

*Supplementary Materials*

## Synthesis, Structural, Magnetic, And Electrochemical Properties of Er-Ni Doped Strontium Nanoferrites

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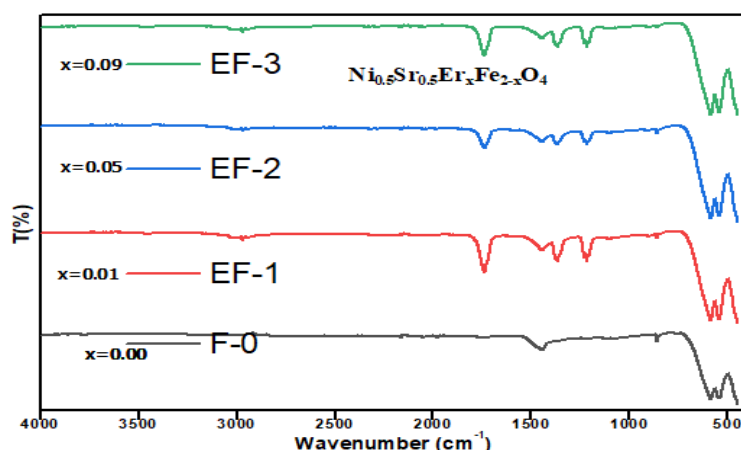
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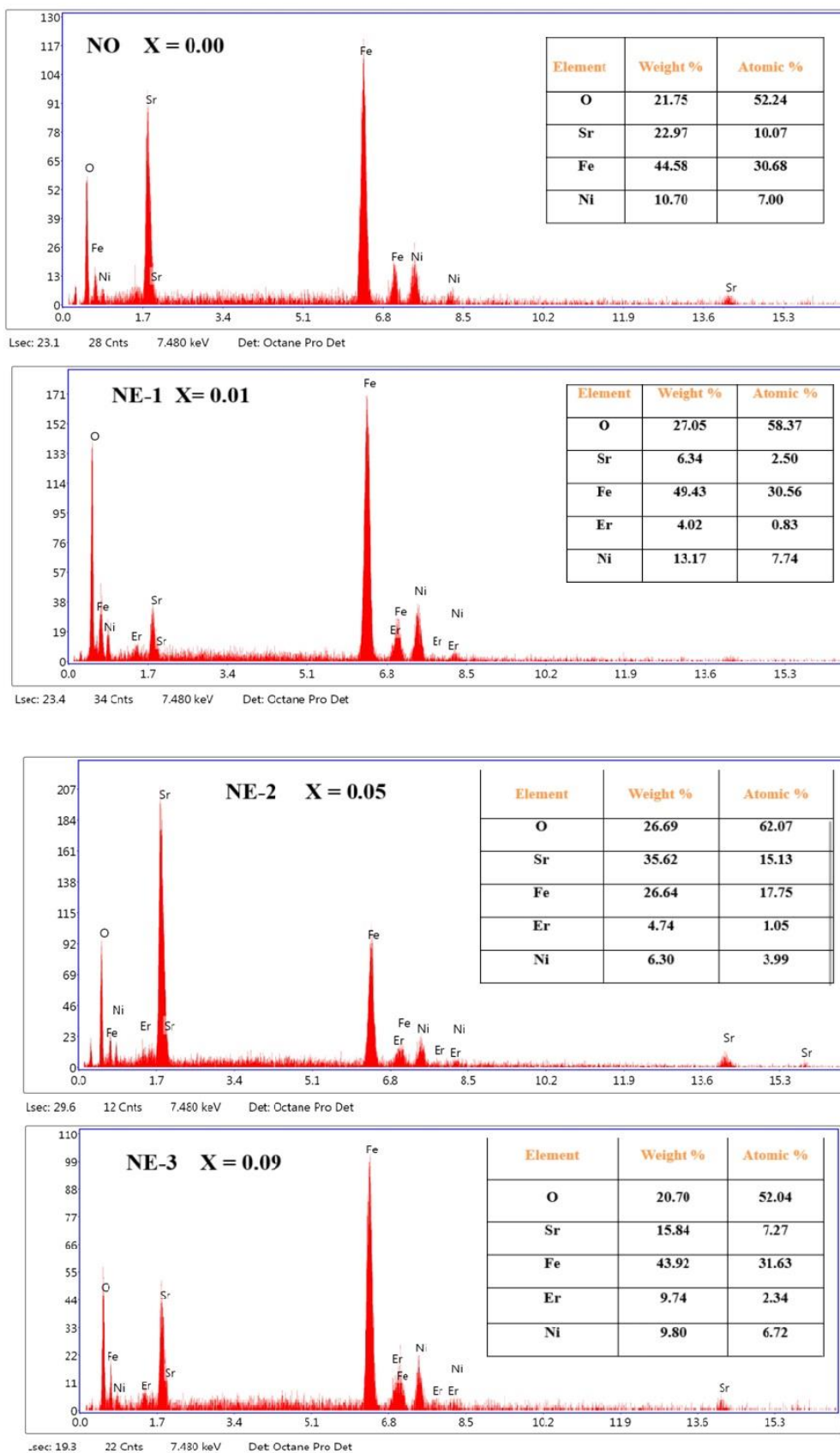
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**Figure S1.** FT-IR spectra of  $\text{Ni}_{0.5}\text{Sr}_{0.5}\text{Er}_x\text{Fe}_{2-x}\text{O}_4$  ( $x=0.00 < x < 0.09$ ) nanoferrites



**Figure S2.** EDAX of  $\text{Ni}_{0.5}\text{Sr}_{0.5}\text{Er}_x\text{Fe}_{2-x}\text{O}_4$  ( $x=0.00 < x < 0.09$ ) nanoferrites

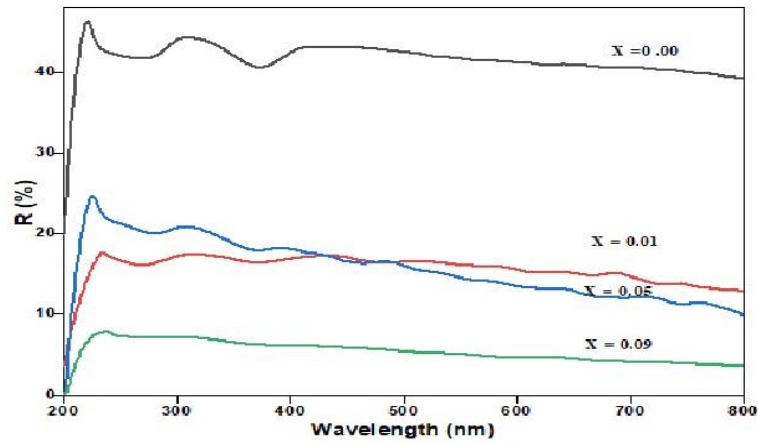


Figure S3. The reflectance Spectra of  $\text{Ni}_{0.5}\text{Sr}_{0.5}\text{Er}_x\text{Fe}_{2-x}\text{O}_4$  ( $x=0.00 < x < 0.09$ ) nanoferrites

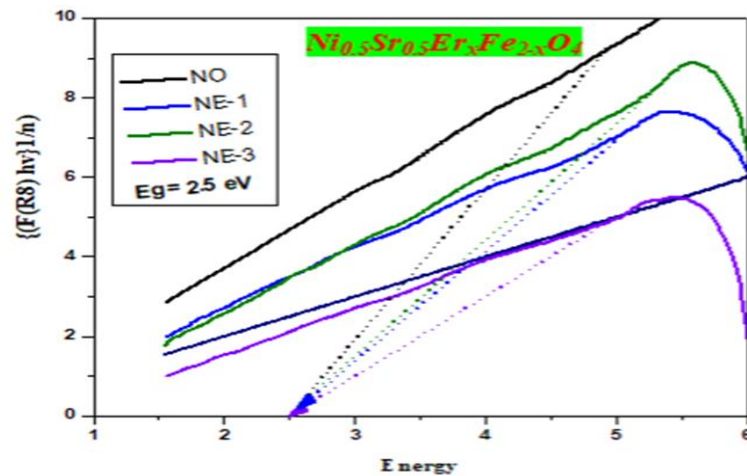
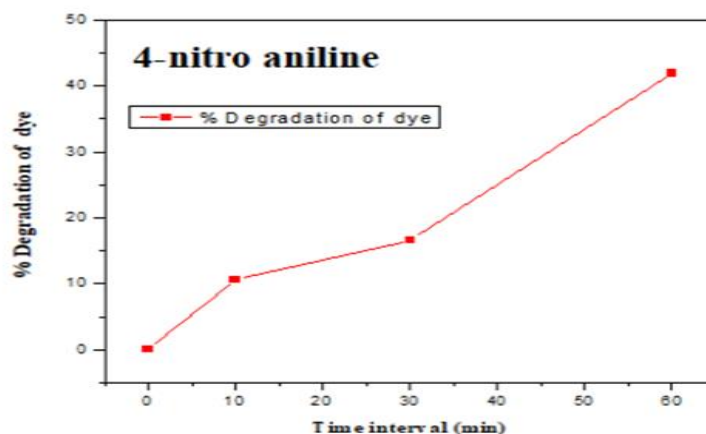
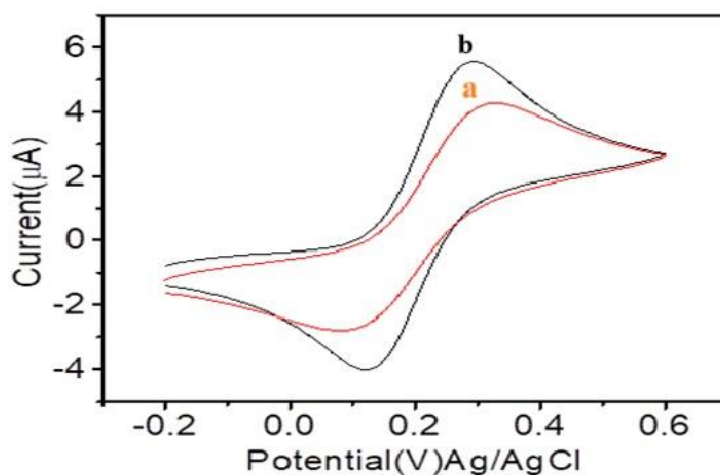


Figure S4.  $\{(F(R_\infty) hv)^{1/n}\}$  (Absorption versus photon energy ( $h\nu$ ) graphs of  $\text{Ni}_{0.5}\text{Sr}_{0.5}\text{Er}_x\text{Fe}_{2-x}\text{O}_4$ , (a)  $x = 0.00$ , (b)  $x = 0.03$  (c)  $x = 0.05$  and (d)  $x = 0.09$  nanoferrites



**Figure S5.** % degradation plot of  $\text{Ni}_{0.5}\text{Sr}_{0.5}\text{Er}_x\text{Fe}_{2-x}\text{O}_4$  under simulated sunlight irradiation up to 60 min



**Figure S6.** Cyclic voltammogram of 0.1 mM KCl solution containing 0.5 mM  $\text{K}_4[\text{Fe}(\text{CN})_6]$  at the a) bare GCE and b)  $\text{Ni}_{0.5}\text{Sr}_{0.5}\text{Er}_x\text{Fe}_{2-x}\text{O}_4$  /GCE, the scan rate:  $50 \text{ mVs}^{-1}$   $\text{Hg}^{2+}$