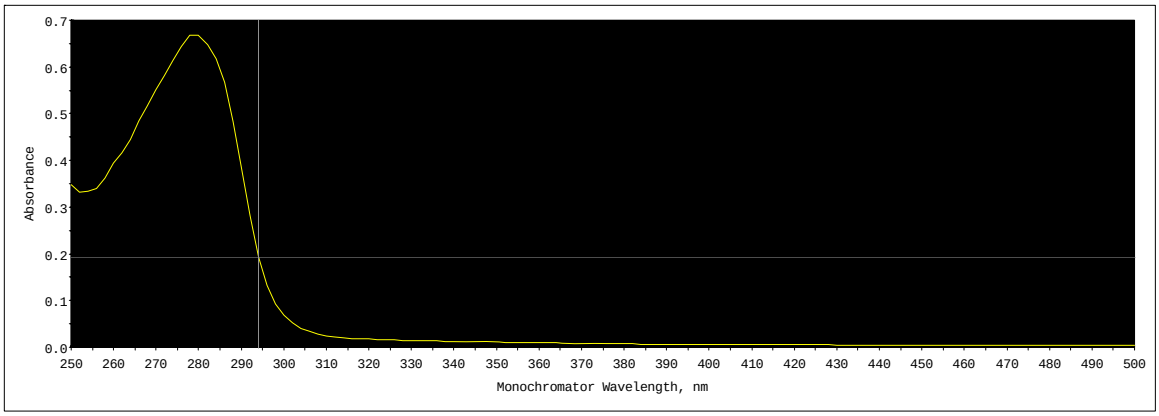
Confirmation of the ability of the OLIS CLARiTY to see a protein at 280 nm in the presence of a highly turbid medium (Alhydrogel @ 1 mg/mL).

Samples supplied by the Middaugh lab; experiments conducted by OLIS staff scientist Dr. Dima Parul, September 13, 2013

Fig.1 Spectrum of BSA, stock solution with concentration of 1 mg/ml. Spectrum was collected in 1 cm cuvette on HP 8452 diode array UV/Vis spectrometer.



Next, we loaded 8 ml DSPC with a Sodium Phosphate Buffer, and the baseline was recorded. A bandpass filter was positioned between the sample and detector which allowed only those wavelengths displayed to be detected, thereby eliminating any fluorescence from the reading.

Fig.2. The titration with eight concentrations of BSA. Stock solution of BSA was added in 50 uL steps to the 8 mL DSPC filled with Sodium Phosphate Buffer.

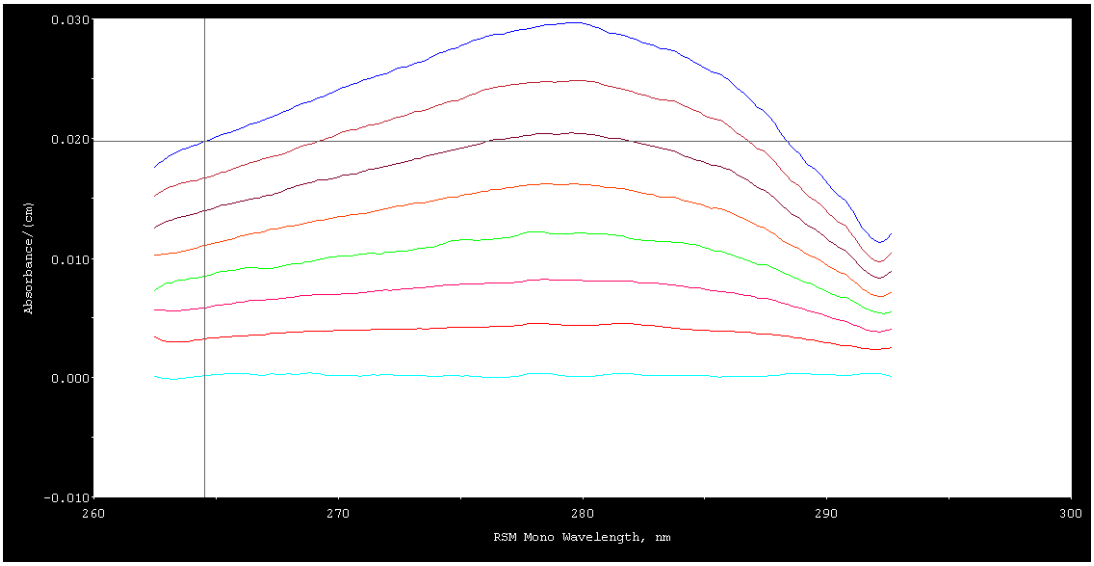
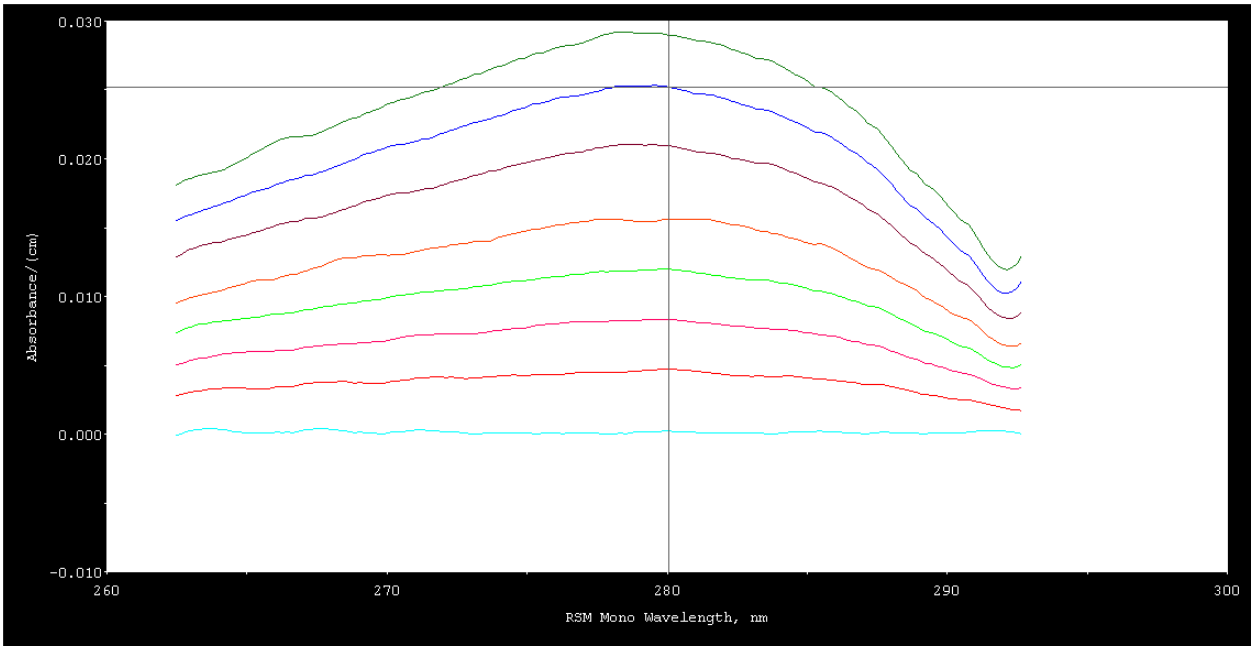
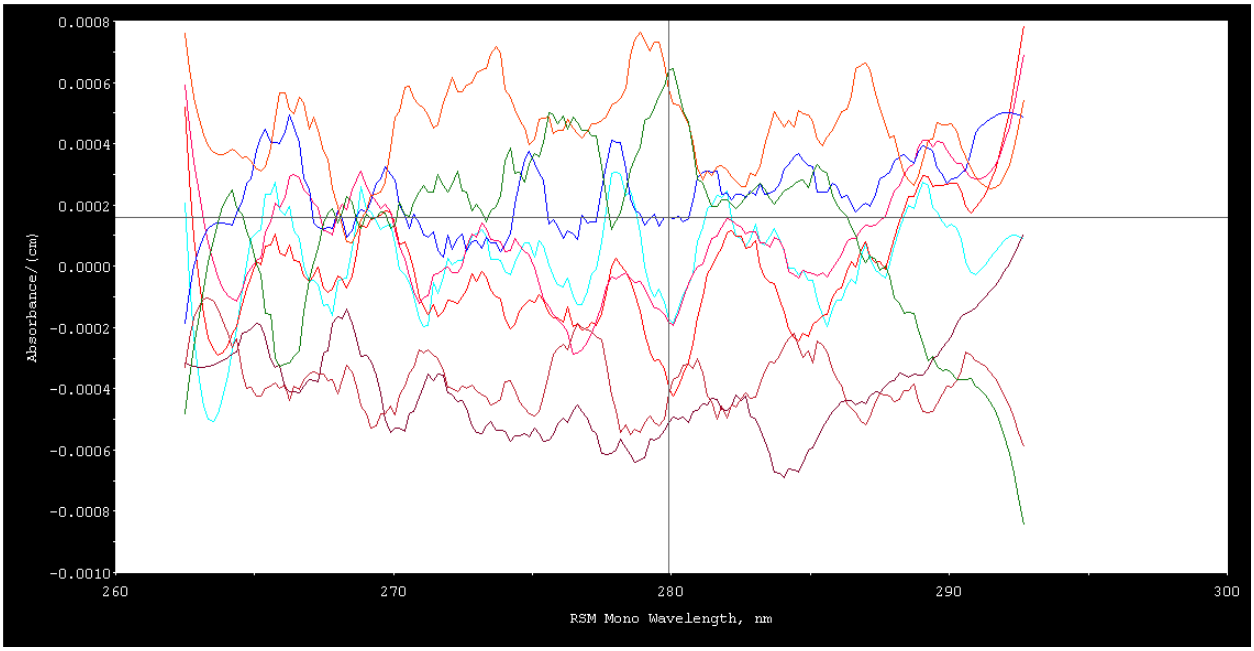


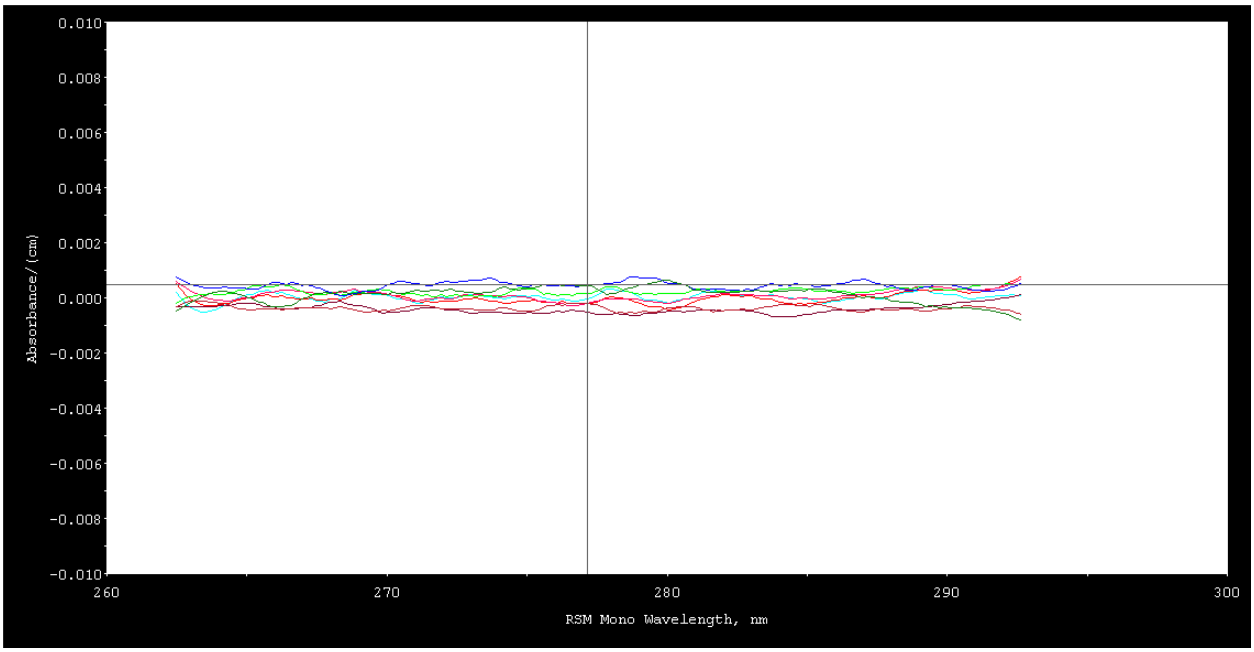
Figure 3: For the next experiment, the titration was performed in a 50 uL step in the same 8 mL DSPC using the BSA 1mg/mL + Alhydrogel 1mg/mL as a stock solution.



The difference between the two is impossible for the naked eye to discern. Here is their actual difference:



And, on a scale of -0.01 to 0.01,



After the titration experiment, the sample with 350 uL of mixture BSA+Alhydroxide was then scanned in the 1 cm cuvette in the diode array. Obviously, within Alhydrogel, no BSA can be seen. The scale is a maximum of 1.9 at 250 nm.