Spectrophotometric and derivative spectrophotometric determination of iron by extraction of the iron(II)-TPYZ-picrate ion-association complex

Toral, M. Ines

Bermeio-Barrera, Adela

A solvent extraction-spectrophotometric determination of microamounts of iron has been developed, based on the formation of an ion-association complex of iron(II) with 2,4,6-tris(2?-pyridyl)-1,3,5-triazine as primary ligand and picrate as counter-ion, which is extracted into 1,2-dichloroethane. The complex is formed at pH 4.0-7.0 and the iron concentration can be determined by measuring the absorbance directly in the organic phase. The apparent molar absorptivity is 2.2 × 105 l.mole-1.cm-1. As the method is practically free from interferences it was applied to the determination of iron in different biological and inorganic samples. Although the proposed method is very sensitive it can be further sensitized by employing the derivative spectrophotometric technique. © 1989.