

題號： 93

國立臺灣大學108學年度碩士班招生考試試題

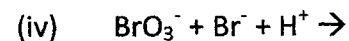
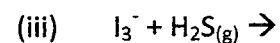
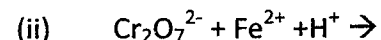
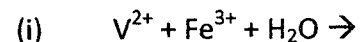
科目：分析化學(A)

節次： 6

題號：93

共 1 頁之第 1 頁

1. Complete the following reactions (20%)



2. Carbon dioxide is important to world climate. Describe how is gaseous carbon dioxide dissolved in ocean, and dissociated into different dissolved species (10%).

Assume the first dissociation constant K_1 is 10^{-6} and the second dissociation constant K_2 is 10^{-10} , draw a diagram to show the fractionation of different species against pH (10%). At pH=8, what is the percentage of HCO_3^- and CO_3^{2-} ? (10%)

3. Give a general description of the principle of chromatography. (10%) What is HETP? (5%) Write out the van Deemter Equation, (5%) draw a diagram to show the relationship of each term against flow speed u . (5%) Derive the optimal flow speed u_{opt} . (5%)

4. Describe the difference between "precision" and "accuracy". (5%) What are: Coefficient of variation? Standard deviation? Relative standard deviation? 95% of confidence level? Q-test? (15%)

試題隨卷繳回