

# Turkish Journal of Chemistry

Turkish Journal


Spectrophotometric Determination of Iron(II) with 5-Nitro-6-amino-1,10-phenanthroline

of

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Chemistry

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**Abstract:** A new spectrophotometric method is developed for the determination of Fe(II) with 5-nitro-6-amino-1,10-phenanthroline (NAF). In this work, the effect of factors such as pH, amount of reagent (NAF), reaction time and temperature were investigated. The method is based on the formation of a colored product between Fe(II) and NAF. The reaction proceed quantitatively at 20 °C for 210 min in acidic medium. The absorption maximum was at 520 nm. A linear relationship existed between absorbance and Fe(II) concentration over the range 0.1  $\mu$  g/mL and 0.4  $\mu$  g/mL. The molar ratio of Fe(II) to the reagent was determined as 1:3. The limiting concentration for interference by Co(II), Ni(II), Cu(II), Zn(II), Mn(II), Al(III), Ca(II) and Mg(II) cations are reported.

**Key Words:** 5-Nitro-6-amino-1,10-phenanthroline, visible spectrophotometry, determination of iron(II)

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Turk. J. Chem., **27**, (2003), 315-322.

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