NAME: JAIME VIEIRA RUIZ

SAMPLE: POTASSIUM CHLORIDE

1) **IDENTIFICATION REACTIONS OF IONS**

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

A) $K^+ + Na_2CO3 \rightarrow$ no precipitate

$K^+ + Na_2S \rightarrow$ no precipitate

K^+ + tartaric acid → white crystalline precipitate

B) $Na_2[Co(NO_2)_6] + 2K^+ \rightarrow K_2Na[Co(NO_2)_6] + 2NA^+ \rightarrow KNa_2[Co(NO_2)_6]$ (Yellow precipitate) or $K_3[Co(NO_2)_6]$ (orange-yellow precipitate)

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

A) $Cl^- + Ag^+ \rightarrow AgCl$ (curdled, whit precipitate is formed)

$AgCl + NH_3 \rightarrow [Ag(NH_3)_2] + Cl^-$ (precipitate dissolves easily)

B) $4Cl^- + K_2Cr_2O_7 + 6H^+ \rightarrow 2CrO_2Cl_2 + 3H_2O$

Paper impregnated with diphenylcarbazide solution turns violet-red.

2) **ASSAY:** BACK TITRATION

Volumetric solutions: Silver nitrate and ammonium thiocyanate

Titre of volumetric solutions: 0,1 M $AgNO_3$ = 0,9998; 0,1M NH_4SCN= 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