

淡江大學八十九學年度碩士班招生考試試題

系別：化學學系

科目：分析化學

本試題共 / 頁

1. Find the PH of a solution prepared by dissolving 12.43 g of tris (FW 121.136) plus 4.67 g of tris hydrochloride (FW 157.597) in 1.00L of water (10%).
2. If we add 12.0 ml of 1.00M HCl to the solution used in question 1, what will be the new PH? (10%)
3. Discuss the possible reasons of line broadening in the atomic absorption spectroscopy (10%).
4. Describe the principle of a Michelson Interferometer (10%).
5. Define: PMT (photomultiplier tube) (10%).
6. Describe the possible interference occurred in the atomic absorption spectroscopy (10%).
7. Compare the ion trap with the quadruple mass analyzer (10%).
8. Define : Van Deemter equation (10%).
9. A solution containing 0.40249 g of $\text{CoCl}_2 \cdot X \text{H}_2\text{O}$ was exhaustively electrolyzed to deposit 0.09937 g of metallic cobalt on a platinum cathode. $\text{Co}^{2+} + 2\text{e}^- = \text{Co}_{(\text{s})}$
Calculate the number of moles of water per mole of cobalt in the reagent. (The atomic weight of cobalt = 58.933)(10%).
10. Define: two-dimensional NMR (10%).