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**SAMPLE: Ascorbic Acid**

**BEHAVIOUR OF COMPOUND DURING HEATING AND BURNING** *(describe what you should see during the heating of your sample in burner and choose one of possibility)***:**

turning black, carbonization- EVERY TIME!

* increasing of volume
* melting
* releasing vapours that are flammable
* sublimation

***An organic compound will be burnt without a rest*** (it can leave a black coating on inner sides of a fusion tube, because of insufficient access of the air).

**-------ORGANIC----/INORGANIC/ORGANIC-INORGANIC COMPOUND**

**ELEMENTARY ANALYSIS** *(write down the reactions of tests you should do and mark which of them should be positive)***:**

HALOGENS (HALIDES)

Acidify a portion (5 mL) of the filtrate with dilute nitric acid, and if nitrogen and/or sulphur

are present, boil for 1 - 2 minutes. Cool and add aqueous silver nitrate.

Formation of a heavy, white, yellowish or yellow precipitate of silver halide indicates halogen.

Should be negative

1. NITROGEN (CYANIDES)

To a portion (5 mL) of the filtrate add a few drops of ferrous sulphate solution and a few drops of ferric chloride solution. Boil the mixture for half a minute, cool and acidify by adding dilute hydrochloric acid drop wise. Formation of a bluish-green precipitate (Prussian blue) or a blue solution indicates that the original substance contains nitrogen. If no precipitate appears, allow to stand for 15 minutes, filter and inspect filter paper.

Corg. + Norg. CN-

6 CN- + Fe2+ [Fe(CN)6]4-

[Fe(CN)6]4- + Fe3+ {FeIII[FeII(CN)6]}-

Should be negative

2. SULPHUR (SULPHIDE)

To the cold filtrate (5 mL) add a few drops of lead acetate solution.

Production of a black solution or a black precipitate indicates that the original substance contains sulphur.

Sorg. S2-

S2- + Pb2+ PbS

Should be negative

**No Sulphur no halides and no halogens present.**

**SOLUBILITY** *(decide according to the information in Ph. Eur.)***:**

* **Freely soluble in water, sparingly soluble in ethanol**

**pH of solution/suspension** *(decide according to nature of your sample)***:**

* **2.1-2.6 solution**

**REACTIONS FROM THE FLOWCHARTS** *(write down your “flowcharts pathway”; describe results of your hypothetical analysis – reactions from the flowcharts you can find in material called “Identification of an unknown drug”)***:**

**Identification of an organic compound containing C, H, O**

**It is soluble in water and Is acidic .**

**Ascorbic acid or Citric acid or Tartaric acid**

**IDENTIFICATION REACTIONS** *(from your monography choose the tests necessary for identification of your substance and describe them)***:**

**First identification: B, C**

**Second identification: A, C, D**

1. **Ultraviolet and visible absorption spectrophotometry**

**Test solution: Dissolve 0,10g in water R and dilute immediately to 100.0ml with the same solvent. Add 1.0ml of the solution to 10ml of a 10.3g/L solution of HCL R and dilute to 100.0ml with water R.**

**B. Infrared absorption spectrophotometry**

**C. pH (2.2.3): 2.1 to 2.6 for solution S**

**Solution S : dissolve 1,0g in carbon dioxide free water R and dilute to 20 ml with the same solvent.**

**D. To 1ml of solution S add 0.2ml of dilute nitric acid R and 0.2ml of silver nitrate solution R2. A grey precipitate is formed.**