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论文

络合滴定法在有机药物分析中的应用 Ⅰ.奎宁及其制剂的含量测定

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摘要:

关键词:

COMPLEXOMETRIC TITRATION IN ANALYSIS OF ORGANIC PHARMACEUTICALS Ⅰ.*THE DETERMINATION OF QUININE AND ITS PREP ARATIONS*

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Abstract:

A new method for estimation of quinine by precipitating with potassium cadmium iodide and titrating the excess cadmium ion in the filtrate with a standard solution of disodium salt of ethylenediamine-tetracetic acid(EDTA· 2Na)has been developed after thorough investigation. The procedure is suggested as follows: weigh accurately about 1.5 milliequivalent of quinine salts, and place into a 50 ml measuring flask. Add 25 ml of distilled water and 1 ml of dilute hydrochloric acid to dissolve the sample. Cool in an ice bath if the room temperature is over 20℃. Add 20 ml of *M*/10 potassium cad- mium iodide solution (dissolve 36.63g of CdI_2, 33.2g of KI and 2.5g of $Na_2S_2O_3$ in distilled water to make 1000ml), and sufficient distilled water to make up the volume. Mix well and then allow to stand for 10 minutes. Fitter, discard the first 10 ml of filtrate. Pipet 25ml of the subsequent filtrate into a 125ml Erlenmeyer flask. After adding 5ml of buffer solution (dissolve 67.5g of NH_4Cl in 200ml distilled water, mix with 570ml of strong ammonia solution and dilute with distilled water to make 1000ml) and 0.5ml of indicator dissolve 0.1g of Eriochrome black Tin 100ml of absolute alcohol), titrate the excess cadmium ion with *M*/20 EDTA·2Na solution from red to pure blue via violet. Run a blank with 20ml of M/10 K_2CdI_4 solution in the same manner and calculate for quinine content. Urethane and caffeine do not interfere. The method can, therefore, be applied to the determination of quinine content in the injection of quinine and urethane as well as in the compound injection f quinine. In the estimation of quinine in tablets, impurities such as iron and magnesium stearate will interfere. However, the interference can be masked by treating the solution with ascorbic acid and NaCN to convert ferric ion into ferrocyanide and cadmium ion into cadmium cyanide complex, whereas

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