Percent Composition Lab

Data Table

Action	Observations and Measurements		
Mass of CMA used (step 1)			
Volume of CMA solution (step 3)			
Adding 0.2 M ammonium oxalate (step 13)	Time added: _____ Time Filtered: _____		
Adding 10 drops of EBT (step 16)			
Titration of original CMA sample (Part B)	Initial buret volume _____ mL Final buret volume _____ mL Amount of titrant used _____ mL	**Titration of filtered sample (Part D)**	Initial buret volume _____ mL Final buret volume _____ mL Amount of titrant used _____ mL

Post-Lab Questions *(Answer on a separate sheet of paper. Show all calculations.)*

1. What evidence was there that a reaction occurred when ammonium oxalate was added to the CMA solution?

2. Calculate the number of moles of Ca^{2+} and the number of moles of Mg^{2+} in the 10-mL aliquot. Show all calculations. *Hint:* See *Pre-Lab Questions 1–3.*

3. How many grams of magnesium acetate are in the 10-mL aliquot?

4. How many grams of calcium acetate are in the 10-mL aliquot?

5. Divide the initial mass of CMA used by 250.0 mL (the initial solution volume) and multiply by 10.0 mL (aliquot volume) to determine the mass of CMA in the 10.0 mL aliquot.

6. Calculate the percent composition by mass of calcium acetate and the percent composition of magnesium acetate in CMA.

7. Identify potential sources of error in the materials or experiment that may account for the calculated percent composition of CMA being less than or greater than 100%.