based on hematocrit blood test (HCT) and microwave digestion in whole blood and serum samples. The preconcentration factor (PF) 52 and limit of detection (LOD) 5 ng L^{-1} were obtained for DLLME and in MDHCT method, concentration factor (CF) and LOD were 40 and 9 ng L^{-1} respectively. Sensitively of MDHCT method is comparable respect to DLLME method.

Key Words: Chromium, Determination and Speciation, Microwave Digestion Hematocrit Blood Test, Dispersive Liquid-Liquid Microextraction, ET-AAS.

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Kinetic spectrophotometric method for determination of sodium azide using experimental design for optimization of the procedure

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Sodium azide has been widely used as major component in many different industries such as production of pesticides, anti-hypertensives, anti-HIV drugs and explosives as well as preservatives[1-4]. Furthermore, sodium azide is a highly toxic compound classified as a first-class poison whose lethal dose for oral ingestion in human (LD50) is less than 50 (mg kg^{-1})[5]. Kinetic spectrophotometric methods have been extensively used because of their significant advantages for determination of many analytes at trace levels.

We have reported a simple, sensitive and inexpensive kinetic spectrophotometric method for the determination of azide ion.This method is based on kinetic reaction of sodium azide with pentacyanoamminoferrate(II) complex. Taguchi method was applied as an experimental design to determine optimum conditions. Two linear range of 1.16-60 and 60 to 120 ($\mu g.mL^{-1}$), the detection limit of 0.35 ($\mu g.mL^{-1}$) with reproducibility of %2.35 were obtained.The interference of several cations and anions were investigated. This technique was successfully used for determination of azide ion in waste and well waters.

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Fluorescence quenching of Anthracene based polypyridyl ligand by metal ions

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We have reported a new chemosensor molecule Pyridine Imidazole Methyl Antheracene (PIMA) and investigated the effect of various metal ions such as (Fe(II),Mn(II), Ca(II) ,Co(II),Ag(II),Ma(II),Hg(II)) on fluorescence quenching with increasing concentration in same condtion such as PH,T. The fluorescence properties of PIMA observed were found to exhibit excitation wavelength at 365 nm and emission wavelength at 420 nm,the optimization procedures were carried out in order to obtain a reliable measurement,the optimum pH 6.8 by (CH3COOH/CH3COONa)buffer was adopted for the analysis.a comparison of the effect of nine metal ions on the PIMA emission intensity was also investigated.it was found that Co(II) was the metal that caused an maximum quenching fluorescence 35%,however ,it is observed tath the metal ions: (Mo(II).Cd(II),Cu(II),Ma(II),Ag(II),Fe(II),Zn(II)) which coordinate to the pyridine and Imidazol Nitrogens effect the quenching the flurescence (20-30%)while those metal ions (Hg (II).Pb (II))which dose not coordinate the quenching is only 5%.

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Quinolone derivative as a selective chemosensor for amino acids by switch-on fluorescence

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Analysis and determination of amino acids is a very important issue in many of chemical and biological research because of important roles of them. Among them, aspartic acid (Asp) is very important in neurocrine and endocrine functions [1]. L-Glutamic acid (Glu) is precursor for amino butyric acid, which is the main inhibitory neurotransmitter in the central nervous system [2]. Thereby, a rapid and convenient determination method is required in many fields. In this paper, the interaction of a quinolone derivative and amino acids (AAs) was systematically investigated by utilizing fluorescence spectroscopy and the competitive reaction between quinolone and AAs with cationic ions [3].

Furthermore, the probe shows a good selectivity toward aspartic acid and glutamic acid in 0.01 mol L^{-1} phosphate buffer solution (pH 7) relative to the other amino acids. By applying a deduced equation, the overall stability constants of cationic ion complexes with amino acids were determined by fluorometric titration of complex with the amino acid solution (based on competitive complexation reaction). This probe has been able to recognize amino acids through switch-on fluorescence behavior and serves as an efficient fluorescent probe for ultra-trace level determination of aspartic acid and glutamic acid in solution. The fluorescence signal depends linearly on the amino acid concentration within a range of concentration from 1.2×10^{-7}–1.1×10^{-5} mol $L^{-1}$and 8.3×10^{-7}–2.3×10^{-5} mol L^{-1} for aspartic acid and glutamic acid, respectively. The detection limits were found 2.7×10^{-8} mol L^{-1} and 9.3×10^{-8} mol L^{-1} with the relative standard deviation (RSD%) about 2.1% and 2.9% (five replicate) for aspartic acid and glutamic acid, respectively.

We have employed, electrochemically controlled solid-phase microextraction (EC-SPME) procedure which are electrochemically coated with polypyrrole (PPy) modify electrode as a selective solid phase for sample clean-up and quantification of trace amounts of Asp in serum samples.