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Formation of Fe(II)₁-Fe(III)₃ Green Complex on Oxidation of Ferrous Ion in Perchloric Acid Solution*

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Abstract

The interaction between Fe(II)-Fe(III) in strong acidic solution has been investigated by means of electronic and Raman spectra, magnetic susceptibility measurement and chemical analysis of the solution. It was found that the green intermediate complex having an absorption band at 337 nm was formed on oxidation of Fe(H₂O)₆²⁺ in perchloric acid solution. The Fe(II)/Fe(III) ratio in the green complex was a third. The configuration of the complex consisting of Fe(II)-O-Fe(III) oxo-bridges was suggested.

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