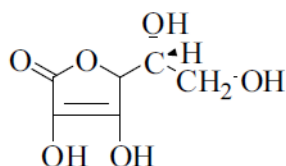


Ascorbic acid



$C_6H_8O_6$ MW= 176.1 M.P=190°C

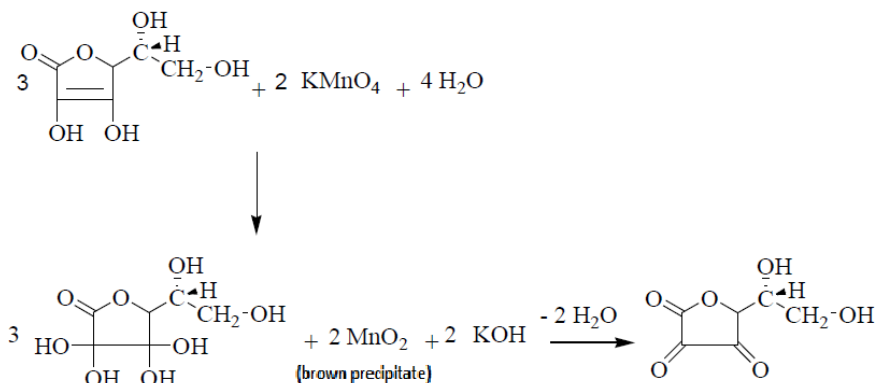
Ascorbic Acid should not contain “(R) -5 - [(S) -1,2-dihydroxyethyl] -3,4-dihydroxy-5H-furan-2-one”, less than 99% and not more than 100.5% .

Properties: White or whitish, crystalline powder or colorless crystals, colorless when in contact with air and moisture-absorbing.

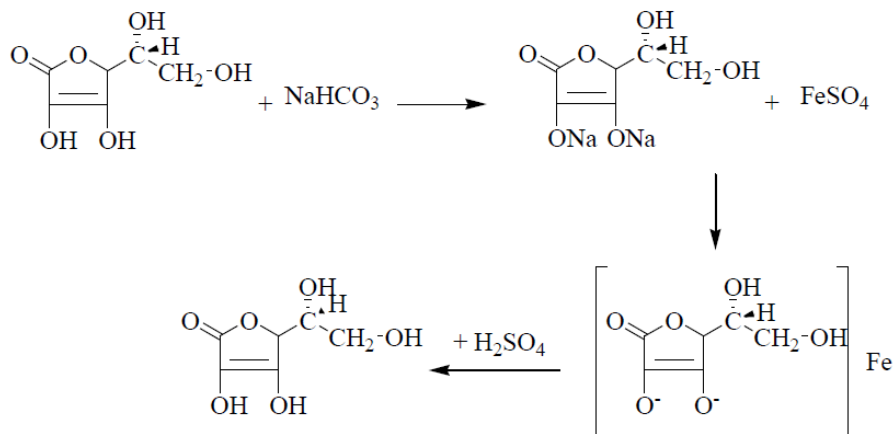
Solubility: Easily soluble in water, soluble in alcohol, practically insoluble in ether.

Recognition Reactions:

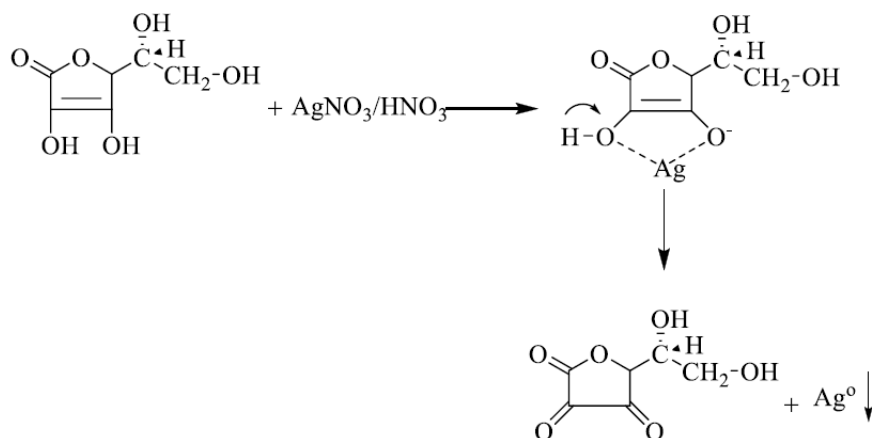
A) The solution of the compound in cold water immediately reduces the potassium permanganate TS to a brown precipitate.



B) 2 ml of 2% w / v solution in water is added with 2 ml of water. Then, 0.1 g of sodium bicarbonate R and about 0.02 g of ferro sulphate R are added and shaken for a while. It consists of a dark purple color; this is lost by the addition of a few drops of sulfuric acid R.



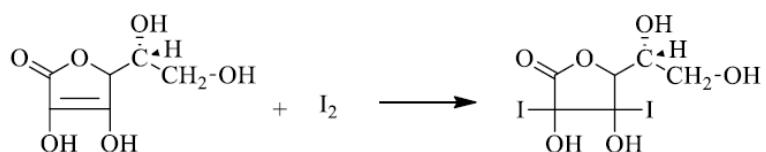
C) Add 0.2 ml of diluted HNO₃ R and 0.2 ml of AgNO₃ solution to 1 ml solution of S (Solution S: 1 g to 20 ml of distilled water). A silver colored precipitate is formed.



Quantity Determination:

0.150 g of compound is dissolved in a mixture of 10 ml of dilute H₂SO₄ R and 80 ml of distilled water R. Add 1 ml starch solution TS and it is titrated with 0.05 M iodine until blue-violet color is formed.

1 ml 0.05 M iodine is equivalent to.... 8.81 mg of C₆H₈O₆ ascorbic acid.



Reagents to be prepared:

Potassium Permanganate TS: 1% w/h solution of Potassium Permanganate R in water

Diluted nitric acid R: 105 ml HNO₃ R is complete in 1 liters with distilled water.

Nitric acid R: solution containing 69-71% nitric acid

Silver nitrate TS: 5% w / v Silver nitrate R solution in water

Silver nitrate R: AgNO₃ in 99.8% purity.

dilute H₂SO₄ R: 57 ml H₂SO₄ R is complete in 1 liters with distilled water.

Starch TS: 0.5 g starch R or soluble starch R is crushed in 5 ml of water. Approximately 100 ml of water is added with continuous shaking. A few minute boil, cool and filter.