**NAME:** JAIME VIEIRA RUIZ

**SAMPLE:** POTASSIUM CHLORIDE

1. **IDENTIFICATION REACTIONS OF IONS**

* **CATIONS** *(describe briefly reactions)***:**

A) K+ + Na2CO3 🡪 no precipitate  
K+ + Na2S 🡪 no precipitate   
K+ + tartaric acid 🡪 white crystalline precipitate

B) Na2[Co(NO2)6] + 2K+ 🡪 K2Na[Co(NO2)6] + 2NA+ 🡪 KNa2[Co(NO2)6] (Yellow precipitate) or K3[Co(NO2)6] (orange-yellow precipitate)

* **ANIONS** *(describe briefly reactions)***:**

A) Cl- + Ag+ 🡪 AgCl (curdled, whit precipitate is formed)  
AgCl + NH3 🡪 [Ag(NH3)2] + Cl- (precipitate dissolves easily)

B) 4Cl- + K2Cr2O7 + 6H+ 🡪 2CrO2Cl2 + 3H2O   
Paper impregnated with diphenylcarbazide solution turns violet-red.

1. **ASSAY:** BACK TITRATION

**Volumetric solutions:** Silver nitrate and ammonium thiocyanate

**Titre of volumetric solutions:** 0,1 M AgNO3 = 0,9998; 0,1M NH4SCN= 0,9897

|  |  |  |  |
| --- | --- | --- | --- |
| **Titration No.** | **m [g]** *(4 decimal places)* | **Consumption of VS [ml]** | **ASSAY** |
| **1.** | 1,2926 | 7,95 | **98,84** |
| **2.** | 1,2784 | 7,69 | **101,44** |
| **3.** | 1,3154 | 7,56 | **99,32** |
| **4.** | 1,2847 | 7,68 | **101,0041** |
| **Average** | | | **100,151** |

**CALCULATION PROCEDURE:**

**STATISTICAL EVALUATION:**

**Range: R = 2,1641**

**Standard deviation** *(estimated from range)***: sd = 1,0511**

**Relative standard deviation: RSD = 1,049**

**CONCLUSION** *(does your sample meet/not meet Ph. Eur)***:**

The sample meet Ph.Eur, because the average is between **99.0 – 100.5%** of KCl