Stable room temperature magnetic ordering and excellent catalytic activity of mechanically activated high surface area nanosized $Ni_{0.45}Zn_{0.55}Fe_2O_4$

S. Dey,¹ R. Gomes,² R. Mondal,¹ S. K. Dey,¹ P. Dasgupta,³ A. Poddar,³ V. R. Reddy,⁴ A. Bhaumik,^{2,*} and S. Kumar^{1,*}

¹Department of Physics, Jadavpur University, Kolkata–700 032, India.

²Department of Materials Science, Indian Association for the Cultivation of Science, Kolkata–700 032, India.

³Saha Institute of Nuclear Physics, 1/AF Bidhannagar, Kolkata-700064, India

⁴UGC-DAE CSR, University Campus, Khandwa Road, Indore-452001, India

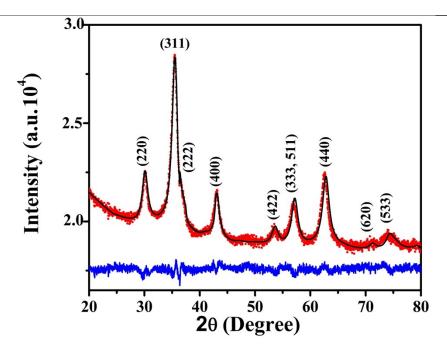


Fig. S1 The Rietveld refinement plot of the sample using MAUD2.33, showing the difference (blue color line) between the experimental (red color symbol) and the simulated pattern (black color line).

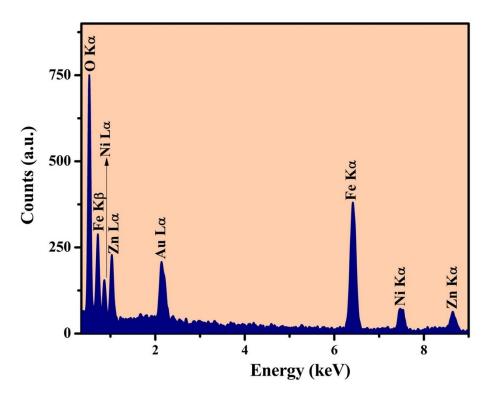


Fig. S2 Energy dispersive x-ray spectrum of the sample.

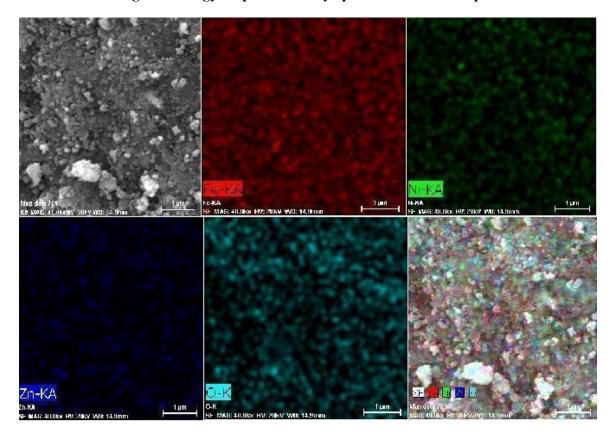


Fig. S3 Elemental mapping showing the presence of all constituent elements.

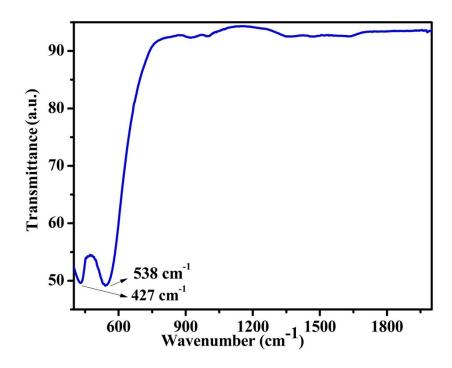


Fig. S4 FTIR spectrum of the sample.