



## **Rapid Photo Catalytic Degradation Of Crystal Violet And Carmine Indigo Under Sun Light By $\text{Fe}_2\text{Mo}_3\text{O}_{12}$**

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Accepted on 3<sup>rd</sup> June 2014

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### **ABSTRACT**

*$\text{Fe}_2(\text{MoO}_4)_3$  with excess  $\text{MoO}_3$  has been prepared by combustion method using Ferric nitrate,  $\text{MoO}_3$  and glycine. SEM studies revealed particle size in the  $\mu\text{m}$  region. The sample as prepared showed excellent photo catalytic activity for the degradation of crystal violet and carmine indigo in presence of  $\text{H}_2\text{O}_2$  either under visible light irradiation using 400 w metal halide lamp or under sun light. Photo catalytic studies on 100 ml aqueous dye solutions with 100 mg of dispersed catalyst under visible light irradiation indicated degradation of 93% of 5ppm crystal violet and 100% of 20ppm carmine indigo in 70 min and 10 min respectively, whereas, under sun light 100% of 5ppm crystal violet and 100% of 20ppm carmine indigo were degraded in 30 min and 5 min respectively.*

**Keywords:**  $\text{Fe}_2(\text{MoO}_4)_3$ , Crystal Violet, Carmine Indigo, photo catalytic degradation, Combustion synthesis.

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