

9/19/2017

Tasklist

- Continuation of Round-Robin with Dialysis
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➤ Dialysis

Purpose: To analyze the size of the gold nanoparticle complexes, the bond strength between the stabilizer and the gold nanoparticles, if the stabilizer can be changed, and the fate at which molecules diffuse through the tubing

-Step 1: Cut two 3500 MWCO dialysis tubing about 9cm in length and soak in distilled water for 10 minutes

-Step 2: Fill one tube with 3mL of DI water and fill the other tube with 3mL of arginine-stabilized gold nanoparticles

-Step 3: Place each tube into a separate 125mL wide-mouth jars. Both jars were filled with 100mL of prepared 25mM HdMe2ImCl

-Step 4: Small amounts of liquid were taken from each jar and run through a UV-1800 Shimadzu Sepctrophotometer every thirty minutes at intervals of 211nm. This was done to obtain the absorbance values and completed five times per trial. Table 1 lists the average absorption values for each trial.

Table 1: Average Absorption Values for Tubes 1 and 2

<b>Trial</b>	<b>Tube 1 (DI H2O/ HdMe2ImCl) Absorption</b>	<b>Tube 2 (Arg-AuNP/ HdMe2ImCl) Absorption</b>
1	0.1914	0.1968
2	0.159	0.1736
3	0.1302	0.1726
4	0.155	0.1672
5	0.1576	0.158

Table 1 shows the average absorption values for each trial of both tube 1 and tube 2. Both tubes fluctuate slightly between trials.

-Step 5: Prepare four more exchanges in the same methods as steps 1-4. The new exchanges are the following: Arginine-stabilized gold nanoparticles against DI water, BSA-stabilized gold nanoparticles against DI water, Arginine-stabilized gold nanoparticles against a Glycine buffer, BSA-stabilized gold nanoparticles against a Glycine buffer.

-Step 6: These exchanges were prepared and left overnight. The absorbance was recorded the next class period.