

**OPTIMIZATION OF PARAMETERS FOR THE Fe-HUMIC
ACID COMPLEX FORMATION USING
CYCLIC VOLTAMMETRY**

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ABSTRACT

Humic acid extracted from an artesian well located at Sta. Barbara, Iloilo was used to generate an Fe-HA complex as a potential additive to bio floc systems to augment the essential mineral Fe. The humic acid obtained was black in color and had *a powdery texture after oven-drying. The Fe-HA complex were prepared using Fe^{3+}* ions at different pH values specifically at pH 8, 9 and 10. Formation of the complex was investigated using the cyclic voltammetry to determine the ideal conditions to maximize the binding of the metal ion. The results showed that there are two oxidation and reduction cycles which suggests that there are two species undergoing oxidation and *reduction. It is possible that the free iron and the Fe in the complex are undergoing a redox* cycle although the quinone group in the humic acid can also act as a redox center. Atomic Absorption Spectroscopy can help corroborate the amount of complex formed to help deduce the redox active center.