**NAME: Felix Saber**

**SAMPLE: Potassium Bromide**

1. **IDENTIFICATION REACTIONS OF IONS**
* **CATIONS** *(describe briefly reactions)***:**

**Solutions S gives the reactions of potassium**

* Dissolve 0.1 g of the substance to be examined in 2 mL of water R or use 2 mL of the prescribed solution. Add 1 mL
of sodium carbonate solution R and heat. No precipitate is formed. Add to the hot solution 0.05 mL of sodium sulfide solution R. No precipitate is formed. Cool in iced water and add 2 mL of a 150 g/L solution of tartaric acid R. Allow to stand. A white crystalline precipitate is formed.
* b) Dissolve about 40 mg of the substance to be examined in 1 mL of water R or use 1 mL of the prescribed solution. Add 1 mL of dilute acetic acid R and 1 mL of a freshly prepared 100 g/L solution of sodium cobaltinitrite R. A yellow or orange-yellow precipitate is formed immediately.
* **ANIONS** *(describe briefly reactions)***:**
* Dissolve in 2 mL of water R a quantity of the substance
to be examined equivalent to about 3 mg of bromide (Br–) or use 2 mL of the prescribed solution. Acidify with dilute nitric acid R and add 0.4 mL of silver nitrate solution R1. Shake and allow to stand. A curdled, pale yellow precipitate is formed. Centrifuge and wash the precipitate with three quantities, each of 1 mL, of water R. Carry out this operation rapidly in subdued light disregarding the fact that the supernatant solution may not become perfectly clear. Suspend the precipitate obtained in 2 mL of water R and add 1.5 mL of ammonia R. The precipitate dissolves with difficulty.
1. **ASSAY**

**Volumetric solutions: 0,1 M AgNO3**

**Titre of volumetric solutions: 0.9998**

|  |  |  |  |
| --- | --- | --- | --- |
| **Titration No.** | **m [g]** *(4 decimal places)* | **Consumption of VS [ml]** | **ASSAY** |
| **1.** | **2.0014** | **8.45** | **98.866** |
| **2.** | **2.1054** | **7.89** | **97.139** |
| **3.** | **2.0456** | **8.38** | **97.157** |
| **4.** | **1.9985** | **8.34** | **99.683** |
| **Average** | **98.211** |

**CALCULATION PROCEDURE:**

**X1=(25x0.9998-8.45x0.9897)x11.90x100/200.19=98.866**

**X2=(25x0.9998-7.89x.09897)x11.90x100/210.54=97.139**

**X3=(25x0.9998-8.38x0.9897)x11.90x100/204.56=97.157**

**X4=(25x0.9998-8.34x0.9897)x11.90x100/199.85=99.683**

$\overbar{X}$**= 98.211**

**STATISTICAL EVALUATION:**

**Range: R = 2.544**

**Standard deviation** *(estimated from range)***: sd = 1.2722563617452**

**Relative standard deviation: RSD = 1.30%**

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