جامعة الانبار

كلية : الصيدلة

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اسم المدة باللغة الإنكليزية: **Inorganic Chemistry lab**

المرحلة: الثالثة

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عنوان المحاضرة باللغة العربية: تجربة تعيين كمية ستريت الامونيوم

عنوان المحاضرة باللغة الإنكليزية: **Assay of Ferric Ammonium Citrate**

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# Assay of Ferric Ammonium Citrate

## Introduction

Ferric Ammonium Citrate or Iron Ammonium Citrate is a compound of iron, ammonia and citric acid of undetermined structure. It contains not less than 20.5%W/W and not more than 22.5% of Fe. Chemical principle All the iron is oxidized to the ferric state. The ferric ion then librates an equivalent amount of iodine from acidified potassium iodide solution.

$$MnO_4^- + 8H^+ + 5Fe^{+2} \rightarrow Mn^{+2} + 5Fe^{+3} + 4H_2O$$

$$KI + HCl \rightarrow KCl + HI$$

$$2FeCl_3 + 2HI \rightarrow 2FeCl_2 + 2HCl + I_2$$

The librated iodine is titrated against standard sodium thiosulphate solution.

$$I_2 + 2Na_2S_2O_3 \rightarrow 2NaI + Na_2S_4O_6$$

**Procedure**

Dissolve about 0.5g accurately weighed in 15ml of water, add 1ml of sulphuric acid, and warm until the dark brown color becomes pale yellow. Cool to below 20C$^{o}$ and maintain this temperature throughout. Add 0.1N potassium permanganate, drop by drop, until a pink color persists for five second. Add 15ml of hydrochloric acid and 2g of potassium iodide, set aside for three minutes, add about 60ml of water, and titrate with 0.1N sodium thiosulphate, using starch mucilage as indicator. Calculation Calculate the amount of iron? Each ml of 0.1N sodium thiosulphate is equivalent to 0.005585g of Fe.