Ap chemistry gravimetric analysis lab answers

 * Some text comes from the PDF lab How do chemists determine the identity of a relationship? In this laboratory we get unknown carbonate, and our job is to find out what it is. Working in front of the lab gives you a basic process of how to determine when all measurements in a real experiment are performed. Double exchange reaction Gravimetric analysisIn this experiment, unknown group 1 metal carbonate, M2C03, is analysed to determine the identity of the metal group 1, M. A known amount of soluble unknown carbonate is dissolved in water to separate the compound into its ions (Equation 1). When a calcium chloride solution CaC03 is added to this solution of metal carbonate, calcium precipitate forms carbonate (Equation 2). The overall response represents the reaction of a double exchange with the created precipitate (Equation 3). The precipitated calcium carbonate is then filtered, dried and weighed. Calcium carbonate moles, CaC03, are equal to moles of metal carbonate Group 1, M2C03, added to the original solution. Dividing the mass of unknown carbonate by moles of calcium carbonate gives the weight of the formula and thus the identity of the carbonate of the metal carbonate group 1. Unknown sample, M2C03, 2 g, sample BThe whole chloride solution, CaCh, 0,2 M, 125 ml Distilled or deionized water, 200 ml Ring stand and iron ring Filter funnel Glass mixing rods, 2 Bunsen Gas-resistant Crucible burners, analytical balance 15 ml, 0,001 g precision beaker wash bottle, 400 ml, 2 Filter trinkchist, quantitative triangle, crucible tube pliers Unknown solids are slightly toxic by incision and are skin irritants. The crucible should only be handled with pliers. Do not touch the crucible with your fingers or hands. There is a significant risk of burns associated with handling the crucible- remember that the hot crucible looks like a cold one. Wear chemical splash glasses and chemical-resistant gloves and apron. Wash your hands thoroughly with soap and water before leaving the laboratory. Unknown metal carbonate was analyzed gravimetrically and gave the following data: - From the mass of CaC03 calculate moles CaC03 precipitated. - Calculate the molar mass of the unknown. - Calculate the molar mass of the following metal carbonate group 1: a. Li1CO3 b. Na2CO3 c. K2CO3- What is the identity of M2 in M2C03? The calculated molar mass SInce, 107,4 g/mol, is close to the molar mass of Na2CO3, the identity of M2 is Na2, sodium.- Calculate the percentage error in the determination of molar mass M2C03 by comparing the experimentally determined molar mass M2C03 to the known molar mass of the corresponding metal carbonate. 1. All materials have been collected and properly assembled. 2. About 2 grams of M2CO3 are poured into the crucible and weighed crucible and mass M2CO3. 3. The crucible was heated by the Bunsen burner twice to dry out excess water powder. 4. After each heating, the crucible was weighed. 5. The crucible content has been added to a beaker of 400 ml. 6. 200 ml of distilled water has been added and mixed. 7. 125 CaCL2 has been added and mixed. 8. The bead was left alone for 5 minutes. 9. The filter paper was folded into a cone and placed on a funnel. 10. Distilled water has been poured to make a baton of filter paper. 11. Another sink of ml is placed under the funnel. 12. The liquid is slowly poured into the funnel, the level remains below the top of the filter paper. 13. A glass mixing rod was used to mix the liquid inside the filter paper. 14. When all the liquid has been poured, the paper cone has been removed and placed in the oven to dry. 15. After a few minutes, it was removed, measured, placed back into the oven, and measured again. 16. Materials have been either removed or put downSwrites risk assessment - Aka deionized water - Safe to eat, non-combustible - Dry with absorbent object to remove - Slightly toxic and irritating to the skin - Wash off with water - Slightly toxic and irritating to the skin - In contact, wash off with water; if spilled, clean the liquid absorbent wit After the pre-lab process:- First, caco3 moles have been calculated.- Then the molar mass of M2CO3 has been calculated.- Since the experimental molar mass is close to the theoretical molar mass of potassium, the unknown metal is therefore potassium.- Then the percentage error was calculated. A specific unknown metal in carbonate is potassium in the process shown above. However, due to all sources of error, as you listen below, this may not be the right metal. Some CaCO3 got through the filterAmounts material got through the paper filter – which is why I had less calcium carbonate than what was in the liquid I poured. This can be avoided by checking that the paper filter fits correctly into the funnel without vents or s break. Pushing the glass rod too much into the cone while spinning may have already pushed some calcium carbonate further then the filter, and fall into the bead. The balance steadily increased by 0.0001 gramsThath weight became more inaccurate and therefore affected the result, as the screen continued to add 0.0001 grams, which ultimately resulted in the addition of 0.001 grams. This can be avoided by checking that the balance is completely clean inside, without any interference and preventing as much as possible from touching the paper filter, because touching it makes things from the fingers stick to the paper and add weight. Measurements are not accurateSealing liquids was not a very accurate process. This can be avoided by letting the fluids settle down and then checking whether the meniscus to get an accurate measurement of the Experiment over the weekend instead of ending it on the same day, it could have affectednajastwo could enter the beakers and affect the and the wind could interfere with the contents of the paper filterRead lab PDF before lab day, so I can do it when I have and finish as soon as possible. The experiment was left overnight because, because I wasn't prepared, I had to do it later than the rest of the class. Some spilltimes a little liquid was spilled at the moments of transporting his container from place to placeWhich can be avoided by performing an experiment in more calm matter instead of worrying about time constraints. Heating M2CO3 for excess waterTyg with M2CO3 powder is to be heated until the mass stops falling, however, the mass constantly increases, so it is difficult to say when all the water has been successfully driedThat can be avoided by checking the weight as mentioned above