淡江大學八十八學年度日間部轉學生招生考試試題 34

系別：化學系三年級　　科目：分析化學

本試題共 1 頁

1. Define the following terms: (56%)
(1) Karl Fischer Reagent
(2) Variance
(3) RSD
(4) Q test
(5) Reversible electrochemical cell
(6) Standard electrode potential
(7) Eddy diffusion

2.Calculate the pH of a solution that is 0.200M in NH_3 and 0.300M in NH_4Cl. The acid dissociation constant K_a for NH_4^+ is 5.70×10^{-10}. (12%)

3.List several sources of uncertainty in pH measurements with a glass/calomel electrode system. (12%)

4.The arsenic in a 9.13 g sample of pesticide was converted to AsO_4^{3-} and precipitated as Ag_3AsO_4 with 50.00 ml of 0.02105 M $AgNO_3$. The excess Ag^+ was then titrated with 4.75 ml of 0.04321 M KSCN. Calculate the percentage of As_2O_3 in the sample.(The atomic mass of As = 74.92159, Ag = 107.8682 (10%)

5.Describe the fundamental difference between adsorption and partition chromatography. (10%)