



## Synthesis And Characterisation Of Spinel Ferrite $\text{Cu}_{1-x}\text{Zn}_x\text{Mn}_{1-x}\text{Fe}_x\text{Cr}_{1-x}\text{Co}_x\text{O}_4$

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### ABSTRACT

The spinel ferrite  $\text{Cu}_{1-x}\text{Zn}_x\text{Mn}_{1-x}\text{Fe}_x\text{Cr}_{1-x}\text{Co}_x\text{O}_4$  where  $0 \leq x \leq 1$  has been prepared by the co-precipitation technique and is characterized by XRD, IR, Catalytic and saturation magnetization studies. All the compounds in the system form the single cubic spinel phase. IR spectra of the compounds show absorption bands in the region of  $500\text{-}1500\text{ cm}^{-1}$ . The catalyst studies using decomposition of  $\text{H}_2\text{O}_2$  also showed that the composition  $x = 1.00$  is more catalytically active with high rate constant and low activation energy. This is also related to its magnetic power.

**Keywords:** Spinel ferrites, XRD, FTIR, Magnetic Hysteresis, Catalytic studies.

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