DETERMINATION OF IRON(III) AFTER PRECONCENTRATION ON TO MODIFIED ANALCIME ZEOLITE WITH 5-((4-NITRO PHENYLazo)-N-(2,4-DIMETOXY PHENYL)) SALICYLALDIMINE

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The atomic spectrometry techniques are extensively employed for the quantification of metallic species. In this way, flame atomic absorption spectrometry presents desirable characteristics, such as low costs, operational facilities, high analytical frequency and good selectivity. However, this technique presents some limitations, mainly those related to sensitivity [1,2]. According to these limitations, it is evident that despite recent advances in analytical instrumentation, the use of separation and preconcentration procedures is still often necessary before the determination step[3].

Solid phase extraction (SPE) is an attractive technique that reduces consumption of and exposure to solvent, disposal costs and extraction time[4]. In the present study a simple, rapid and cost effective preconcentration method is described for the determination of traces amount of iron (ui) in aqueous samples. The method is based on sorption of iron (ui) ions on natural Analcime Zeolit column modified with a new schiff base 5-((4-nitro phenylazo)-N-(2,4-dimetoxy phenyl) salicylaldimine and then eluted with Ethylene Diamine Tetraacetic Acid (EDTA) and determination by FAAS.

Various parameters such as the effect of pH, flow rate, sample volume and interference of numbers of metal ions on the determination of iron has been studied in detail to optimize the conditions for determination of iron (ui) ions in aqueous samples.

References: