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Simultaneous Determination of Fe(II) and Fe(III) in Pharmaceutical Samples by Post-Column Derivatization/HPLC

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Abstract: A post-column derivatization HPLC method with visible absorbance detection at 521 nm was modified for the simultaneous determination of Fe(II) and Fe(III) in mixtures. The method was applied to pharmaceuticals marketed in Turkey. Iron species were separated on a post-column derivatization HPLC, IonPac CS5A (4x250 mm) analytical column using a pyridine-2,6-dicarboxylic acid based eluent. The determinations of Fe(II) and Fe(III) were also realized by the most common method of FAAS, total iron determination. Detection limits (3S) were found to be 0.109 μ g/L for Fe(II) and 0.217 μ g/L for Fe(III), respectively. The mean recovery of the HPLC and AAS method was found to be 98-101%. This application note, by using the principles of ion exchange, describes an attractive alternative to traditional spectroscopic methods.

Key Words: HPLC, Fe(II) , Fe(III), AAS, Pharmaceuticals

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