

河北大学 2011 年博士研究生入学考试试题

(套别: A)

学科、专业	研究方向	考试科目及科目代码	考试时间
分析化学		专业英语	

敬告: 务必将所答内容另写在答卷纸上。

一、Translate to Chinese (10 分)

Determination of Melamine in Milk by Fluorescent Spectrophotometry
with Cetyltrimethylammonium Bromide

Abstract

Melamine is a kind of triazine compound and the fluorescence of it can get enhanced in the presence of cationic surfactant in weak alkaline medium. A new fluorescent spectrophotometry based on this principle has been developed to determine melamine under the optimum conditions such as Tris-HCl buffer solution, pH 8.0 and with CTMAB as sensitizing agent. The linear range, detection limit and relative standard deviation were 25 – 1000 $\mu\text{g/L}$, 19 $\mu\text{g/L}$ and 1.6%, respectively. The samples were pretreated according to the solid phase extraction monolithic column to carry out the detection of real milk. This method is simple, rapid and accurate. It can be used to screen and detect the milk samples primarily.

二、Translate to Chinese (10分)

1. Atomic fluorescence spectroscopy;
2. Capillary electrophoresis;
3. Solid-phase microextraction;
4. Flow-injection analysis;
5. Graphite furnace-atomic absorption spectrometry;
6. Hydride generation atomic absorption spectrometry;
7. High-performance liquid chromatography;
8. Inductively coupled plasma;
9. Liquid chromatography- tandem mass spectrometry;
10. Reversed phase liquid chromatography;

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