

4. Calculate the gravimetric factors for the following conversions.

a. Fe_3O_4 to Fe

b. BaSO_4 to SO_3

c. AgCl to As ($\text{As} \rightarrow \text{Ag}_3\text{AsO}_4 \rightarrow 3 \text{AgCl}$)

5. What size sample which contains 20.0% Br^- must be taken for analysis so as to obtain a precipitate of AgBr weighing 0.3876?

6. A 2.200 gram sample of a mixture containing the hydrate $\text{BaCl}_2 \cdot 2 \text{H}_2\text{O}$ and NaCl was heated until all the water was driven off. After heating, the mixture had a mass of 1.973g.

a. Show the balanced equation for this reaction

b. Determine the % of hydrate in the mixture.

7. 284.45 g of stable precipitate is collected and left to dry in the oven. After an hour and a half, constant weights of 222.45 g were recorded. Calculate the % H_2O in the sample.

8. Discuss the main factors that determine the success of obtaining a good precipitate in a gravimetric analysis.