

# INTERFERENCE STUDY OF Mg(II) ON IRON(II) DETERMINATION WITH *o*- PHENANTHROLINE BY SPECTROPHOTOMETRY UV-VIS METHOD

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## Abstract

Iron is a transition metal compounds that able form complexes with *o*-phenanthroline. Complex iron dan *o*-phenanthroline forming compound  $[\text{Fe}(\text{phenanthroline})_3]^{2+}$  dan produces orange-red color that can be measured with a UV-Vis spectrophotometer. Iron(III) is reduced to iron(II) using a reducing sodium thiosulfate. Complex compound  $[\text{Fe}(\text{phenanthroline})_3]^{2+}$  formed at pH 4.5 that added a solution of acetate buffer pH 4.5. The maximum absorbance of the complex is obtained at a wavelength of 510 nm. The addition of Mg(II) in a solution of 0.04 ppm of iron(III) 5 ppm iron can interfere with the process of determining the decrease of absorbance. Percent recovery of iron(III) is 90.99%. Relative standard deviation (RSD) is 2.24 ppt and coefficient of variation (CV) is 0.224%.