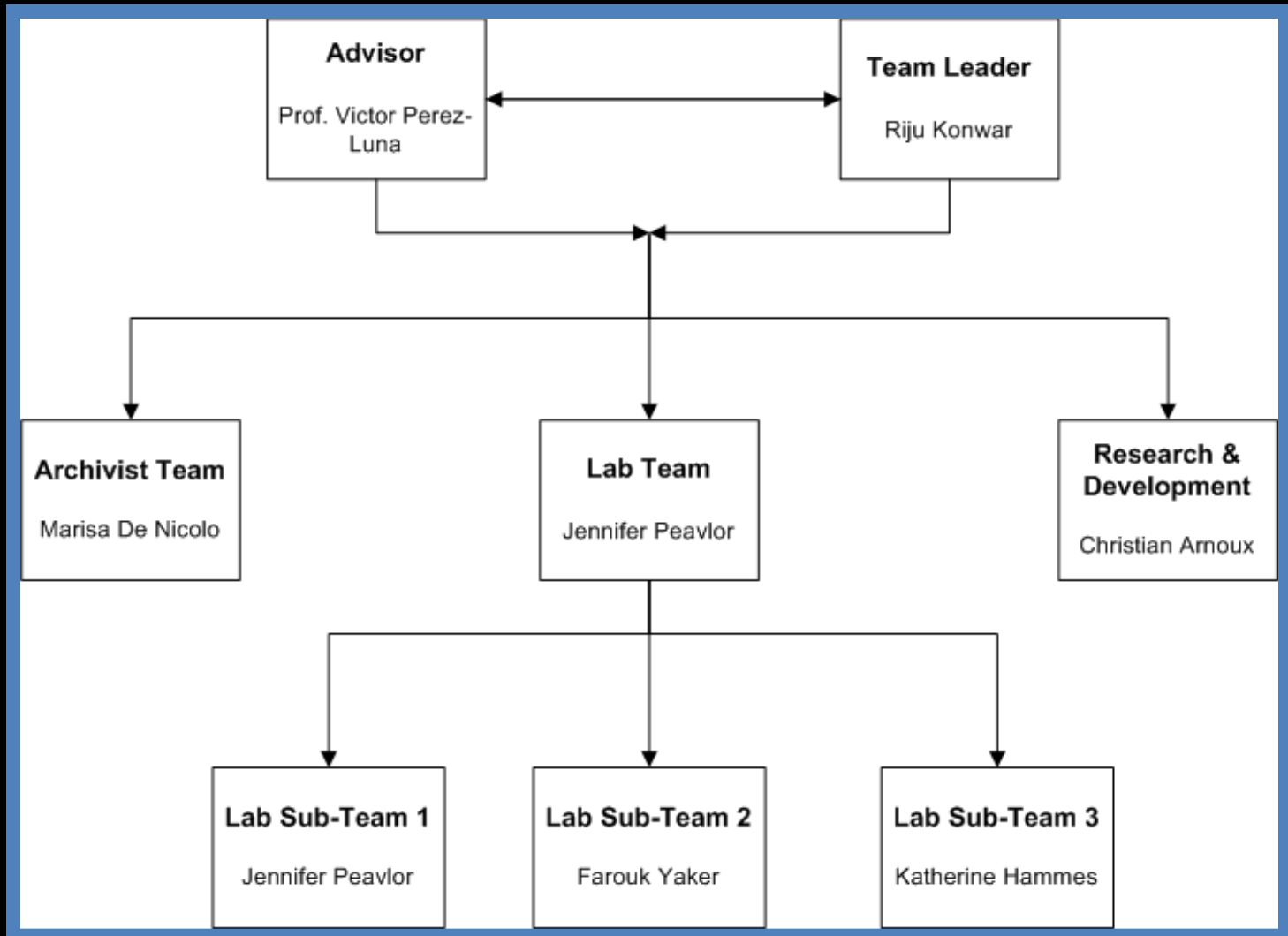




Problem Statement and Goals

- Explore Use as Thermal Indicator
 - Make Batches of Silver Nanorods
 - Store at Different Temperatures
- Conversion to Continuous Flow
 - Design and Build a Microreactor
- Continuous Batch Process

Team Organizations



Lab Team Progress





Research Team Progress

- Studied nanorod background information
- Studied the scaling up of a batch reactor
 - Familiarized group with Chemical Reaction Engineering Principles
- Examined sample nanorod data given by Professor
 - Progress of reaction monitored by wavelength data
- Researched optical properties of silver for use in kinetics analysis



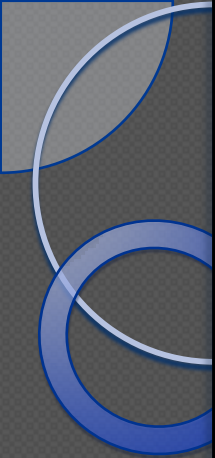
Obstacles

- Synthesis
- Time Management
- Organization



Future Plans

- Time Lapse Photography
 - Monitor color change
- Computer Simulation
 - Simulate wavelength vs. aspect ratio
 - Analyze the kinetics of the experiment
- Apply kinetics of the lab experiment to the scale up of a continuous process
- Build Microreactor



THANK
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