

SI Session 19

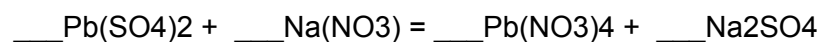
Warm-up: A stock solution is made by dissolving 0.340 g of vanadium (II) nitrate in 800.0 mL of water. The following solutions were then prepared by dilution.

For solution A, 437 mL of the stock solution was diluted to 326 mL.

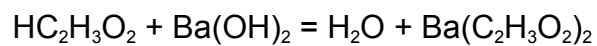
For solution B, 523 mL of solution A was diluted to 340.0 mL.

What is the concentration of solution A and B.

Question 1: What volume in (mL) of 0.200 M of sodium nitrate is required to precipitate all of the lead (IV) ions from 240.0 mL of 0.340 M lead (IV) sulfate? The equation below is unbalanced.



Question 2: During the lab, a TA prepared a barium hydroxide solution with an approximate concentration of 0.1 M. The TA titrated 13.1 mL of the solution with 2.432 g of HC₂H₃O₂. What is the exact concentration of the base?



Question 3: A 64.8 mL sample of sulfurous acid is titrated to the equivalence point with 34.5 mL of a 3.45 M solution of cesium hydroxide. What is the concentration of sulfurous acid solution?

Question 4: Write the molecular equation, complete ionic equation, and the net ionic equation for the reaction between lead (II) nitrate and sodium bromide.

Question 5: You are in a lab experiment that requires 345 mL of 0.574 M of HBr as a reagent. The stockroom has an abundant amount of 14.0 M HBr. What volume (in L) of the concentrated acid will they need to use? How much water will they need to add to the acid (in mL)?

