題號：60
科目：分析化學(B)
節次：6

國立臺灣大學 104 學年度碩士班招生考試試題

題號：60
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1. Describe the difference between the propagation of uncertainty from random error and the propagation of uncertainty from systematic error.　8%

2. Explain the term confidence interval.　6 %

3. Describe the advantage of a calibration curve using an internal standard　6 %

4. Explain why the solubility of a sparingly soluble salt increases as the ionic strength of the solution increases.　8 %

5. Describe the conditions that the following equation can be used for a weak acid.　8 %

$$[H^+] = \sqrt{K_a C_{HA}}$$

6. Describe the procedures in the preparation of a buffer solution.　8 %

7. Describe two major errors in pH measurement.　8 %

8. Explain that Fourier transform infrared spectrometer provides better sensitivity than scanning IR.　6%

9. Explain that the bandwidth of hollow-cathode lamp is narrower than the bandwidth of absorption line.　6%

10. Propose a method to overcome the isobaric effect in inductively coupled plasma mass spectrometry.　6%

11. Describe the advantages of using open tubular column instead of packed column in gas chromatography.　8 %

12. Why is high pressure needed in HPLC?　6 %

13. Describe the advantage and disadvantage of using fluorescence instead of UV as the HPLC detector.　8 %

14. Describe the operation of a HPLC/triple quadrupole tandem mass spectrometer in pesticide (農藥) analysis.　8 %

試題隨卷繳回